# Project Management: Karmendra

Appropriate use of project management tools, techniques, plans, and methodologies to accomplish the project within the schedule time and budget is known as Project management. The key to project success covers project management success and product success (customer satisfaction). (Al-Hajj & Zraunig, 2018)

## Project management principles

* **Project Objectives and Goals**

The goal of the project is to deliver a Hostel Management System for smooth operation of the hostel and the students. The objective is to create a full dynamic website with necessary features to approach and access the system for both parties with ease. Both the goals and objectives integrate the values of SMART (Specific, Measurable, Achievable, Realistic, and Timely) technique. (Schrader, 2018)

* **Project Deliverable**

A full-fledged website will allow the students to find and register the rooms while the management will maintain the system operations.

The acknowledgment standards for this deliverable:

* All errands and achievements are finished.
* Digital rights and licenses procured.
* Terms and conditions expressed for clients.
* User manuals and guidance delivered.

* **Project Schedule**

**Milestones**

|  |  |  |  |
| --- | --- | --- | --- |
| **Milestone** | **Completion Date** | **Stakeholder Judge** | **Acceptance Criteria** |
| Team contract |  |  | Sign-off contract |
| Client meeting / contract |  |  | Meeting completed |
| Website Design Prototype |  |  | Design layout completed |
| Website Testing |  |  | Testing completed |
| System Handover |  |  | Handover completed |

**Project Requirements**

* + - * + Business requirements

The project facilitates the client to manage the hostel and the student digitally. The online platform-based system will eventually make the daily operation easy and effortless, less time consuming, and save resources.

* + - * + Stakeholders’ requirements

The sole stakeholder of the project Mr. Sumit Katharia wants the system to be simple and approachable for daily use. The system should be effective and provide high value to the business. Additionally, the client wants the student to have limited access whereas the admin to have full access rights.

* + - * + Solutions requirements

The website will allow anyone with access right to use the system as per their requirements. The user can access the website with any electronic device with latest browser without the constraint of time and place.

* + - * + Transition requirements

The website is the most common, easy, and approachable way to gain system access. Minimal guidelines of the system will be sufficient to the client to use the system.

* + - * + Project requirements

The project will require the team of specialized people like programmer, web designer, content writer, database and system administrator, project manager, and document handler. Similarly, the project requires programming tools and software to build the website.

* + - * + Quality requirements

The project should obtain the digital licence and certificates to run and protect the system. Permission from the government bodies is crucial to avoid any legal issues.

**Work/Progress breakdown**

1. Project Management
2. Website
   1. Design
      * 1. Wireframing
        2. Page Layout
        3. Design Prototype
   2. Contents
      * 1. Product Descriptions
        2. Page Contents
   3. Development
      * 1. Coding
        2. Testing
        3. Deployment

**Limits and exclusions**

* + - * + The project is expected to finish within schedule.
        + The project financial plan does not cover the costs past determined.
        + The project will convey only the predetermined items and facilities.
        + The project is unaccounted for the episodes and mishaps like tremor, fire, and others.
        + The project might be influenced by change in government plans and strategies.
        + The project is highly susceptible to internet and resources availability issues.
        + The project progress and outcome are vastly dependent on stakeholders.
        + The project does not hold the direct or indirect damage caused to individuals, community, or any religion.

**Project plan /Gantt chart (Attach Gantt screenshot)**

* **Risk Management**

**Risk Identification**

Risks associated with the project pose significant threat to overall project success. Risks needs to be identified, classified, mitigated, and resolved as early as possible. Strategic risks, Compliance risks, Operational risks, Reputational risks, Technical risks, and Resource risks are observed in the project.

**Risk Analysis**

Risk analysis involves analysing the identified risks and sorting them in accordance with impact on project deliverables.

Guidelines to risk analysis:

**Probability of Risk Occurrence**

* High probability indicated by number 1 – (80 % ≤ x ≤ 100%)
* Medium-high probability indicated by number 2 – (60 % ≤ x < 80%)
* Medium-Low probability indicated by number 3 (30 % ≤ x < 60%)
* Low probability indicated by number 4 (0 % < x < 30%)

**Risk Impact**

* High – Catastrophic indicated by number 1 (Rating A – 100)
* Medium – Critical indicated by number 2 (Rating B – 50)
* Low – Marginal indicated by number 3 (Rating C – 10)

**Risk Response**

Risk response is a method to tackle and eliminate or mitigate the risks quickly enough to reduce the impact. Only few of the risks are completely resolved whereas a large number of risks can only be reduced, redirected, and observed with caution.

**Risk Response Plans**

* Eliminate the risk.
* Reduce risk occurrence.
* Reduce risk impact.

**Risk Triggers**

Risk triggers are prior indications of possible risk occurrence in future. It alerts and provides enough time to respond with best plans and actions.

