PATROLL Winning Submission

U.S. Patent 8,898,003

U.S. Patent 8,898,003 ("*InfoGation*" or the "patent-at-issue") was filed on March 26, 2013 and claims the benefit of U.S. Provisional Pat. App. No. 61/112,703, filed on November 7, 2008. Claim 1 of the patent-at-issue is generally directed to a method for displaying a map on a GPS receiver. The method comprises displaying the map in accordance with a location determined by the GPS receiver, wherein the map shows a route on which the GPS receiver is indicated moving along. Images representing objects are superimposed onto the map, wherein the objects resembles structures or settings along the route to create a 3D impression around the location and wherein the structures or settings include one or more of landmarks, signs, significant buildings, and exit designs. A perspective of the structures or settings changes in accordance with a direction the GPS receiver is moving, but the map is not changed relatively while the images being imposed change as the structures or settings change. The method further comprises changing the images with different color effects in reference to an input from at least one source about conditions of the location at a time that the map is displayed on the GPS receiver and making the map resembling an electronically generated map with a certain level of realism in accordance with surrounding of the location of the GPS. An icon of a vehicle in the map also shows that headlights are on when the vehicle is supposed to turn on its headlights.

The primary reference, U.S. Patent 8,930,135 ("*Uber Technologies*"), was filed on April 17, 2007 and claims the benefit of U.S. Pat. App. No. 11/785,294, filed on the same date. The patent generally relates to landmark-based routing and guidance. For example, the patent discloses an apparatus including a route guidance information generator adapted to generate route guidance information, including one or more road-based references and one or more landmark-based references.

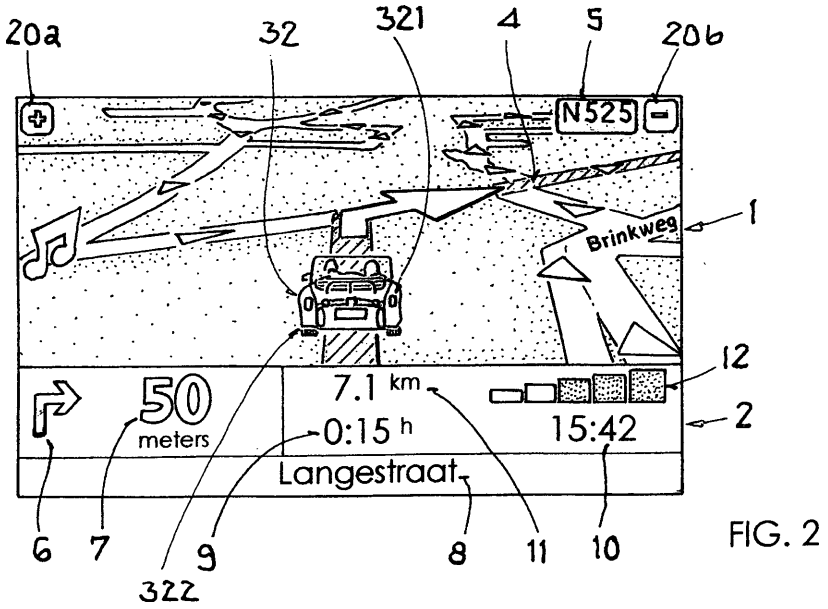
The primary reference, U.S. Pat. App. Pub. 2008/0167811 ("*TomTom International*"), was filed on October 10, 2007 and claims the benefit of U.S. Provisional Pat. App. Nos. 60/879,523, 60/879,549, 60/879,553, 60/879,577, 60/879,599, 60/879,529, and 60/879,601, all filed on January 10, 2007. The patent generally relates to a method of displaying navigation information and a navigation device programmed with a map database and software. The navigation device is operable to display a current position of the device on a road navigation map, save several icons in at least one directory, display several icons on a screen so that the user can choose at least one icon, display said at least one icon on said road navigation map assigned to said current position, and receive at least one icon from an external device so that the user can add at least one icon to said at least one directory by means of an interface of said navigation device.

A sample claim chart comparing claim 1 of *InfoGation* to *Uber Technologies* and *TomTom International* is provided below.

US8898003 ("*InfoGation*")	**A. US8930135** ("*Uber Technologies*") **B. US20080167811** ("*TomTom International*")
1.pre. **A method for displaying a map on a GPS receiver**, the method comprising:	**A. US8930135** "Although embodiments of the invention are not limited in this regard, **the term "mapping system" as used herein may include, for example, one or more units, devices or systems able to perform mapping, routing, route guidance generation, displaying or presenting a map, displaying or presenting a route, displaying or presenting route guidance information, dynamically modifying maps and/or routes and/or route guidance information (e.g., utilizing GPS data or real time data or dynamic data), or the like**." *Uber Technologies* at col. 7:36-44 "In some embodiments, optionally, **map generator** 131 **and/or route guidance generator** 132 **may be operable associated with, or may utilize, a GPS unit** 135, **for example, a GPS receiver, a GPS transceiver, a GPS positioning unit, a GPS information generator unit, or the like**." *Uber Technologies* at col. 12:53-58 "In some embodiments, **map** 310 **and route** 320 **may be presented or displayed in the context of a dynamic route guidance process, for example, using a vehicular or mobile navigation system, routing system, positioning system, or the like**." *Uber Technologies* at col. 31:59-63 **B. US20080167811** "**An aspect of the invention is a navigation device programmed with a map database and software. The navigation device is operable to display a current position of the device on a road navigation map. The current position of the device is preferably derived from a measured actual geographic position. E.g. a GPS-Signal could be estimated to derive the current position**." *TomTom International* at par. 0016 "**A Navigator software runs for instance on a touch screen (i.e. stylus controlled) Pocket PC powered PDA device. It provides a GPS based navigation system when the PDA is coupled with a GPS receiver. The combined PDA and GPS receiver system is designed to be used as an in-vehicle navigation system. The invention may also be implemented in any other arrangement of navigation device, such as one**

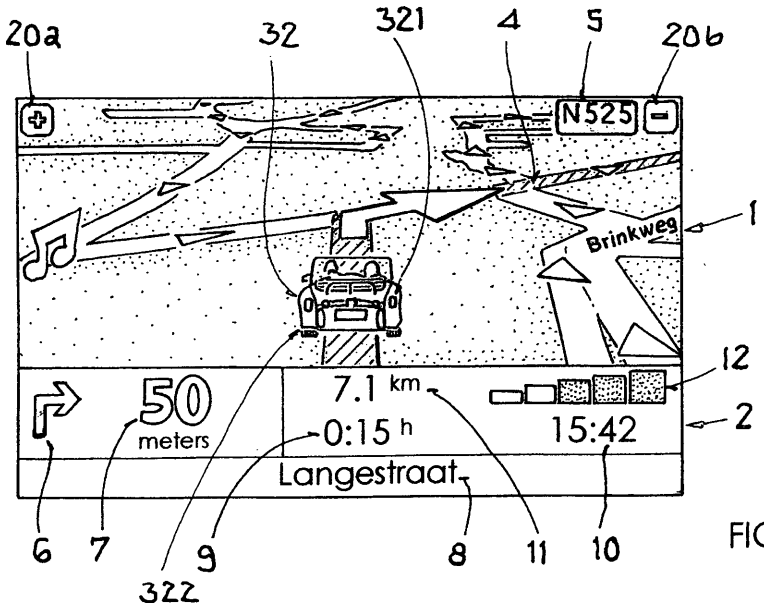
(cont.) 1.pre. **A method for displaying a map on a GPS receiver**, the method comprising:	**with an integral GPS receiver/computer/display**." *TomTom International* at par. 0041 "**The actual physical structure of the device itself may be fundamentally no different from any conventional handheld computer, other than the integral GPS receiver** or a GPS data feed from an external GPS receiver. **Hence, memory stores the route calculation algorithms, map database and user interface software**; a microprocessor interprets and processes user input (e.g. using a device touch screen to input the start and destination addresses and all other control inputs) and deploys the route calculation algorithms to calculate the optimal route. 'Optimal' may refer to criteria such as shortest time or shortest distance, or some other user-related factors." *TomTom International* at par. 0053
1.a. **displaying the map in accordance with a location determined by the GPS receiver, wherein the map shows a route on which the GPS receiver is indicated moving along**;	**A. US8930135** "Although embodiments of the invention are not limited in this regard, **the term "mapping system" as used herein may include, for example, one or more units, devices or systems able to perform mapping, routing, route guidance generation, displaying or presenting a map, displaying or presenting a route, displaying or presenting route guidance information, dynamically modifying maps and/or routes and/or route guidance information (e.g., utilizing GPS data or real time data or dynamic data), or the like**." *Uber Technologies* at col. 7:36-44 "In some embodiments, optionally, **map generator** 131 **and/or route guidance generator** 132 **may be operable associated with, or may utilize, a GPS unit** 135, **for example, a GPS receiver, a GPS transceiver, a GPS positioning unit, a GPS information generator unit, or the like**." *Uber Technologies* at col. 12:53-58 "In some embodiments, **the distance information and/or the time-related information relative to one or more landmarks and/or personal contacts may be generated, presented, displayed and/or modified dynamically and/or in substantially real time, for example, taking into account a current position of the user (e.g., utilizing GPS information from GPS unit** 135). In some embodiments, such information may provide, for example, reassurance to the user, peace-of-mind to the user, an improved estimation by the user of her estimated time of arrival (ETA) to her destination, an improved understanding by the user of the area of his

