



Bilkent University

---

Department of Computer Engineering

# CS 492: Senior Design Project

Fakenstein

## User Manual

### **Group Members:**

Yusuf Ardahan Doğru

Atakan Dönmez

Öykü Irmak Hatipoğlu

Elif Kurtay

Cansu Moran

**Supervisor:** Dr. Selim Aksoy

**Innovation Expert:** Adnan Erdursun

**Jury Members:** Erhan Dolak and Tagmac Topal

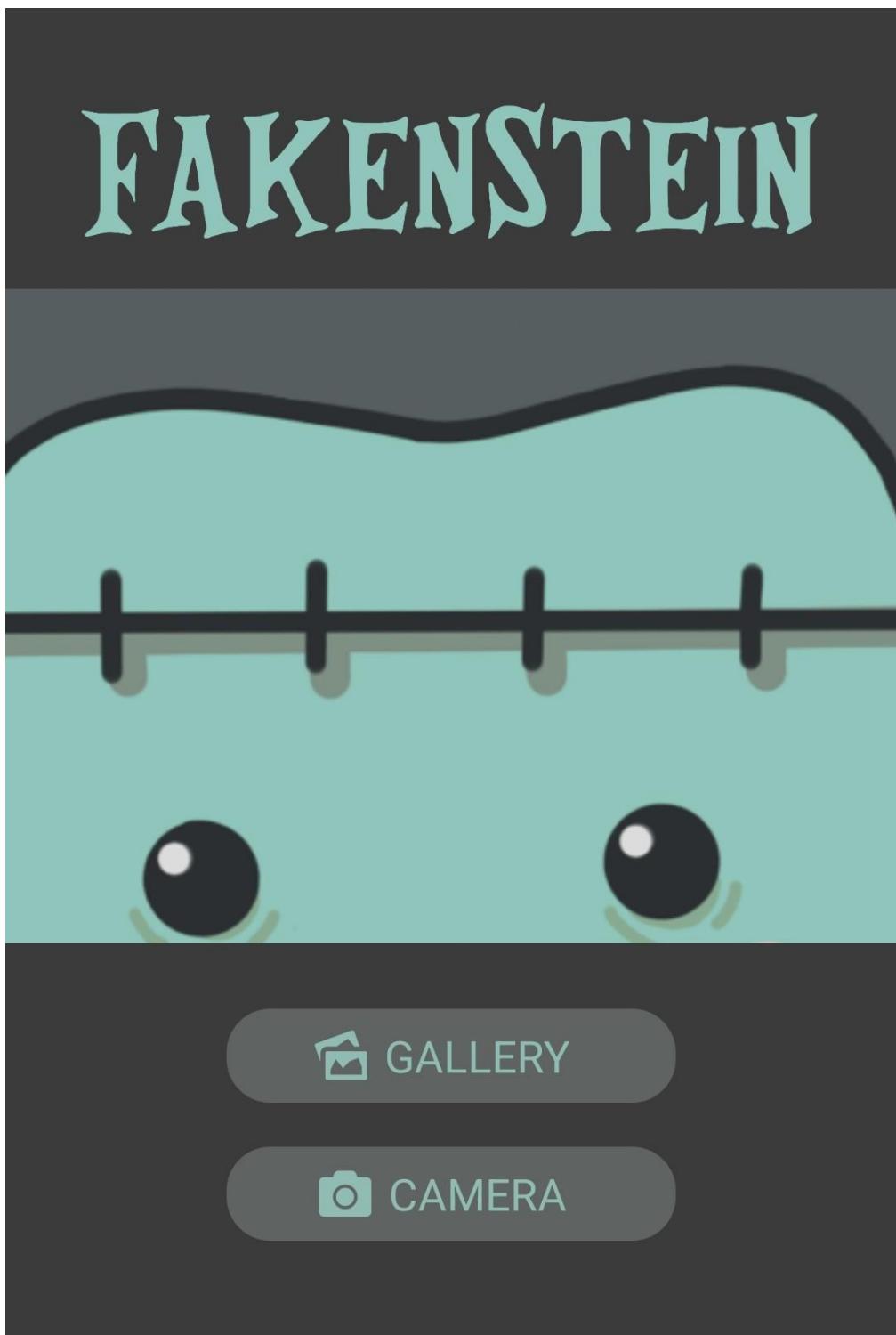
User Manual May 6 , 2022

This report is submitted to the Department of Computer Engineering of Bilkent University in partial fulfillment of the requirements of the Senior Design Project course CS491/2.

