NEW VERSION UPDATE in MAY BECAUSE GROUP PROBLEM

CST 205 Design Doc

What are we going to build?

What is the mission of your product? What is the purpose of your product? What is the need? What is your solution?	The purpose of the product is to create a facial recognition software and Code that you are able to use after in other projects, like a website or other project where you want to secure date or connect on a personal session. In fact we realize this project in python code, this language is very modular, you can use the language everywhere. We wanted a fast and efficient recognition, we probably realize in live. To remember the concept, you show your face to the webcam and if it's you it gives you access to what you have secured.
Who is your target audience? Who will your users be? How will your product serve these people?	This project is created for every user who has a project and would like to secure the data that would allow for fast and easy access. You can use in every type of project: session access or secure data in a file. We wanted to create something that is able to adapt in any type of project easily. We also wanted to develop an important security. Our product will serve users by keeping their data safe unless their face is recognized by the webcam.
What are the design features? What kind of features will this product have to meet needs of the audience?	Adaptative on all project. It will give the user the ability to store his face in our software and when he would show his face again, the software would recognize him fast and safety. After that, the developer who uses our project can if he want give access at all type of data that he want when recognize is done. The 3 principal step of our software working: - Register user face (take many pictures) - Creation of an average face for every user - Learning and live recognition. After that the developer give access at what he want.
What is the user onboarding flow? What will the users see when they open your application? What are the steps that users will go through to use your product?	Our project is divided into 2 parts, one with an user interface to test the quality of recognition. (New user register their face and after try live recognition). And the second part is without user interface, if developer want to take all clearly code and data base to adapt in their project.

Additional questions

1. Which Python libraries do you plan to use?
We plan on using OpenCV, Pillow, Tkinter for user interface.

2. APIs and How You'll Use Them: If you plan to use any APIs (like Twitter, etc.), list them here and describe how you'll use them.

Facial detection and recognition APIs potentially

3. How will you break down the work? Who will work on what?
- Antonio make the data base (to save all profile average of each user)
- Alexis make face detection, learning (average face : Calculation of the median image of a person's face (when you add a new user), and recognition.
- Austin make the user interface.

4. What are the milestones for the project?

Creating a user library for facial recognition. A Database to save all the averages from each user and a good user interface.

5. What will the most challenging part be? What do you expect to be the hardest part, and how will you approach it?

The challenge will be to have the best security and a fast recognition with the less mistake. For that we need to take many picture from the user in different face position. Moreover, trying to make specific facial features be recognized to prevent any security flaws that could arise like using picture of the user to fool the recognition software.