NOTE: This order is nonprecedential.

# United States Court of Appeals for the Federal Circuit

IN RE: JAMES BONGIORNO, Appellant

2020-1835, 2020-1836

Appeals from the United States Patent and Trademark Office, Patent Trial and Appeal Board in Nos. 12/910,790, 13/691,821.

#### **ON PETITION FOR REHEARING EN BANC**

Before MOORE, *Chief Judge*, NEWMAN, LOURIE, DYK, PROST, O'MALLEY, REYNA, TARANTO, HUGHES, CHEN, and STOLL, *Circuit Judges*.

PER CURIAM.

#### ORDER

James Bongiorno filed a petition for rehearing en banc. The petition was first referred as a petition for rehearing to the panel that heard the appeal, and thereafter the petition for rehearing en banc was referred to the circuit judges who are in regular active service.

Upon consideration thereof,

IT IS ORDERED THAT:

APPENDIX A 1a

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APPENDIX A 2a

IN RE: BONGIORNO

The petition for panel rehearing is denied. The petition for rehearing en banc is denied. The mandate of the court will issue on July 30, 2021.

FOR THE COURT

<u>July 23, 2021</u> Date

<u>/s/ Peter R. Marksteiner</u> Peter R. Marksteiner Clerk of Court NOTE: This disposition is nonprecedential.

# United States Court of Appeals for the Federal Circuit

IN RE: JAMES BONGIORNO, Appellant

2020-1835, 2020-1836

Appeals from the United States Patent and Trademark Office, Patent Trial and Appeal Board in Nos. 12/910,790, 13/691,821.

Decided: May 19, 2021

JAMES BONGIORNO, Huntington, NY, pro se.

MAI-TRANG DUC DANG, Office of the Solicitor, United States Patent and Trademark Office, Alexandria, VA, for appellee Andrew Hirshfeld. Also represented by THOMAS W. KRAUSE, AMY J. NELSON, FARHEENA YASMEEN RASHEED, PETER JOHN SAWERT.

Before PROST, Chief Judge, MOORE and CHEN, Circuit Judges.

PROST, Chief Judge.

The Patent Office rejected all claims of two patent applications filed by James Bongiorno. The Patent Trial and

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Appeal Board ("Board") affirmed. Mr. Bongiorno appeals. We have jurisdiction under 28 U.S.C. § 1295(a)(4)(A).

The only issue is whether these claims are eligible for patenting under 35 U.S.C. § 101. As discussed below, they are not, so we affirm.

Ι

Two related applications are at issue here: the '790 application and the '821 application.<sup>1</sup> All pending claims of both applications were rejected under § 101.

According to the specifications, each application "relates to methods and systems of planning and executing a vacation or travel itinerary, and more particularly to software and a portable electronic unit, which may be dedicated to such planning and travel assistance at the destination." J.A. 394 ('790 application), 939–40 ('821 application). The specifications explain that although travel requires extensive information and planning, there was previously "no means of efficiently accomplishing all of this travel-related planning ... once arriving at the destination." J.A. 396, 941.

The specifications note travelers' customary use of many separate limited-purpose devices (e.g., GPS, travel websites, multimedia players) and physical media (e.g.,

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<sup>&</sup>lt;sup>1</sup> U.S. Patent Application No. 12/910,790 (titled "Portable Vacation/Travel Planner, and Family Tour Guide Device"); U.S. Patent Application No. 13/691,821 (titled "System, Method, and Computer Software Code for Planning and Executing a Travel Itinerary"). The '821 application is a continuation-in-part of a continuation of the '790 application. The Board also held claims 1–3, 15, 32, 33, 35, and 37–49 of the '790 application unpatentable under 35 U.S.C. § 103, a rejection that Mr. Bongiorno does not appeal.

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planners, guidebooks). J.A. 395-97, 940-42. In contrast, the claimed invention "combines all of the functionality of the books and electronic gadgets which may need to be utilized in planning and richly experiencing a vacation abroad[] into one elegant and practical planning/touring device, with powerful features to enhance everyone's vacation experience." J.A. 397, 942.

The Board treated claim 1 of the '790 application as representative. The claims at issue recite a "device" that includes a database of travel information, associated code and memory, and a number of functional "buttons"—for instance, a "plan itinerary" button, an "alter itinerary" button, and a "use itinerary" button:

1. A travel itinerary device comprising:

a housing;

a non-transitory computer-readable program storage medium having computer readable program code embodied therein, said computer readable code being configured for planning of a travel itinerary;

a database of travel information, relating to a destination, stored in said non-transitory computerreadable program storage medium;

a viewing screen;

a processor for executing said computer readable code, said computer readable code comprising instructions for accessing said database of information on said non-transitory computer-readable program storage medium, and for causing displaying, on said viewing screen, of one or more image screens permitting selective planning of said travel itinerary;

a plan itinerary button, an alter itinerary button, and one or more additional buttons configured,

when toggled, for communicating a selection, from among a plurality of options displayed within said one or more image screens, to said processor, and for permitting selective entry of one or more characters;

wherein said selective planning comprises actuating said plan itinerary button for causing displaying of a first image screen by said instructions, said first image screen configured for selecting a first itinerary template and one or more additional itinerary templates from among a plurality of said additional templates, said first itinerary template comprising a template for entering of a number of days for said itinerary, an arrival city and a departure city, and for selecting of one of a plurality of graduated levels of a tour schedule intensity, each of said graduated levels of said tour schedule intensity comprising a range of hours for touring for each of said number of days; each of said plurality of additional itinerary templates comprising a respective list of sites relating to a category of said additional template, with a portion of said list of sites in each said selected one or more additional itinerary templates being used to form a complete travel itinerary, said complete travel itinerary comprising a sequence of sites, for each of said number of days, with said sequence of sites being optimized to include as many sites as possible in said range of touring hours, for touring at the destination;

wherein said selective planning further comprises said alter itinerary button configured for causing displaying of a customizing image screen, said customizing image screen permitting, but not requiring, customizing of said sequence of sites of said complete itinerary, using selective access to said database of travel information, for creating a

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customized sequence of sites for a complete customized travel itinerary; and

wherein said computer readable code is configured for retrievably storing said selective planning within said program storage medium; and

a use itinerary button, said use itinerary button configured, when actuated, for causing displaying of a guidance screen configured for communicating with a GPS receiver for providing guidance during executing of said travel itinerary at the destination, said guidance comprising providing directions to any of said sequence of sites from a current location of said travel itinerary device.

'790 application claim 1 (J.A. 45-46).

The Board likewise treated claim 1 of the '810 application as representative. The claim recites a "computer program product" with memory and code, presenting similar travel related features—for example, a "weather detour" screen to deal with inclement weather, as well as "indooroutdoor" ratings for specific travel sites:

1. A computer program product for a method of planning a travel itinerary for use at a destination and for executing the planned travel itinerary at the destination, the computer program product comprising: a tangible non-transitory computer readable storage medium having computer readable program code embodied thereon, the computer readable program code, when executed by a processor, configured for:

storing a database of travel information about the destination in said storage medium, said database of travel information comprising tour sites at the destination;

storing, in said storage medium, a respective indoor-outdoor rating for each said tour site created by assessing each of said tour sites, each said indoor-outdoor rating comprising a majority percentage of said respective tour site comprising indoor site features or a majority percentage of said respective tour site comprising outdoor site features;

providing a user access to said database of travel information by displaying a planning graphical user interface screen configured for selecting of a first itinerary template, and selecting of one or more additional itinerary templates from a plurality of said additional itinerary templates, each said plurality of additional itinerary templates comprising a plurality of said tour sites listed therein and relating to a category of said additional template, said first itinerary template configured for entering of:

a number of days for said itinerary,

an arrival city and a departure city at the destination,

a start-time and an end-time for a number of desired touring hours for each said number of days, and

a tour intensity level for touring for each of said number of days at the destination;

providing a sequence of tour sites forming a complete travel itinerary for said number of days, using a portion of said tour sites listed in each said selected one or more additional itinerary templates, said complete travel itinerary comprising said sequence of tour sites being optimized to include as many said tour sites as possible in said touring hours, for each of said number of days, according to said tour intensity level;

providing the user access to a weather detour graphical user interface screen configured for selecting one or more blocks of time, each being affected by inclement weather during said desired touring hours of said number of days;

reforming said complete travel itinerary for detouring from said sequence of tour sites, by replacing at least a portion of said sequence of tour sites, at least during said one or more blocks of time affected by inclement weather, by replacing said sites having said majority percentage of outdoor site features for its indoor-outdoor rating, with other tour sites having a highest said majority percentage of indoor site features for its indoor-outdoor rating; and

communicating with a GPS receiver for receiving directions to any of said tour sites of said reformed travel itinerary during executing of said reformed travel itinerary at the destination.

'821 application claim 1 (J.A. 557-58).

#### Π

Patent eligibility is a question of law that may contain underlying issues of fact. Simio, LLC v. FlexSim Software Prods., 983 F.3d 1353, 1358-59 (Fed. Cir. 2020). We review the ultimate eligibility conclusion de novo. Id. at 1359.

In analyzing whether claims are patent eligible under § 101, we employ the two-step *Mayo/Alice* framework. *Alice Corp. v. CLS Bank Int'l*, 573 U.S. 208, 217 (2014); *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 70–73 (2012). First, we determine whether a patent claim is "directed to" an unpatentable law of nature, natural phenomenon, or abstract idea. *Alice*, 573 U.S. at 217. If so, we then determine whether the claim nonetheless includes an "inventive concept" sufficient to ""transform the nature of

the claim' into a patent-eligible application." Id. (quoting Mayo, 566 U.S. at 72, 78).

#### Ш

In a detailed analysis, the Board rejected all pending claims under § 101.

At step one of the *Alice* inquiry, the Board determined that the claims of each application were directed to "planning and executing a vacation or travel itinerary," which it concluded amounted to a method of organizing human activity—an abstract idea. J.A. 8–14 ('790 application); J.A. 538–44 ('821 application). The Board also rejected Mr. Bongiorno's argument that the claims were directed to an improvement in technology; instead, the claims amounted to a "purportedly new arrangement of generic information." J.A. 10–13, 538–44 (citing *Trading Techs*. *Int'l, Inc. v. IBG LLC*, 921 F.3d 1084, 1093 (Fed. Cir. 2019)). The limitations recited not "inventive programming" but "simply desired results." J.A. 11, 15, 541, 547.

At step two of the *Alice* inquiry, the Board determined that the additional recited elements, considered individually or as an ordered combination, do not amount to significantly more than the abstract idea itself. J.A. 14–16, 545–47. That is, the elements amounted simply to "apply[ing] the abstract idea using generic computer components performing routine computer functions." J.A. 15, 546.

The Board was further unpersuaded that certain limitations that Mr. Bongiorno raises on appeal—e.g., mechanical buttons, a "weather detour" interface screen, a site-bysite "indoor-outdoor rating"—changed the eligibility conclusion. See, e.g., J.A. 15–28, 546–47.

We agree with the Board, which addressed Mr. Bongiorno's claims thoroughly. The claims of both applications are drawn to organizing human activity, including planning and executing a travel itinerary, in a manner that

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renders the claims directed to an abstract idea. See Alice, 573 U.S. at 220, 226–27. The additional claim elements are merely generic computer components performing routine functions, and we agree with the Board that the claims do not include an inventive concept that would confer eligibility. See id. at 223–26.

#### IV

We have considered Mr. Bongiorno's other arguments and find them unpersuasive. Because we agree with the Board that the claims are not patent-eligible, we affirm.

#### AFFIRMED

UNIT	Case: 20-1835 D ED States Patent A	Ocument: 47-1 Page: 4	Filed: 02/23/2021	
			UNITED STATES DEPARTMENT United States Patent and Trade Address: COMMISSIONER FOR P. P.O. Box 1450 Alexandra, Virginia 22313-1451 www.uspto.gov	mark Office ATENTS
APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
12/910,790	10/23/2010	James Bongiorno	······································	8903
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# Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

PTOL-90A (Rev. 04/07)

APPENDIX C 12a

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UNITED STATES PATENT AND TRADEMARK OFFICE

# BEFORE THE PATENT TRIAL AND APPEAL BOARD

• Ex parte JAMES BONGIORNO

Appeal 2019-000130 Application 12/910,790 Technology Center 3600

Before MICHAEL C. ASTORINO, BRUCE T. WIEDER, and KENNETH G. SCHOPFER, *Administrative Patent Judges*.

WIEDER, Administrative Patent Judge.

#### DECISION ON APPEAL

Appellant<sup>1</sup> seeks review under 35 U.S.C. § 134 from the Examiner's final rejection of claims 1–4, 6–8, 15, and 32–57.<sup>2</sup> We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

<sup>&</sup>lt;sup>1</sup> We use the word "Appellant" to refer to "applicant" as defined in 37 C.F.R. § 1.42. Appellant identifies the real party in interest as James Bongiorno. (Appeal Br. 3.)

 $<sup>^2</sup>$  In view of the inclusion of claims 6–8 on page 2 of the Final Action, we treat the omission of claims 6–8 on page 1 of the Final Action as a typographical error.

### CLAIMED SUBJECT MATTER

Appellant's "invention relates to methods and systems of planning and executing a vacation or travel itinerary, and more particularly to software and a portable electronic unit, which may be dedicated to such planning and travel assistance at the destination." (Spec. 1.)

Claims 1, 15, and 32 are the independent claims on appeal. Claim 1 is illustrative. It recites (some paragraphing added):

1. A travel itinerary device comprising: a housing;

a non-transitory computer-readable program storage medium having computer readable program code embodied therein, said computer readable code being configured for planning of a travel itinerary;

a database of travel information, relating to a destination, stored in said non-transitory computer-readable program storage medium;

a viewing screen;

a processor for executing said computer readable code, said computer readable code comprising instructions for accessing said database of information on said non-transitory computer-readable program storage medium, and for causing displaying, on said viewing screen, of one or more image screens permitting selective planning of said travel itinerary;

a plan itinerary button, an alter itinerary button, and one or more additional buttons configured, when toggled, for communicating a selection, from among a plurality of options displayed within said one or more image screens, to said processor, and for permitting selective entry of one or more characters;

wherein said selective planning comprises

actuating said plan itinerary button for causing displaying of a first image screen by said instructions, said first image screen configured for selecting a first itinerary template and one or more additional itinerary templates from among a plurality of said additional templates,

> said first itinerary template comprising a template for entering of a number of days for said itinerary, an arrival city and a departure city, and for selecting of one of a plurality of graduated levels of a tour schedule intensity, each of said graduated levels of said tour schedule intensity comprising a range of hours for touring for each of said number of days;

> each of said plurality of additional itinerary templates comprising a respective list of sites relating to a category of said additional template, with a portion of said list of sites in each said selected one or more additional itinerary templates being used to form a complete travel itinerary,

> said complete travel itinerary comprising a sequence of sites, for each of said number of days, with said sequence of sites being optimized to include as many sites as possible in said range of touring hours, for touring at the destination;

> wherein said selective planning further comprises said alter itinerary button configured for causing displaying of a customizing image screen, said customizing image screen permitting, but not requiring, customizing of said sequence of sites of said complete itinerary, using selective access to said database of travel information, for creating a customized sequence of sites for a complete customized travel itinerary; and

> wherein said computer readable code is configured for retrievably storing said selective planning within said program storage medium; and

> a use itinerary button, said use itinerary button configured, when actuated, for causing displaying of a guidance screen configured for communicating with a GPS receiver for providing guidance during executing of said travel itinerary at the destination, said guidance comprising providing directions to any of said sequence of sites from a current location of said travel itinerary device.

#### REJECTIONS

Claims 1–4, 6–8, 15, and 32–57 are rejected under 35 U.S.C. § 101 as directed to a judicial exception without significantly more.

Claims 1–4, 6–8, 15, 32–35, 37, 42–47, 52, and 53 are rejected under 35 U.S.C. § 103(a) as unpatentable over Whitsett (US 2009/0216633 A1, pub. Aug. 27, 2009), Ben-Yehuda (US 2008/0046298 A1, pub. Feb. 21, 2008), Erhardt (US 2010/0332115 A1, pub. Dec. 30, 2010), and DeLorme (US 2003/0182052 A1, pub. Sept. 25, 2003).

Claims 15, 48, 49, and 51 are rejected under 35 U.S.C. § 103(a) as unpatentable over Whitsett, Ben-Yehuda, and Erhardt.

Claims 36, 38, and 39 are rejected under 35 U.S.C. § 103(a) as unpatentable over Whitsett, Ben-Yehuda, Erhardt, DeLorme, and Chavez (US 2010/0121563 A1, pub. May 13, 2010).

Claim 40 is rejected under 35 U.S.C. § 103(a) as unpatentable over Whitsett, Ben-Yehuda, Erhardt, DeLorme, and Randall (US 2006/0184538 A1, pub. Aug. 17, 2006).

Claim 41 is rejected under 35 U.S.C. § 103(a) as unpatentable over Whitsett, Ben-Yehuda, Erhardt, DeLorme, Randall, and Bakewell (US 2008/0201227 A1, pub. Aug. 21, 2008).

Claims 50 and 54–57 are rejected under 35 U.S.C. § 103(a) as unpatentable over Whitsett, Ben-Yehuda, Erhardt, DeLorme, Chavez, and Ben-Yitschak (US 2010/0305984 A1, pub. Dec. 2, 2010).

### ANALYSIS

### <u>The § 101 rejection</u>

"Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title." 35 U.S.C. § 101. Section 101, however,

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"contains an important implicit exception: Laws of nature, natural phenomena, and abstract ideas are not patentable." *Alice Corp. Pty. Ltd. v. CLS Bank Int'l*, 573 U.S. 208, 216 (2014) (quoting *Ass'n for Molecular Pathology v. Myriad Genetics, Inc.*, 569 U.S. 576, 589 (2013)).

Alice applies a two-step framework, earlier set out in *Mayo* Collaborative Services v. Prometheus Laboratories, Inc., 566 U.S. 66 (2012), "for distinguishing patents that claim laws of nature, natural phenomena, and abstract ideas from those that claim patent-eligible applications of those concepts." Alice, 573 U.S. at 217.

Under the two-step framework, it must first be determined if "the claims at issue are directed to a patent-ineligible concept." *Id.* at 218. If the claims are determined to be directed to a patent-ineligible concept, e.g., an abstract idea, then the second step of the framework is applied to determine if "the elements of the claim . . . contain[] an 'inventive concept' sufficient to 'transform' the claimed abstract idea into a patent-eligible application." *Id.* at 221 (internal quotation marks omitted) (citing *Mayo*, 566 U.S. at 72–73, 79).

With regard to step one of the *Alice* framework, we apply a "directed to" two-prong test to: 1) evaluate whether the claim recites a judicial exception, and 2) if the claim recites a judicial exception, evaluate whether the claim "appl[ies], rel[ies] on, or use[s] the judicial exception in a manner that imposes a meaningful limit on the judicial exception, such that the claim is more than a drafting effort designed to monopolize the judicial exception." *See* USPTO, 2019 Revised Patent Subject Matter Eligibility Guidance, 84 Fed. Reg. 50, 54 (Jan. 7, 2019) (hereinafter "2019 Guidance").

# Claims 1-4. 6, and 7

The Examiner determines that claim 1 is "directed to the abstract idea of preparing a custom travel itinerary for use at a destination which is similar to . . . using rules to identify options . . . and/or [c]reating a contractual relationship." (Final Action 8 (emphasis and internal quotation marks omitted).) The 2019 Guidance identifies "commercial or legal interactions (including agreements in the form of contracts; legal obligations; advertising, marketing or sales activities or behaviors; business relations)" and "managing personal behavior or relationships or interactions between people (including social activities, teaching, and following rules or instructions)" as certain methods of organizing human activity, and a category of abstract ideas. (2019 Guidance at 52.) Viewing the Examiner's determination through the lens of the 2019 Guidance, the Examiner's determination is that claim 1 is directed to the abstract idea of certain methods of organizing human activities.

Appellant argues that "[t]here is no contractual relationship that is explicitly or impliedly formed by the claim language" and that "the apparatus recited in claim 1 goes substantially beyond just organizing[,] storing, and transmitting information." (Appeal Br. 19.<sup>3</sup>)

Under step one of the *Alice* framework, we "look at the 'focus of the claimed advance over the prior art' to determine if the claim's 'character as a whole' is directed to excluded subject matter." *Affinity Labs of Texas, LLC v. DIRECTV, LLC*, 838 F.3d 1253, 1257 (Fed. Cir. 2016) (quoting *Elec. Power Grp., LLC v. Alstom S.A.*, 830 F.3d 1350, 1353 (Fed. Cir. 2016).

<sup>&</sup>lt;sup>3</sup> References to "Appeal Br." are to the appeal brief filed December 21, 2016.

The "directed to" inquiry . . . cannot simply ask whether the claims *involve* a patent-ineligible concept, because essentially every routinely patent-eligible claim involving physical products and actions *involves* a law of nature and/or natural phenomenon . . . Rather, the "directed to" inquiry applies a stage-one filter to claims, considered in light of the specification, based on whether "their character as a whole is directed to excluded subject matter." *Internet Patents Corp. v. Active Network, Inc.*, 790 F.3d 1343, 1346 (Fed. Cir. 2015).

*Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1335 (Fed. Cir. 2016). In other words, the first step of the *Alice* framework "asks whether the focus of the claims is on the specific asserted improvement in [the relevant technology] or, instead, on a process that qualifies as an 'abstract idea' for which computers are invoked merely as a tool." *Id.* at 1335–36; *see also* 2019 Guidance at 54–55.

The Specification provides evidence as to what the claimed invention is directed. In this case, the Specification discloses that the invention relates to "planning and executing a vacation or travel itinerary." (Spec. 1.) Claim 1 provides further evidence. Claim 1 recites "[a] travel itinerary device comprising: a housing; a non-transitory computer-readable program storage medium," "a database of travel information," "a processor . . . for accessing said database . . . and for causing displaying . . . of one or more image screens permitting selective planning of said travel itinerary," "buttons . . . for communicating a selection," "said selective planning comprises . . . selecting a first itinerary template and one or more additional itinerary templates . . . for entering" itinerary information, "additional itinerary templates comprising a respective list of sites," "said complete travel itinerary comprising a sequence of sites . . . with said sequence of sites being optimized to include as many sites as possible," "said selective

planning further comprises said alter itinerary button . . . for creating a customized sequence of sites," "retrievably storing said selective planning," "and a use itinerary button . . . for causing displaying of a guidance screen configured for communicating with a GPS receiver for providing guidance during executing of said travel itinerary . . . comprising providing directions to any of said sequence of sites from a current location."

In short, claim 1 recites a device with a processor, a memory, and a screen. The memory contains information and program code for displaying screens/templates for inputting information, analyzing information (forming a sequence of tour sites "optimized to include as many sites as possible"), displaying a screen for inputting additional information, retrieving information from memory, and displaying a screen for communicating with a GPS receiver to provide information.

Appellant argues:

The inventive programming of the claimed apparatus of claim 1 utilizes an amalgam of rules that are found in the list of sites of the "one or more additional templates," and in the framework of the itinerary that is defined by the traveler in the "first itinerary template," which is nonetheless alterable using the "alter itinerary button." It is this amalgam of rules that serves to improve the existing technological process "by allowing the automation of further tasks," which provided the basis for the patent-eligibility of the claimed subject matter in [*McRO, Inc. v. Bandai Namco Games America Inc.*, 837 F.3d 1299 (Fed. Cir. 2016)].

(Appeal Br. 20.) We do not find this argument persuasive. "The claimed improvement [in *McRO*] was to how the physical display operated (to produce better quality images), unlike (what is present here) a claimed

improvement in [the abstract idea] with no improved display mechanism." SAP Am., Inc. v. InvestPic, LLC, 898 F.3d 1161, 1167 (Fed. Cir. 2018).

Claim 1 recites a generic "housing," a generic "computer-readable program storage medium," a generic "viewing screen," a generic "processor," and a generic "GPS receiver." (*See* Spec. 18, 44–45.) The claim limitations do not recite technological implementation details for any of the steps. Claim 1 merely recites functional results to be achieved by any means, e.g., claim 1 does not recite how the plan itinerary button "caus[es] displaying of a first image screen," how the sequence of sites of the complete travel itinerary is "optimized to include as many sites as possible," how said alter itinerary button "caus[es] displaying of a customizing image screen . . . for creating a customized sequence of sites," or how the use itinerary button "caus[es] displaying of a guidance screen configured for communicating with a GPS receiver" where the guidance "provid[es] directions to any of said sequence of sites from a current location." The claim does not recite any specific asserted improvement to computer technology.

In cases involving software innovations, such as we have here, the inquiry as to whether the claims are directed to an abstract idea "often turns on whether the claims focus on 'the specific asserted improvement in computer capabilities ... or, instead, on a process that qualifies as an "abstract idea" for which computers are invoked merely as a tool." *Finjan, Inc. v. Blue Coat Sys., Inc.,* 879 F.3d 1299, 1303 (Fed. Cir. 2018) (quoting *Enfish, LLC,* 822 F.3d at 1335–36). Here, the housing, program storage medium, viewing screen, processor, and GPS receiver are invoked merely as tools.

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Even if we consider claim 1 to be limited to a particular technological environment, "limiting the claims to [a] particular technological environment . . . is, without more, insufficient to transform them into patenteligible applications of the abstract idea at their core." *Elec. Power Grp.*, 830 F.3d at 1354. The asserted improvement is to the information provided, i.e., the travel itinerary, customized travel itinerary, and directions to the sites. But "[n]o matter how much of an advance in the . . . field the claims recite, the advance lies entirely in the realm of abstract ideas, with no plausibly alleged innovation in the non-abstract application realm." *SAP America, Inc.*, 898 F.3d at 1163.

We also do not find persuasive Appellant's argument:

Claim 1 claims a "plan itinerary button," an "alter itinerary button," and a "use itinerary button" as elements of the apparatus, which provides a synergism of functionality based on the combination of inventive programming for planning a custom itinerary, in combination with GPS communications to provide guidance during execution of the custom planned itinerary, while at the destination.

(Appeal Br. 19.)

Claim 1 does not recite "a particular way of programming or designing the software . . . , but instead merely claim[s] the resulting system[]." *Apple, Inc. v. Ameranth, Inc.*, 842 F.3d 1229, 1241 (Fed. Cir. 2016). In other words, claim 1 does not recite inventive programming, but simply recites desired results. Claim 1 is "focused on providing information to [the user] . . . , not on improving computers or technology." *Trading Techs. Int'l, Inc. v. IBG LLC*, 921 F.3d 1378, 1384 (Fed. Cir. 2019) (hereinafter "*Trading Techs. IP*"). "Like *Electric Power*, the purported advance 'is a process of gathering and analyzing information of a specified

content, then displaying the results, and not any particular assertedly inventive technology for performing those functions.' 830 F.3d at 1354. We thus conclude that the claim[ is] directed to an abstract idea." *Id.* at 1385.

Claim 1 "do[es] not improve the functioning of the computer, make it operate more efficiently, or solve any technological problem. Instead, [it] recite[s] a purportedly new arrangement of generic information that assists [users] in processing information more quickly." *Trading Techs. Int'l, Inc. v. IBG LLC*, 921 F.3d 1084, 1093 (Fed. Cir. 2019) (hereinafter "*Trading Techs. I*"). The Federal Circuit has concluded that such claims are directed to an abstract idea. *Id. Cf. Core Wireless Licensing S.A.R.L. v. LG Elecs., Inc.*, 880 F.3d 1356, 1362–63 (Fed. Cir. 2018) (The court determined that "[t]he asserted claims in this case are directed to an improved user interface for computing devices," that the claim "limitations disclose a specific manner of displaying a limited set of information to the user, rather than using conventional user interface methods," and that "[t]he disclosed invention improves the efficiency of using the electronic device." The court determined that the claims were not directed to an abstract idea.).

"As many cases make clear, even if a process of collecting and analyzing information is 'limited to particular content' or a particular 'source,' that limitation does not make the collection and analysis other than abstract." *SAP Am., Inc.*, 898 F.3d at 1168. Moreover, the "character of [the] information simply invokes a separate category of abstract ideas." *Id.* 

In view of the above, we determine that claim 1 is directed to planning and executing a travel itinerary using "an amalgam of rules." (*See* Appeal Br. 20.) In other words, we determine that claim 1 is directed to managing

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personal behavior or relationships or interactions between people, and, thus, an abstract idea, characterized as being directed to certain methods of organizing human activity. (*See* 2019 Guidance at 52.) This is in accord with the Examiner's determination. (*See* Final Action 8.)

Moreover, we do not see how the recitation of a generic housing, a generic computer readable program storage medium, a generic viewing screen, a generic processor, and a generic GPS receiver, even in conjunction with the recited functions, "ensure[s] 'that the [claim] is more than a drafting effort designed to monopolize the [abstract idea]." *See Alice*, 573 U.S. at 221 (second and third brackets in original) (quoting *Mayo*, 566 U.S. at 77).

Nor do we find any indication in the Specification that the claimed invention effects a transformation or reduction of a particular article to a different state or thing. Nor do we find anything of record that attributes an improvement in computer technology or functionality to the claimed invention or that otherwise indicates that the claimed invention "appl[ies], rel[ies] on, or use[s] the judicial exception in a manner that imposes a meaningful limit on the judicial exception, such that the claim is more than a drafting effort designed to monopolize the judicial exception." (*See* 2019 Guidance at 54–55.)

Thus, under prong one of the two prong test in the 2019 Guidance, claim 1 recites an abstract idea; and, under prong two, additional elements in claim 1 do not "apply, rely on, or use the judicial exception in a manner that imposes a meaningful limit on the judicial exception, such that the claim is more than a drafting effort designed to monopolize the judicial exception."

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(See 2019 Guidance at 54.) As such, under step one of the *Alice* framework, the claims are directed to an abstract idea, and we move to step two.

Step two of the *Alice* framework has been described "as a search for an ' "inventive concept" ' *-i.e.*, an element or combination of elements that is 'sufficient to ensure that the patent in practice amounts to significantly more than a patent upon the [ineligible concept] itself." *Alice*, 573 U.S. at 217–18 (brackets in original) (quoting *Mayo*, 566 U.S. at 72–73). Under step two, we examine, *inter alia*, whether a claim element or combination of elements "[a]dds a specific limitation or combination of limitations that are not well-understood, routine, conventional activity in the field, which is indicative that an inventive concept may be present." (2019 Guidance at 56.)

Here, the question is whether the steps of displaying screens/templates for inputting information, analyzing information, displaying a screen for inputting additional information, retrieving information from memory, and displaying a screen for communicating with a GPS receiver are wellunderstood, routine and conventional.

Taking the claim elements separately, the functions performed in claim 1 by the generic housing, computer readable program storage medium, viewing screen, processor, and GPS receiver are purely routine and conventional. (*See, e.g.*, Spec. 23–24, 49, 75–77.) Storing information, providing/presenting information, analyzing information, and receiving information are all routine and conventional functions for a computer processor and were previously known to the industry. *See Elec. Power Grp.*, 830 F.3d at 1356 (The claims "do not include any requirement for performing the claimed functions of gathering, analyzing, and displaying in

real time by use of anything but entirely conventional, generic technology. The claims therefore do not state an arguably inventive concept . . . ."); see also In re Katz Interactive Call Processing Patent Litig., 639 F.3d 1303, 1316 (Fed. Cir. 2011) ("Absent a possible narrower construction of the terms 'processing,' 'receiving,' and 'storing,' . . . those functions can be achieved by any general purpose computer without special programming.").

Considered as an ordered combination, the generic computer components of Appellant's claimed invention add nothing that is not already present when the limitations are considered separately. For example, claim 1 does not, as discussed above, purport to improve the functioning of the computer components themselves. Nor does it effect an improvement in any other technology or technical field. Instead, claim 1 amounts to nothing significantly more than an instruction to apply the abstract idea using generic computer components performing routine computer functions. (*See* Final Action 8–9.) That is not enough to transform an abstract idea into a patenteligible invention. *See Alice*, 573 U.S. at 225–26.

Appellant presents separate arguments for dependent claims 2–4, 6, and 7. (Appeal Br. 20–22.) These arguments rely on the claims "further defin[ing] the inventive programming of [the associated parent claim(s)]." (*Id.*) However, these dependent claims, like claim 1 discussed above, do not recite "a particular way of programming or designing the software ..., but instead merely claim the resulting system[]." *Apple, Inc.*, 842 F.3d at 1241. In other words, these dependent claims do not recite inventive programming, but simply desired results. This is fatal to Appellant's arguments. Also like claim 1, these dependent claims are "focused on providing information to [the user]..., not on improving computers or technology." *See Trading* 

*Techs. II*, 921 F.3d at 1384. Therefore, for the reasons discussed above, we are not persuaded that the Examiner erred in rejecting dependent claims 2–4, 6, and 7.

# <u>Claim 8</u>

Claim 8 recites:

8. The travel itinerary device of claim 7, further comprising a [sic, said] GPS receiver; and wherein said guidance screen is configured for selective displaying of:

said sequence of sites of said travel itinerary;

a scalable map region for one or more of said sites of said travel itinerary; and

wherein said providing of directions to any of said sites of said travel itinerary comprises providing direction based on a current GPS location of said device.

As an initial matter, we note that in view of the recitation in claim 8 of "said guidance screen," which relies on the recitation in claim 1 of "a guidance screen for communicating with a GPS receiver" for its antecedent basis, we treat the recitation in claim 8 of "a GPS receiver" as a typographical error, i.e., that the recitation should have been "said GPS receiver."

Appellant argues that "[t]he use of the GPS receiver to provide guidance . . . in combination with the inventive concept of using the claimed templates . . . and the claimed buttons to create the itinerary, is not conventional." (Appeal Br. 22.) We do not find this argument persuasive.

Appellant does not claim to have invented a GPS receiver. Nor does Appellant claim that using a GPS receiver to obtain directions is not conventional. Claim 8 merely recites the conventional use of a GPS device to receive map and location information. *See, e.g., Location Based Servs.,* 

LLC v. Niantic, Inc., 295 F. Supp.3d 1031 (N.D. Cal. 2017), aff'd, 742 F. App'x 506 (Fed. Cir. 2018); Peschke Map Techs. LLC v. Rouse Props. Inc., 168 F. Supp.3d 881 (E.D. Va. 2016).

Also claim 8, like claim 1, does not recite "a particular way of programming or designing the software . . . , but instead merely claim[s] the resulting system[]." *Apple, Inc.*, 842 F.3d at 1241. Claim 8 is "focused on providing information to [the user] . . . , not on improving computers or technology." *Trading Techs II*, 921 F.3d at 1384. In sum, the claim limitations do not recite technological implementation details for any of the steps. The claim merely recites functional results to be achieved by any means, e.g., claim 8 does not recite how the guidance screen displays "a scalable map region for one or more of said sites of said travel itinerary." The claim recites the aspirational goal of performing these tasks. It does not recite any specific asserted improvement to computer technology.

Nor do we find persuasive Appellant's attempt to analogize claim 8 to the claims in *BASCOM Global Internet Services, Inc. v. AT&T Mobility LLC*, 827 F.3d 1341, 1350 (Fed. Cir. 2016). (Appeal Br. 22.) In *BASCOM*, the court determined that "an inventive concept can be found in the nonconventional and non-generic arrangement of known, conventional pieces." *BASCOM Glob. Internet Servs., Inc.*, 827 F.3d at 1350. Here, claim 8 does not specify that the recited computer components must be arranged in a nonconventional manner.

Taking the claim elements separately, the functions performed in claim 8 by the generic components are purely routine and conventional. Considered as an ordered combination, the generic components of

Appellant's claimed invention add nothing that is not already present when the limitations are considered separately.

For the reasons discussed above, we are not persuaded that the Examiner erred in rejecting claim 8.

# <u>Claim 36</u>

Claim 36 recites "[t]he travel itinerary device of claim 8, further comprising an en route detour button configured for causing, when actuated, displaying of a detour option screen on said viewing screen, said detour option screen configured for identifying alternative nearby sites in close proximity to a current location of said device."

# Appellant argues:

The "en route detour button" leverages use of the GPS receiver to provide guidance not only in moving between each of the "sequence of sites" of the planned itinerary, but also in moving to other alterative [sic] nearby sites, that along with the displaying of such sites on the "scalable map region" recited in claim 8, in combination with the claimed templates and other buttons to create the itinerary, serves to further the inventive concept. The combination is not conventional.

(Appeal Br. 23.)

Claim 36, however, does not recite "a particular way of programming or designing the software . . . , but instead merely claim[s] the resulting system[]." *Apple, Inc.*, 842 F.3d at 1241. Claim 36 is "focused on providing information to [the user] . . . , not on improving computers or technology." *Trading Techs II*, 921 F.3d at 1384. The claim limitations do not recite technological implementation details for any of the steps. Claim 36 does not recite any specific asserted improvement to computer technology.

Taking the claim elements separately, the functions performed in claim 36 by the generic components are purely routine and conventional. Considered as an ordered combination, the generic components of Appellant's claimed invention add nothing that is not already present when the limitations are considered separately.

For the reasons discussed above, we are not persuaded that the Examiner erred in rejecting claim 36.

# <u>Claim 50</u>

Claim 50 recites:

50. The travel itinerary device according to claim 36, further comprising:

a sound generator;

a microphone;

a language database stored in said storage medium;

a translate phrase button configured, when actuated, for causing displaying of a language translation screen on said viewing screen, said language translation screen configured for translating one or more words entered into said device in a first language, into a second language being used at the destination, and to cause said sound generator to articulate said translated one or more words; and

one or more speech recognition algorithms configured for translating a response in said language used at the destination into said first language.

Appellant argues:

This additional combination of elements furthers the inventive concept beyond just "preparing a custom travel itinerary." It provides comprehensive support for a traveler while traveling in a foreign country where the foreign citizens do not speak the same language. The ordered combination of elements provides for an apparatus that enables the person to not only plan a "complete travel itinerary," and be given custom

> directions to navigate about the foreign nation while in-country to execute that custom itinerary, but furthermore enables the traveler to interact and communicate with the foreign-speaking citizens, when necessary.

(Appeal Br. 24.)

Claim 50 does not recite "a particular way of programming or designing the software . . . , but instead merely claim[s] the resulting system[]." *Apple, Inc.*, 842 F.3d at 1241. Claim 50 is "focused on providing information to [the user] . . . , not on improving computers or technology." *Trading Techs II*, 921 F.3d at 1384. The claim limitations do not recite technological implementation details for any of the steps. Claim 50 does not recite any specific asserted improvement to computer technology. Moreover, "[i]t has been clear since *Alice* that a claimed invention's use of the ineligible concept to which it is directed cannot supply the inventive concept that renders the invention 'significantly more' than that ineligible concept." *BSG Tech LLC*, 899 F.3d at 1290. The claimed invention is, at most, an improvement to the performance of the abstract idea, in this case, an improvement in planning and executing a travel itinerary, i.e., certain methods of organizing human activity. (*See supra*; *see also* 2019 Guidance at 52.)

Taking the claim elements separately, the functions performed in claim 50 by the generic components are purely routine and conventional. Considered as an ordered combination, the generic components of Appellant's claimed invention add nothing that is not already present when the limitations are considered separately.

For the reasons discussed above, we are not persuaded that the Examiner erred in rejecting claim 50.

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### <u>Claim 54</u>

Claim 54 depends from claim 50 and recites the device "being further configured for using said sound generator for providing alarm prompts for giving notice of when a visit at one site of said sequence of sites is scheduled to end, and movement towards a next site in said sequence of sites is to begin."

As with claim 50, the claim does not recite technological implementation details or any asserted improvement to computer technology. And Appellant does not assert that Appellant invented using a sound generator to provide an alarm.

Taking the claim elements separately, the functions performed in claim 54 by the generic components are purely routine and conventional. Considered as an ordered combination, the generic components of Appellant's claimed invention add nothing that is not already present when the limitations are considered separately.

For the reasons discussed above, we are not persuaded that the Examiner erred in rejecting claim 54.

#### <u>Claim 56</u>

Claim 56 recites: "The travel itinerary device according to claim 54, wherein each of said buttons comprises a mechanical button configured to be manually depressed to be actuated."

Appellant argues:

Claim 56 improves the relevant technology, because it no longer may constitute utilization of the claimed inventive programming on a conventional mobile computing device. Conversely, it is now explicitly defined and limited to be a new

"non-conventional" custom electromechanical device (i.e., the first device embodiment shown in FIGS. 1-68 and/or the second device embodiment shown in FIG. 69), in which "each of said buttons comprises *a mechanical button* configured to be manually depressed to be actuated." The unique and custom apparatus of claim 56 is particularly configured to assist the traveler through its buttons that are easily accessed, which provide diverse functionality for both the planning and executing of a travel itinerary that may thereby be created, as defined in claims 1, 2, 3, 4, 6, 7, 8, 36, 50, and 54.

#### (Appeal Br. 25.)

We do not find Appellant's argument persuasive. As an initial matter, we note that Appellant is not claiming to have invented mechanical buttons or the use of mechanical buttons for communicating selections. Even if we consider Appellant's claimed use of mechanical buttons to be limited to a particular technological environment, "limiting the claims to [a] particular technological environment . . . is, without more, insufficient to transform them into patent-eligible applications of the abstract idea at their core." *Elec. Power Grp.*, 830 F.3d at 1354.

Nor do we find persuasive Appellant's argument that the "buttons . . . are easily accessed." The claim does not recite accessibility and thus Appellant's argument is not commensurate with the scope of the claim.

Nor do we find persuasive Appellant's argument that "[t]he claimed device with its customized mechanical buttons and functionality constitutes the 'improvement' noted in *Enfish* that is explicitly 'defined by reference to "physical" components' and 'particular physical features."" (Appeal Br. 25.) *Enfish* explained that simply because "the improvement is not defined by reference to 'physical' components does not doom the claims." *Enfish*, *LLC*, 822 F.3d at 1339. Indeed, the claims in *Enfish* were "specifically directed to

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a *self-referential* table for a computer database." *Enfish*, 822 F.3d at 1337. That is, unlike claim 56 here, in *Enfish*, "the plain focus of the claims [was] on an improvement to computer functionality itself, not on economic or other tasks for which a computer is used in its ordinary capacity." *Id.* at 1336.