# User Manual

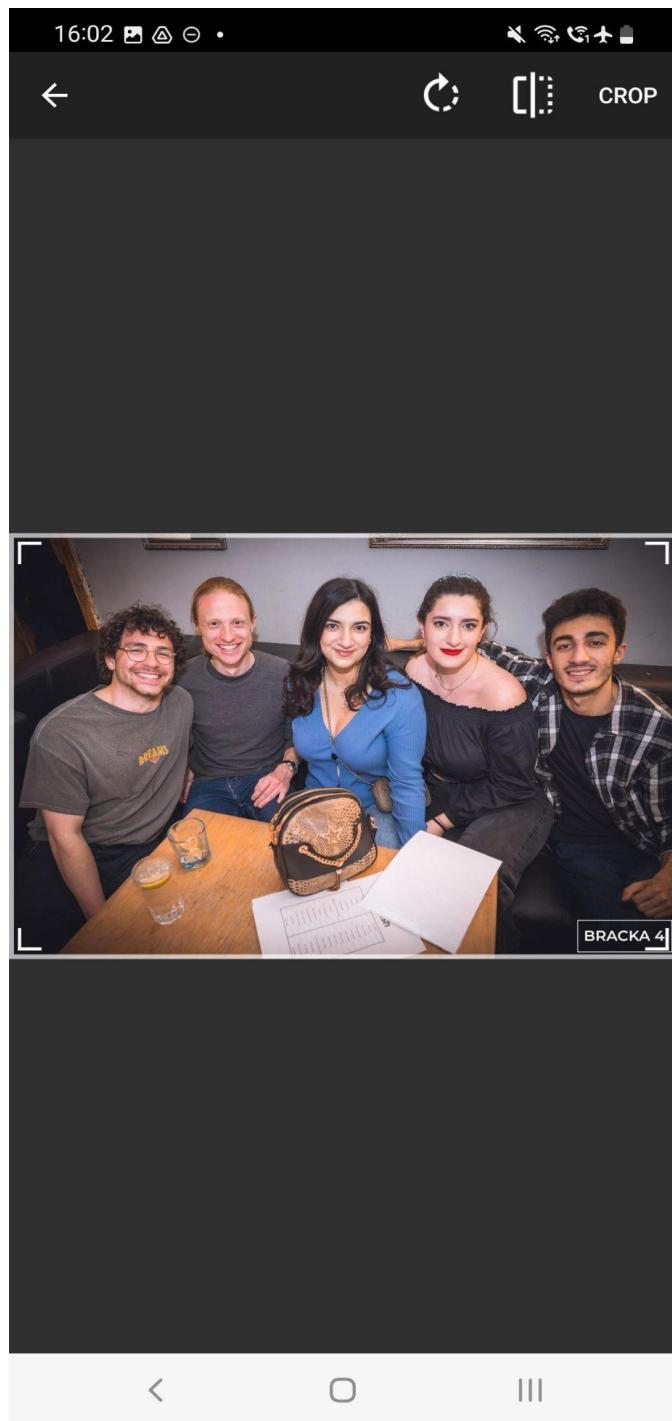
## Home Page:

The user is welcomed with the Home Page which contains the name and logo of the application, and two buttons to direct the user to Camera or Gallery. By clicking any of the two buttons, the user is directed to either the Gallery Page or the Camera Page to take a photo or choose a photo from the gallery to work on. Here is a sample on what the Home Page looks like in the application.



