



FUJITSU ROUTE GUIDANCE PORTFOLIO

Patents for Sale

November 19, 2014

Offer #14-FUJ001-000077

DRAFT

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EXECUTIVE SUMMARY

The use of GPS on cell phones over the last decade has matured to the point that all Apple iPhones and smart phones running the Google Android platform utilize an integrated GPS chip and are now native to the operating systems (iOS and Android). These mobile operating systems are taking full advantage of the available GPS data and now provide mapping programs that can provide the user with turn-by-turn navigation for both driving as well as walking. By providing a starting point and a destination point, the phone is then capable of providing the user with route guidance, plotting a line along the suggested route while showing all landmark data including parks, restaurants or points of interest along the way. In 2012 with the release of iOS 6, Apple separated from Google maps and has partnered with TomTom¹ to create Apple maps. Apple maps now ships with every iPhone and iPad (Integrating, 2013)².



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"Google has offered free turn-by-turn maps and navigation as part of Android since October 2009. Nokia has offered similar on Windows Phone for a few months"¹.

This portfolio contains 11 patents owned by Fujitsu Mobile Communications Limited that have early priority dates ranging from 2001 to 2010, the patents are key in the use of GPS information specifically as it pertains to route guidance.

Early priority dates, a reputable Seller, and current technology use should make this offer attractive to any party involved in providing route guidance information. In this report are four Evidence Of Use (EoU) claim charts provided on patents [US 6,542,811](#) and [US 6,662,089](#) which are shown to directly apply to route navigation.

You are encouraged to indicate interest as soon as possible so that we can keep you advised of changes to the intended closing date or any other updates. Thank you for your interest and we look forward to hearing from you soon.

¹ Lanxon, N. (2012, December 12). TomTom and Apple partner for maps on iPhone, iPad in iOS 6 (Wired UK). Retrieved November 19, 2014.

² Integrating Maps into iOS 7 Applications using MKMapItem. (2013, October 10). Retrieved November 19, 2014

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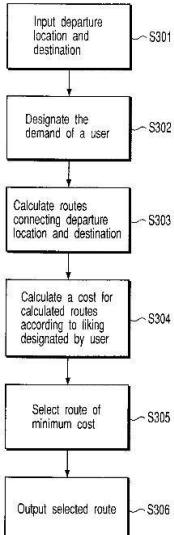
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1. PORTFOLIO OVERVIEW

Patent Number	Country	Status	Appl. No	Title	Publication Date	File Date
US 6,542,811	US	Issued	10/013657	Walker navigation system, walker navigation method, guidance data collection apparatus and guidance data collection method	4/1/2003	12/13/2001
US 6,594,581	US	Issued	10/083367	Route guidance apparatus and method	7/15/2003	2/27/2002
US 6,622,089	US	Issued	10/083538	Route guidance apparatus and method	9/16/2003	2/27/2002
US 6,718,262	US	Issued	10/379689	Route guidance apparatus and method	4/6/2004	3/6/2003
US 6,820,005	US	Issued	10/704692	Route guidance apparatus and method	11/16/2004	11/12/2003
US 6,917,879	US	Issued	10/924968	Route guidance apparatus and method	7/12/2005	8/25/2004
US 6,920,393	US	Issued	10/615919	Route guidance apparatus and method	7/19/2005	7/10/2003
US 7,580,717	US	Issued	10/704692	Method and apparatus for applications including position determination	8/25/2009	1/25/2006
US 7,620,406	US	Issued	10/704692	Mobile radio terminal apparatus	11/17/2009	8/2/2006
US 8,320,941	US	Issued	10/704692	Mobile terminal and method for displaying data added location information	11/27/2012	3/12/2010
US 8,571,515	US	Issued	10/704692	Mobile terminal	10/29/2013	3/5/2009

2. PORTFOLIO DETAIL

2.1. US 6,542,811

Title	Walker navigation system, walker navigation method, guidance data collection apparatus and guidance data collection method			
	Priority Date	12/15/2000	Filed Date	12/13/2001
	Publication Date	4/1/2003	Expiration Date	12/13/2021
	Inventors	Doi, Miwako		
	Current Assignee	Fujitsu Mobile Communications Limited	Location	US
	PTO Length	1.3 years	Claims	20
	Backward Citations		Forward Citations	
	Family Members	3	Litigation	no
	Abstract	A walker navigation apparatus including an input designation device to input a departure location and destination; a road data storage unit to store road data; a supplemental data storage unit to store supplemental data representing at least one of stairs an elevator an escalator a step and a road width corresponding to the road data; a route generator to generate an optimum route by calculating a cost of a route from the departure location to the destination based on the road data and the supplement data; and an output device to visually output the optimum route.		

2.1.1. Claims Analysis

Independent Claims:	8
Dependent Claims:	12
Total Claims:	20
Shortest Independent Claim:	#19 (46 words)
Longest Independent Claim:	#7 (169 words)

2.1.2. Classification Analysis

IP Classifications: 5
G09B 29/00: Maps
G01C 21/00: Navigation
G01C 21/20: Instruments for performing navigational calculations
G08G 1/005: including pedestrian guidance indicator
G09B 29/10: Map spot or co-ordinate position indicators, Map-reading aids

US Classifications: 1

: Including route searching or determining

2.1.3. Citation Analysis

Backward Citations: 3 (HERE Global B.V.: 2, Unassigned: 1)

Forward Citations: 28 (Nokia Corporation: 3, HERE Global B.V.: 3, Microsoft Corporation: 3, QUALCOMM, Inc.: 1)

2.1.4. US 6,542,811 Claim 1 vs. Google Maps on a Google Nexus

US 6,542,811 Claim 1 Limitations	Evidence of Use - Google Maps on a Google Nexus 7
1. A walker navigation apparatus for a walker, comprising:	<p>Software in the Google Maps application running on a navigation apparatus is capable of providing walker navigation. A navigation apparatus can include desktop and laptop computers, smart phones or tablet computers enabled with the Google Maps application. As demonstrated in Figure 2, Google Maps is running on a Google Nexus 7.</p>  <p>The new 7" tablet from Google Powerful, portable and made for what matters to you. Now thinner, lighter, and faster - Nexus 7 brings you the perfect mix of power and portability and features the world's sharpest 7" tablet screen - putting over 2.3 million pixels in the palm of your hand.</p>

³ <http://www.google.com/nexus/7/>

US 6,542,811 Claim 1 Limitations

Evidence of Use - Google Maps on a Google Nexus 7

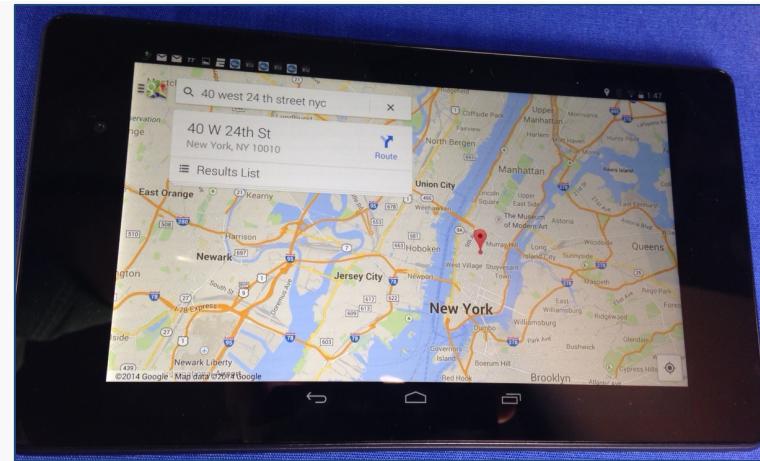


Figure 2. View of Google Maps running on a Google Nexus 7

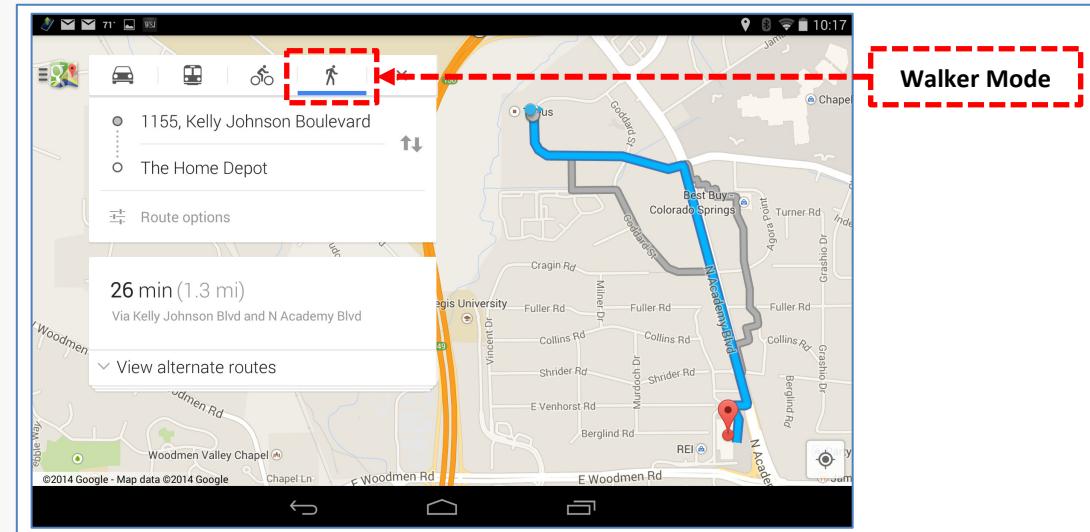
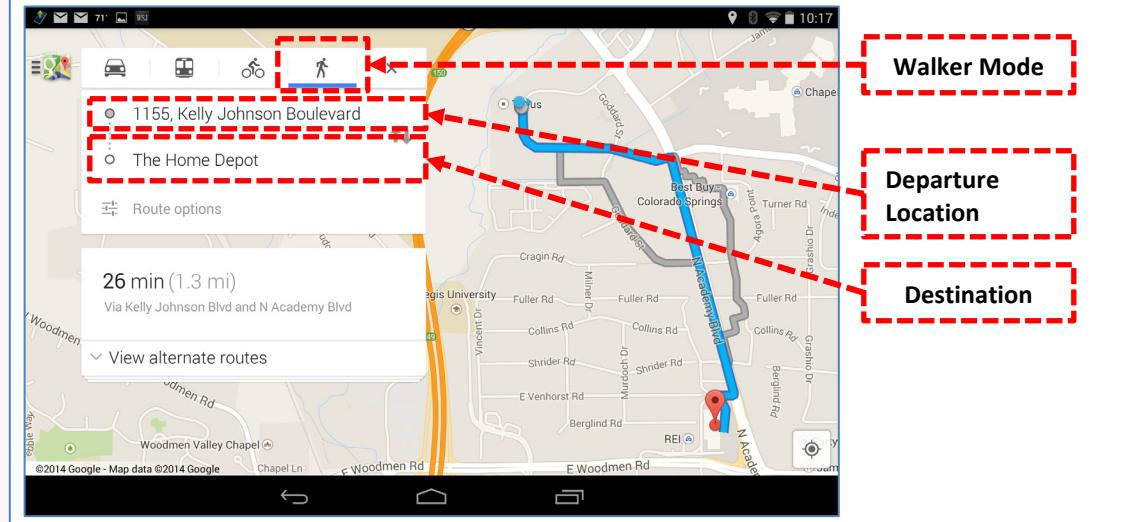
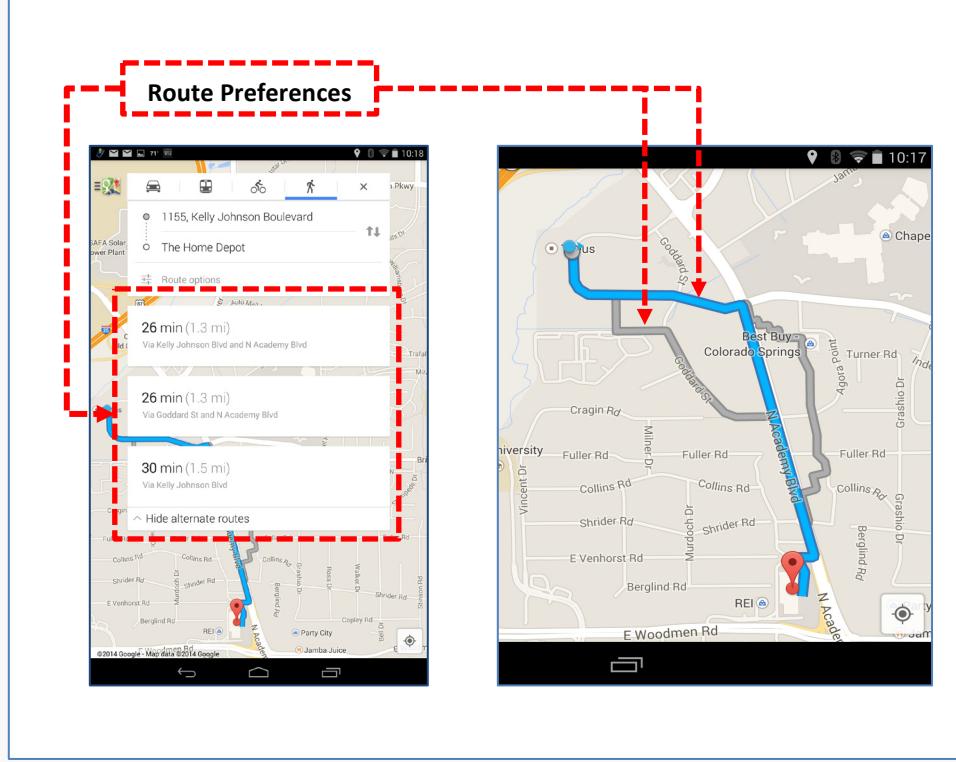


