WEEKLY BLOG

Year 3 Final Project

Sulthana Safeer

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Week 13

Meet My Supervisor

Dr. Maha Saadeh received her PhD degree in computer science from the University of Jordan in 2018. She worked as adjunct lecturer at the computer science department, The University of Jordan. She is currently working as a Senior lecturer in the school of science and technology, computer engineering and informatics department, Middlesex University Dubai, UAE. Dr. Saadeh has experience in teaching artificial intelligence, machine learning, data science, computer networks and network security for undergraduate and postgraduate students. Dr. Saadeh is a member of the ROBOTECHx Lab under Middlesex university Centre for Innovation In Human Experience. She is also part of the Research committee at the University. She has a number of publications in different reputable international journals and conferences. Her research interests are artificial intelligence, machine learning, data science, and network security. Embarking on the final project journey with Dr. Maha has been an illuminating experience, marked by guidance, support, and an unwavering commitment to academic excellence.

Meeting Log

Supervisor: Dr Maha Saadeh
Project: ML and DL based Mood detector

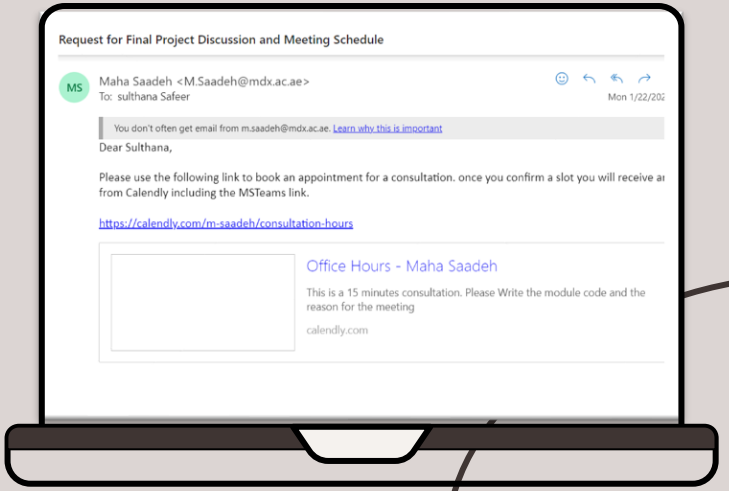
Dates	Meeting Duration	Description	Signature
25/01/24	15 min	Meeting with Dr Maha, Project Approval	
1/02/24	20 min	First Cut Proposal	
8/02/24	30 mins	Final cut proposal, research ethics screening form, WBS, Gant chart approval	
15/02/24	35 mins	Presenting the current project, application research ethics form and Final cut proposal.	

Week 13

Mr. Roshan and Dr. Fehimida introduced us to the course, explaining how it works and what procedures we must complete over the semester. They assisted us in delegating tasks to our supervisors.

I emailed my supervisor, Dr Maha Saadeh and was assigned an appointment on a team call to get the project approved. I explained my project and mentioned it was a desktop application.

Dr Maha Approved my Project.
Started working on first and final cut proposal.



Week 14

>Made a Website using HTML, CSS and JS

>Uploading My Final Cut proposal.

>Weekly Meeting and Feedback Session with Dr Maha at 5pm.

She assigned me tasks for my proposal and instructed me to revise my Gannt chart and add few more descriptions for my final cut proposal. Then we talked about the ethics form and why it was necessary for the project. We ended the day by discussing the ethical questions that will be asked, as well as the project's outcome.

> Rest of the week I worked on Gannt chart and WBS

PDE31122final(Formal) Proposal template.pdf

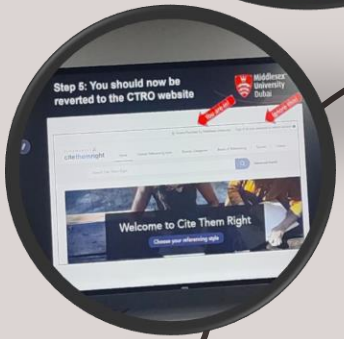
Week 15

>This week, we attended an informative session led by Mrs. Laura from the library and Mrs. Siobhan from CAS, Central Academic Success.