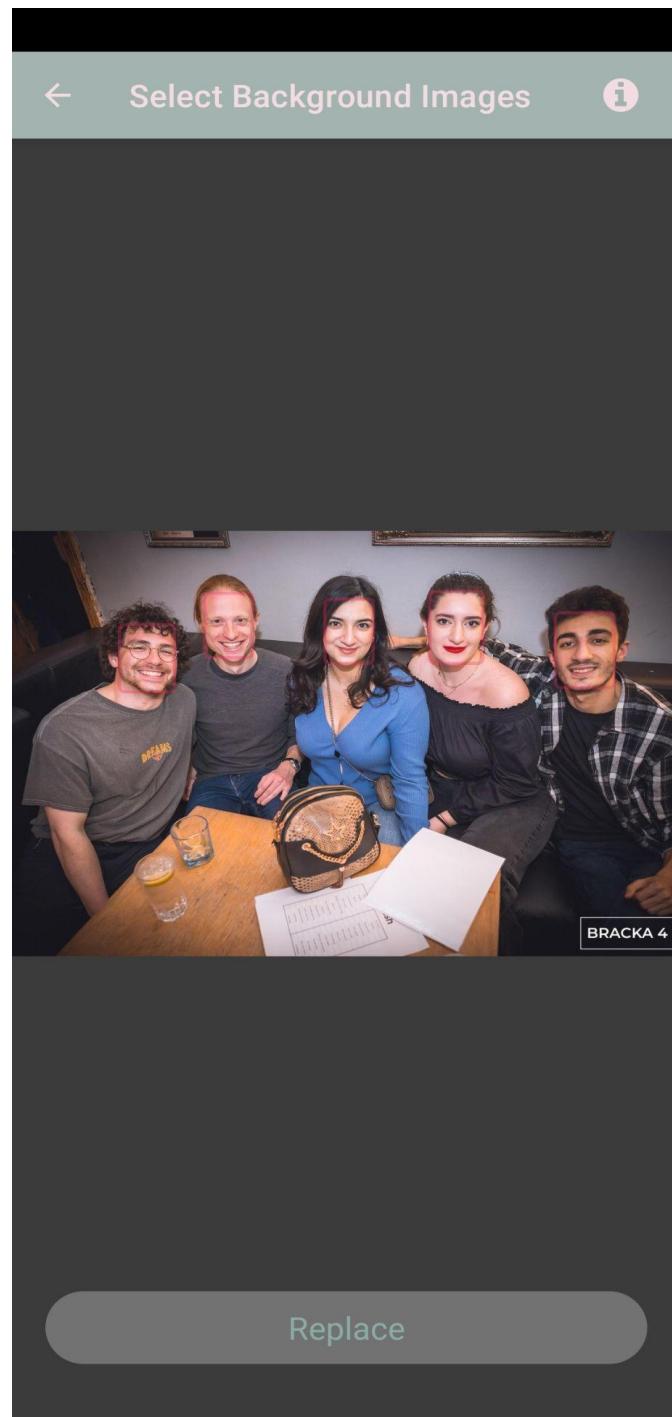
## Gallery/Camera Page:

After clicking on the Gallery or the Camera button on the Homepage of the application, the user is redirected to the Gallery or the Camera Page, in which he/she may choose an image type file, crop it, or take a photo themselves to use in the application. After the user selects the image, the selected image is sent to the application. Here is an example screen of an image selecting from the gallery:



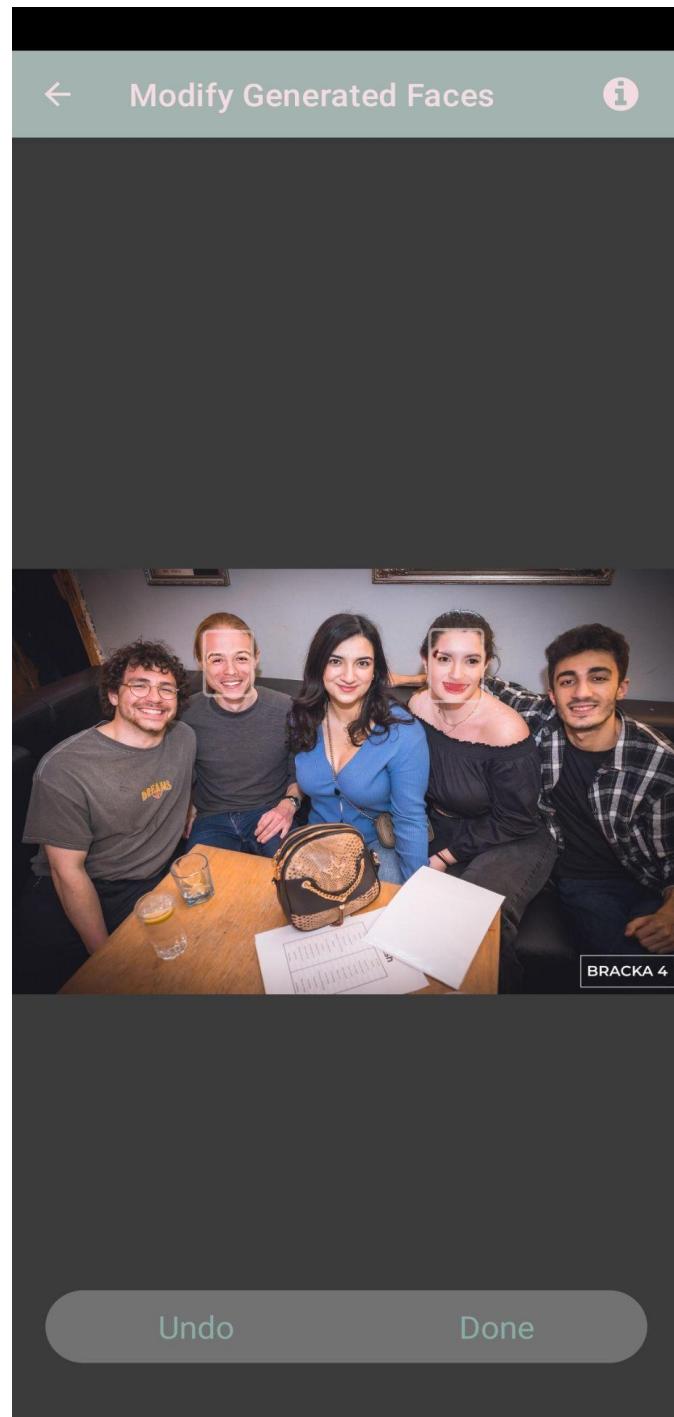
## Select Background Image Page:

After the user is redirected from the Gallery or the Camera Page, the photo that the user chose is displayed to the user in the application. On this page, the user can manually select which faces he/she wants to work with, or namely, which faces are in the background. After the user selects the faces, by pressing the Replace button, he/she is redirected to the Select Background Images Page. Here is a sample of how the Select Background Images screen looks like:



