

# webraska NAVIGATION SDK



## SOFTWARE DEVELOPMENT KIT

A SDK for the design and deployment of navigation applications.

Webraska Navigation SDK is designed for companies willing to develop their own navigation solutions. The SDK is a set of libraries that includes all the objects required for rapid and hassle-free deployment of navigation applications. It implements Webraska's patented technology for delivering real-time, turn-by-turn navigation in 2D or 3D. The SDK also manages specific dynamic or static content such as POIs, safety cameras or traffic information.

Webraska Navigation SDK has been specifically designed to enable the development of onboard, offboard as well as hybrid navigation solutions:

### • Offboard navigation applications:

Webraska Navigation SDK enables dynamic extraction of a "corridor" of navigable data around a calculated route. It also manages compression and transmission from the server to client terminals over a wireless Internet connection. The strength of Webraska Navigation SDK lies in making the process transparent to the user thanks to optimised functions including:

- **Streaming:** The navigation starts at the very beginning of the route download. The download sequence continues as a background task.
- **Recovery system:** If GPRS/3G network coverage is not available during a download session, the system will automatically resume the procedure as soon as the network is back.
- **Data Compression:** powerful compression algorithms minimise the amount of data transferred over the network.
- **Flexible map corridor size definition:** from very light to extremely powerful dynamic "fishbone corridors" with return loops managing local rerouting.

### • Onboard navigation applications:

Webraska Navigation SDK is also designed to build navigation applications running in disconnected mode to geocode, calculate routes, generate maps, search POIs and provide GPS-based turn-by-turn guidance by making use of an onboard map data.

Map data of any size can be extracted (e.g. France map represents 350Mb).

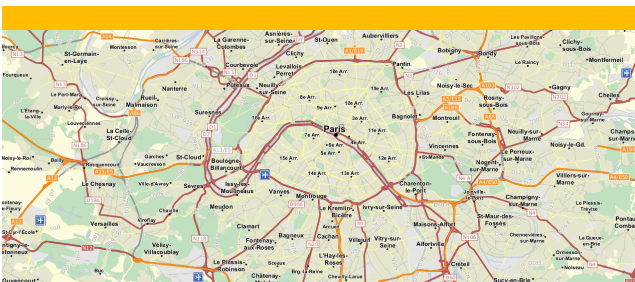
### • Hybrid navigation applications:

By managing onboard and offboard navigation with the same software, Webraska Navigation SDK also enables a development partner to build a hybrid application, that makes use of onboard data by default but can automatically switch to an offboard mode to calculate a route beyond the onboard map.

### • Our references

Webraska Navigation SDK has already been chosen by leading OEMs, Tier One Suppliers and Specialized Service Providers to integrate navigation solutions into car radios, telematics and multimedia terminals such as those manufactured by **Punch Telematix** (CarCube), **Nentec** (CommBox), **Raywood** (MDX) and **Groeneveld** (TopIQ).

The Webraska Navigation SDK is also used to develop Webraska end-users Navigation solution for **Orange** (Orange Navigation in France and Orange Sat Nav in UK) or **Vodafone** (Vodafone Navigator), available on Symbian 60, UIQ, Windows Mobile for PocketPC and Smartphones and Blackberry.



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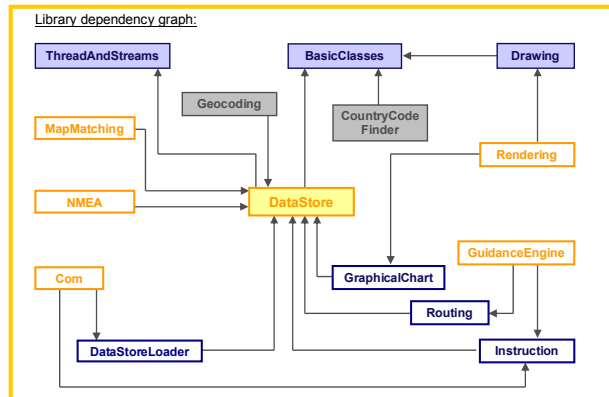
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- **Libraries**

Webraska Navigation SDK is a set of independent libraries linked through open APIs. Depending on the services to be developed, all or only a subset of the libraries may be implemented:

- **Basic Classes:** Provide a set of basic navigation and programming utilities.
- **Drawing:** Graphical tools for pixel-based devices with platform-independent interfaces.
- **ThreadAndStreams:** OS-independent interface for threads and streams management (one implementation provided per OS).
- **MapMatching:** Correlates position measurements & navigation content.
- **NMEA:** Reproduces part of the digital map dataset from the server in the client device.
- **Datastore:** Decompresses cartographic data and loads it into the DataStore.
- **Datastore Loader:** Decompresses cartographic data and loads it into the DataStore.
- **Com:** Manages HTTP based exchanges with AdminServer, Webraska's management module performing user authentication, authorization, and billing.
- **Geocoding:** Correlates position measurements & navigation content.
- **Country Code Finder:** Local route and reroute calculation
- **GraphicalChart:** Representation of guidance instructions and intersections. Provides information for the GUI to generate graphical, textual and vocal manoeuvre descriptions.
- **Guidance Engine:** Merges information coming from sensors (map-matching), server routing and local routing. Alerts the GUI of any navigation-related changes.
- **Rendering:** Displays vector maps based on data downloaded in the Datastore.

- **GraphicalChart:** Defines how map elements are graphically represented by the Rendering.
- **Geocoding:** Performs the geocoding on a local database (in C++)
- **Country Code Finder:** Tool for extracting a country code from a contact data base (in C++)



- **Portability**

Webraska Navigation SDK has been designed to run independently of OS and hardware-specific resources. Two different versions of Webraska Navigation SDK are available today. One is written in C++, the other in pure J2ME. Implementations on various Windows, Windows CE, Symbian, and Linux environments have already been performed. In order to confirm that adaptation of Webraska Navigation SDK is possible on your specific environment, please contact us at [info@webraska.com](mailto:info@webraska.com)

- **Support**

Webraska Navigation SDK (C++ or J2ME) is provided with 3 days training, access to European or North American Smartzone Geospatial Platforms, and technical support via a web interface

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