Self-Checkout Automatic Age Verification System Demo Instructions

This file will outline the instructions that you can follow if you wish to try out the current system (demo) for yourself. The document will contain labelled images with clear bullet-point instructions on what you need to do.

If for some reason the system is faulty, please create a fresh installation of the project by following the instructions in the README.md file in the project's public repository at https://github.com/MooshiMochi/Self-Checkout-Project.

Please read through all the instructions once first, then follow them when going through this document for the 2nd time to ensure that all steps are followed correctly.

|> Prerequisites:

1. Windows OS computer
2. Python 3.8 or later
3. Visual Studio
4. Visual Studio Build Tools 2019 or later.
5. Tesseract installed at C:\Program Files\Tesseract-OCR\tesseract.exe (if not installed follow **Step 1** under **Running the demo** section)
6. A clear image of your ID card (A driver's license is preferred)
7. A smartphone with the Google Authenticator app installed

|> Running the demo:

Step 1:

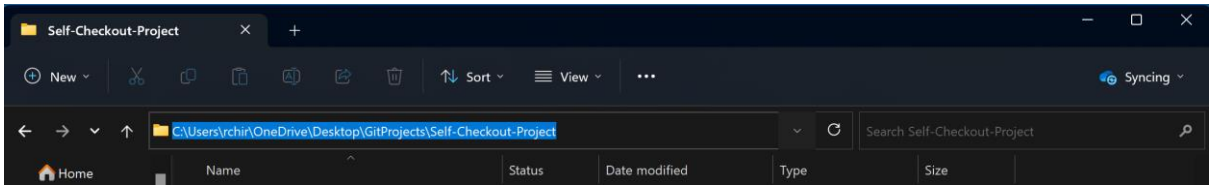
If the Tesseract engine is not installed on your local machine, please install it by following the instructions in this link: https://github.com/UB-Mannheim/tesseract/wiki

After installation, the tesseract executable should be renamed to “tesseract.exe” and should be placed in the “C:\Program Files\Tesseract-OCR” folder as the system uses the following path to find the tesseract engine: C:\Program Files\Tesseract-OCR\tesseract.exe

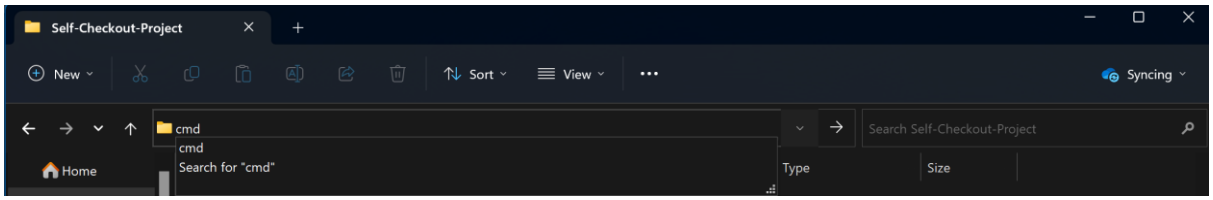
Step 2:

Extract the contents of the zip folder and open a shell/cmd/terminal in the project’s root directory:

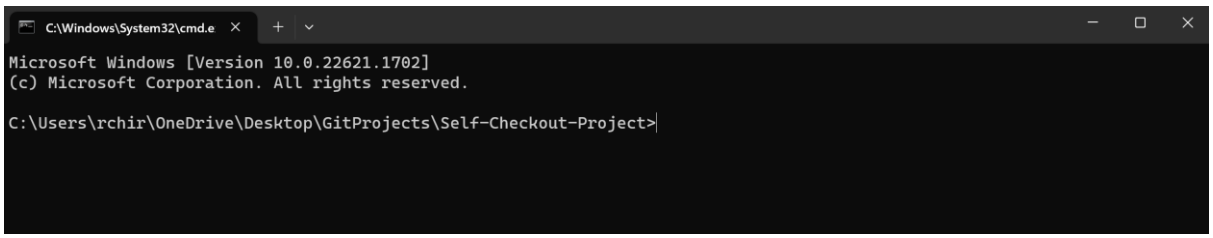
To do this press on the address of the current folder in the explorer:



Type in “cmd” and press enter:



A new terminal window should open:



Step 3:

Activate the virtual environment by typing the following command in the newly opened terminal window: ".venv\Scripts\activate"

```
C:\Users\rchir\OneDrive\Desktop\GitProjects\Self-Checkout-Project>.venv\Scripts\activate
```

A "(venv)" should appear at the start of every line in the terminal like so:

```
(venv) C:\Users\rchir\OneDrive\Desktop\GitProjects\Self-Checkout-Project>
```

Step 4:

As all the dependencies should come pre-installed into the Zipped Demo (the current folder), we will skip this part. If you wish to manually re-install all dependencies, then please follow the instructions in README.md under the Installation heading in the project's GitHub repository mentioned in the introduction.

Start the API by running the `main.py` file located in the root directory of the project using the following command from the project's root directory:

"python3 main.py" or ".venv\Scripts\python.exe main.py" and press Enter.

It should look something like this:

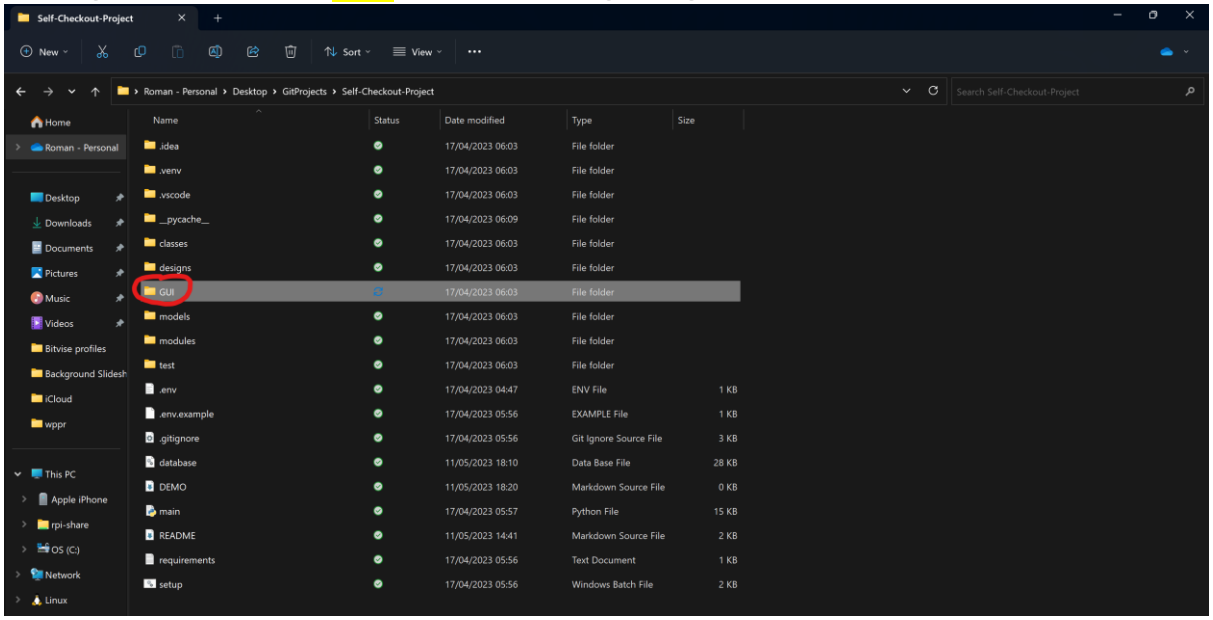
```
(venv) C:\Users\rchir\OneDrive\Desktop\GitProjects\Self-Checkout-Project>.venv\Scripts\python.exe main.py
INFO:     Will watch for changes in these directories: ['C:\\Users\\rchir\\OneDrive\\Desktop\\GitProjects\\Self-Checkout
-Project']
INFO:     Uvicorn running on http://127.0.0.1:8000 (Press CTRL+C to quit)
INFO:     Started reloader process [60892] using WatchFiles
INFO:     Started server process [36808]
INFO:     Waiting for application startup.
INFO:     Application startup complete.
```

Once you see this text in the terminal window the API is ready.