(cont.) 1.a. **displaying the map in accordance with a location determined by the GPS receiver, wherein the map shows a route on which the GPS receiver is indicated moving along**;	destination, or the like." *Uber Technologies* at col. 26:2-13 "In some embodiments, **map** 310 **and route** 320 **may be presented or displayed in the context of a dynamic route guidance process, for example, using a vehicular or mobile navigation system, routing system, positioning system, or the like**." *Uber Technologies* at col. 31:59-63 "In some embodiments, **the display of the presented map may be dynamically modified and/or updated, substantially in real time, based on the progress or movement of the user along a route**." *Uber Technologies* at col. 32:1-4 **B. US20080167811** "**An aspect of the invention is a navigation device programmed with a map database and software. The navigation device is operable to display a current position of the device on a road navigation map. The current position of the device is preferably derived from a measured actual geographic position. E.g. a GPS-Signal could be estimated to derive the current position**." *TomTom International* at par. 0016 "**A Navigator software runs for instance on a touch screen (i.e. stylus controlled) Pocket PC powered PDA device. It provides a GPS based navigation system when the PDA is coupled with a GPS receiver. The combined PDA and GPS receiver system is designed to be used as an in-vehicle navigation system. The invention may also be implemented in any other arrangement of navigation device, such as one with an integral GPS receiver/computer/display**." *TomTom International* at par. 0041 "**In FIG. 2 a day view 3-D map** 1 **occupies most of the screen. The map** 1 **shows the user's car, using an icon** 32. **Additionally the map** 1 **shows the immediate surroundings of the user's car, rotated in such a way that the direction in which the car is moving is always "up". Running across the bottom quarter of the screen is the status bar** 2. **The current location of the device, as the device itself determines using conventional GPS location finding and its orientation (as inferred from its direction of travel) is depicted by the icon** 32. **The route calculated by the device (using route calculation algorithms stored in device memory as applied to map data stored in a map database in device memory) is shown as darkened path** 4

(cont.) 1.a. **displaying the map in accordance with a location determined by the GPS receiver, wherein the map shows a route on which the GPS receiver is indicated moving along**;	**superimposed with arrows giving the travel direction**. On the darkened path 4, all major actions (e.g. turning corners, crossroads, roundabouts etc.) are schematically depicted by arrows overlaying the path 4. Numbers of motorways 5 (here N525) are displayed adjacent to the displayed motorway itself." *TomTom International* at par. 0046  FIG. 2 "**The actual physical structure of the device itself may be fundamentally no different from any conventional handheld computer, other than the integral GPS receiver** or a GPS data feed from an external GPS receiver. **Hence, memory stores the route calculation algorithms, map database and user interface software; a microprocessor interprets and processes user input (e.g. using a device touch screen to input the start and destination addresses and all other control inputs) and deploys the route calculation algorithms to calculate the optimal route**. 'Optimal' may refer to criteria such as shortest time or shortest distance, or some other user-related factors." *TomTom International* at par. 0053
1.b. **superimposing images representing objects onto the map, wherein the objects resembles structures or settings along the route**,	**A. US8930135** "Although embodiments of the invention are not limited in this regard, **the term "landmark" as used herein may include, for example, various objects or items which may be used for route guidance, navigation, route recognition, destination recognition, or the like**. In some embodiments, **a landmark may include, for example, a conspicuous object or item or structure that may be used to mark or**

(cont.) 1.b. **superimposing images representing objects onto the map, wherein the objects resembles structures or settings along the route,**	**distinguish a locality or a point-of-interest (POI), or an object or item or structure which may be used as a point of orientation or may facilitate recognizing or identifying a locality or a POI**. In some embodiments, **a "landmark" may include a well-known, substantially permanent, recognizable or easily recognizable geographic feature**. In some embodiments, **a landmark may include, for example, a statue, a sculpture, a piece of art, a water fountain, a road sign, a sign, a public transport station, a bus station, a subway station, a train station, a playground, a sports ground or field, a monument, a historical structure, a utility structure, a windmill, a water container, a water silo, an agriculture structure, an open market, a parking, a bridge, a board walk, a street sign, an advertisement sign, a billboard, a tower, a high building, a structure, a high structure, a column, a citadel, a castle, a high rise, a pillar, a skyscraper, a building, a wall, a construction, a formation, a flag, a beacon, a clock tower, an arc, or the like**. In some embodiments, **a landmark may include, for example, a business establishment, a private house, a public house, a branch of a business establishment, a bank, a financial institution, an entertainment venue, a theater, a cinema, a stadium, a ball field, a supermarket, a grocery store, a shop, a coffee shop, a clothes shop, a church, a synagogue, a religious center, a hospital, a medical center, a medical clinic, a school, a university, a sports arena or stadium, a sports venue, an entertainment venue, a theater, a museum, a railway, a train station, a building or structure having a unique shape or size, a building or structure which is relatively easily recognizable, a well-known building or structure, a substantially permanent or non-temporary structure, land-use feature(s) (e.g., a lake, a river, a forest, a dune), or the like**. In some embodiments, **a landmark may include, for example, a visible indication, a graffiti or a mural painted on a wall, towers, mountains, lakes, a blinking sign, an animated sign, a moving lights sign, or the like**. In some embodiments, **a landmark may include, for example, an item or object that is not part of a route, an off-route or off-network item or object, an item or object which may not be directly accessed or directly reached by a vehicle, an item or object which may not be driven-on or driven-through, an item or an object that is external to a route or to a route segment, or the like**. In some embodiments, **a landmark may include, for example, an item or object away from a route or from a route segment, an item or object distant from a route or a route**

