Website URL: <https://jcordell.github.io/cs534-project/>

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**Final Research Project Proposal: CS 534**

For our group project, we desire to implement a “Style Studio” application. The user will upload a selfie and then is able to customize his/her look from the list of features below [1]. Our idea is inspired by our belief that people should be encouraged to express themselves in new, fun, and creative ways. We want to empower the user to try out new styles, while bringing a smile to their face at the same time. Another potential benefit of our application is that it will provide users the courage to try out a new look after seeing a digital representation of how it will make them look.

The features of the application will range from facial hair manipulations to piercings. The picture uploaded must be a shoulder-up selfie; if our program does not detect a clear face on the image, then it will display an error message asking for another photograph. Once the program is supplied with a valid photograph, we will use a Matlab script to manipulate the selfie appearance. The application interface will include several buttons with features or enhancements to add to your photograph. One can add piercings, makeup, mustaches, different hair colors and styles, beards, etc. to their face. Up to 3 features or enhancements can be applied at the same time.

The end goal of our program is for a user to be able to get a feel for what they would look like in different styles with a simple, customizable, computer-generated image. Many people enjoy expressing themselves in creative and unique ways; we feel like this program will offer a useful experience before committing to a real life transformation.

By our midterm report deadline, our goal is to have researched and practiced implementing Matlab image processing techniques regarding face modifications and alterations, developed the photo uploading and face validity feature, and created one or two of the possible features listed below. We also plan to have explored different graphical user interface (GUI) possibilities for our application. By our presentation deadline, we plan to have multiple features created, that can be applied at once to the image, in addition to a working website explaining how the application works and where to download it. A more detailed timeline can be found below [2].

[1] List of possible features:

* Hairstyles
* Hair color
* Eye color
* Piercings
* Tattoos
* Lip injections/ Botox
* Facial hair color (mustaches/beards)
* Dimples
* Makeup

[2] Timeline:

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| --- | --- |
| **Date** | **Task to be accomplished** |
| 10/16/2018 | Photo uploading / facial checking feature |
| 10/31/2018 (Midterm report due) | Add 2-3 features that can be edited |
| 11/15/2018 | Add 2-3 more features that can be edited |
| 12/03/2018 (Presentations Start) | Finish Presentation/add 2-3 more features |
| 12/12/2018 (Website due) | Finish Website |