



MAPPERS



Co-financed by the EU



MAPPERS: A PEER-PRODUCED COMMUNITY FOR EMERGENCY SUPPORT

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ESSI1.8/EOS6

Citizen Empowered Science and crowdsourcing in geosciences (co-organized)

MAPPERS

MOBILE APPLICATION FOR EMERGENCY RESPONSE AND SUPPORT

- European Commission - DG ECHO
- Implemented in Italy - Finland - Denmark - Estonia
- Partners:
 - ✓ NATIONAL RESEARCH COUNCIL (CNR)
 - ✓ INSTITUTE OF INTERNATIONAL SOCIOLOGY GORIZIA (ISIG)
 - ✓ HELLENBERG INTERNATIONAL OY (HELLB)
 - ✓ ESTONIAN ACADEMIA OF SECURITY SCIENCES (EASS)
 - ✓ FREDERIKSSUND-HALSNÆS FIRE - & RESCUE SERVICE (FHFRS)
 - ✓ HELSINKI CITY RESCUE DEPARTMENT (HCRD)



■ TO START...

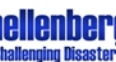
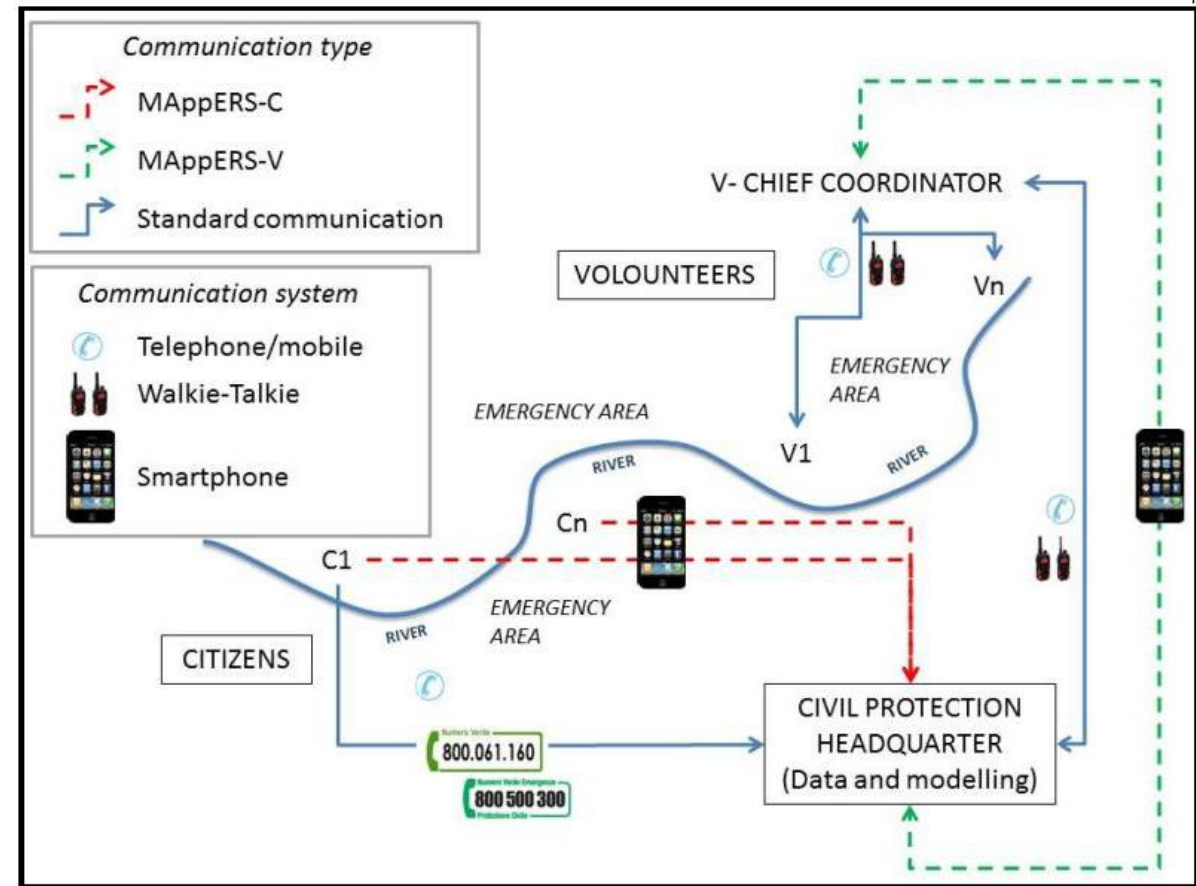
... with a microphone, camera, touchscreen, location detection, and environmental sensors, a phone can effectively become an **extra-sensory perception device**. Smartphone applications have changed the way people use their phones. This gives you, the application developer, a unique opportunity to create dynamic, compelling new applications that become a vital part of people's lives ...