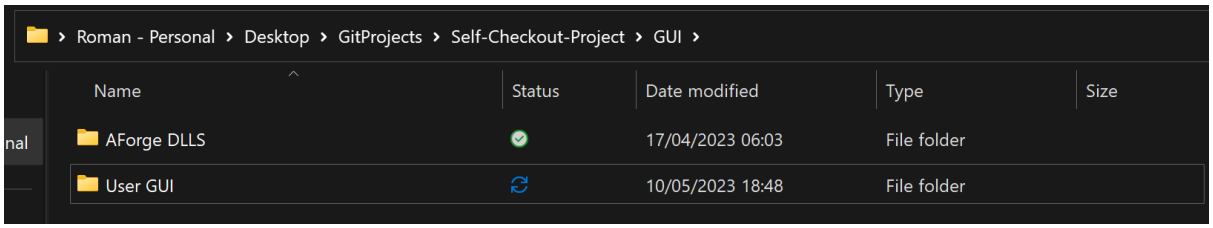
Now you can move onto **Step 5** which is running the GUI for the system.

Step 5:

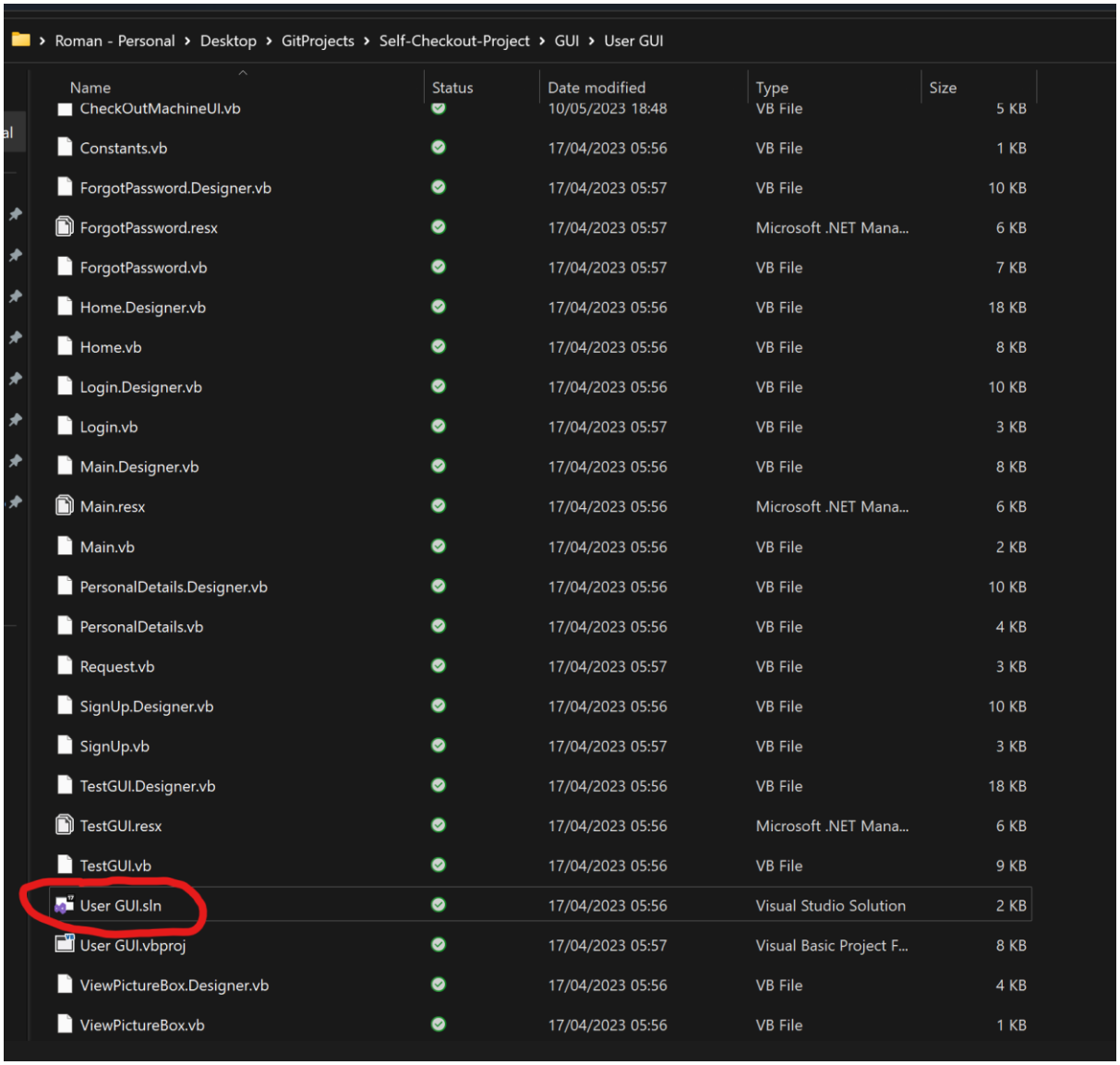
Navigate to the GUI folder highlighted below