They provided important insights into how to effectively use ChatGPT, a platform that helps us get a full picture of our projects. She advised us on how to use this technology to improve our comprehension and speed the study process.

We played Kahoots and had an interactive session.

>They showed us how to collect references and journals from the library, Unihub, and Google Scholars, as well as a few websites that will help us write a better report and do literature reviews.

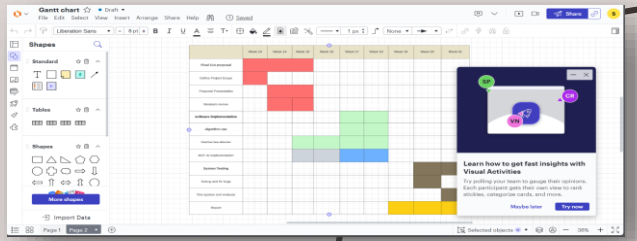


Since we are using IEEE reference, they showed us how to create reports according to it, as well as how to include references and paraphrase reports in order to avoid plagiarism and academic misconduct.

Week 15

At 5:30 Pm, I had a meeting with Dr Maha, she gave me feedback on what I must edit for Final cut proposal and My Gant chart to get her signature.
She told me to edit my methodology and end results of my Gant chart.

We later spoke about my website, how I implemented HTML, CSS and JavaScript for my website. I asked her again, if the project is a good idea and if I should start doing it. she answered positively and told me to go ahead with it.

