

Flood Warning Service

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Organisation: Centre for Economic Development, Transport and the Environment for Southwest Finland

Country: Finland

Level of government: Regional/State government

Sector: Environmental protection

Type: Communication, Data, Partnerships, Public Service

Launched in: 2015

Overall development time: 2 year(s)

Link to the innovation's website

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Description

The Flood Warning Service (FWS) offers map based flood warnings tailored for citizens, municipality officials and rescue department officials. The FWS utilizes water level and flow measurements and forecasts produced by Finnish Environment Institute SYKE and flood hazard and risk maps produced by Centre for Economic Development, Transport and the Environment (ELY-centre). The FWS processes the available data into real-time warnings which appear on map in the user interface. People can subscribe into the FWS and get e-mail alerts about any location they prefer e.g. their home by marking it into the service. Municipality and rescue department officials get up to date information and warnings about water levels compared to the flood dam heights protecting the city. The service also produces warnings about the risk of ice jam floods.

The FWS takes services (hydrological information) produced by public sector and processes it into more easy-to-understand form for different user groups especially to the general public. It is a new way of public private partnership where public actors offer their information for the private sector to build more services for the general public and for authorities as well. In FWS flood warnings are first time presented on interactive map service where people can choose from which location they get their private flood warnings in Finland. Flood warnings are also tailored for the municipality and rescue department officials in more informative manner than status quo.

Why the innovation was developed

- There was a need for easy-to-understand warnings for the general public on the basis of the expert information available to the authorities. On the way more informative ways of presenting the flood warnings for the officials were also innovated.
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Objectives

Other

- Improve public safety
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Main beneficiaries

General population

Results

Results not available yet

- The FWS is online and in full operation. The dissemination and marketing of the FWS to the general public has not yet been done since the FWS has just been finished and we have not had any flood seasons yet.
- The full publication of the FWS to the public will be done when the next flooding season is to be expected (possibly in December 2016/January 2017) to reach a many media and people as possible.
- The FWS has been preliminary presented to the relevant municipality and rescue department authorities but full dissemination and operation use awaits for the next flooding season.

Development

Design

The FWS was pre-planned together with ELY-centre and Gaia Consulting Ltd. A workshop open for all interested public and private actors was also held to develop the concept. Needs of different user groups were examined through interview study. The procurement started by inviting companies interested in the project for discussions. We laid out the objective: a system that processes the data available to the authorities and geographic information to produce easy-to-understand flood warnings that are available online and on mobile devices. The companies were given a free hand but were required to base the solution on an open source code. In the tendering process, Dimenteq Ltd. was selected as the supplier and an agile software development method – consisting of two or four-week sprints – was used. When innovation is built in cooperation with the supplier, ideas are created along the way. Similar results wouldn't have been reached if detailed criteria had been pre-defined. Design time: 2 year(s)

Testing

- The supplier Dimenteq Ltd. first presented a product demo. Based on the feedback received, it then created a fully functioning online pilot.
- In the future, the service will be developed on the basis of user feedback.
- The flood risk warning system now covers the waterways in the area of the river Kokemäenjoki but the aim is to produce a nationwide service.

Testing time: 2 month(s)

Implementation

Tools used:

- Interview study for the potential user groups of the FWS was undertaken.
- Examination of commercial potential and market potential. Discussions with potential suppliers of the service were done before the procurement to discover the potential solutions and opportunities for the service.
- agile software development method consisting of two or four-week sprints was used in the development of the service. Several software development and programming etc. ICT tools were used.

Resources used:

- Two to three ELY-centre officials participated in the process part time. Also two to three officials from Finnish Environment Institute SYKE participated meetings.
- Preliminary stage of the procurement lasted around one year involving two consultants and costed circa 50-100k€. Development of the service took around half year and costed circa 100-200k€.

Implementation time: 1 month(s)

Challenges and solutions

- Needs of different user groups (general public, municipality officials, rescue department, industry, etc.) of the service were noted known in detail when the planning of the service started. Surveys to map the needs was undertaken.
 - Challenges concerning the data (e.g. availability, transmission) were encountered in the process.
 - Intensive collaboration between data supplier and FWS developer was needed to solve the problems.
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Partnerships

Multiple partners

Academics and Research Bodies, Civil Society, Private sector

Private sector companies: Dimenteq Ltd., Gaia Consulting Group Ltd, PTC Services Ltd. and several others taking part in the procurement process. Public sector: Finnish Environment Institute SYKE. End-users: City of Pori, Rescue department for Satakunta, selected general public taking part in the planning and testing.

Partnership with all actors was very open and needs, ideas and possibilities for the FWS were shared eagerly. For some partners the collaboration was nearly daily during some parts of the development process and for others the collaboration focused only for one interview or testing of the demo service etc.. Altogether, the collaboration with partners was crucial and without the extensive collaboration with different actors relevant to the FWS the result would not be the same.

Lessons Learned

Lessons Learned

- Define clearly where you want to have better solutions.
 - Allocate enough time and resources for the preparation phase.
 - Have an open and fair dialogue with the companies. Find out about what they can offer and what they could develop.
 - Involve the future services users in the planning process. Find out about how, for example, students, teachers, patients, nurses, social welfare clients or future residents view the need.
 - Set the tendering criteria so that the companies have room for innovation.
 - Reserve time to be closely involved in the development of the innovation. Joint development will produce ideas
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Conditions for success

- Be open-minded for alternative solutions to your problem, don't be fixed with the most obvious solution. Listen to the suppliers and end-users, they know the needs and possibilities better than you.
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