(cont.) 1.b. **superimposing images representing objects onto the map, wherein the objects resembles structures or settings along the route,**	**segment, an item or object which may not be at a junction or a crossroad route segments, or the like**." *Uber Technologies* at col. 7:57-67 through col. 8:1-41 "**The generated map may optionally include multiple layers. For example, a first layer of the generated map may optionally include road-based geographical information, e.g., showing streets and avenues, showing street names, or the like. A second layer of the generated map may optionally include photograph-based geographical information, e.g., satellite photographs or portions thereof. A third layer of the generated map may optionally include landmarks, e.g., bank branches, coffee shops, monuments, water fountains, or the like. A fourth layer of the generated map may optionally include personal contact information converted into geo-spatial information, e.g., indications corresponding to addresses included in the personal contacts database. The generated map may include other layers or other combinations of layers**." *Uber Technologies* at col. 14:26-40 "In some embodiments, **the generated map may include a road-based map showing streets and avenues, whereas additional map layers (e.g., personal contacts, landmarks, or the like) may be overlaid on top of the map. For example, one or more information layers may be substantially separate from the generated map, and may be overlaid or superimposed on the generated map**. In other embodiments, the generated map may integrally include both the road-based map and one or more generated layers (e.g., personal contacts, landmarks, or the like)." *Uber Technologies* at col. 14:41-50 **B. US20080167811** "**In FIG. 2 a day view 3-D map** 1 **occupies most of the screen. The map** 1 **shows the user's car, using an icon** 32. **Additionally the map** 1 **shows the immediate surroundings of the user's car, rotated in such a way that the direction in which the car is moving is always "up". Running across the bottom quarter of the screen is the status bar** 2. **The current location of the device, as the device itself determines using conventional GPS location finding and its orientation (as inferred from its direction of travel) is depicted by the icon** 32. **The route calculated by the device (using route calculation algorithms stored in device memory as applied to map data stored in a map database**

(cont.) 1.b. **superimposing images representing objects onto the map, wherein the objects resembles structures or settings along the route,**	**in device memory) is shown as darkened path** 4 **superimposed with arrows giving the travel direction. On the darkened path** 4, **all major actions (e.g. turning corners, crossroads, roundabouts etc.) are schematically depicted by arrows overlaying the path** 4. **Numbers of motorways** 5 (here N525) **are displayed adjacent to the displayed motorway itself**." *TomTom International* at par. 0046  FIG. 2 "**A map is then a set of such road vectors, plus points of interest (POIs), plus road names, plus other geographic features like park boundaries, river boundaries etc, all of which are defined in terms of vectors. All map features (e.g. road vectors, POIs etc.) are defined in a co-ordinate system that corresponds or relates to the GPS co-ordinate system, enabling a device's position as determined through a GPS system to be located onto the relevant road shown in a map**." *TomTom International* at par. 0056
1.c. **the images are superimposed along the route to create a 3D impression around the location,**	**A. US8930135** "Although embodiments of the invention are not limited in this regard, **the term "route guidance" as used herein may include, for example, textual route guidance and/or driving directions, graphical route guidance and/or driving directions, audible route guidance and/or driving directions, projected route guidance and/or driving directions, printed route guidance and/or driving directions, route guidance and/or driving directions generated and/or presented using** graphics and/or audio

(cont.) 1.c. **the images are superimposed along the route to create a 3D impression around the location**,	and/or video and/or animation and/or projections, two-dimensional (2D) or **three-dimensional (3D) rendering**, elevations, walking directions, flying directions, or the like." *Uber Technologies* at col. 7:45-56 "Although embodiments of the invention are not limited in this regard, **the term "landmark" as used herein may include, for example, various objects or items which may be used for route guidance, navigation, route recognition, destination recognition, or the like**. . . . In some embodiments, **a landmark may include, for example, a visible indication, a graffiti or a mural painted on a wall, towers, mountains, lakes, a blinking sign, an animated sign, a moving lights sign, or the like**. In some embodiments, **a landmark may include, for example, an item or object that is not part of a route, an off-route or off-network item or object, an item or object which may not be directly accessed or directly reached by a vehicle, an item or object which may not be driven-on or driven-through, an item or an object that is external to a route or to a route segment, or the like**. In some embodiments, **a landmark may include, for example, an item or object away from a route or from a route segment, an item or object distant from a route or a route segment, an item or object which may not be at a junction or a crossroad route segments, or the like**." *Uber Technologies* at col. 7:57-67 through col. 8:1-41 "**The landmark database** 122 **may include various other and/or additional categories and attributes, for example**, a category, a sub-category, a name attribute, a description attribute, a location attribute, a functional attribute associated with a function of the landmark, **one or more visualization attributes associated with visual characteristics of the landmark**, or the like. **Visualization attributes and/or other attributes may include**, for example, textual information, graphical information, audio information, video information, photographs, pictorial information, illustrations, animation, audio/video information, icons, iconized information, 2D information, **3D information**, or the like." *Uber Technologies* at col. 13:18-29 "**The generated map may optionally include multiple layers. For example, a first layer of the generated map may optionally include road-based geographical information, e.g., showing streets and avenues, showing street names, or the like. A second layer of the generated map may**

(cont.) 1.c. **the images are superimposed along the route to create a 3D impression around the location**,	**optionally include photograph-based geographical information, e.g., satellite photographs or portions thereof. A third layer of the generated map may optionally include landmarks, e.g., bank branches, coffee shops, monuments, water fountains, or the like. A fourth layer of the generated map may optionally include personal contact information converted into geo-spatial information, e.g., indications corresponding to addresses included in the personal contacts database. The generated map may include other layers or other combinations of layers**." *Uber Technologies* at col. 14:26-40 "In some embodiments, **the generated map may include a road-based map showing streets and avenues, whereas additional map layers (e.g., personal contacts, landmarks, or the like) may be overlaid on top of the map. For example, one or more information layers may be substantially separate from the generated map, and may be overlaid or superimposed on the generated map**. In other embodiments, the generated map may integrally include both the road-based map and one or more generated layers (e.g., personal contacts, landmarks, or the like)." *Uber Technologies* at col. 14:41-50 "In some embodiments, **the distance information and/or the time-related information relative to one or more landmarks and/or personal contacts may be generated, presented, displayed and/or modified dynamically and/or in substantially real time, for example, taking into account a current position of the user (e.g., utilizing GPS information from GPS unit** 135). In some embodiments, such information may provide, for example, reassurance to the user, peace-of-mind to the user, an improved estimation by the user of her estimated time of arrival (ETA) to her destination, an improved understanding by the user of the area of his destination, or the like." *Uber Technologies* at col. 26:2-13 **B. US20080167811** "In another embodiment of the invention **the navigation device is operable to change the road navigation map between a two-dimensional view and a three-dimensional view. A first icon is assigned to said two-dimensional view and a second icon is assigned to said three-dimensional view. The icon is therefore automatically loaded based upon selecting 2D-view or 3D-view by the user respectively. If a vector graphic is used, the first icon and the second**

(cont.)
1.c. **the images are superimposed along the route to create a 3D impression around the location,**

icon are preferably rendered out of corresponding vector data." *TomTom International* at par. 0025

