Logbook for Görkem Kadir Solun

Project Title: EDUX - Revolutionizing Education

Team Members: Bilginer Oral, Murat Çağrı Kara, Cahit Ediz Civan, Efe Kaan Fidancı, Görkem Kadir Solun

Supervisor: Doruk Öner

Instructors: Atakan Erdem, Mert Bıçakçı

Purpose: To document the development process of EDUX, a web application that utilizes AI for personalized and interactive learning.

Logbook Timeline

August

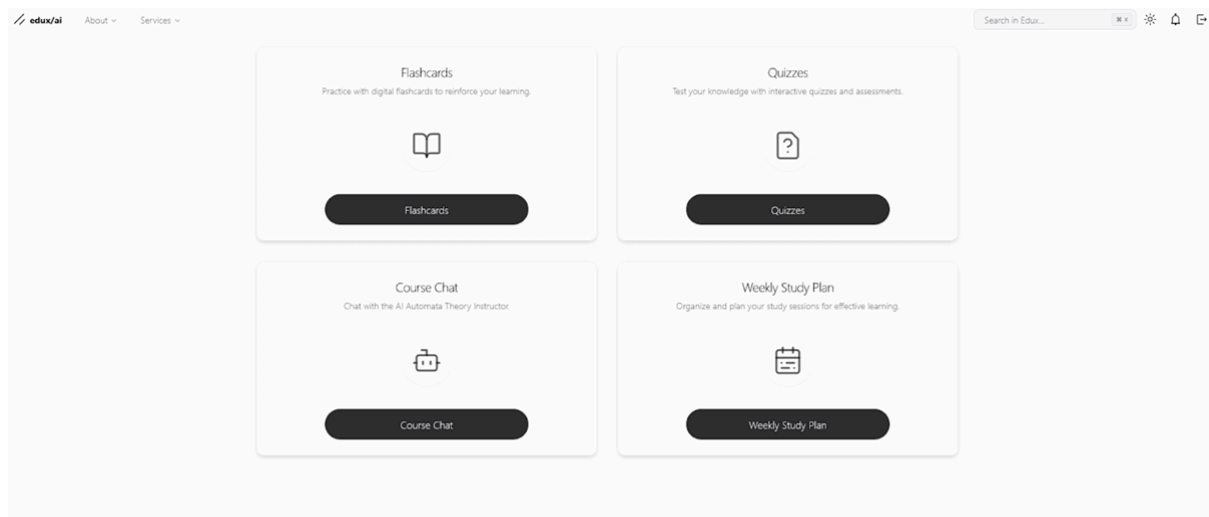| Date	Explanation	Notes	Reflections
25.08.2024	Kickoff meeting with Doruk Öner	Defined project goals, roles, and high-level scope	Clarified expectations; set initial milestones
28.08.2024	Literature review on RAG and personalized learning	Collected 10+ papers on Retrieval-Augmented Generation techniques	Identified potential integration approaches with LLMs

September

Date	Explanation	Notes	Reflections
05.09.2024	Drafted use-case and sequence diagrams	Used Lucidchart; focused on upload, chat, and flashcard flows	Found gaps in error handling; planned additional edge cases
12.09.2024	Defined non-functional requirements	Established performance targets and security constraints	Realized caching will be critical under peak loads
20.09.2024	Sketched initial UI for Chat & Skill Tree	Created wireframes in Figma	Swiss design style improved clarity; need more user testing

30.09.2024	Submitted Analysis & Requirements Report	Incorporated peer feedback; updated NFR section	Felt confident about system foundation

