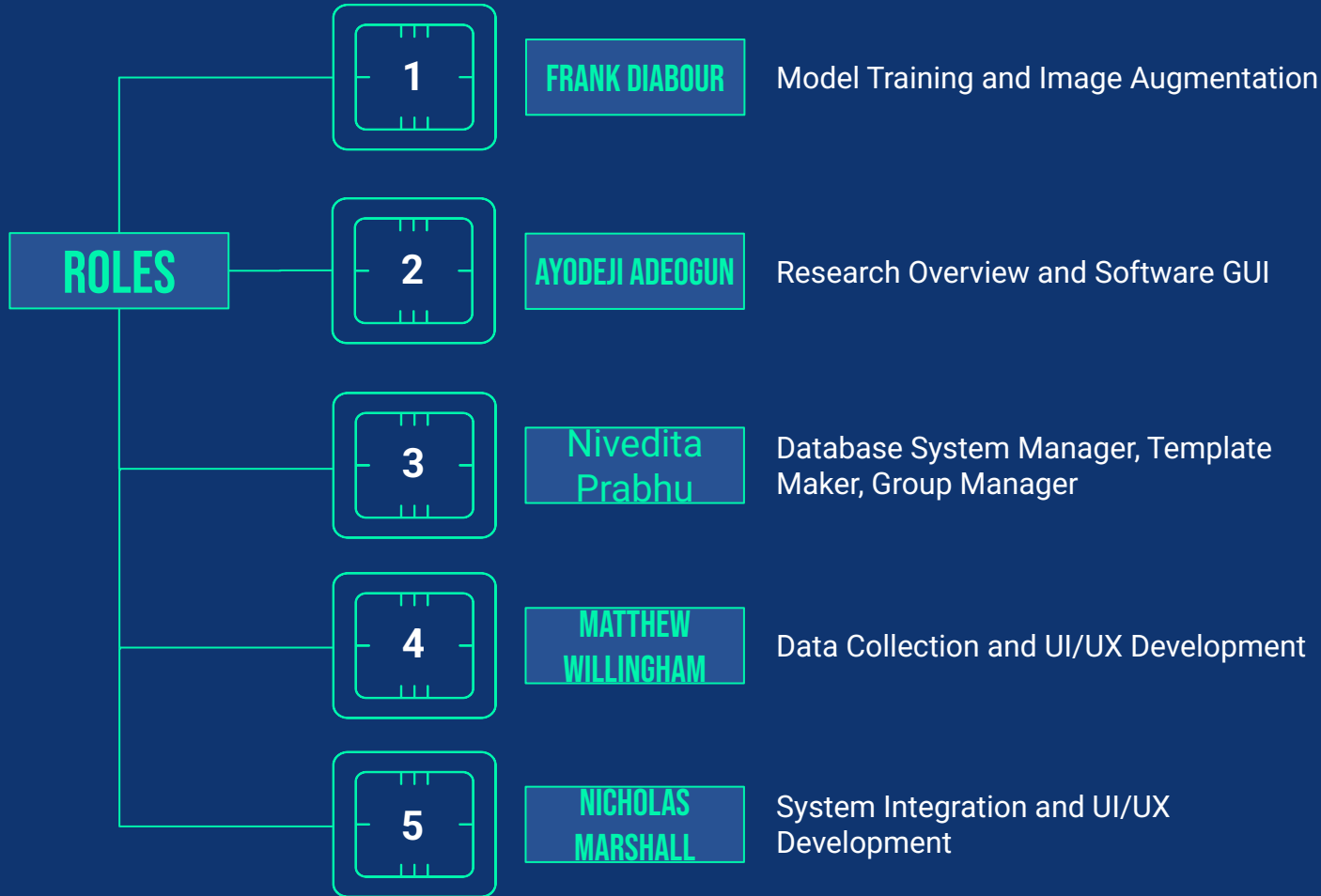


ROLES



TIMELINE



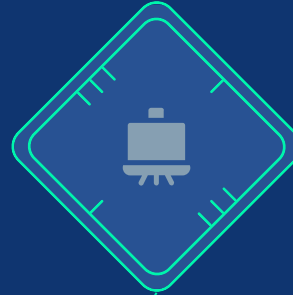
STAGE 01

Research &
Planning



STAGE 02

Development &
Implementation



STAGE 03

Testing & Deployment

CURRENT PROJECT STEPS/SCHEDULE

PROPOSAL

STEP 01

Research & Planning

Model Training &
Optimization

STEP 02

STEP 03

Backend & Database
Development

UI/UX Design &
Integration

STEP 04

STEP 05

Testing & Debugging

Deployment &
Finalization

STEP 06

MEETING SCHEDULE

Date Range	Tasks to be Completed
Jan 23 – Feb 20 (Weeks 1-5)	Stage 1: Research & Planning <ul style="list-style-type: none">- Research YOLOv8 and face detection methods.- Define system architecture, database, and UI.- Collect and preprocess facial image dataset.- Review dataset quality and address ethical concerns.
Feb 20 – Mar 28 (Weeks 5-10)	Stage 2: Development & Implementation <ul style="list-style-type: none">- Train and optimize YOLOv8 for face detection.- Develop and integrate the attendance database.- Design and implement the user interface.- Connect the AI model, database, and UI.- Conduct initial testing of system components.
Apr 2 – Apr 24 (Weeks 11-14)	Stage 3: Testing & Deployment <ul style="list-style-type: none">- Perform full system testing (unit, performance, and user testing).- Debug issues and refine system accuracy.- Implement feedback-based improvements.- Finalize documentation and prepare presentation.
Apr 28 (Final Review)	Final System Check & Submission <ul style="list-style-type: none">- Review all components for final adjustments.- Submit the project and finalize presentation materials.