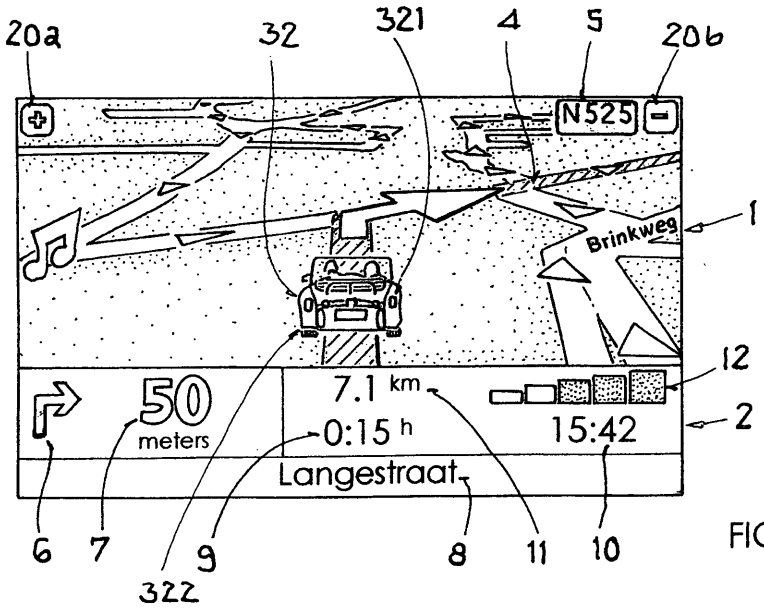
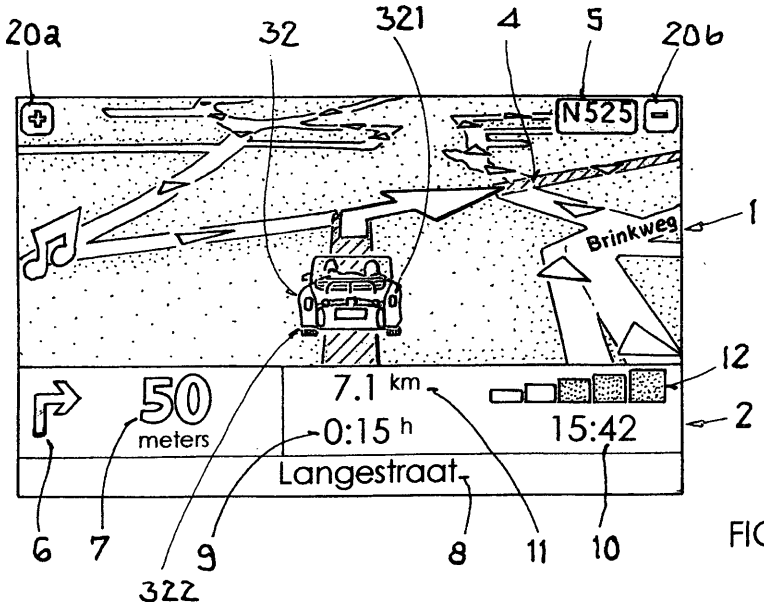


FIG. 2

"**In FIG. 2 a day view 3-D map** 1 **occupies most of the screen. The map** 1 **shows the user's car, using an icon** 32. **Additionally the map** 1 **shows the immediate surroundings of the user's car, rotated in such a way that the direction in which the car is moving is always "up". Running across the bottom quarter of the screen is the status bar** 2. **The current location of the device, as the device itself determines using conventional GPS location finding and its orientation (as inferred from its direction of travel) is depicted by the icon** 32. **The route calculated by the device (using route calculation algorithms stored in device memory as applied to map data stored in a map database in device memory) is shown as darkened path** 4 **superimposed with arrows giving the travel direction. On the darkened path** 4, **all major actions (e.g. turning corners, crossroads, roundabouts etc.) are schematically depicted by arrows overlaying the path** 4. **Numbers of motorways** 5 (here N525) **are displayed adjacent to the displayed motorway itself.**" *TomTom International* at par. 0046

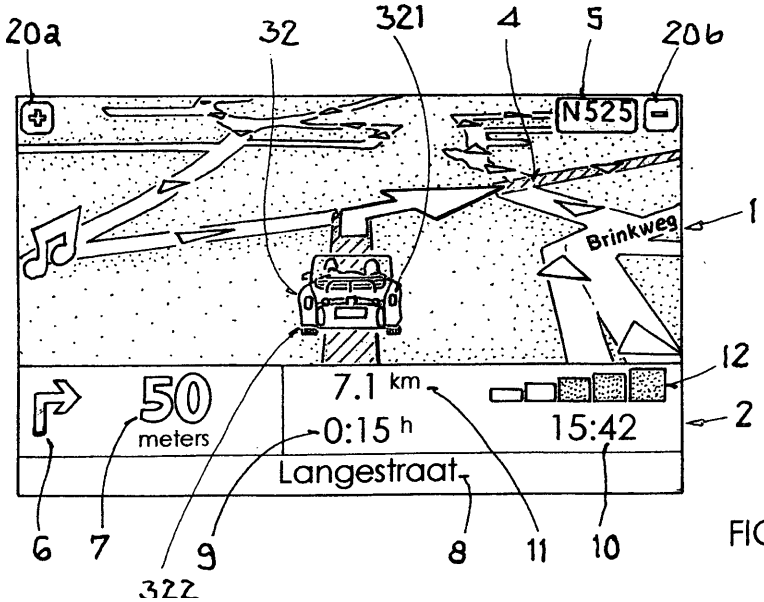
"**A map is then a set of such road vectors, plus points of interest (POIs), plus road names, plus other geographic features like park boundaries, river boundaries etc, all of which are defined in terms of vectors. All map features (e.g. road vectors, POIs etc.) are defined in a co-ordinate**

(cont.) 1.c. **the images are superimposed along the route to create a 3D impression around the location**,	**system that corresponds or relates to the GPS co-ordinate system, enabling a device's position as determined through a GPS system to be located onto the relevant road shown in a map**." *TomTom International* at par. 0056
1.d. **wherein the structures or settings include one or more of landmarks, signs, significant buildings, and exit designs**,	**A. US8930135** "Although embodiments of the invention are not limited in this regard, **the term "landmark" as used herein may include, for example, various objects or items which may be used for route guidance, navigation, route recognition, destination recognition, or the like**. In some embodiments, **a landmark may include, for example, a conspicuous object or item or structure that may be used to mark or distinguish a locality or a point-of-interest (POI), or an object or item or structure which may be used as a point of orientation or may facilitate recognizing or identifying a locality or a POI**. In some embodiments, **a "landmark" may include a well-known, substantially permanent, recognizable or easily recognizable geographic feature**. In some embodiments, **a landmark may include, for example, a statue, a sculpture, a piece of art, a water fountain, a road sign, a sign, a public transport station, a bus station, a subway station, a train station, a playground, a sports ground or field, a monument, a historical structure, a utility structure, a windmill, a water container, a water silo, an agriculture structure, an open market, a parking, a bridge, a board walk, a street sign, an advertisement sign, a billboard, a tower, a high building, a structure, a high structure, a column, a citadel, a castle, a high rise, a pillar, a skyscraper, a building, a wall, a construction, a formation, a flag, a beacon, a clock tower, an arc, or the like**. In some embodiments, **a landmark may include, for example, a business establishment, a private house, a public house, a branch of a business establishment, a bank, a financial institution, an entertainment venue, a theater, a cinema, a stadium, a ball field, a supermarket, a grocery store, a shop, a coffee shop, a clothes shop, a church, a synagogue, a religious center, a hospital, a medical center, a medical clinic, a school, a university, a sports arena or stadium, a sports venue, an entertainment venue, a theater, a museum, a railway, a train station, a building or structure having a unique shape or size, a building or structure which is relatively easily recognizable, a well-known building or structure, a substantially permanent or non-temporary structure, land-use feature(s) (e.g., a lake, a river, a forest, a dune), or the like**. In some embodiments, **a**