Professional Android 4 Application Development, Reto Meier, Ed. Wrox Pr Inc., 2012



SUMMARY

- Scientific aims
- European state-of-art
- Activities and means
- Tasks
- Expected output
- Outlook



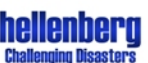
■ SCIENTIFIC AIMS

- Identifying **gaps** in the information sharing system in terms of territorial knowledge (**risk prevention and emergency**)
- Dealing with citizens as “**crowd-sourced mappers**”
 - ✓ Development of a smartphone application (**SDK**)
 - ✓ Sharing of localised, precise information to operators (geospatial sensors and pre-compiled data response)
- Long-term goal of raising **public awareness and participation**
 - ✓ Updating feedback from citizens to the design
 - ✓ Enhancing people’s awareness on monitoring/maintenance of the territory



■ EUROPEAN STATE-OF-ART #1

- Increase in terms of economic and social negative impacts of disasters
- European trend in governance shifts progressively the responsibilities to the **local/regional level**
- Citizens as first actors of CP
- Prevention is a long term goal that rests not only on the capacities of professional operators and volunteers of CP, but has to necessarily imply the involvement, responsibility and awareness of the citizens



■ EUROPEAN STATE-OF-ART #2

- The **perception of risk** is frequently very low when they have never been exposed to major events (widespread lack of interest among citizens).
- People often do not have chance to **interact participatively** in the surveillance of the territory (only to bear impacts on property, environment, social structures).
- Involvement of population creates **cost-effective** and **context-specific** strategies for territorial surveillance.
- A collaborative user environment supports emergency response feeding information on the ground directly to on-site responders.



■ ACTIVITIES AND MEANS #1

- Design and test of a smartphone application according to *Android SDK and Iphone SDK, HTML5:*



✓ module **MAPPERS-V** for volunteers

✓ module **MAPPERS-C** for citizens



- Information exchange and data transfer need to be made as clear and efficient as possible.
- Research is carried out on methodologies, **state-of-the-art** of practices and data sharing techniques adopted
- **Bibliography review** (Zotero reference management)



■ ACTIVITIES AND MEANS #2

- Citizens and volunteers of civil protection are involved to test **MAPPERS-V** and **MAPPERS-C** at pilot sites.
- The pilot activity includes explanations and a **training** on modules.
- The modules are to be later re-designed according to a methodological and **technical feedback** gained during pilot study.
- Define **training curricula** for citizens that wish to be involved in the monitoring of the territory in the long run (promote territorial knowledge, practical skills on smart phone and efficient jargon).
- A synchronized **integration** with existing monitoring technique prevails on a deep new architecture.



■ TASKS

- BUILDING ON PRELIMINARY RESEARCH
- DEVELOPMENT OF SMARTPHONE APPLICATION
- CREATION OF PILOT GROUPS
- PILOT TESTING
- PRODUCTION OF TRAINING CURRICULA
- POLICY RECOMMENDATIONS



■ TASKS

- BUILDING ON PRELIMINARY RESEARCH
- DEVELOPMENT OF SMARTPHONE APPLICATION
- CREATION OF PILOT GROUPS
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- POLICY RECOMMENDATIONS

- ✓ Desk-based investigation on pilot countries
- ✓ Scientific literature review
- ✓ State of the art of **DBMS**
- ✓ Desk-based research on communication tools



TASKS

- BUILDING ON PRELIMINARY RESEARCH
- DEVELOPMENT OF SMARTPHONE APPLICATION
- CREATION OF PILOT GROUPS
- PILOT TESTING
- PRODUCTION OF TRAINING CURRICULUM
- POLICY RECOMMENDATIONS

- ✓ State-of-art of **technologies** for disaster management
- ✓ State-of-art of **smartphone apps** linked to web server
- ✓ Existing **data loggers** in pilot areas
- ✓ **Communication scheme** on app interface
- ✓ Software engineering and development
- ✓ Test, **feedback** and update

■ TASKS

- BUILDING ON PRELIMINARY RESEARCH
 - DEVELOPMENT OF SMARTPHONE APPLICATION
 - CREATION OF PILOT GROUPS
 - PILOT TESTING
 - PRODUCTION OF TRAINING CURRICULA
 - POLICY RECOMMENDATIONS
- ✓ Identification of **pilot areas**
 - ✓ **Focus groups** with **volunteers/citizens**



