



4th GNSS raw measurements workshop

Opportunities for developers

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27th May 2020



What are the benefits/ main uses of GNSS raw measurements?



Four main features are enabled by GNSS raw measurements

Scientific

As the observations are provided in a much more coarse form they can be used for testing hardware and software solutions and for new post processing algorithms

Educational/Testing

Raw measurements can also be used to compare solution from single constellations, eliminate specific satellites or test for worst scenario performance

Integrity/Robustness

Access to raw measurements, will offer new ways to detect RF interferences and to locate the interference source by combining the measurements from multiple devices

Increased accuracy

Raw measurements allow to use advanced positioning techniques once restricted to professional GNSS receivers (e.g. RTK, PPP) that are able to improve the position accuracy

MyGalileoApp competition encouraged Galileo raw data use in smartphones apps



The GSA's MyGalileoApp Competition challenged developers to design, develop, test and commercially launch a mobile application that provides a position and/or time fix using a Galileo-enabled smartphone



- First prize went to **ARGEO**, a mobile app based on augmented reality that allows users to discover content such as prizes, coupons and shopping cards geo-located around the streets of a city



- Second prize, went to the **Tractor Navigator** app, which provides guidance for farmers driving tractors, enabling them to visualize their position and trajectory in an open field



- The third prize went to **Ready Park**, an app that makes parking easier by pairing drivers leaving a spot with users looking for one



Some of the 10 finalists were making use of GNSS raw data



Argeo: Allows users to discover content such as prizes, coupons and shopping cards geolocated around the streets of a city



Arstory: A tool to leave digital traces at real locations and share them with friends and followers



GalileoNaut: A navigation solution to help sailors to navigate inside a port or marina providing a link to the harbour office



LetMeOut: A navigation solution tailored for people with autism



PanPan: A safety solution for potentially dangerous activities that may leave users in need of assistance



ReadyPark: Parking solution which pairs drivers leaving a spot with users looking for one



Tractor Navigator: A guidance tool for farmers driving tractors, enabling them to visualise trajectories in an open field



Trukatu: C2C platform that connects people who wants to rent or lease items with owners of items to rent out



uMaze: App that enables the creation of mazes in specific outdoor areas in which users can play



Wander: App that combines a virtual environment with game-related physical experiences in the real world

Android GNSS Raw Measurements help to verify location



- Faking location on Android device is common
- Thanks to Android GNSS Raw Measurements it is possible to verify if someone is faking position at application level
- The location from chipset is sent to a server and compared with GNSS raw data in order to verify the location



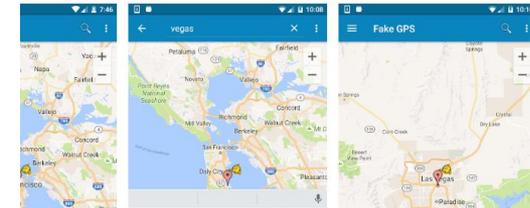
Fake GPS location

Lexa **Nástroje**

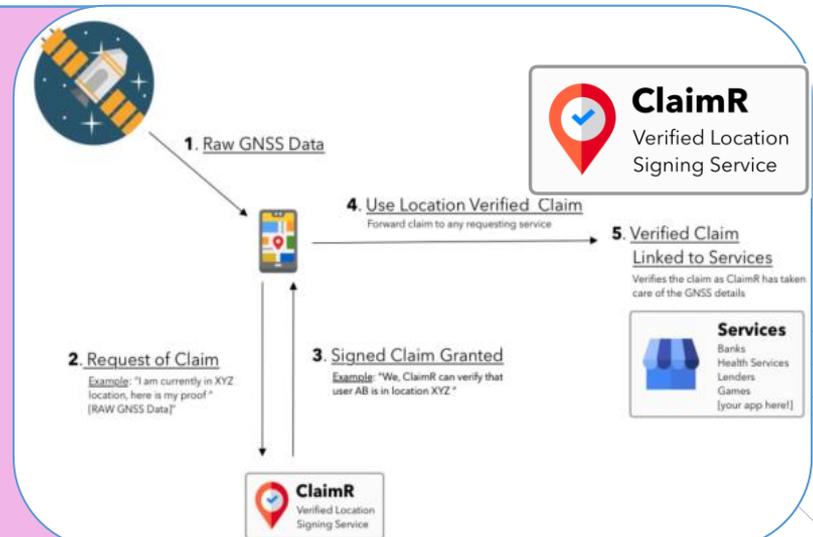
3 PEGI 3

▲ Nemáte žádná zařízení.

📌 Přidat do seznamu přání



- GSA partnered with Verified Location Challenge at FLAMINGO hackathon March, 2020
- ClaimR team won the 1200€ prize with the proposal of an authentication service serving multiple markets



MyGalileo drone competition to support start-ups around Europe



- For **drone application developers** and service provider entrepreneurs/start ups
- **3 Phases:** Call for Ideas, Development, Finals
 - Development phase to be evaluated via flight videos
 - Contribution to provide local/regional flying sites welcome
- **3 Main prizes: 100K€, 50K€, 30K€**
- **Special Prize (30K) on Emergency management:** applications supporting operations for handling and recovery in health crisis or medical disease cases



MyGalileoDrone

Webinar on Galileo use in Internet of Things coming up in June



- The GSA is going to publish soon a white paper on how GNSS technologies can support the IoT market:
 - It provides an overview of relevant GNSS technologies for low-power IoT
 - It highlights Galileo differentiators and benefits
- During the webinar, the role of GNSS and Galileo in IoT solutions will be discussed
- Examples of application from EU funded IoT-related projects
- Testimonials from manufacturers



18th June at 15:00

[webex link](#)



Join the #GNSSLive conversation on Twitter!

Let's make some noise and **tweets** during these two days:

- Live tweeting? Use the hashtag **#GNSSLive** and/or **#UseGalileo**
- Not following us on Twitter yet? Join our community: **follow @EU_GNSS**
- Got any GNSS raw measurements questions? Ask us directly on Twitter!
- Tag us, tweet & retweet the #GNSSLive stories & help us spread the word!

And if you're more into Instagram: tag **@space4eu** in your Insta stories!

Linking space to user needs



Get in touch:



www.GSA.europa.eu



EGNOS-portal.eu



GSC-europa.eu



UseGalileo.eu



The European GNSS Agency is hiring!

Apply today and help shape the future of satellite navigation!



The GSA knowledge bank on GNSS-Galileo based solutions being used to fight the



Online (GSA site and UseGalileo.eu) since 27th March and updated every week

<https://www.gsa.europa.eu/GNSS4Crisis>

The apps are listed in seven categories:

- Tracking the COVID-19 Pandemic
- Queue management
- Response management
- Information dissemination
- Equality and inclusion
- Sport & wellness
- Open source, platforms, other initiatives