Once there navigate to the User GUI folder

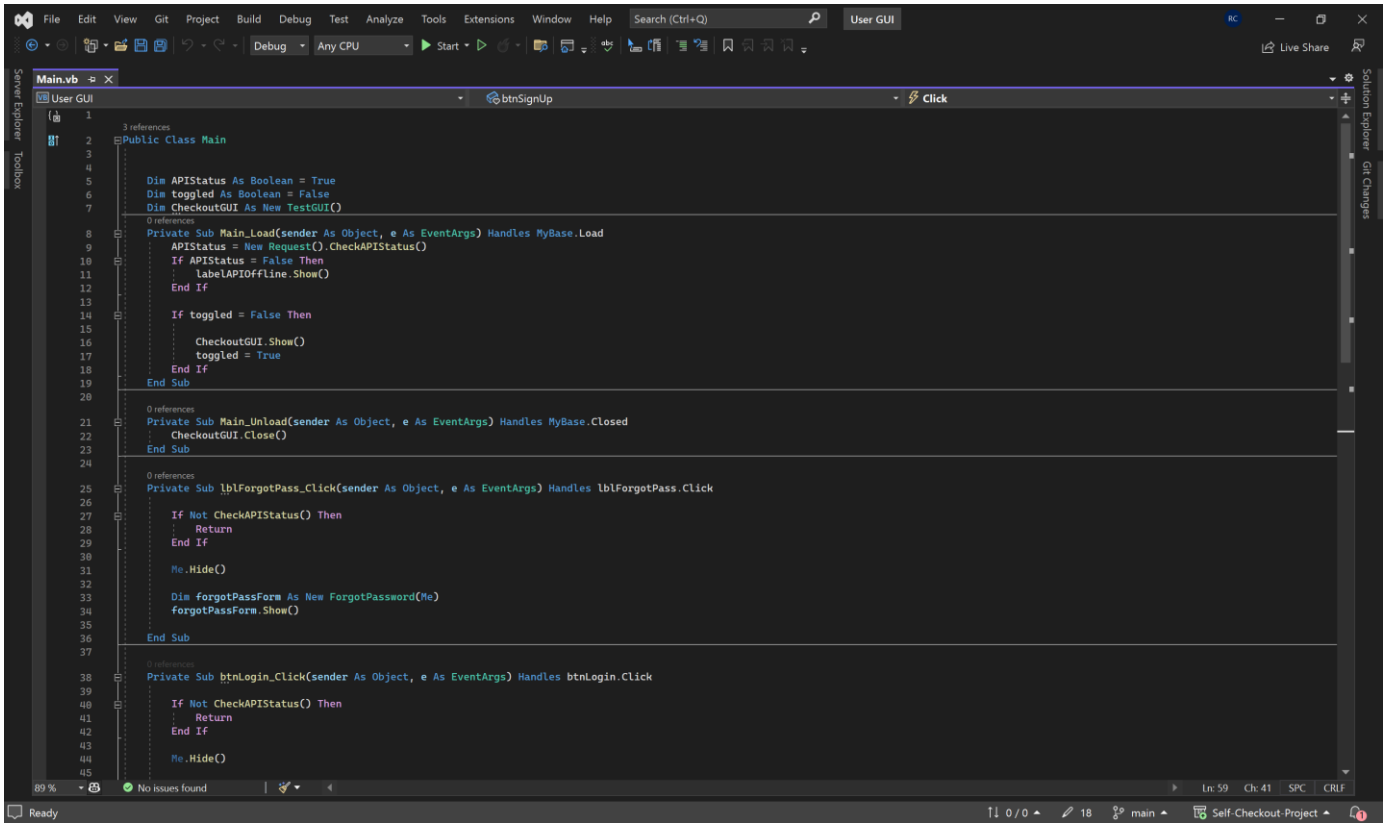


Scroll all the way to the bottom and locate the “User GUI.sln” file.

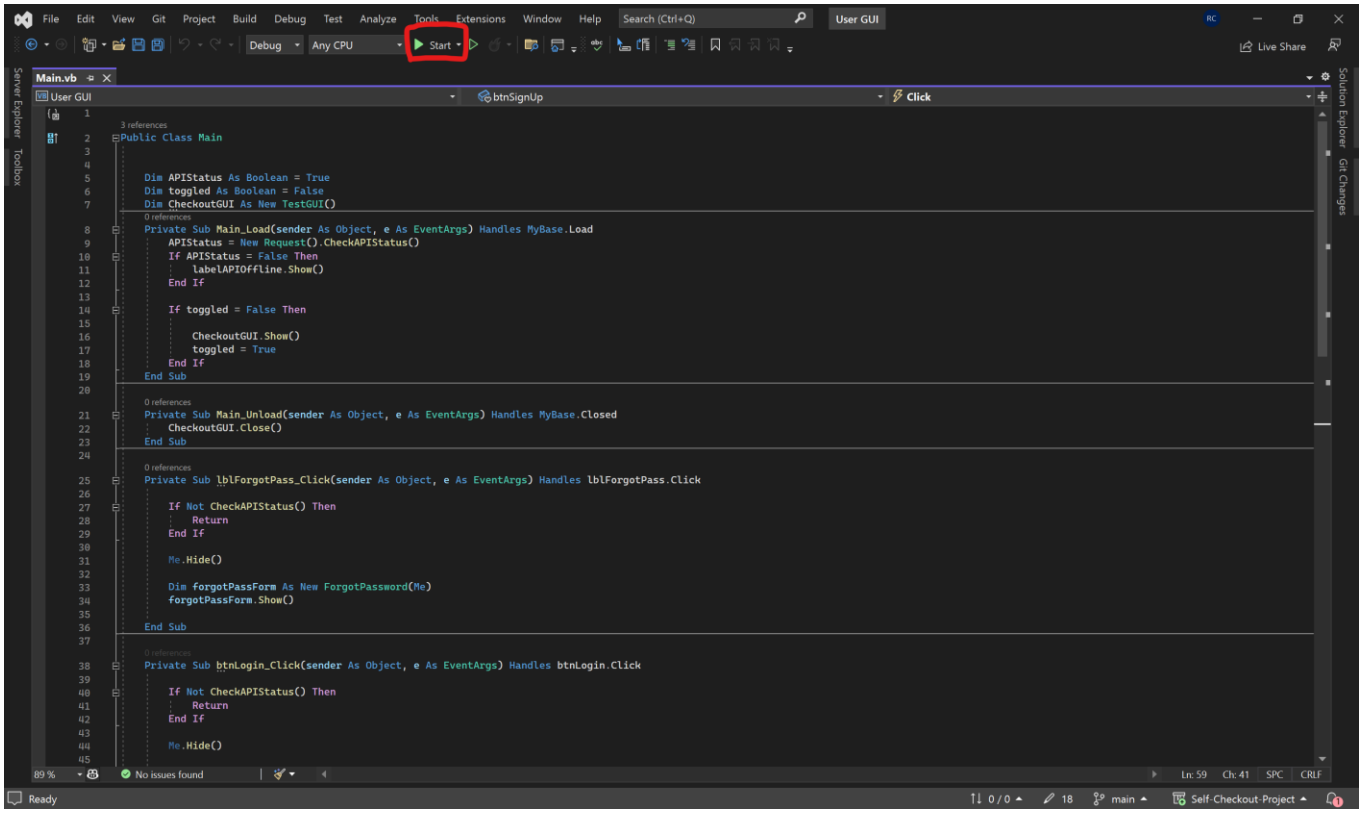


Double click the file to open the solution in Visual Studio.

Once opened, it should look like this.