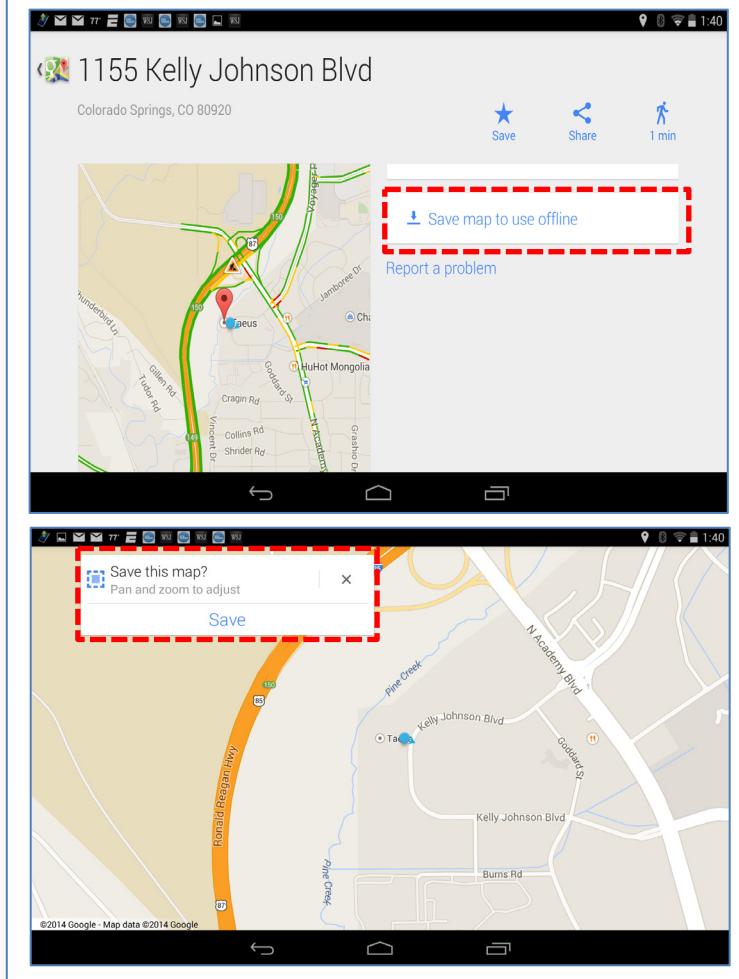
Figure 3. View of the Google Maps different navigation options (vehicle, transit, walking or bicycling) on a Google Nexus 7

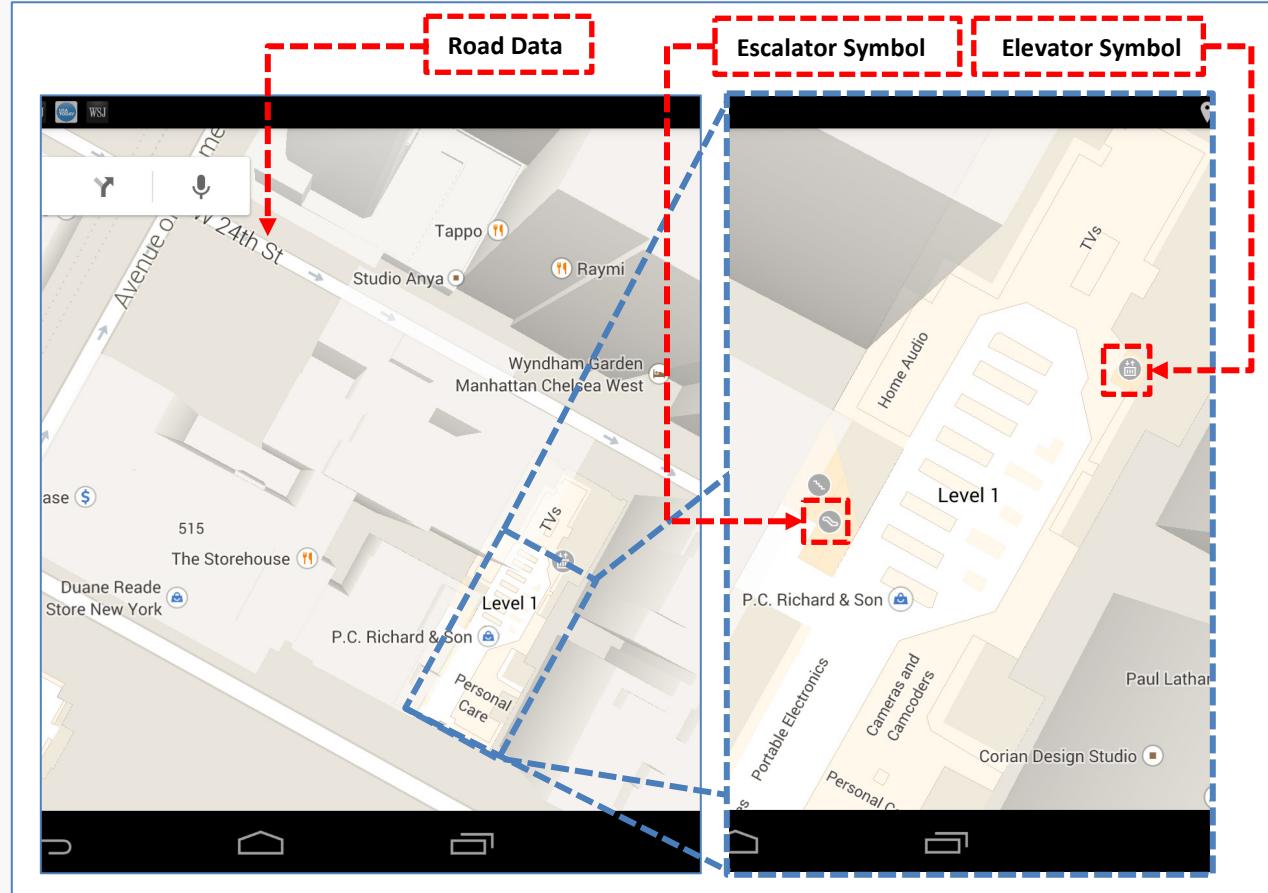
US 6,542,811 Claim 1 Limitations	Evidence of Use - Google Maps on a Google Nexus 7
<p>an input device configured to input a departure location, a destination, and route preferences of the walker;</p>	<p>Google Maps software running on a Google Nexus7 is an input device that allows the user to input a departure location and a destination and select the route preferences of the walker (one of several possible routes).</p> <p>When in pedestrian mode, selecting the Terrain feature allows Google Maps to factor in elevation (lost/gained) as well as distance to select the suggested route.</p>  <p>Figure 4. View of Goggle Maps showing the departure location and destination location in Walker Mode</p>

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US 6,542,811 Claim 1 Limitations	Evidence of Use - Google Maps on a Google Nexus 7
	 <p data-bbox="946 1024 1691 1052">Figure 5. View of Google Maps showing route preferences for the walker</p> <p data-bbox="671 1106 1945 1241">Google Maps added walking directions. "Starting today, you can tell Google Maps that you want walking directions, and we'll try to find you a route that's direct, flat, and uses pedestrian pathways when we know about them. Just get directions as you normally would. If you're going 10 km or less (some call this 6.2 miles), we'll show you a link that you can click to get Walking directions,"⁴</p>

⁴ <http://news.softpedia.com/news/Pedestrian-GPS-from-Google-90629.shtml>

US 6,542,811 Claim 1 Limitations	Evidence of Use - Google Maps on a Google Nexus 7
road data storage configured to store road data;	<p>As demonstrated in Figure 6, Google Maps software provides for a storage location for road data.</p>  <p>Figure 6. Google Maps has the ability to store or save road data</p>

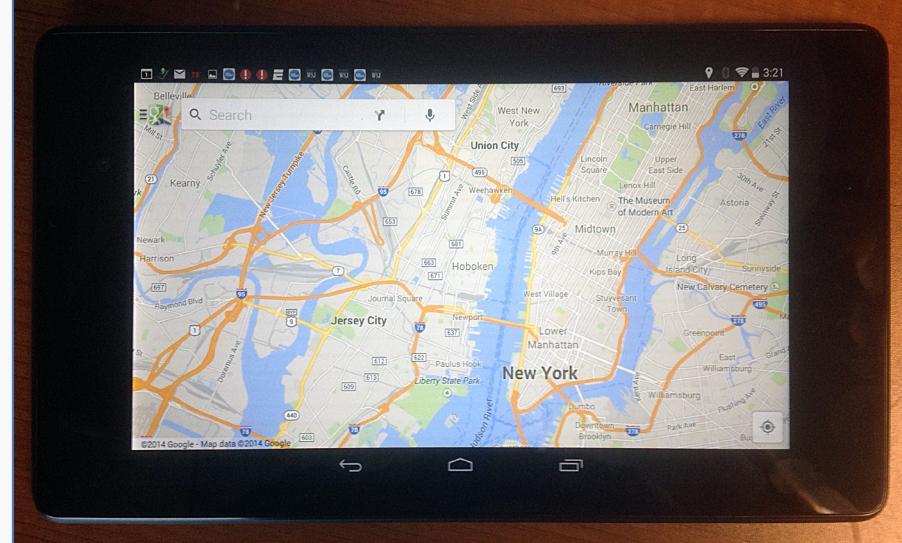
US 6,542,811 Claim 1 Limitations	Evidence of Use - Google Maps on a Google Nexus 7
<p>supplemental data storage configured to store supplemental data representing at least one of stairs, an elevator, an escalator, a step, and road width in correspondence with the road data of the road data storage unit;</p>	<p>Software in Google Maps stores supplemental data that represents pedestrian walkways, bridges, stairs, elevators, escalators and road widths that correspond with the road data in the data storage unit.</p>  <p>Figure 7. Google Maps has the ability to show supplemental data (example: elevator and escalator locations) in correspondence with the road data</p>

