

Flying Filters with Hats

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1. Introduction

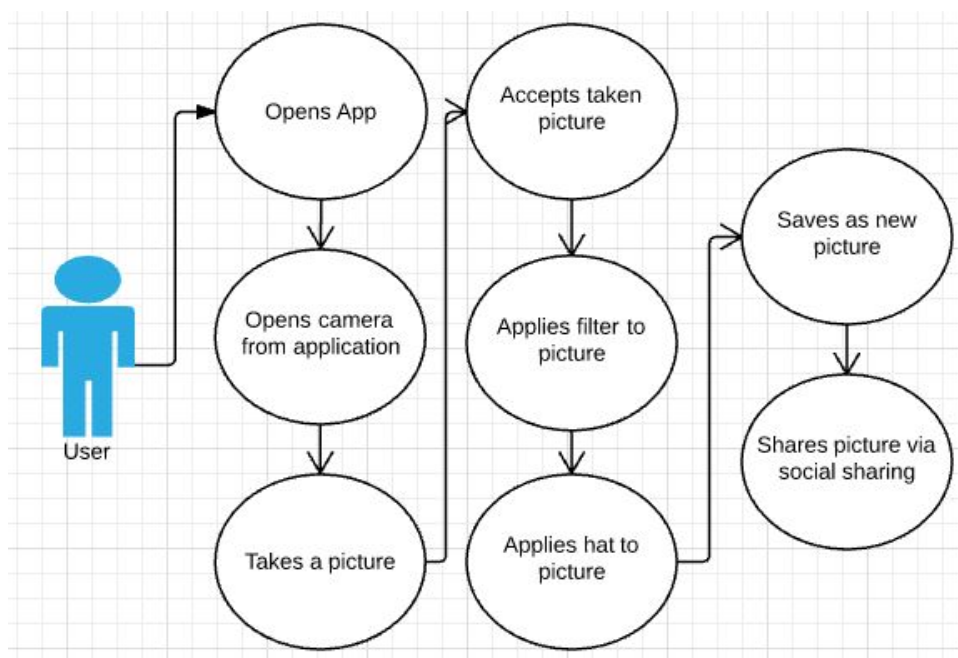
We are developing a mobile application for android devices. The main purpose of this app is that the user can take or load a photo and edit it with his/her desired filters and hats. After editing the photo user can save it and share it to his/her friends.

2. Contents

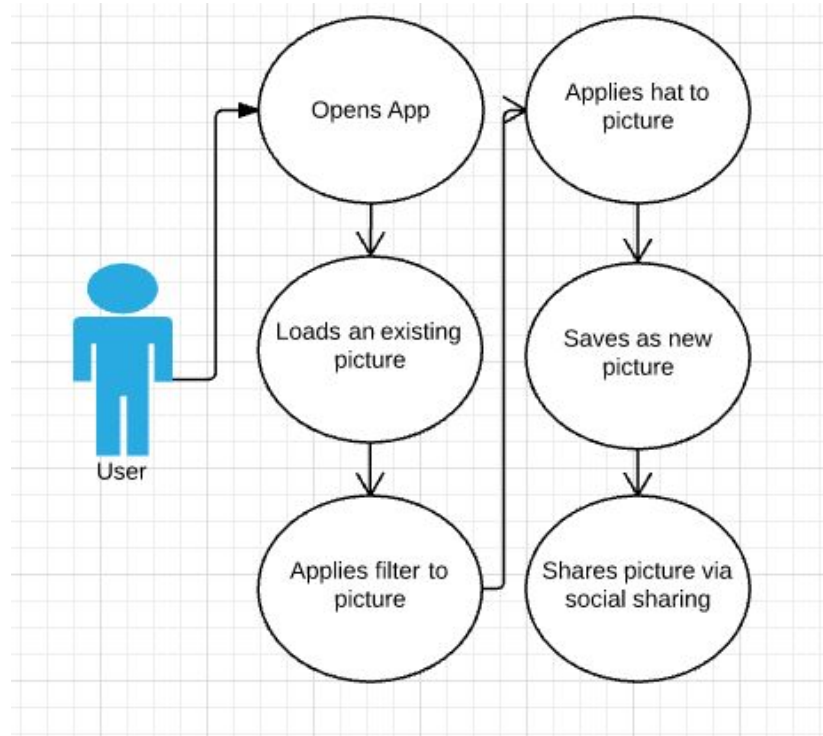
The application's already existing features from the android course are: loading a photo from android's library, taking a picture, applying a filter to a selected/taken picture, saving the new picture with the filter to the android device and sharing the new picture through social sharing (Whatsapp etc). The application will have its previous features improved as well as adding a new feature for applying hats. The "hats" are sticker type overlays for photos to add fun customizing options. They will be manually adjusted by the user on top of the photo by scaling and moving. The applied hats will be saved with the base photo and the selected filter.