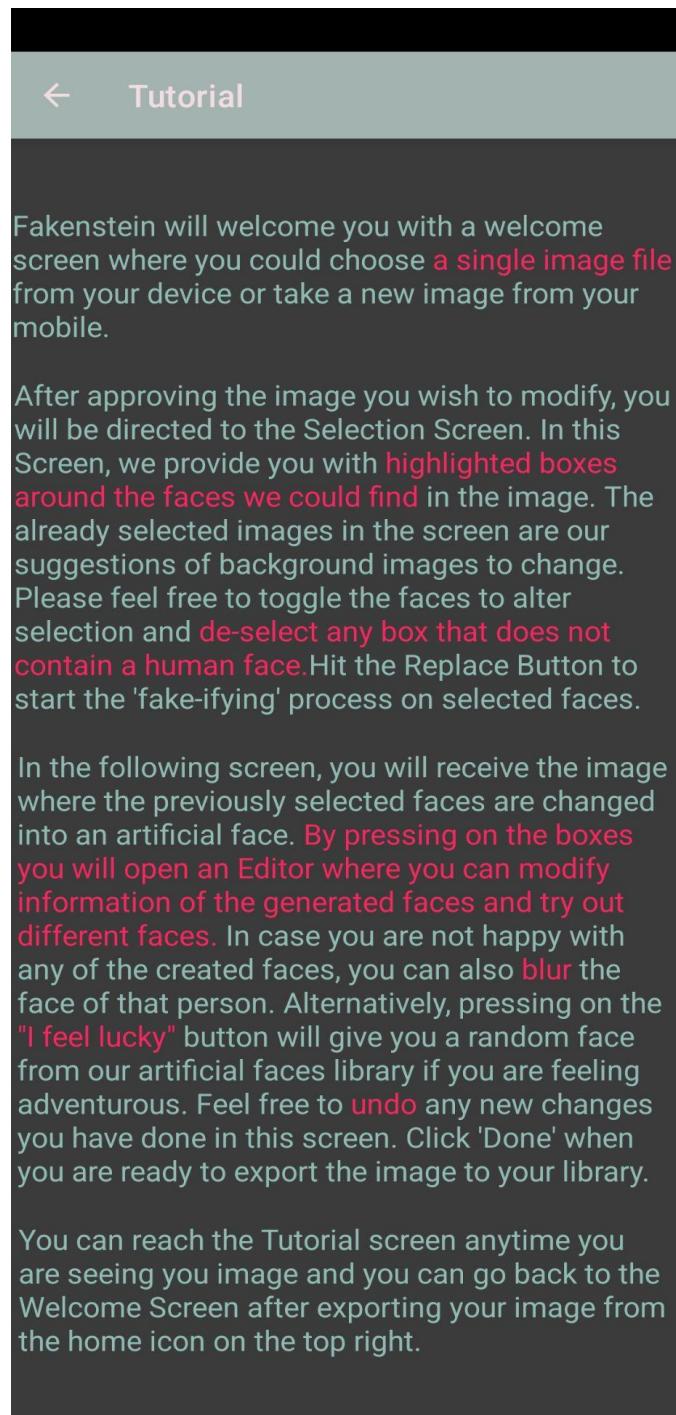
## Modify Faces Page:

After the user manually selects the faces in the photo that he/she wants to replace or edit on the Face Selection Page, they are directed here. On this page, from the faces that the user selected, the user may click or select faces one by one to see and edit the face's face information. Here is a sample on how the Modify Faces Page look like in the application:



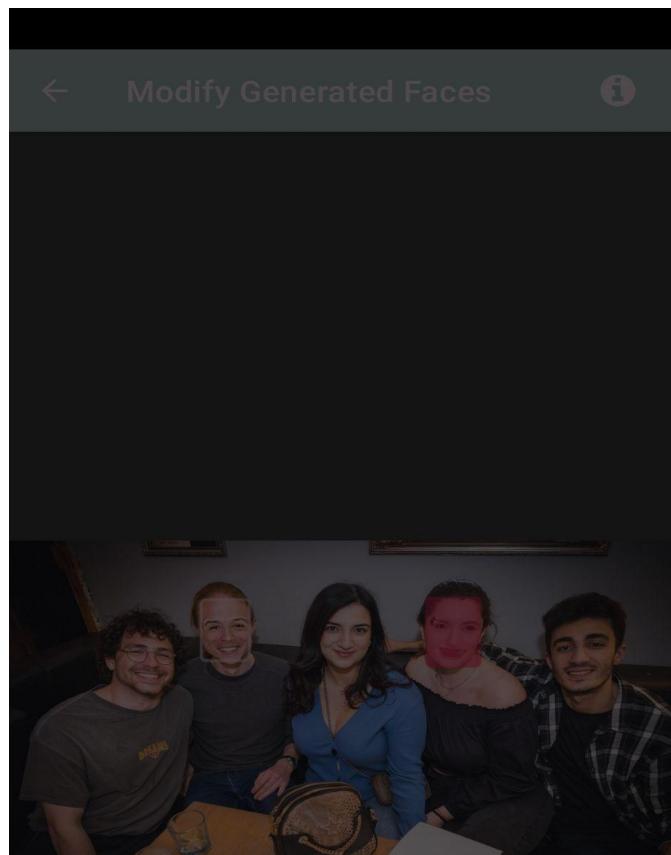
## Tutorial Page:

After the user clicks the Information button on the upper right corner of the screen after choosing an image from the Gallery or the Camera from any screen, the user is redirected to the Tutorial Page where there are a set of instructions on how to operate the application. The user, if new to the application, can read these instructions to gain insight on how to operate the application.