October

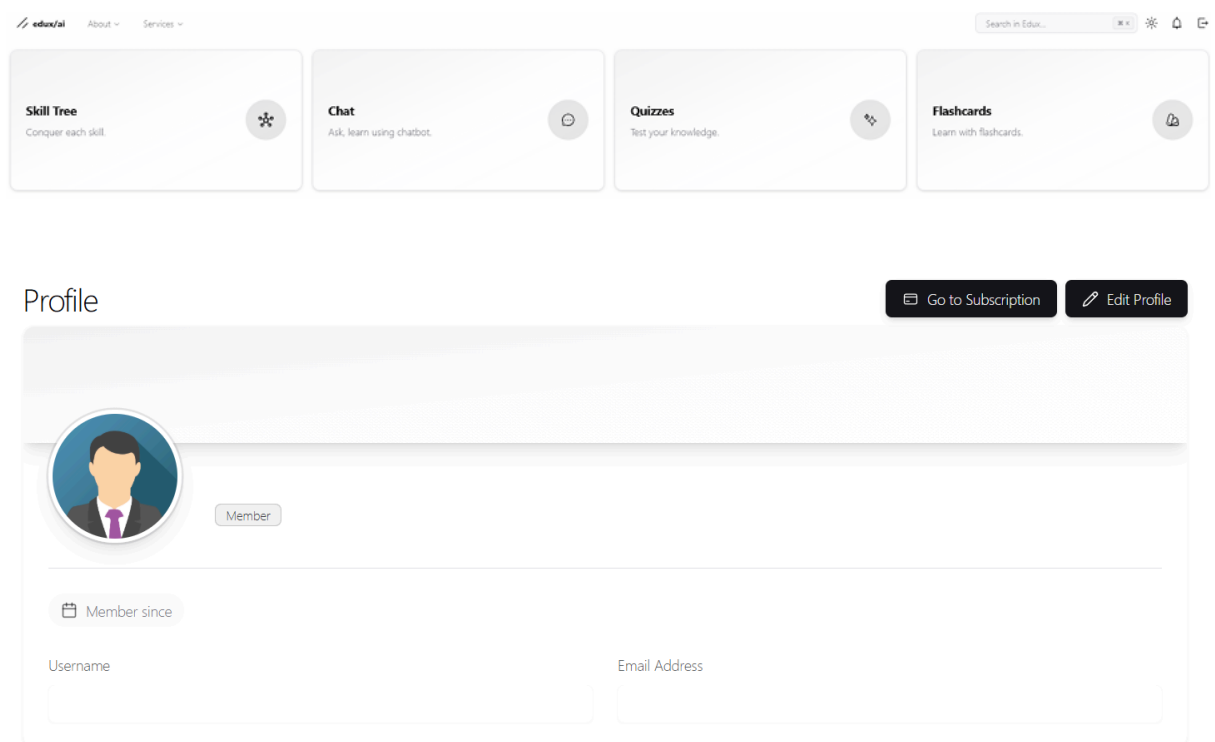| Date	Explanation	Notes	Reflections
07.10.2024	Implemented Authentication microservice	Used FastAPI and JWT; unit tests passing	Learned nuances of token refresh flows
15.10.2024	Designed database schema & ER diagrams	Normalized tables for users, courses, chats	Balanced between performance and maintainability
22.10.2024	Developed flashcard-generation logic	Integrated OpenAI API; batch processing of document text	Batch size tuning reduced latency
30.10.2024	Submitted Project Specification Document	Finalized functional requirements	Clearer module boundaries helped team alignment

November

Date	Explanation	Notes	Reflections

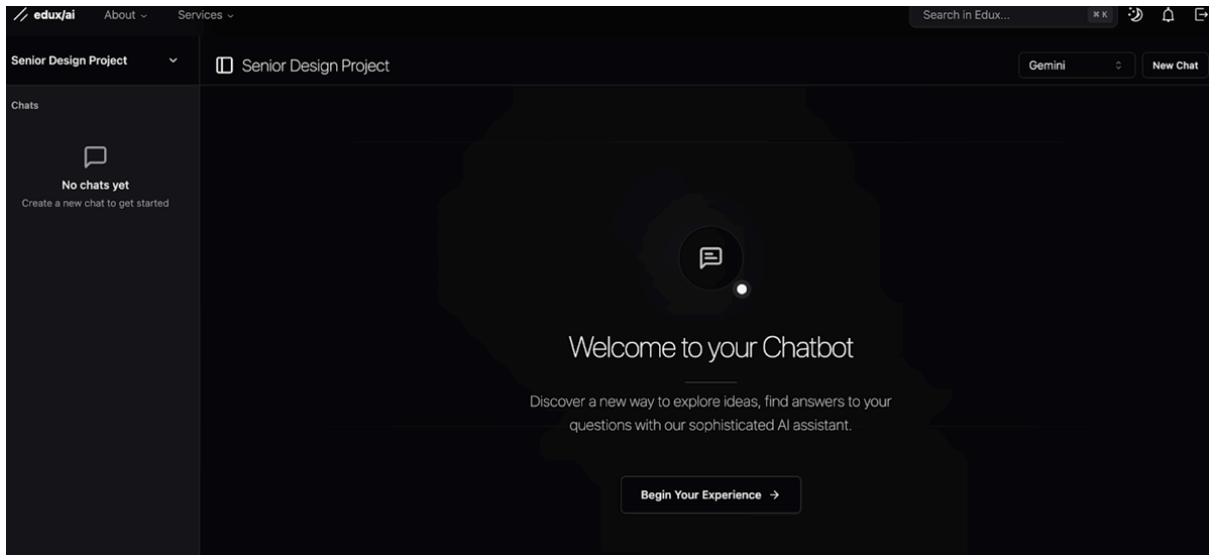| Date	Explanation	Notes	Reflections
03.11.2024	Setup CI/CD pipeline with GitHub Actions	Automated builds, tests, and Docker image pushes	Early detection of integration issues improved quality
10.11.2024	Integrated file-upload & parsing service	Used Azure Blob Storage and Tika for text extraction	Chunking strategy for large files was effective
18.11.2024	UI deep-dive: Swiss style research	Iterated mockups; refined typography and spacing	Feedback showed improved user engagement
28.11.2024	Contributed to Professional & Ethical Issues	Wrote sections on GDPR and academic integrity	Important to align with university policies