US 6,542,811 Claim 1 Limitations	Evidence of Use - Google Maps on a Google Nexus 7
<p>a route generator associated with the input device, the road data storage, and the supplemental data storage, and configured to generate an optimum route by calculating a cost of a route for the walker according to the route preferences of the walker and based on the road data and the supplemental data; and</p> <p>“Google Maps launched today an alternative set of directions for short distance searches: walking directions. One way streets and preference for thoroughfares causes Google’s driving directions to often be overkill for pedestrians. In the text results, click “Walking” and the map updates with a new route.”⁵</p> <p>“We’ll try to find you a route that’s direct, flat, and uses pedestrian pathways when we know about them.”⁵</p> <p>Google unveiled a new feature to its Maps site yesterday, Wired reports: walking directions. Users can now plot true step-by-step directions, taking into account one-way streets and a growing database of pedestrian pathways. The walking option will appear for distances less than 6.2 miles.⁶</p> <p>We’re working on collecting new data on pedestrian pathways and on more effective ways to solicit your feedback, so that we can steadily improve this feature and get you where you need to be as efficiently as possible.⁷</p>	<p>Software in Google Maps uses a route generator that is associated with the input device, the map data and the supplemental data storage. Google Maps calculates an optimal walker’s route that considers both distance and elevation lost/gained along the route and attempts to minimize the effort cost to the user. Software in Google Maps will also take into account the use of One Way roads for a walking route verses a driving route as demonstrated in Figure 8, thus calculating a cost and shortening the route.</p>  <p>Driving directions Walking directions</p> <p>Figure 8. View of Google Maps showing a different route for “Driving directions” vs. “Walking directions”⁵</p>

⁵ http://www.wired.com/2008/07/google_maps_gets_more_pedestrian/

⁶ <http://www.newser.com/story/33185/googles-walking-map-gives-true-step-by-step-directions.html>

⁷ <http://startupmeme.com/google-maps-walking-directions-official-now/>

US 6,542,811 Claim 1 Limitations	Evidence of Use - Google Maps on a Google Nexus 7
<p>an output device configured to visually output the optimum route.</p>	<p>Google Maps software has an output that can be displayed on smart phones, tablets, laptop and desktop computers, etc. The Google Nexus 7 is such a device.</p>  <p>Figure 9. Google Maps running on a Google Nexus 7</p>

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2.1.5. US 6,542,811 Claim 21 Limitations vs. Nokia HERE

US 6,622,089 Claim 21 Limitations

21. A pedestrian route guidance method, comprising:

Nokia HERE Maps provide a method to supply the user with pedestrian route guidance.

Nokia has just pulled the dust sheet off a landmark development that sees the introduction of free global walk and drive satellite navigation for Nokia smartphones.⁸

No matter how you choose to travel, HERE Maps shows you the smartest way across town with fast, offline maps in 95 countries. True offline maps let you find your way even in areas with no signal. And thanks to LiveSight, HERE Maps now brings the power of "sight" to your map so you can see where to go by following virtual signs on your screen.⁹

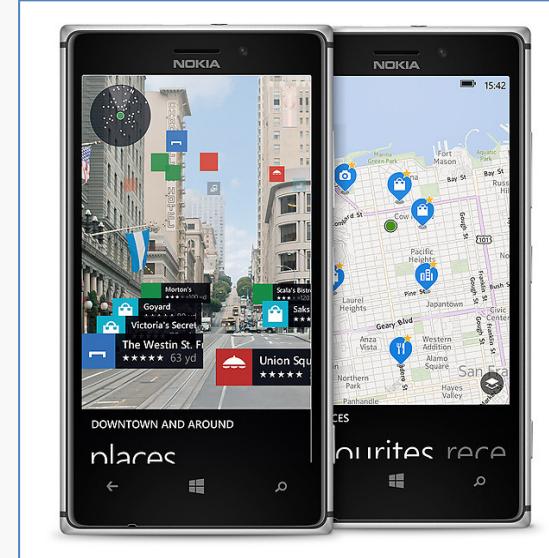


Figure 10. A Nokia phone displaying Nokia HERE maps

⁸ <http://conversations.nokia.com/2010/01/21/free-global-navigation-for-nokia-smartphones/>

⁹ <http://www.nokia.com/global/apps/app/here-maps/>

US 6,622,089 Claim 21 Limitations	Evidence of Use - Nokia HERE
<p>storing map data including road network data and landmark data in a database;</p>	<p>Nokia HERE Maps store map data that includes road network data and landmark data in a database and also allows the user to download a portion of the map database to their portable device.</p> <p>Basically, Nokia HERE Maps comes with the exact same features as on the other platforms out there, including options to download maps to your device and access them without an Internet connection, access street-level panoramas, get walking, driving and public transit directions, save your favorite places and pin collections to the Start screen.</p> <p>"HERE Maps is a complete mapping app designed to work with or without a Wi-Fi or data connection. With HERE Maps you can download and take your maps with you on your tablet. Get walking, driving and public transit directions to the places you want to go, all completely offline,"¹⁰</p> <p>You can also display additional elements on your map, such as landmarks and pedestrian features.</p> <p>Landmarks. Set the <u>LandmarksEnabled</u> property to true to display landmarks on a <u>Map</u> control. Landmarks are visible on the map only when the <u>ZoomLevel</u> property is set to a value of 16 or higher.</p> <p>Pedestrian features. Set <u>PedestrianFeaturesEnabled</u> to true on a <u>Map</u> control to display pedestrian features such as public stairs. Pedestrian features are visible on the map only when the <u>ZoomLevel</u> property is set to a value of 16 or higher.</p> <p>The following illustration displays a map with landmarks and pedestrian features.¹¹</p>

¹⁰ <http://news.softpedia.com/news/Nokia-HERE-Maps-for-Windows-8-1-Now-Available-for-Download-429141.shtml>

¹¹ <http://conversations.nokia.com/2010/01/21/free-global-navigation-for-nokia-smartphones/>

US 6,622,089 Claim 21 Limitations

searching for a route from a departure point to a destination point from the road network data stored in the database;

Evidence of Use - Nokia HERE

Nokia HERE Maps searches for a route from a departure point to a destination point from the road network data stored in the database and provides spoken directions to guide the user between the departure point and destination using the map database.

HERE Maps got a major update for Windows 8.1 yesterday with manual positioning, city pages and more. Today, they are being updated for Nokia X devices. **HERE Maps on Nokia X now allows global navigation with voice directions.**¹²

With HERE Maps for Nokia X, you can get directions and turn-by-turn navigation for walking. If you're getting around by train, you can get transit routes and check departure times at nearby stops.



Figure 11. Nokia HERE Finding a Route¹³

¹² <http://www.fonearena.com/blog/110773/here-maps-for-nokia-x-updated-with-global-navigation-and-voice-directions.html>

¹³ <http://360.here.com/2014/02/24/navigation-for-more-people-here-maps-for-nokia-x/>

US 6,622,089 Claim 21 Limitations

analyzing a route pattern of the route by referring to the road network data;

Evidence of Use - Nokia HERE

Nokia HERE Maps analyzes a route pattern of the route by referring to the road network data and provides routing and guidance. The route is determined by analyzing the road network and landmarks between the starting and ending points based on the map database stored in the handheld device.

Our maps come in handy every day when you're underground, traveling or just lost or low on signal: just download complete countries right to your phone over Wi-Fi. When you don't have data connection, you can still search for places with type-ahead suggestions, access your favorites and calculate your route. With HERE Maps for Nokia X, you can get directions and turn-by-turn navigation for walking. If you're getting around by train, you can get transit routes and check departure times at nearby stops. If you have a car, you can get driving directions in 96 countries and voice-guided turn-by- turn navigation in one country of your choice. HERE Maps for Nokia X alerts you if you're speeding up, shows you traffic conditions and allows you to personalize your route to avoid toll roads, motorways and others. The display will also automatically adjust the color scheme and brightness for better viewing conditions day or night, reducing distractions so you can keep your eyes on the world ahead of you.

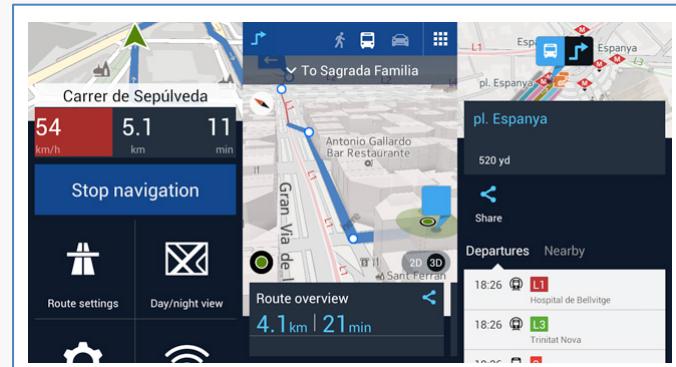


Figure 12. Nokia HERE Analyzing a Route¹⁴

¹⁴ <http://360.here.com/2014/02/24/navigation-for-more-people-here-maps-for-nokia-x/>

US 6,622,089 Claim 21 Limitations	Evidence of Use - Nokia HERE
determining a landmark selection area for route guidance along the route based on the road network data and the road pattern data;	Nokia HERE Maps determines a landmark selection area for route guidance along the route based on the road network data and the road pattern data, and allows the user to navigate using landmarks. The screen shot shown in Figure 4 below, shows the landmark Red Rocks Amphitheatre outside of Denver CO.

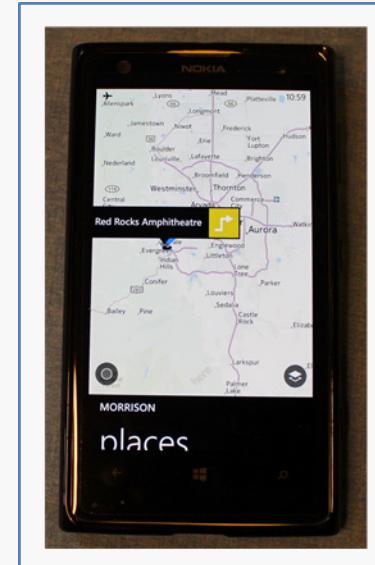


Figure 13. Nokia HERE Determining a Landmark Selection

The screen shots in Figure 5 below show Nokia Maps calculating a detailed set of driving/navigation instructions to The Red Rocks Amphitheatre from Elizabeth, CO.