## Edit Face Information Screen:

After the user clicks on any of the faces from the image that he selected in the Select Background Image Screen on the Modify Pages Screen, the user is able to see the face information of a face, which has three groups: age group, gender group, and skin colour group. The user is then able to modify this face information or blur the face selected using the Apply Changes or Blur buttons on the bottom of the screen. Another option is the I FEEL Lucky Button, which randomly replaces the face without any relevance to the face information set. Here is an example of how this screen looks in the application:



Edit Face Information

Age Group: **Young**

Gender Group: **Female**

Skin Color Group: **Pale**

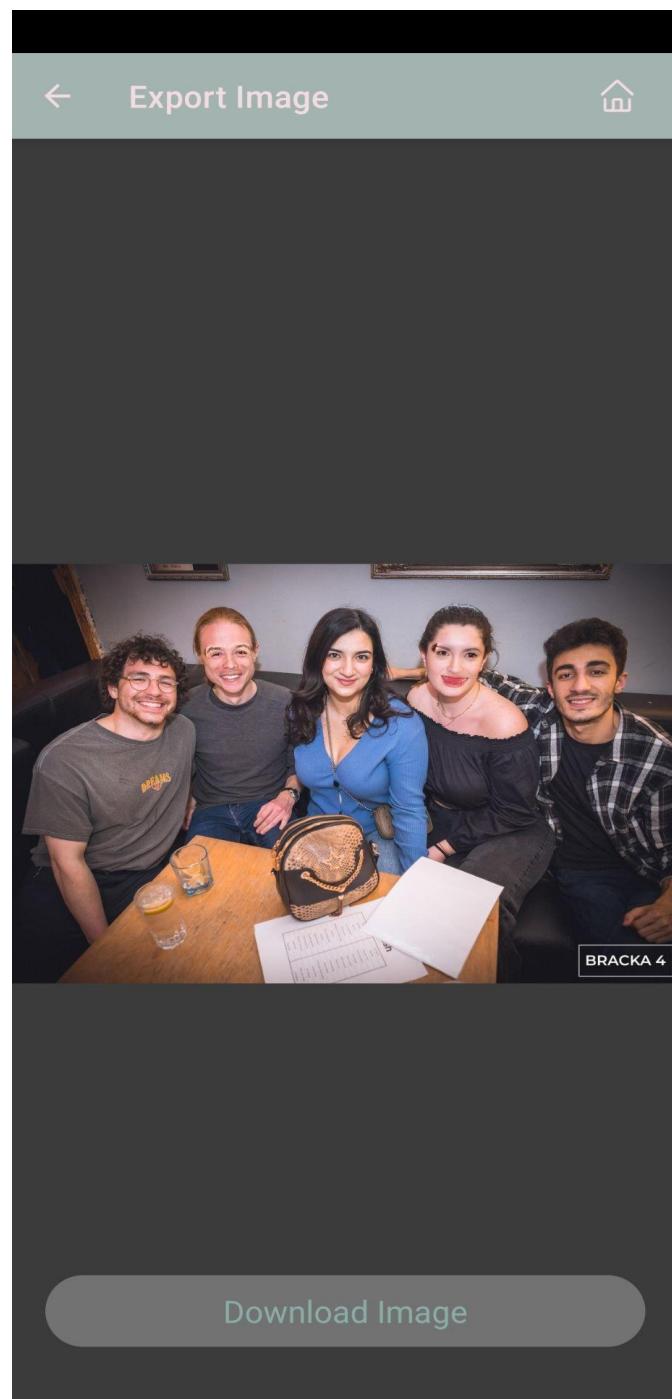
I FEEL LUCKY

BLUR

APPLY CHANGES

## Download Image Page:

After the user clicks the Done button on the Select Background Image Page, the user is shown the final state of the image that he/she worked on. The user may download this image into the gallery by clicking the Download button, or he/she may return to the previous page to continue making changes to the image by clicking the back arrow button on the upper left side of the page. After clicking the Download Image button, the user can see the end-product of the application in his/her gallery.