For the reasons discussed above, we are not persuaded that the Examiner erred in rejecting claim 56.

### <u>Claim 57</u>

Claim 57 recites:

57. The travel itinerary device according to claim 54, wherein said viewing screen comprises a touch screen; and wherein each of said buttons comprise a graphical button displayed in a graphical user interface on said touch screen, each said graphical button configured to be actuated by touching its digital appearance on said touch screen.

Appellant argues that "[t]he inventive programming of claim 57 improves the relevant technology." (Appeal Br. 25.) We are not persuaded of error.

Claim 57 does not recite "a particular way of programming or designing the software . . . , but instead merely claim[s] the resulting system[]." *Apple, Inc.*, 842 F.3d at 1241. It does not recite inventive programming, but simply desired results. This is fatal to Appellant's argument. Nor are we persuaded that the conventional use of a touch screen to input information is an improvement to computers or technology. *See Trading Techs. I*, 921 F.3d at 1093. Therefore, for the reasons discussed above, we are not persuaded that the Examiner erred in rejecting claim 57.

#### <u>Claim 15</u>

Independent claim 15 recites subject matter similar to that of claim 1. However, "the method of claim 15 does not recite the 'buttons' found in claim 1." (Appeal Br. 26.)

Appellant argues that "[t]he inventive method . . . utilizes 'a portion of said sites in said respective list of sites in each of said selected two or more additional templates' in accordance with the selected 'tour schedule intensity' for 'forming a complete travel itinerary,' which requires 'optimizing said sequence of sites." (*Id.*) Appellant further argues that "the method permits 'displaying a customizing image screen'" and permits "the user to form 'a customized sequence of sites for a complete customized travel itinerary." (*Id.*)

We do not find Appellant's argument persuasive. As discussed above with regard to claim 1, "[i]t has been clear since *Alice* that a claimed invention's use of the ineligible concept to which it is directed cannot supply the inventive concept that renders the invention 'significantly more' than that ineligible concept." *BSG Tech LLC*, 899 F.3d at 1290. The claimed invention is, at most, an improvement to the performance of the abstract idea, in this case, an improvement in planning and executing a travel itinerary, i.e., certain methods of organizing human activity. (*See supra*; *see also* 2019 Guidance at 52.)

Moreover, claim 15 does not recite "a particular way of programming or designing the software . . . , but instead merely claim[s] the resulting system[]." *Apple, Inc.*, 842 F.3d at 1241. Claim 15 merely recites functional results to be achieved by any means. For example, claim 15 does not recite how the method "optimiz[es] said sequence of sites."

Claim 15 is "focused on providing information to [the user] ..., not on improving computers or technology." *Trading Techs. II*, 921 F.3d at 1384. "Like *Electric Power*, the purported advance 'is a process of gathering and analyzing information of a specified content, then displaying the results, and not any particular assertedly inventive technology for performing those functions.' 830 F.3d at 1354. We thus conclude that the claim[ is] directed to an abstract idea." *Trading Techs. II*, 921 F.3d at 1385.

Taking the claim elements separately, and as discussed above with regard to claim 1, the functions performed by the generic processor(s), machine-readable program storage medium, and display screen(s) are purely routine and conventional. (*See, e.g.*, Spec. 23–24, 49, 75–77.) And considered as an ordered combination, the generic computer components of Appellant's claimed invention add nothing that is not already present when the limitations are considered separately. Therefore, we are not persuaded that the Examiner erred in rejecting claim 15.

### <u>Claims 48, 49, 51–53, and 55</u>

Dependent claims 48, 49, 51–53, and 55 depend from independent claim 15. Appellant argues that each of claims 48, 49, 51–53, and 55 "narrows the method of 'planning a travel itinerary" (Appeal Br. 27–28) or "narrows the method for forming the 'complete travel itinerary" (*id.* at 29). Appellant does not persuasively argue why simply narrowing the scope of the patent-ineligible subject matter transforms it into patent-eligible subject matter. As discussed above, "a claimed invention's use of the ineligible concept to which it is directed cannot supply the inventive concept that

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renders the invention 'significantly more' than that ineligible concept." *BSG Tech LLC*, 899 F.3d at 1290.

We are also not persuaded by Appellant's argument that claim 55 "goes significantly beyond the abstract idea of just 'preparing a custom travel itinerary,' in the same way that the Federal Circuit determined that the claimed 'filtering of content' in *Bascom* went beyond the claims that were considered in *Alice*." (Appeal Br. 29.) As discussed above, in *BASCOM*, the court determined that "an inventive concept can be found in the nonconventional and non-generic arrangement of known, conventional pieces." *BASCOM Glob. Internet Servs., Inc.*, 827 F.3d at 1350. The method claimed in claim 55 does not specify that the recited computer components must be arranged in a non-conventional manner.

Therefore, we are not persuaded that the Examiner erred in rejecting claims 48, 49, 51–53, and 55.

#### <u>Claims 32–35, 37–39, and 44</u>

Appellant argues that independent claim 32 recites "patent-eligible subject matter for the reasons provided hereinabove with respect to claim 1 and claim 15." (Appeal Br. 31.) For the reasons discussed above with regard to claims 1 and 15, we do not find the argument persuasive. Dependent claim 44 is not separately argued and falls with claim 32. *See* 37 C.F.R. § 41.37(c)(1)(iv).

Appellant argues that claims 33, 34, 35, 37, 38, and 39 recite patenteligible subject matter for the reasons provided with regard to claims 2 and 48, 6 and 52, 7 and 53, 4 and 51, 8 and 55, and 36 and 55, respectively. (Appeal Br. 32–33.) For the reasons discussed above with regard to those claims, we do not fund the arguments persuasive.

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#### <u>Claim 40</u>

Claim 40 depends from claims 32 and 33 and "further narrows the method for forming the 'complete travel itinerary' whereby it further includes 'displaying an audio tour screen configured for selecting of one or more pre-recorded audio tours from among a plurality of audio tours." (*Id.* at 33.)

Appellant does not persuasively argue why simply narrowing the scope of the patent-ineligible subject matter transforms it into patent-eligible subject matter. Also, as discussed above, "a claimed invention's use of the ineligible concept to which it is directed cannot supply the inventive concept that renders the invention 'significantly more' than that ineligible concept." *BSG Tech LLC*, 899 F.3d at 1290. Nor does Appellant persuasively argue that, e.g., the image/display screen is being used in anything but a conventional manner to display information to the user.

In view of the above, we are not persuaded that the Examiner erred in rejecting claim 40.

### <u>Claims 41, 43, 46, and 47</u>

Dependent claims 41, 43, 46, and 47 depend from independent claim 32. Appellant argues that each of claims 41, 43, 46, and 47 "further narrows the method of 'planning a travel itinerary.'" (Appeal Br. 34–35.) Once again, Appellant does not persuasively argue why simply narrowing the scope of the patent-ineligible subject matter transforms it into patenteligible subject matter. As discussed above, "a claimed invention's use of the ineligible concept to which it is directed cannot supply the inventive

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concept that renders the invention 'significantly more' than that ineligible concept." *BSG Tech LLC*, 899 F.3d at 1290.

Appellant also argues that the claims "further contribute[] to the inventive programming." (Appeal Br. 34–36.) However, these dependent claims do not recite "a particular way of programming or designing the software . . . , but instead merely claim[s] the resulting system[]." *Apple, Inc.*, 842 F.3d at 1241. In other words, these dependent claims do not recite inventive programming, but simply desired results. Therefore, we do not find these arguments persuasive.

# Claims 42 and 45

Appellant argues that claim 42 recites patent-eligible subject matter for the reasons provided with regard to claims 3 and 49, and that claim 45 recites patent-eligible subject matter for the reasons provided with regard to claim 1. (Appeal Br. 34–35.) For the reasons discussed above with regard to claims 3, 49, and 1, we do not find the arguments persuasive.

# <u>The § 103(a) rejections</u>

# Claims 1, 15, and 32 - the Erhardt reference

Appellant does not separately argue claims 1, 15, and 32. We select claim 1 as representative. Claims 15 and 32 will stand or fall with claim 1. See 37 C.F.R. § 41.37(c)(1)(iv).

In relevant part, the Examiner finds:

Whitsett et al. in view of Ben-Yehuda et al. does not disclose said sequence of sites being optimized to include as many sites as possible in said range of touring hours, for touring at a destination.

> Erhardt discloses said sequence of sites being optimized to include as many sites as possible in said range of touring hours, for touring at a destination ([0005],[0008],[0028]-[0029], [0055]-[0058]). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of *Whitsett et al.* in view of *Ben-Yehuda et al.* to include the method disclosed by *Erhardt* to maximize the likelihood of visiting all desired locations within a certain time frame ([0008]).

(Final Action 11.)

Appellant disagrees and argues that "there is a distinction between [the] teaching in Erhardt, and the Applicant's claimed limitation." (Appeal Br. 37.) Specifically:

Because only the "visitor" selects "desired exhibits" in Erhardt, there is no way of ascertaining whether the resulting schedule has actually been "optimized to include as many sites as possible," as claimed herein. If the visitor has under-selected the number of sites that may reasonably be seen during the available touring time, the schedule would fail to be appropriately optimized.

Even the further teaching in Erhardt that "visitors may prefer to take a dvantage of pre-packaged routes and schedules" (¶ [0044]), fails to ensure that the schedule has actually been "optimized to include as many sites as possible in said range of touring hours."

(Id. at 38.)

In relevant part, claim 1 recites (emphasis and some paragraphing added):

a processor . . . for causing displaying, on said viewing screen, of one or more image screens *permitting selective planning of said travel itinerary*;

a plan itimerary button, an alter itinerary button, and one or more additional buttons configured, when toggled, for communicating a selection, from among a plurality of options

> displayed within said one or more image screens, to said processor, and for permitting selective entry of one or more characters;

wherein said selective planning comprises

actuating said plan itinerary button for causing displaying of a first image screen . . . , said first image screen configured for selecting a first itinerary template and one or more additional itinerary templates from among a plurality of said additional templates,

said first itinerary template comprising a template for entering of a number of days for said itinerary, an arrival city and a departure city, and for selecting of one of a plurality of graduated levels of a tour schedule intensity, each of said graduated levels of said tour schedule intensity comprising a range of hours for touring for each of said number of days;

each of said plurality of additional itinerary templates comprising a respective list of sites relating to a category of said additional template, with a portion of said list of sites in each said selected one or more additional itinerary templates being used to form a complete travel itinerary,

said complete travel itinerary comprising a sequence of sites, for each of said number of days, with said sequence of sites being optimized to include as many sites as possible in said range of touring hours, for touring at the destination.

Erhardt teaches "a method and apparatus for scheduling and routing."

(Erhardt, Abstract.) In particular, Erhardt teaches that

[a] visitor provides input as to desired locations as well as a time limit for the overall visit. In one embodiment, the visitor may also rank the locations in an order of preference. ... Using this data, the system provides a schedule and a route for the visitor designed to satisfy the visitors [sic] desire to visit certain locations within a certain time frame.

(*Id.* ¶ 8.) Erhardt further teaches that "the system uses the information from the visitor and generates a route/schedule designed to optimize the visit. The route/schedule attempts to ensure that the preferred exhibits can be seen by the visitor in the time allotted." (*Id.* ¶ 28.)

Appellant's argument, rephrased, is that if the visitor does not select enough locations or exhibits to fill the chosen time frame, i.e., "underselected the number of sites," "there is no way of ascertaining whether the resulting schedule has actually been 'optimized to include as many sites as possible."" (*See* Appeal Br. 38.) While true, we do not find Appellant's argument persuasive. Indeed, rather than distinguishing over Appellant's claimed invention, Appellant's claimed invention would suffer the same shortcoming. For example, if the user selects two "additional itinerary templates" and each such additional template includes two sites, and if the minimum recommended viewing time for each site plus the travel time between sites, is less than the user's stated time frame, then there would also be no way to ascertain if the resulting schedule had been optimized.

Appellant also argues that "it would be inappropriate to combine such teachings with those of Whitsett." (Appeal Br. 38.) Specifically, Appellant argues that "Whitsett teaches away from optimizing the maximum number of tour sites that may be visited in a given touring period, and instead teaches producing an itinerary that is entirely driven by and limited by its cost." (*Id.* at 39.)

"A reference may be said to teach away when a person of ordinary skill, upon reading the reference, would be discouraged from following the path set out in the reference, or would be led in a direction divergent from the path that was taken by the applicant." *In re Gurley*, 27 F.3d 551, 553

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(Fed. Cir. 1994). "Under the proper legal standard, a reference will teach away when it suggests that the developments flowing from its disclosures are unlikely to produce the objective of the applicant's invention." *Syntex* (U.S.A.) LLC v. Apotex, Inc., 407 F.3d 1371, 1380 (Fed. Cir. 2005).

Whitsett teaches providing "a travel itinerary comprising several available products and/or services, for example, so that a user can build and modify a themed travel itinerary in real-time around a skeleton itinerary including selected and recommended travel products having a selected theme." (Whitsett  $\P$  2.) Whitsett teaches that

a user input request for a range of ranked travel packages is received and, in response to the user input request for a range of ranked travel packages, a plurality of travel packages are provided to the user in an order, such as an order of price, length of stay, or star rating.

(Whitsett ¶ 124.) In other words, Whitsett specifically discloses proffered travel packages, i.e., potential travel itineraries, *not* entirely driven by costs. Thus, we do not agree with Appellant that Whitsett "teaches producing an itinerary that is entirely driven by and limited by its cost." (Appeal Br. 39.) It follows that we do not find persuasive Appellant's argument that because Whitsett teaches an itinerary entirely driven by its cost, there is no motivation to modify the teachings of Whitsett in view of Erhardt.

# Claims 1 and 32 - the DeLorme reference

Appellant argues:

Paragraph [0060] of DeLorme only teaches that generic "[h]ardware and software buttons provide for menus," while paragraph [0062] only further teaches use of "menus, toolbars, and the like- to select, alter and move between alternate screens,

displays or output modes. as described in more detail hereinafter ... "

DeLorme fails to cure the cited deficiency because [DeLorme] fails to teach or suggest the specific functionality associated with the herein claimed buttons.

(Appeal Br. 42.) In other words, Appellant's argument is directed to whether DeLorme teaches buttons with the specific functionality recited in the claims.

The Examiner finds that Whitsett teaches, e.g., the functionality of "accessing an algorithm permitting selective planning of said travel itinerary" and "using selective access to said database of travel information for creating a customized sequence of sites for a customized complete itinerary." (*See* Final Action 10.)

DeLorme teaches an

Integrated Routing/Mapping Information System (IRMIS) for travel planning, travel guidance, and recording travel locations and paths during business or recreational use, particularly in regard to the linkage of small, memory-limited computing systems with personal and/or mainframe computers. The invention may include the capability to provide an interactive computer travel-planning guide for determining a route between a user selected travel origin and travel destination following user selected intermediate waypoints along the way.

(DeLorme ¶ 2.)

Additionally, the Examiner cites to paragraph 60 of DeLorme which teaches devices with "[h]ardware and software buttons provid[ing] for menus, paging, and other user selection and manipulation means." (*Id.* ¶ 60; *see also* Answer 12.) Moreover, the Examiner finds that

it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of *Whitsett et al.* in view of *Ben-Yehuda et al.* and *Erhardt* to include the

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> convenience of hardware/software buttons to provide itinerary users with menus, paging, and other user selection and manipulation means on touchscreens.

(Final Action 12, 17.) In short, the Examiner relies on DeLorme *in combination* with Whitsett, Ben-Yehuda, and Erhardt as teaching this claim limitation.

"[O]ne cannot show non-obviousness by attacking references individually where, as here, the rejections are based on combinations of references." *In re Keller*, 642 F.2d 413, 426 (CCPA 1981). A reference "must be read, not in isolation, but for what it fairly teaches in combination with the prior art as a whole." *In re Merck & Co.*, 800 F.2d 1091, 1097 (Fed. Cir. 1986). In short, obviousness is more than what is specifically disclosed in the cited references. "If a person of ordinary skill can implement a predictable variation, § 103 likely bars its patentability." *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 417 (2007). In view of the above, we do not find Appellant's argument persuasive.

### Claims 3, 42, and 49

Appellant argues:

Claims 3, 42, and 49 are also not obvious because the combination of prior art references fails to teach or suggest the claimed "entering of a total number of desired cities for touring at the destination; and said instructions using a portion of said list of sites in each said selected additional templates for each of said desired cities, for adding sites at each of said desired cities to said sequence of sites."

(Appeal Br. 43 (emphasis omitted).) Appellant's argument quotes essentially all of dependent claim 3. Appellant's sole specific argument is that "Ben-Yehuda only teaches in paragraph [0471] that 'FIG. 130 enables

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*cities selection* for each country/state chosen,' but fails to teach the entire recitation." (*Id.*) We do not find this argument persuasive.

In rejecting claims 3 and 42, the Examiner relies on paragraphs 233, 234, 279, 419, 420, and 471, as well as Figures 120 and 130 of Ben-Yehuda. (Final Action 12–13, 18–19.) In rejecting claim 49, the Examiner additionally relies on paragraphs 17, 94, and 120 of Whitsett. (*Id.* at 22.)

And in answering Appellant, the Examiner finds:

Ben-Yehuda discloses in [0233] that, it is now disclosed for the first time a system for displaying information about a plurality of travel legs of a multi-leg journey, the system comprising: [0234] a) an [sic] location interface for specifying at least three locations associated with a multi-leg journey having at least two travel legs between said specified at least three locations; [0235] b) a single leg display interface for displaying information about a single said travel leg; and [0236] c) a selection mechanism for selecting one said travel leg from said at least two travel legs, [0237] wherein said single leg display interface is operative to display information about said selected travel leg. Ben-Yehuda further discloses in [0279], generating a route of travel between origin and destination, including waypoints along the way, based upon query results and a consideration of scheduling factors, appointments that cannot be changed, priority, geographical location, proximity and availability to the public.

(Answer 44.) In view of the above, we are not persuaded that, e.g., the disclosure in Ben-Yehuda of "generating a route of travel between origin and destination, including waypoints along the way, based upon query results and a consideration of [other] factors" (Ben-Yehuda ¶ 278–79). does not teach "adding sites at each of said desired cities." (*See* Answer 44.) Thus, we disagree with Appellant's sole argument that Ben-Yehuda only

teaches cities selection for each chosen country or state.<sup>4</sup> (*See* Appeal Br. 43.)

In sum, Appellant's argument does not persuade us that the Examiner erred in rejecting claims 3, 42, and 49.

# Claims 4 and 51

Claim 4 recites:

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4. The travel itinerary device of claim 3, wherein said instructions are configured for optimizing said sequence of sites for including as many sites as possible in said range of touring hours, based upon a minimum recommended viewing time for each of said sites.

The Examiner finds that Ben-Yehuda discloses "provid[ing] said first itinerary template based upon said selected level of tour schedule intensity to include a maximum number of sites in said sequential list of sites, within said range of hours of touring time, based upon a minimum recommended viewing time for each of said sites ([0322],[0385])." (Final Action 13; *see also* Answer 45.)

Appellant argues that

paragraph [0322] of [Ben-Yehuda] only teaches that "the user provides a limitation on the types of recreational or tourism activities for which he wants a recommendation..." Paragraph [0385] of [Ben-Yehuda] only teaches that "a user specifies a number, or a minimum number, or a maximum number of

<sup>&</sup>lt;sup>4</sup> To the extent Appellant seeks to use the quotation of claim 3 as an argument that some other, unspecified, claim elements are not taught by the cited art, we note that "[a] statement which merely points out what a claim recites will not be considered an argument for separate patentability of the claim." 37 C.F.R. § 41.37(c)(1)(iv).

activities from a given category to be selected and/or scheduled during a certain time period..."

## (Appeal Br. 43.)

We are persuaded of error. We do not find in the cited portions of Ben-Yehuda a teaching regarding a minimum recommended viewing time for a site. At best, in the cited portions, Ben-Yehuda teaches that a user may "specif[y] a number, or a minimum number, or a maximum number of activities from a given category to be selected and/or scheduled during a certain time period." (Ben-Yehuda ¶ 385.) Therefore, we will reverse the rejection of claim 4. Claim 51 contains similar language and the Examiner relies on the same portions of Ben-Yehuda. (*See* Final Action 23.) Therefore, we will also reverse the rejection of claim 51.

# Claims 6-8, 34, 36, 50, and 52-57

In relevant part, claim 6 recites "said list of sites in each of said additional itinerary templates comprises an ordered list of sites, said ordered list of sites being ordered according to one or more of: a popularity of said sites, and a significance of said sites."

The Examiner finds that "*Erhardt* discloses arranging said sites within each said itinerary template into an ordered list of sites . . . according to one or more of: a popularity of said sites, and a significance of said sites ([0005],[0008],[0028]-[0029],[0055]-[0058])." (Final Action 14.)

Appellant argues that "only paragraph [0008] of Erhardt teaches any 'order' with respect to the 'desired locations,' and conversely teaches that '*the visitor* may also rank the locations in an order of preference.'" (Appeal Br. 44.) Specifically, Appellant argues that

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Erhardt fails to teach or suggest the claimed "additional templates" that include a "rank ordering" of sites for use in forming the itinerary, where the "ordering" of the sites within each "template" is "according to one or more of: a popularity of said sites, and a significance of said sites...."