■ TASKS

- BUILDING ON PRELIMINARY
 - DEVELOPMENT OF SMART APPLICATION
 - CREATION OF PILOT GROUPS
 - PILOT TESTING
 - PRODUCTION OF TRAINING MATERIALS
 - POLICY RECOMMENDATIONS
- ✓ Pilot testing of MAPPERS C prototypes
 - ✓ Optimisation of MAPPERS C
 - ✓ Pilot testing of MAPPERS V prototype tools
 - ✓ Optimisation of MAPPERS V
 - ✓ Test and optimisation of central database application
 - ✓ Comparative analysis of pilot outcomes



■ TASKS

- BUILDING ON PRELIMINARY RESEARCH
- DEVELOPMENT OF SMARTPHONE APPLICATION
- CREATION OF PILOT GROUPS
- PILOT TESTING
- PRODUCTION OF TRAINING CURRICULA
- POLICY RECOMMENDATIONS

- ✓ Identification of objectives
- ✓ Identification of trainers and coaches
- ✓ Training curricula
- ✓ **Self-evaluation** models



■ TASKS

- BUILDING ON PRELIMINARY RESEARCH
- DEVELOPMENT OF SMARTPHONE APPLICATION
- CREATION OF PILOT GROUPS
- PILOT TESTING
- PRODUCTION OF TRAINING CURRICI ✓ Policy drafting
- POLICY RECOMMENDATIONS ✓ Feedback
✓ Policy guide



■ EXPECTED OUTPUT #1

- Deep and easy-to-use input of “**human data**” for crisis management
- Development of a **multi-module tool** as communication device between population, civil protection and headquarters
- Maximize geospatial response in a model of **peer-produced mapping** (e.g. damaged points, critical hotspots) with the most up-to-date information



■ EXPECTED OUTPUT #2

- Development of a **strategy of disaster prevention** that is more cost-effective, prone to human and social resources within communities rather than investing on new structural and large-scale mitigation options.
- Long term goal of involvement and participation of the population in the prevention phase on the territory - **soft mitigation strategy**



OUTLOOK

Website:

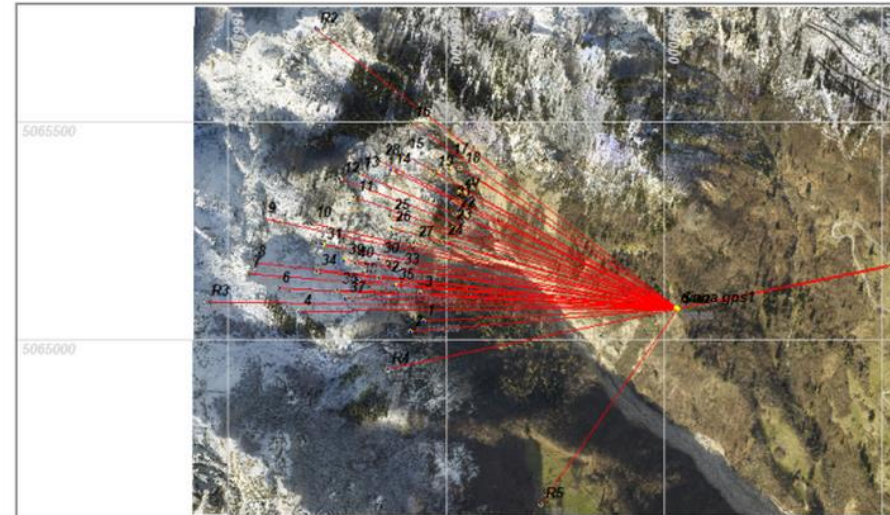
<http://www.mappers.eu>

Email:

info@mappers.it

simone.frigerio@irpi.cnr.it

THANKS FOR YOUR ATTENTION



MAppERS aims at identifying gaps in the information sharing system on territorial knowledge and risk prevention.

Tweets [Follow](#)

nell'album "Tasks & Actions"
<fb.me/6kabWSxGF>

 **Mappers** @MappersEu 10 Mar
Ho creato il gruppo MAppERS
Project su LinkedIn:
<lnkd.in/dGXRV-q>

 **Mappers** @MappersEu 6 Mar
Ho pubblicato 17 foto su Facebook
nell'album "HELLB Partner
Presentation" <fb.me/1dHNJaiQT>

 **Mappers** @MappersEu 6 Mar

Upcoming

There are no events

Responsibility for the information and views
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