US 6,622,089 Claim 21 Limitations

Evidence of Use - Nokia HERE



Figure 14. Nokia HERE Route Guidance Directions

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US 6,622,089 Claim 21 Limitations	Evidence of Use - Nokia HERE
<p>selecting landmark data included in the landmark selection area from the database;</p>	<p>Nokia HERE Maps stores maps and landmark information and provides for selecting landmark data included in the landmark selection area from the database—see Figure 4. Navigation and guidance (including verbal guidance) can be autonomous and available even without a network or cellular connection when the maps and landmark data are downloaded.</p> <p>One of the key benefits is that location-based apps specifically built for Windows Phone 8 will be able to use offline maps, for a snappier mobile maps experience. In fact, not only can maps be downloaded, but they can also be used by other apps specifically designed for the new OS.¹⁵</p> <p>Further information regarding landmarks and other “real-time” information is processed using a combination of local and network resources.</p> <p>As it turns out, that 1.8GB of information includes more than just roadways. It also includes restaurants, town names, fuel stations and oodles of other points of interest. That means that even without a nearby signal, you'll be able to search for plenty of destinations.¹⁶</p> <p>In offline mode, I was downright shocked at just how fast everything operated. Even under deep forest cover in the California redwoods, the offline navigator managed to get a GPS lock within a few seconds. In fact, over the 1,900-mile trek, it only lost signal on two occasions: a 20-mile stretch of the Central Oregon Highway and just as I was driving onto the Golden Gate Bridge in San Francisco. In the latter example, it reacquired a fix by the time I hit the toll booth on the other side. Mind you, I forced the phone to use Drive in offline mode for every single mile outside of the times where I had to temporarily connect to AT&T to search for a specific address.¹⁷</p>

¹⁵ <http://360.here.com/2012/09/06/nokia-maps-for-windows-phone-8-goes-offline/>

¹⁶ <http://www.engadget.com/2012/08/01/nokia-drive-offline-navigation-review-taking-the-lumia-900-for/>

¹⁷ <http://www.engadget.com/2012/08/01/nokia-drive-offline-navigation-review-taking-the-lumia-900-for/>

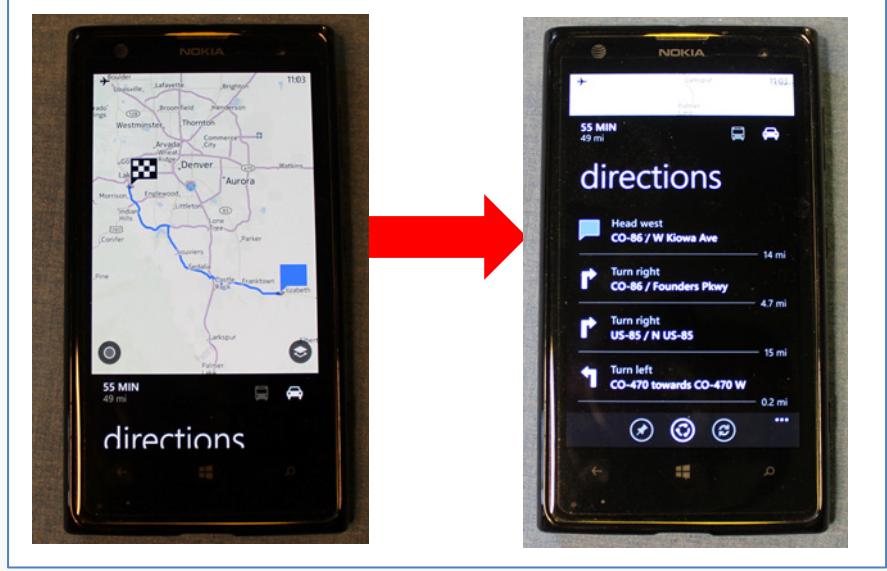
US 6,622,089 Claim 21 Limitations	Evidence of Use - Nokia HERE
<p>generating route guidance information of the route using the road pattern data and the selected landmark data; and</p>	<p>Route guidance information is generated that uses the road network and landmark data/points of interest (POI). This information allows the user to visually verify the route as he/she follows the verbal instructions and map details.</p> <p>As it turns out, that 1.8GB of information includes more than just roadways. It also includes restaurants, town names, fuel stations and oodles of other points of interest. That means that even without a nearby signal, you'll be able to search for plenty of destinations.¹⁸</p> <p>... offering offline maps is not only about giving the option to cache some data offline for later use, it's a complete experience: it's about points of interest (POIs) available offline to enable offline search, it's about navigation voices (over 70 of them, btw) available on-device and offline rerouting.¹⁹</p> 

Figure 15. Nokia HERE Generating Route Guidance Directions

¹⁸ <http://www.engadget.com/2012/08/01/nokia-drive-offline-navigation-review-taking-the-lumia-900-for/>

¹⁹ <http://360.here.com/2013/02/19/comparing-offline-capabilities-of-nokia-maps-and-google-maps/>

US 6,622,089 Claim 21 Limitations

presenting the route guidance information.

Evidence of Use - Nokia HERE

Nokia HERE Maps presents the user with verbal and visual route guidance.

... offering offline maps is not only about giving the option to cache some data offline for later use, it's a complete experience: it's about points of interest (POIs) available offline to enable offline search, it's about navigation voices (over 70 of them, btw) available on-device and offline rerouting.²⁰

HERE Maps works offline, which means that you don't need an Internet connection to find your way around a new, sometimes international, environment where data charges could stop you from exploring or navigating safely and accurately.

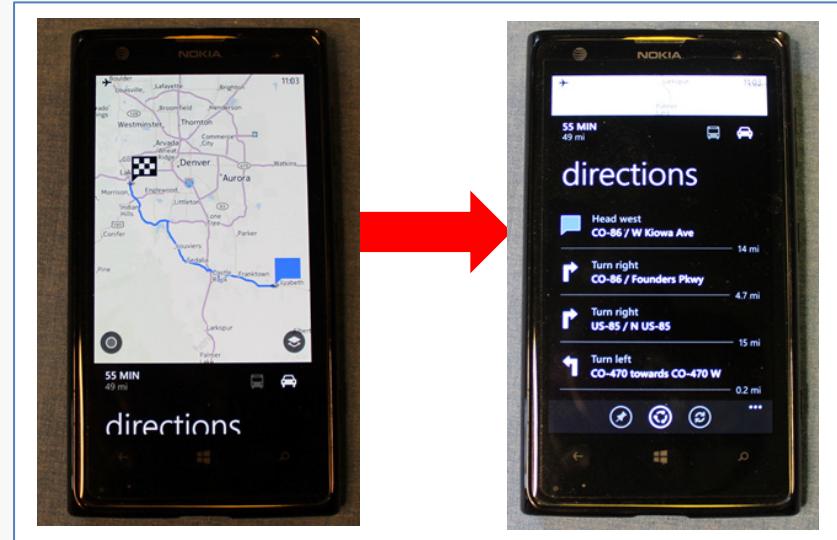


Figure 16. Nokia HERE Presenting Route Guidance Directions

Offline maps also mean that should you venture into a subway, where you might not get reception, you'll still be able to look at a map, search for places and plan routes – something only possible with HERE Maps. Storing maps on your phone also means that you'll be able to view the map much faster than if you were waiting for it to download each time you needed it.²¹

²⁰ <http://360.here.com/2013/02/19/comparing-offline-capabilities-of-nokia-maps-and-google-maps/>

²¹ <http://360.here.com/2013/07/24/here-maps-for-windows-phone-8-walk-through/>

2.2. US 6,594,581

Title	Route guidance apparatus and method			
	Priority Date	2/28/2001	Filed Date	2/27/2002
	Publication Date	7/15/2003	Expiration Date	2/27/2022
	Inventors	Kubota, Hiroaki; Hasegawa, Tamotsu; Matsuda, Mieko		
	Current Assignee	Fujitsu Mobile Communications Limited	Location	US
	PTO Length	1.38 years	Claims	20
	Backward Citations		Forward Citations	
	Family Members	10	Litigation	no
	Abstract	A database stores map data including road network data and landmark data. A route search unit searches for a route from a departure point to a destination point from the road network data stored in said database. A road pattern analysis unit analyzes a road pattern of the route by referring to the road network data and obtains road pattern data as the analysis result. A route guidance information generation unit generates route guidance information of the route using the road pattern data and the landmark data along the route. A presentation unit presents the route guidance information.		

2.2.1. Claims Analysis

Independent Claims:	3
Dependent Claims:	17
Total Claims:	20
Shortest Independent Claim:	#19 (198 words)
Longest Independent Claim:	#20 (267 words)

2.2.2. Classification Analysis

IP Classifications:	6
G09B 29/00:	Maps
G01C 21/00:	Navigation
G01C 21/34:	Route searching, Route guidance
G06F 17/30:	Information retrieval, Database structures therefor
G06T 11/60:	Editing figures and text, Combining figures or text
G08G 1/005:	including pedestrian guidance indicator

US Classifications:

1 : Including route searching or determining

2.2.3. Citation Analysis

Backward Citations: 4 (Aisin Seiki Co., Ltd.: 2, Panasonic Corporation: 1, Toshiba Corporation: 1)

Forward Citations: 26 (HERE Global B.V.: 6, Porsche Automobil Holding SE: 2, Fujitsu Limited: 1, Nokia Corporation: 1)

2.3. US 6,622,089

Title	Route guidance apparatus and method		
	Priority Date 2/28/2001 Publication Date 9/16/2003 Inventors Kubota, Hiroaki; Matsuda, Mieko; Hasegawa, Tamotsu Current Assignee Fujitsu Mobile Communications Limited Location US PTO Length 1.55 years Backward Citations Family Members 7 Abstract	Filed Date 2/27/2002 Expiration Date 2/27/2022 Claims 22 Forward Citations Litigation no	
			A database stores map data including road network data and landmark data. A route search unit searches for a route from a departure point to a destination point from the road network data stored in the database. A road pattern analysis unit analyzes a route pattern of the route by referring to the road network data and obtains road pattern data as the analysis result. A landmark selection area decision unit determines a landmark selection area for route guidance along the route based on the road network data and the road pattern data. A landmark selection unit selects landmark data included in the landmark selection area from said database. A route guidance information generation unit generates route guidance information of the route using the road pattern data and the landmark data selected by the landmark selection unit. A presentation unit presents the route guidance information.