(Id.)

As an initial matter, we note that claim 6, unlike claims 34 and 52, does not use the term "rank ordering." However, we do not find that to be determinative in this case. Claim 6 recites a particular ordering of sites, i.e., "according to one or more of: a popularity of said sites, and a significance of said sites." Claims 34 and 52 include similar language.

Erhardt discloses that a "visitor may . . . rank the locations in an order of preference." (Erhardt ¶ 8.) Appellant's Specification discloses that "[a]s with the list of cities, the listing of sites may be ordered according to different preferences, such as a rank order according to popularity, or significance, or other categories." (Spec. 36.) In other words, ranking by popularity and/or significance is a particular type of ranking. We do not see, in the cited portions of Erhardt, where there is a teaching of either of these particular types of ranking.

Therefore, we will reverse the rejection of claims 6, 34, and 52. Because claims 7, 8, 36, 50, 54, 56, and 57 depend from claim 6, and the Examiner does not rely on the other cited art to cure this deficiency (*see* Final Action 14–15, 23–24, 27–31), we will also reverse the rejection of claims 7, 8, 36, 50, 54, 56, and 57. Also, because claims 53 and 55 depend from claim 52, and the Examiner does not rely on the other cited art to cure

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this deficiency (*see* Final Action 20,  $29-30^5$ ), we will also reverse the rejection of claims 53 and 55.

# Claims 2, 33, 35, 37-41, and 43-48

Dependent claims 2, 33, 35, 37–41, and 43–48 are not separately argued and fall with their respective parent claims. *See* 37 C.F.R. § 41.37(c)(1)(iv).

#### CONCLUSION

The Examiner's rejection of claims 1–4, 6–8, 15, and 32–57 under 35 U.S.C. § 101 is affirmed.

The Examiner's rejections of claims 1-3, 15, 32, 33, 35, and 37–49 under 35 U.S.C. § 103(a) are affirmed.

The Examiner's rejections of claims 4, 6-8, 34, 36, and 50–57 under 35 U.S.C. § 103(a) are reversed.

Claims Rejected	35 U.S.C. §	Reference(s)/Basis	Affirmed	Reversed
1-4, 6-8, 15, 32-57	101	eligibility	1-4, 6-8, 15, 32-57	
1-4, 6-8, 15, 32-35, 37, 42-47, 52, 53	103(a)	Whitsett, Ben- Yehuda, Erhardt, DeLorme	1-3, 15, 32, 33, 35, 37, 42-47	4, 6–8, 34, 52, 53
15, 48, 49, 51	103(a)	Whitsett, Ben- Yehuda, Erhardt	15, 48, 49	51
36, 38, 39	103(a)	Whitsett, Ben- Yehuda, Erhardt, DeLorme, Chavez	38, 39	36

Specifically:

<sup>&</sup>lt;sup>5</sup> We note that the Examiner erroneously indicates that claim 55 depends from claim 54. (*See* Final Action 29.)

Claims Rejected	35 U.S.C. §	Reference(s)/Basis	Affirmed	Reversed
40	103(a)	Whitsett, Ben-	40	
		Yehuda, Erhardt,		
		DeLorme, Randall		
. 41	103(a)	Whitsett, Ben-	41	
		Yehuda, Erhardt,		
		DeLorme, Randall,		
		Bakewell		
50, 54–57	103(a)	Whitsett, Ben-		50, 54–57
		Yehuda, Erhardt,		
		DeLorme, Chavez,		
		Ben-Yitschak		
Overall			1-4, 6-8,	
Outcome			1–4, 6–8, 15, 32–57	

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a). See 37 C.F.R. § 1.136(a)(1)(iv).

## <u>AFFIRMED</u>

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### PORTABLE VACATION/TRAVEL PLANNER, AND FAMILY TOUR GUIDE DEVICE

#### **CROSS-REFERENCE TO RELATED APPLICATION**

This application claims priority on U.S. Provisional Application Ser. No. 61/397,104, filed on June 7, 2010, the disclosures of which are incorporated herein by reference.

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#### FIELD OF THE INVENTION

This invention relates to methods and systems of planning and executing a vacation or travel itinerary, and more particularly to software and a portable electronic unit, which may be dedicated to such planning and travel assistance at the destination.

#### **BACKGROUND OF THE INVENTION**

Many people work the majority of a year in anticipation of well-earned time off, which may comprise a single week, or, for certain European nationals, multiple weeks of paid summer vacation-time. Very often a person's vacation involves traveling to another city or state to visit family, which frequently leaves the responsibility for selecting and organizing the sightseeing activities to the host, with such activity having a tendency to be under-planned and the available time under-utilized, because many people do not themselves take advantage of the offerings of the place where they reside. Some people may travel abroad fairly regularly and with it usually being for work-related purposes, while for others, such an out-of-country journey may ordinarily constitute a long-awaited luxury vacation.

Either trip demands appropriate preparation and organization to take advantage of the limited time available, and to optimize the large expenses that may be incurred for simply being there for that time- large expenses which may be in the form of airfares, hotels, ground transportation costs, and meals at restaurants. Also, even for the well designed trip, there may be lost time requiring spur of the moment changes because of poor weather during the trip, an unexpected closure, or some other event that was unforeseen during the planning stages-planning which had likely occurred many months before the travel dates.

Moreover, for the organized traveler, planning often consists of reading portions of at least one travel guide book that comprises hundreds of pages, some of which may need to be earmarked for later reference at key points of the travel to assist in finding one's way, and to enrich the travel experience. Some ear-marked pages may have addresses for sites and events, while other pages may have maps. So preparing the itinerary may involve making a list on a sheet of paper of the sites to be visited and the dates of such daily trips, as well as trying to cross reference the portions of the trip to pages in the travel book. It is also likely that when stopping at

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a book store, that the traveler may purchase more than just one particular travel guide book. It may be desirable to purchase one for the entire country to be visited, such as for a trip to Italy, as well as one specifically addressing in greater detail a major city to be visited therein, such as the culturally and historically rich city of Rome.

In addition, it may be useful for the traveler to purchase and bring along a language guide, particularly when visiting a destination that is not very accommodating to tourists, and where it would be helpful to be able to say a few words in the native language of those people encountered during the trip. Furthermore, even if an English version of a GPS device for the country to be visited was readily available for purchase to assist with movement therein, it would represent yet one more article that needed to be carried about during the day's travels, on top of a camera to photograph the sights and experiences, possibly a cell phone, and all of the travel guides and other books mentioned previously.

There currently is no means of efficiently accomplishing all of this travel-related planning and of it being effectively accessible by, and of assistance to, the traveler, once arriving at the destination. For example, U.S. Patent No. 7,599,847 to Block is for an "Automated Internet Based Interactive Travel Planning and Management System." But as self-described by Block, it is only directed toward providing "a method and system that permits travelers to register as members for receiving access to the main website of the system and that interactively provides the member with access to numerous other websites for facilitating whatever travel arrangements the member wishes to make." Although it may include a profile of a user's carrier seating preferences, travel class preferences, parking preferences, dining preferences, rental preferences, etc. it is nonetheless not directed at trip planning to a specific destination country, nor towards aiding the traveler once arriving therein.

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Although U.S. Patent No. 5,549,332 to Judson is for a "Travel Planner," and does allow for planning a trip to more than one type of point of interest to create an itinerary, it very simply combines a transparency that is overlaid onto a map to thereby permit the user to write on the transparency to define a particular route. It does not contain any more ability to plan or assist beyond the information contained in the map.

A modest step forward to addressing the problem is shown by U.S. Patent No. 6,023,241 to Clapper, for a "Digital Multimedia Navigation Player/Recorder." The Clapper device is for "a recorder with a global positioning system receiver" that "may record video frames and/or audio data in association with global positioning system coordinates" so that the user may determine the location of associated photographs taken digitally and may recreate excursions using a multimedia approach. Clapper also discloses that by sizing the device to be portable, the user may take the device on trips and "receive information about various points which are associated on a digital map including both audio and video." But Clapper does not disclose any structured planning capability, and furthermore is dependent upon GPS coordinate locations, and depends upon downloading of such information using the internet from an "excursion server."

The invention disclosed herein combines all of the functionality of the books and electronic gadgets which may need to be utilized in planning and richly experiencing a vacation abroad, into one elegant and practical planning/touring device, with powerful features to enhance everyone's vacation experience. The itinerary planning may be accomplished utilizing planning templates, which may simulate having an experienced travel guide offering in-person advice throughout such planning. The guidance may also be completely without the availability of GPS data or internet access.

#### **OBJECTS OF THE INVENTION**

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It is an object of the invention to provide a means of compiling a travel itinerary in a retrievable electronic form, according to various customizable itinerary templates.

It is another object of the invention to provide a means of compiling a travel itinerary for various different kinds of travelers.

It is a further object of the invention to provide a means of planning a travel itinerary from a list of options that are arranged in templates, with the further assistance of sub-template options.

It is another object of the invention to provide a means of planning a travel itinerary by viewing photographs of various travel sites, to assist in choosing from among those sites.

It is also an object of the invention to provide a means of altering a planned itinerary after completion of the planning, but before beginning the trip.

It is another object of the invention to provide a means for receiving options to deviate from a planned itinerary while en route to or during a leg of the actual trip.

It is also an object of the invention to provide a means of receiving options to add to a planned itinerary after completion of the itinerary and during a particular leg of the trip.

It is another object of the invention to provide a convenient electronic means for translating words and phrases into the language used at a destination.

It is also an object of the invention to provide a means of receiving audio tours for the sites being visited in accordance with the planned electronic itinerary.

It is another object of the invention to provide a means of supplying public transportation information for the destination, in relation to the legs of the travel itinerary.

It is also an object of the invention to provide a convenient means of obtaining phone listings from a directory, for businesses and individuals at the destination.

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It is another object of the invention to provide a means of exclusively linking the electronic itinerary planning of one individual on a device to another person's device.

It is also an object of the invention to provide a means of quickly ascertaining the other person's location at the destination using the device, in relation to the itinerary.

It is another object of the invention to provide a means of having quick and convenient reference to electronic copies of maps for a destination, in relation to the travel itinerary.

It is also an object of the invention to provide a means of quickly finding information relating to various aspects of the destination.

It is another object of the invention to provide a means of entering requests and information to interact with the itinerary planning capability.

### **BRIEF SUMMARY OF THE INVENTION**

The invention disclosed herein is a multi-faceted device incorporating all of the essential items and features necessary for a business traveler, a single person, or family to travel to, or vacation in, another country, as though they had a personal concierge to assist them with each aspect of their travel planning, as well as guiding and directing them throughout the actual travel. The guidance does not require, but may with the aid, when necessary, of a GPS receiver. The invention features flexibility in changing the planning before leaving for the trip, and even accommodates making spur of the moment changes or additions to the planned itinerary, while at the destinaiton. The invention comprises specially conceived and designed software to access specific databases of travel related materials to prepare a detailed travel itinerary that is custom built by the user according to their own concept of what they believe would result in an extraordinary travel experience.

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The databases may include a complete listing of travel related information for a particular destination, and may further include a library of photographs for each of the sites and events that may be visited or attended. The software program may preferably be tailored to work on a dedicated electronic unit or article that is specially designed for such planning, but may also be used on a standard personal computer, a PDA, an Apple iPad, an advanced phone permitting programmable applications, and other such electronic devices. A portable computing unit is preferred as it may accompany the user on the trip, and therein provide additional functions to enhance the travel experience. The portable unit will allow the user to refer to the planned itinerary at each leg of the journey. It provides en route detours to other sites, for when the user has decided to leave a site early or simply wishes to do additional touring during one particular day. The software includes destination-specific maps which may cooperate with the itinerary to be displayed anytime- either during the planning stages or during the vacation itself. The software may automatically display map regions of the sites chosen for the itinerary to assist the traveler while navigating in a city or region of a foreign country.

The database may also comprise language translational capabilities for the nation to be visited, and information about the nation, including yellow page and white page phone listings. The device may also comprise communication capabilities which permit it to be linked to another travel planner unit to allow transmissions therebetween of planning information, of current locations for each traveler, and even voice communication. It may also include a digital camera.

#### **BRIEF DESCRIPTION OF THE DRAWINGS**

The patent or application file contains at least one drawing executed in color. Copies of this patent or patent application publication with color drawing(s) will be provided by the Office upon request and payment of the necessary fee.

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FIG. 1 is a view of an article illustrating a preferred embodiment of the present invention that is tailored for planning for, and touring of, a foreign country (Italy), and being displayed is the initial start screen that prompts the user to select from one of the available functions, or to view a virtual slide show or video tour.

FIG. 2 is a view of an article of FIG. 1, and displayed on the screen is the initial planning templates available under the "PLAN ITINERARY BUTTON," and with bold underscoring indicating intent to choose the "Pre-planned Taste of Italy Tour Templates- 2 Day, 3 Day, …"

FIG. 3 is a view of an article of FIG. 2, and displayed on the screen is the options available under the "Pre-planned Taste of Italy Tour Templates- 2 Day, 3 Day, …" template, and with bold underscoring indicating intent to specify the parameters of a 7 Day, 3 City tour beginning at Venice and ending in Rome, with a medium touring schedule of sites in each of the user selected cities and in the city selected by the template.

FIG. 4 is a view of the article of FIG. 3, and displayed on the screen is the itinerary returned by the processor for the parameters specified in the template, where the user's parameters were a 7-day, 3-city tour beginning at Venice and ending in Rome, with a medium site touring schedule.

FIG. 4A is a view of the article of FIG. 4, and displayed on the screen is a series of alternate itineraries returned by the processor for the 7-day, 3-city tour beginning at Venice and ending in Rome.

FIG. 4B is a view of the article of FIG. 4A, and displayed on the screen is the user selected alternate itinerary #1, which is for a 7-day, 3-city tour beginning in Venice and ending in Rome, with a medium site touring schedule and an intermediate stop in the city of Bologna.

FIG. 5 is a view of the article of FIG. 3, and displayed on the screen is the itinerary returned by the processor for parameters specified in the "Best Tour of Italy" template, being for

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a 7-day, 4-city tour beginning at Venice and ending in Rome, with a medium touring schedule for sites in each of the user selected cities and for the two cities selected by the template.

FIG. 5A is a view of the article of FIG. 5, and displayed on the screen is the start of the Tour Details for the 7-day, 4-city tour beginning at Venice and ending in Rome, with a medium touring schedule for sites in each of the user selected cities and in the two cities selected by the template- Florence and Pisa.

FIG. 6 is a view of the article of FIG. 2, but with bold underscoring indicating intent to use the "Select Regions/Cities/Sites from Photo Library Templates," and being shown side-by-side is the article with the resulting Photo Library being displayed on the screen.

FIG. 6A is a view of an article of FIG. 6, but being displayed on the screen is some of the templates available under the "PLAN ITINERARY BUTTON," and with bold underscoring indicating intent to use the "Select Cities from City Templates- Rome, Venice, Florence..." tour planning template, and use of the third sub-template- "c) View Cities by Popularity".

FIG. 7 is a view of the article of FIG. 6A, and displayed on the screen is the list of tourist cities being displayed by popularity, and with highlighting of Rome and intent to select the "add to itinerary" option.

FIG. 8 is a view of the article of FIG. 7, and displayed on the screen is the current state of planning for the first itinerary, and planning options available in the itinerary planning sequence, and with bold underscoring indicating intent to select the "Select Another City" option by pressing the "enter" button.

FIG. 9 is a view of the article of FIG. 8, and displayed on screen is the list of city choices, once a first city choice has been made, with distances to the previously selected city, and with bold underscoring indicating intent to select the "Add to Itinerary" choice for the city of Venice.

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FIG. 10 is a view of the article of FIG. 9, and displayed on the screen is further city choices revealed by scrolling down under the "More City Choices" option, and with bold underscoring indicating intent to select the "Add to Itinerary" choice for the city of Genoa.

FIG. 11 is a view of the article of FIG. 10, and displayed on screen is the updated planning for the first itinerary and the planning options available in the itinerary planning sequence, and with bold underscoring indicating intent to select the "Return to Planning Templates" choice.

FIG. 12 is a view of the article of FIG. 11, and displayed on the screen is the initial templates available under the Plan Itinerary button, and with bold underscoring indicating intent to use the "Select Regions from Region Templates- Northern Italy, …" choice.

FIG. 13 is a view of the article of FIG. 12, and displayed on the screen is the regional choice options for the different sections of Italy that may be explored, and with bold underscoring indicating intent to select the "Explore Northern Italy" choice.

FIG. 14 is a view of the article of FIG. 13, and displayed on screen is the regions and major cities that may be explored and added to the itinerary from the Northern section of Italy, and with bold underscoring indicating intent to select the "View Photos of Northern Regions" choice.

FIG. 15 is a view of the article of FIG. 14, and displayed on the screen is a portion of the photo library representing the Northern regions of Italy, and with bold underscoring indicating intent to select the "Explore Liguria Region" option.

FIG. 16 is a view of the article of FIG. 15, and displayed on the screen are the cities for the Liguria region of Northern Italy, and with bold underscoring indicating intent to select the "Add to Itinerary" choice for the city of Manarola.

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FIG. 17 is a view of the article of FIG. 16, and displayed on the screen is the updated planning for the first itinerary, and with bold underscoring indicating intent to select the "Site Options" choice for the first itinerary leg-Rome.

FIG. 18 is a view of the article of FIG. 17, and displayed on the screen is a partial list of tourist sites for the selected city- Rome, and related functional options available, and with bold underscoring indicating intent to select the "View Colosseum Photo" choice.

FIG. 19 is a view of the article of FIG. 18, and displayed on the screen is a library photo of the selected Rome tourist site- the Colosseum, and related functional options available, and with bold underscoring indicating intent to select the "View Colosseum Map Location" choice.

FIG. 20 is a view of the article of FIG. 19, and displayed on the screen is the site map for the selected site- the Colosseum, and related functional options available, and with bold underscoring indicating intent to select the "View Site Description" choice.

FIG. 21 is a view of the article of FIG. 20, and displayed on the screen is the site description for the selected site- the Colosseum, and related functional options available, and with bold underscoring indicating intent to select the "Add to ROME Site Itinerary" choice.

FIG. 22 is a view of the article of FIG. 21, and displayed on the screen is the partial list of tourist site choices for the selected city- Rome, once several cities have been added to the itinerary, as well as related functional options available to the user.

FIG. 23 is a view of the article of FIG. 22, and displayed on screen is updated planning including the sites selected for the Rome itincrary leg, and with bold underscoring indicating intent to select the "Find Venice Special Events" choice for the Venice leg.

FIG. 24 is a view of the article of FIG. 23, and displayed on the screen is the listing of special events and related information, which may be added to the Venice itinerary leg.

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FIG. 25 is a view of the article of FIG. 24, and displayed on the screen is the options for altering a saved itinerary under the "ALTER ITINERARY" button, and with bold underscoring indicating intent to select the "Move Venice Leg in Itinerary" choice.

FIG. 26 is a view of the article of FIG. 25, and displayed on screen is the current planning for the first itinerary with the options for revising the location of the Venice leg, and with bold underscoring indicating intent to select the "Move Venice Leg Later in Itinerary" choice.

FIG. 27 is a view of the article of FIG. 26, and displayed on the screen is the revised order for the first itinerary, and with bold underscoring indicating intent to select the "Find Transportation to Rome" choice.

FIG. 28 is a view of the article of FIG. 27, and displayed on the screen is the airline transportation options to fly to the first itinerary leg, and with bold underscoring indicating intent to select the "WiFi Connect: On-line Reservation" choice.

FIG. 29 is a view of the article of FIG. 28, and displayed on screen is the airline reservation obtained online to fly to the first itinerary leg and to depart from the final itinerary leg, and with bold underscoring indicating intent to select the "Find Hotels in Rome" choice.

FIG. 30 is a view of the article of FIG. 29, and displayed on the screen is the alternative methods of finding accommodations for the Rome itinerary leg, and with bold underscoring indicating intent to select the "Select Navona Area" choice for finding a hotel.

FIG. 31 is a view of the article of FIG. 30, and displayed on the screen is the list of accommodations for the Navona area of Rome, and with bold underscoring indicating intent to select the "View Hotel Map Location" choice for the Imperium Suite Navona accommodation.

FIG. 32 is a view of the article of FIG. 31, and displayed on screen is the map area for the Navona area of Rome showing the location for the Imperium Suite Navona, and with bold underscoring indicating intent to select the "Choose Imperium Suite Navona" choice.

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FIG. 33 is a view of the article of FIG. 32, and displayed on the screen is the information for the Imperium Suite Navona, and with bold underscoring indicating intent to select the "WiFi Connect: On-line Reservation" choice.

FIG. 34 is a view of the article of FIG. 33, and displayed on screen is current planning for the first itinerary, including the Rome itinerary leg hotel reservation, and with bold underscoring indicating intent to select the "Find Transportation: Venice to Milan Airport" choice.

FIG. 35 is a view of the article of FIG. 34, and displayed on the screen is the transportation options from Venice to the Milan airport, and with bold underscoring indicating intent to select the "Explore Train Transportation: Venice to Milan Airport" choice.

