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P R E S S R E L E A S E

New features added to the free EGNOS Software development kit

Now GNSS smartphone application developers can benefit from a range of new features from Version 2 the European Commission's free EGNOS SDK (Software Development Kit). The SDK helps developers to easily implement EGNOS corrections coming from the signal in space or the Internet, and make use of EGNOS advantages when using location-enabled applications.

EGNOS SDK "new" features and improvements

- Tracking feature: allows application developers to choose different options to display their GPS and/or EGNOS and/or R&D position over the smartphone's map.
- Skyplot view: enables to display the position of the overhead EGNOS and GPS satellites with a time span of +12h or -12h. This feature shows information about: the number of EGNOS satellites available, the number of GPS satellites used for the computation of the R&D, EGNOS and GPS positions and the number of satellites not used.
- Advanced Skyplot View: provides an augmented reality showing a live video streaming of the sky and can identify EGNOS and GPS satellites in real time.
- R&D Position Type menu: displays 6 features proposing innovative ways of computing a position by deviating from the EGNOS standard EGNOS DO-229D, to get even greater accuracy:
 1. The Increased satellite constellation improving the satellite constellation used by adding GPS satellites not monitored by EGNOS.
 2. The Best satellite constellation selecting the most suitable GPS satellites geometry for the computation of the position.
 3. The 2D Positioning displaying the position even if only 3 GPS satellites are in view (4 satellites are normally the minimum needed to compute a position). This is important in urban situations, where surrounding buildings can obstruct a clear view of the sky, making it difficult to track four satellites or more.
 4. The Fast correction with no RRC improving the positioning by eliminating the jumps that the Range Rate Correction (RRC) might cause in the fast corrections applied to the pseudorange (PR) measurements.

5. The Best Weight Matrix rating the satellites involved in the position computation on the basis of the most beneficial weight matrix.
6. The SBAS ranging function enabling SBAS geostationary satellites to be used in the same way GPS satellites are used to compute a position.

As far as Integrity is concerned, the user can define different levels of integrity to be displayed (Horizontal Protection Level (HPL)): Aviation, Maritime or 85%.

EGNOS SDK Success

Since its initial release in November 2011, the EGNOS SDK is providing a useful tool to application developers who need the additional accuracy provided by EGNOS accessible in smart phone applications:

"I am interested in the toolkit because I started a project that aims at developing an application based on smartphones" - GeoMatica

"I found the toolkit interesting, especially SISNet, in Finland the EGNOS signal is low...the corrections I receive with SISNet are more reliable than those I could receive with the satellite" - VTT

The EGNOS SDK v.2 can be downloaded for free on the EGNOS Portal:

<http://egnos-portal.gsa.europa.eu/developer-platform/egnos-toolkits/egnos-sdk>

Background

The EGNOS SDK is a European Commission project that aims to foster the use of EGNOS in location-based services (LBS) applications for smartphones. It has been designed to allow application developers to take advantage of the benefits of EGNOS, and to use these in software they develop for mobile devices. The "EGNOS SDK" is the only toolkit - in an open-source library - that implements integrity and EGNOS corrections for a more accurate position than GPS alone can provide.

All the features are available and testable in the EGNOS Demo App. The EGNOS SDK can be used in Europe with EGNOS and in the US with WAAS. The toolkit is set up to provide an easy, straight-forward implementation, allowing developers to understand the system through the different modules in the source code.

The EGNOS SDK has been developed for different operating systems. It can be used by Android phones, iPhone, Blackberry phones, Windows Phone 7 and it has been developed in both Java and C, the latter allowing easy and quick ports to Linux.

The EGNOS SDK overcomes the limitations of existing smartphone GNSS receivers (namely no access to "GPS pseudoranges" and no access to EGNOS signal in space data) by relying on an external GNSS receiver connected by Bluetooth to the smartphone: this is required until smartphones' manufacturers provide access to the

GNSS internal chip raw data. The external receiver is necessary to experience the full features of the Demo App and to run the SDK Core over your smartphone.

EGNOS - Europe's first venture into satellite navigation

The European Geostationary Navigation Overlay Service (EGNOS), improves the accuracy of GPS over Europe making it suitable for safety. Citizens can profit from better personal GPS navigation provided that they use an EGNOS-enabled receiver (as most of the recent models do).

The EGNOS system works using 34 ranging and integrity monitoring stations (RIMS) that receive signals from the US GPS satellites. Four mission control centres handle data processing and differential corrections counting and six navigation land earth stations manage accuracy and reliability data for sending to the three geostationary satellite transponders for relay to end-user devices.

EGNOS offers 3 services:

1. Open Service: free and open for anyone with an 'EGNOS-enabled' GPS device.
2. Safety-of-life Service: provides an 'integrity' message warning the user of any malfunction of the GPS signal in 6 seconds. This is essential when satellite navigation is used for applications where lives are at stake. EGNOS was certified for civil aviation in 2011.
3. The EGNOS Data Access Service (EDAS): provides EGNOS information in real time over the internet.

EGNOS is the first pan-European satellite navigation system. Similar services are provided in North America by the Wide Area Augmentation System (WAAS) and in Japan by the Multifunctional Satellite Augmentation System (MSAS).

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For more information:

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