Project Writeup - Updated

Team Members

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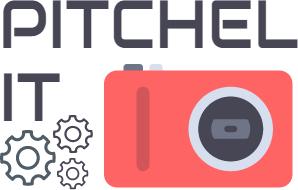
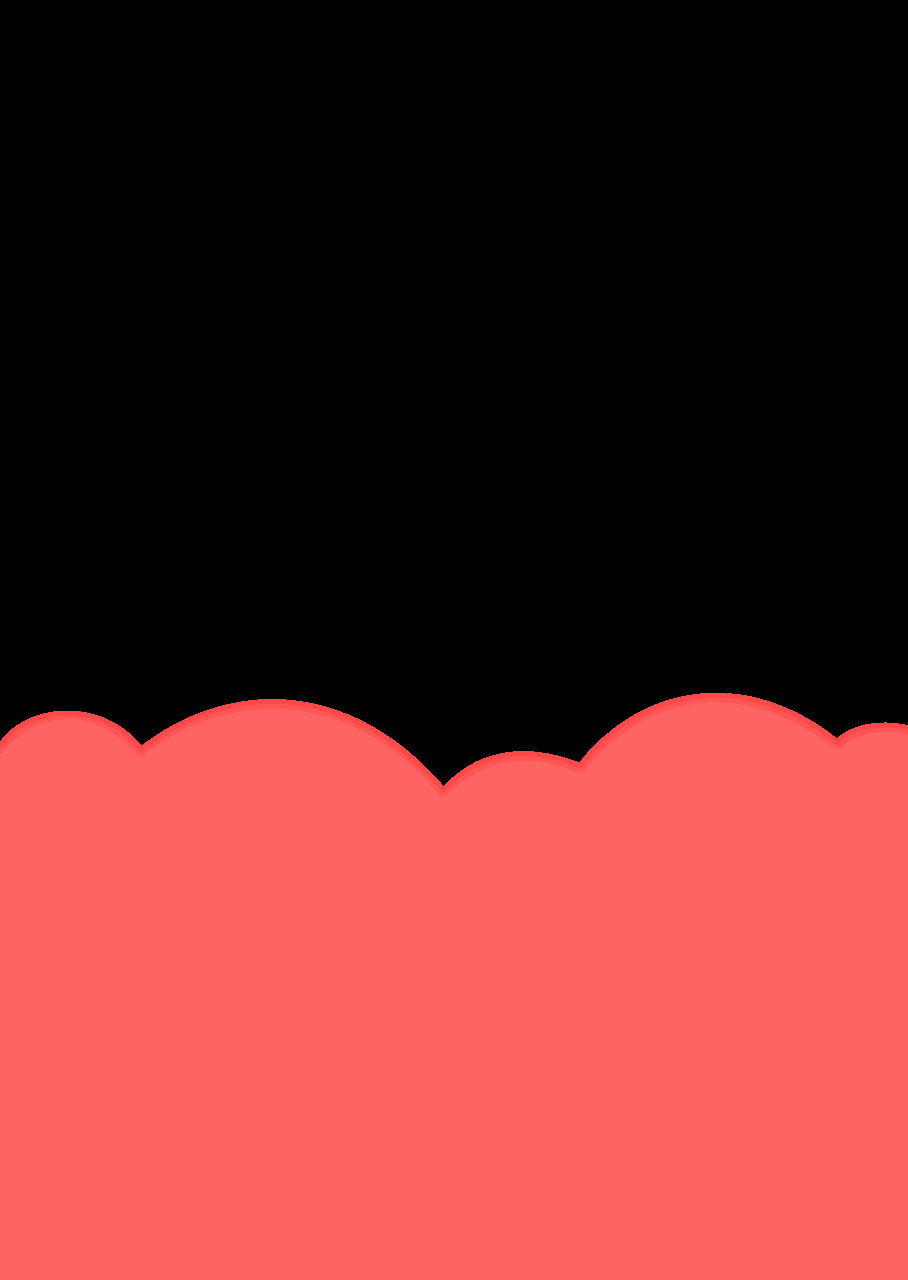
Christy Tran [christytran.thu@gmail.com](mailto:christytran.thu@gmail.com)

Title of App: Pitchel It

Description: App for editing, viewing, and searching photos.

UI/UX

We created our own logo, have a splash page, did many layouts, and created our own background. We have layouts that support both normal and large sized screens.



APIs used

Google Maps: <https://developers.google.com/maps/documentation/android-api/>

* Mark on a map where a photo was taken.

Facebook: <https://developers.facebook.com/docs/sharing/android>

* Allow users to share their photos to Facebook.

Notable Android features/Intents

Custom Navigation Drawer - Login and create account on Firebase

Instagram - Use an intent to open Instagram app and share photo

Twitter - Use an intent to open Twitter app and share photo

Long press on a photo in the Gallery triggers an x to appear. Clicking the x will delete the photo on the device and firebase (if logged in), and update the map (if logged in).

Third Party Libraries:

Aviary - <https://creativesdk.adobe.com/docs/android/#/index.html>

* An adobe SDK for editing photos. Has really great documentation and functionality. Easy to customize. Had issues on our end not knowing that you needed Android Studio to update Android SDK Tools. We initially thought it was errors with OpenGl so switched to Imgly briefly but converted back in the end after troubleshooting (thanks, piazza).

