



FAST National University of Computer and Emerging Sciences

Software Project Management:

Assignment 1

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Business Case:

Project Title: HealthBridge - All-in-one Platform for Liver Diagnostics

Project Purpose: The HealthBridge aims to provide a one-stop platform to improve Pakistan's healthcare system. This platform integrates an AI-powered platform for liver diagnostics, booking appointments, and generating automated medical reports to assist both patients and doctors. The AI model will assist patients with generic problems using basic terminologies and doctors for diagnostic reports to generate a final report that highlights the prescription and recommended treatment process for an individual.

Problem Statement: The healthcare system in Pakistan faces various problems which affect the overall quality and accessibility of services. These challenges create difficulties for both patients and doctors due to inadequate medical facilities and overcrowded hospitals which hinders the severity of the problem for patients. Many hospitals in Pakistan do not offer a pre-booking appointment system and there are several delays in diagnostic reports which are processed within hours and several days. As a result, the lack of integrated solutions for such problems along with the waiting queues in the hospital and miscommunication between patients and doctors leads to more confusion which hinders the primary aspect of treatment for patients.

Objective: To build a platform that streamlines medical diagnostics, especially for liver-related diseases, using AI technology. This platform aims to reduce waiting times, improve the accuracy of diagnostics, and facilitate seamless interaction between patients and healthcare providers.

Expected Benefits:

1. Improved accessibility to healthcare services in underserved regions.
2. Reduced wait times for diagnosis and treatment.
3. AI-powered diagnostic reports for liver diseases such as cancer and fatty liver.

4. Centralized appointment booking and follow-up system.

Costs: The estimated cost for developing and launching HealthBridge is PKR 50,000, with additional operational costs for internet usage and server maintenance.

Timeline: Development starts 1st February 2024, with a targeted completion by 5th April 2024.

Stakeholder Register:

Stakeholders:

1. **Patients:** End-users of the platform, benefiting from quick diagnostic reports and seamless communication with healthcare providers.
2. **Doctors:** Beneficiaries of automated diagnostic reports and streamlined patient management.
3. **Research and Medical Institutes:** Leveraging AI diagnostics to conduct medical research and improve healthcare services.
4. **IT Department:** Responsible for maintaining the HealthBridge platform and its associated infrastructure.
5. **Healthcare Providers:** Medical personnel who will rely on HealthBridge to provide fast diagnostics and report generation for patients.

Stakeholder	Role	Interest	Influence	Engagement Strategy
Patients	End-users for the platform	High	High	Regular feedback through the platform
Doctors	Regular appointments and assistance with diagnostic reports	High	High	Regular feedback and ratings for appointments and assistive report through AI model.
Research and Medical Institutes	For analyzing diagnostic reports data and research purposes	Medium	Low	Collaboration agreements and review meetings
IT Department	Maintain the overall structure of the HealthBridge app	Medium	High	Technical meetings for platform stability, updates, and enhancement of the AI model

				appointment system.
Healthcare Providers	Use the platform for final automated report generation	High	Medium	Detailed feedback for the final automated report through meetings.

Stakeholder Management Strategy:

- **Patients:** Frequent surveys will be conducted to collect feedback on the project's use and results of diagnostics. Patients will be able to communicate through the platform to resolve any issues or suggestions.
- **Doctors:** Feedback will be demanded after every appointment or Diagnostic from the doctors, where we will ask more about diagnostic reports generated or any problems they have faced with the appointment booking system. A professional's input is very valuable and necessary to improve our project.
- **Research Institutes:** Institutes will be allowed to use anonymous data for their research purposes. Regular meetings and agreements will ensure our platform will meet their requirements/demands.

Project Charter Including Roles and Responsibilities:

Project Title: HealthBridge - AI Powered Liver Diagnostics Platform

Team Members:

1. **Muhammad Abdullah:** Project Manager, overseeing the project execution and managing stakeholder engagement.
2. **Muneel Haider:** Researcher, responsible for collecting data and working with the AI model to improve diagnostics.
3. **Abdullah Zahoor:** Technical Lead, setting up the infrastructure, developing the platform, and ensuring its functionality.

Objective: To develop HealthBridge as a platform that consists of an appointment booking system and an AI Model that performs liver diagnostics and medical report generation.

Scope: The project scope includes developing the backend, integrating AI for diagnostics, creating a web and mobile application for patients and doctors, and ensuring data security compliance.

Milestones:

- Project kick-off: 27th August 2024.
- Completion of AI model development: 25th November 2024.
- Platform launch and testing: 5th April 2024.

Team Contract:

Team Members:

- Muhammad Abdullah (Project Manager)
- Muneel Haider (Researcher)
- Abdullah Zahoor (Technical Specialist)

Roles:

- Muhammad Abdullah: Responsible for overall project management, stakeholder communication, and ensuring project milestones are met.
- Muneel Haider: Researches AI algorithms and helps in developing the diagnostic model.
- Abdullah Zahoor: Responsible for setting up the infrastructure, including the web and mobile platform and backend integration.

Meeting Schedule: Weekly meetings on Mondays, urgent communication via WhatsApp, and progress reports every Friday.

Conflict Resolution: Any disagreements will be resolved through team discussions. If unresolved, the final decision will be made by the project manager.

Kick-off Meeting Agenda and Minutes:

Date: 10th August 2024

Agenda:

- Introduction to HealthBridge project objectives and scope.
- Role assignment to team members.
- Discussion on AI model and tools to be used for liver diagnostics.
- Setting up milestones and deadlines.
- Assigning initial tasks (data collection, AI model research).
- Minutes:
 - All roles and responsibilities were finalized. The team decided to focus on liver diagnostics using AI tools.
 - Deadlines for tasks were discussed, and work was distributed accordingly.

Client Meeting Agenda and Minutes:

Date: 11th September 2024

Agenda:

- Provide project update to the supervisors.
- Present research findings on AI diagnostic models for liver diseases.
- Discuss any challenges or risks identified during the first phase.

- Receive feedback and suggestions from supervisors.
- Minutes:
 - The supervisors expressed satisfaction with the progress, suggesting minor improvements in data collection.
 - The team confirmed that the timeline was on track.

Team Meeting Agenda:

Date: Weekly every Monday

Agenda:

1. Review progress on AI model training and data preparation.
2. Discuss technical aspects of the platform setup.
3. Plan for integration of AI diagnostics with the web and mobile platform.
4. Address any ongoing challenges.

Risk Register:

Risk	Impact	Probability	Mitigation Strategy
Technical Issues with integration	Medium	Low	Using online platforms and weekly meetings to handle such problems.
Data Security Breaches	High	Low	Advanced encryption based storage and separate layers of security.
Delays in AI model development	High	Medium	Weekly progress meetings with the Co-supervisor for the issues faced.

Issue Register:

Issue	Date Raised	Impact	Action Taken
Labeled Dataset for Liver Diagnostics	19th September 2024	High	Additional dataset acquired from several websites. Dataset Request from medical institutes for model training.
Environment Setup Details	26th September 2024	Medium	Use of github for efficient management and divided work. Different libraries for all the work.

Milestone Report:

Milestone	Completion Date	Status
Initial platform setup	12th October 2024	In Progress
Data Refining and Chatbot System for AI model	5th November 2024	On Track
Finalization of AI model	15th November 2024	On Track
Testing	5th December 2024	On Track