Presentation WDMF API

WiFiDirect-Message-Flooding-API

Joel Busch, Manuel Grossmann, Claude Hähni, Jakob Meier,
Alessandro Nicolusi, Pascal Oberholzer
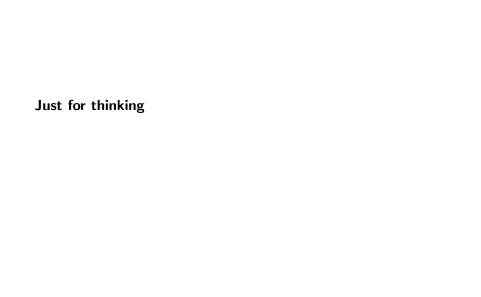
Prolem

- No access to the Internet and no antenna within reach of our phones.

Solution

- Establish a connection directly from phone to phone.
    - WiFi direct
    - Bluetooth
- Build an API to get hold of many people as possible.

Just for thinking

We can what others can't

- Everybody knows the moment when we would like to send a message but our mobile-phone has no connection.
- Sometimes it can save life if we could send a help message to the ambulance station even if we have no connection (for example on a mountain while skiing).

What we thought

- Each phone has Bluetooth and WIFI which is often not in use if there is no antenna within reach.
- WIFI has a bigger reach than Bluetooth $\rightarrow$ WIFI is more capable than Bluetooth
- Address as many programmers as possible to use our idea: more users $\rightarrow$ higher probability to have someone in reach who uses the same "network"

What we have created

- API to address as many programmers as possible
- Emergency app to show a simple example that our API works and what serious problems we can solve.
- Chat app to show an other scope of application.

API

content...

Emergency app

content...

Chat app

- Send simple text messages to one other person.
- Asynchronous key pair (public and private key) to guarantee end-to-end encryption
- All information (name, id, public key) of a person are shared via QR-codes. (Both have to share the id and the key to write to the other)