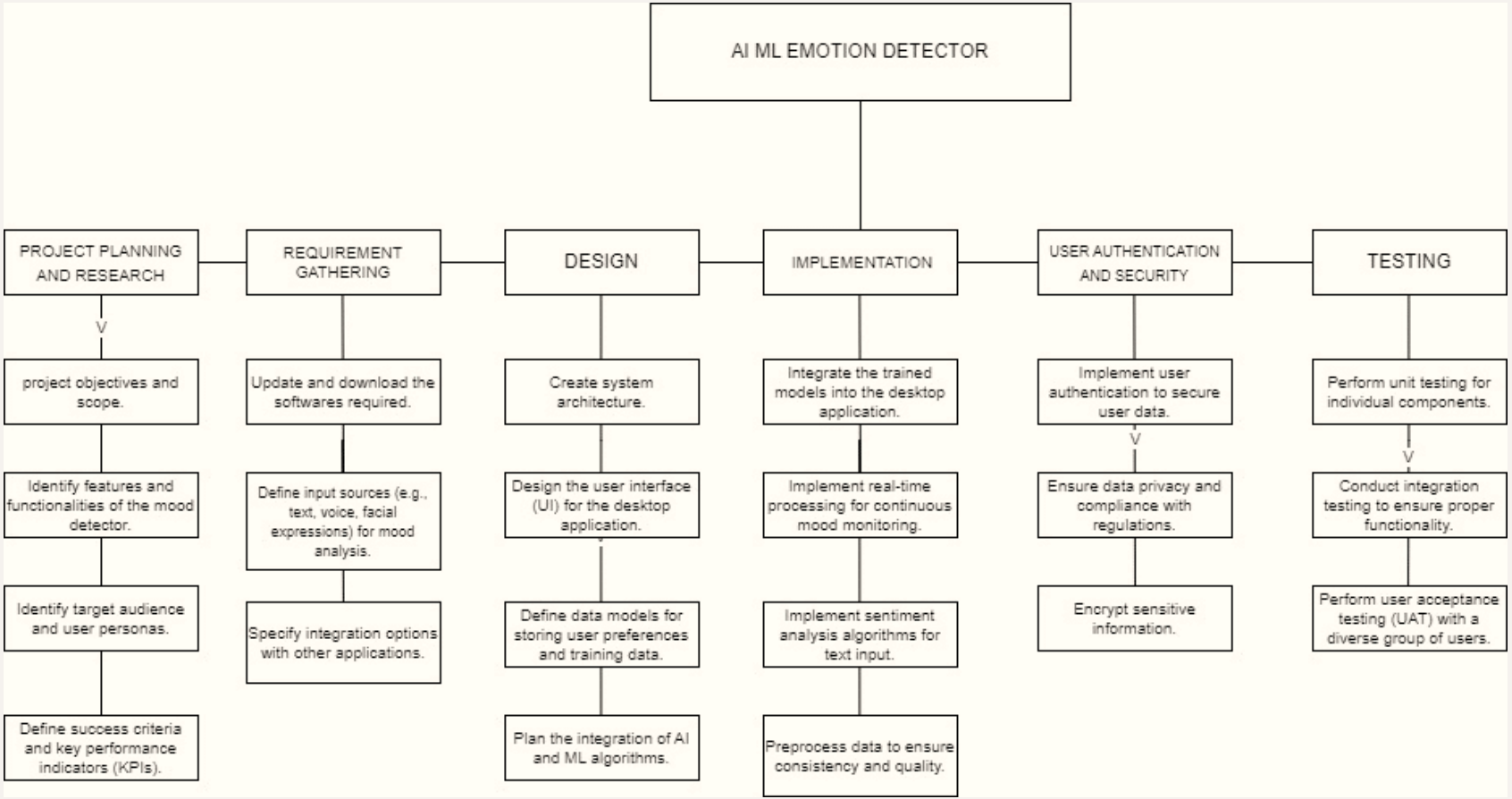


> Later this week, **I edited my blog, Gant chart, WBS, ethics form and literature review (3k words).**

Gant Chart

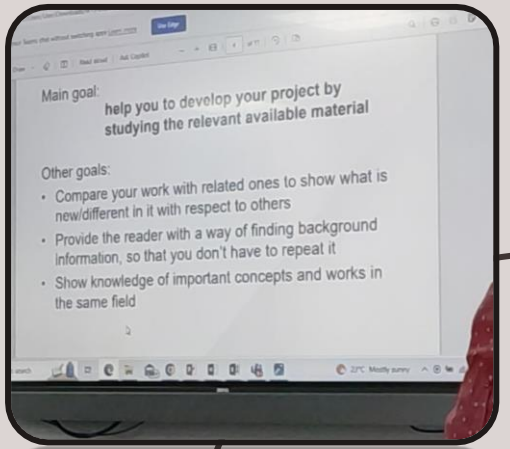
	Week 13	Week 14	Week 15	Week 16	Week 17	Week 18	Week 19	Week 20	Week 21
Final Cut proposal									
Define Project Scope									
Proposal Presentation									
literature review									
software implementation									
Algorithm use									
Real time face detection									
BOT AI implementation									
System Testing									
Debug and fix bugs									
Test system and evaluate									
Report									

WBS


AI ML EMOTION DETECTOR
PROJECT PLANNING AND RESEARCH
REQUIREMENT GATHERING
DESIGN
IMPLEMENTATION
USER AUTHENTICATION AND SECURITY
TESTING
project objectives and scope.
Identify features and functionalities of the mood detector.
Identify target audience and user personas.
Define success criteria and key performance indicators (KPIs).
Update and download the softwares required.
Define input sources (e.g., text, voice, facial expressions) for mood analysis.
Specify integration options with other applications.
Create system architecture.
Design the user interface (UI) for the desktop application.
Define data models for storing user preferences and training data.
Plan the integration of AI and ML algorithms.
Integrate the trained models into the desktop application.
Implement real-time processing for continuous mood monitoring.
Implement sentiment analysis algorithms for text input.
Preprocess data to ensure consistency and quality.
Implement user authentication to secure user data.
Ensure data privacy and compliance with regulations.
Encrypt sensitive information.
Perform unit testing for individual components.
Conduct integration testing to ensure proper functionality.
Perform user acceptance testing (UAT) with a diverse group of users.