2.3.1. Claims Analysis

Independent Claims:	3
Dependent Claims:	19
Total Claims:	22
Shortest Independent Claim:	#21 (127 words)
Longest Independent Claim:	#22 (191 words)

2.3.2. Classification Analysis

IP Classifications:	6
G09B 29/00:	Maps
G01C 21/00:	Navigation
G01C 21/34:	Route searching, Route guidance
G06F 17/30:	Information retrieval, Database structures therefor
G06T 11/60:	Editing figures and text, Combining figures or text
G08G 1/005:	including pedestrian guidance indicator

US Classifications:

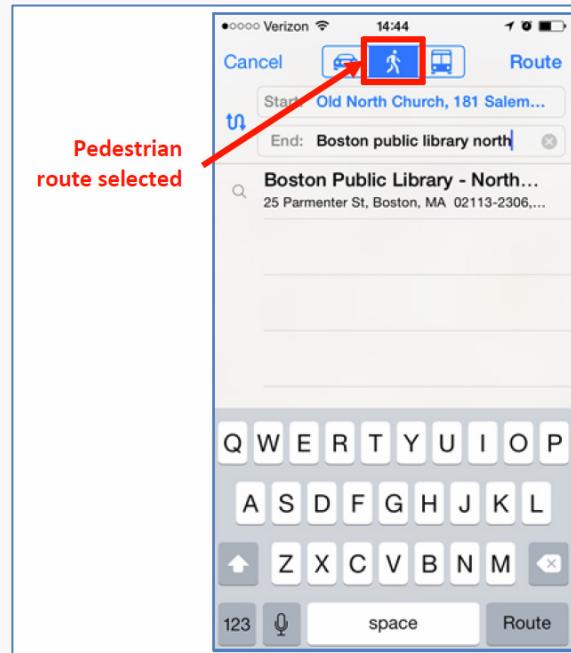
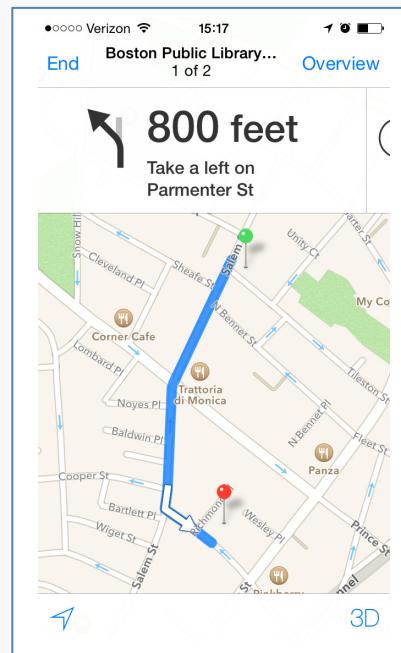
: Including route searching or determining

2.3.3. Citation Analysis

Backward Citations: 8 (NEC Corporation: 1, Japan As Represented By Secretary Of Agency Of Industrial Scien: 1, Panasonic Corporation: 1, Toshiba Corporation: 1, Toyota Motor Corporation: 1, Brander, Marcel G.: 1, Fuji Electric Holdings Co., Ltd.: 1)

Forward Citations: 33 (HERE Global B.V.: 5, Microsoft Corporation: 4, Nokia Corporation: 1)

2.3.4. US 6,662,089 Claim 1 vs. Apple Maps on an iPhone

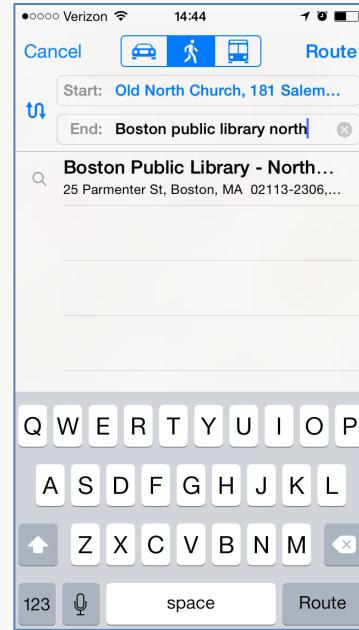
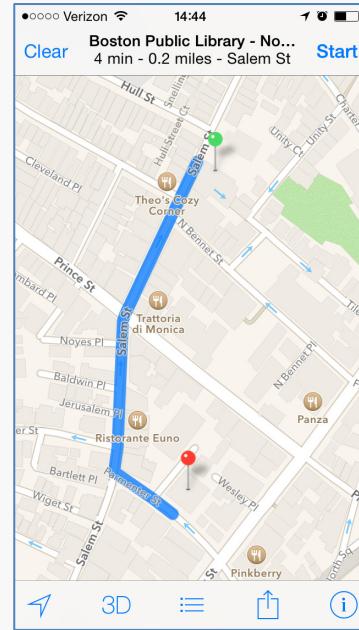
US 6,622,089 Claim 1 Limitations	Evidence of Use - Apple Maps presented on an iPhone
1. A pedestrian route guidance apparatus, comprising:	<p>The Apple Maps is a pedestrian capable route guidance system that is displayed on an Apple iPhone (guidance apparatus).</p>  <p>Figure 17. A pedestrian route guidance apparatus (iPhone)</p>  <p>Figure 18. A view of the screen showing a pedestrian route guidance apparatus (iPhone)</p>

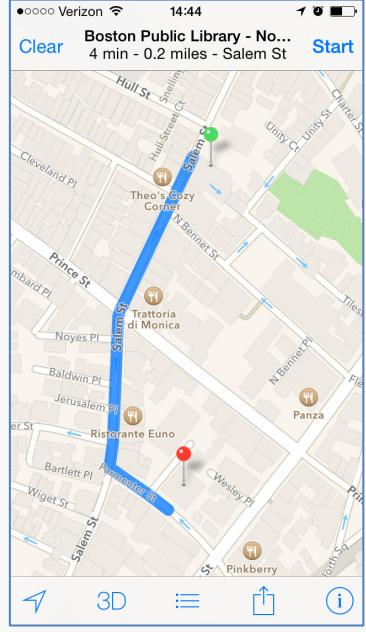
US 6,622,089 Claim 1 Limitations	Evidence of Use - Apple Maps presented on an iPhone
<p>a database configured to store map data including road network data and landmark data;</p> <p>Apple Maps POIs appear to be updated every day at 3 a.m. Eastern time, suggesting that the company is now updating its mapping database on a daily basis with user corrections submitted through the native Maps applications for iOS and OS X²³</p> <p>The updates have been quite significant for the areas involved. For instance, the update in Japan brought toll road notifications and improved pronunciation of roads during turn-by-turn navigation; updated icons and labels for freeways, transit stations, subway lines and other categories like fire stations, hospitals and post offices; and added 3D buildings including Tokyo Station, Japan Imperial Palace, and Tokyo Tower.²⁴</p>	<p>Apple maps uses a database to store the map data including road network data and landmark data -- this is evident in Figure 19. This data is stored in a database that is updated daily. The source of the data is from several companies both private and US government²².</p> <p>Road network data</p> <p>Landmark data</p> <p>Figure 19. Map Data</p>

²² <http://screenwerk.com/2014/05/23/apple-maps-expanding-data-sources/>

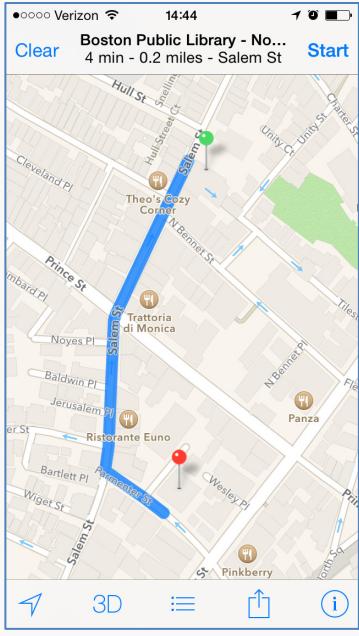
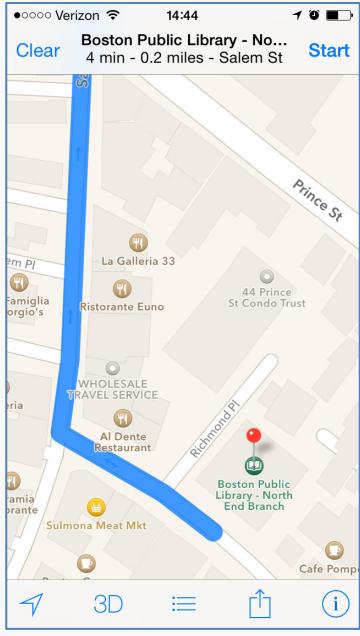
²³ <http://www.iphoneincanada.ca/news/apple-updates-maps-daily-with-user-corrections/>

²⁴ <http://www.loopinsight.com/2013/03/12/apples-maps-being-updated-often-and-significantly/>

US 6,622,089 Claim 1 Limitations	Evidence of Use - Apple Maps presented on an iPhone
<p>a route search unit configured to search for a route from a departure point to a destination point from the road network data stored in said database;</p>	<p>Apple Maps allows the user to select a departure (Start) point and a destination (End) point. Apple Maps then calculates the route(s) and provides spoken directions to guide the user between the departure point and destination -- this is evident in Figure 20 and Figure 21. As the user types in the start and end points, a list of possible destinations populates from the road network database.</p>  <p>Figure 20. Departure and destination point input screen</p>  <p>Figure 21. Route from a departure point to a destination point</p>

US 6,622,089 Claim 1 Limitations	Evidence of Use - Apple Maps presented on an iPhone
<p>a road pattern analysis unit configured to analyze a route pattern of the route by referring to the road network data, and to obtain road pattern data as the analysis result;</p>	<p>Apple Maps provides routing and guidance. The route is determined by analyzing the road network and landmarks between the starting and ending points and is displayed as a solid line from the departure point to the destination point.</p> <p>When you're driving or walking, Maps helps you find your way to your destination with turn-by-turn spoken directions. As you approach a turn, Maps speaks directions, so you can keep your eyes on the road. And the screen turns into a 3D perspective of the road ahead. When you enter into a turn, the viewing angle changes dynamically to show you where to go. If you miss a turn, don't worry. Maps automatically reroutes you and updates your ETA. And all along the way, large signs and arrows guide you in the right direction and let you know how long it's going to take to get there — even if your screen is locked.²⁵</p> 

²⁵ <http://www.apple.com/ios/maps/>

US 6,622,089 Claim 1 Limitations	Evidence of Use - Apple Maps presented on an iPhone
<p>a landmark selection area decision unit configured to determine a landmark selection area for route guidance along the route based on the road network data and the road pattern data;</p>	<p>Software in the Apple Maps application allows the user to change the scale or configuration of the map creating the landmark selection area. Different landmarks appear as icons based on the scale of the landmark selection area. Route guidance is also provided based on the road network data and road pattern data -- this is evident in Figure 23 and Figure 24.</p>  <p>Figure 23. Route data showing limited landmarks</p>  <p>Figure 24. Route data showing more landmarks based on map scale.</p>

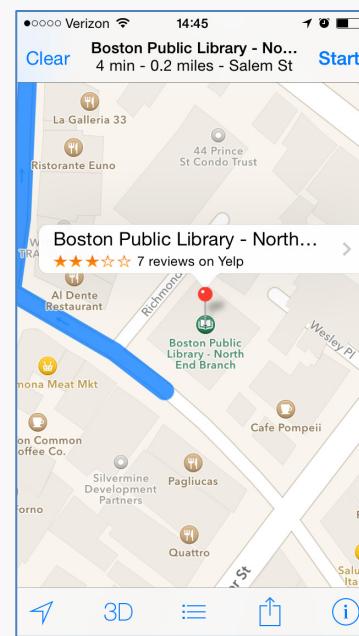
US 6,622,089 Claim 1 Limitations	Evidence of Use - Apple Maps presented on an iPhone
<p>a landmark selection unit configured to select landmark data included in the landmark selection area from said database;</p>	<p>Software in the Apple Maps application selects landmark information or points of interest (POIs) which are stored in a database. Landmarks are identified and labeled on the map as icons. The displayed landmarks when clicked can provide the user with pertinent information and can include flyover views. This data is stored in a database that is updated daily.</p> <p>Apple Maps POIs appear to be updated every day at 3 a.m. Eastern time, suggesting that the company is now updating its mapping database on a daily basis with user corrections submitted through the native Maps applications for iOS and OS X²⁶</p> 

Figure 25. Landmark selection area showing information provided from a database

²⁶ <http://www.iphoneincanada.ca/news/apple-updates-maps-daily-with-user-corrections/>