December

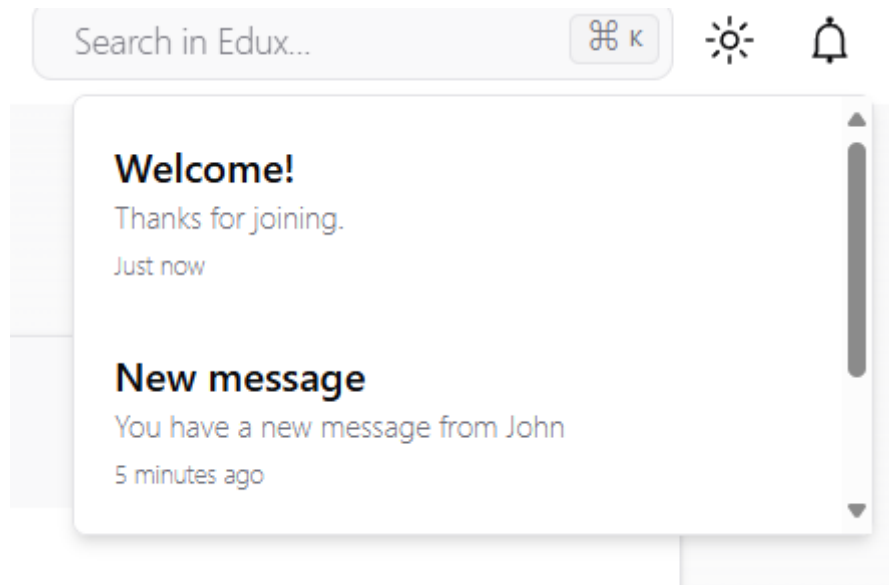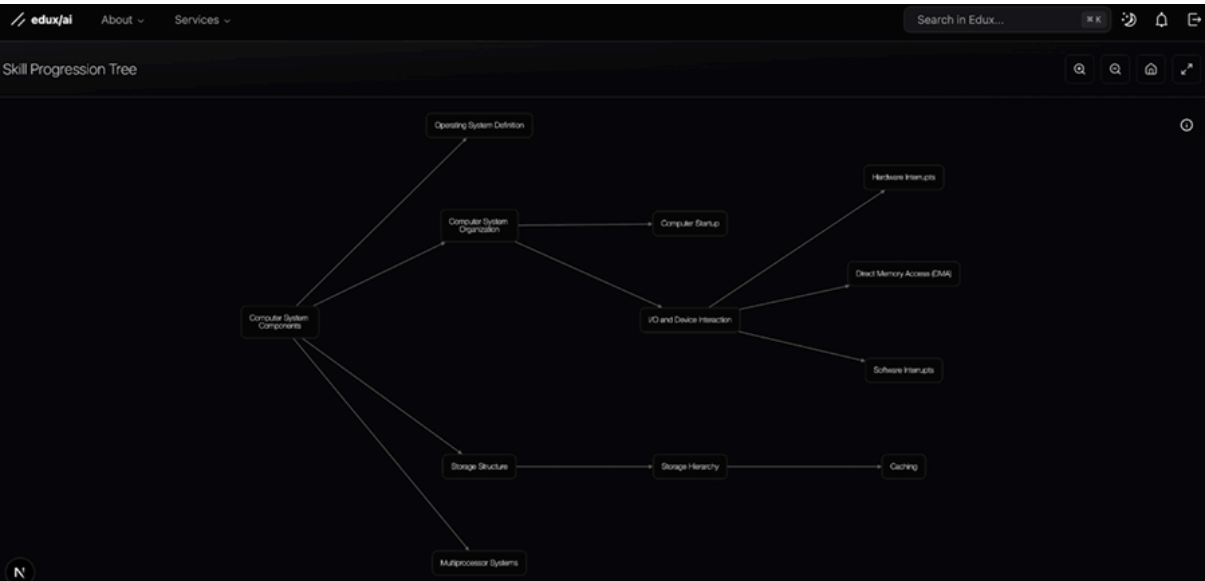| Date	Explanation	Notes	Reflections
05.12.2024	Built Chat UI & integrated GenAI service	Connected frontend to chat microservice	Encountered CORS issues; solved via proxy configuration