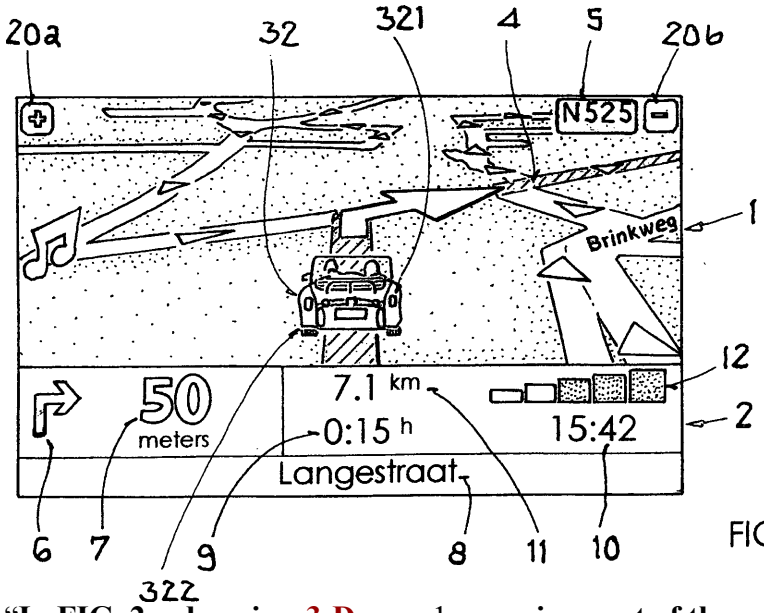
(cont.) 1.d. **wherein the structures or settings include one or more of landmarks, signs, significant buildings, and exit designs**,	**landmark may include, for example, a visible indication, a graffiti or a mural painted on a wall, towers, mountains, lakes, a blinking sign, an animated sign, a moving lights sign, or the like**. In some embodiments, **a landmark may include, for example, an item or object that is not part of a route, an off-route or off-network item or object, an item or object which may not be directly accessed or directly reached by a vehicle, an item or object which may not be driven-on or driven-through, an item or an object that is external to a route or to a route segment, or the like**. In some embodiments, **a landmark may include, for example, an item or object away from a route or from a route segment, an item or object distant from a route or a route segment, an item or object which may not be at a junction or a crossroad route segments, or the like**." *Uber Technologies* at col. 7:57-67 through col. 8:1-41 **B. US20080167811**  FIG. 2 "**In FIG. 2 a day view 3-D map** 1 **occupies most of the screen. The map** 1 **shows the user's car, using an icon** 32. **Additionally the map** 1 **shows the immediate surroundings of the user's car, rotated in such a way that the direction in which the car is moving is always "up"**. Running across the bottom quarter of the screen is the status bar 2. The current location of the device, as the device itself determines using conventional GPS location finding and its orientation (as inferred from its direction of travel) is depicted by the icon 32. **The route calculated by the device (using route calculation algorithms stored in device memory as applied to map data**

(cont.) 1.d. **wherein the structures or settings include one or more of landmarks, signs, significant buildings, and exit designs**,	**stored in a map database in device memory) is shown as darkened path** 4 **superimposed with arrows giving the travel direction. On the darkened path** 4, **all major actions (e.g. turning corners, crossroads, roundabouts etc.) are schematically depicted by arrows overlaying the path** 4. **Numbers of motorways** 5 (here N525) **are displayed adjacent to the displayed motorway itself**." *TomTom International* at par. 0046 "**A map is then a set of such road vectors, plus points of interest (POIs), plus road names, plus other geographic features like park boundaries, river boundaries etc, all of which are defined in terms of vectors. All map features (e.g. road vectors, POIs etc.) are defined in a co-ordinate system that corresponds or relates to the GPS co-ordinate system, enabling a device's position as determined through a GPS system to be located onto the relevant road shown in a map**." *TomTom International* at par. 0056
1.e. **a perspective of the structures or settings changes in accordance with a direction the GPS receiver is moving**,	**A. US8930135** "In some embodiments, optionally, **map generator** 131 **and/or route guidance generator** 132 **may be operable associated with, or may utilize, a GPS unit** 135, **for example, a GPS receiver, a GPS transceiver, a GPS positioning unit, a GPS information generator unit, or the like**." *Uber Technologies* at col. 12:53-58 "In some embodiments, optionally, **an updater unit or module** 125 **may be used to perform** manual updating or modification of the landmark database 122, **automatic updating or modification of the landmark database** 122, and/or user-based or user feedback-based updating or modification of the landmark database 122." *Uber Technologies* at col. 13:51-56 "In some embodiments, **the distance information and/or the time-related information relative to one or more landmarks and/or personal contacts may be generated, presented, displayed and/or modified dynamically and/or in substantially real time, for example, taking into account a current position of the user (e.g., utilizing GPS information from GPS unit** 135). In some embodiments, such information may provide, for example, reassurance to the user, peace-of-mind to the user, an improved estimation by the user of her estimated time of arrival (ETA) to her destination, an improved understanding by the user of the area of his

(cont.) 1.e. **a perspective of the structures or settings changes in accordance with a direction the GPS receiver is moving**,	destination, or the like." *Uber Technologies* at col. 26:2-13 "In some embodiments, **maps may be presented** from an angular or tilted point-of-view, from a driver's eye point-of-view, **in line with a current moving direction of a vehicle, or the like**. Other modes of display may be used." *Uber Technologies* at col. 31:64-67 "In some embodiments, **the display of the presented map may be dynamically modified and/or updated, substantially in real time, based on the progress or movement of the user along a route**." *Uber Technologies* at col. 32:1-4 "In some embodiments, **user input may be optional and need not be received in order to trigger an update or a modification of the landmark database**. For example, some embodiments, may utilize automatic feedback which may not necessarily be based on a user request. For example, **an automatic feedback may be transmitted or utilized based on GPS information**, or based on other information sources or triggers." *Uber Technologies* at col. 34:19-25 **B. US20080167811** "**A Navigator software runs for instance on a touch screen (i.e. stylus controlled) Pocket PC powered PDA device. It provides a GPS based navigation system when the PDA is coupled with a GPS receiver. The combined PDA and GPS receiver system is designed to be used as an in-vehicle navigation system. The invention may also be implemented in any other arrangement of navigation device, such as one with an integral GPS receiver/computer/display**." *TomTom International* at par. 0041 "**In FIG. 2 a day view 3-D map** 1 **occupies most of the screen. The map** 1 **shows the user's car, using an icon** 32. **Additionally the map** 1 **shows the immediate surroundings of the user's car, rotated in such a way that the direction in which the car is moving is always "up". Running across the bottom quarter of the screen is the status bar** 2. **The current location of the device, as the device itself determines using conventional GPS location finding and its orientation (as inferred from its direction of travel) is depicted by the icon** 32. **The route calculated by the device (using route calculation algorithms stored in device memory as applied to map data stored in a map database in device memory) is shown as darkened path** 4

(cont.) 1.e. **a perspective of the structures or settings changes in accordance with a direction the GPS receiver is moving,**	**superimposed with arrows giving the travel direction. On the darkened path** 4, **all major actions (e.g. turning corners, crossroads, roundabouts etc.) are schematically depicted by arrows overlaying the path** 4. **Numbers of motorways** 5 (here N525) **are displayed adjacent to the displayed motorway itself**." *TomTom International* at par. 0046  FIG. 2
1.f. **the map is not changed relatively while the images being imposed change as the structures or settings change**; and	**A. US8930135** "In some embodiments, optionally, **an updater unit or module** 125 **may be used to perform** manual updating or modification of the landmark database 122, **automatic updating or modification of the landmark database** 122, and/or user-based or user feedback-based updating or modification of the landmark database 122." *Uber Technologies* at col. 13:51-56 "**The generated map may optionally include multiple layers. For example, a first layer of the generated map may optionally include road-based geographical information, e.g., showing streets and avenues, showing street names, or the like. A second layer of the generated map may optionally include photograph-based geographical information, e.g., satellite photographs or portions thereof. A third layer of the generated map may optionally include landmarks, e.g., bank branches, coffee shops, monuments, water fountains, or the like. A fourth layer of the generated map may optionally include personal contact information converted into geo-spatial information, e.g., indications**

