LearnHub

Project Risk Management Plan

(Version 1.0)

Team-8

IT-314 Software Engineering

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Revision History

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Content

1. Introduction

As organization begins new projects they start operating in an area of uncertainty that comes along with developing new and unique products or services. By doing so, these organizations take chances which results in risk playing a significant part in any project. A risk is defined as "an uncertain event or condition that, if it occurs, has a positive or negative effect on a project's objectives." Risk is inherent with any project.

CLASSIFICATION OF RISKS:

Performance Risks: This type of risk occurs when the software is not able to meet its requirements and could not do what it was intended to do.

Cost Risks: Risks arising due to insufficient funding for the project. Incorrect estimation of time also falls under this category.

Schedule Risks: This risk adheres to problems related to delivery of software in time and coping with schedule with every phase passing.

Project Size Risks: This type of risk arises when the size of the project is estimated wrongly (i.e. too small) or when the client changes his/her Project requirements.

Business Risks: Risks occurring due to constraints imposed by management fall under this category. This type of risk occurs when either the quality of product document/coding is low or if there is unavailability of team.

Development Environment Risks: These types of risks are associated with the availability and the quality of the tools required for the development.

Technical Risks: These types of risks are related to the complexity of the system to be built and newness of the technology.

Staff Size and Experience Risks: These types of risks arise while working with a group of people who are inexperienced with Software Development Process.

1.1Purpose

Risk management is the identification, assessment, and prioritization of risks followed by coordinated and economical application of resources to minimize, monitor, and control the probability and/or impact of unfortunate events or to maximize the realization of opportunities. It addresses methodically all the risks surrounding the project activities, past, present and in particular future. It increases the probability of success, and reduces both the probability of failure and the uncertainty of achieving the overall objectives.

1.2Scope

The scope of this document pertains to the LearnHub and its internal and external risks. The risk management methodology identified in this document will be primarily used by LearnHub and is to be used during the entire Project. The LearnHub's Vendor's risk management methodology will be provided as a contractual deliverable and will develop a separate Risk Management Plan.

1.3References

- Project Plan
- SRS
- Design Document

2. LearnHub Risk Management

2.1Risk Management Process

The LearnHub project Risk Management Paradigm, depicted in Figure 1, summarizes the Risk Management process for the Project. This paradigm portrays the high-level process steps of the Risk Management process, which are:

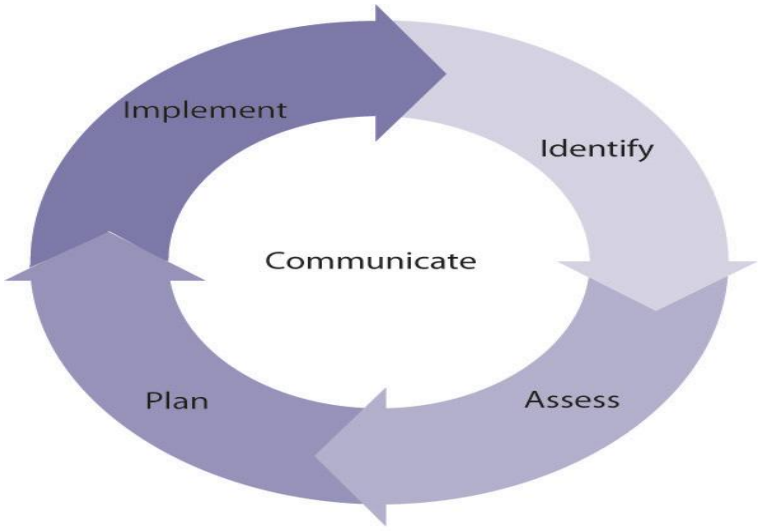

Figure: 1

Step 1- Risk identification: In this step, we have to identify potential risks.

Step 2 - Risk assessment: Once risks have been identified, they must then be assessed as to their potential severity of loss and to the probability of occurrence. In the assessment process it is critical to use the best available information.

Step 3 - Risk containment: Once risks have been identified and assessed, we need to **implement** strategies to deal with those risks. For this, a **plan** is developed to manage risks with high probability and high impact. This plan is known as Risk Mitigation, Monitoring, and Management (RMMM) plan.

2.2 Probability of Risks Becoming Reality:

Estimate	Range	Indicators
High (Likely to occur)	>60%	Has occurred earlier frequently with several groups in the senior batches.
Medium (May or may not occur)	20%-60%	Has occurred sometimes with several groups in the past semesters
Low (Remote)	<20%	Hasn't occurred yet

2.3 Impact of Risks: Following are the measures of impact a risk can have on our project:

- **Severe**: Disastrous impact on the team's strategy or operational activities
- **Critical**: Significant impact on the team's strategy or operational activities
- **Marginal**: Small impact on the team's strategy or operational activities.
- **Negligible**: Very small impact on the team's strategy or operational activities

S.No	Risk	Occurrence Probability	Impact
1	Unavailability of Team Members	Low	Marginal
2	Conflict among team members	Low	Critical
3	Lack of Experience	Medium	Marginal
4	Lack of Technical Skills	Medium	Critical
5	Irregular reviews and maintenance	Medium	Critical
6	Unrealistic Deadlines	Medium	Marginal
7	Size Estimation	Medium	Critical
8	Lack of Communication	Low	Critical
9	Unavailability of System/Tools	Low	Marginal
10	Problem in Integration	Medium	Critical

3. Risk Mitigation, Monitoring, and Management (RMMM) plan:

1) Sickness

Team Members might be unavailable due to certain unavoidable circumstances such as illness or some personal reasons.

