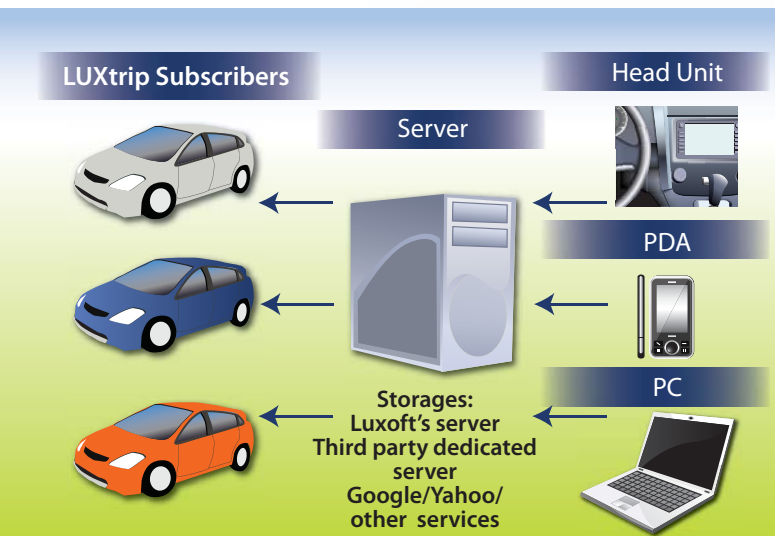


Luxoft Approach to Interactive Navigation

LUXtrip product platform by Luxoft extends navigation and online access functionalities, and can be used with most pre- or post-installed devices. It is also possible to extend the technology to handheld PND, PDA and Smartphone devices without significant additional investment.



DPOIs loading process

Luxoft used the basis of three principles:

- **Real time access:** Ergonomics and man- machine interface must meet the event- oriented nature of in-vehicle life, fast-changing rate of the road events and must be sufficiently robust aneasy-to-use while driving.
- **Integration and scalability:** the entire solution must be open to involve more data sources and provide more services, including ones not presumed during the design phase.
- **Minimum data traffic:** mobile communications are not yet as fast, cheap and reliable as landline-based broadband Internet, especially when communicating to a quickly moving object such as car. Therefore, data sent from the land infrastructure must be as short and protected as possible.

LUXtrip Manager

LUXtrip platform is the first step to combine navigation and online interaction capabilities in a single platform. The DPOIs approach allows the drivers to submit and download POI information in real time via online connection directly to a regular Web server.

LUXtrip manager employs a very light and simple land infrastructure, integrating with existing network data services (including open and free web information locations), and is fully scalable. It can also be customized with branding for each automotive company according to their requirements.

Connection

LUXtrip don't need permanent online connection, but only spot-based networking.

Integration

LUXtrip can be integrated with in-vehicle navigation system to be displayed on the map or added as a standalone feature with no dependency to the pre-installed navigation. Additional features like route calculation, usage of LUXtrip for navigation and others can be enabled if needed.

Map view can be used as an additional view for dynamic POIs, which allow seeing the entire picture of POI locations. In these views Dynamic POIs looks like regular map objects with additional online-related properties.



Displaying

Depending on subscription / filter, the user receives the list of DPOIs closest to his route or current location. This list is updated dynamically when changing vehicle position.



Management

Target device (head unit) allows to add locations or time-limited events with co-ordinates, description and attached multimedia. User can also remove his own POI. It is also possible to add ratings and comments to persistent POIs.