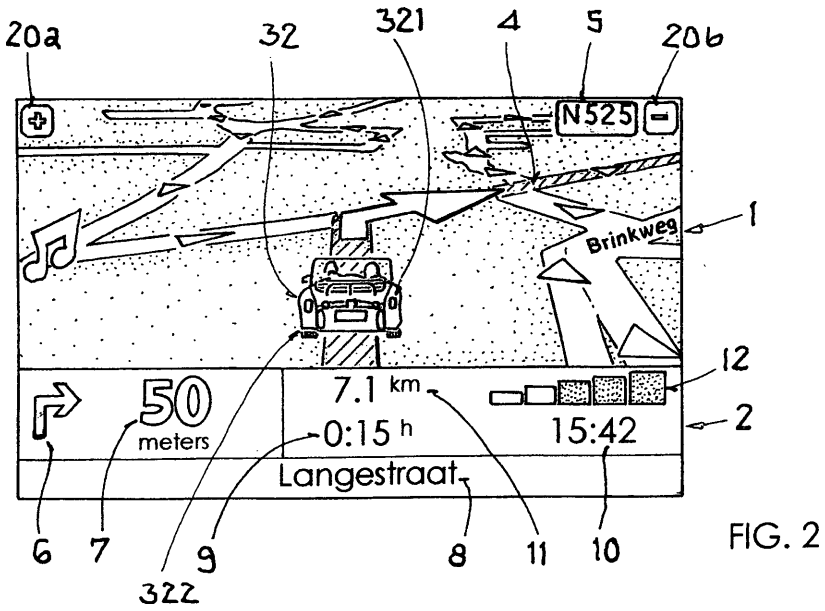
(cont.) 1.f. **the map is not changed relatively while the images being imposed change as the structures or settings change**; and	**corresponding to addresses included in the personal contacts database. The generated map may include other layers or other combinations of layers**." *Uber Technologies* at col. 14:26-40 "In some embodiments, **the generated map may include a road-based map showing streets and avenues, whereas additional map layers (e.g., personal contacts, landmarks, or the like) may be overlaid on top of the map. For example, one or more information layers may be substantially separate from the generated map, and may be overlaid or superimposed on the generated map**. In other embodiments, **the generated map may integrally include both the road-based map and one or more generated layers (e.g., personal contacts, landmarks, or the like)**." *Uber Technologies* at col. 14:41-50 "In some embodiments, **maps generated by mapping system** 100 **may include or may allow, for example, a map view, a satellite view, a bird's eye view, a hybrid view, or other suitable views**." *Uber Technologies* at col. 24:18-21 "In some embodiments, **the distance information and/or the time-related information relative to one or more landmarks and/or personal contacts may be generated, presented, displayed and/or modified dynamically and/or in substantially real time, for example, taking into account a current position of the user (e.g., utilizing GPS information from GPS unit** 135). In some embodiments, such information may provide, for example, reassurance to the user, peace-of-mind to the user, an improved estimation by the user of her estimated time of arrival (ETA) to her destination, an improved understanding by the user of the area of his destination, or the like." *Uber Technologies* at col. 26:2-13 "In some embodiments, **the display of the presented map may be dynamically modified and/or updated, substantially in real time, based on the progress or movement of the user along a route**." *Uber Technologies* at col. 32:1-4 **B. US20080167811** "In another embodiment said **at least one icon is a vector graphic. The current view of the icon is rendered when needed**. In another embodiment **said vector graphic is three-dimensional. Depending on the angle the user is viewing at the icon the appearance of the icon is estimated using**

(cont.) 1.f. **the map is not changed relatively while the images being imposed change as the structures or settings change**; and	**vector data**." *TomTom International* at par. 0028  FIG. 2 "**In FIG. 2 a day view 3-D map** 1 **occupies most of the screen. The map** 1 **shows the user's car, using an icon** 32. **Additionally the map** 1 **shows the immediate surroundings of the user's car, rotated in such a way that the direction in which the car is moving is always "up". Running across the bottom quarter of the screen is the status bar** 2. **The current location of the device, as the device itself determines using conventional GPS location finding and its orientation (as inferred from its direction of travel) is depicted by the icon** 32. **The route calculated by the device (using route calculation algorithms stored in device memory as applied to map data stored in a map database in device memory) is shown as darkened path** 4 **superimposed with arrows giving the travel direction. On the darkened path** 4, **all major actions (e.g. turning corners, crossroads, roundabouts etc.) are schematically depicted by arrows overlaying the path** 4. **Numbers of motorways** 5 (here N525) **are displayed adjacent to the displayed motorway itself**." *TomTom International* at par. 0046
1.g. **changing the images with**	**A. US8930135**

different color effects in reference to an input from at least one source about conditions of the location at a time that the map is displayed on the GPS receiver,	"In some embodiments, optionally, **map generator** 131 **and/or route guidance generator** 132 **may be operable associated with, or may utilize, a GPS unit** 135, **for example, a GPS receiver, a GPS transceiver, a GPS positioning unit, a GPS information generator unit, or the like**." *Uber Technologies* at col. 12:53-58 "**The landmark database** 122 **may include various other and/or additional categories and attributes, for example**, a category, a sub-category, a name attribute, a description attribute, a location attribute, a functional attribute associated with a function of the landmark, **one or more visualization attributes associated with visual characteristics of the landmark**, or the like. **Visualization attributes and/or other attributes may include, for example, textual information, graphical information, audio information, video information, photographs, pictorial information, illustrations, animation, audio/video information, icons, iconized information, 2D information, 3D information, or the like**." *Uber Technologies* at col. 13:18-29 "**The generated map may optionally include multiple layers. For example, a first layer of the generated map may optionally include road-based geographical information, e.g., showing streets and avenues, showing street names, or the like. A second layer of the generated map may optionally include photograph-based geographical information, e.g., satellite photographs or portions thereof. A third layer of the generated map may optionally include landmarks, e.g., bank branches, coffee shops, monuments, water fountains, or the like. A fourth layer of the generated map may optionally include personal contact information converted into geo-spatial information, e.g., indications corresponding to addresses included in the personal contacts database. The generated map may include other layers or other combinations of layers**." *Uber Technologies* at col. 14:26-40 "In some embodiments, **the generated map may include a road-based map showing streets and avenues, whereas additional map layers (e.g., personal contacts, landmarks, or the like) may be overlaid on top of the map. For example, one or more information layers may be substantially separate from the generated map, and may be overlaid or superimposed on the generated map**. In other embodiments, the generated map may integrally include both
(cont.)	

1.g. **changing the images with different color effects in reference to an input from at least one source about conditions of the location at a time that the map is displayed on the GPS receiver**,	the road-based map and one or more generated layers (e.g., personal contacts, landmarks, or the like)." *Uber Technologies* at col. 14:41-50 "In some embodiments, **layers may include pointers, numerals, or other indicators to indicate landmarks or personal contacts on the map, for example, using a permanent indication, a flashing or blinking indication, an animated indication, a balloon or bubble indication, a pushpin indication, a highlighted or colorful indication, an indication visible upon hovering of a pointing device (e.g., a mouse) over a certain point of the map, or the like**. In some embodiments, one or more audio indications, voice indications and/or sound indications may be used, for example, to indicate or to convey landmark information or landmark attributes." *Uber Technologies* at col. 14:59-67 through col. 15:1-2 "In one embodiment, for example, **the route guidance generator** 132 **may select to utilize a first landmark for route guidance instead of a second landmark, based on the physical visibility or physical properties of the landmarks. For example, a landmark having high visibility may be selected, a landmark having a relatively better visibility from a certain angle or route segment, a landmark having better night-time visibility, or the like**." *Uber Technologies* at col. 16:64-67 through col. 17:1-4 "In some embodiments, **the distance information and/or the time-related information relative to one or more landmarks and/or personal contacts may be generated, presented, displayed and/or modified dynamically and/or in substantially real time, for example, taking into account a current position of the user (e.g., utilizing GPS information from GPS unit** 135). In some embodiments, such information may provide, for example, reassurance to the user, peace-of-mind to the user, an improved estimation by the user of her estimated time of arrival (ETA) to her destination, an improved understanding by the user of the area of his destination, or the like." *Uber Technologies* at col. 26:2-13 "In some embodiments, **the display of the presented map may be dynamically modified and/or updated, substantially in real time, based on the progress or movement of the user along a route**." *Uber Technologies* at col. 32:1-4
(cont.)	"In some embodiments, **user input may be optional and need**