12.12.2024	Performance tests on flashcard generation	Used JMeter; measured latency under 100 concurrent users	Need to implement request queuing for spikes
19.12.2024	Prepared mid-project review presentation	Created slides and demo scripts	Visual demos helped clarify progress to stakeholders

January

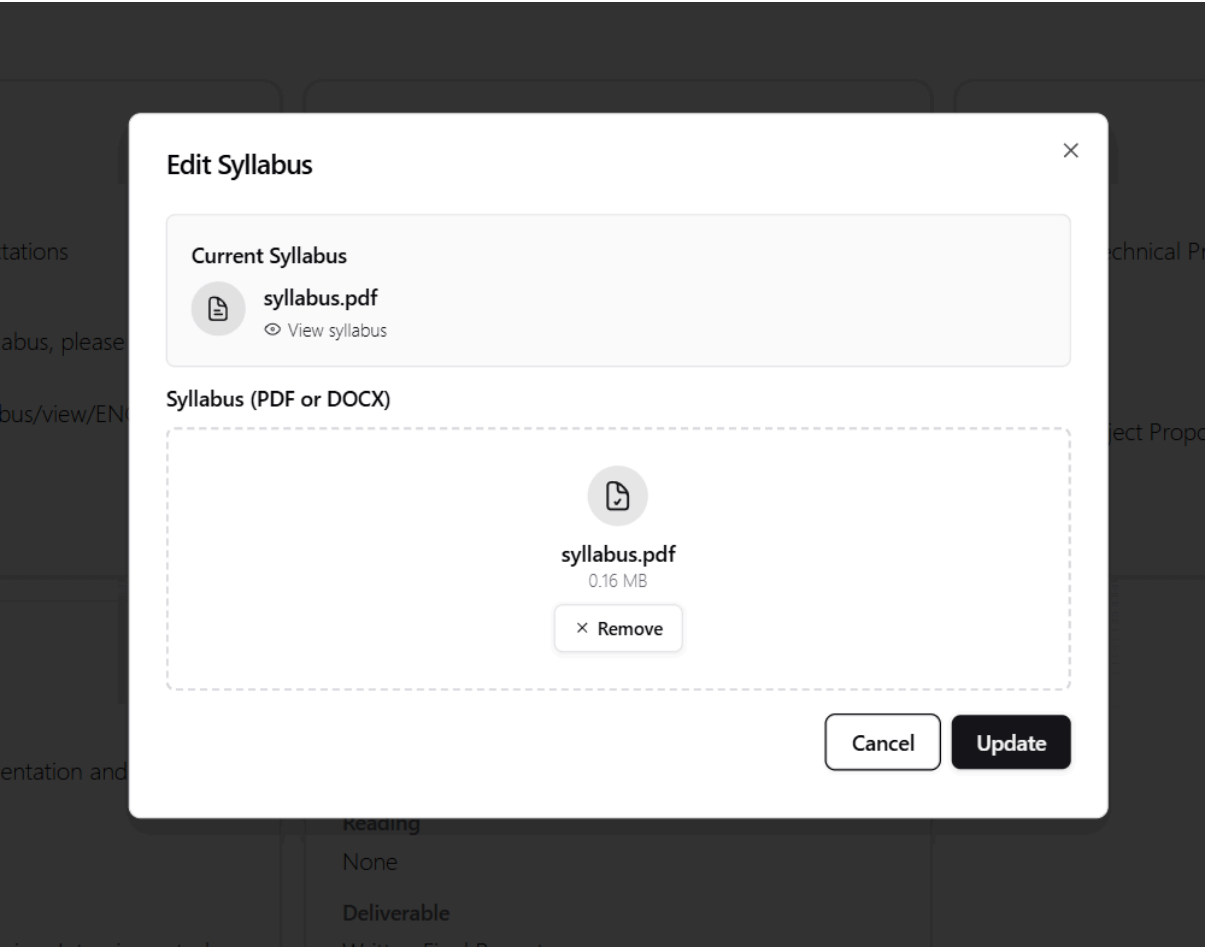| Date	Explanation	Notes	Reflections
10.01.2025	Refactored microservices for scalability	Adopted Docker Compose for local testing	Modularization eased independent service updates
25.01.2025	Implemented Skill Tree rendering	Used D3.js wrapped in React components	Interactive nodes improved user motivation