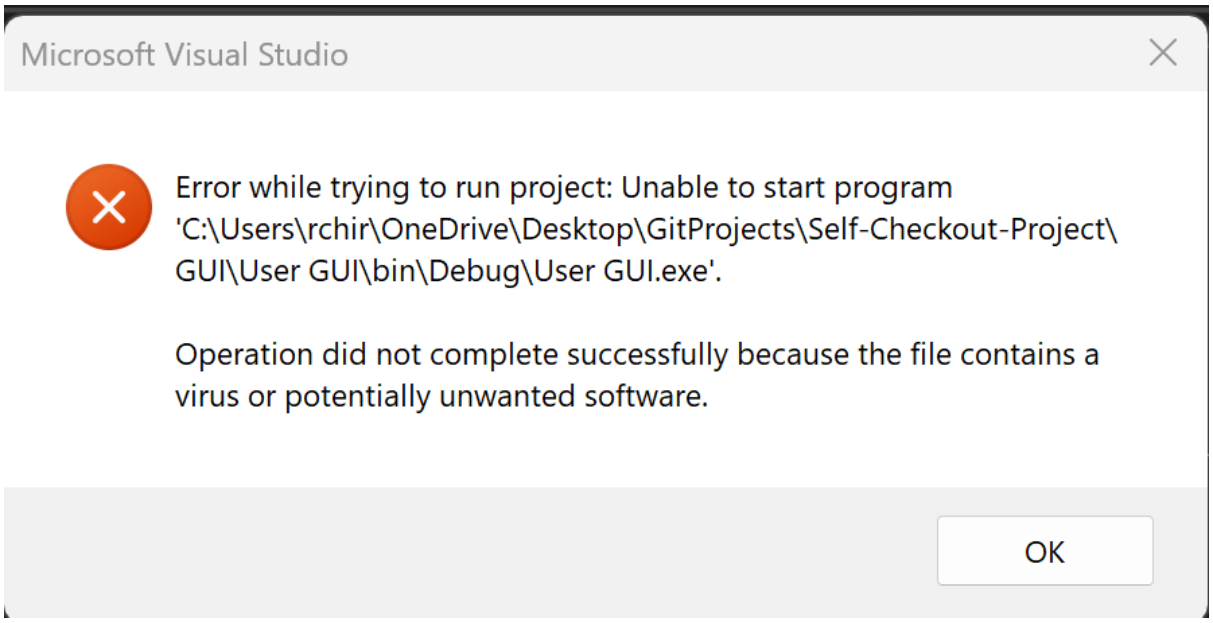


Navigate to the top of the screen and find the “Run button” highlighted in the image below:

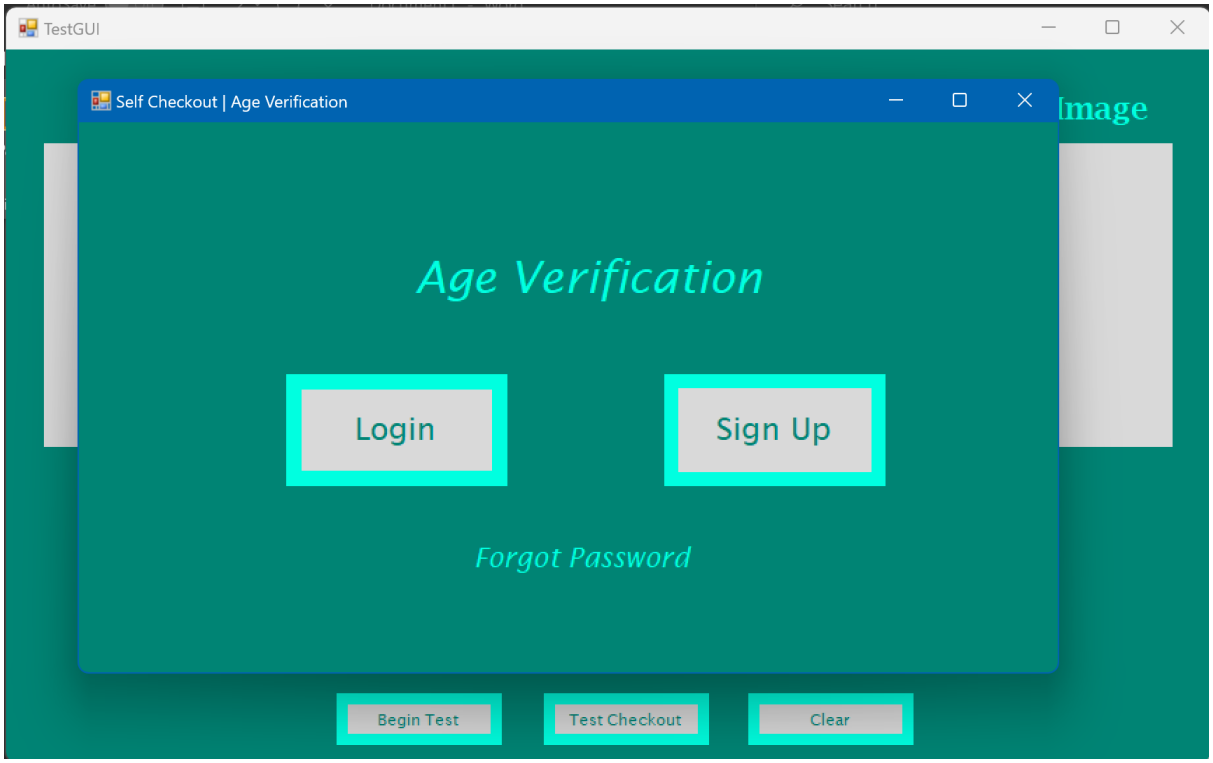


If you get an error message saying that the project could not be run because it may contain a virus, then you need to disable your antivirus.

This is what the error message may look like:



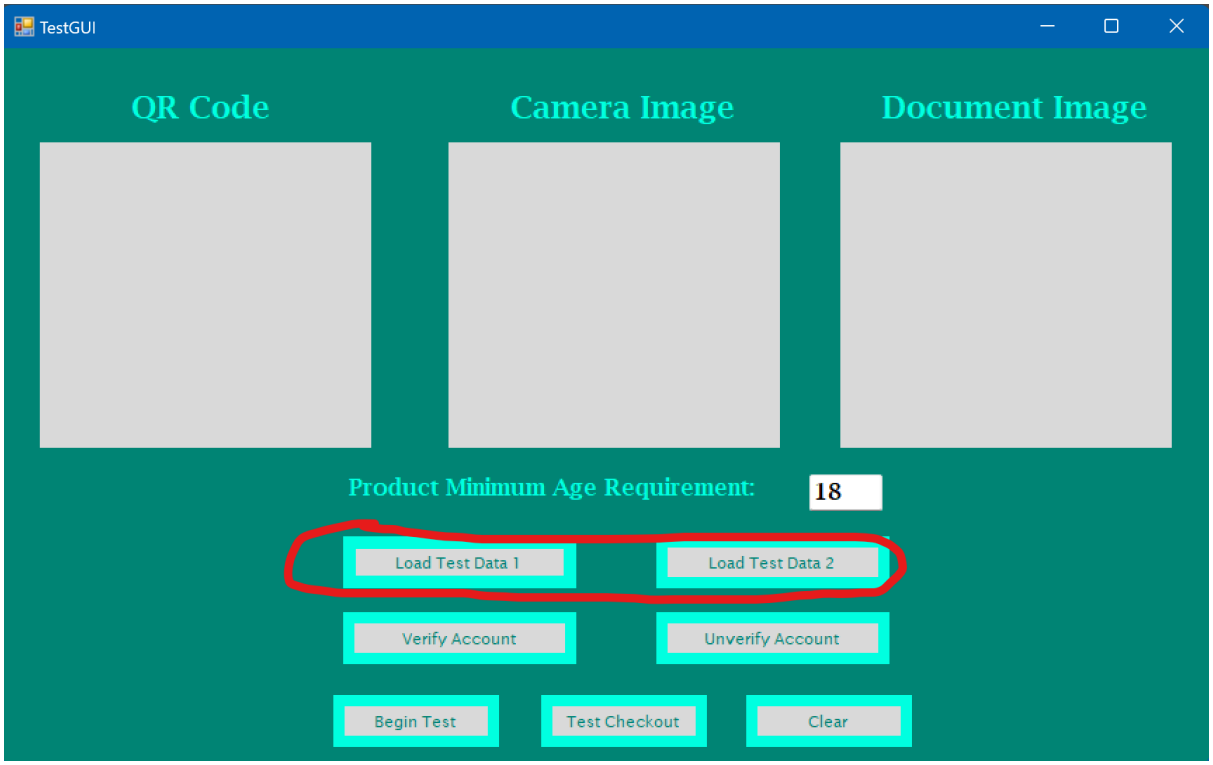
These 2 windows should pop up if the application was started successfully:



Step 6:

Focus the “TestGUI” window to being the System Demo.

