Software Engineering Project Proposal:

ChangeMyMood

Vision and Goals

Have you been in a situation where you wanted to change your mood but didn't know how? Or, maybe you are too busy or unable to recover from your negative emotional state? ChangeMyMood can help you with this!

ChangeMyMood is an application that attempts to induce the user's feeling or mood by presenting a set of media contents associated with a user-chosen mood. Once user selects a target mood that he or she wants to be in and the type of the media contents - pictures, videos, quotes, etc, the app will search for that content on the web and shows a suggested set of media contents. Within two clicks, a user is able to see a picture or watch a video that will help alleviate the user's negative mood.

For example, a student gets a really bad grade in a class and isn't in a good mood. However, he doesn't really feel like going out with friends because he needs his own personal time. Instead, he launches the ChangeMyMood app on his phone and clicks "Make Me Laugh" button and then "Pictures" button. He immediately sees a series of funny pictures that put a smile on his face or even crack him up. He can also click on "Inspire Me" button and then sees a series of famous quotes or pictures that give him the motivation that he needs to do better in his classes.

At the end of each view, user can optionally give a rating on the pictures, the videos and etc. This feedback system makes this application smart enough to decide which contents be shown to which users or a group of users. The media contents that receive a low rating will never be shown to that user or a group of users with a similar demographics. This demographical information, such as age, gender, etc, is gathered during only the first launch of the app, and is only used for the purpose of providing more accurate result.

In essence our application is a search engine that finds the content that is related to the feelings and the moods that the users are looking for and does that by using the public API of websites like Flickr. Instead of users having to search through overloaded amount of contents, the simple UI will only require a couple of steps to get to the point! Also, it also learns each user's preferences by applying machine learning algorithm and refines the results as the user uses the application more and more, similar to what Pandora does with the songs for each station.

Software Architecture and Tool chain
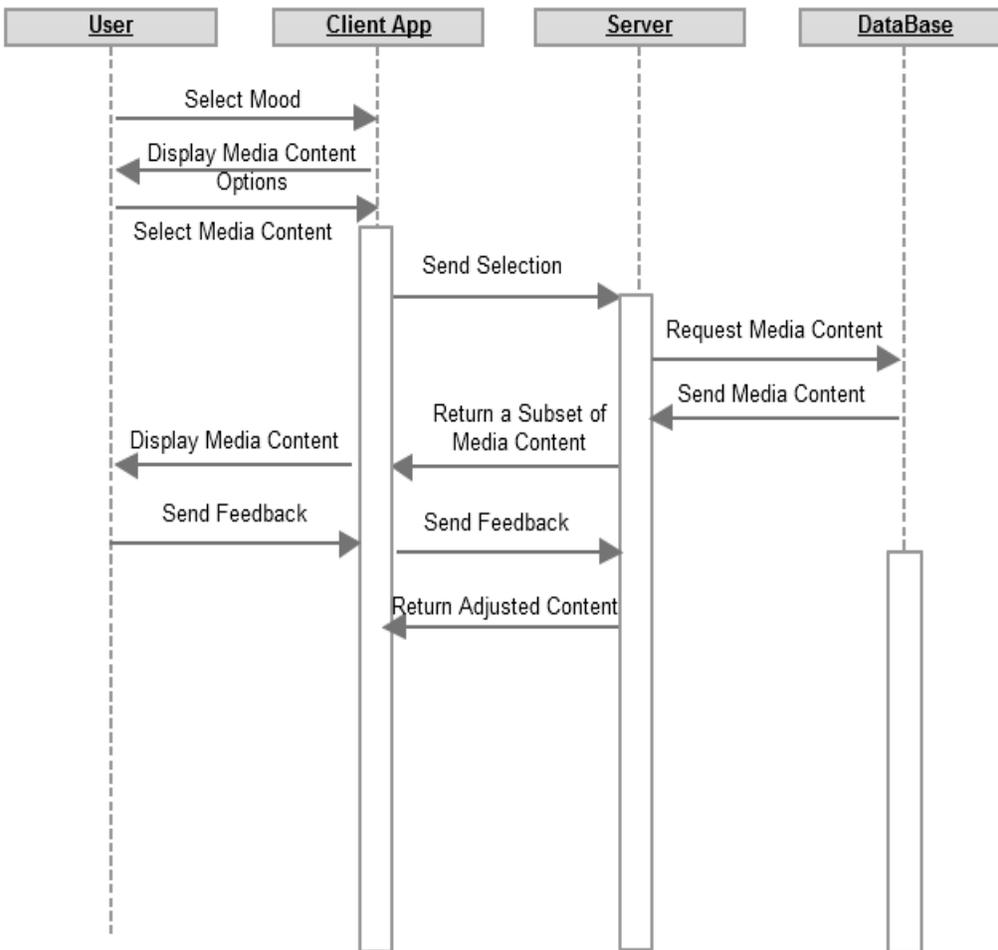
Development Stack: Android SDK will be our main development environment as it will provide APIs, libraries and other tools to help building and testing our Android application. The programming language will be Java. In the backend, we will use sqlite to save any data, or mainly metadata that maps users with contents. Also, we will use Flickr API to query pictures given mood-related keywords, and YouTube API for the similar purpose. In order to create UI mockups and prototypes, we are considering hand drawn sketches as well as web app like Balsamiq. The minimum product that we are delivering will cover only on mood(Happiness) and will show only one media content(Pictures) and if we manage to finish that early we will add other moods and media contents on top of that. Our main focus is to have an end to end working scenario that proves the concept.

Communication Tools: Main technical communication will happen using Git and GitHub. Also, we will have a weekly group meeting as well as a small group meeting in which closely working team members meet with each other, e.g. UI designer and FE developer, or PM and Tech lead. Other main communication channels will be email, shared Google Doc and calendars.

Challenges and Risks

Some possible challenges would be getting familiar with Android programming and Flickr/ YouTube APIs. For the first couple of weeks, team members should hack around with these

technologies to get some hands-on experience and to find any technological and legal implications. Another big challenge is to develop an algorithm to find a set of media contents, based on previous user feedback and user's demographic data and in general machine learning core of this project. This algorithm should be able to determine the preferences of pictures, videos and etc, optionally associated with various types of user populations.