Skill Progression Tree

Operating System Definition

Computer System Organization

Computer Startup

Hardware Interrupts

Direct Memory Access (DMA)

Computer System Components

I/O and Device Interaction

Software Interrupts

Storage Structure

Storage Hierarchy

Caching

Multiprocessor Systems

Search in Edux...   ⌘ K

Welcome!
Thanks for joining.
Just now

New message
You have a new message from John
5 minutes ago

February

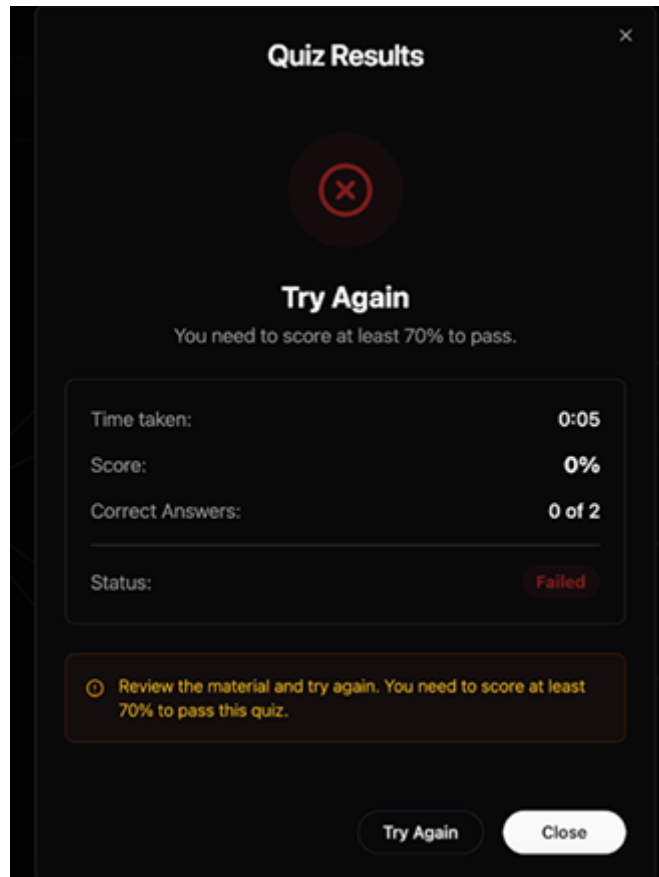| Date	Explanation	Notes	Reflections
05.02.2025	Integrated User Analytics dashboard	Added charts with Recharts, tracked study time metrics	Dashboard insights guided UI tweaks
20.02.2025	Database indexing & optimization	Created indices on frequently queried columns	Query times dropped by 60%
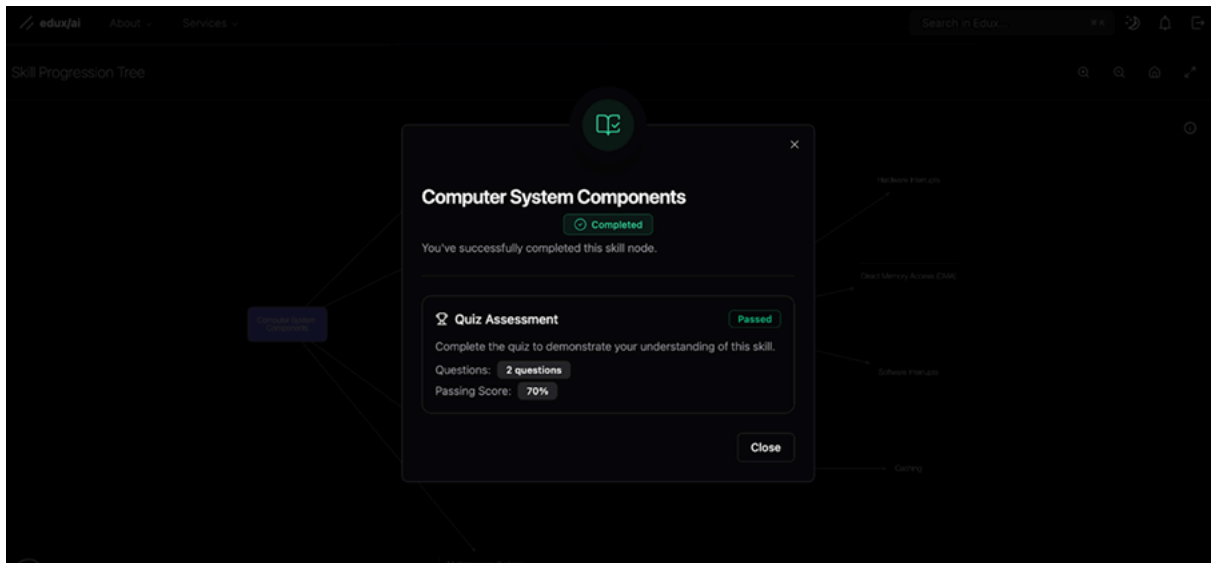
March