FIG. 36 is a view of the article of FIG. 35, and displayed on screen is a map of the national railway system in the Venice/Milan region, and with bold underscoring indicating intent to select the "WiFi Connect: On-line Schedule Check: www.trentalia.com" choice.

FIG. 37 is a view of the article of FIG. 36, and displayed on the screen is options available under the Plan Itinerary button after at least one itinerary has been saved, and with bold underscoring indicating intent to select the "Select Planning Template" choice for the "Copy and Modify Existing Itinerary" option.

FIG. 38 is a view of the article of FIG. 37, and displayed on the screen is the list of itineraries to choose as a template for creating a new itinerary, and with bold underscoring indicating intent to select the "Copy Itinerary" choice.

FIG. 39 is a view of the article of FIG. 38, and displayed on the screen is the second itinerary, which is currently a clone of the first itinerary, and with bold underscoring indicating intent to select the "Delete City/Region" choice.

FIG. 40 is a view of the article of FIG. 39, and displayed on the screen is the second itinerary, where the Liguria and Venice legs have been deleted, and with bold underscoring indicating intent to select the "Add Side Trip From City/Region" choice.

FIG. 41 is a view of the article of FIG. 40, and displayed on the screen is the partial list of side trips from Rome along with a respective mileage therefrom and photo, and with bold underscoring indicating intent to select the "Add Side Trip" choice.

FIG. 42 is a view of the article of FIG. 41, and displayed on the screen is the second itinerary with the Pompeii side trip added as a day 2 excursion, and with bold underscoring indicating intent to select the "Save Itinerary" choice.

FIG. 43 is a view of the article of FIG. 42, and displayed on the screen is the list of saved itineraries available for execution by a traveler under the "USE ITINERARY" button.

FIG. 44 is a view of the article of FIG. 43, and displayed onscreen is the saved itinerary #1, along with user choices for guidance and assistance from the itinerary, and with bold underscoring indicating intent to select the "Walking Directions to Colosseum" choice.

FIG. 45 is a view of the article of FIG. 44, and displayed on the screen is a country-wide map of Italy, available under the "ITALY MAPS" button.

FIG. 46 is a view of the article of FIG. 45, and displayed on the screen is a partial list of options available under the "FIND" button, and with bold underscoring indicating intent to select the "Select FIND Option" choice for finding city information about the keyed in city of Venice.

FIG. 47 is a view of the article of FIG. 46, and displayed on the screen is general information about the city of Venice, and with bold underscoring indicating intent to select the "Return to FIND Options" choice.

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FIG. 48 is a view of the article of FIG. 47, and displayed on the screen is additional options under the FIND button for finding drug stores, and with bold underscoring indicating intent to select the "Select FIND Option" choice.

FIG. 49 is a view of the article of FIG. 48, and displayed on the screen is the nearest drug store, based on the traveler's GPS position, and other pertinent information, and with bold underscoring indicating intent to select the "Get GPS Directions to Store" choice.

FIG. 50 is a view of the article of FIG. 49, and displayed on the screen are options under the "LANGUAGE TRANLATE PHRASE" button, including a fill-in-the-blank area for entering the phrase, and with bold underscoring indicating intent to select the "Translate Phrase" choice.

FIG. 51 is a view of the article of FIG. 50, and displayed onscreen is the Italian translation, with a pronunciation aid, for the English phrase entered, and with bold underscoring indicating intent to select the "View List" choice for the List of Common Italian Phrases.

FIG. 52 is a view of the article of FIG. 51, and displayed on the screen is a partial list of the Common Italian Phrases.

FIG. 53 is a view of the article of FIG. 52, and displayed on the screen are options under the "REQUEST AUDIO TOUR," and with bold underscoring indicating intent to select the indicated option of an "Audio Tour of Itinerary Leg."

FIG. 54 is a view of the article of FIG. 53, and displayed on the screen is audio tour options available for the saved itineraries, and with bold underscoring indicating intent to select the "Start Audio Tour" choice for the Colosseum General Audio Tour.

FIG. 55 is a view of the article of FIG. 54, and displayed on the screen is the text of the audio tour which may be broadcast through the headphone jack or speakers or wirelessly using Bluetooth technology, and with audio tour options.

FIG. 56 is a view of the article of FIG. 55, and displayed on the screen is options

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available under the "PHONE DIRECTORY" choice, and with bold underscoring indicating intent to select the "Search for Da Vinci's Phone #" option.

FIG. 57 is a view of the article of FIG. 56, and displayed on the screen is options available under the "Transportation Routes/Schedules" button, and with bold underscoring indicating intent to select the "View Transportation Details" option for the Rome Metro railroad.

FIG. 58 is a view of the article of FIG. 57, and displayed on the screen is the Metro Rome railroad map and options to explore the map interactively, and with bold underscoring indicating intent to select the "Return to Transportation Options" choice.

FIG. 59 is a view of the article of FIG. 58, and displayed on the screen is the transportation options, and with bold underscoring indicating intent to select the "View Transportation Details" choice for transportation from the current location at the Colosseum.

FIG. 60 is a view of the article of FIG. 59, and displayed on the screen is the map area of the Rome Metro railroad focused on the stops to get from the current location to the next itinerary leg.

FIG. 61 is a view of the article of FIG. 60, and displayed on the screen is the options available under the "EN ROUTE DETOURS" button, and with bold underscoring indicating intent to select "Explore Colosseo Detour Option."

FIG. 62 is a view of the article of FIG. 61, and displayed on the screen is the options for a detour to find eateries, shopping centers, or other tourist sites, and with bold underscoring indicating intent to select the "Get Directions/Transportation" choice to Piazza Fontana Di Trevi.

FIG. 63 is a view of the article of FIG. 62, and displayed on the screen is the map area of the Rome Metro railroad focused on the stops to get from the current location to the next selected en route detour.

FIG. 64 is a view of the article of FIG. 63, and displayed onscreen is the options under

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the LINK/TRANSMIT ITINERARY" button for linking of the planner to another planner, and with bold underscoring indicating intent to select the "Link Planner with Unit #98765" choice.

FIG. 65 is a view of the article of FIG. 64, and displayed onscreen are options under the "LINK/TRANSMIT ITINERARY" button for transmitting an itinerary to another planner, and with bold underscoring indicating intent to select "Enter to Transmit to Gina (98765)."

FIG. 66 is a view of the article of FIG. 65, and displayed onscreen is selection of the Itinerary #1 with an en route detour for transmission, and with bold underscoring indicating intent to select "Enter to Transmit Itin. # 1 to Gina."

FIG. 67 is a view of the article of FIG. 66, and displayed onscreen is the options under the "GPS LOCATE FAMILY MEMBER" button, and with bold underscoring indicating intent to select the "Enter to Locate Gina" choice.

FIG. 68 is a view of the article of FIG. 67, and displayed onscreen is an area map displaying the location of Gina's position relative to the user's position.

FIG. 69 is a view of an article illustrating a second embodiment of the invention of FIG.1, but without the language functionality and planner linking capability.

FIG. 70 is a rear view of the article of FIG. 69, showing the camera lens, and one possible configuration of a battery access panel.

FIG. 71 is a view of an article illustrating a third embodiment of the invention of FIG. 1, but with touch-screen buttons instead of mechanical buttons.

FIG. 72 is a schematic view of an exemplary computer system running the software of the current invention.

#### DETAILED DESCRIPTION OF THE INVENTION

The functionality of the travel planner/guide disclosed herein, is perhaps best discussed in

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relation to the figures, each of which demonstrates a sample of what is achievable by the software of the current invention in the way of planning assistance and travel guide assistance. Many minor modifications and changes are obvious in view of its adaptability, and some of which are discussed herein as well. Also, although the software may preferably be tailored to work on a dedicated electronic unit having computing capabilities specially designed for such planning, it may nonetheless be adapted for use on a standard personal computer, a laptop, a netbook, an Apple iPad, a phone accommodating programmable applications such as the iPhone, a PDA, and other mobile computing devices. The software may be designed and programmed primarily in an object oriented programming language such as Smalltalk, or any other suitable language.

In one embodiment, it may be possible to load and run the software of the current invention on a desk-top PC to do the planning, where a larger monitor may permit better viewing of the photo library herein and other features by multiple persons. Thereafter, the software may also be loaded onto a mobile device, and with the customized itineraries developed on the desktop computer being transferred to the mobile device and usable thereon during travel at the destination, along with the specialized features designed to assist a user during execution of the travel itinerary. To properly enable and claim the software that would be run on such a mobile or desktop computer unit, the unit's principle components and related terminology require a brief discussion. A discussion of such a computing unit, done in terms of an exemplary computing system, may be found at the end of the specification.

Figure 1 contains one embodiment of the current invention, which is tailored to permit planning for, and travel assistance within, the country of Italy. It should be pointed out that the software may be tailored exclusively for visiting a destination, which may be a single nation, a single major city of one nation- such as for a ROME travel guide or a New York City travel

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guide, or for regions of a continent or multiple nations- such as an Asian Travel Planner or a Middle East Travel Planner. In certain instances, particularly in Europe, the software may preferably include certain cross-national planning capability, as many great sites of interest may be just across a border from the "destination," such as for the city of Ventimiglia in the Italian Riviera, which is a short drive from the Principality of Monaco, and the French Riviera.

The software may also be tailored to accommodate planning for, and guided visits to, "destinations" in the form of particular geographical subdivisions, such as for a newcomer's trip to the New England States of the United States, or the Southern states, or the Midwest. The planning capability may be adaptable for the largest to the smallest possible geographical subdivision or possible combinations. The subdivision need not even be the traditionally recognized hierarchy, such as: a hemisphere, a sphere, a continent, a region of a continent, a nation, a country, a region of a country, a province, a state, a county, a city, a town, a township, a village, a monarchy, a kingdom, a principality, a republic, a district, an island, a quarter, a region, a section, a sector, a colony, a territory, a commonwealth, an empire, a dominion, an enclave, an outland, a union, a body, a sovereignty, a federation, a tract, a square, a precinct, a neighborhood, a parcel, or a patch. The subdivision, which may also be referred to as a category, may therefore also include subdivisions such as the hiking trails of the U.S. or other country, or campgrounds; or be directed to National Parks or State Parks. So merely to be exemplary of one of the possible configurations of the current invention, a travel planner/guide featuring planning and guiding capabilities for a visit to the nation of Italy, is utilized throughout the drawing figures and specification.

The travel planner/guide 10 of Figure 1 may preferably include a graphical display screen 20 that may be supported by a housing 15. Today, liquid crystal display (LCD) screens offer high resolution for images, and, depending on its size and configuration, very economical power

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requirements. Any suitable display screen that is currently available, or which may become available as technology improves, may be utilized for the device of the current invention, including DLP and LCoS projectors. When the power is off, the screen would of course be blank, and when initially powered on, the screen 20 of the planner 10 may appear as in Figure 1.

As seen in Figure 1, the user may be directed to select the desired function from the Planning Buttons or the Vacation Experience Buttons, or the new user who is just beginning to plan the vacation may choose to first gain more exposure to their destination of choice, by first viewing a virtual tour. The virtual tour may be a narrated slide show tour that takes advantage of the extensive library of photographic images contained therein, as will be discussed later, or it could be a video tour. The slide show may be appropriately comprised of tours of different lengths to accommodate travelers who may be more or less disposed towards the virtual experience. The virtual tours may also serve as a reference for those viewers, which may be watched on successive occasions, to help tailor their own personal itinerary. The virtual tour viewer may also immediately decide to add certain sites shown during the slide show to their soon-to-be or their current itinerary; therefore, there may also be a button feature that permits addition of the site currently being displayed in a slide to an itinerary.

On the housing 15, above the screen 20, may be raised text 17, a map 18, and a national flag 19, all of which may indicate the geographic subdivision for which the travel planner/guide is designed to accommodate. In the case of Figures 1-71, the travel planner/guide device is particularly configured for a visit to the nation of Italy, and thus the famous boot-shaped outline of the nation of Italy appears in the right corner, and the green/white/red Italian flag appears in the left corner. Also, as seen in Figure 69, which shall be discussed further in later paragraphs, a larger, more readily viewable map may be featured on the back side of the housing to provide guidance to the user even when the guider/planner is not in use (powered on). These housing

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features may simply serve as a quick reference for the user, as other map features are incorporated within the software and will be discussed hereinafter.

The screen 20 may preferably be caused by the software to be segmented by an upper graphical dividing line 21 and a lower graphical dividing line 22. Above the upper dividing line 21 may be a "Mode" line 23 which describes the function, and stage of a particular function at which a user may be working on his/her planning, to allow the user to put the device down and return at a later time to quickly assess the current point of planning. The utility of the mode line 23 will become apparent by viewing successive figures and the functionality described therein.

Located between the upper dividing line 21 and lower dividing line 22, may be a central information region 24, where information from a database of travel information relating to a destination may be displayed, and from which the user may make a selection for the trip itinerary from a number of templates. Navigating between the templates, in order to make a selection, may be enabled with any number of different possible key entries, or even by making a selection using a mouse, trackball, or other peripheral device to move a cursor. However, in one embodiment, it may be that no peripheral device is utilized, and that, to be exemplary, the arrow up ( $\uparrow$ ) and arrow down keys ( $\downarrow$ ) may cause the choices to be highlighted for subsequent acceptance. The tab key may also function in the same manner. Hereinafter, any of those references may be presumed to be useable in permitting movement of a cursor up or down to highlight alternative choices. The use herein of the term "highlighting," may mean the addition of a colored background for a choice or option being chosen, or it may instead be a combination of bolding and underlining of the textual template or option, or it may be coloring, bolding and underlining. As seen throughout the figures, the software may provide a cursor in the form of a bold arrow to identify the currently selected template/sub-template, in addition to highlighting.

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When a list may be so long that it does not fit completely on the screen 20, continued use of the arrow down key ( $\downarrow$ ) may cause the list to scroll or page down to the next set of choices. When it pages rather than scrolls down to a next list of choices, it may preferably be with the last choice on the previous list that was displayed becoming the first choice at the top of the successive list, to serve as a visual reminder. Conversely, continued use of the arrow up key ( $\uparrow$ ) may permit the user to scroll or page backward or upwards through the list of choices.

Below lower dividing line 22 may be a list of options and directions 25, which, when selected, may cause the device to do one of the following: to accept a highlighted selection from the choices being displayed from the informational database; or supplement the displayed information; or perhaps to return the user to a different stage of the planning. Other possible options will be discussed in the context of the Figures illustrating particular templates- templates that may be enhanced with additional options.

The directions of the options/directions 25 portion of the display may also remind the user to hold down the shift key in combination with the arrow up/down keys to highlight a desired template. Thereafter, the user may communicate the template and preferred option (both being highlighted) to the software, by hitting the enter key.

There may preferably be a number of special function buttons and keys, as mentioned above, to enable the user to more easily navigate through the software. The function buttons, which will each be discussed in some detail hereinafter, may generally be divided into planning buttons (Figure 1), and be so denoted using a textual reference 31, and vacation experience buttons, having a similar textual reference 35. The planning buttons may comprise a "Plan ltinerary" button 32, and an "Alter Itinerary" button 33. The vacation experience buttons may comprise function buttons with the following general functionality: providing country-specific information; permitting certain communication with traveling companions who may similarly be



guided by the software of the current invention, though doing so independently using their own device; and providing information to navigate the country. The country-specific information may be accessible through a "Language" button **36**, an "Italy Phone Directory" button **37**, an "Audio Tour / Italy History" button **38**, and a "Transportation" button **39**. The communication between traveling companions, denoted in the Figures as "Family Communication," may be accessible through a "Link/Transmit Itinerary" button **40**, and a "GPS Locate Family Member" button **41**. There may be three function buttons for navigating the country, including a "Use Itinerary" button **42**, an "Italy Maps" button **43**, and an "En Route Detour" button **44**. In addition, a "Find" function button **45** may act as an index to be used to selectively access a wide range of information contained within the database, which may overlap to a certain degree with some of the other functions that also providing database information.

The keys mentioned previously may be those alpha-numeric keys 46 that may ordinarily be found on a standard computer keyboard, and which may preferably be similarly arranged for ease of recognition. These keys/buttons may additionally include a scale button 47 and photo button 48, which will be discussed later.

Figure 2 illustrates a user starting to plan a first itinerary, which begins by pushing the plan itinerary button **32**, which produces a change in the display screen as shown. The mode line **21** now shows the stage of operation as being the "Plan Itinerary" mode. The central information region **24** displays a list of options, each of which may comprise a specialized template from which the itinerary planning may proceed. The templates may group or organize touring options according to certain methods of planning, certain viewing possibilities, and possibly according to certain categories of vacation attributes or parameters. The itinerary from such planning templates may be further customizable during initial planning, as well as at later points in the planning process.

As a first example, Figure 2 shows the "Pre-planned Taste of Italy Tour Templates- 2 Day, 3 Day, …" being highlighted and selected as the first planning template. Multiple templates may be used to plan a single vacation itinerary, and one method of doing so will be explained later. Hitting enter to accept that template causes the display of Figure 3, which provides three possible related planning template, or sub-templates. In the first sub-template, "a) Key No. of Days: \_\_\_\_ and Key Choice of City: \_\_\_\_\_\_", the user may specify trip duration to be a specific length of time matching the traveler's available time in country- 2 days, 3 days, …, 7 days, etc, and the choice of a city that the traveler would like to explore. The next sub-template, "b) Key No. of Days: \_\_\_\_ and Key Choice of Region: \_\_\_\_\_" permits the user to plan an itinerary for a visit to a particular region within Italy.

Many users may prefer sub-template (c), in which the user may specify the number of days in country, the number of cities, and a touring schedule ranging from light to medium to heavy. A light schedule may be one where the template selects the most desirable sites to be visited, but limits touring in a single day to roughly 3 hours, leaving the traveler a generous amount of time to linger at sites found to be more interesting. The medium schedule may encompass 5-6 hours of site viewing, while the heavy schedule may comprises 8 or more hours of site visits. The travelers may further customize the heavily-scheduled itinerary to plan for touring of sites for 12-16 hours a day, provided the sites are accessible to visitors.

The device returns an itinerary that has been optimized according to the allotted time for the traveler to see as many of the most significant highlights as possible, in the given touring time. The programming associated with the template will also specify a default (or ideal) arrival and departure city for the trip to the country, both of which may be modified, as a returning vacationer may wish to focus on different parts of a country. A first-time visitor may choose the standard Venice to Rome itinerary, but may, for example, wish to do a Sicily to Rome itinerary on a subsequent trip to see

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different parts of the country. The programming for the template will also select the most favorable intermediate city or cities for the trip, and, for a 7-day, 3-city tour, may return the itinerary shown in Figure 4. The itinerary may preferably display photographs of the recommended sites to be seen in the cities returned in the itinerary. As seen in Figure 4, the program may default to an itinerary with Florence as the third city to be visited, with it being intermediate to the arrival and departing cities, and it may be most likely to be of the greatest interest to most visitors. One of the options in Figure 4 ("See Alt. Itinerary") permits the traveler to consider other itineraries, and selecting that option may cause the display of Figure 4A, which comprises a list of itineraries having alternate cities for the intermediate stop, along with a map for reference by the traveler to be able to gauge the travel distances. Highlighting and selecting the first alternate itinerary, a Venice-Bologna-Rome itinerary, may produce the screen of Figure 4B, which is the same as Figure 4, except for showing Bologna as the intermediate stop, along with the prospective site visits to the medieval Two Towers of Bologna and the Piazza Maggiore.

If the user returned to the entry screen of Figure 3- used for inputting parameters into the template- and chooses instead to visit a total of four cities, the programming may return the itinerary of Figure 5, which may also include the city of Pisa in addition to Florence, but may also eliminate certain sites from Venice, as Venice may now only include two days of the seven days in-country. Highlighting and selecting the option to "See Tour Details" may produce the screen of Figure 5A. Highlighting one of the sites and selecting the "View Description" option may provide the user with detailed information about the site.

Use of the Figure 3 sub-templates may require the user to defer, to a certain degree, to another person's rank ordering of the priority of places and sites that should be visited, but the user opting for this planning template is relying upon the advice of a knowledgeable planner, and of course will nonetheless still be able to tailor or customize that pre-planned itinerary, by selecting alternate cities,

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and by using the Customize Itinerary option, or the Alter Itinerary button **33**, which is discussed later. The "customize itinerary" option may be used to replace cities returned by the programming with other cities the user later deems more desirable. The customize option may also supply a detailed list of sites and events available in each city, to aid the user in making choices. This customization will be discussed in later paragraphs, in relation customization of an itinerary produced using another planning template.

A template is a pattern that is used to help shape things accurately, and herein, the templates are used to help a user to more easily shape the vacation to specifically be as he or she desires, by starting out with a means to narrowly choose from all of the possible travel options, by using the advise of experts, even though it is still possible to customize any itinerary. The templates remove the burden of searching through books and brochures from the shoulders of the potential traveler, in order to devise a sensible itinerary, through synergistic use of the templates, algorithms and databases of the software.

