Milestone report for ...

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Group Structure & work divide

For this project, we have decided to design the template for each view, as every view would include a generic option of some kind, for example a menu button. Afterwards, we would split the work up into individual work, which would mean that each group member would work on one screen design. We decided not to work collaboratively because the relative design of each screen would be similar, therefore if any problem were to arise, then similar design approach for each screen would ensure that each problem would be solved.
However, as each screen is used for different purposes, this would mean that the group is ultimately split into two, with one set working on one set of screen, and one set working on the other set. This does not mean that the members cannot be working individually, just so that the structure of the group is a little clearer. The work is divided equally amongst us, as we all have equal experiences in app designing, and this way we could all help each other.

Language of implementation

Java is the most commonly used language in Android development. We will develop our App under Java using the Android Software Development Kit. There are several advantages for using Java instead of other languages like C. First of all, Java is an object oriented programming language. We can break up a big project into small objects and solve the small problems first before putting them up together. In addition, Java is a rather secure language compared with C and C++, it generates exceptions such as null pointer and index out of bounds exceptions to prevent illegal access to memory. In mobile app development, security is an important issue and thus Java is the ideal choice. Also, Javas API provides an easy implementation of concurrency. In our WebApp project multiple users will use the app at the same time and may access the same region concurrently and using Java we can manage concurrency efficiently. Java virtual machine is not supported by the Android system and Java byte code is not executed. Instead, the .class files are compiled to Dalvik executables are run on Dalvik. Dalvik is a VM that uses less space and the interpretation of Java is quite efficient.

Description of the app

This is an Android mobile app, which would be like a maths forum set in your mobile phone. The main idea is about solving different math problems posted by the users of the app. Currently, we are focusing on the maths part, and maybe later will extend the functionality to other subjects.
For every user of this app, we will provide a profile for each person, including the ask a question and answer questions part. For those people who wants to ask questions, they could just easily type the question and post to the server, then wait for others to solve it. To make the asking process more convenient, we would provide a set of maths formulas and symbols within the database. This is due to the regular use of symbols, which are hard to find in the phone keyboard. When the users are asking questions and there are some special symbols and formulas which are hard to type, this will make them to type easily.
If the user want to challenge some of our more difficult problems, then they can just log into the answer page and there will be a list of all the unsolved questions currently in the database. The user can then solve any of the questions in the list. Every time the user solves a question, s/he will gain points, and with enough points, the user can raise the level.

Summary of User Interaction in the program

Main function: problem posting and solving

Our interaction is a practical extension on the conception of shared area. Users use the application mainly by posting or searching relevant contents they are interested in. Actually, we are building a large mathematical problem solving community, and each application in the users mobile devices is acting as the client software. The users would type their questions in a context box that is provided by the app with special math characters if needed. In addition, students could find all the hardest question in "Problem Ranking page" if they would like some challenging questions. The user who has solved problems will be awarded with credits that could be used to upgrade the account-level.

Communication

A menu is set up for finding specific person (also a user in our database) to answer questions. The inter-user communication is very convenient through the chatting box. The chatting box supports most of the currently using chat-apps. i.e. one could send messages through different apps in our application.

User interface

The interface designing such as menus and login-in and welcome screen is simple and easy to use and is highly responsive.