Week 16

This week, Mr. Roshan spoke about Literature review / report and what all things we should be covering as topics, which includes:
Aim and object, plan and implementation, algorithm used , result testing and valuation, critical analysis and conclusion.
I showed my literature review to Mr. Roshan and his feedback was I need to add more details regarding the algorithm

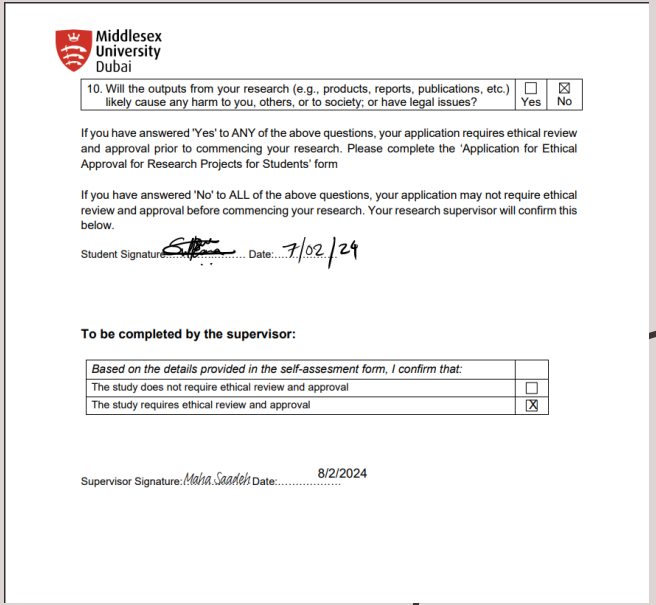


Around 1:30pm, Ms. Engie gave a session/workshop about UX/UI. We received great insights for designing user-friendly interfaces.
Designers were advised to stress intuitive navigation, visual appeal, and usability. By concentrating on user comfort, designers may improve the overall user experience and encourage good interactions..

Wireframing was introduced as an important phase in the design process. She described wireframes as skeletal constructs that outline the layout and functioning of an interface. We received practical experience in creating wireframes using Figma, a powerful and collaborative design tool.

Week 16

At 5:15, I went to meet with Dr. Maha to present her the adjustments I had made to my final cut proposal and gant chart. I had to make another edit to acquire her signature. We discussed which method I should use for my ML-based project and why I need an ethics form. Later I had the document signed, and she read my literary review. At the end of the discussion, she advised me to fill out the study ethics application.



Middlesex University Dubai

10. Will the outputs from your research (e.g., products, reports, publications, etc.) likely cause any harm to you, others, or to society; or have legal issues?	☐ Yes	☒ No

If you have answered 'Yes' to ANY of the above questions, your application requires ethical review and approval prior to commencing your research. Please complete the 'Application for Ethical Approval for Research Projects for Students' form

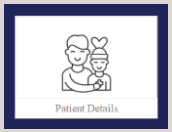
If you have answered 'No' to ALL of the above questions, your application may not require ethical review and approval before commencing your research. Your research supervisor will confirm this below.

Student Signature..... Date: 7/02/24

To be completed by the supervisor:

Based on the details provided in the self-assesment form, I confirm that:	
The study does not require ethical review and approval	☐
The study requires ethical review and approval	☒

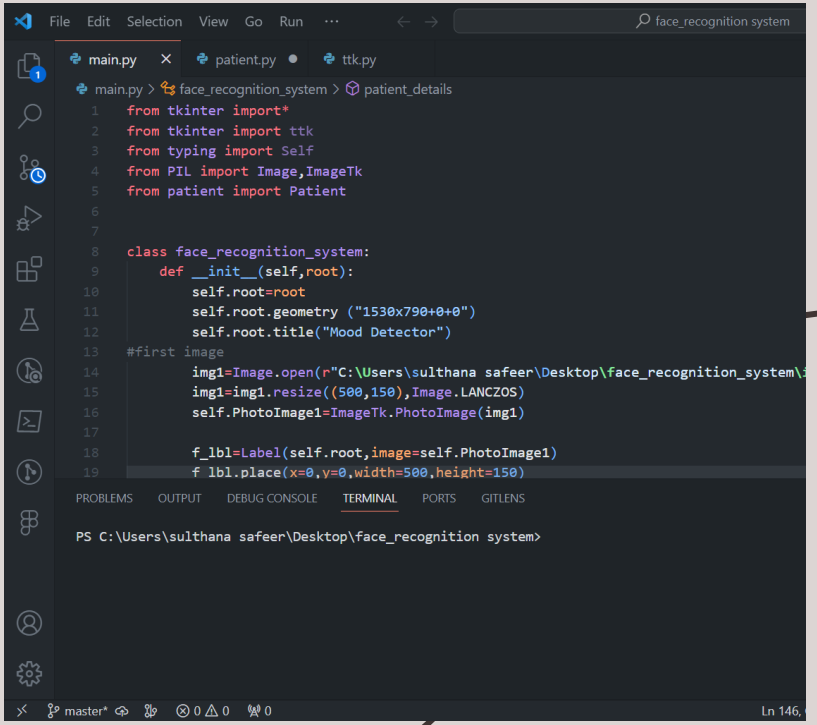
Supervisor Signature: Maha Saadeh Date: 8/2/2024