Date	Explanation	Notes	Reflections
05.03.2025	Contributed to Detailed Design Report	Wrote subsystem decomposition and security sections	Aligning with team's style guide was challenging
15.03.2025	Conducted security testing & vulnerability scan	Used OWASP ZAP; documented findings	Fixed XSS and broken auth flows
25.03.2025	Ran user trial sessions for feedback	Collected feedback from 10 peers	Users requested clearer navigation in Skill Trees

Edit Syllabus

Current Syllabus

syllabus.pdf
👁 View syllabus

Syllabus (PDF or DOCX)

syllabus.pdf
0.16 MB

× Remove

Cancel   Update

Reading
None

Deliverable

April

Date	Explanation	Notes	Reflections
08.04.2025	Bug fixes & UI enhancements for Skill Tree	Improved node labels and animations	Added tooltip descriptions to reduce confusion
18.04.2025	Added edit-chat functionality	Enabled message editing and deletion	Increased code complexity; wrote integration tests
29.04.2025	Prepared Final Report outline	Assigned report sections and deadlines	Felt ready for wrap-up

Quiz Results

Try Again

You need to score at least 70% to pass.

Time taken:	0:05
Score:	0%
Correct Answers:	0 of 2
Status:	Failed

⊘ Review the material and try again. You need to score at least 70% to pass this quiz.

Try Again   Close

Eng

⬆ Upload/Update Syllabus

Week 1 📅

Topic
Course Introduction and Expectations

Reading
To view the STARS ENG 401 syllabus, please click on the following link:
https://stars.bilkent.edu.tr/syllabus/view/ENG/401/

Deliverable
None

Week 2 📅

Topic
Preparation and Presentation of Project Proposals

Reading
None

Deliverable
Project Proposal Presentation

Week 3 📅

Topic
Writing a Technical Project Proposal

Reading
None

Deliverable
Written Project Proposal

Week 4 📅

Topic
Preparing for Final Report Presentation and Interview

Reading
None

Deliverable
Final Report Presentation, Interview, Interviewer task

Week 5 📅

Topic
Writing a Technical Final Report

Reading
None

Deliverable
Written Final Report

May

Date	Explanation	Notes	Reflections

03.05.2025	Drafted Final Report & User Manual sections	Wrote introduction, requirements, and user guide	Integrating feedback was smooth
07.05.2025	Final review meeting with Doruk Öner	Walked through complete system demo	Received approval; project ready for submission
09.05.2025	Project submission and self-reflection	Submitted all documentation and code on GitHub	Proud of comprehensive achievement; looking forward to next challenges