On Database for Mobile Phones Ownership

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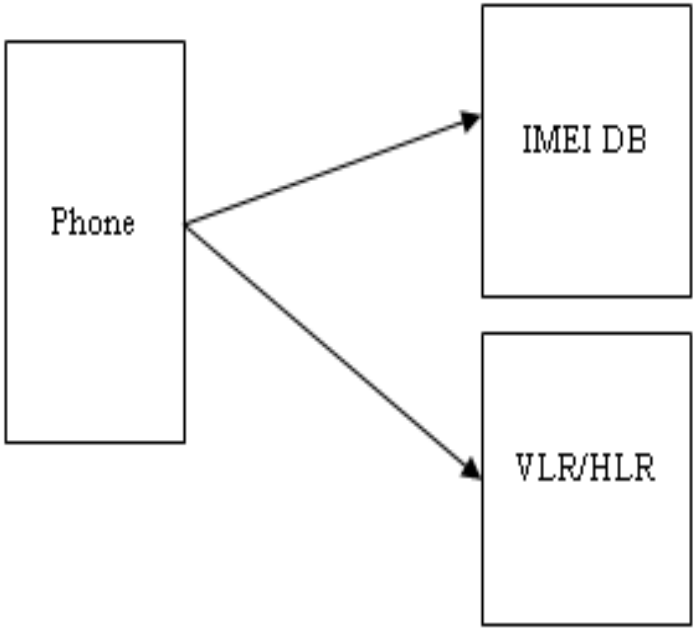
What are we talking about?

- This is my phone! – No, it is my !

Agenda

- Identification for mobile phones
- Digital certificates
- Implementation
- Use cases

Phone ID



- IMEI
- SIM (UUIC) -> IMEI
- OTP process may use IMEI
- Global ID provided by mobile OS
- How to present this information outside of telecom?

Digital Certificate

- Phone identification (1)
- Owner identification (2)
- The link for (1) & (2)
- Mobile app creates certificate
- Web site with search form
- API for access to Certificates DB