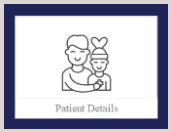


Week 16

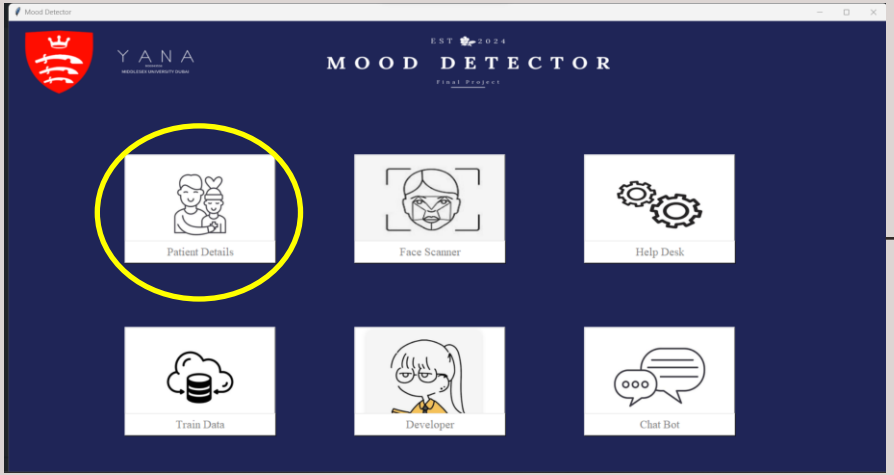
I started working on the software in Python and used Tkinter to create desktop applications. I designed the background, icons, and color palette for the mood detection app.
According to my Gant chart, I was supposed to start implementing software on week 17, however I started on week 16.The OPEN window features six icons: patient details, face scanner, support desk, train data, developer, and chatbot. I'm nearly done with implementing software for patient information.

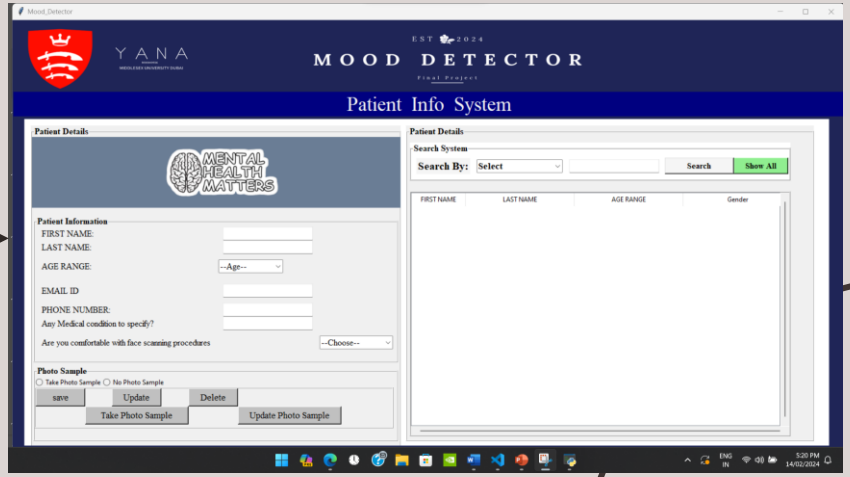
> Next, use MySQL to implant a data collection including patient information.