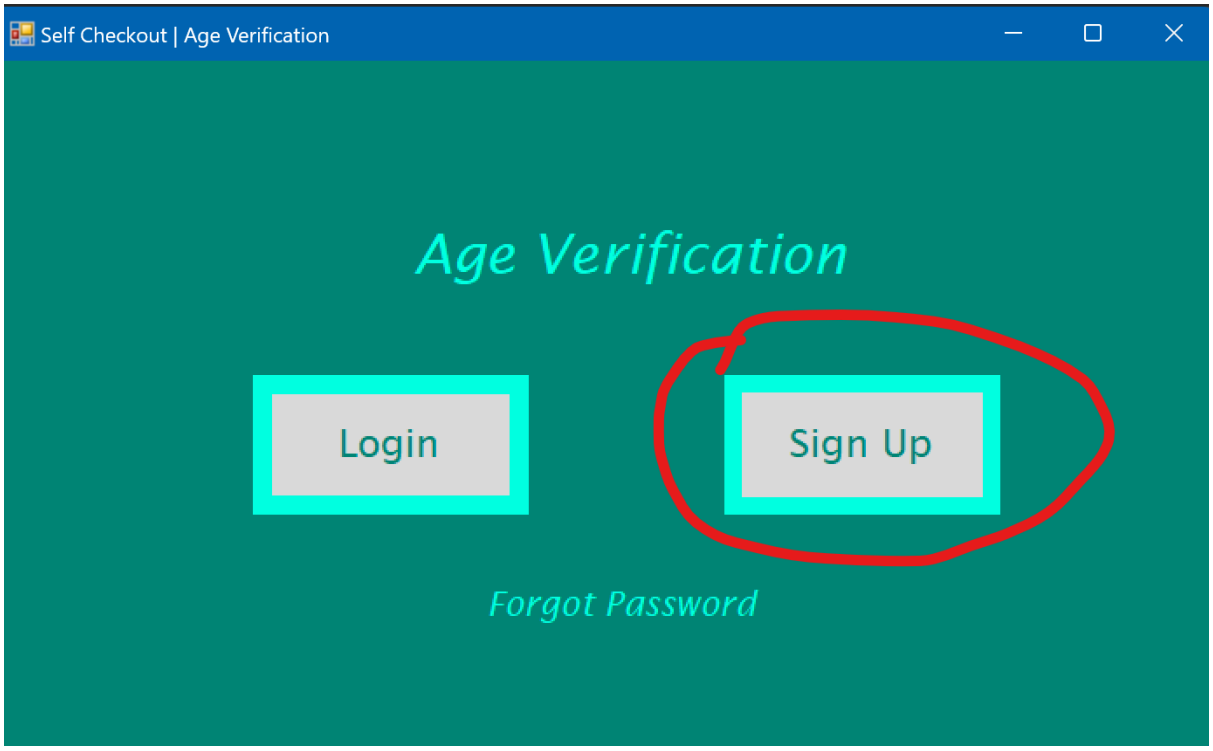
The demo comes with 2 pre-loaded test cases which can be loaded using either the “Load Test Data 1” or “Load Test Data 2” buttons.



Step 7:

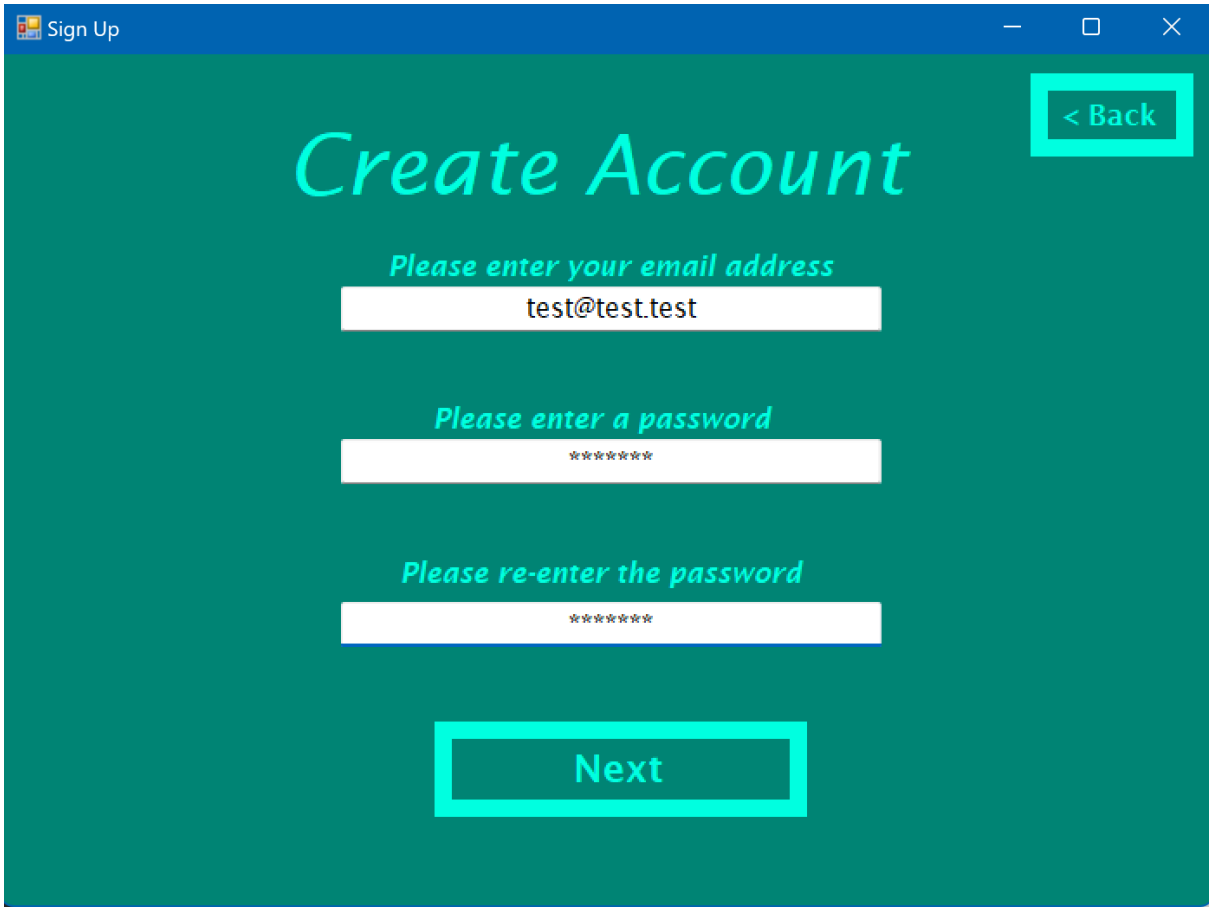
To test the system with live data, you first need to create an account.