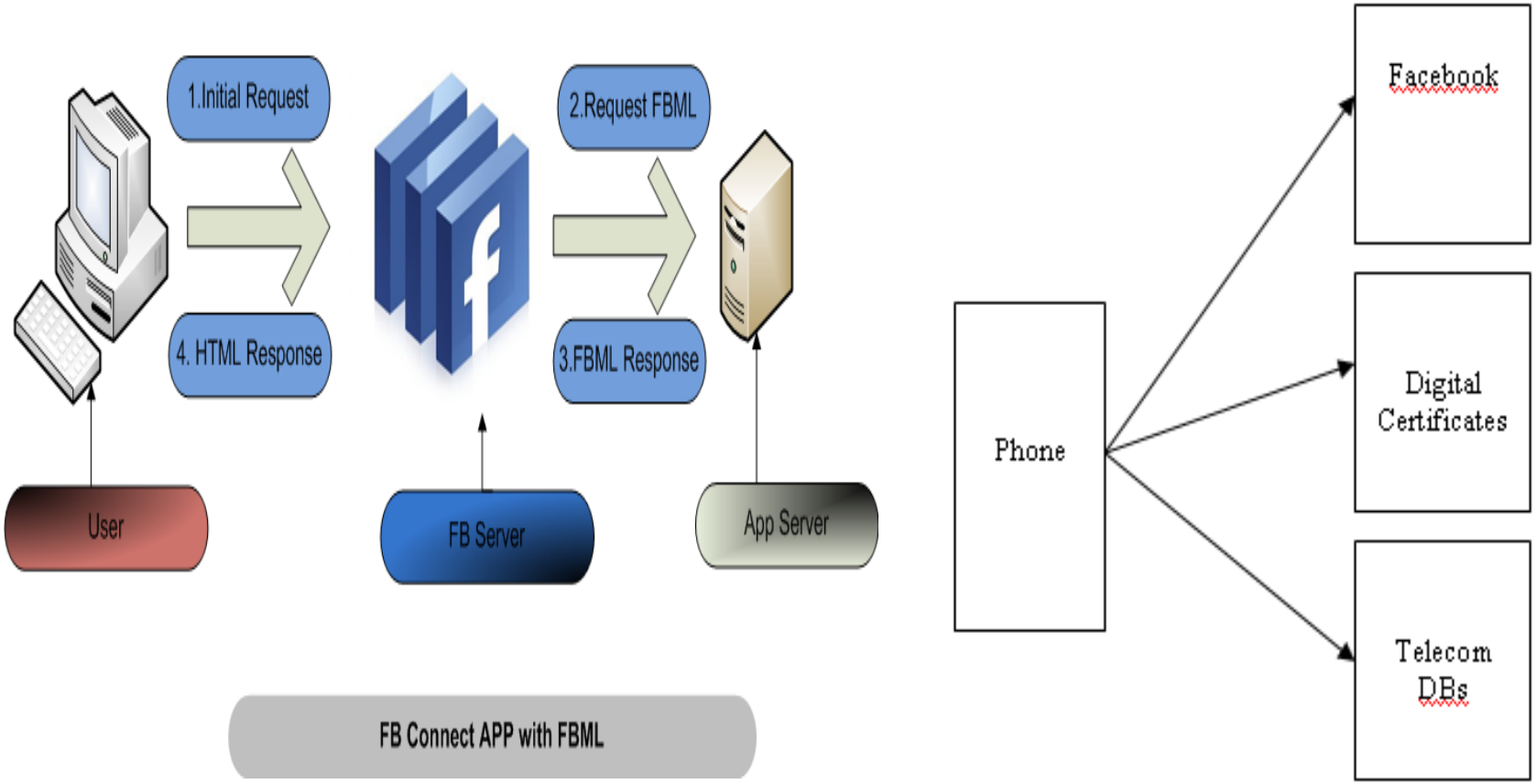
Digital Certificates

- Phone ID: IMEI + Android ID
- Owner ID: Link to social profile
- DB records: Phone ID & Owner ID
- Search via Phone ID and/or Owner ID
- Add data only interface
- There are no delete/update operations