3. Use Cases

Use case 1: Using the app by taking a new picture

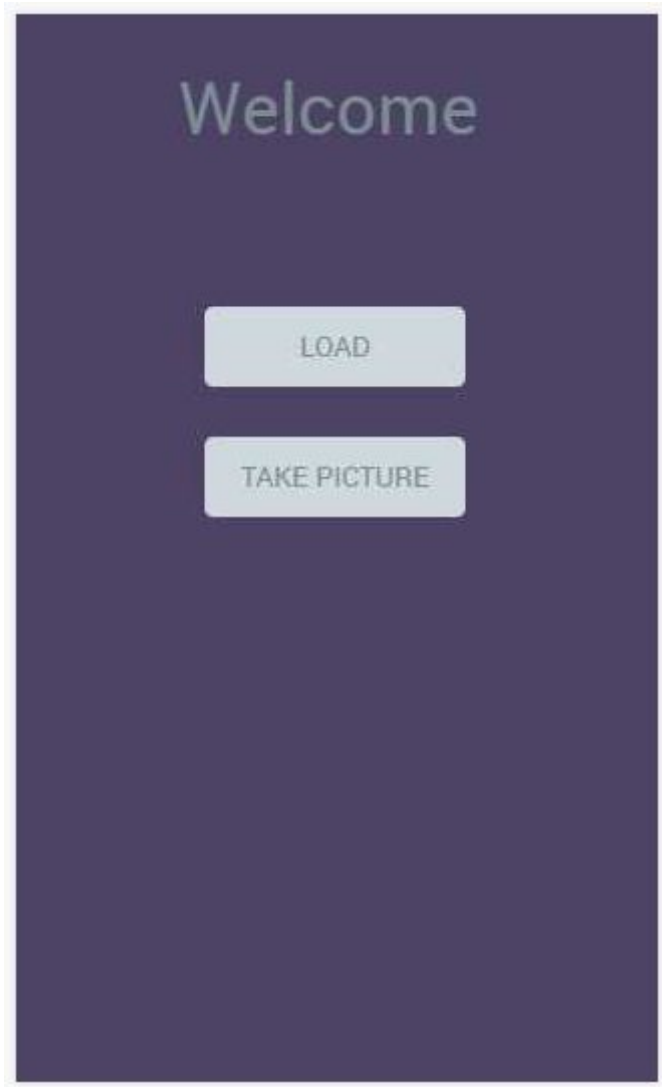


Use case 2: Using the app by loading an existing picture

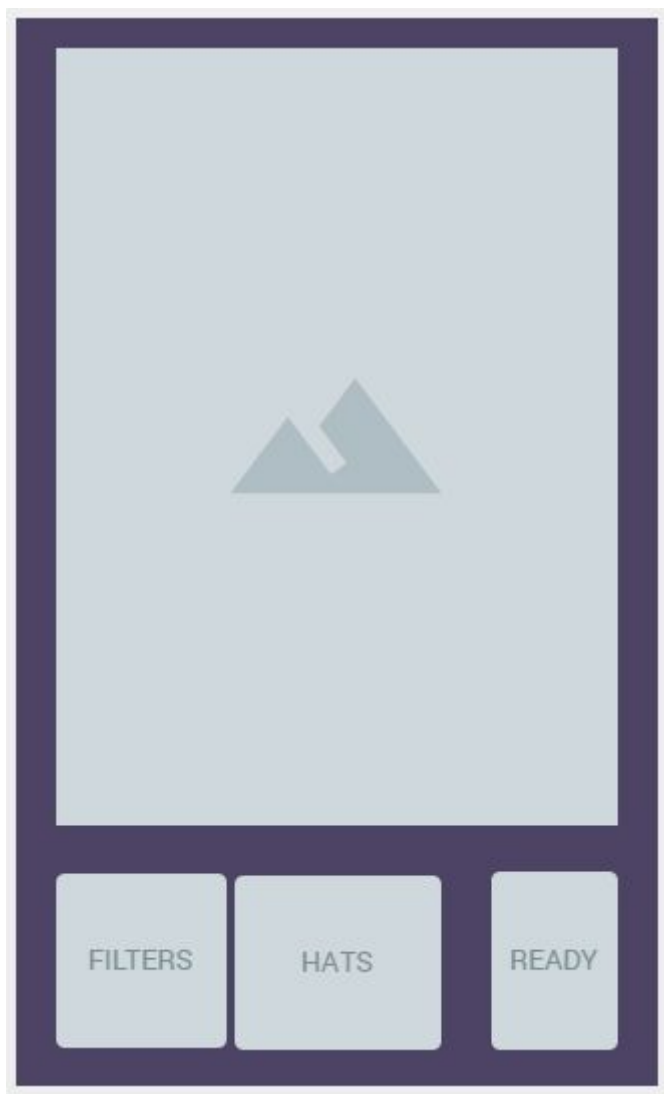


4. Mock Up

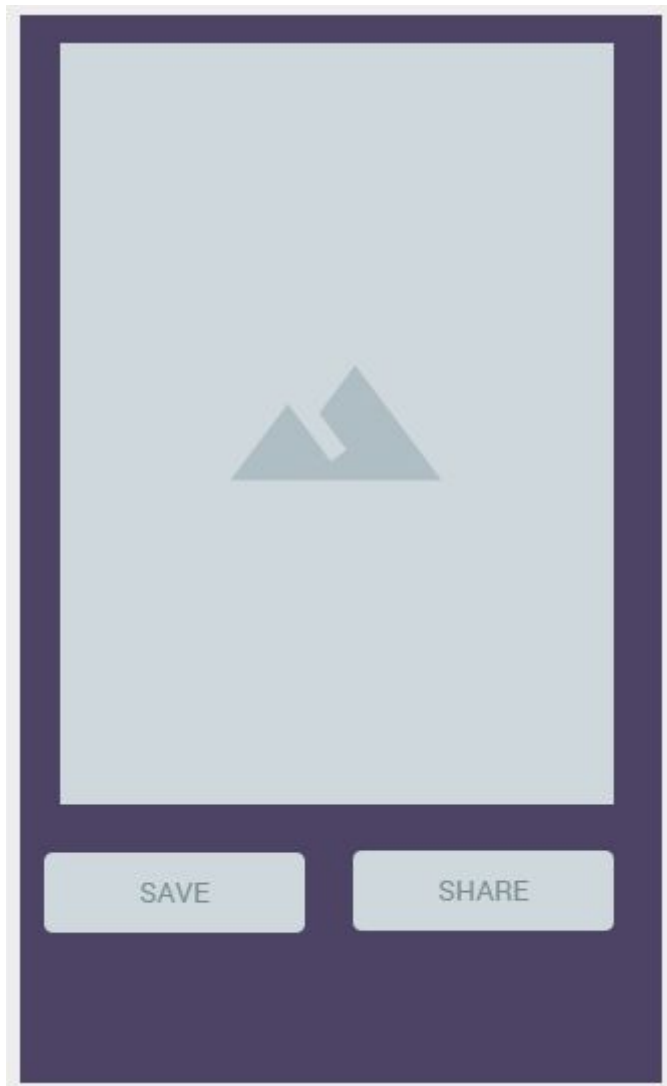
Mock up 1: Starting screen



Mock up 2: Photo edit



Mock up 3: Saving and Sharing

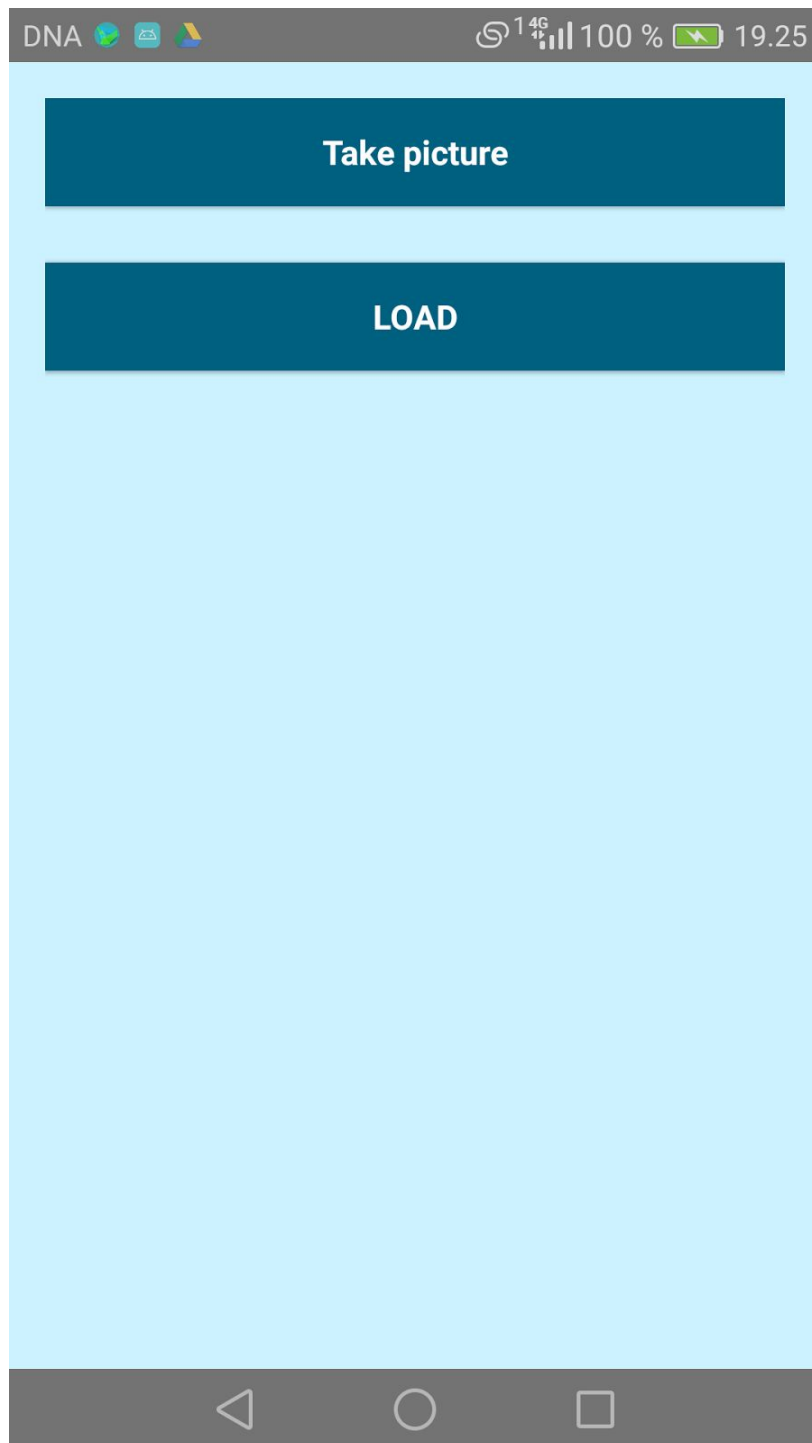


5. Time Planning

Goal is to do 8 hours a week per student minimum which totals to 16 hours per week. For now we have been doing work for this project for about 20 hours total (excluding work done in android course for this app). After this course minimum work done is 52 hours but in reality we need to do more work.

6. Finished Project Screenshots

Starting screen



Editing screen





Saved as Flying-2017-12-12_225338.jpg

START AGAIN

SHARE

7. Finished Project Work Time

Student	Hours done at school	Hours done at home	Total
Timo	32	9	41
Mikko	32	9	41

Project work time totals at 82 hours. We worked on the project every monday and wednesday (except for independence day). We also occasionally stayed after school on other days. We aimed to do as much of the project at school as we could, since working in a classroom together meant we could communicate