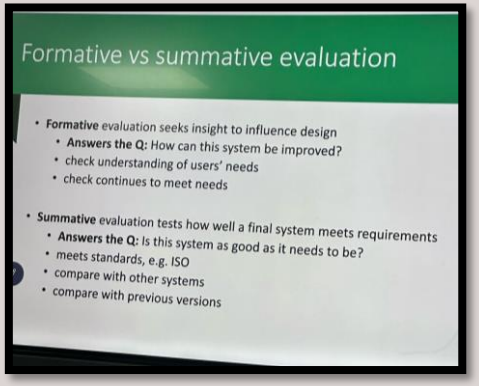
Week 16





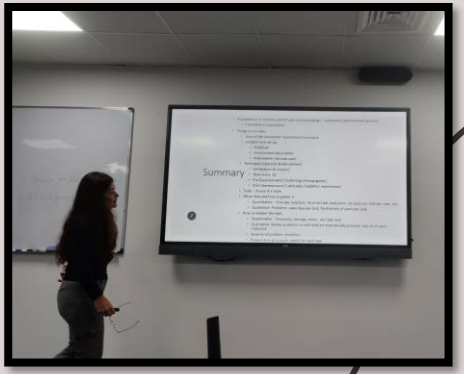
> Need to fix the alignment for save,update,delete..etc; patient details.

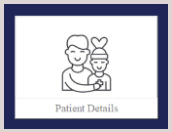
Week 17



This week's class was led by Ms. Engie and Mr. Roshan.

Ms. Engie conducted a workshop on UX and Usability testing, explaining why and how it is done. Then, many forms of usability testing were discussed. There are two types of evaluations: formative and summative. Formative assessment is a continuous method of testing design components during the development process, whereas summative assessment is the final testing of the final system.
Mr. Roshan led a class on research questions, explaining how to frame a research topic.



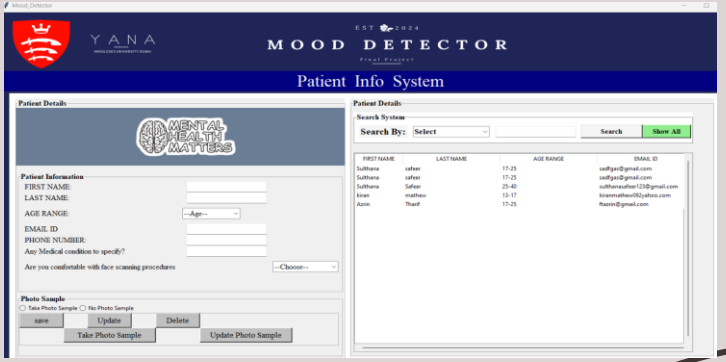


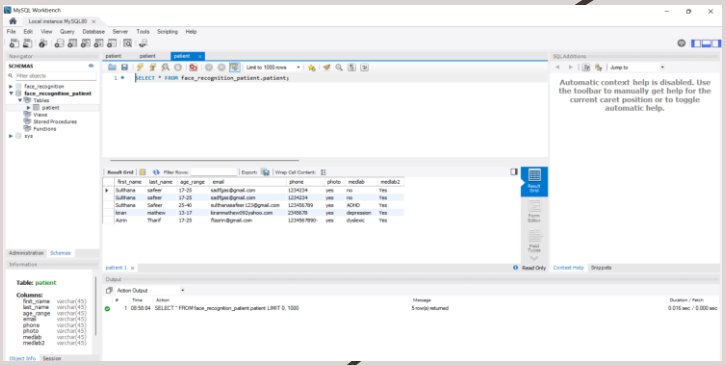
Week 17

Worked on database of the application using MySQL, and connected to my tkinker application.
In my Mood detector application, all the data will be saved in MySQL and will be shown in the table next to the registration box.

Tried aligning the save, update, delete buttons. Failed.