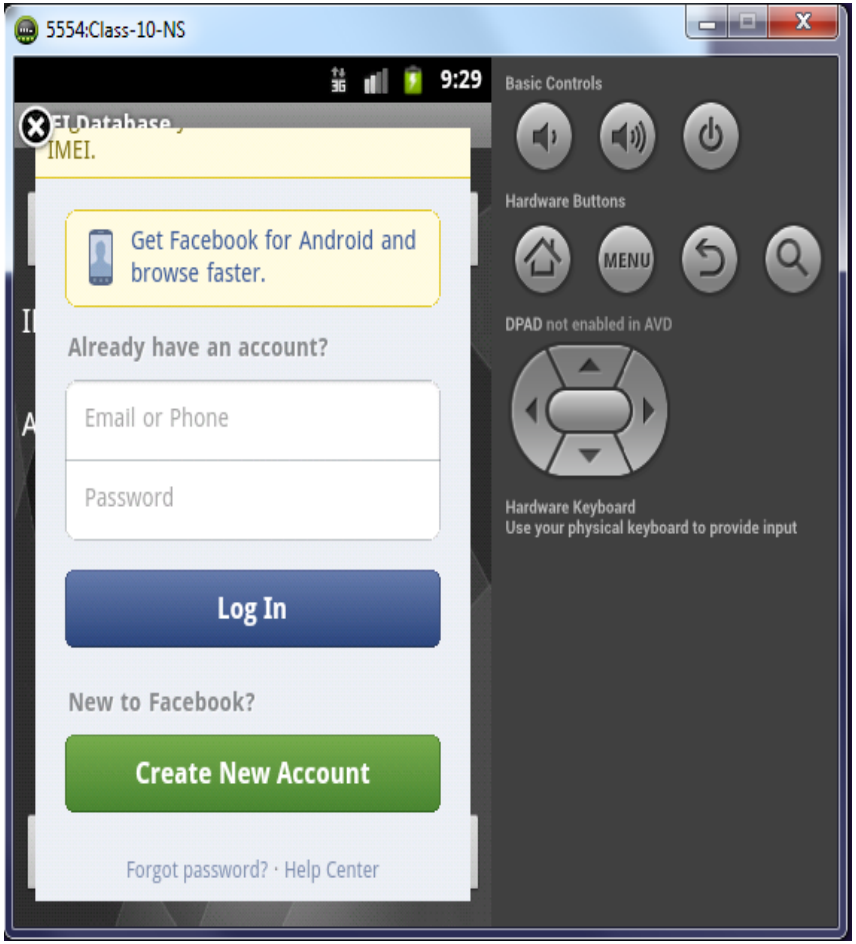
Social profiles

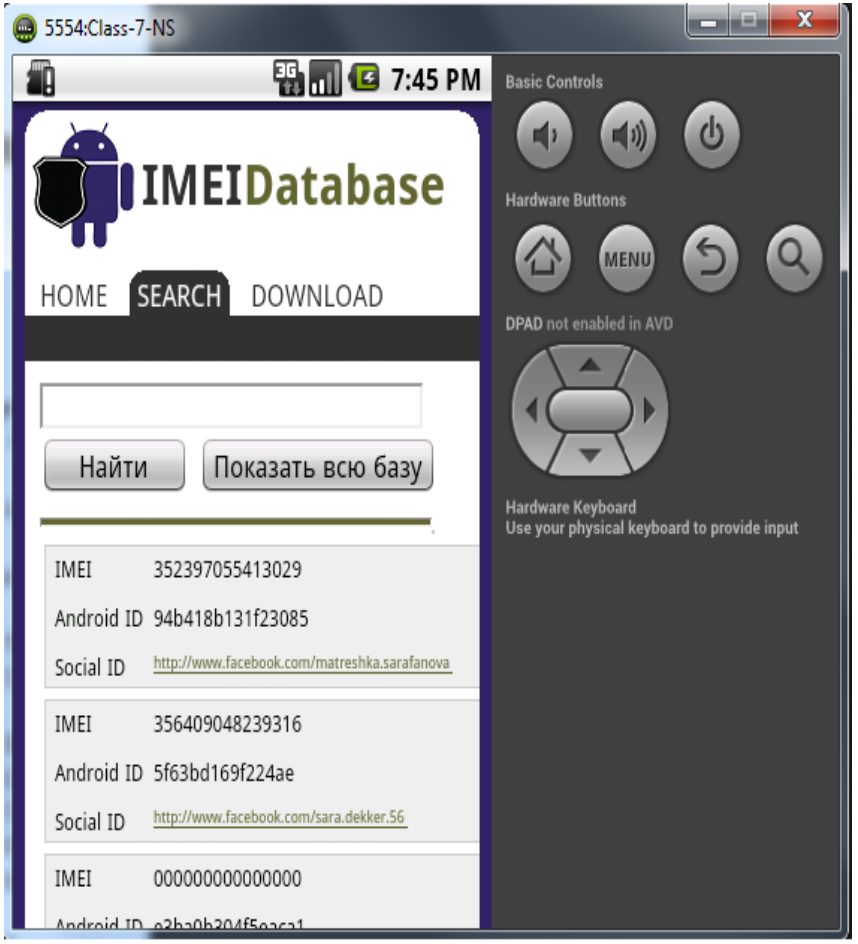
- We do not need a “yet another login” system
- Social profile lets us avoid “personal data” deal
- It is scalable
- It lets us use authorization system (e.g., Facebook Connect).
- It lets us add certificates info to applications logins (social system login as universal login)

Universal Login



Create & search





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http://servletsuite.blogspot.com

API

```
FB.login(function(response) {

   if (response.authResponse)
   {
     console.log('Welcome!  Fetching your information.... ');

     FB.api('/me', function(response)
     {
       console.log('Good to see you, ' + response.name + '.');
       // here we can add code for IDs comparison


});
   } else {  … }
```

Conclusion

- We propose digital certificates for phone ownership.
- Each certificate combines phone identity (IMEI) and social ID.
- It lets check phone ownership via web search (including mobile web), mobile application or via API.
- In general, our digital certificates can add an additional checking layer for mobile authentication.
- The proposed approach has been implemented as Open Source project.

OIT Lab

• Faculty of Computational Mathematics and Cybernetics, Lomonosov Moscow State University. Research areas are:

• telecom and software services, open API for telecom, Smart Cities, M2M applications, context-aware computing.