Focus on the “Self Checkout | Age Verification” window and press the “Sign Up” button:

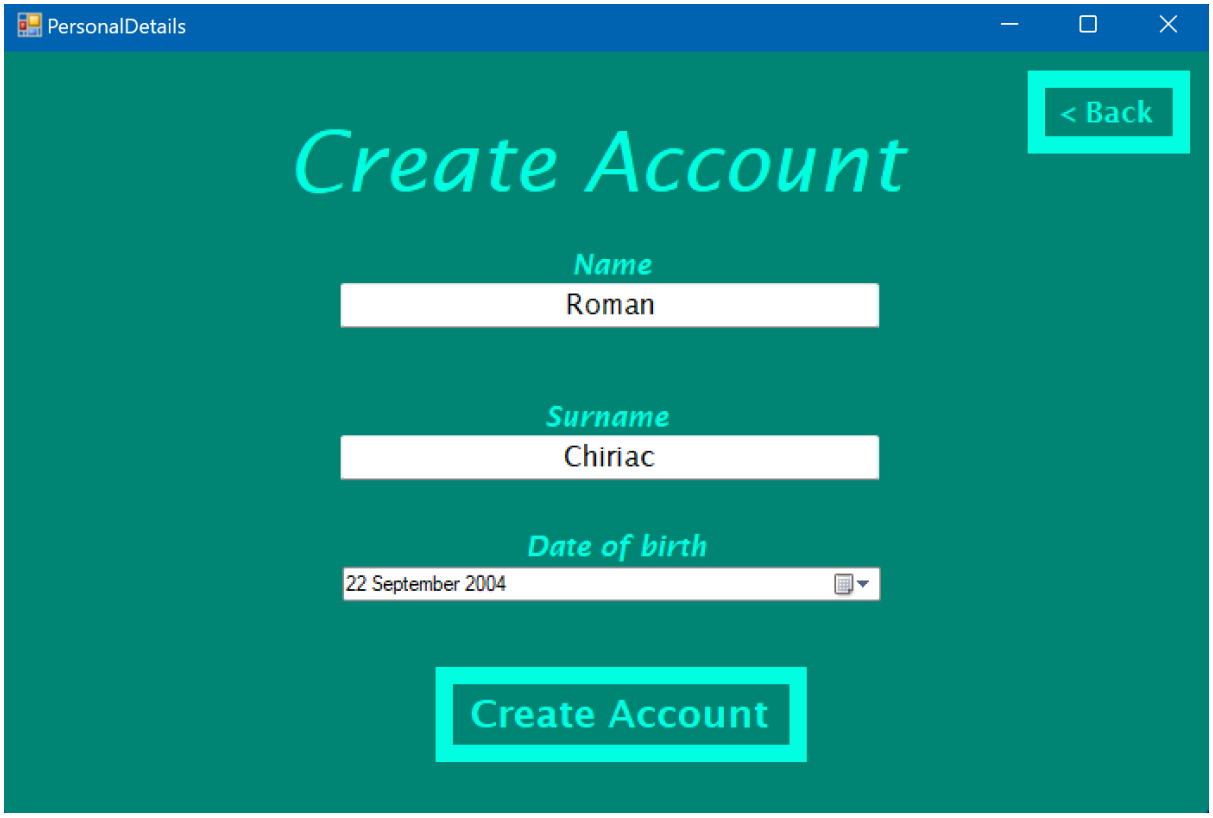


Follow the instructions displayed on the screen.

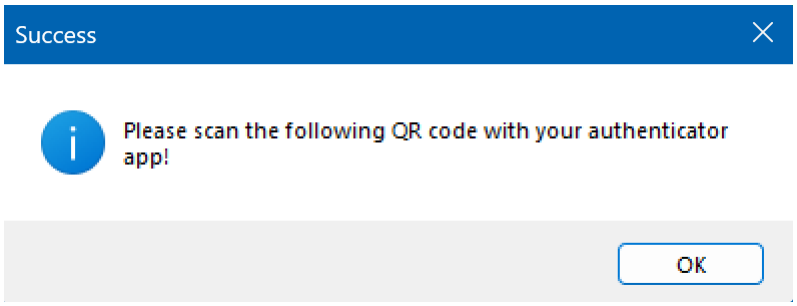
In this tutorial I will create an account with the email “test@test.test” and password “test123”



Press next after entering your own email and password and fill in the details.

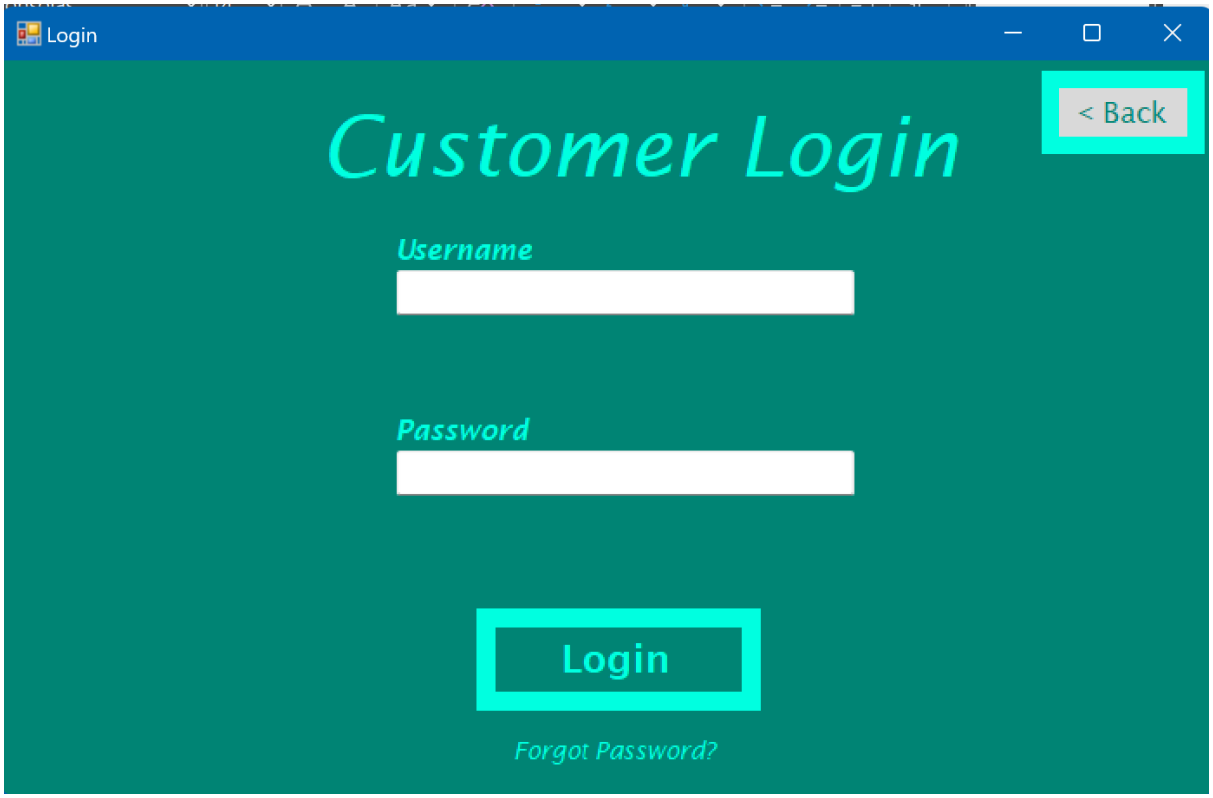


Once the account has been successfully created, a notification will pop up like so:



After pressing “Ok” an image should be displayed.