**Risk Ownership**

Fundamentally, the project manager is responsible for any risks involved with the project. Nevertheless, the proper risk identification helps to forward the risk to the capable risk owner for risk management.

**Risk Monitoring and Control**

Risk’s monitoring involves regular risk observation, identification, and monitoring process. These risks are updated to the responsible person for further analysis and control measures.

**Risk Assessment Table**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Risk Assessment** | | | | |
| **RISK DESCRIPTION (EVENT)** | **IMPACT** | **CATEGORY** | **PROBABILITY** | **MITIGATION STRATEGY-RESOLUTION** |
| Delay launching high demand models | 2 | Strategic Risks | 3 | Prior market survey regarding demands and trends to cope changes |
| Delay renewing digital licence from government | 1 | Compliance Risks | 4 | Give higher priority in to-do lists |
| Unable to upload website content on due time | 2 | Operational Risks | 2 | Make backup plan for such incidents and set pre-submission deadline to check amount of work completed |
| Negative reviews | 1 | Reputational Risks | 4 | Immediately response to the incident and workout plans to mitigate future review related issues |
| Immediately hire new application tester | 3 | Resources Risks | 3 | Keep record of prior applicants to make hiring process smooth |
| Software version incompatibility issue | 3 | Technical Risks | 1 | Selecting a widely supported software to replace existing software with another software |
| **Guidelines:**  Probability of Risk Occurrence   * High probability indicated by number 1 – (80 % ≤ x ≤ 100%) * Medium-high probability indicated by number 2 – (60 % ≤ x < 80%) * Medium-Low probability indicated by number 3 (30 % ≤ x < 60%) * Low probability indicated by number 4 (0 % < x < 30%)   Risk Impact   * High – Catastrophic indicated by number 1 (Rating A – 100) * Medium – Critical indicated by number 2 (Rating B – 50) * Low – Marginal indicated by number 3 (Rating C – 10) | | | | |

* **Communication Management**

The project was composed of five members led by a team leader. Each individual is assigned specific task and contributes equally towards achieving the goal. A team contract is signed by each project member to accept the full responsibility towards the project. **(Appendix)** The team will conduct at least two meeting each week to discuss the progress and complications faced during the task operation. Likewise, a client meeting was held during each breakthrough point of the project like before starting the project, after completion of design phase, and during the product handover. **(Appendix: attach all communication materials with the client)** To establish a proper communication between the two parties, a dedicated communication group is created to put forward any queried during the project time. **(Appendix)**

* Monitor Project progress

evidence of using mechanisms to manage the project other than project plan (e.g., issues that could be tracked via an issue log, bug tracking system, even if it is just via bugs being tracked in Excel spreadsheets, etc.)

## Software Development Methodology

The project uses the traditional Waterfall methodology that comprises five essential phases which are requirement, design, coding, testing, and maintenance. The Waterfall methodology is a sequential model where the phase moves forward only after completion of previous phase. Each phase is thoroughly reviewed against the conditions set before. (Eason, 2016) A Gantt chart was used to manage the project. **(Appendix)** The project was broken down into small fragments of task lists with time duration and resources used.

Diagram

Description automatically generated

Waterfall Development Methodology Phases

1. Requirement Phase

The project has divided the requirement phase into three main categories. They are Client requirement, Technical requirement, and Human resource requirement. In the Client requirement, the client prospectives are fully acknowledged to shape the final product. An initial client meeting was conducted where the client expressed the views like fully dvnamic and responsive webpage, full access to admin, limited access to students, and email notifications. **(Appendix Note: Attach audio clip or text format of the audio)** Likewise, in the technical requirements, Laravel, PHP, Mysql, and Bootstrap are finalized for development process after analysing with other possible platforms. **(Reference of interim report)** Similarly, in the Human resource part, the team was divided into three sub-sections like frontend, backend and the documentation. In short, the front end was responsible for designing the product, backend is responsible for connecting the website with the database, and lastly the documentation team was undertaking document handling.

1. Design Phase

In this phase, the use case diagram was used to outline the system structure. **(Appendix)** Furthermore, the client provided the sample website which helped to visualize the probable product design. **(Appendix)** The frontend team designed and developed the layout of the website based upon previous data.

1. Coding Phase

Laravel and Mysql are used to shape the overall website by backend team members. Php language was used primarily to support the execution of functions in the website.

1. Testing Phase

Unit testing is conducted to check whether the product is working as required or not. **(Appendix)** Each individual functions are tested with both valid and invalid inputs to test the robustness of the system.

1. Maintainance Phase

The product requires regular maintainance and supervision to keep the system running smoothly and efficiently.

Figure 1 Waterfall Model (SOFTWARETESTINGHELP, 2021)