next generation EMYNOS emergency communications

EMYNOS Newsletter #1

Current emergency systems and 112 services are based on legacy telecommunication technologies, which cannot cope with IP-based services that European citizens use every day. Some of the related limitations are the partial media support, the lack of integration of social media, and the use of an analogue modem for providing eCall services with limited data amount. As most operators have started migrating towards broadband IP-based infrastructures, current emergency systems need also to be upgraded and adapted in order to fulfil regulatory requirements in terms of Next Generation emergency services.

The main objective of the EMYNOS project is the design and implementation of a Next Generation platform capable of accommodating rich-media emergency calls that combine voice, text, and video, thus constituting a powerful tool for coordinating communication among citizens, call centers and first responders.

Additionally, EMYNOS addresses also issues such as call routing/redirection to the closest-available call center, retrieval of the caller location, hoax calls prevention, support for people with disabilities, and integration of social media.

In this issue

EMYNOS Objectives

EMYNOS will enable users to make emergency calls across heterogeneous devices such as PCs, TV sets, mobile devices, AAC and haptic devices, using various mature technologies (Session Initiation Protocol, IP Multimedia Subsystem (IMS), WebRTC). The project will also demonstrate how the eCall concept can benefit from the IP technologies by allowing audio-video calls towards the emergency call centers and complementing location information, with photos and videos.

Objectives

The actual emergency systems are based on old-fashioned telecommunication technologies that cannot cope with the new IP-based services that the European citizens use every day. Some of these limitations are summarized below:

1. **There is no standard underlying technology for the separate emergency systems**
2. **There is no interconnection among the PSAPs (Public Safety Answering Points): this, unfortunately, limits the transfer of calls in case of congestion and network outage**
3. **Media limitation: currently only voice calls and sometimes SMS are accepted**
4. **No unified platform: currently emergency warning systems are completely separate from the 112 emergency centers**
5. **There are no advanced features, such as caller location**
6. **Emergency calls are unidirectional: they are established from the end-users towards the PSAP**
7. **There is no non-telecommunication platform as a backup in case the telecommunication infrastructure is not operational**
8. **The social media are not integrated: handling emergency situation should not only be the task of the rescue teams. Involving citizens especially through social media (twitter, Facebook, etc) in monitoring events and sharing information will lead to a better management**
9. **The eCall (the emergency solution for vehicles in case of crash) technology is based on the GSM, which limits the amount of emergency data to be sent**

The aim of the EMYNOS project is to design, specify and develop a Next Generation emergency framework that resolves the above mentioned limitations.

GIS 112 in Estonia - Case study document recently published by EENA

In March 2014 the project GIS112 was implemented. The project's aim was to reduce the responding time from answering 112 calls to the time when an emergency service reaches the scene. EENA has recently published a document containing key take-aways from the Estonian experience include increased efficiency in emergency response and resource management, more flexible decisions, faster exchange of information between authorities and much more. The document provides an analysis of the Estonian use of GIS112, its benefits, development and future updates.

Lessons learnt

- When it comes to **IT developments**, there are a lot of nuances to consider. In such specific and detailed process many things might not go as planned and circumstances can change during the process, which requires adaption of new conditions. There are some things to point out regarding the GIS112 project that might be considered as lessons for future.

- First is the **importance of teamwork** and the people involved in the development process. Since GIS112 project took time to finish, the people in the core team changed. Changes like this have more affect in IT development, because the information is much more detailed and the risk of losing your key developers might have a huge impact to the outcome of the project. So people need to be constantly updated and the know- how has to be shared.

- The second aspect to point out is **data and keeping it up to date**. GIS112 is integrated with many databases, all with their own information sources. These databases are updated at different times, which makes data updates difficult – some of them are updated weekly, others maybe only once a year. One of our biggest challenges today is keeping the information up to date.

- A lot of **after-developments**. Since GIS112 was and still is a huge project, involving many parties, it took a long time to be taken into daily use. Some of the functionalities did not finish in time, so there is still a lot of after-developments. Also, when a project takes time to finish, some of the initial requirements might change during the development process, or new ideas might come up. That requires adaption from both developers and end-users.

- The last thing to point out is **user trainings**. It is very important to have the training right before a program is taken into daily use. Otherwise people might forget the details and tips given. It is also important that the program is completed before the training. If shown a half-finished system, the mind-set of the end-users might not be very positive.

Terror alert app for the Euro 2016

The French government has launched a smartphone app that would alert users to possible terror attacks and provide them with information on how to stay safe. The app was officially announced before the start of the UEFA Euro 2016 football tournament. Officials in France and other countries have warned that the tournament may be a target for terrorist attacks.

The app, called SAIP (Système d'alerte et d'information des populations), was developed as part of a pilot project following the November 2015 terrorist attacks in Paris. It will use geolocation to deliver information tailored to each user's location, with alerts appearing less than 15 minutes after an incident is confirmed. Users will also be able to view alerts for up to eight different geographical areas, in case they want to check up on friends or family during an attack, and can share alerts directly to social media. The app is available in French and English, and will be free to download on iOS and Android. More information (in French):

http://www.lemonde.fr/societe/article/2016/06/08/pour-l-euro-le-gouvernement-lance-une-application-alerte-attentat_4942782_3224.html

Workshop on "Next Generation Emergency Services" in Crete

EMYNOS project is pleased to invite you to the “Next Generation Emergency Services” workshop which will take place at Heraklion, Crete, Greece from the 25th of July to the 27th of July 2016.

The event is organised in the framework of the EMYNOS project and in conjunction with “The International Conference on Telecommunications and Multimedia (TEMU)”.

The transition to Next Generation networks is often coupled with the vision of innovative services providing personalized and customizable services over an all-IP infrastructure. To enable a smooth transition, Next Generation all-IP networks need not only support more services but also support current vital services, namely emergency services. Emergency services can be classified into the following categories:

1. Emergency calls to police, fire brigade, and ambulance
2. Communications between the rescue teams' members
3. Disaster management and coordination, and
4. Emergency warning.

This workshop will provide a forum to researchers and industry partners to keep track of the work progress within this field by addressing in particular issues such as security and privacy, integration of social media, and extensions of eCall, in addition to experiences gained in the implementation of the EENA LTD.

In more detail, the two latest European projects NEXES RIA and EMYNOS RIA (H2020 framework, DRS 19 – 2014: Communication technologies and interoperability) dealing with Next Generation Emergency services will present their current status and perspectives. Additionally, the Austrian Red Cross will present their vision on Next Generation Emergency Communication (NGEC) and how social media could be helpful in this context.

In addition to the presentations of the key speakers, a panel session will be organized. The Panel will discuss the latest EU and US initiatives related to NG112 & NG911 and how to speed up the migration.

More information is available here:

http://www.temu.gr/Special%20Sessions.html

The EMYNOS Consortium

The EMYNOS framework will be implemented by partners with complementary expertise (telecom/satellite operators, VoIP provider, eCall testers, end users), which together form the chain for the provision of emergency services and which will deliver the EMYNOS demonstrator that will be validated in operational environment.

The EMYNOS consortium covers a wide set of complementary capabilities, expertise, background and understanding in dealing with Crisis management.

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