Afterfall Feature List

Code and Model:

- Using customTkinter template for GUI
- Using an open source face_recogintion model library. (Decreased complexity of the model and training time for new faces so we didn't train the model by ourselves from scratch.)
- Using eye_aspect_rario for detect eye blinking and liveness
- Using open cv for augmentation and adjusting the brightness of the face record before encoding it and then sending it to the model, which increases the accuracy of face recognition about 4-5 % in the dark setting and overall increase in accuracy indicated by more successful recognition results.
- Accuracy Increase
    - Overall increase in accuracy as compared to base model.
        - Extra accuracy increase of 4-5% in dark settings.

Database:

- MongoDB for a database containing all information recorded via the face recognition model and website.
- "attendances"
    - Stores
        - list of userIDs with their subsequent class participation times as an array
        - classID
- "classes"
    - Stores
        - ClassCode which is the classID,
        - className
        - dates on which the classes are held,
        - students registered for said classes
        - teacherID.
- "Users"
    - Stores
        - userID
        - paired with a role which has 3 options, teacher, student, and admin.
        - userID
        - Email
        - password

        - classIDs of the classes they teach or attend.

Website:

- Next JS, MongoDB Atlas(mongoose)
- UI: Tailwind CSS, Shadcn UI
- Code: JavaScript, TypeScript, CSS
- Admin:
    - View all Users and Classes
    - Add/Delete Users and Classes
- Teacher:
    - View Classes and Students attendance per class
- Student:
    - View classes and their attendance per class