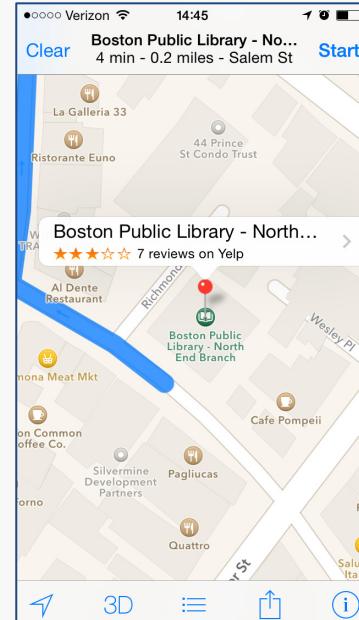
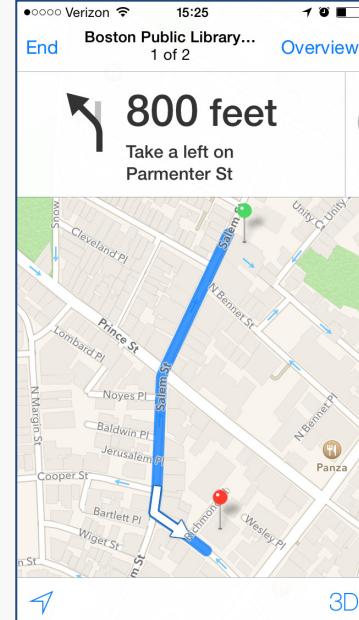
US 6,622,089 Claim 1 Limitations	Evidence of Use - Apple Maps presented on an iPhone
<p>a route guidance information generation unit configured to generate route guidance information of the route using the road pattern data and the landmark data selected by said landmark selection unit; and</p> <p>POI data pages look great, with slowly panning, Ken Burns-style photo display and access to Yelp reviews. And with a single tap, you can navigate to any POI you searched for²⁷.</p>	<p>Software in Apple Maps generates route guidance information using the road network and landmark data/point of interest (POI). The generated route guidance is shown on the road pattern data. The landmark data is shown in the map area.</p>  <p>The screenshot shows a map of a city street with a blue route line. A callout box highlights the 'Boston Public Library - North...' entry, which includes a star rating and a link to '7 reviews on Yelp'. Other landmarks like 'La Galleria 33' and 'Ristorante Euno' are visible.</p>

Figure 26. Route guidance and landmark data

²⁷ <http://www.pcmag.com/article2/0,2817,2413811,00.asp>

US 6,622,089 Claim 1 Limitations	Evidence of Use - Apple Maps presented on an iPhone
<p>a presentation unit configured to present the route guidance information.</p> <p>When you're driving or walking, Maps helps you find your way to your destination with turn-by-turn spoken directions. As you approach a turn, Maps speaks directions, so you can keep your eyes on the road. And the screen turns into a 3D perspective of the road ahead. When you enter into a turn, the viewing angle changes dynamically to show you where to go. If you miss a turn, don't worry. Maps automatically reroutes you and updates your ETA. And all along the way, large signs and arrows guide you in the right direction and let you know how long it's going to take to get there — even if your screen is locked.²⁸</p>	<p>Apple maps displays the route guidance information on the display of the iPhone (presentation unit) which provides the user with verbal and visual route guidance information.</p>  <p>Figure 27. Presentation unit (Apple iPhone) showing route guidance</p>

²⁸ <http://www.apple.com/ios/maps/>

2.3.5. US 6,622,089 Claim 21 vs. Nokia HERE

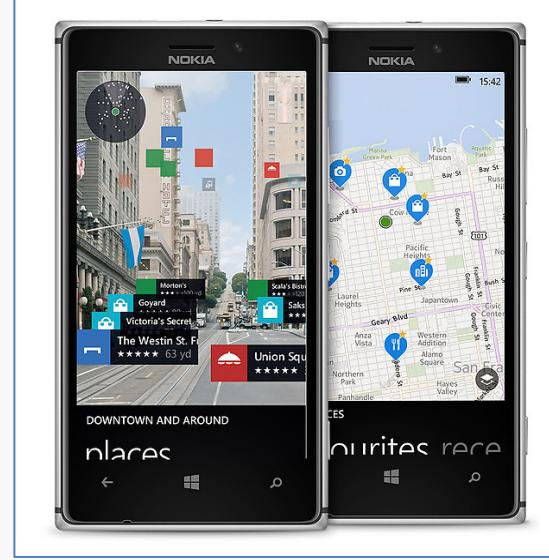
US 6,622,089 Claim 21 Limitations	Evidence of Use - Nokia HERE
21. A pedestrian route guidance method, comprising:	<p>Nokia HERE Maps provide a method to supply the user with pedestrian route guidance.</p> <p>Nokia has just pulled the dust sheet off a landmark development that sees the introduction of free global walk and drive satellite navigation for Nokia smartphones.²⁹</p> <p>No matter how you choose to travel, HERE Maps shows you the smartest way across town with fast, offline maps in 95 countries. True offline maps let you find your way even in areas with no signal. And thanks to LiveSight, HERE Maps now brings the power of "sight" to your map so you can see where to go by following virtual signs on your screen.³⁰</p> 

Figure 28. A Nokia phone displaying Nokia HERE maps

²⁹ <http://conversations.nokia.com/2010/01/21/free-global-navigation-for-nokia-smartphones/>

³⁰ <http://www.nokia.com/global/apps/app/here-maps/>

US 6,622,089 Claim 21 Limitations	Evidence of Use - Nokia HERE
<p>storing map data including road network data and landmark data in a database;</p>	<p>Nokia HERE Maps store map data that includes road network data and landmark data in a database and also allows the user to download a portion of the map database to their portable device.</p> <p>Basically, Nokia HERE Maps comes with the exact same features as on the other platforms out there, including options to download maps to your device and access them without an Internet connection, access street-level panoramas, get walking, driving and public transit directions, save your favorite places and pin collections to the Start screen.</p> <p>"HERE Maps is a complete mapping app designed to work with or without a Wi-Fi or data connection. With HERE Maps you can download and take your maps with you on your tablet. Get walking, driving and public transit directions to the places you want to go, all completely offline,"³¹</p> <p>You can also display additional elements on your map, such as landmarks and pedestrian features.</p> <p>Landmarks. Set the LandmarksEnabled property to true to display landmarks on a Map control. Landmarks are visible on the map only when the ZoomLevel property is set to a value of 16 or higher.</p> <p>Pedestrian features. Set PedestrianFeaturesEnabled to true on a Map control to display pedestrian features such as public stairs. Pedestrian features are visible on the map only when the ZoomLevel property is set to a value of 16 or higher.</p> <p>The following illustration displays a map with landmarks and pedestrian features.³²</p>

³¹ <http://news.softpedia.com/news/Nokia-HERE-Maps-for-Windows-8-1-Now-Available-for-Download-429141.shtml>

³² <http://conversations.nokia.com/2010/01/21/free-global-navigation-for-nokia-smartphones/>

US 6,622,089 Claim 21 Limitations

searching for a route from a departure point to a destination point from the road network data stored in the database;

Evidence of Use - Nokia HERE

Nokia HERE Maps searches for a route from a departure point to a destination point from the road network data stored in the database and provides spoken directions to guide the user between the departure point and destination using the map database.

HERE Maps got a major update for Windows 8.1 yesterday with manual positioning, city pages and more. Today, they are being updated for Nokia X devices. HERE Maps on Nokia X now allows global navigation with voice directions.³³

With HERE Maps for Nokia X, you can get directions and turn-by-turn navigation for walking. If you're getting around by train, you can get transit routes and check departure times at nearby stops.

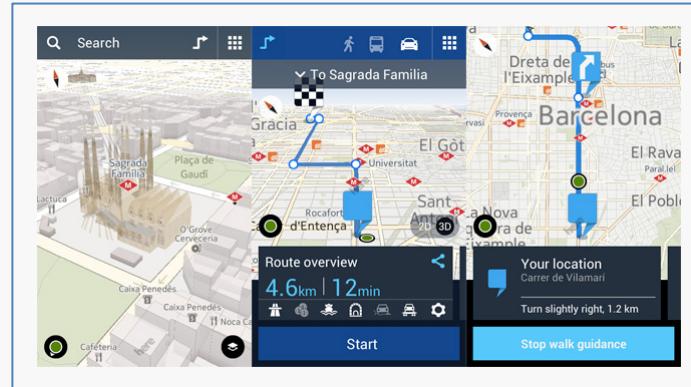


Figure 29. Nokia HERE Finding a Route³⁴

³³ <http://www.fonearena.com/blog/110773/here-maps-for-nokia-x-updated-with-global-navigation-and-voice-directions.html>

³⁴ <http://360.here.com/2014/02/24/navigation-for-more-people-here-maps-for-nokia-x/>

US 6,622,089 Claim 21 Limitations

analyzing a route pattern of the route by referring to the road network data;

Evidence of Use - Nokia HERE

Nokia HERE Maps analyzes a route pattern of the route by referring to the road network data and provides routing and guidance. The route is determined by analyzing the road network and landmarks between the starting and ending points based on the map database stored in the handheld device.

Our maps come in handy every day when you're underground, traveling or just lost or low on signal: just download complete countries right to your phone over Wi-Fi. When you don't have data connection, **you can still search for places with type-ahead suggestions, access your favorites and calculate your route.** **With HERE Maps for Nokia X, you can get directions and turn-by-turn navigation for walking.** If you're getting around by train, you can get transit routes and check departure times at nearby stops. **If you have a car, you can get driving directions in 96 countries and voice-guided turn-by- turn navigation in one country of your choice.** HERE Maps for Nokia X alerts you if you're speeding up, shows you traffic conditions and allows you to personalize your route to avoid toll roads, motorways and others. The display will also automatically adjust the color scheme and brightness for better viewing conditions day or night, reducing distractions so you can keep your eyes on the world ahead of you.

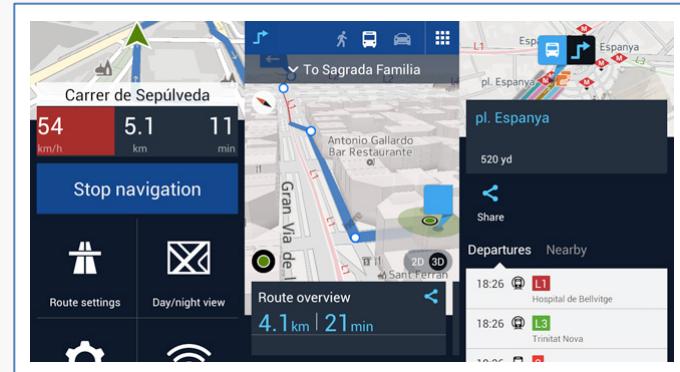
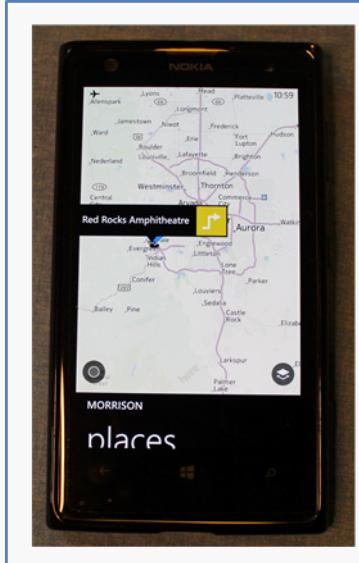


Figure 30. Nokia HERE Analyzing a Route³⁵

³⁵ <http://360.here.com/2014/02/24/navigation-for-more-people-here-maps-for-nokia-x/>