Had a meeting with Dr Maha and worked on ethical application and showed her the progress.





Week 18

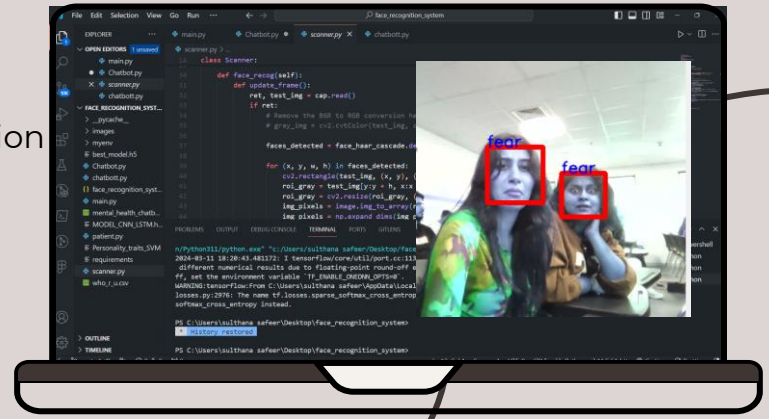
Researching on machine learning and CNN algorithm. Working on my UX/UI, flowchart and wire diagram .

Week 19

This week, I decided to work on my machine learning part of the project where I had to use, google collaboration for running the model,data sets , CNN algorithm and imported os, OpenCV, NumPy and Keras in Visual code studio. It took few days to get the scanner connected to the application as a new window but got it working at the end.

Didn’t meet my supervisor this time.

After adding the code to Visual Code studios, I tested the application With my friends.



To Work On: Add more dataset.

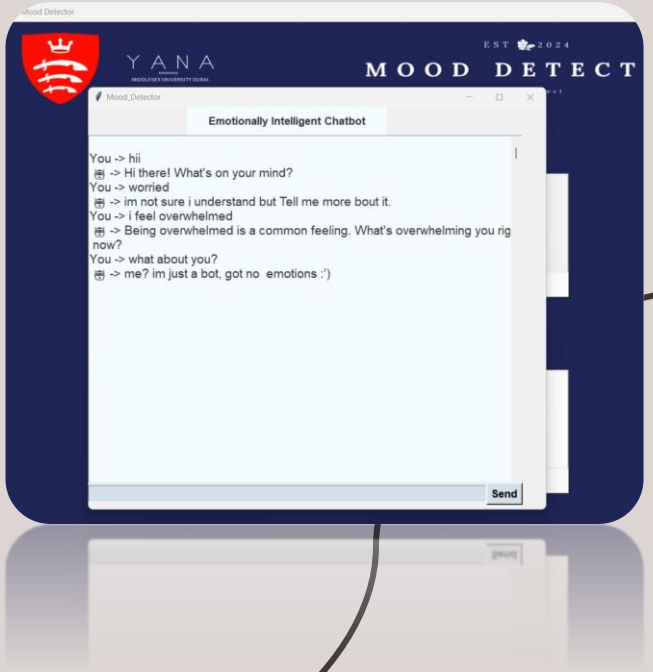
Week 20

This week, I decided to work on the Ai Chatbot for the application.
Researched few papers and worked on the functioning and how it can be implemented. But unfortunately, my visual code studio kept crashing due to the change of interpreter. I had to change my interpreter from python 3.12 to 3.11.4 because TensorFlow didn't work using 3.12. Due to the change of interpreter, and me not adding venv to the project, the python project kept crashing when I coded AI chatbot.
I downloaded the excel dataset which consist of 10k lines of code but couldn't implement it in on the project.

So, I decided to work on a normal chatbot which could be accessible and Implemented my own dataset in the code so it would give out responses.

No class, we had reading week.

Didn't meet my supervisor this time.



Week 20

Completed the desktop application and its functionalities. Added help desk and developers using tkinker.

Week 21

According to my Gannt chart, by this week I'm suppose to be done with my project.
I have completed 90% of my project, now I've got UX/UI, Flowchart, add more dataset to my scanner, work on my feedbacks and start working on my report.