## Loading Page:

In the case that the user clicks any buttons, confirms, or makes an action in the application, if some time is needed to process the user's actions, then the Loading Page is displayed to the user until the application finishes the process it is working on.

# Installation Instructions

Github Link to Frontend Project: <https://github.com/6bugz/CS491>

Github Link to Backend Project:

To set up the local server:

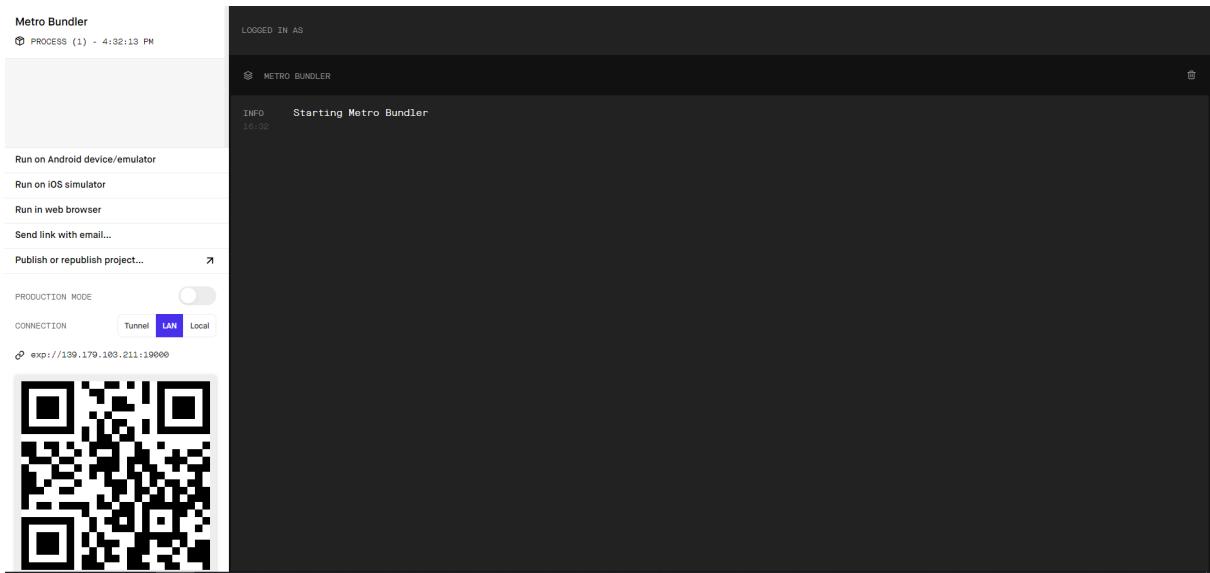
- Import packages listed in requirements.txt to a virtual environment
  - It is advised to use a virtual environment with a Python version of 3.7 or higher to not face error in the installation of the requirements.
  - Conda can be used to prevent any package version/python version conflicts in the virtual environment.
  - Depending on the compilers you have, you may or may not face a problem with compiling certain Python libraries that were originally developed in C/C++. Please refer to the official websites and documentations of those packages and follow the setup instructions for your respective environment if you run into any problems.
- Activate the virtual environment
- Run the Flask application (app.py) with the following command:  
`flask run --host=0.0.0.0`

To run the application:

- In the Fakenstein folder open a terminal and if you are opening the application for the first time run the command:  
`yarn install`
- After run the command:  
`yarn start`
- This will host the tools on the website that is indicated by the output (This is by default <http://localhost:19002>).

```
Starting project at C:\Users\atkdo\Desktop\okul\4 - 2\CS 492\Fakenstein\Fakenstein
Developer tools running on http://localhost:19002
```

- The following site will open:



- From here you can download the Expo Go application (from your respective application store) on your mobile and then scan the QR code at the bottom left with the application to run the Android version of Fakenstein on your mobile device.
- Or you can click on the “Run in web browser” option to open the web application and host it on a local site (by the default: <http://localhost:19006>/).

To connect application to the server:

- Make sure you are connected to the same network as the server
- Give the IP address of the server to the Fakenstein application (Android or Web) by pasting the IP address to the “backendURL” constant in Fakenstein/constants/utils.ts