US 6,622,089 Claim 21 Limitations	Evidence of Use - Nokia HERE
<p>determining a landmark selection area for route guidance along the route based on the road network data and the road pattern data;</p>	<p>Nokia HERE Maps determines a landmark selection area for route guidance along the route based on the road network data and the road pattern data, and allows the user to navigate using landmarks. The screen shot shown in Figure 4 below, shows the landmark Red Rocks Amphitheatre outside of Denver CO.</p>  <p>Figure 31. Nokia HERE Determining a Landmark Selection</p> <p>The screen shots in Figure 5 below show Nokia Maps calculating a detailed set of driving/navigation instructions to The Red Rocks Amphitheatre from Elizabeth, CO.</p>

US 6,622,089 Claim 21 Limitations

Evidence of Use - Nokia HERE

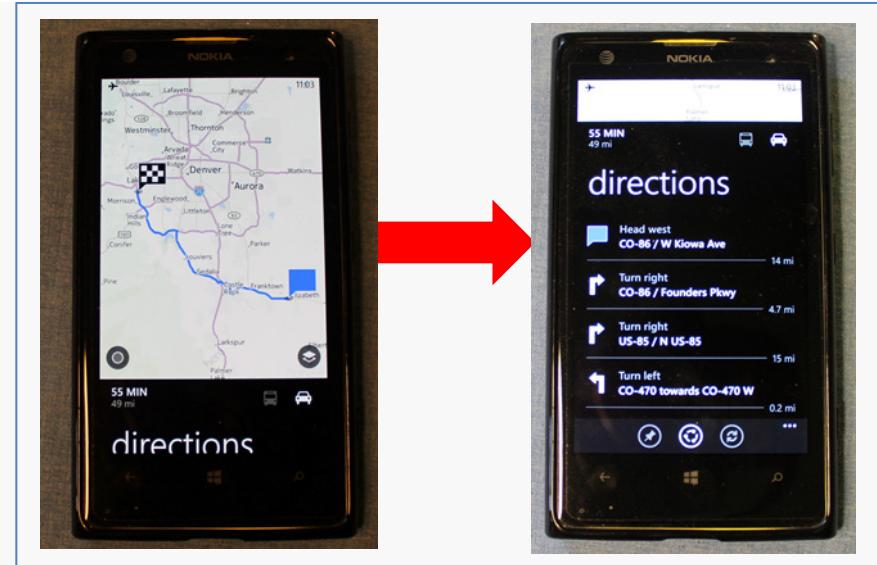


Figure 32. Nokia HERE Route Guidance Directions

DRAFT

US 6,622,089 Claim 21 Limitations	Evidence of Use - Nokia HERE
<p>selecting landmark data included in the landmark selection area from the database;</p> <p>Further information regarding landmarks and other “real-time” information is processed using a combination of local and network resources.</p>	<p>Nokia HERE Maps stores maps and landmark information and provides for selecting landmark data included in the landmark selection area from the database—see Figure 4. Navigation and guidance (including verbal guidance) can be autonomous and available even without a network or cellular connection when the maps and landmark data are downloaded.</p> <p>One of the key benefits is that location-based apps specifically built for Windows Phone 8 will be able to use offline maps, for a snappier mobile maps experience. In fact, not only can maps be downloaded, but they can also be used by other apps specifically designed for the new OS.³⁶</p> <p>As it turns out, that 1.8GB of information includes more than just roadways. It also includes restaurants, town names, fuel stations and oodles of other points of interest. That means that even without a nearby signal, you'll be able to search for plenty of destinations.³⁷</p> <p>In offline mode, I was downright shocked at just how fast everything operated. Even under deep forest cover in the California redwoods, the offline navigator managed to get a GPS lock within a few seconds. In fact, over the 1,900-mile trek, it only lost signal on two occasions: a 20-mile stretch of the Central Oregon Highway and just as I was driving onto the Golden Gate Bridge in San Francisco. In the latter example, it reacquired a fix by the time I hit the toll booth on the other side. Mind you, I forced the phone to use Drive in offline mode for every single mile outside of the times where I had to temporarily connect to AT&T to search for a specific address.³⁸</p>

³⁶ <http://360.here.com/2012/09/06/nokia-maps-for-windows-phone-8-goes-offline/>
³⁷ <http://www.engadget.com/2012/08/01/nokia-drive-offline-navigation-review-taking-the-lumia-900-for/>
³⁸ <http://www.engadget.com/2012/08/01/nokia-drive-offline-navigation-review-taking-the-lumia-900-for/>

US 6,622,089 Claim 21 Limitations	Evidence of Use - Nokia HERE
<p>generating route guidance information of the route using the road pattern data and the selected landmark data; and</p>	<p>Route guidance information is generated that uses the road network and landmark data/points of interest (POI). This information allows the user to visually verify the route as he/she follows the verbal instructions and map details.</p> <p>As it turns out, that 1.8GB of information includes more than just roadways. It also includes restaurants, town names, fuel stations and oodles of other points of interest. That means that even without a nearby signal, you'll be able to search for plenty of destinations.³⁹</p> <p>... offering offline maps is not only about giving the option to cache some data offline for later use, it's a complete experience: it's about points of interest (POIs) available offline to enable offline search, it's about navigation voices (over 70 of them, btw) available on-device and offline rerouting.⁴⁰</p> <div data-bbox="834 595 1710 1158"></div> <p>Figure 33. Nokia HERE Generating Route Guidance Directions</p>

³⁹ <http://www.engadget.com/2012/08/01/nokia-drive-offline-navigation-review-taking-the-lumia-900-for/>

⁴⁰ <http://360.here.com/2013/02/19/comparing-offline-capabilities-of-nokia-maps-and-google-maps/>

US 6,622,089 Claim 21 Limitations

presenting the route guidance information.

Evidence of Use - Nokia HERE

Nokia HERE Maps presents the user with verbal and visual route guidance.

... offering offline maps is not only about giving the option to cache some data offline for later use, it's a complete experience: it's about points of interest (POIs) available offline to enable offline search, it's about navigation voices (over 70 of them, btw) available on-device and offline rerouting.⁴¹

HERE Maps works offline, which means that you don't need an Internet connection to find your way around a new, sometimes international, environment where data charges could stop you from exploring or navigating safely and accurately.



Figure 34. Nokia HERE Presenting Route Guidance Directions

Offline maps also mean that should you venture into a subway, where you might not get reception, you'll still be able to look at a map, search for places and plan routes – something only possible with HERE Maps. Storing maps on your phone also means that you'll be able to view the map much faster than if you were waiting for it to download each time you needed it.⁴²

⁴¹ <http://360.here.com/2013/02/19/comparing-offline-capabilities-of-nokia-maps-and-google-maps/>

⁴² <http://360.here.com/2013/07/24/here-maps-for-windows-phone-8-walk-through/>

2.4. US 6,718,262

Title		Route guidance apparatus and method	
		Priority Date	2/28/2001
		Publication Date	4/6/2004
		Inventors	Kubota, Hiroaki; Hasegawa, Tamotsu; Matsuda, Mieko
		Current Assignee	Fujitsu Mobile Communications Limited
		Location	US
		PTO Length	1.09 years
		Claims	19
		Backward Citations	
		Forward Citations	
		Family Members	10
		Litigation	no
		Abstract	A database stores map data including road network data and landmark data. A route search unit searches for a route from a departure point to a destination point from the road network data stored in said database. A road pattern analysis unit analyzes a road pattern of the route by referring to the road network data and obtains road pattern data as the analysis result. A route guidance information generation unit generates route guidance information of the route using the road pattern data and the landmark data along the route. A presentation unit presents the route guidance information.

2.4.1. Claims Analysis

Independent Claims:	3
Dependent Claims:	16
Total Claims:	19
Shortest Independent Claim:	#18 (209 words)
Longest Independent Claim:	#19 (267 words)

2.4.2. Classification Analysis

IP Classifications: 6
G09B 29/00: Maps
G01C 21/00: Navigation
G01C 21/34: Route searching, Route guidance
G06F 17/30: Information retrieval, Database structures therefor
G06T 11/60: Editing figures and text, Combining figures or text
G08G 1/005: including pedestrian guidance indicator

US Classifications: 1

: Including route searching or determining

2.4.3. Citation Analysis

Backward Citations: 7 (Aisin Seiki Co., Ltd.: 2, Toshiba Corporation: 2, Panasonic Corporation: 1, HERE Global B.V.: 1, Fujitsu Limited: 1)

Forward Citations: 10 (HERE Global B.V.: 4, TransLoc Inc: 2, General Motors Corp: 1, Mstar Semiconductor Inc: 1, Pioneer Corporation: 1, Campus Destinations, Inc., North Carolina: 1)

2.5. US 6,820,005

Title	Route guidance apparatus and method		
	Priority Date 2/28/2001	Filed Date 11/12/2003	
	Publication Date 11/16/2004	Expiration Date 2/27/2022	
Inventors	Kubota, Hiroaki; Hasegawa, Tamotsu; Matsuda, Mieko		
Current Assignee	Fujitsu Mobile Communications Limited	Location	US
PTO Length	1.01 years	Claims	3
Backward Citations			
Family Members	10	Forward Citations	
Abstract	A database stores map data including road network data and landmark data. A route search unit searches for a route from a departure point to a destination point from the road network data stored in said database. A road pattern analysis unit analyzes a road pattern of the route by referring to the road network data and obtains road pattern data as the analysis result. A route guidance information generation unit generates route guidance information of the route using the road pattern data and the landmark data along the route. A presentation unit presents the route guidance information.		

2.5.1. Claims Analysis

Independent Claims:	3
Dependent Claims:	0
Total Claims:	3
Shortest Independent Claim:	#2 (200 words)
Longest Independent Claim:	#3 (267 words)

2.5.2. Classification Analysis

IP Classifications: 6
 G09B 29/00: Maps
 G01C 21/00: Navigation
 G01C 21/34: Route searching, Route guidance
 G06F 17/30: Information retrieval, Database structures therefor
 G06T 11/60: Editing figures and text, Combining figures or text
 G08G 1/005: including pedestrian guidance indicator

US Classifications: 1

: Including route searching or determining

2.5.3. Citation Analysis

Backward Citations: 7 (Aisin Seiki Co., Ltd.: 2, Toshiba Corporation: 2, Panasonic Corporation: 1, HERE Global B.V.: 1, Fujitsu Limited: 1)

Forward Citations: 14 (Scenera Research LLC: 5, Fujitsu Limited: 1, Unassigned: 1, HERE Global B.V.: 1, Telenav, Inc.: 1, Waldeck Technology LLC: 1)

2.6. US 6,917,879

Title		Route guidance apparatus and method			
		Priority Date	2/28/2001	Filed Date	8/25/2004
		Publication Date	7/12/2005	Expiration Date	2/27/2022
		Inventors	Kubota, Hiroaki; Hasegawa, Tamotsu; Matsuda, Mieko		
		Current Assignee	Fujitsu Mobile Communications Limited	Location	US
		PTO Length	0.88 years	Claims	1
		Backward Citations		Forward Citations	
		Family Members	10	Litigation	no
		Abstract	A database stores map data including road network data and landmark data. A route search unit searches for a route from a departure point to a destination point from the road network data stored in said database. A road pattern analysis unit analyzes a road pattern of the route by referring to the road network data and obtains road pattern data as the analysis result. A route guidance information generation unit generates route guidance information of the route using the road pattern data and the landmark data along the route. A presentation unit presents the route guidance information.		