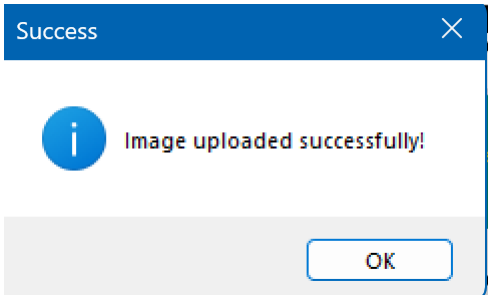
Scan the image with your Google Authenticatior App and press “Ok”. You will be redirected to the Login Screen.



Input the username and password of the account you just created and press “Login”. You will be taken to the main system’s dashboard. It should look like this:

Press the “Select an Image” button and select the image containing your ID document mentioned in the **Prerequisites** section at the top of this file.

After the image has been selected press “Upload”. A notification should pop up saying the image was uploaded successfully.

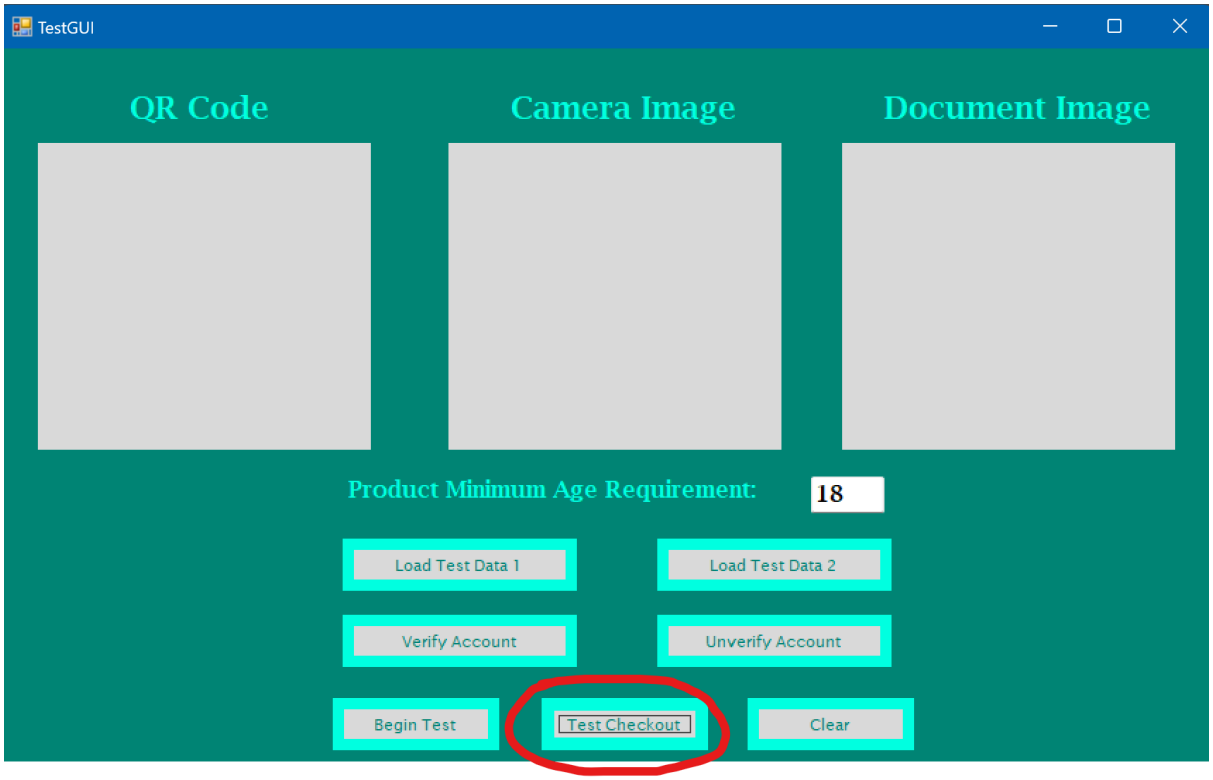


Once you press “Ok” you should notice that the information displayed on the main dashboard has been updated:

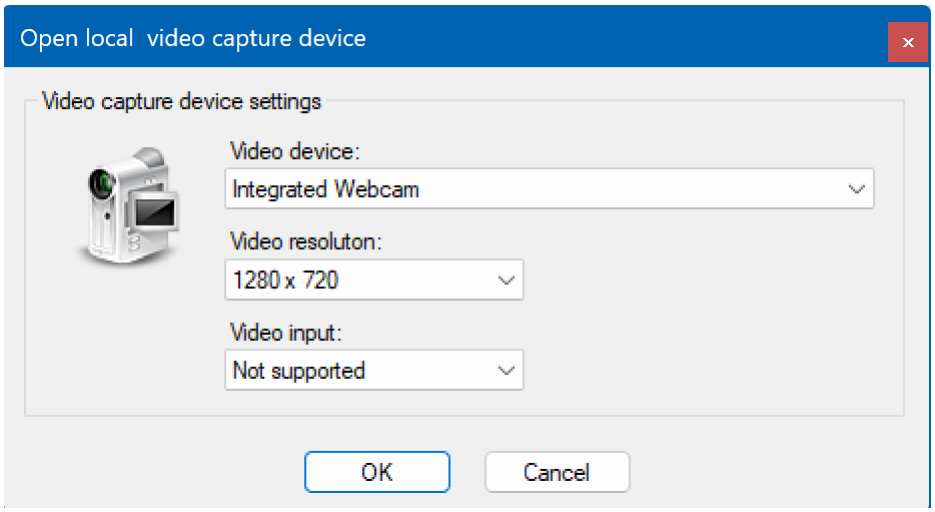
Click the QR code in the bottom right corner of the window and take a picture of it with your phone. You will require this image in **Step 8**

Step 8:

Navigate to the “TestGUI” window and press the “Test Checkout” button:

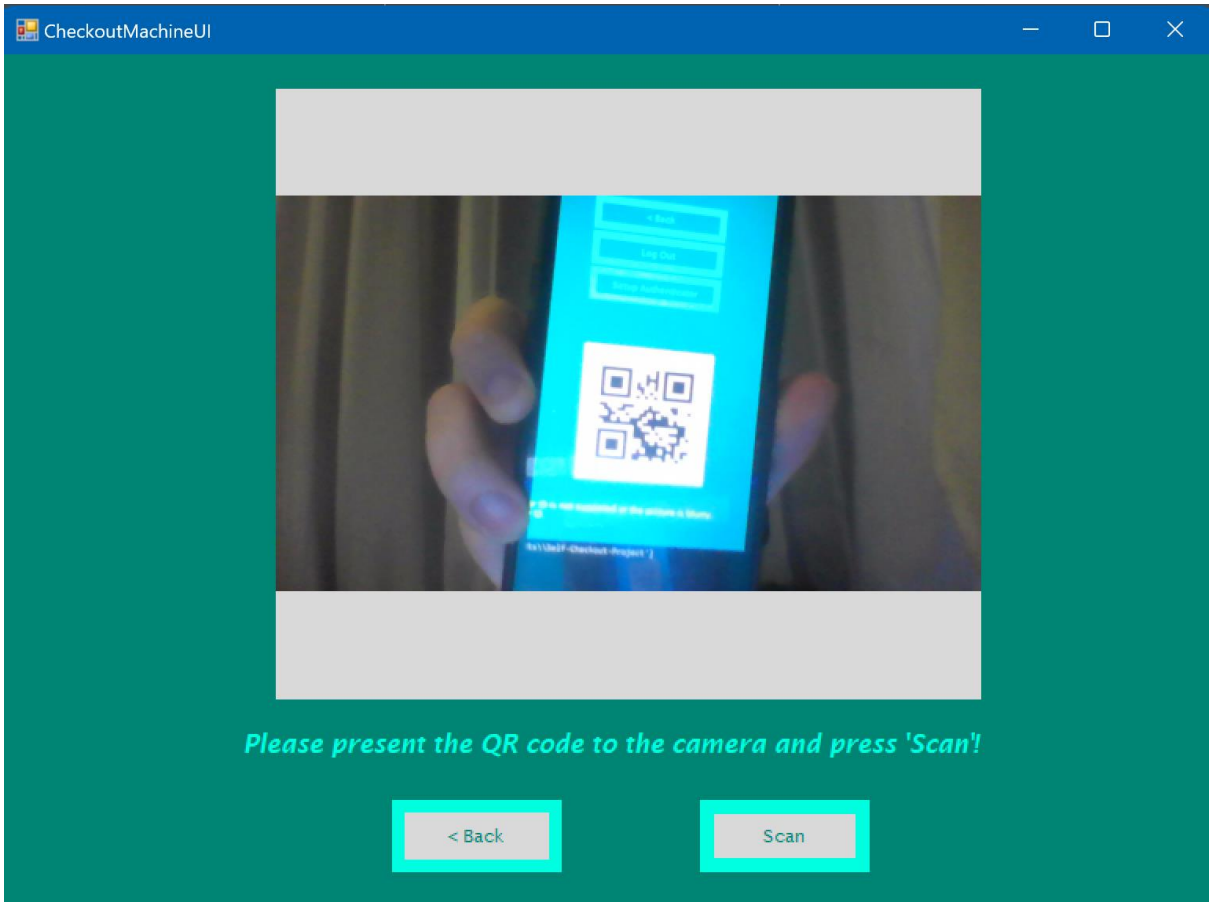


A new window should pop up prompting you to select the camera that the system will use.

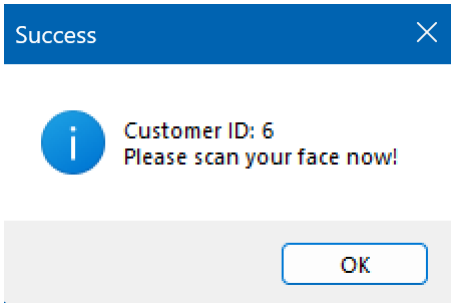


Select the camera that you want to use and press “Ok”.

Present the QR code image you took earlier (from the dashboard window) to the camera to scan it like so:



Press the “Scan” button once the QR code is clearly visible in the camera.



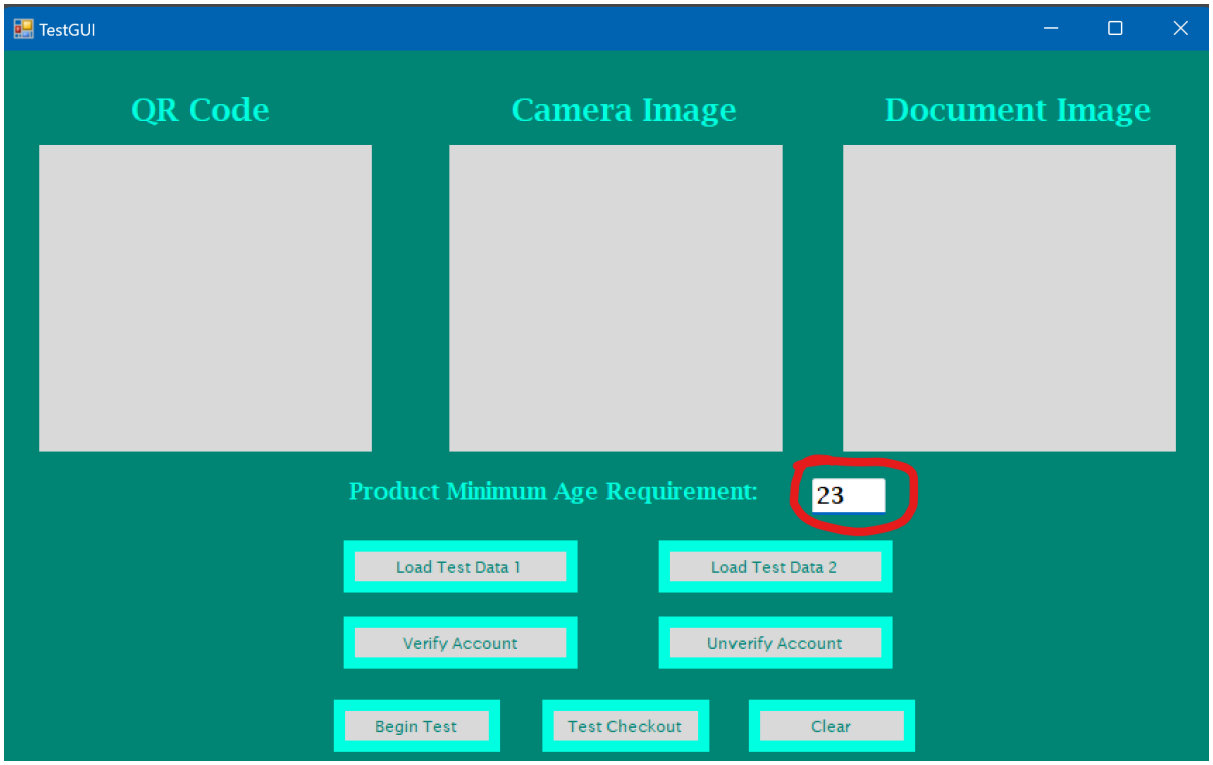
A message like this should appear. This means that the system was able to successfully read the QR code.

Once you press “Ok”, position yourself in front of the camera and press “Scan”. This should take a picture of your face and will output one of 3 things, an error (if the system couldn’t find a face in either of the images or the uploaded document does not belong to the same person taking the picture), a success message saying that you are

old enough to purchase the age restricted product or a failure message saying that you are not old enough.

Note:

You can modify the required age to test in the “TestGUI” window:



End of demo ----------