Josue Flores

Ayman Zeidan

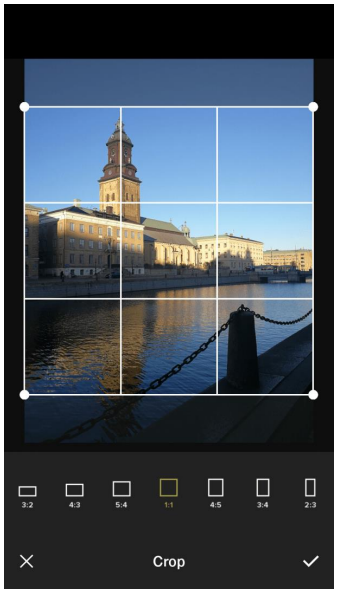
Final Project Proposal

Due Date: 11/8/2020

## ***Photo Editor Proposal***

As the name of the proposal would suggest, I plan on contriving a photo editor that allow users to open an image based file (jpg, png, etc..) and adjust the features on that image and save it as a new image within the android device. Regarding the said adjustments, I plan to implement at the very least 3 major features such as cropping certain sections of the image, applying certain filters that alter the perception aspects of the original image, and changing the orientation of the image with rotations and flip effects.

### Image Cropping




As the name entails, this feature provides application users to crop out certain areas of the image and return a photo with smaller dimensions than the first. Not to mention, the user will additionally have the option to select between a circular crop, a square crop, and possibly even a rectangular crop with the initial dimensions being specified as well. The size of the crop outlines can be adjusted via a two-finger zoom in/out interaction with the touchscreen that alters the dimensions of crop outline, specifically the length and width for the square and rectangular crops and the radius for the circular crop. In addition, all these cropping features will commence at the midpoint of the image and expand outwards or collapse inwards. The crop outline will be limited to a certain dimension (Not yet decided) to the outer dimensions of the entire image. In addition, a resize function will enable users to resize the image with a similar heuristic.

### Filter Application

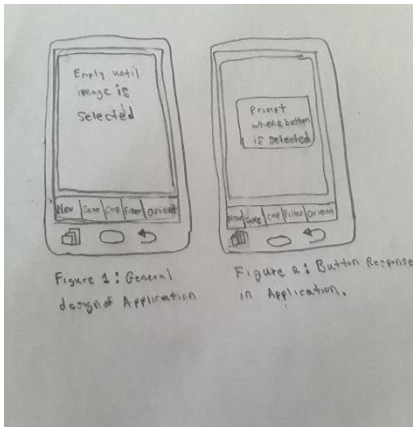
Concerning the details of the feature, users are granted the option to select a filter for their corresponding image. These filters may include: Negative, Grayscale, Black and White, etc. These filters are applied across the entire area of the photo. Lastly, if time permits, users can expect to see a blur/sharpen effect available for those who desire it for their images.

**Orientation**

This feature will permit users to rotate the contents of an image. This would be especially useful for individuals who have taken photos with an incorrect orientation. This rotation will come in the form of a right rotate and left rotate. In addition, I plan on involving a flip feature that flips the contents of the image to its opposing side. This effect will be implemented to possess a vertical flip and a horizontal flip.

**Look and Feel**

Concerning the GUI, Application users can expect to observe a toolbar that contains various buttons such as:




- New - allows users to select a image from their device.
- Save – saves the edited image into new image file.
- Crop – Allows users to crop image as mentioned above.
- Filter – Users can apply the filters addressed earlier to the image.
- Orient – Users can adjust the orientation of the image via a flip or rotation.

The toolbar will be situated towards the bottom of the screen containing these five buttons. In addition, whenever these buttons are selected, it displays a prompt in the middle screen allowing the user to choose a specific feature of the button. For example, when the Crop button is pressed, the application responds by generating a pop up window that asks the user which type of crop they desire and the initial dimensions for the crop. The rest of the screen will be dedicated to displaying the image loaded from the new button with a small padding around the edges of the window. Also, I plan to incorporate the return button on android as a means to cancel the prompt when a button is pressed. To address the error messages, I plan to make the Save, Crop, Filter, and Orient button return no response if a new image is not successfully opened within the photo editor. If the New button is pressed once more, it discards the image present within the window regardless of the changes made to it.


**Device Support & Resources**

Considering the nature of the application, I plan to make this application available for all Android API above 16, Android 4.1(Jelly Bean) and above. That being said, the data created from this application will be stored as a jpg file when the editing process is finalized and the image is saved. The reason I selected jpg is because it is one of the most prominent image file formats. So, in the event, the user wants to utilize a different photo editor app afterwards, they can still utilize the new file created from this photo editor. Concerning the location, it will most likely be situated within the photo gallery for both the reading and writing locations of the photos.