Mitigation: This is tackled informally by mutual understanding among the group members. Also, we have divided the work in various subgroups so that it can be easy to manage if such a problem arises.

Monitoring: We schedule the meetings late in the evening keeping in mind the availability of the members.

Management: When a group member misses a meeting without a satisfactory reason or an explanation, Project Leader is required to take the following actions:

- Ask for an appropriate reason for being unavailable.
- If reason seems to be unsatisfactory, discuss the issue with the Teaching Assistant.

2) Conflict among Team Members

This problem could arise due to reasons such as misunderstanding, misinterpretation, lack of trust, and swollen egos of the members.

Mitigation: A project can only be accomplished by an entire team, not an individual. Proper acknowledgement should be given to the team members. The subgroups are made by the members on mutual consent and personal interest so as to avoid any clashes among the members.

Monitoring: There should be a clear understanding of the project plan. Project building process should be reviewed with only the problem in mind, and not the people working on it. Uniform work distribution is major key to monitoring.

Management: The conflicting parties should be cooled down. Any kinds of doubts or misunderstandings should be discussed with a calm and open mind to arrive at a common solution.

3) **Lack of Experience in Project Planning**

Being the first timers in an entire project development, risks of improper planning need to be specially taken into consideration. Inability to meet the project deadlines might be a problem faced due to improper planning of the project.

Mitigation: Every phase is designed and planned before starting it. Project developments should be discussed regularly with the TA's .

Monitoring: A close look on project milestones is maintained and also the time constraints are re-evaluated from time to time.

Management: Problem should be immediately discussed with the TA's or the Professor, a new plan must be made for the phase.

4) **Lack of Technical Skills**

There's a high probability that the members are not acquainted with the tools and technologies that will be used for the project.

Mitigation: The responsible team members should be adequately trained with the required tools and technologies before actually starting the coding phase. Members familiar with the technology should provide help in familiarizing the other members with it.

Monitoring: Events should be scheduled in the project plan accordingly.

Management: Progress in the training sessions should be monitored by the group leader, the ones lacking the knowledge should put in more hours of training to learn the required technologies.

5) **Irregular reviews and Maintenance:**

Reviewing and maintenance activities give us an insight of our mistakes and mismanagement, and hence it is very important to learn from the reports to grow as a developer and avoid the similar mistakes in future duration of the project.

Mitigation: Review and maintenance schedule should be made in advance.

Monitoring: Documents should be regularly updated and the minutes of the meetings should be recorded.

Management: Project plan should be changed, so that it is made sure that every document is reviewed properly.

6) **Unrealistic Deadlines**

Project Plan consists of the predefined deadlines that are developed during the starting phases of the project. Every effort should be made to adhere to the preset deadlines, but we acknowledge that during the course of the project some changes may have to be made to the project plan deadlines.

Mitigation: Project Plan must be regularly reviewed and rigorous discussion with TA and the team members is required so as to set realistic deadlines for the project.

Monitoring: A number of days should be decided as a buffer and it should be taken care that the product doesn't overshoot the deadlines.

Management: Root cause should be found and proper resources must be allocated to resolve it. Project schedule should be modified to account for any unforeseen delays.

7) **Size Estimation**

Our SDLC model being Concurrent Application Development, a thorough understanding of the user requirements and usability is required. What needs to be created might be much more complex and time consuming than what is expected with the amount of knowledge and experience that we possess.

Mitigation: This problem can be solved by rigorous research and analysis of the user requirements and brainstorming on the ways to implement the functionalities required.

Monitoring: This can be monitored by addressing to the final aim and scope of the project before starting any phase of the project. Regular review of the SRS also helps to monitor the risk.

Management: Changes should be made in the Design document and accordingly the project plan. Proper guidance should be taken from the TA's and the mentor.

8) **Lack of Communication**

It might happen due to some reasons that there occurs a communication gap among the team members.

Mitigation: Regular meetings should be scheduled for proper discussion and communication. All the work done is regularly updated and shared on the google docs where every group member can access the information.

Monitoring: It should be made sure that every group member attends the group meetings, and that mail is delivered and read by all of them.

Management: Any communication gap problem is solved internally by mutual discussion, and the Group leader is responsible for taking the decisions if at all such a situation arises.

9) **Unavailability of System/Tools:**

Although the technologies we are using is easily available to all the members, but if such a situation ever arises it might cause major hindrance in the development process.

Mitigation: Try to use the open source technologies, they are easily available and user friendly.

Monitoring: Keeping a track of the project development.

Management: Using emulators for the development process.

10) **Problem in Integration**

There are chances that every individual modules function perfectly when alone, but there might arise a problem when all are integrated together.

Mitigation: Dedicate ample time on the design of the project.

Monitoring: Rather than making all the modules and then integrating them, it is advised to integrate the modules as and when it is developed.

Management: Revert back to the design document and make required changes to properly integrate them together.