



# SOS+

## 即刻救援

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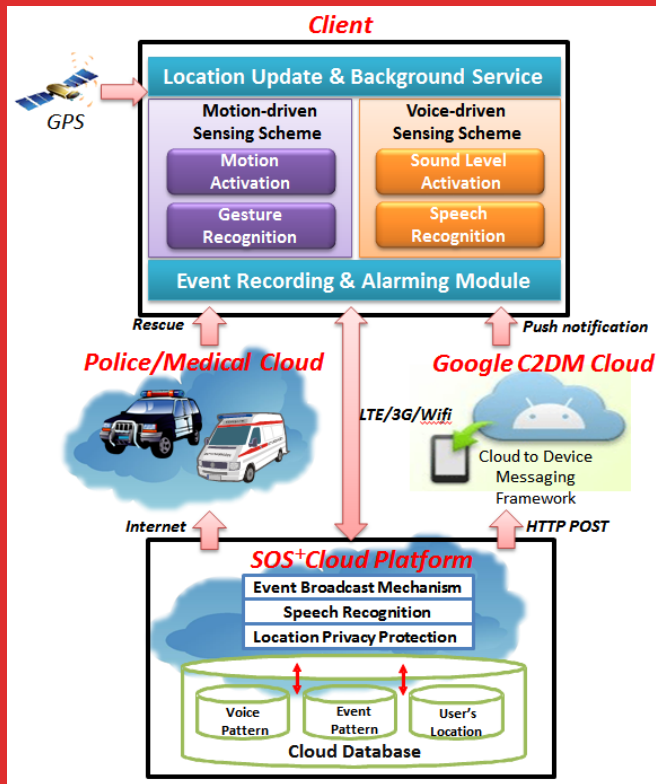
# Motivation

- Current cellular phones can only provide limited emergency services. Users are required to make emergency calls.
- In some emergency situations when a person is kidnapped or has an injury, he/she is unable to activate rescue services by hands or even by mouths.
- So we propose motion driven and voice-driven application initialization mechanisms for emergency service without the need of touching or watching the phone screen.

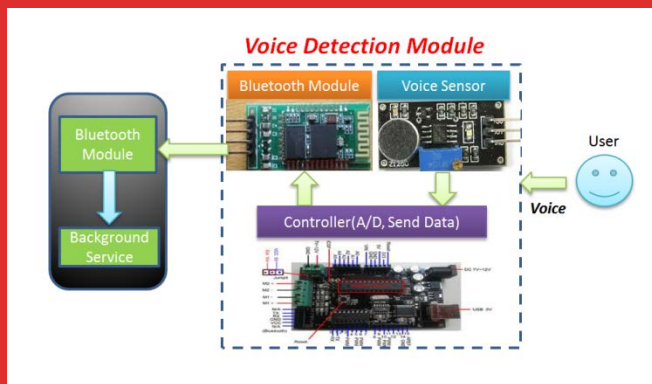


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# System Design (Client)



- Motion-driven sensing scheme
  - shaking detection
  - gesture recognition
- Voice-driven sensing scheme
  - volume threshold detection
  - voice recognition
- Integrating proximity sensor, accelerometer, orientation sensor, and GPS module to detect the users' motions
- Implementing A/D convertor & Bluetooth module because mobile phone nowadays doesn't have sound level sensor



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# System Design (Cloud)

- After a user can activate any one of the two sensing schemes, the system will instantly take pictures and record the voice for the crucial evidence, and then send these messages to the cloud platform
- When a user activates the rescue system, the server will inform the authorities and send the detail information to the police stations or medical centers
- Analyze user's location and sends the notifications to the nearby users by using Android Cloud to Device Messaging (C2DM)

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第1至10筆/共176筆 >

編號	求援者
176	alan 2012-06-15 14:44:31
175	hungys 2012-05-19 13:36:50
174	hungys 2012-05-19 13:34:55
173	hungys 2012-05-19 13:11:53
172	hungys 2012-05-19 12:54:02
171	hungys 2012-05-19 11:42:52
170	hungys 2012-05-19 11:41:16

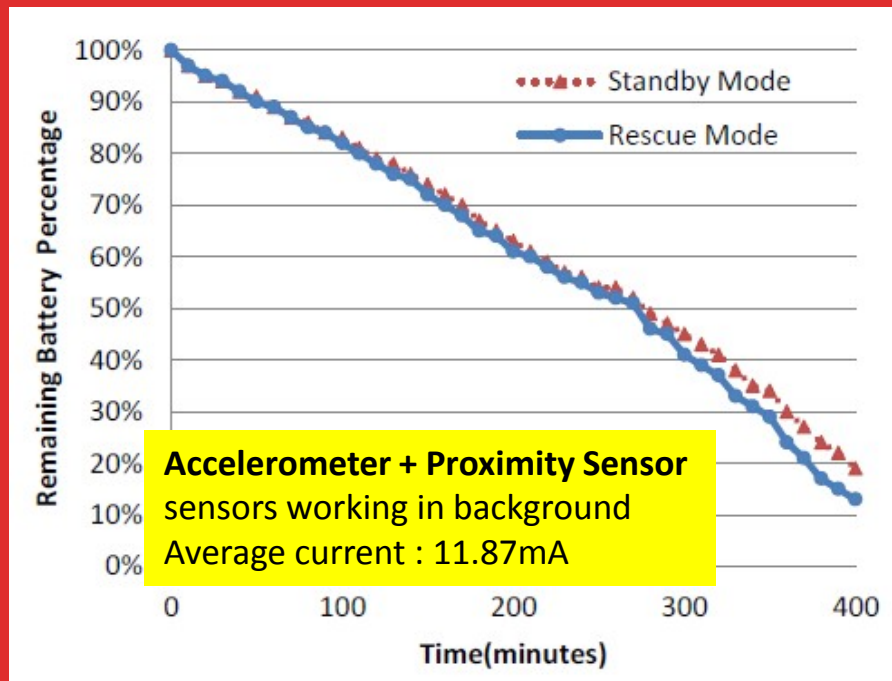
The screenshot also shows a Google Maps interface with a search box containing '求援者:alan' and coordinates '25 0139498, 121 5411854'. A red location pin is visible on the map.



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# Performance Evaluation

- Since users have to run the rescue service in the background of their smart phones for an unexpectedly emergency, it is worthwhile to investigate the power consumption of the proposed rescue systems
- Our experiments were conducted with the whole rescue system running in the background. The GPS module update the latest location every 30 minutes.



- One can observe that the proposed rescue system have nearly negligible extra power consumption (5% for most)