2.6.1. Claims Analysis

Independent Claims:	1
Dependent Claims:	0
Total Claims:	1
Shortest Independent Claim:	#1 (230 words)
Longest Independent Claim:	None

2.6.2. Classification Analysis

IP Classifications: 6
 G09B 29/00: Maps
 G01C 21/00: Navigation
 G01C 21/34: Route searching, Route guidance
 G06F 17/30: Information retrieval, Database structures therefor
 G06T 11/60: Editing figures and text, Combining figures or text
 G08G 1/005: including pedestrian guidance indicator

US Classifications: 1

: Having audio or visual route guidance

2.6.3. Citation Analysis

Backward Citations: 10 (Fujitsu Limited: 4, Aisin Seiki Co., Ltd.: 2, Toshiba Corporation: 2, Panasonic Corporation: 1, HERE Global B.V.: 1)

Forward Citations: 0

2.7. US 6,920,393

Title	Route guidance apparatus and method			
	Priority Date	2/28/2001	Filed Date	7/10/2003
	Publication Date	7/19/2005	Expiration Date	2/27/2022
	Inventors	Kubota, Hiroaki; Matsuda, Mieko; Hasegawa, Tamotsu		
	Current Assignee	Fujitsu Mobile Communications Limited	Location	US
	PTO Length	2.03 years	Claims	16
	Backward Citations		Forward Citations	
	Family Members	7	Litigation	no
	Abstract	A database stores map data including road network data and landmark data. A route search unit searches for a route from a departure point to a destination point from the road network data stored in the database. A road pattern analysis unit analyzes a route pattern of the route by referring to the road network data and obtains road pattern data as the analysis result. A landmark selection area decision unit determines a landmark selection area for route guidance along the route based on the road network data and the road pattern data. A landmark selection unit selects landmark data included in the landmark selection area from said database. A route guidance information generation unit generates route guidance information of the route using the road pattern data and the landmark data selected by the landmark selection unit. A presentation unit presents the route guidance information.		

2.7.1. Claims Analysis

Independent Claims:	2
Dependent Claims:	14
Total Claims:	16
Shortest Independent Claim:	#9 (85 words)
Longest Independent Claim:	#1 (126 words)

2.7.2. Classification Analysis

IP Classifications:	6
G09B 29/00:	Maps
G01C 21/00:	Navigation
G01C 21/34:	Route searching, Route guidance
G06F 17/30:	Information retrieval, Database structures therefor
G06T 11/60:	Editing figures and text, Combining figures or text
G08G 1/005:	including pedestrian guidance indicator

US Classifications:

1 : Including route searching or determining

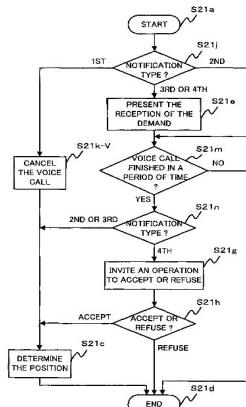
2.7.3. Citation Analysis

Backward Citations: 8 (NEC Corporation: 1, Japan As Represented By Secretary Of Agency Of Industrial Scien: 1, Panasonic Corporation: 1, Toshiba Corporation: 1, Toyota Motor Corporation: 1, Brander, Marcel G.: 1, Unassigned: 1)

Forward Citations: 1 (Nokia Corporation: 1)

2.8. US 7,580,717

Title	Method and apparatus for applications including position determination		
Priority Date	9/21/2005	Filed Date	1/25/2006
Publication Date	8/25/2009	Expiration Date	2/9/2027
Inventors	Wan, Wang; Takahashi, Shinya		
Current Assignee	Fujitsu Mobile Communications Limited	Location	US
PTO Length	3.58 years	Claims	21
Backward Citations	9	Forward Citations	2
Family Members	3	Litigation	No
Abstract	To provide a method and apparatus for a plurality of applications including position determination there is provided a radio communication device comprising a positioning member configured to determine a position of the radio communication device an antenna a receiver connected to the antenna a controller connected to the receiver and the positioning member configured to receive a demand for the position by way of the antenna and the receiver while running an application and configured to stop the application and to have the positioning member determine the position in a case where the demand and the application are given a first rank and a second rank respectively and the first rank precedes the second rank.		



2.8.1. Claims Analysis

Independent Claims:	4
Dependent Claims:	17
Total Claims:	21
Shortest Independent Claim:	#8 (191 words)
Longest Independent Claim:	#1 (240 words)

2.8.2. Classification Analysis

IP Classifications:	8
H04W 24/00:	Supervisory, monitoring or testing arrangements
G11B 5/00:	Recording by magnetisation or demagnetisation of a record carrier
H04M 1/00:	Substation equipment, e.g. for use by subscribers
H04M 3/42:	Systems providing special services or facilities to subscribers
H04N 5/44:	Receiver circuitry
H04N 7/00:	Television systems
H04W 64/00:	Locating users or terminals for network management purposes, e.g. mobility management
H04W 88/02:	Terminal devices

US Classifications:

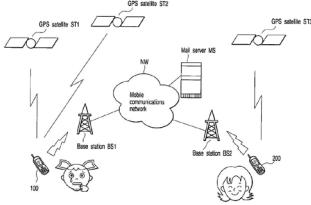
: Location monitoring

2.8.3. Citation Analysis

Backward Citations: 9 (Akiyoshi Kogyo KK: 1, STMicroelectronics N.V.: 1, Lenovo Group Limited: 1, Siemens AG: 1, Visa Inc.: 1, Telefonaktiebolaget LM Ericsson: 1, MediaTek Inc.: 1, NEC Corporation: 1)

Forward Citations: 2 (FUJIFILM Holdings Corp: 1, Wistron NeWeb Corp.: 1)

2.9. US 7,620,406

Title	Mobile radio terminal apparatus			
	Priority Date	3/29/2006	Filed Date	8/2/2006
	Publication Date	11/17/2009	Expiration Date	7/19/2027
	Inventors	Nagashima, Youichi; Ouchi, Natsuko; Hosoi, Ayako		
	Current Assignee	Fujitsu Mobile Communications Limited	Location	US
	PTO Length	3.3 years	Claims	8
	Backward Citations	26	Forward Citations	2
	Family Members	3	Litigation	No
	Abstract	When a holder of a cellular telephone operates a specific-key the cellular telephone composes an e-mail containing a location-name location-information positioning-accuracy and positioning-time and sends the e-mail to a mail-address registered in a location-notification-address-table. In addition when the cellular telephone receives an e-mail from the address registered in the location-notification-address-table the cellular telephone composes an e-mail containing a location-name location-information positioning-accuracy and positioning-time and sends the composed mail to a sender of the received e-mail. Moreover when a departure-notification-time registered in a notification-location-table has come the cellular telephone executes positioning discriminates whether or not the holder exists in the vicinity of the location-name corresponding to the departure-notification-time and sends an e-mail to a mail-address registered in the location-notification-address-table to notify whether or not the holder has departed from the location.		

2.9.1. Claims Analysis

Independent Claims:	4
Dependent Claims:	4
Total Claims:	8
Shortest Independent Claim:	#5 (166 words)
Longest Independent Claim:	#1 (187 words)

2.9.2. Classification Analysis

IP Classifications: 3
 H04W 4/00: Services or facilities specially adapted for wireless communication networks
 H04W 4/12: Messaging, e.g. SMS [Short Messaging Service], Mailboxes, Announcements, e.g. informing users on the status or progress of a communication request
 H04W 8/14: between corresponding nodes

US Classifications: 1
 : Location monitoring

2.9.3. Citation Analysis

Backward Citations: 26 (NEC Corporation: 5, Fuji Electric Holdings Co., Ltd.: 1, Mitsubishi Electric Corporation: 1, Nippon Telegraph & Telephone Corp.: 1, Secom Co., Ltd.: 1, Hitachi, Ltd.: 1)

Forward Citations: 2 (Emilcott Associates: 2)

2.10. US 8,320,941

Mobile terminal and method for displaying data added location information				
	Priority Date Publication Date Inventors Current Assignee PTO Length Backward Citations Family Members	9/24/2009 11/27/2012 Ichinose, Takashi Fujitsu Mobile Communications Limited 2.72 years 12 5	Filed Date Expiration Date Location Claims Forward Citations Litigation	3/12/2010 12/30/2030 US 18 2 No
Abstract	A mobile terminal has a current-location information acquisition unit configured to acquire current-location information indicating a current location of the mobile terminal a direction information acquisition unit configured to acquire direction information indicating a direction of orientation of the mobile terminal a storage unit configured to store data added location information a search unit configured to search for at least one of the data having the location information that is located in the direction from the current location of the mobile terminal and that falls within a predetermined range around the direction based on the current-location information and the direction information and a display control unit configured to cause the retrieved data to be displayed.			

2.10.1. Claims Analysis

Independent Claims:	2
Dependent Claims:	16
Total Claims:	18
Shortest Independent Claim:	#10 (142 words)
Longest Independent Claim:	#1 (170 words)

2.10.2. Classification Analysis

IP Classifications: 1
H04W 24/00: Supervisory, monitoring or testing arrangements

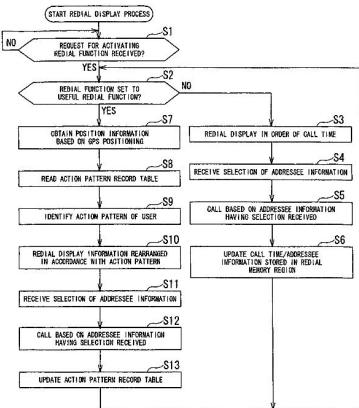
US Classifications: 1
: Location display

2.10.3. Citation Analysis

Backward Citations: 12 (NEC Corporation: 2, Intellectual Ventures Management, LLC: 1, Aisin Seiki Co., Ltd.: 1, Unassigned: 1, Garmin Ltd.: 1, Nebraska Inc: 1, Silver State Intellectual Technologies Inc: 1, Sony Corporation: 1, Millennial Media, Inc.: 1)

Forward Citations: 2 (Fu Tai Hua Industry Shenzhen Co Ltd: 2)

2.11. US 8,571,515

Title	Mobile terminal		
			
Priority Date	6/9/2008	Filed Date	3/5/2009
Publication Date	10/29/2013	Expiration Date	3/12/2031
Inventors	Ito, Koichi		
Current Assignee	Fujitsu Mobile Communications Limited	Location	US
PTO Length	4.65 years	Claims	10
Backward Citations	17	Forward Citations	1
Family Members	4	Litigation	no
Abstract	A mobile terminal as a mobile terminal includes a storage unit which stores an action pattern record table having at least one action pattern registered preliminarily in correlation with addressee information a control unit which obtains position information of the mobile terminal via a GPS antenna to identify the action pattern based on the position information obtained by a receiver in reference to the stored action pattern record table responding to the request for activating a redial function and a main display which displays the addressee information in accordance with the priority of the addressee information correlated with the action pattern identified by the control unit in reference to the action pattern record table.		

2.11.1. Claims Analysis

Independent Claims:	2
Dependent Claims:	8
Total Claims:	10
Shortest Independent Claim:	#1 (209 words)
Longest Independent Claim:	#10 (227 words)

2.11.2. Classification Analysis

IP Classifications: 1
H04M 11/00: Telephonic communication systems specially adapted for combination with other electrical systems

US Classifications: 1
: Usage measurement

2.11.3. Citation Analysis

Backward Citations: 17 (Leo B. Marks: 1, NEC Corporation: 1, Nippon Telegraph & Telephone Corp.: 1, Samsung Group: 1, Verizon Communications Inc.: 1, Panasonic Corporation: 1, Fujitsu Limited: 1, Blackberry Limited: 1, Access Co., Ltd.: 1, LG Electronics Inc.: 1)

Forward Citations: 1 (Lenovo Group Limited: 1)