GPS Navigation

Description

Iâ??m attempting to summarize my understanding of GPS software and mapsâ?¦.

When you think about GPS navigation, devices like Garmin and TomTom comes to mind and those two are, perhaps, dominating the market. However, in the last few years the situation has become much more â??complicatedâ?• with smartphones having a plethora of GPS navigation apps available. And many new cars come with GPS navigation installed and, of course, Google and Apple have their own maps with navigation. All these devices and apps need maps to function so where do these maps come from?

Maps

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NAVTEQ was a Chicago based company that was later acquired by Nokia and subsequently renamed Here and sold to a consortium of three German automotive companies, Audi, BMW and Mercedes. Garmin used NAVTEQ maps so supposedly currently uses the Here maps. TeleAtlas was a Dutch company providing maps to TomTom, who later acquired the company. Open Streetmap (OSM), which is similar to Wikipedia in concept in that everyone can contribute and update the maps provides the maps for most of the free smart phone apps. Both Google (and I assume Waze) and Apple get their main maps from TomTom but have other suppliers as well.

Iâ??m no expert on what information and how the this information is stored but without additional information base-maps would be pretty useless. To make use of the maps for navigation, additional information such as road and street names as well as addresses must be available and it is in this respect that â??appsâ?• using the same base-maps differ.

Navigation devices

Garmin is probably the biggest seller of navigation devices, at least in the USA. As stated above, I believe Garmin uses maps from Here with their own information on top of that. However, the Garmin map format has been reverse engineered and OSM maps can be formatted to work with Garmin devices. For example, itâ??s been reported that the original Garmin maps are not very good when traveling in South America and that the OSM maps are actually better and more recent. On a recent trip to Mexico, Garmin with the OSM maps worked pretty well, but information such as speed-limits was not so good.

I have been using Garmin Nuvi devices on my motorcycle and they hold up well, even in hot weather with direct sunlight. I have not used them much in heavy rain but with the use of silicon at the edges of the screen you can make them pretty watertight and if thatâ??s not enough the simple trick of an upside down zip-loc plastic bag works well. Unfortunately, the Garmin (and TomTom) special motorcycle devices are ridiculously expensive and Iâ??ve never tried them so I canâ??t give any comments on how they work.

Apps

There are a lot of navigation apps for both iPhone and Android devices but I have only tested apps that run on Android. Most of the apps use the OSM maps but apps like *here* use the *Here* maps.

1. **Osmand:** This app has a lot of options and somewhat obscure way of setting them. I donâ??t recommend this app if all you want to do is to navigate to a destination because itâ??s pretty difficult to specify it. You must select a point on the map and set this as the destination rather than specify a destination address. Neither is it straight forward to specify and save favorites. However, if you have a route built on for example a google maps you can upload the route and use the app to navigate. Likewise, itâ??s easy to record a route as you go along it. Itâ??s using the OSM maps and secondary information such as speed limits is not so good.
2. **maps.me:** For road navigation this is a very good and straight forward app to use. You set a destination and it figures out the route. However, sometimes the destination you want is not in the database and you might need to find it on the map. Also uses the OSM maps but seems to have more address and point of interest information (poi) than osmand. On my recent trip traversing central Asia maps.me worked really well. It also seems that is is coordinated with booking.com. I use booking.com extensively on my trips and almost all hotels Iâ??ve found are also available on maps.me making navigation to the hotel easy. Speed limit information is mostly lacking, but, in some places like Estonia, speed limits did show on the display when passing speed cameras.
3. **Here:** This is the navigation app from the company behind the Here maps. Itâ??s very straight forward to use, set the destination and it figures out how to get there. This app has pretty good secondary information such as speed limits, not so sure about itâ??s poi information. However, I found it to be unreliable in some cases so I gave up using it.
4. Google maps: It seems this app has the most up to date maps but you do need to download the maps to your phone if there isnâ??t reliable data-connection everywhere along your route. Of course, if you donâ??t have a paid data-plan for where you are going you also need to download the maps before setting off.

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Category

1. Uncategorized

Tags

1. Garmin
2. GPS navigation
3. Here
4. maps.me
5. Navteq
6. OSM
7. osmand
8. TomTom

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