Imgly - <https://www.photoeditorsdk.com/>

* An Imgly SDK for editing photos. Did not end up using this SDK but had to switch from Aviary to this and back to Aviary. A lot less functionality compared to Aviary. Could not import a photo into the editor activity. Could only start the editor activity by taking a photo. 2/10 would recommend.

Third Party Services:

Firebase <https://firebase.google.com>

* Hold database of users, photos, and coordinates of photos.

Discuss anything noteworthy about your back end or processing logic.

* We used Firebase to allow users to create an account and login and implemented a searching functionality to allow users to search through their own photos via tags they set. Our database would hold the image, the tags set for each image, and image coordinates, if available. Photos are only uploaded to Firebase if a user is logged in, however the image editing, gallery, and viewing one image functionality are still present when a user is not logged in. They would just be unable to search through photos or set tags (which involves querying from the database, meaning they would have to be logged on).

Discuss the most important or interesting thing you learned doing your project.

* What made our project complex was putting a million little elements together and figuring out how to use the APIs. An update on one activity or fragment could trigger updates in all the others as well. The most important thing we learned was to understand all of the elements that you are trying to use before smashing them all together and to allot time to fix bugs. Having to stop and troubleshoot so many bugs was really time consuming. This led to hardware issues, emulator issues, API issues, etc… We tried to use all the concepts that we’ve learned in class in our app to reinforce all the class content. Thank based god for stackoverflow.

Discuss the most difficult challenge you overcame and/or your most interesting debugging story.

* We planned out iterations pretty well and met frequently, however fell a little behind due to unexpected bugs. For example, we were not able to use the Aviary SDK on the Android Studio Emulator until Thanksgiving break, and only one of us owned an android device.
* One of our most annoying/interesting debugging PITA was that initially, our app was extremely slow only on the Nexus 5 but ran smoothly on the Nexus 7. We kept getting warning messages saying the app was doing too much work on its main thread. No matter how many times we refactored, nothing helped to speed up our code. A few days before the writeup was due, Denise figured out it was because our background image (see above) was too big. We tried running our app on additional devices, and on the LG G3, we got an error message saying a bitmap was too large, so the background image couldn’t load. Turns out that this was the problem on the Nexus 5, however the Nexus 5 gave no meaningful error message, only that we were “doing too much work on the mean thread”. So all the time spent refactoring our code was because OUR IMAGE WAS TOO BIG. To fix this, we moved our background image into the /drawable-nodpi/ folder.

Build Tips

* Make sure Android SDK Tools and Android Studio are updated
* Download Facebook, Twitter, Instagram app
* If applicable, turn on camera for emulator

Code

http://cloc.sourceforge.net v 1.60 T=0.20 s (50.1 files/s, 8595.9 lines/s)

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File blank comment code

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app/src/main/java/cs371m/denisely/pitchel\_it/MainFragment.java 69 24 292

app/src/main/java/cs371m/denisely/pitchel\_it/MainActivity.java 41 14 237

app/src/main/java/cs371m/denisely/pitchel\_it/OneImage.java 40 17 205

app/src/main/java/cs371m/denisely/pitchel\_it/GalleryActivity.java 29 10 158

app/src/main/java/cs371m/denisely/pitchel\_it/GalleryAdapter.java 24 10 151

app/src/main/java/cs371m/denisely/pitchel\_it/CreateAccountFragment.java 12 6 105

app/src/main/java/cs371m/denisely/pitchel\_it/LoginFragment.java 15 6 90

app/src/main/java/cs371m/denisely/pitchel\_it/CarouselAdapter.java 17 5 74

app/src/main/java/cs371m/denisely/pitchel\_it/EditActivity.java 8 4 21

app/src/main/java/cs371m/denisely/pitchel\_it/PhotoObject.java 11 6 15

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SUM: 266 102 1348

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Language files blank comment code

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Java 10 266 102 1348

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SUM: 10 266 102 1348

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http://cloc.sourceforge.net v 1.60 T=0.19 s (62.9 files/s, 2690.7 lines/s)

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app/src/main/res/layout-large/one\_image.xml 12 0 82

app/src/main/res/layout-large/gallery\_page.xml 10 0 68

app/src/main/res/layout-large/main\_fragment.xml 9 0 63

app/src/main/res/layout-large/create.xml 9 0 58

app/src/main/res/layout-large/login.xml 4 0 46

app/src/main/res/layout-large/nav\_header\_main.xml 3 0 27

app/src/main/res/layout-large/content\_main.xml 1 0 25

app/src/main/res/layout-large/activity\_main.xml 3 0 23

app/src/main/res/layout-large/app\_bar\_main.xml 5 0 23

app/src/main/res/layout-large/gallery\_thumbnail.xml 3 0 18

app/src/main/res/layout-large/recycler\_view\_item.xml 2 0 12

app/src/main/res/layout-large/temp\_layout.xml 1 0 6

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SUM: 62 0 451

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XML 12 62 0 451

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Additional breakdown by functionality:

* Firebase/login/create account - 230 lines
* Drawer functionality - 42 lines
* Carousel of images - 118 lines
* Edit Image Activity - 70 lines
* Gallery Activity - 88 lines
* One Image Activity - 128 lines
* Share to Facebook - 45 lines
* Share to instagram - 21 lines
* Search functionality - 33 lines
* Add photo to firebase/update tags - 90 lines
* Google maps - 50 lines
* Total estimated by functionality = ~895 lines