# KEEPING AFLOAT

## A new smartphone application will crowd-source flood data to record and prepare for upcoming downpours

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The public can help prepare for future floods and monitor any upcoming incidents using pictures taken on a smartphone showing highest water levels and locations.

The stains on objects and walls should be kept as a record as it could be helpful for archiving in the future, according to Kullaprapa Navanugraha, senior director, Research Management Office Division of National Electronics and Computer Technology Centre (Nectec).

> ❝ It will enable us to gain a historic record as people post pictures and information of drying marks of flood levels

Nectec has developed a mobile application called Floodsign that enables smartphone users to report flood conditions. With the phone, people can submit information and pictures of the locations to the server.

Smartphones with GPS features will show the geolocation, then users will put that information plus flood levels along with the picture on a website. It will then be sent to the server where academics and organisations can further use them to better cope with incidents in the future.

The flood information can be integrated with the data collected by other organisations, which will be used for efficient decision making, the project head said.

The application also enables users to view content sent by others to the website. As people who feed the information will be situated in different places, the application allows people to watch the content across a wide coverage area. Information can be viewed via two channels — on the website (http://thai-met.hpcc.nectec.or.th/ushahidi/) and on the Floodsign application on mobile phones.

"At this moment, it will enable us to gain a historic record as people post
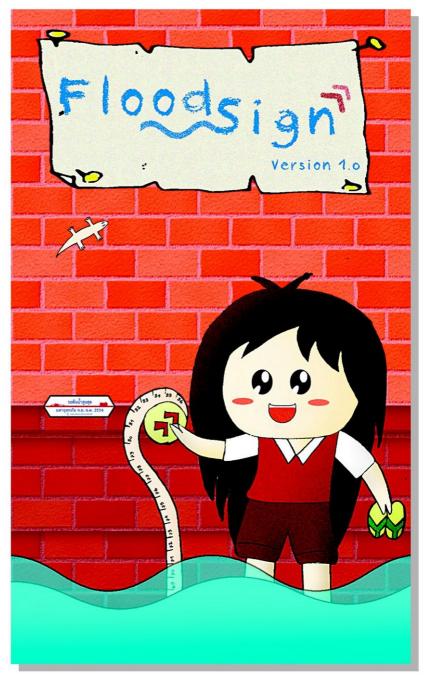
pictures and information of drying marks of flood levels. It is expected that flooding will probably take place again this year, so people can feed information in real time,'' she said, pointing out that the content displayed at the browser enables people to see the specific flood location, as well as the details of it.

At present, the Floodsign app runs on Google's Android platform. It requires a smartphone with an Android 2.1 operating system and with GPS features working on Edge/GPRS or 3G internet. The research team at Nectec is now developing the app to run on Apple iOS.

Kullaprapa explained that as the data can be used to report in real time, the system serves to enable organisations to foresee flooding conditions — including not only the water level, but also allowing them to calculate the water quantity and water flow direction.

The team of Nectec, in collaboration with Asian Institute of Technology (AIT) have already been working in the field, as Prathum Thani province has become a pilot for the programme.

Meanwhile, Nectec is developing a numerical simulation model for flood management and field surveyance from the highest water levels during Thailand's 2011 floods. The project aims to survey the height of water at surface level of the target areas which were inundated last year. It will then develop a simulation of hydrodynamics in order to learn about the flooding process, before applying it to manage the flooded areas.