

A. General Information

Project Title:	Advanced Hospital Management System
Team Name:	Gofies
Team Members:	<p>Abdullah Shamout - AI Algorithms Eng. - Backend Dev. - DevOps Eng. - Project Manager</p> <p>Berkay Gürsu - Backend Dev. - Frontend Dev. - UI/UX Des. - Frontend Team Leader</p> <p>İbrahim Halil Marsil - Backend Dev. - Frontend Dev.- Database Eng. - Backend Team Leader</p> <p>Mustafa Can Çalışkan - UI/UX Des. - Database Eng. - Testing Eng. - Database Team Leader</p> <p>Rasim Berke Turan - Backend Dev. - Frontend Dev. - Database Eng. - Backend Code Reviewer - Client Representative</p> <p>Sarper Öztörün - Frontend Dev. - Testing Eng. - UI/UX Des. - Frontend Code Reviewer - Meetings Organizer</p> <p>Yusuf Emir Sezgin - UI/UX Des. - Database Eng. - Frontend Dev. - UI/UX team Leader</p> <p>Yusuf Şahin - AI Algorithms Eng. - Testing Eng. - Backend Dev. - Testing Team Leader</p>
Date:	11/10/2024

B. Technology Stack:

Project-Configuration Management: Jira, Git, Github, Docker, Github Actions, Nginx (Optional), Jenkins (Optional), Terraform (Optional), AWS (Optional), Heroku (Optional), Kubernetes (Optional)

Backend stack: Express JS, Node JS, PostgreSQL, MongoDB, Redis (Optional)

Frontend stack: Figma, React

AI stack: Python, TensorFlow, PyTorch

Testing stack: Mocha, Postman, nyc

C. Project Scope

Designated features:

- **Backend:**
 - The architecture will be monolithic. **(Mandatory)**
 - RESTful API will be used.. **(Mandatory)**
 - Employ a JWT authorization system . **(Mandatory)**
 - Control the number of requests to the API within a specified time to prevent overloading the services. **(Optional)**
 - Monitor general user actions to analyze behavior and gain insights into how the system is being used. **(Optional)**
 - Integrate an LLM-based AI chat service to enable interactive user conversations. **(Mandatory)**
- **Database:**
 - Role-based Access Control (RBAC) **(Mandatory)**
 - Real-time Data Synchronization **(Optional)**
 - Audit Log Mechanism to track and record user activities within the system. **(Mandatory)**
 - Data Encryption will be applied for both at-rest and in-transit data. **(Mandatory)**
 - Support for Scalability and Horizontal Partitioning **(Mandatory)**
- **Frontend**
 - Modular Frontend Architecture **(Mandatory)**
 - State Management **(Mandatory)**
 - Real-time Data Updates **(Mandatory)**
 - Progressive Web App (PWA) Capabilities **(Optional)**
 - Lazy Loading and Code Splitting **(Mandatory)**
 - Error Handling **(Mandatory)**
 - UI Animations and Feedback **(Mandatory)**
- **UI/UX:**
 - It will have various color options (night mode, color blindness mode) **(Mandatory)**
 - It will support multiple languages. **(Mandatory)**
 - It will have real-time notifications. **(Mandatory)**
 - Responsive and accessible design. **(Mandatory)**
- **Testing:**
 - Unit & Integration tests **(Mandatory)**
 - API tests **(Mandatory)**
 - Code coverage **(Mandatory)**
- **AI:**
 - Large Language Models (LLMs) **(Mandatory)**
 - Specialized models to feed the LLM **(Mandatory)**
 - Doctor imitating Expert System **(Mandatory)**
- **DevOps:**
 - CI/CD pipeline **(Mandatory)**
 - Orchestration of Docker containers **(Mandatory)**
 - Cloud Deployment **(Mandatory)**
 - Web server implementation “reverse proxy for load balancing” **(Optional)**

D. Project Feature Milestones

Database Completed Features	Estimated Completion Date
Database Architecture Design and Setup	28.10.2024
Data Security and Encryption Implementation	04.11.2024
Distributed Data Storage and Backup	11.11.2024
Real-time Data Synchronization Setup	18.11.2024
Multi-tenancy and Scalability Implementation	25.11.2024
Automated Data Archiving and Audit Log	02.12.2024
Testing and Optimization	09.12.2024
Final Deployment and Documentation	16.12.2024

Backend Completed Features	Estimated Completion Date
Design of API Architecture	25.10.2024
Implementation of Patient Services and Functions	06.11.2024
Implementation of Doctor Services and Functions	24.11.2024
Implementation of Lab Services and Functions	02.12.2024
Implementation of Admin Services and Functions	16.12.2024

Frontend Completed Features	Estimated Completion Date
Implementation of Patient Pages and Components	06.11.2024
Implementation of Doctor Pages and Components	25.11.2024
Implementation of Lab Staff Pages and Components	02.12.2024
Implementation of Admin Dashboard	16.12.2024

UI/UX Completed Features	Estimated Completion Date
Design of Patient Pages	21.10.2024
Design of Doctor Pages	06.11.2024
Design of Lab Staff Pages	25.11.2024
Design of Admin Dashboard	02.12.2024

AI Completed Features	Estimated Completion Date
Doctor imitating Expert System Chatbot	18.11.2024
Specialized models to feed the main LLM	15.12.2024

DevOps Completed Features	Estimated Completion Date
CI/CD pipeline	01.11.2024
Orchestration of Docker containers	01.12.2024
Deployment to cloud	27.12.2024