and help each other to solve problems better. We also had only one Android device to test our app on so most of the testing happened at school. Also it denied any problems caused by the use of a newer Android Studio version than what we had in school.

8. Finished Project Overview

Originally we planned to have only Take Picture, Load Picture, Add Filter, Add Hat, Scale Hat, Save and Share features. We had no problems implementing these features so we had some extra time for adding more features. We added an Add Border feature and an automatic scaling for Add Filter as well as Add Border feature instead of having a fixed resolution. We also added sounds for buttons and actions.

9. Code Breakdown

We go into more detail on how the individual features work in our PowerPoint presentation. The raw source code can be found in the GitHub link provided below.

[PowerPoint](#)

[GitHub](#)

10. Problems and Complications

We had to change our approach on a few features from what we had originally planned.

Originally we tried to save the finished picture to an SD-card. The solution worked fine with the emulator but when tested with a real device, the picture was nowhere to be seen. So the picture is now saved to the devices internal storage.

We gave up on a third activity view since sending a picture between two activities ended up being too difficult. The picture size wouldn't allow it to send between activities and instead of compressing and decompressing the picture we worked around the issue using visibility sequencing for buttons. This also allowed us to move back and forth between different phases of using the application without any issues.

11. Self Assessment

As a group we feel like we reached the goals we set at the start of the project. We also didn't differ much from our original vision. We were on the same page the entire project and didn't have any arguments regarding the development of our application. We also were able to split different sections of the project between us without having any merge problems. Since we did most of our coding and testing at school we always knew what was going on in each other's code. Working together also allowed a mutual agreement on how to approach different solutions and problems. However having only one Android device for testing limited our work hours and we couldn't really write reliable code while at home. Overall we are very pleased with the end result for the application, since we met all of the goals we set for ourselves.