EESME

HTI major 2014

Project team

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Supervision

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Context

The latest mobile growth statistics for 2013 show that:
- 56% of people own a smart phone
- 80% of time on mobile is spent inside apps

The social media statistics show that of Facebook's nearly one billion strong users, approximately 200 million are mobile only.

Objectives

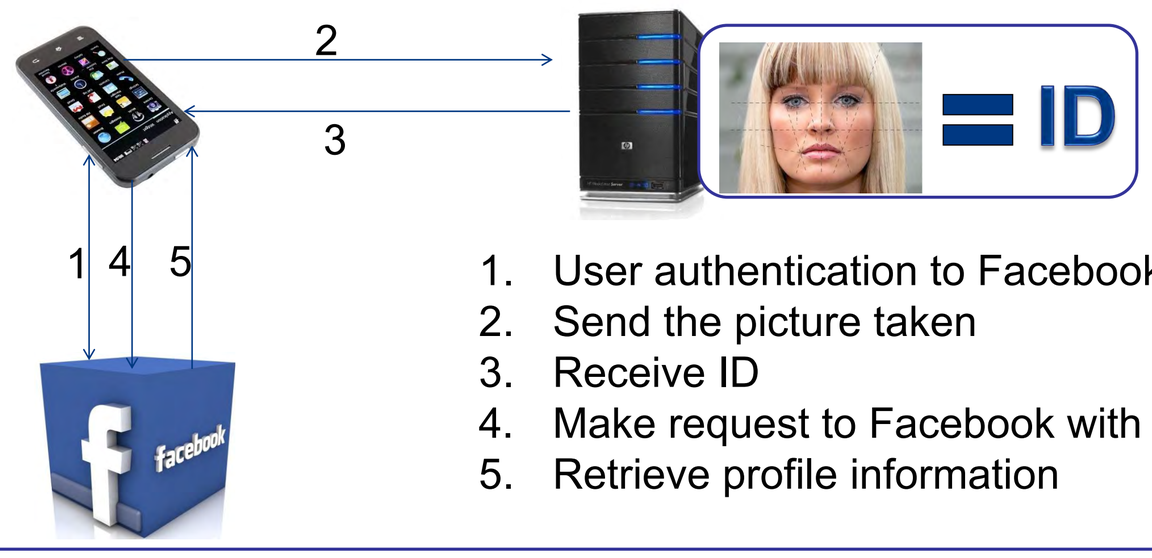
Develop a platform which allows to retrieve social network profiles of people by taking a picture of them

- Take a picture using the smartphone/tablet
- Run the recognition software for the picture taken on a remote server
- Retrieve the social network profile of the person in the picture

Realization

The work flow

- The authentication and the communication with Facebook is handled in the frontend side
- The algorithm is on the server side

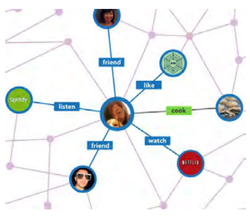


1. User authentication to Facebook
2. Send the picture taken
3. Receive ID
4. Make request to Facebook with ID
5. Retrieve profile information

The application

- Android Developer Tools (ADT) plugin for Eclipse for the development environment

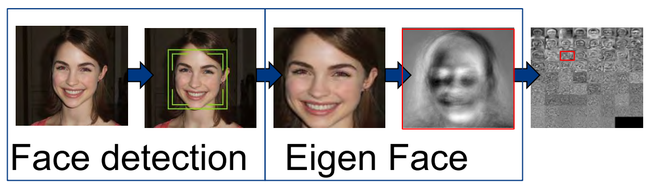
- Facebook SDK to handle the authentication



- Facebook graph to retrieve the profile information of the recognized person

The face recognition algorithm

- The training: Eigen faces algorithm
- The detection : Haar cascade Algorithm
- The recognition : Eigen faces comparison



The server

- Model View Controller architecture
- Django as web Framework
- REST API for interactions

Conclusions

Results

- The application is fully working
- The algorithm used for face recognition is very sensitive to light and other parameters which do not allow a good recognition, it could be replaced by a more robust algorithm
- The architecture is modular, each part can be replaced independently

Future development

- The face recognition algorithm
- The communication between modules
- The communication with social platforms
- Processing in the cloud/parallelization

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