Dynamic POIs

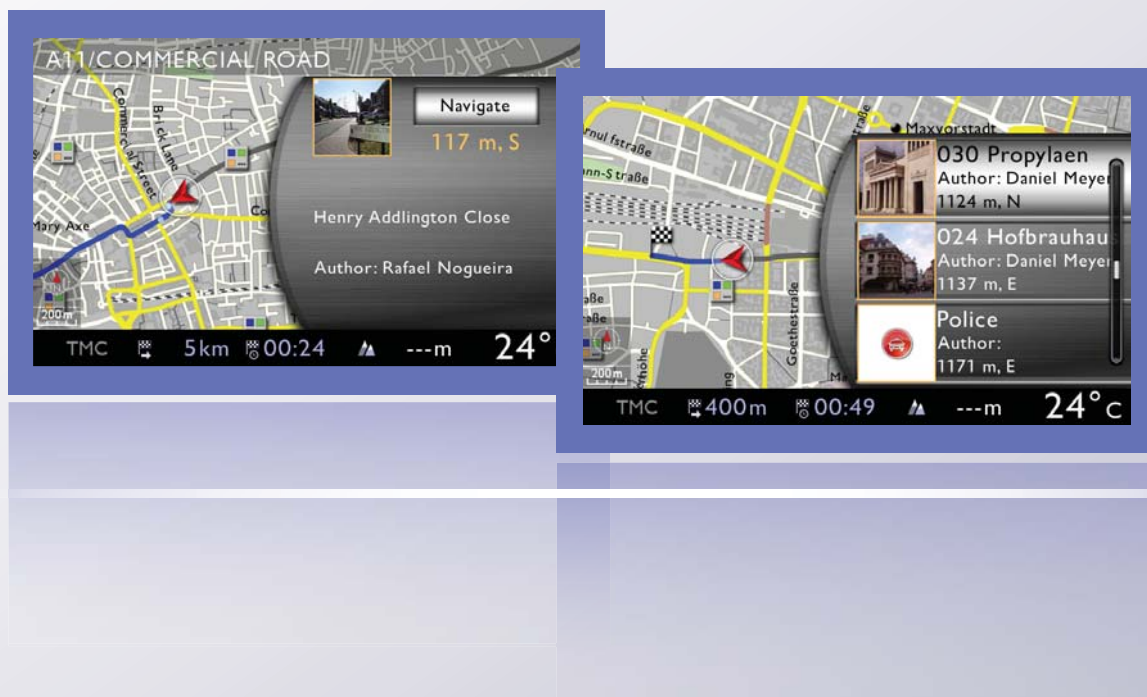
Dynamic points of interest (DPOI) are sets of location information co-ordinates, description and attached multimedia. With DPOIs, user can mark the location immediately from head unit, as well as from regular PCs or PDAs. DPOIs are kept in separate Internet-accessible storage areas and can be shared by multiple subscribers, who can submit, receive, filter and manage DPOIs as they drive.

Short-term DPOIs allow users to mark temporary events occurring on the road (detours, speed cameras, accidents, road works etc.), which will be automatically deleted after deadline unless being confirmed by other users.

Also **Persistent Points of Interest** (PPOIs have infinite life cycle like sights, hotels, restaurants, companies, gas stations etc) can be uploaded to the head unit. Persistent POIs are typically loaded or at least edited by Internet or imported from maps management sites like Google Maps / Google Earth/ Yahoo / Panaramio.

Advantages of LUXtrip

- LUXtrip enables the user to view the environment around them; quickly retrieving information about the objects he sees or drives nearby. It is important as the car itself significantly restricts access to information about things not directly located on the drive and somehow marked for identification.
- LUXtrip provides the user with the additional opportunity of social interaction. Being able to notify other users about the interesting places on the route, the driver becomes not just a passive consumer of the pre-generated information, but an active user, who can impact and add value to the community.



Potential Functionality

Commercial Services Advertising

LUXtrip assumes the opportunity to add brand-specific DPOI locations and services like:

- Parking places,
- Stores, restaurants,
- Service garages,
- Garages, etc.

Adding this kind of advertising on the same basis to user-submitted POIs make it effective and non-disturbing.

On-line Services Access

LUXtrip provides the opportunity to add Internet-based services, connected to the downloadable POIs / DPOIs:

- Hotels booking,
- Car rental,
- Table reservation,
- Parking place reservation, etc.

Operating with DPOIs via head unit makes the service faster, more convenient and more interactive, increasing usability of the service and simplifying the communication between the driver and the network.

Social Networking

Displaying of DPOIs is a form of social networking for vehicle drivers. It is to provide information regarding POI location, specific and necessary actions as well as about who submitted the POI, when and how recently it was submitted and how often it was confirmed by others.

About Luxoft

At Luxoft, we strive to be your partner. While you focus on what you do best, we bring in our in-depth expertise and best-of-breed practices to reduce costs and accelerate time to market for your products and services. Ultimately, Luxoft helps its clients maximize ROI, gain a competitive market advantage, and achieve true success.

Luxoft: Services Firm with Engineering DNA

With a culture of engineering excellence, partner mentality, extensive vertical knowledge, efficient execution and worldwide delivery, Luxoft has emerged as a global leader in high-end application development and product engineering services. Luxoft currently employs over 3,000 leading engineers in Russia, Ukraine, Romania, Canada, UK and Vietnam. By partnering with Luxoft, you put your trust in a service provider of choice for such world leaders as Alcatel Lucent, Avaya, Boeing, Dell, Deutsche Bank, Harman, Hotwire, IBM, UBS and more.

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