Project Management Plan

Version 1.0

Created By

Group 01

Thenuri Sandara Hettiarachchi - CB010529
Sachintha Lakmin Kahingalage - CB010454
Samadee Malinhara Kularatne - CB010659

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1.1 Project background and summary

1.1.1 Problem definition

Currently, there are no proper means for tourists to book tourist buses and vans. A client must speak with multiple people in order to book a van or a bus, and it must meet their requirements. Currently finding these specifications is time-consuming. And even if they make a contact with someone, the vehicle's condition or suitability is unknown. If there are any changes (If the trip is canceled or the bus cannot arrive) that cannot be notified and there will be financial damage. There are so many difficulties a bus/van owner has to face when finding clients. Additionally, there is a chance to con or demand extra money from foreigners.

1.1.2 Problem solution

The proposed solution is a website that allows easy booking of buses and vans. The website displays available buses and vans along with the features of the vehicle. Users can avoid a bad experience by checking the reviews of the vehicle given by previous travelers. The users are presented with many choices of buses/vans with the ability to sort and filter therefore they can get the best deal. If there are repeated last-moment cancellations a fine will be automatically charged from the involved parties, and a cancellation percentage for the bus/van will be shown to support decision-making for the customer user. Bus/Van owners registering with the system will be exposed to many potential clients easily. Transparent pricing results in fair pricing to both foreign and local users. For the front end, we are employing Reactjs for this website because HTML, CSS, and JS are all known to us. Bootstrap will also be used for easier and faster development of the responsive front end. Express and NodeJs were chosen as the back-end technology in part because the members are familiar with JavaScript and also the popularity of the technology allows easier access to resources. MySQL was selected as the database solution as all group members have experience working with it.

1.1.3 Summary

This is a document that outlines how, when, and what-ifs of the project's execution. This document contains the main problem we identified to develop the software and the solution we made to overcome the said issue. Also, we have included the team information and the responsibilities that we divided among us. Afterward, we have included the methodology that we expect to use, the types of media we are using to

communicate among the group members, Quality and Risk management of the project that we are doing

1.2 Information on Personnel

1.2.1 Details of the team members

The following mentioned are the team members who work together on this project:

- Thenuri Sandara Hettiarachchi - CB010529
- Samadee Malinhara Kularatne - CB010659
- Sachintha Lakmin Kahingalage - CB010454

The Feasibility study of the team members is mentioned in below Table 1.1

Technologies	Thenuri Sandara	Samadee Kularatne	Sachintha Kahingalage
HTML	✓	✓	✓
CSS	✓	✓	✓
JavaScript	✓	✓	✓
MySQL	✓	✓	✓
C#	✓	✓	✓
Python	✓	✓	✓
Flask	-	-	✓

Table 1.1: Feasibility study

1.2.2 Responsibilities of the team members

Thenuri Sandara - CB010529

- Repository management
- Team management
- Setting deadlines

Samadee Kularatne - CB010659

- Organizing meetings
- Updating documents

Sachintha Kahingalage - CB010454

- Note-taking
- Deployment
- Merge conflict resolution

1.3 Decision on process

After analyzing the project and team members' abilities, the methodology planned to use is the Waterfall method. Reasons for choosing waterfall methodology:

- One of the main reasons for choosing the waterfall model is its clear and precise structure, which defines the role that all teammates must perform at each stage of the project. Clarity is essential when planning and executing complex projects because, without it, the project can quickly become muddled. The waterfall model is designed in such a way that in order to proceed with the project, you must be clear about the responsibilities of different members at each phase.
- Once the initial structure of a project is in place, the waterfall model is clear and simple, and everyone involved can easily understand it. Because the model is divided into phases, each component is simple to understand, process, and manage.
- This methodology follows a strict timeline where there's very little scope to shift or play around with the timeline of a project. This is extremely useful as a strict timeline demands discipline, focus, and regular coordination to ensure that the project isn't delayed in any way and helps to deliver the project within the estimated deadline.
- Since the waterfall model cannot progress to the next phase unless the previous phase is completed, information is always properly recorded from one phase to the next. This ensures that information is transferred smoothly and orderly between phases.

1.4 Communication management

The media we use to communicate between team members are WhatsApp and Microsoft teams. We have created a WhatsApp group adding all the group members to it. If any of the members have any clarification or have any new ideas regarding the project, they will be able to discuss it in the group. We are conducting online meetings as well as physical meetings twice or thrice a week to measure our progress in the project. As well as we are using Trello to inform the members what we are doing throughout the day. GitHub comments are also being used to discuss and clarify the issues in codes. It is recommended to have clear communication between team members.

1.5 Quality Management

To ensure the quality of the code unit tests are performed every time the code is changed. As the bugs could be introduced whenever the code is changed, unit tests are performed to detect the bugs. The tests are designed to ensure maximum code coverage. Every team member is responsible for writing unit tests as they are developing the application. Having these tests allows developers to narrow down the code that is producing the error easily during development. Integration tests should also be done to ensure the system as a whole performs as expected.

During development, it is encouraged to follow industry best practices and to properly comment on the code. Comments are very useful when trying to understand the code and debugging. Git and GitHub are used to conduct version control to track code changes. When a pull request is submitted by a member it is subjected to review before being merged with the main branch. A team member shall be assigned to resolve any merge conflicts that occur.

1.6 Risk management

To ensure the success of the project the associated risks need to be managed properly. These risks include human risks and technical risks. Below are identified risks and the actions that can be taken to manage them effectively.

1.6.1 Human risks

- Lack of knowledge about the technologies used.
  - Teach and direct them to proper resources for learning.
- Lack of proper communication could result in confusion
  - Be clear and precise when assigning tasks and encourage team members to question. Accept feedback from team members.
  - Determine which modes of communication are most effective.
  - Use of project management tools such as Trello for effective organization and decision-making.

1.6.2 Technical Risks

- Exposing sensitive information such as database credentials
  - Instead of hard-coding them, use environment variables.
  - Use separate credentials in development and production environments.
- Introduction of bugs during development and maintenance of the software
  - Always run tests to ensure that the functionality of the software is not affected by the changes made.