It should be pointed out that a site could be just a place, such as an open field, which may be of major historical significance, with an example being an open field where a major U.S. civil war battle occurred, or the beaches of Normandy, France where the D-Day forces landed. In addition, certain sites may comprise a place with a structure sitting upon that location, such as where there may have been a fort built upon that battlefield. Lastly, a site may be a place where an event occurs, such as a civil war reenactment within an open field, or it could be an event that occurs in a structure that had been built upon that place, such as a civil war reenactment in that fort, or even just a play in a theater. So a site may refer to a place, a structure, or an event, or some combination of those three. Hereinafter, use of the word "site" may be construed to represent all three possibilities and any possible combinations therebetween.



Some travelers may prefer to browse a library of photographic images, and create an itinerary by selecting sites at the destination country according to their interest in those images, as illustrated in Figure 6. These photos may be sorted into viewing templates, where the photos may be viewed in groups according to an alphabetical city listing, an alphabetical region listing, by popularity of the cities, regions, or sites therein, as well as by other possible viewing templates. Some other viewing sub-templates may further subdivide the library, such as by certain traveler statistics- i.e., by most popular sites for European travelers, or by most popular sites for American travelers, etc.

Alternatively, a user may seek to personally plan the entire itinerary by selecting several regions of Italy to visit, based on their prior personal knowledge, such as wanting to specifically explore the regions of Tuscany, Umbria, and The Marches, because of many pop culture references to that particular part of Italy. The user may also similarly desire to visit only certain specific cities in the nation, and may plan an itinerary based on that construct. There are countless different templates that may be loaded into the software, but a non-exhaustive list may also include templates which cater to planning for: child-friendly tour sites and accommodations; tours which focus particularly on art or architectural centered tour options, which may be desirable in places like Paris, France; wine tour templates for the wine enthusiast/connoisseur; tours accomplished solely through the use of public transportation, perhaps for the college student traveling across Europe; shopping tour templates; cultural tours which focus solely on the museums or the theatres; historical site templates; religious site templates; scenic natural beauty tour templates; tour templates focused on famous people whether from a historical point of view, such as the founders of the United States- where they lived/died- or from the pop culture point of view, such as Jim Morison's grave, or a Beatles tour of England); tours focused on the nightlife of a city of nation; or tours based on special activities, such as the three weeklong Spoleto Festival- the Festival dei Due Mondi- which is held annually in Spoleto, Italy. For each of the possible planning templates, an algorithm progressively provides instructions for

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graphical displays, on the screen, of choices and options to aid the user in customizing the template, and records progress made in planning the itinerary in a non-volatile memory, which may later be changed and/or erased. It should be noted that an algorithm is generally a set of rules (procedure or formula) for solving a problem in a finite number of steps, and in mathematics and computer science, an algorithm usually means a procedure that solves a recurrent problem, though some may refer to a computer program itself or portion thereof as an elaborate algorithm.

As previously stated, each of those templates may be further divided into sub-templates, some of which will be discussed in detail in later paragraphs, to be illustrative of how all of the sub-templates may operate. However, some of the possible sub-templates are mentioned here. For example, the photo library may be subdivided into sub-templates such as: viewing the library alphabetically by city, or alphabetically by Region, or by viewing the library according to site popularity. The regions template may have sub-templates of: Northern, Central, and Southern regions, or Easterly and Westerly regions. The city template may be subdivided into subtemplates comprising: cities listed alphabetically, cities grouped according to region (Tuscany, Umbria,...), cities listed by tourist popularity, or according to certain statistics, or by map locations. Child friendly sites template may be further subdivided into sites and accommodations welcoming and appropriate for: babies, toddlers, young teenagers, or young adults. The architectural tour template may be broken down into sub-templates such as: architectural styles, or by architecture attributed to specific historical periods. The vineyards template may be subdivided into sub-templates of: white wines and red wines, or by grape varietals, or by wine regions of the country, which for Italy corresponds to its 20 geographic regions- Aosta, Calabria, Liguria, Lombardy, Veneto, Tuscany, Sicily ... (and for the U.S.- Napa/Sonoma Valley ..., and for France- Alsace/Armagnac/Beaujolais/Bergerac/Bordeaux/Burgundy/Champagne, ...). The

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public transportation routes template may have sub-templates comprising train tours, bus tours, boat tours, charter tours, and highway tours. The shopping template may be broken down into fashion by designer (Armani, Biagiotti Laura, Bulgari, Capasa Ennio, Capucci Roberto, Cavalli, Dell'Acqua, Alessandro, Dolce e Gabbana, Donatella Versace, ...), or by antique types, jewelry, or specialties of the region/nation. The museum template may be broken down into subtemplates of history museums, archeology museums, automobile museums, maritime museums, art museums, heritage museums, railway museums, science museums, aircraft/aerospace museums... The art gallery template may be broken down into sub-templates of oil paintings, sculptures, watercolors, photography, ... The theater template may be broken down into subtemplates of: musicals, drama, dance..., or by geographic category such as, for New York city, Broadway shows, off-Broadway shows... The historical sites template may be comprised of subtemplates of: war battlefields/memorials, political buildings, birthplaces and homes of famous people (e.g., Christopher Columbus in Genoa), gravesites of famous people, locations of famous civic movements (the Renaissance Movement in Florence)... The religious site template may comprise sub-templates of: churches, temples, cathedrals, chapels, basilica, monasteries, convents... The scenic views template may be made up of sub-templates permitting planning according to ocean views, mountain views, or forest scenic views, or may be subdivided into hiking views or driving scenic views... The night life template may be subdivided according to famous pubs/bars, dance clubs (disco, ballroom...), karaoke clubs, or popular establishments for particular tastes... It should be apparent that some of these sub-templates may overlap, and that this list, like the list of templates, is also non-exhaustive.

To be further illustrative of how the software may operate, planning, using one or two of the above templates, is discussed in detail and illustrated in the figures. In figure 6A, the user has highlighted "Select Cities from City Templates- Rome, Venice, Florence..." using the arrow down

key, which reveals several sub-template choices. The sub-templates may include viewing the cities in an alphabetical listing, viewing cities as they are grouped according to the region they are in, viewing cities in a list according to their popularity among visitors, or possibly by viewing cities according to tourist statistics, or by appearance in an Italy map. Hitting the enter button may cause the screen to appear as in Figure 7. The device in Figure 7 displays a list of cities in Italy according to their popularity, each of which may be selected to be in the traveler's itinerary. The list of cities may be quite lengthy, as it may include every city in the nation, both large and small cities/towns.

The software may also provide a map image in the central information region 24, to help in planning that makes for a sensible geographic sequence. While only the cities of Rome, Venice, Florence, Milan, Naples, Verona, Turin, Bologna, Perugia, and Genoa are shown in the initial list, a message, as previously described, alerts the user that more cities may be viewed and selected by using the arrow down key. The options/directions list 25 currently shows (in Figure 7) that there may be three options: either selecting a city choice and hitting the enter key to add that choice to the itinerary, or viewing photos of the city along with a description of the city's offerings, or returning to the planning options of Figure 6A to use a different template to plan the itinerary. Of course, it may be desirable for other options to appear in different embodiments. There may be one provided to exit the software application, or if the software is utilized on a dedicated electronic unit, exiting may simply involve shutting off the unit using an on/off switch 14. The use of the photo library contained within the informational database relating to the destination will be discussed in more detail later. It is intended as an aid to the planner in deciding if the city architecture, sites, history, or other attributes, in the visual sense, make the city appealing enough to add to the itinerary. The photo may also become part of the itinerary itself, as a visual reminder of the choice made, as will be seen later.

In an alternate embodiment, each city in the list may have a corresponding photograph associated with it, and in yet another embodiment, the city list may include the map image displayed in Figure 7, which may be a selectable map, wherein the cities or regions may be selectable either through the use of a finger tip, or more preferably, using a stylus **60** or an attachable pointing device such as a mouse. Moving the stylus over the city of Venice and tapping on the city name may cause a representative photo to appear with several options being selectable therefrom, such as the option of viewing the photo library for the city, or to add the city to the itinerary. This method of selecting geographic regions from the map may work in conjunction with the list of cities provided, as the user may want to become familiar with the various city options, which may be done more readily by browsing the map's associated city photos. However, it should be apparent that the list of cities may be too exhaustive to be visually generated on the map image for the entire nation, which may be enlargeable to accommodate such visualization.

If the user selected the "View Photos" option from the graphical selection of Venice from the map, it may show on the screen that place in a library of photographs at which begins all of the photographs of Venice that are in the database. The library of city photos at this entry point may also be organized alphabetically, and may also permit the user to just page through the library and select cities for the itinerary from the photo listing. (Note that selection of "View Photos" from the planning template of Figure 7 may similarly display the same photos from the library, as may be viewed through the Photo Library Template of Figure 6).

With the city of Rome selected from the list in Figure 7, and with the user hitting the enter key to add Rome to the itinerary, the device may appear as seen in Figure 8. The software may show a heading in the central information region 24 indicating that planning is ongoing for Itinerary #1, or alternatively, that information could be provided in the mode line 23. The

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software may then preferably show a listing, in the mode line, of all selections made for the itinerary, which so far, only includes the city of Rome.

Once a selection has been made from among those offered in the chosen template, various different choices may appear, to continue tailoring the itinerary returned by the software in order to create a custom itinerary. Also, the options/directions list 25 may present different options to the user, depending upon which portion of the planned itinerary is highlighted. In Figure 8, seven options may be offered, including: viewing the possible sites or special events that may be available in the city of Rome; viewing an area map of Rome, which may be scalable to aid the planner; adding side trips from Rome, which may comprise part-day or all-day excursions to nearby cities or sites: deleting a selected city or region, altering of the itinerary; selecting other cities; returning to the template list to plan successive legs of the trip using a different template; and having the option to save the itinerary, no matter its stage of completion. Some of these options will be discussed later.

The option to return to select additional cities from the list, discloses other features of the invention. The "Select Another City" option may again cause the city list to appear as it did in Figure 7, but its subsequent appearance in Figure 9 may also include a distance from the initial city selected, to provide a numeric context for the visual map image that offers rough guidance as to the proximity of a city to the one that may have been previously selected. With successive selection of cities thereafter, the display may include the minimum distance between other possible destination cities and the next closest city which is already in the list of selected cities. Also, since the city of Rome has already been selected, it may be bracketed and/or no longer be in all-caps to indicate its previous selection. However, it may always appear in the list, and may nonetheless be selectable for multiple appearances in the itinerary, as a traveler may wish to return to a city at a later part of an itinerary.

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Figure 9 illustrates using the arrow down keys to reach the bottom-most choice in the list of choices- Genoa- in the initial city list, wherein one more tap on the arrow down key may cause the screen to appear as in Figure 10, where the list has paged down, with Genoa now being at the top of the list to provide viewing continuity. This paging down arrangement may be typical for lists of choices that are displayed in the central information region 24. Paging back up in the city list to select Venice for the itinerary, results in the updated Itinerary #1 list shown in Figure 11. Selection, in Figure 11, of the "Return to Planning Templates" returns the user to the list of planning templates as seen in Figure 12, which resembles the choices in Figure 2 (as well as Figures 6, 37, and 68), except that the mode text line 23 may display a running list of prior selections (Rome and Venice) to aid the planner.

As another example of the possible templates in the invention, choosing the "Select Regions from Region Templates- Northern Italy, ..." in Figure 12, may cause the display of Figure 13. The display of Figure 13 may include an Italy map that focuses upon identifying each of the distinct regions of the nation of Italy, and relates them back to their overall geographic location, rather than focusing on individual cities. However, it may also display city locations, but preferably in a less prominent manner. The software may permit selection from the map of one or more of those regions, and it may alternatively permit selection and exploration of the Northern, Central, and Southern portions of the country of Italy. Initially, the Northern Italy option may be highlighted, and the Italy map being displayed may include some subtle shading to indicate which of the regions comprise the Northern portion of Italy. The options/directions list 25 may permit the user to view photos of each of those portions of Italy (Northern, Central, Southern), or. a possible option that is not shown in Figure 13, may permit viewing of photos of each of the regions (Liguria, Piedmont, ...) of Italy. The options/directions list 25 may also permit the user to further explore only the selected portion of Italy- for example, the Northern

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portion. Selecting the "Explore Northern Italy" option may cause the display of Figure 14, where the Italy outline map of Figure 13 has been enlarged to focus on the northern portion of Italy, and with the addition of major cities in those regions also now being displayed.

The directions/options list 25 may permit the user to immediately add a region to the itinerary, with greater detail, as to cities and sites, being added later. The region may be selectable from the list, or from its appearance in the map image. Note that the region names may be shown in all-capitals and/or be underlined to distinguish them from the names of cities therein that are being displayed. The directions/options list 25 may also permit the user to instead explore individual regions in more detail, before deciding to add one to the itinerary. Selection of the option to "View Photos of Veneto Region" may cause the display to appear as in Figure 15, where one or more photos may be shown for each region. Although only one photo is shown for Venice, and there would likely be many more, this illustrates the possible continuity of the photo library, as it also shows photos of the Liguria region, another region in Northern Italy. It may therefore be possible to view each of the photographs contained in the digital photo library according to its appearance in many different templates and sub-templates, or options therein.

The size of the photos being shown may be alterable to be smaller, in order to be able to display on the screen, more photos at a time. Or the photo size may be made larger, to the point even where there may only be one photo displayed at a time. The size option may permit viewing that is suitable to a user because of his or her poor vision, or because of the particular size of the screen of the computing device upon which the software may be running. As an example, the display in Figure 15 is showing four photos, one for the Veneto region, and three of the five photos for Cinque Terre ("five lands") in the Liguria region. As noted in the central information region 24, the number of photos shown per page may be adjusted using the scale button 47 and either the arrow up ( $\uparrow$ ) or arrow down ( $\downarrow$ ) keys.

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The directions/options list 25 in Figure 15 may be set up to focus on exploration of the city photo being highlighted for a particular region, or on the entire region itself. In Figure 15, the directions/options list 25 shows the option of further exploring the current cursor selection, which is the region of Liguria. Hitting the enter key to accept the "Explore Liguria Region" option, may cause the display of Figure 16, where a map of the Liguria region is displayed, along with a list of cities therein. The directions/options list 25 may then permit the user to add individual cities to the itinerary, such as Ventimiglia, or Genoa, or one of the cities in Cinque Terre (meaning the five lands of Monterossa al Mare, Vernazza, Corniglia, Manarola, and Riomaggiore). The user may instead view a more detailed library of photos of each city, or may view descriptions of the sites that may be found at such city choices. Opting to add the city of Manarola to the current itinerary may result in the display of Figure 17, with the associated Manarola photo being incorporated into the itinerary as a graphic reminder of the choice.

As seen in Figure 17, the cursor, which may be in the form of an arrow symbol, may always default in successive screens to initially be pointing to and highlighting the first option shown in the screen. In Figure 17, since the cursor is highlighting the city of Rome, the options are particularly directed to exploring options relating to Rome. But, as the cursor is toggled downward to Venice, and then Liguria, the options listed may be successively cross-referenced to the highlighted choice in the central information region **24**, each of which may be at an earlier or later stage of planning than other legs in the itinerary. For example, if the cursor were toggled downward in Figure 17, the options may instead offer to "View Venice Site Options," or "View Liguria Site Options," etc. With Rome highlighted, as in Figure 17, hitting the enter key with "View Rome Site Options" being highlighted, may result in the display of Figure 18. Figure 18 shows one embodiment for the listing of sites to be visited for Rome. There may be an option-"Pre-planned Tours (1-Day, 2-Day...)"- that permits the user to choose from a professionally

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planned itinerary to tour Rome, and which has been optimized for the number of days the planner seeks to stay in the city. After that option, there may be a list of individual sites that may be selected by the user. The list may also preferably identify the minimum recommended viewing time for each site, to allow the user to determine the appropriate number of sites to select, according to how he chooses to tour the city, and although it is not shown therein, the list may also include a photo representative of each city on the list. If the software provides audio tours of the particular site, which will be discussed further hereinafter, it may also be preferable to display in that list, the running times for the audio tours that may be available, to further assist in selecting sites for a given day.

The list of sites that may be visited in a large city, such as Rome, may be quite extensive. As with the list of cities, the listing of sites may be ordered according to different preferences, such as a rank order according to popularity, or significance, or other categories. The directions/options list 25 may be tailored for the site highlighted, and may offer to display one or more site photos, a site description, a map of the area surrounding the site, as well as the option of adding the site to the itinerary for the city of Rome.

As an example, highlighting "Colosseum" and opting to view the site photo(s) for the Colosseum, may cause the display to appear as in Figure 19. Some of the same pertinent options may appear in the display screen of Figure 19, as had been previously offered in Figure 18. There may still be options to add the site to the itinerary, if the photo makes the site appear desirable to the planner, or there may be an option to view a map showing the area around the Colosseum, or an option to view a description of the particular site. Selecting the "View Colosseum Map Location" option may cause the screen to appear as in Figure 20, with a map showing the Colosseum centered in the screen, and with the surrounding streets also being depicted. The invention may include a series of maps specifically tailored for certain functions,

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or it may utilize a single, highly detailed Italy map that is scalable to aid the user. Scaling of the map may be by an algorithm, when prompted to do so, to cause the display to focus on certain features/locations, such as the Colosseum area in Figure 20. The map returned by the software may be further scalable by the user through use of the scale button 47, in combination with the arrow up  $(\uparrow)$  or the arrow down  $(\downarrow)$  keys.

Selecting "View Site Description" from the options shown in Figure 20, may cause the display of Figure 21, which may comprise a textual narrative that may be in the form of a series of bullet points of factual information about the site, to help a user determine if he or she has sufficient interest to visit that site, The description may also be in the form of one or more paragraphs of information about the site. This description may also be useful to a planner who is trying to confirm that he or she has found a particular site that had been recommended by a third party. Once the user has decided to add the site to the itinerary, the "Add to ROME Site Itinerary" option may be toggled.

Successive selection, from the possible sites in Rome, to include the Colosseum, Vatican City, the Pantheon, and the Roman Forum, may cause the list to appear as in Figure 22. Although not displayed in that figure, the software may provide a warning to a user when the list of selected sites selected may become too long to be comfortably visited in a single day, and might require continuation onto a successive day of touring, which may be based on recommended viewing times for the sites and travel times therebetween. The user may of course choose to ignore the suggestion, and not add a day to the itinerary at that point in the planning, and may instead utilize an option to add an extra day at a later stage of planning.

Figure 22 does illustrate a recommended viewing time for each site selected, along with a total of 7 viewing hours used, out of what is suggested to be a nine hour viewing day- between 9:00 a.m. and 6:00 p.m. Where the software also includes listing the time of day for visiting a

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site, such times rnay be compared against known hours of operation for each site, to help preclude instances or erroneous planning, such as where a traveler plans to allot time to visit a site and some or all of the allotted time is before a site opens to the public or after it has been closed to visitors. Once the user has selected all of the sites for a particular city, the "Return to Itinerary List" option would cause the screen to appear as in Figure 23, which is the same as Figure 17, except for inclusion of the selected Rome sites and corresponding photographs. Selecting the "save itinerary" option at any point in time should not change the screen display, except perhaps to include a message, possibly a time-limited message flashing across the screen, to confirm that the itinerary was saved, or that it was updated after it has already been saved once.

Many of the cities in Italy, as well as the cities in other nations, may host special events of interest to visitors, in addition to the usual tourist sites that may be in the form of historic structures or buildings or museums. These events may similarly be found, as for example with the city of Venice, under the "Find Venice Site Options/Events" option, as seen in Figure 23. (Note that the city of Venice had been highlighted). Selection of that option may cause the joint display of both the sites and the special events for a city in a single list, or, in another embodiment, the software may be set up to present a separate list of sites and a separate list of events. A list of the events for the city of Venice may appear as in Figure 24. Many of the events may occur only at a particular time of year, which may be so indicated. Where applicable, information for ticketing may be supplied, as for the Venice Performing Art Theater- Teatro La Fenice. The software may also, at such a point in the planning, supply an option to go online to find show schedules and ticket availability for a particular event. The "WiFi connect: on-line Reservation" option may be set up to automatically find the internet web page for the appropriate venue. Teatro La Fenice- which is www.teatrolafenice.it. Alternatively, the user may decide to

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merely add the event to the itinerary, and try to acquire tickets at a later time, possibly upon arriving in-country. Choosing to add Teatro La Fenice to the itinerary would result in the central information region 24 appearing as it does in Figure 25.

A person planning a trip may decide at some later point in time to change the order of the itinerary, perhaps after acquiring airfare, and perhaps even once more thereafter because of other considerations, such as ticket availability at Teatro La Fenice. This re-ordering of the itinerary may be available once the itinerary planning has proceeded to a certain point, such as where there are two or more stops, and it may also be available at a later time after having completed the itinerary by using the "Alter itinerary" button **33**, either of which may cause the displaying of the options shown in Figure 25. These options allow for further planning and manipulation of the current itinerary. Note that use of the Alter Itinerary button **33** would first require selection of an itinerary to be modified from among a list of saved itineraries.

With the city of Venice being selected, the user may, among other things, delete certain. of the site options already chosen for Venice, or delete the city of Venice entirely from the itinerary, or may rearrange the time in which it is to be visited relative to the other tour stops in the itinerary. Selection of "Mové Venice Leg in Itinerary" results in the display of Figure 26, in which two options permit rearrangement of the itinerary order- either allowing it to be moved earlier or moved later in the itinerary sequence. Selection of "Move Venice Leg Later in Itinerary" and hitting the enter button may move the Venice stop to occupy one slot subsequent in the itinerary list to where it had previously been. Successively pressing of the enter button may make additional moves farther back in the itinerary list. Pressing enter once would move the Venice leg to be last in the list, as seen in Figure 27.