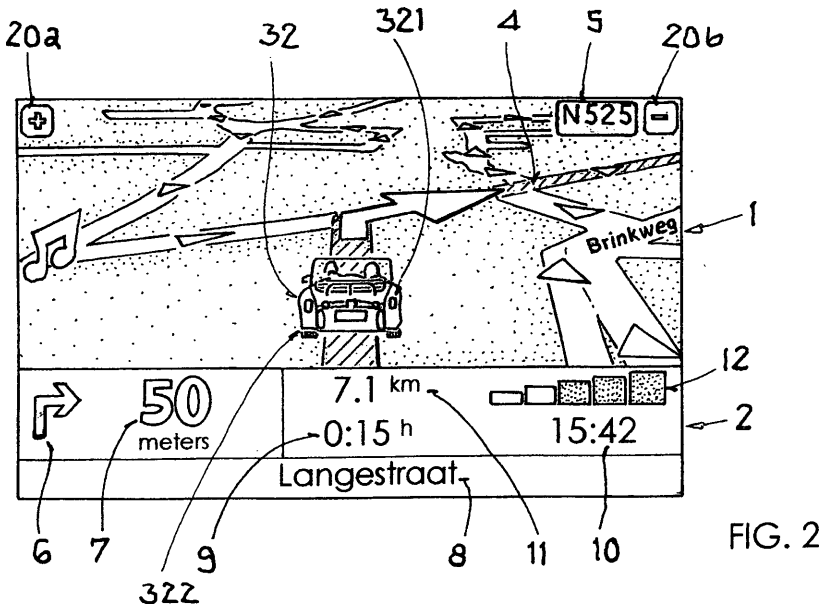
1.g. **changing the images with different color effects in reference to an input from at least one source about conditions of the location at a time that the map is displayed on the GPS receiver**, (cont.)	**not be received in order to trigger an update or a modification of the landmark database**. For example, some embodiments, may utilize automatic feedback which may not necessarily be based on a user request. For example, **an automatic feedback may be transmitted or utilized based on GPS information**, or based on other information sources or triggers." *Uber Technologies* at col. 34:19-25 **B. US20080167811** "**An aspect of the invention is a navigation device programmed with a map database and software. The navigation device is operable to display a current position of the device on a road navigation map. The current position of the device is preferably derived from a measured actual geographic position. E.g. a GPS-Signal could be estimated to derive the current position**." *TomTom International* at par. 0016 "In another embodiment of the invention **said navigation device is operable to change the road navigation map between a daytime view and a nighttime view. A first icon is assigned to said daytime view and a second icon is assigned to said nighttime view. The icon is therefore automatically loaded based upon selecting daytime-view or nighttime-view by the user respectively. If in a further refinement a vector graphic is used, the colors of the planes of the vector graphic are changed to create the first icon and the second icon preferably**." *TomTom International* at par. 0026 "In another embodiment of the invention **said at least one icon is animated depending on at least one estimated or measured parameter like daytime, nighttime, speed, acceleration, slowing down or distance**." *TomTom International* at par. 0029 "**A Navigator software runs for instance on a touch screen (i.e. stylus controlled) Pocket PC powered PDA device. It provides a GPS based navigation system when the PDA is coupled with a GPS receiver. The combined PDA and GPS receiver system is designed to be used as an in-vehicle navigation system. The invention may also be implemented in any other arrangement of navigation device, such as one with an integral GPS receiver/computer/display**." *TomTom International* at par. 0041

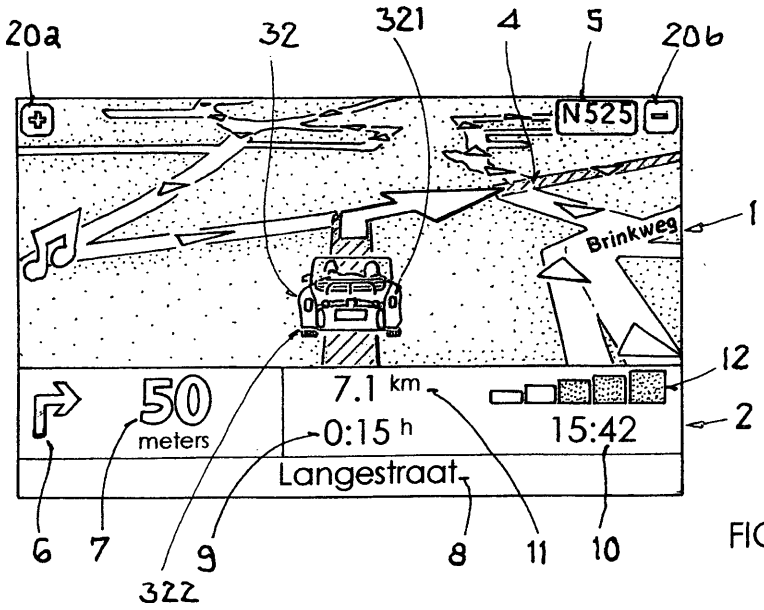
1.g. **changing the images with different color effects in reference to an input from at least one source about conditions of the location at a time that the map is displayed on the GPS receiver**,	 FIG. 2 "**In FIG. 2 a day view 3-D map** 1 **occupies most of the screen. The map** 1 **shows the user's car, using an icon** 32. **Additionally the map** 1 **shows the immediate surroundings of the user's car, rotated in such a way that the direction in which the car is moving is always "up". Running across the bottom quarter of the screen is the status bar** 2. **The current location of the device, as the device itself determines using conventional GPS location finding and its orientation (as inferred from its direction of travel) is depicted by the icon** 32. **The route calculated by the device (using route calculation algorithms stored in device memory as applied to map data stored in a map database in device memory) is shown as darkened path** 4 **superimposed with arrows giving the travel direction. On the darkened path** 4, **all major actions (e.g. turning corners, crossroads, roundabouts etc.) are schematically depicted by arrows overlaying the path** 4. **Numbers of motorways** 5 (here N525) **are displayed adjacent to the displayed motorway itself**." *TomTom International* at par. 0046
(cont.)	"In a further embodiment **the icon** 32 **of FIG. 2 is animated. In case the device is moving—therefore changing the geographic position—the tires** 322 **look like being rotated. Another possibility is to use indicators lights** 321 **of the icon** 31 **start indicating close to the next turn. To achieve this effect, the color of the indicator changes between black and yellow periodically. Additionally the icon** 32 **is changed in night view. In this case read headlights could be used**."

