

SDD

1.0 - Introduction

Schmaps is a service with the main-focus on using maps, showing where different locations, developed for all people involved in Chalmers.

1.1 - Design Goals

Schmaps have several features relevant for a student, but also for other persons. Thus there are several aspects to consider for the design.

- First of all we wanted the application to be user-friendly, making all features easy to understand and manage and making a nice layout.
- Since we use many different tools for the application there's a need to find a fast solution for each feature so that the program will not respond slowly.
- We want to keep the development open for further progress.

2.0 - Software Decomposition

The application is not structured into packages, even though it might have been a good idea. There are several activities, different views and connection with a server, a database and network related classes.

2.1 - Tiers

- Application
- SQLite Database
- Server with database

2.2 - Communication

A database for dynamical use, like for the people checking in on positions, is based on a server and the application sends requests to the database for JSON-objects located on this database. Once a connection with the server is established and JSON-objects are received, the application parses the objects into usable formats like strings or integers. An internal database have been pre-created into the mobile, downloaded to the application during the first start-up. This database is based on SQLite and is connected to the application by using methods in SQLiteOpenHelper and other methods developed for the purpose of this program. Some of the features in the application uses network or GPS providers for location purposes, using predefined classes in the android sdk to communicate with these.

2.3 - Concurrency Issues

Most of the features needs internet access to work properly, or work at all.

2.4 - Persistent Data Management

Options made by the user will be managed through keys and values in the application, getting the user the requested information. Dynamically used data is managed by an external database on a server. If the user search for a location using a specific feature, the provided information is stored on the application and then the application search through a table on the internal database, which will then share the stored information of that table-list.

2.5 - Access Control and Security

To prevent unauthorized persons from hacking into the application, stealing sensitive information, we use authorization keys which is included in the application.