A user may consider the three-stop trip to Italy, including Rome, Liguria (Manarola) and

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Venice, to be a complete itinerary, at least as far as city/regional choices are concerned, and may prefer to check on airfare availability before customizing the itinerary any further. The highlighting of Rome, and selecting of the "Find Transportation to Rome" option, because it is the first leg of the itinerary, may cause the display of Figure 28, in which airlines known to fly into Italy will be listed, along with respective information needed for making reservations with one of the carriers. The list may preferably note the cities in Italy which that airline flies into, as well as the U.S. departure city or cities. A person living in New York may choose to highlight Delta Airlines, since Delta flies direct from New York to Rome, and between N.Y. and Milan as well, which would be convenient for the return leg, as Milan is close to the currently planned final tour stop in Venice. A diligent user may thus be able to plan the entire itinerary without the assistance of a travel agent, but certainly, a person could simply employ a travel agent make the reservation, and thereafter the person could plan the itinerary to stay within the bounds of 'the arrival and departure times/dates.

Selecting the "Wi-Fi Connect: On-line Reservation" option in Figure 28 may allow the user to access the Delta Airlines web page in a separate screen, and make a reservation to depart on Delta's flight 8122 on July 1, 2010 from JFK Airport at 5:05 pm, to arrive at FCO Airport in Rome at 7:45 a.m. on the morning of July 2. The flight is 8 hours and 35 minutes, and most people sleep on such trans-European flights so that upon arrival, they begin their touring. This would permit the three itinerary days in Rome, Liguria, and Venice, respectively, to occur on the 2<sup>nd</sup>, 3<sup>rd</sup>, and 4<sup>th</sup> of July, with a departure on July 5, from Milan, on Delta Flight 4122 that leaves Milan's MCO Airport at 10:05 and arrives at JFK in N.Y. at 7:40 p.m. All of this flight information, when obtained as described, may automatically appear in the itinerary sequence as shown in Figure 29. If a reservation is obtained from a travel agent or by the user calling the airlines directly, the information for that reservation may also be entered into the itinerary, for

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quick and convenient future reference by the traveler to alleviate the need to carry a paper airline ticket. The information may be entered manually using the "Key in Reserv. Info. from Travel Agent" option in Figure 28.

In Figure 29, with the city of Rome being highlighted, selection of the "Find Hotels in Rome" option may cause the display of Figure 30, which presents possible options for finding lodging in Rome according to certain attributes. Such attributes may include hotels listed according to standardized hotel ratings, or by hotel location, hotel price, by consumer recommendation, by particular amenities, or by being known as a child friendly establishment, etc. Naturally, this is a non-exhaustive list of the possible templates for choosing a hotel. If the user decided to search for a Rome hotel by location, because of a desire to be lodged near ancient Rome, tabbing down to highlight the "Find by Rome Area Location" choice may reveal choices according to the distinct areas of Rome, such as the Colosseum, Monti, Navona, etc. Tabbing down further to highlight and select the Navona area, would cause the algorithm to search the database of travel information for hotels in the Navona area of Rome, and cause the display as seen in Figure 31.

The list could be great or small, and could grow as hotels, motels, and bed and breakfast inns sought to gain exposure by being listed therein. Each of the listed lodging choices may preferably include a description of the hotel's features and character. Highlighting of the Imperium Suite Navona as the hotel choice may be accompanied by options to select the accommodation or to see its location on a map. Choosing the "View Hotel Map Location" may cause the display of Figure 32, which shows a map of the Navona area, along with indication thereon of the location of the Imperium Suite Navona. Selecting the "Choose Imperium Suite Navona" option may cause the display of Figure 33, which includes a picture of the selected hotel, and relevant information to obtain a reservation at that hotel.

As with other reservation-specific steps of the itinerary planning within the device, an option may be provided to directly access the hotel's web-page to try to obtain a reservation corresponding to the first day in Rome- July 2, 2010. Selection of the "Wi-fi Connect: Online Reservation" option may permit the user to access the Imperium Suite Navona web page to make the reservation, the information for which may also appear in the itinerary list, as shown in Figure 34. It may be preferable to display all or only some of the reservation information in the itinerary list, and the user may be able to establish those display requirements in a preference settings screen. It may also be preferable to show the airline arrival information and initial accommodation information in a numbering sequence beginning with zero ("0") and double-zero ("00") so that each number for the listing of stops also corresponds to the itinerary day. Lastly, selection of the "Find Hotels in Rome" option may additionally or alternatively present the option of using an existing hotel reservation site to scarch for lodging, such as www.italytraveler.com.

Tabbing down in the itinerary list of Figure 34, to each of the other stops may similarly permit selection of transportation to that stop, but transportation may also be chosen at a later date, even when in Italy, using an itinerary planning option that will be discussed later. However, arranging transportation for the arrival and departure dates may be critical for most people, and tabbing down to the departure flight from Milan, in Figure 34, may trigger the appearance of the "Find Transportation: Venice to Milan Airport" option. Selection of that option may cause the display of possible transportation options on the screen in Figure 35, which include, but not be limited to, transportation by train, bus, rental car, and taxi cab. In certain cases, there may also be an option to catch a connecting flight between cities. If a traveler had initially chosen to rent a car in Rome, then this step may not be necessary. However, to be exemplary, the user may have taken public transportation throughout the trip, and may therefore choose here to highlight the

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"Train" choice, and select the "Explore Train Transportation: Venice to Milan Airport" option, which would cause display of the national railway map and related information shown in Figure 36. There are two Italian web-sites shown (www.trenitalia.com and www.ferroviedellostato.it/), with each being translatable into English for obtaining schedules and tickets for travel on the Italian national railway system. As with other reservation-specific steps of the current invention, the reservation information thereby obtained may be displayed in the itinerary list.

Once Itinerary #1 has been saved, later toggling of the Plan Itinerary button **32**, may cause the display of the screen in Figure 37, which closely resembles the screen of Figure 2, except that the first option now shown permits the user to clone and modify a saved itinerary. This may be beneficial for a user who is uncertain about some of their choices, and may desire to plan alternate itineraries, or may wish to anticipate both good and bad weather upon arrival with corresponding itineraries, or may want to be prepared for the possibility that they will be incountry for more time than anticipated- particularly for a business traveler- and prefers to already have that extra time carefully planned and utilized. The traveler many want to have alternate itineraries prepared for many other possible reasons. Highlighting "Copy and Modify Existing Itinerary" and selecting that option produces the screen shown in Figure 38, which is a list of all saved itineraries. Highlighting Itinerary #1 (Rome, Liguria, Venice), which currently is the only saved itinerary, and selecting the "Copy Itinerary" option, may create an Itinerary #2 exactly the same as Itinerary #1, however, as seen in Figure 39, it may be without the airline reservation or other specially reserved/ticketed events or accommodations.

The user may wish to create an itinerary solely for another, more comprehensive visit to Rome, and thus may highlight the Venice leg, and select the "Delete City/Region" option, to remove the Venice leg of the itinerary. The same may be done for the Liguria leg to result in the itinerary list of Figure 40. A more comprehensive trip to Rome may include more site visits

within the city of Rome itself, but may also include visits to sites that are nearby, but outside of Rome itself. With Rome being highlighted, selection of the "Add Side Trip from Rome" option may cause the display of Figure 41, in which sites that are proximate to Rome may be listed, and may preferably be listed according to their distance from Rome, with inclusion of such distances within the listing. Highlighting of the city of Pompeii may cause a representative photograph to appear. The user may elect to receive more information about Pompeii- photos, maps, or a description- or may simply decide to select the "Add Side Trip" option, resulting in the itinerary list of Figure 42, which may then be saved for later use. In addition, there may be an option to print out a copy of the saved itinerary. The printed copy of the itinerary may serve as a back-up in case a traveler's portable computing device, running the software herein, is damaged, stolen, or lost during the trip. The printed copy may also be conveniently given to family members not traveling abroad, to allow them to track the travelers' progress and the expected return date/time.

Once arriving at the destination, the user may power up the device, and select the Use Itinerary button 42, as seen in Figure 43, which may cause the display of all saved itineraries to permit selection therefrom. Presuming that the three-day Itinerary #1 with the airline reservations was the intended itinerary for use on the trip, the user would highlight Itinerary #1, and select the "Execute Itinerary" option. This would cause the itinerary to be displayed, as in Figure 44, the same as it had finally appeared in Figure 34, but with a different options/directions list 25 being offered. In one embodiment, the itinerary could be customized to include times of the day at which the traveler may spend viewing particular stops, and the system may also provide alarm prompts to give the traveler notice of when one site visit is to end, and movement towards another site is to begin.

As seen in Figure 44, an option may be offered to find transportation to an itinerary leg, once a leg is highlighted, and it may also offer to give walking directions or other guidance to a

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site. The directions may be a rote recitation of steps necessary to progress from place to place, or it may alternatively comprise active guidance through the use of a GPS receiver. A GPS receiver may be attached to the device using a cable, or may preferably be integrally included in a specially designed mobile device running the software of this invention.

Another option may be to offer access to internet web-sites for the Rome sites to be visited, to assist in providing current information to the traveler. There are many possible forms of further assistance that may be provided to the traveler, some of which will be discussed in the following sections.

One possible means of providing further assistance may be in the form of the "Italy Maps" button **43**. Toggling of the Italy Maps button **43** may cause the display of Figure 45, in which a complete map of Italy is displayed. It should be pointed out that the Italy Maps button **43**, and both of the planning buttons- the Plan Itinerary button **32** and the Alter Itinerary button **33**- may have colored background shading on the button, which may serve as a visual indication/reminder for the user that the Italy Maps button **43** may be toggled any anytime that it is needed- during a planning stage or a touring stage- to provide a map image upon the screen for navigation purposes. The Italy Maps button **43** may subsequently be toggled a second time to thereby remove the map image from the screen, once the user is ready to return to the itinerary display that had previously been in use. This may be advantageous because, although the software often provides the option of viewing a corresponding map image during planning steps, a person planning the itinerary may want to think ahead by looking at a map, which need not have to be an additional paper map, and should more conveniently be an electronic map of Italy stored within the information database.

The map image's first appearance in the screen of Figure 45 may be full size, to be functional for both the planning and the execution of the itinerary. To more quickly aid the user

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who may be lost and is seeking a quick map reference, the software may be constructed to allow the traveler to hit the enter key to have the map instantly scroll to the users current location in Italy, and simultaneously be scaled up to permit recognition of street-level data, which would naturally be dependent upon its communication with a GPS receiver. Alternatively, the map initially returned by the Italy Map button **43** may preferably be full size when in a planning stage, and zoomed in on a current location when in a touring stage during execution of the itinerary. GPS communications in relation to the map may occur according to the National Marine Electronic Association Standards, NMEA 0183 and NMEA 2000, the disclosures of each are incorporated herein by reference. It is also possible to not incorporate the GPS receiver into the device utilizing the software herein, and simply provide a moveable electronic map that may nonetheless be able to aptly substitute for a folded paper map.

As seen in Figure 45, there may be many different ways to manipulate the map. For example, the arrow keys may be toggled to shift the map so as to be centered on certain other locations. Also the scale button 47 may be depressed in combination with the arrow up or arrow down keys to alter the map scale. There may alternatively be separate mechanical buttons- one being a "scale up" button and one being a "scale down" button, or there may be touch-screen buttons that permit tapping thereon in order to scale up or scale down the map image. Lastly, the translation and scaling of the map may be by the user's finger contacting the touch-screen with them expanding outward to scale up the map or moving together to scale down the map image- a function that is currently available on many digital devices, such as the Apple iPhone and iPad.

Another possible means of providing assistance to the traveler while at the destination may be the "Find" button 45. Depressing the Find button 45 may produce the screen image of Figure 46, which permits a search for certain country-specific information. The options shown in Figure 46 are merely meant to be exemplary, and definitely do not constitute an exhaustive list of

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the possible options. An example of use of the Find button 45 may involve a user searching for general information about the city of Venice. The user may key in "VENCE," in the "Search City Info- Key City Name: \_\_\_\_\_" choice, which may produce the screen of information illustrated in Figure 47.

The user may also be seeking certain specific retail stores or services that would be conveniently available at home, but may require assistance to locate while touring in Italy. So selection of the "Return to FIND Choices" option may permit the user, as seen in Figure 48, to toggle down to the seventh choice in order to find a drug store. The highlighting of "Drug Stores" may automatically cause the addition of other logical choices- those possibly being to find the drug store nearest to the user's present location, or to find a drug store in another city that the user will be traveling to next. Selecting the choice of "From Current Location- Venice" may operate in conjunction with a GPS receiver to list the nearest drug store (Figure 49), and any related information, and to possibly provide a map with directions to the store.

Additional assistance to the traveler may also be provided by the "LANGUAGE Translate Phrase" button **36**, which may produce the screen image of Figure 50. The first option therein may permit the user to type in a word or a phrase that the user is trying to express to a foreign national at the destination country. Although many Italians also speak English, this feature may nonetheless be invaluable at certain times, and at certain other destination countries. Typing in the phrase, "How much is it," yields the result shown in Figure 51, where both the English phrase and the Italian translation are listed next to each other, along with a phonetic aid for proper pronunciation. That same page may still be utilized to key in additional phrases for translation, or alternatively, highlighting the choice "View List of Common Italian Phrases" yields the screen of Figure 52. The phrases therein may be ordered alphabetically or according to

their frequency of usage, and possibly with a screen option to view them according to either ordering scheme.

There may also be a "Pronounce the Phrase" option, which may use a sound generator/speaker 13 to enunciate the phrase to either coach the traveler so that the traveler may be able to correctly say it to the foreign speaking native, or so that the traveler may simply toggle the option to have the travel planner/guide speak the phrase to the person. There may also be, within the processor of the device, one or more voice recognition algorithms, including a Hidden Markov Model, so that a complex response made in the foreign language by the foreign national. may be received by microphone 15 (Figure 1) and interpreted into the traveler's language through use of the algorithms. (See, "A Revealing Introduction to Hidden Markov Models" by Mark Stamp, available at http://www.cs.sjsu.edu/faculty/stamp/RUA/HMM.pdf; and "A Tutorial on Hidden Markov Models and Selected Applications in Speech Recognition," by L. Rabiner, IEEE 77(2):257-286, available at http://www.cs.ubc.ca/~murphyk/Software/HMM/rabiner.pdf., the disclosures of each being incorporated herein by reference) Therefore, below the "Pronounce the Phrase" option in Figure 52, may be an option to "Pronounce and Interpret the Response." The interpreted response may be translated into the traveler's language and be vocalized using the speaker/sound generator 13, or be translated into text that appears in the central information region 24 of graphical display screen 20.

Another beneficial aid to the traveler, to enhance their experience while on vacation, may be the inclusion, within the database of travel related information, of audio or video tours of each of the sites that may be visited. Toggling the "AUDIO TOUR / ITALY History" button **38** may yield the screen of Figure 53. There may be several options for audio tours because different users may wish to experience the site in different ways. One visitor may wish to listen to the tour while en route to the site, which may require use of choice number three, "Audio Tour from All-

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Italy List of Sites." Another traveler may be walking randomly in relation to the planned itinerary and discovers a site not chosen previously, but becomes interested and decides to learn more about it by selecting choice number two, "Audio Tour for Present Location," which may require use of a GPS. However, many people may prefer to have an experienced guide explaining the significance and features of a site while they are actually viewing the site, making the first choice, "Audio Tour of Itinerary Leg" a valuable feature, the selection of which results in the screen of Figure 54.

The audio tours may preferably be offered in different pre-recorded lengths of time for the presentation, and/or in incrementally distinct intellectual levels, to accommodate various travelers. The interest level of children may be very different than for travelers having only a modest interest, although both may be for about the same length, perhaps being only 30 minutes long for the entire Colosseum. Each audio tour- a child's tour, a casual interest tour, a moderateavidly interested tourist, and the historian's audio tour- may be constructed to be suited for the respective level of interest/learning. For the person having great archeological interest in the Colosseum, selection of the "Historian's Audio Tour: 90 Minute Audio Tour" choice may be appropriate, and may yield the tour represented by Figure 55. The actual text of the audio tour may appear on screen, along with graphical illustrations to help the user to recognize the features being spoken about. The screen may also indicate the time remaining for the tour, in case a listener becomes concerned about making it to the next site in the itinerary, and wonders how much time remains in the audio tour. The device may preferably include a headphone jack 16 (Figure 1) to provide for silent listening, and the device may also preferably transmit the audio tour on various radio frequencies so that an entire family of travelers could listen using individual wireless headphone sets. In one embodiment, the device may transmit the audio tour

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wirelessly to personal area networks, using, for example, Bluetooth wireless technology, which may permit transmission of the audio tour to up to seven mobile phone headsets.

The Audio Tour/Italy History button **38** may also, as seen in Figure 53, provide historical information about the country, which may be offered for a particular itinerary leg, for a user's current location, or in relation to any aspect of the entire country by searching the entire database

Another useful feature for the traveler may be found in the "Italy Phone Directory" button 37, which, when depressed, may produce the screen of Figure 56. The user may therein search for a person or business, according to a white pages search or a yellow pages search, by keying in a name. Much of the commercial information accessed in this manner from the yellow page listings may also be found by using the FIND button 45, which was previously described.

The "Transportation Routes/Schedules" button **39** may also provide the user with information to better navigate between tour stops, or across a city or a region of Italy, whereby depressing of the button may result in the display of Figure 57. There may be many possible choices therein, and so to be exemplary, two of them will be discussed. Highlighting the "ROME Metropolitano" choice and selecting the "View Transportation Details" option yields an electronic version of the map for Rome's metropolitan-area train, as seen in Figure 58. This map may be manipulated the same as the maps described in the discussion of the Italy Maps button **43**. Viewing the entire Rome Metro map may assist the viewer in planning some in-country changes to the itinerary.

For the user following his or her planned itinerary, selecting, from Figure 59, the choice based on the current itinerary, going from the current location to the next itinerary leg, "Colosseum - Vatican City," may result in the screen of Figure of 60, which has enlarged the Rome Metro train map to focus on the stops in going from the Colosseum to the Vatican. Each stop may be distinctly denoted by a circular bubble, and the beginning stop, the end stop, and any

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stop at which a change in train line must occur, may be designated by a larger circular bubble, or other symbol that may alert the traveler. There may also be textual directions, as seen at the bottom of the screen in Figure 60, to reinforce the steps necessary for the user to take, namely being, in this case, to take the Metro Line B North two stops to Termini Station; and then to take the Metro Line A west seven stops to the Cipro Musei Vaticani station.

Another feature to enhance the travel experience, for a person using this software on a mobile computing device, is the "En Route Detour" button 44, which yields the screen of Figure 61. This screen lets a user, who finds extra time left at the end of the day, or was perhaps disinterested in remaining very long at one of the planned sites, to search the database to quickly ascertain what other sites of interest may be in close proximity to his/her current location, or in close proximity to other legs of the itinerary. Selecting the "From Current Location- Colosseum" choice yields the screen of Figure 62, which may be broadly arranged to include lists of nearby eateries, and shopping centers, as well as tourist sites of interest. Highlighting the "Most Nearby Popular Tourist Sites" choice produces a list, which may include the site's distance away from a user's current location. This list may also include, particularly in Europe, sites for visiting a neighboring country, which is often very close by. For example, it is only about 18 miles or a forty-five minute train ride from Ventimiglia on the Italian Riviera in Liguria, to Nice, France, which is on the French Riviera. Highlighting the "Piazza Fontana di Trevi" choice with the "Get Directions/Transportation" option yields the screen of Figure 63, which may be the same Rome metro train map of Figure 60, but now showing a large bubble for the Fontana di Trevi stop, and with textual directions for how to get to that stop, as well as for how to continue on with the itinerary. There may also be an option to request walking directions if the distance is not great, because the user may be more inclined to walk short distances.

The software may preferably have communications ability whereby one user having a mobile computing device running the software herein, may communicate with another user having a second mobile computing device that is also running this software. This may be advantageous for groups of travelers, such as several college students traveling about different parts of a country, or a family that decides to split up to explore different parts of a city or region on one day or for several days, but did not elect to acquire international phone service for the trip, which is available from most U.S. cell phone service providers. It may also be valuable even where a family may have provided certain members with international phone service, but have concerns about such independent travel in a foreign nation, and wish to have additional means of monitoring the travel progress of their companions. E-mail communication would be helpful, but is not instantaneous. However, the software running on a custom or preferred mobile computing device may preferably provide two additional different types of communication.

