Synchronization of personal information between mobile devices and web-based services

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Abstract

These last fifteen years have been the theater of the fantastic development of the Internet, so that 9.27% of world population were connected in 2002, whereas only 300 000 computers were part of the network in 1991 [1]. This expansion was sequenced in two separate phases. First the democratization of home Internet access permitted by the declining of prices (hardware and Internet provider contracts). Then the incredible development of mobiles devices such as PDA or Smartphones increases the number of Internet's user, and especially diversify the manners of using it. This is also caused by the increasing of available data volume (and then the more user there are, the more data will be reachable), and thus available services (e.g. finding data).

These services need personal information in order to run, it could be for purely business purposes (e.g. delivering new running shoes at customer's home) or helping user to find data according to his preferences (e.g. finding a new song on Itunes according to ones which already have been bought). This last point may be really important in a small mobile device access context. Long phase data retrieval should be not friendly in this case, and also the more quickly data is found, the best it is. Thus users are expected to give information about themselves with or without their consent in order to run services.

Considering the fact that privacy of personal information should be a large field of interest in a relative short future, providing a general tool for helping people to deal with it might be an existing challenge.

This project will be based on previous work of P.Jäppinen [2], which proposes a new way to consider how to manage personal information in daily use of services, storing it directly in a mobile device which is synchronizing with a service access device.

The mobile device part has already been implemented by W.Oyomno [3], so that the main goal of the project is to create a link between information stored in the device and the service on Internet (basically accessed with a computer version of a web browser). A non comprehensive list of challenges can be:

- Identify what type of information is needed
- Manage connections between devices
- Secure data transfer
- Integrate replies into browser's task

There is one point on which it is interesting to focus; user should have the choice to use or not the developed tool, so that it might be relevant to consider an add-on approach on a common-used browser, which will be Firefox. As extensions usually work with Javascript, which is unable to deal with wireless communications (Bluetooth technology will be used because of its high integration rate), so that *pythonext* [4] extension will be used, in order to deploy python framework in this extension.

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