MEETING MINUTES (TUESDAY (2/4/25))

- We met online, Zoom, 12:30 pm - 1:30 pm
 - Everyone was in attendance
- We decided on what name for our project
 - "Efficient Attendance Monitoring Using AI-Based Face Detection"
- We decided what parts we wanted to research
 1. Data Collection and help with UI - Matthew Willingham
 2. Model Training, Image Augmentation - Frank Diabour
 3. Database System [Store Attendance] - Nivedita Prabhu
 4. System Integration [Model+Schema+UI] - Nicholas Marshall
- Discussing format and template designs of the project
 - Nivedita found a template for us
- Frank wrote the introduction during the meeting
- Ayodeji was taking notes of the meeting and filling in this presentation.

MEETING MINUTES (FRIDAY (2/21/25))

- We met in person, Library (4:00 pm - 5:15 pm)
 - Everyone was in attendance
- Designating tasks needed for first step within timeline
 1. Collect images through imported databases(10000 images with 3 hours of training model)
 2. Database will be setup per course and R numbers will be associated with student faces
 3. Students face will be scanned then classes associated R numbers will be checked to verify if all students are accounted for or not
 4. Will be marked present or absent
- Ran practice run of training model, used 33 images of presidents and trained for 10 minutes. Accuracy greatly improves with the more images are presented to model rather than time elapsed for training.
- Discussed future plans for instance if we want to do a software or website
- Finally went over presentation schedule and discussed who is presenting what part of our powerpoint presentation

MEETING MINUTES (TUESDAY (3/25/25))

- We met online, Zoom, 12:30 pm - 1:30 pm
 - Everyone was in attendance
- We worked individually on our parts, but together to keep us in check:
 1. Rewriting the Introduction and Motivation to better fit Stage 2
 2. Taking a photo of us in the classroom, which got scanned and recognized through the analyzer
 - There were some issues as the camera was too far away, the shots were too blurry for the analyzer to pickup.
 3. Since the photos were messed up, we had to go back and label the previous ones:
 - Front-Side-View, Left-Side-View, and Right-Side-View
 4. Converting the Excel tables into MySQL Database
 - We had to split it into multiple tables then manually input them in MySQL.
 - While most of it was just repeating functions with slight variations, the final printing format was the hardest to figure out.
 5. Making the UI look more professional and neat
 - Previously, it was just black and white, the text was small, and it had minimal interactions.
 - Currently, it has more color, clear text, and more interactions.

MEETING MINUTES (MONDAY (3/31/25))

- We met in person, Library (6:15 pm - 7:30 pm)
 - Almost everyone was in Attendance
- We worked together, communicated on what we got done, what to add to the presentation, and what to do next for Stage 3.
 1. Taking a photo of us in the classroom and in the library, which got scanned and recognized through the analyzer.
 - These were better as we took the photo with a mobile camera and closer.
 2. Connecting the MySQL Database
 - We needed to connect the MySQL Database to the python code and the HTML website.
 - We decided Flask was the best way to do it
 3. Guiding us through the UI and how to connect via Flask
 4. Presentation order and who does what slide

MEETING MINUTES (MONDAY (4/17/25))

- We met online (2:00 pm - 3:00 pm)
 - All in Attendance
- We discussed what we need to next for Stage 3.
 - Someone would add the impacts
 - We update the database with filer data
 - Test new photos
 - Edit the photos to match the info in the database
 - Update AI code
 - Update website and Localhost

MEETING MINUTES (SUNDAY (4/27/25))

- We met online, (7:30 pm - 8:30 pm)
 - 3 people were in Attendance
- Two of them worked on the UI and the AI code while the other helped them out it with, suggesting fixes.
 - They had different versions of the UI, so they could work on it without conflicts
 - The other suggested fixed and provided insight on the database
- They did a mini demo of it
 - Showing how to upload photos.
 - How to mark people absent.
 - Adding new photos.
 - Showing the Database updates
 - What to add.

MEETING MINUTES (MONDAY (4/28/25))

- We met in person, Library (1:00 pm - 3:00 pm)
 - Everyone was in Attendance
- Doing the final updates
 - Adding the current updates to the slides
 - Making small changes to the UI and AI code
 - Testing new photos
 - Showing the website and localhost demos
 - Going through the presentation, who's gonna do which slide
 - Updating the group information
 - Updating the report



VALIDATION RESULTS



TESTING RESULTS

- **Functional Testing:** Checked whether the webcam, face detection, and attendance recording worked together seamlessly.
- **Performance Testing:** Measured the accuracy and speed of face recognition with real-world inputs.
- **User Testing:** Simulated usage by 3 users to test GUI clarity, registration, and feedback response.
- **Database Testing:** Verified data entry, retrieval, and security using MySQL.

RESULTS AND FIXES

RESULTS

- Detection Speed:
 - Attendance marking completed within 2.3–3.1 seconds on average per person.
- Common Issues Identified:
 - Poor lighting or camera blur caused false negatives.
 - GUI had some initial confusion during ID photo uploads.
 - Profile-only photos without matching angles reduced effectiveness.

FIXES

- Added blur detection filter before recognition.
- Ensured labeled training data included side and angled faces.
- Updated UI with tooltips and validation prompts.