Unique addresses for each of two devices running this software may be exchanged and permit the two devices to communicate exclusively therebetween, to communicate either an itinerary or a GPS positional location. Figure 64 illustrates one possible screen to exchange addresses for a mobile computing unit prior to travel, under the "Link/Transmit Itinerary" button **40**. The screen may include the option to enter a person's name, rather than simply the electronic address. Figures 65 and 66 illustrate screens for transmitting, to "Gina," who possesses a second linked travel planner (see also Figure 72), one of the stored itineraries, which may include any last minute itinerary detours added using the En Route Detour function button **44**. Figure 67 illustrates a screen to make use of the "GPS LOCATE Family Member" button **41**, and shows selection of "all linked travel guides," which enables the user of the shown device to check upon the travel progress of one or more linked travel planner/guides. The software may either continuously broadcast, or routinely broadcast a travel planner's location throughout the course

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of a day, along with a time-date stamp for the location transmission, in order to provide assurance of a traveling companion's or a child's separate progress along a planned itinerary.

The software may be adapted to transmit GPS communications according to NMEA 0183 from unit to unit according to many different means, some of which are disclosed in currently unexpired patents, while other methods are in the public domain, such as the Open Device Monitoring and Tracking Protocol, or as trademarked, OpenDMTP™, which is a protocol permitting bi-directional data communications between servers and devices over the internet, with emphasis on location-based information such as GPS. OpenDMTP is an open source protocol, the disclosures of which may be found at http://www.opendmtp.org/ or available therefrom, and which are incorporated herein by reference. The dependency upon internet service may be limiting, and as such, the device may also broadcast the location information by other means, such as by simple radio transmissions, or according to a radio frequency protocol, such as Interim Standard 136 (IS-136), which is a specific Time Division Multiple Access (TDMA) based radio frequency (RF) standard. The transmission may also be according to a mobile networking protocol, such as one of the following: the Global System for Mobility (GSM) networks, which had been deployed in Europe and elsewhere in the world, and uses a protocol known as the GSM Mobile Application Part (MAP) that is promulgated by the European Telecommunications Standards Institute (ETSI); or the American Code Division Multiple Access standards- the CDMA2000 networks, which uses the ANSI-41 protocol promulgated by the Telecommunications Industry Association (TIA) and American Standards Institute (ANSI).

Choosing, in figure 67, "All Linked Travel Guides," may cause a map display, as illustrated in Figure 68, which may identify the location of the user's position (his/her travel planner) as well as the positional location for Gina's travel planner and for Chris's travel planner.

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Figure 69 illustrates a smaller travel planner unit, and one being without all of the functionality previously disclosed, as it may be without the country-specific information offered by the Language button 36, the Italy Phone Directory button 37, and the Audio Tour / Italy History button 38, and it may also be without the "family communication" offered by the Link/Transmit Itinerary button 40, and the GPS Locate Family Member button 41. Figure 70 shows the back side of the device of Figure 69, which may include a raised map of the destination country for quick reference, as well as a camera lens 50, as a digital camera may be conveniently incorporated into the custom device, which may be actuated using the "Photo" button 48 (Figure 1). The custom device may also be battery powered by a rechargeable Lithium Ion Battery Pack, which may utilize the 18650 battery. The 18650 lithium-ion battery is cylindrical in shape, having a diameter of 18 mm (0.7 inches) and a length of 65 mm (2.6 inches), and may have a nominal voltage of 3.7 volts, and is favored for use in mobile computing and other electronic applications.

Lastly, Figure 71 illustrates the software of the present invention running on a touch screen mobile computing device, where each of the buttons may be actuated by touching its digital appearance on the touch screen, rather than by depressing mechanical buttons. Such an example may be the case where the software is running on a device such as the apple iPad. In such cases, the software may be available by a disc or by an internet download, and individual country-specific information for the planner for various different nations or geographic subdivisions may similarly be available by disc, by download, by a USB memory device, or some other form of computer memory.

The travel planner/guide software, in accordance with one embodiment of the present invention, may run on an exemplary computer system 200, which is shown schematically in FIG. 72, and which may comprise a mobile computing unit 201 interacting with external peripherals.

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A complete exemplary computer system will be described for an understanding of how the software may interact with and on mobile computing unit 201, even though an embodiment involving usage of the software may not require each of the computer components so described.

A mobile computing unit 201 may include a data bus 202 or other communication mechanism for communicating information across and among various parts of mobile computing unit 201, and a central processing unit ("processor" or CPU) 203 coupled with a bus 202 for processing information and performing other computational and control tasks. Mobile computing unit 201 may also include a volatile storage medium 206, such as a random access memory (RAM) or other dynamic storage medium or device, coupled to bus 202 for storing various information as well as instructions to be executed by processor 203. The RAM may be Dynamic Random Access Memory (DRAM), or Static RAM (SRAM), or any other similar type of RAM known in the art. The volatile storage 206 also may be used for storing temporary variables or other intermediate information during execution of program instructions by processor 203. Mobile computing unit 201 may further include a read only memory (ROM) or an erasable programmable memory (EPROM) 208 or other static storage device coupled to bus 202 for storing information and instructions for processor 203, such as a basic input-output system (BIOS), as well as various system configuration parameters. A persistent storage device or nonvolatile memory 207, such as a magnetic disk, optical disk, or solid-state flash memory device may be provided and coupled to bus 202 for storing information and instructions.

Mobile computing unit 201 may be coupled via bus 202 to a viewing screen, which may be a touch screen display 204, such as a plasma display, or a liquid crystal display (LCD), for displaying information to a user of the mobile computing unit 201. If desired, the mobile computing unit 201 may also be coupled via bus 202 to an external display screen 210, which may further comprise a cathode ray tube (CRT). An external input device 211 may include a

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keyboard with alphanumeric and other keys, and may also be coupled to bus 202 for communicating information and command selections to processor 203. A pointing device 212 for cursor control, such as a mouse, a trackball, or cursor direction keys for communicating direction information and command selections to processor 203 and for controlling cursor movement on display 204, may be connected to the mobile computing unit 201, if desired. Also, a cursor control device may also be utilized for the PC 220, which may also run the software, and which may exchange information with the mobile computing unit 201 using the internet, of through a transfer such as with a USB flash drive. The use of a mobile computing unit 201 with touch-screen capabilities may eliminate the need for cursor control, particularly while utilizing the software during execution of the travel itinerary at the destination. However, it may be preferable for some users to utilize such devices while at home during the itinerary planning stage of software utilization. Where a touch screen is utilized, a stylus 60 may also serve for cursor control.

According to one embodiment of the invention, the techniques described herein are performed by mobile computing unit 201 in response to processor 203 executing one or more sequences of one or more instructions contained in the volatile memory 206. Such instructions may be read into volatile memory 206 from another computer-readable medium, such as the non-volatile memory device 207. Execution of the sequences of instructions contained in the volatile memory 206 may cause processor 203 to perform the process steps described herein. In alternative embodiments, hard-wired circuitry may be used in place of or in combination with software instructions to implement the invention. Thus, embodiments of the invention are not limited to any specific combination of hardware circuitry and software.

The term "computer-readable medium" or "program storage medium" as used herein may refer to any medium that participates in providing instructions to processor **203** for execution.

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The computer-readable medium is just one example of a machine-readable medium, which may carry instructions for implementing any of the methods and/or techniques described herein. Such a medium may take many forms, including but not limited to, non-volatile media, volatile media, and transmission media. Non-volatile media includes, for example, optical or magnetic disks, such as storage device 207. Volatile media includes dynamic memory. Transmission media includes coaxial cables, copper wire and fiber optics, including the wires that comprise data bus 202. Transmission media can also take the form of acoustic or light waves, such as those generated during radio-wave and infra-red data communications.

Common forms of computer-readable media include, for example: a floppy disk, a flexible disk, hard disk, magnetic tape, or any other magnetic medium; a CD-ROM, any other optical medium; punch cards, paper tape, any other physical medium with patterns of holes; a RAM, a PROM, an EPROM, a FLASH-EPROM, a flash drive, a memory card, or any other memory chip or cartridge; a carrier wave as described hereinafter, or any other medium from which a computer can read.

Various forms of computer readable media may be involved in carrying one or more sequences of one or more instructions to processor 203 for execution. For example, the instructions may initially be carried on a magnetic disk from a remote computer. Alternatively, a remote computer can load the instructions into its dynamic memory and send the instructions over a telephone line using a modem. A modem local to computer system 200 can receive the data on the telephone line. The bus 202 may carry the data to the volatile storage 206, from which processor 203 retrieves and executes the instructions. The instructions received by the volatile memory 206 may optionally be stored on the non-volatile storage device 207 either before or after execution by processor 203. The instructions may also be downloaded into the

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mobile computing unit 201 via the Internet 230 using a variety of network data communication protocols well known in the art.

The mobile computing unit 201 may also include a communication interface 205, such as network interface card coupled to the data bus 202. Communication interface 205 may provide a two-way data communication coupling to a network link that may be connected to a local network or to the internet. For example, communication interface 205 may be an integrated services digital network (ISDN) card or a modem to provide a data communication connection to a corresponding type of telephone line. As another example, communication interface 205 may be a local area network interface card (LAN NIC) to provide a data communication connection to a compatible LAN. Wireless links, such as well-known 802.11a, 802.11b, 802.11g and Bluetooth may also used for network implementation. In any such implementation, communication interface 205 sends and receives electrical, electromagnetic, or optical signals that carry digital data streams representing various types of information.

Communication interface 205 may provide a connection through a local network to a personal computer 230, or the mobile computing unit 201 may connect directly to the personal computer 230. The mobile computing unit 201 can access resources located anywhere on the Internet 230. The mobile computing unit 201 may also be accessed by others, with permission, who are located anywhere on the local area network and/or the Internet 230. The other users may themselves be operating a similar mobile computing unit 201A, which may be linked thereto.

The mobile computing unit 201 may also use electrical, electromagnetic or optical signals that carry digital data streams, outside of transmission through the internet 230. The signals which carry the digital data to and from mobile computing unit 201 are exemplary forms of carrier waves transporting the information.

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Mobile computing unit 201 may be able to send messages and receive data, including program code and positional locations derived from the use of a GPS receiver 213. The GPS receiver may be integral to mobile computing unit 201 or may be a peripheral to which the mobile computing unit 201 is connected. The message may be sent through the variety of network(s) including the Internet 230. In the Internet example, when the mobile computing unit 201 may act as a network server, it might transmit a requested code or data for an application program running on PC 220 through the Internet 230, and communication interface 205. Similarly, it may receive code from other network resources.

The received code may be executed by processor 203 as it is received, and/or stored in non-volatile or volatile storage devices 207 and 206, respectively, or other non-volatile storage for later execution. In this manner, computer system 200 may obtain application code in the form of a carrier wave.

The present invention is not limited to any specific types of wireless or wired network protocols. A network configuration may be achieved using a variety of known networking protocols.

The examples and descriptions provided merely illustrate a preferred embodiment of the present invention. Those skilled in the art and having the benefit of the present disclosure will appreciate that further embodiments may be implemented with various changes within the scope of the present invention. Other modifications, substitutions, omissions and changes may be made in the design, size, materials used or proportions, operating conditions, assembly sequence, or arrangement or positioning of elements and members of the preferred embodiment without departing from the spirit of this invention.

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APPENDIX D 113a



Venice Grand Canal Photo: © QT Luong/terragalleria.com

Bridge of Sighs Photo: Matthew Field; http://www.photography.mattfield.com Palazzo Vecchio Photo by Magnus Gertkenper Teatro La Fenice Photo by Pavel Krok Colosseum Photo by Andreas Tille. Pantheon Photo by Keith Yahl.





## FIGURE 4A



Bridge of Sighs Photo: Matthew Field; http://www.photography.mattfield.com Piazza Maggiore Photo by Tango7171:

Colosseum Photo by Andreas Tille. Pantheon Photo by Keith Yahi. Two Towers Photo by Patrick Clenet

http://commons.wikimedia.org/wiki/User:Tango7174#Italia

**FIGURE 4B** 





Venice Grand Canal Photo: © QT Luong/terragalleria.com Bridge of Sighs Photo: Matthew Field; http://www.photography.mattfield.com Pisa Photo- Patrick Landy (http://en.wikipedia.org/wiki/User:FSU\_Guy) Palazzo Vecchio Photo by Magnus Gertkemper

Teatro La Fenice Photo by Pavel Krok Colosseum Photo by Andreas Tille. Pantheon Photo by Keith Yahl.





FIGURE 5A



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Appx461

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#### FIGURE 6A

APPENDIX D 120a



Venice Photo: © QT Luong/terragalleria.com



APPENDIX D 122a



APPENDIX D 123a



APPENDIX D 124a







APPENDIX D 127a



APPENDIX D 128a



Venice and Liguria Photos: © QT Luong/terragalleria.com



APPENDIX D 130a



Manarola Photo: © QT Luong/terragalleria.com





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FIGURE 21





Pantheon Photo by Keith Yahl.

Manarola Photo: © QT Luong/terragalleria.com



Teatro La Fenice Photo by Pavel Krok.



Teatro La Fenice Photo by Pavel Krok Manarola Photo: © QT Luong/terragalleria.com

FIGURE 25





Teatro La Fenice Photo by Pavel Krok Manarola Photo: © QT Luong/terragalleria.com

**FIGURE 26** 





Teatro La Fenice Photo by Pavel Krok Manarola Photo: © QT Luong/terragalleria.com

**FIGURE 27** 





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Teatro La Fenice Photo by Pavel Krok Manarola Photo: © QT Luong/terragalleria.com

**FIGURE 29** 



	Country- ITALY	
	MODE: Plan Itinerary / Rome / Venice / Liguria / Find Hotels /	
	ITINERARY #1- ROME LEG HOTELS	
	1) FIND BY HOTEL RATING (*1-STAR TO *****5-STAR)	
	2) FIND BY ROME AREA LOCATION a) Colosseum g) Spagna	
	b) Esquilino h) Trevi c) Ghetto i) Spanish Steps	
	d) Monti j) Trastevere	
	→ e) Navona k) Trati f) Prati I) Vatican City	
	3) FIND BY PRICE	
	4) FIND CONSUMER RECOMMENDED LODGING 5) FIND ROOM WITH AMENITIES (View, Gym, Internet, Pool,)	
	6) CHILD FRIENDLY ACCOMMODATIONS	
	SELECT ITINERARY LEG (use $\downarrow$ Down key)	
	OPTIONS (Shift plus ↑↓ Up/Down Keys): <u>1) Select Navona Area</u>	
	2) View ROME Area Map 3) Return to Itinerary List	-
	4) Save Itinerary	
PLAN	ING VACATION EXPERIENCE BUTTONS	
BUT		
1 2320077	ARY Translate Phrase ITALY History ITINERARY	
	ER Italy PHONE Transportation GPS LOCATE	
1 33330022	ARY DIRECTORY Routes/Schedule Family Member En Route De	tour
1	2 3 4 5 6 7 8 9 0 BkSpace FIND (Inc	lex)
Tab	Q W E R T Y U I O P ENTER	РН
Shit		O T
Scal		

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Country- ITALY	
MODE: Plan Itinerary / <u>Rome</u> / <u>Venice</u> / <u>Liguria</u> / Find Hotel / Rome- N	Navona
ITINERARY #1- ROME LEG HOTELS PIAZZA NAVONA	
<ol> <li>GENIO (top-floor rooms w/terraces &amp; city-wide views)</li> <li>HOTEL RAPHAEL (antique decor, some rooms with privat</li> <li>→ 3) IMPERIUM SUITE NAVONA (Charming rooms, quiet lo 4) APARTMENTS CASA NAVONA (for demanding business)</li> </ol>	cation)
SELECT AREA LOCATION (use ↓ Down key)	
OPTIONS (Shift plus ↑↓ Up/Down Keys): 1) Choose Imperium Suite Navona <u>2) View Hotel Map Location</u> 3) Return to List of Itinerary Legs 4) Save Itinerary	
PLANNING BUTTONSVACATION EXPERIENCE BUTTONS Country InformationPLAN ITINERARYLANGUAGE Translate PhraseAUDIO TOUR / ITALY HistoryLink/Transmit ITINERARYALTER ITINERARYItaly PHONE DIRECTORYTransportation Routes/ScheduleGPS LOCATE Family Member1234567890BkSpaceTabQWERTYU10PShiftASDFGHjkI:	Navigate Country Use Itinerary (ITALY MAPS (Itocde anvirne) En Route Detour FIND (Index) ENTER
Scale     Z     X     C     V     B     N     M     ,     .     /	





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Colosseum Photo by Andreas Tille. Pantheon Photo by Keith Yahl. Teatro La Fenice Photo by Pavel Krok Manarola Photo: © QT Luong/terragalleria.com



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FIGURE 38



Colosseum Photo by Andreas Tille. Pantheon Photo by Keith Yahl. Teatro La Fenice Photo by Pavel Krok Manarola Photo: © QT Luong/terragalleria.com

**FIGURE 39** 



Appx495



Colosseum Photo by Andreas Tille.

Pantheon Photo by Keith Yahl.





Pompeii Photo: © QT Luong/terragalleria.com



Colosseum Photo by Andreas Tille. Pantheon Photo by Keith Yahl. Pompeii Photo: © QT Luong/terragalleria.com

**FIGURE 42** 



Appx498



APPENDIX D 157a



Colosseum Photo by Andreas Tille. Pantheon Photo by Keith Yahl. Teatro La Fenice Photo by Pavel Krok Manarola Photo: © QT Luong/terragalleria.com

FIGURE 44



Appx500



APPENDIX D 159a



APPENDIX D 160a



APPENDIX D 161a



APPENDIX D 162a



APPENDIX D 163a



APPENDIX D 164a

Country- ITALY		
MODE: Translate Key Phrase / Key Phrase		
1) Key English Word/Phrase:	?	
English Phrase		
How much is it?		
Italian Phrase	~)	
Quanto costa? (pronounced- kwahn-toe coast-	<i>a</i> )	
-> 2) View List of Common Italian Phrases		
OPTIONS (Shift plus ↑↓ Up/Down Keys): <u>1) View List</u>		
	ł	-
PLANNING VACATION EXPERIENCE BUTTONS		
	lavigate C	
PLAN LANGUAGE AUDIO TOUR / Link/Transmit U ITINERARY Translate Phrase ITALY History ITINERARY	se Itine	erary
	FALY M; toggle anvi	
ALTER	n Route D	
1 2 3 4 5 6 7 8 9 0 BkSpace	FIND (In	idex)
	ITER	Р
Shift A S D F G H j k I : '	1	0 T 0
Scale $Z$ $X$ $C$ $V$ $B$ $N$ $M$ , . / $\leftarrow$	-	] []

APPENDIX D 165a

	Country- ITALY			
	VACATION PLANNER & TRAVEL GUIDE			
	MODE: Translate Key Phrase / Common Phrase List			
	ENGLISH       ITALIAN         1) Thank You       Grazie (graht-tzee-yey)         2) You're Welcome       Prego (prey-go)         3) Please       Per Favore (pehr fah-vohr-eh)         4) Yes       Si (see)         5) No       No (noh)         6) Good Morning       Buongiorno (bwohn-djor-noh)         7) Good Evening       Buono Sera (bwohn-ah-say-rah)         8) Good Night       Buono Notte (bwohna-not-tay)         → 9) It's a pleasure to meet vou       Piacere di conoscerla         10) My name is       Mi chiamo (mee kyah-mo)	<u>h</u> )		
→ (Use ↓ Kcy for other Phrases) OPTIONS (Shift plus ↑↓ Up/Down Keys): <u>1) Pronounce the Phrase</u> 2) Pronounce & Interpret the Response 3) Return to Translate Options				
PI ITINI AL	CONS       Country Information       Family Communication       Navigation         AN RARY       LANGUAGE Translate Phrase       AUDIO TOUR / ITALY History       Link/Transmit ITINERARY       Use It         ER RARY       Italy PHONE DIRECTORY       Transportation Routes/Schedule       GPS LOCATE Family Member       En Routes/Schedule         2       3       4       5       6       7       8       9       0       BkSpace       FIND         Q       W       E       R       T       Y       U       1       0       P       ENTER         A       S       D       F       G       H       j       k       1       ;       ;	te Country inerary (MAPS anxtmet te Detour (Index) ↑ ↑ ↓ ↓ ↓ ↓		

APPENDIX D 166a

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APPENDIX D 167a

Appx509



APPENDIX D 168a







APPENDIX D 171a







APPENDIX D 174a





Trevi Fountain Photo- Patrick Landy (http://en.wikipedia.org/wiki/User:FSU\_Guy)

### **FIGURE 62**



Appx518



APPENDIX D 177a



APPENDIX D 178a



APPENDIX D 179a

Appx521



APPENDIX D 180a



APPENDIX D 181a



APPENDIX D 182a



APPENDIX D 183a



APPENDIX D 184a





#### ABSTRACT

A portable device for planning a vacation/business travel itinerary, which begins with customizable itinerary templates that utilize a stored database of destination information, including a country's regions/cities, tourist sites, and other sites of interest located therein, and a corresponding photographic library. One such template returns itineraries based upon: duration, arrival/departure cities, total number of cities to be visited, and intensity of touring. The software assists users during travel by providing cucing of itinerary segments, along with directions, and on-demand pre-recorded audio tours to enhance site tour experiences. En route detours from planned sites are supported for spontaneous additions/substitutions. Country-specific information includes city/regional maps, public transportation information, key word/phrase language translation capability, and yellow/white page phone listings. Password protected device-to-device linking permits family members to track each other by GPS location of the other's device. Internet capability permits inclusion, within itineraries, of reservation-specific information for air-travel, hotels, and events.

APPENDIX D 187a