1.g. **changing the images with different color effects in reference to an input from at least one source about conditions of the location at a time that the map is displayed on the GPS receiver**,	*TomTom International* at par. 0050 "**A map is then a set of such road vectors, plus points of interest (POIs), plus road names, plus other geographic features like park boundaries, river boundaries etc, all of which are defined in terms of vectors. All map features (e.g. road vectors, POIs etc.) are defined in a co-ordinate system that corresponds or relates to the GPS co-ordinate system, enabling a device's position as determined through a GPS system to be located onto the relevant road shown in a map**." *TomTom International* at par. 0056
1.h. **making the map resembling an electronically generated map with a certain level of realism in accordance with surrounding of the location of the GPS**, (cont.)	**A. US8930135** "**Although embodiments of the invention are not limited in this regard, the term "map" as used herein may include, for example, a street-based map, a road-based map, a street map, a road map, a geographical map, a vector map, a raster map, a topographic map, a city map, a digital chart, a bird's eye view map, a satellite map, a pictorial map, a 2D map, a 3D map, a traffic map, or the like. In some embodiments, a "map" need not necessarily be a graphical representation, but may be or may include data or information (e.g., content of a database) from which a graphical map may be generated or from which a rendering may be generated or from which route guidance information may be generated**." *Uber Technologies* at col. 8:58-67 through col. 9:1-2 "In some embodiments, optionally, **map generator** 131 **and/or route guidance generator** 132 **may be operable associated with, or may utilize, a GPS unit** 135, **for example, a GPS receiver, a GPS transceiver, a GPS positioning unit, a GPS information generator unit, or the like**." *Uber Technologies* at col. 12:53-58 "**The landmark database** 122 **may include various other and/or additional categories and attributes, for example**, a category, a sub-category, a name attribute, a description attribute, a location attribute, a functional attribute associated with a function of the landmark, **one or more visualization attributes associated with visual characteristics of the landmark**, or the like. **Visualization attributes and/or other attributes may include, for example, textual information, graphical information, audio information, video information, photographs, pictorial information, illustrations, animation, audio/video information, icons,**

1.h. **making the map resembling an electronically generated map with a certain level of realism in accordance with surrounding of the location of the GPS,**	**iconized information, 2D information, 3D information, or the like**." *Uber Technologies* at col. 13:18-29 "In some embodiments, **map generator** 131 **may generate and/or render a map using the information stored in the map database** 121, **optionally utilizing geocoder** 133, **reverse geocoder** 134, **and/or a or GPS unit** 135. **The generated map may optionally include multiple layers. For example, a first layer of the generated map may optionally include road-based geographical information, e.g., showing streets and avenues, showing street names, or the like. A second layer of the generated map may optionally include photograph-based geographical information, e.g., satellite photographs or portions thereof. A third layer of the generated map may optionally include landmarks, e.g., bank branches, coffee shops, monuments, water fountains, or the like. A fourth layer of the generated map may optionally include personal contact information converted into geo-spatial information, e.g., indications corresponding to addresses included in the personal contacts database. The generated map may include other layers or other combinations of layers**." *Uber Technologies* at col. 14:23-40 "In some embodiments, **the distance information and/or the time-related information relative to one or more landmarks and/or personal contacts may be generated, presented, displayed and/or modified dynamically and/or in substantially real time, for example, taking into account a current position of the user (e.g., utilizing GPS information from GPS unit** 135). In some embodiments, such information may provide, for example, reassurance to the user, peace-of-mind to the user, an improved estimation by the user of her estimated time of arrival (ETA) to her destination, an improved understanding by the user of the area of his destination, or the like." *Uber Technologies* at col. 26:2-13 "In some embodiments, **the display of the presented map may be dynamically modified and/or updated, substantially in real time, based on the progress or movement of the user along a route**." *Uber Technologies* at col. 32:1-4 **B. US20080167811** "**An aspect of the invention is a navigation device programmed with a map database and software. The navigation device is operable to display a current position**
(cont.)	

1.h. **making the map resembling an electronically generated map with a certain level of realism in accordance with surrounding of the location of the GPS,** (cont.)	**of the device on a road navigation map. The current position of the device is preferably derived from a measured actual geographic position. E.g. a GPS-Signal could be estimated to derive the current position.**" *TomTom International* at par. 0016 "In another embodiment of the invention **said navigation device is operable to change the road navigation map between a daytime view and a nighttime view. A first icon is assigned to said daytime view and a second icon is assigned to said nighttime view. The icon is therefore automatically loaded based upon selecting daytime-view or nighttime-view by the user respectively. If in a further refinement a vector graphic is used, the colors of the planes of the vector graphic are changed to create the first icon and the second icon preferably.**" *TomTom International* at par. 0026 "In another embodiment **said at least one icon is a vector graphic. The current view of the icon is rendered when needed. In another embodiment said vector graphic is three-dimensional. Depending on the angle the user is viewing at the icon the appearance of the icon is estimated using vector data. For example, if the navigation map view has the north on top and the device is driving southwards a front view of a car is rendered from the three dimensional vector graphic data. If the car is driving westwards the left side view of the car is rendered and so on.**" *TomTom International* at par. 0028 "In another embodiment of the invention **said at least one icon is animated depending on at least one estimated or measured parameter like daytime, nighttime, speed, acceleration, slowing down or distance.**" *TomTom International* at par. 0029 "**A Navigator software runs for instance on a touch screen (i.e. stylus controlled) Pocket PC powered PDA device. It provides a GPS based navigation system when the PDA is coupled with a GPS receiver. The combined PDA and GPS receiver system is designed to be used as an in-vehicle navigation system. The invention may also be implemented in any other arrangement of navigation device, such as one with an integral GPS receiver/computer/display.**" *TomTom International* at par. 0041

1.h. **making the map resembling an electronically generated map with a certain level of realism in accordance with surrounding of the location of the GPS,**	 FIG. 2 "**In FIG. 2 a day view 3-D map** 1 **occupies most of the screen. The map** 1 **shows the user's car, using an icon** 32. **Additionally the map** 1 **shows the immediate surroundings of the user's car, rotated in such a way that the direction in which the car is moving is always "up". Running across the bottom quarter of the screen is the status bar** 2. **The current location of the device, as the device itself determines using conventional GPS location finding and its orientation (as inferred from its direction of travel) is depicted by the icon** 32. **The route calculated by the device (using route calculation algorithms stored in device memory as applied to map data stored in a map database in device memory) is shown as darkened path** 4 **superimposed with arrows giving the travel direction. On the darkened path** 4, **all major actions (e.g. turning corners, crossroads, roundabouts etc.) are schematically depicted by arrows overlaying the path** 4. **Numbers of motorways** 5 (here N525) **are displayed adjacent to the displayed motorway itself**." *TomTom International* at par. 0046 "**A map is then a set of such road vectors, plus points of interest (POIs), plus road names, plus other geographic features like park boundaries, river boundaries etc, all of which are defined in terms of vectors. All map features (e.g. road vectors, POIs etc.) are defined in a co-ordinate system that corresponds or relates to the GPS co-ordinate system, enabling a device's position as determined through a GPS system to be located onto the relevant road shown in**
(cont.)	

1.h. **making the map resembling an electronically generated map with a certain level of realism in accordance with surrounding of the location of the GPS**,	**a map**." *TomTom International* at par. 0056
1.i. **wherein an icon of a vehicle in the map shows that headlights are on when the vehicle is supposed to turn on its headlights**.	**B. US20080167811** **"In FIG. 2 a day view 3-D map 1 occupies most of the screen. The map 1 shows the user's car, using an icon 32. Additionally the map 1 shows the immediate surroundings of the user's car, rotated in such a way that the direction in which the car is moving is always "up". Running across the bottom quarter of the screen is the status bar 2. The current location of the device, as the device itself determines using conventional GPS location finding and its orientation (as inferred from its direction of travel) is depicted by the icon 32."** *TomTom International* at par. 0046  FIG. 2 "In a further embodiment **the icon 32 of FIG. 2 is animated**. In case the device is moving—therefore changing the geographic position—the tires 322 look like being rotated. **Another possibility is to use indicators lights 321 of the icon 31 start indicating close to the next turn. To achieve this effect, the color of the indicator changes between black and yellow periodically. Additionally the icon 32 is changed in night view. In this case read headlights could be used**." *TomTom International* at par. 0050