

E-Gram Seva

Risk Management v1.0

Team 22

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REVISION HISTORY

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1. Introduction

Risk analysis and management are a series of steps that help a software team to understand and manage uncertainty. Many problems can plague of software project. A risk is a potential problem; unfavorable event or circumstance that can occur during the project life cycle .If risk becomes true, it can hamper successful and timely completion of project But regardless of the outcome, it's a really good idea to identify it, assess its probability of occurrence, estimate its impact, and establish a contingency plan should the problem actually occur.

1.1 Purpose

The purpose of this Risk Management Plan (RMP) is to describe the methodology for identifying, tracking, mitigating, and ultimately retiring Hospital Management System (HMS) Project risks. This document defines the risk management roles and responsibilities of the HMS Team. Risk management in software projects has different uses. It helps to save projects from failing due to different factors such as non completion of projects within the specified schedule, and budget constraints, and not meeting customer expectations. Risk management looks at projects from different perspectives to ensure that the threats to the projects are identified, and analyzed, and appropriate strategies are undertaken to mitigate, and control risks. In fact, risk-managed projects have the ability to reduce project costs, and time of completion, and increase the overall quality of the project deliverables.

1.2 Scope

The purpose of this Risk Management Plan (RMP) is to describe the methodology for identifying, tracking, mitigating, and ultimately retiring Hospital Management System (HMS) Project risks. This document defines the risk management roles and responsibilities of the HMS Team. Risk management in software projects has different uses. It helps to save projects from failing due to different factors such as non completion of projects within the specified schedule, and budget constraints, and not meeting customer expectations. Risk management looks at projects from different perspectives to ensure that the threats to the projects are identified, and analyzed, and appropriate strategies are undertaken to mitigate, and control risks. In fact, risk-managed projects have the ability to reduce project costs, and time of completion, and increase the overall quality of the project deliverables.

2. Risk Management

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.

Risk identification: Risk Identification is a systematic attempt to specify threats to the project.

Risk assessment: Assess the impact of risk if it occurs on the project. Quantitative risk assessment requires calculations of two components of risk .The magnitude of the potential impact and the probability p that the risk will occur.

Risk containment: It involves **mitigation plan** and **contingency plan**. The mitigation plan is a risk avoidance plan, while the contingency plan is put into place when risk actually occurs.

3. Classification of Risks

Risks are categorized in following manner:

- **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.

Another categorization of risk is following:

- **Predictable Risks:** Extrapolated from past experience.
- **Unpredictable Risks:** They are extremely difficult to identify in advance.

4. Risk analysis

Good risk analysis has following steps:

- The risks that are identified, analyzed and managed should be derived from a thorough study of the people, the product, the process and the project.
- The Risk Monitoring, Management and Mitigation (RMMM) plan should be revisited as the project proceeds to ensure that risks are kept up to date. The three M's :
 - **Mitigation-** The necessary steps taken to deal with any risk that is found.
 - **Monitoring-** Keep a constant watch on the risk prone area.
 - **Management-** Managing the project after dealing with the risks.
- Contingency plans for risk management should be realistic.

Impact of Risks

- **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.

5. Risk Analysis Table:

The following table will throw light upon different kinds of risk involved in the project, their impact (as defined in the Risk Analysis Section) on the success of the project, probability, mitigation and contingency plan.

Risk Type	Probability	Impact	Mitigation Plan	Contingency Plan
Ambiguity in requirements	0.5	Severe	The requirements would be cross checked so that no ambiguity exists in form of written, oral interview and audio recording of meeting with the client	Some assumptions would be made on the basis of a common understanding and practicality of the requirement.
Unrealistic deadlines for deliveries	0.1	Marginal	<ul style="list-style-type: none"> • The development team will have a regular review of the Project Plan; this can probably be done in the team's regular meeting. • The Project Leader would discuss the Project Plan with the TA or professor, to ensure that all the deadlines are set realistically. 	We will have have a plan B, in case deadline for a milestone is not met, the other milestone will be delayed, and will be completed efficiently.

Customer changes requirements	0.3	marginal	The client has been interviewed, surveyed many times to understand the system more .carefully.	We can change the system till Designing phase, beyond it , system implementation could not be changed, but it will be worked upon as far as possible.
Lack of experience in big project or planning	0.15	Marginal	<ul style="list-style-type: none"> • Try to give in member's fullest • Design and plan every Phase before going for it. 	Experts would be consulted, in that area to have a clear picture.
Irregular review of documents	0.1	Critical	Fix prior dates for review of each document	Quality Assurance team will look in this matter, and new version of the document with correct review would be updated.
Unavailability of Team members in meeting	0.05	Critical	<ul style="list-style-type: none"> • Avoid being off-campus too often until and unless it's very important • Work shall be assigned to the members in accordance to their availability. members • Before vacations the work will be discussed and divided. 	Team members will do work from their locations and it will be managed by emails and shared on Google docs.

Schedule Risk	0.1	Negligible	<ul style="list-style-type: none"> • Team will try to follow the Gantt chart strictly • Pseudo deadlines will be made for the group which would be earlier than the 'actual' deadlines 	In case the pseudo deadlines are crossed, the remaining time will be utilized for other activities.
Hardware risk(System failure, crashing of hard- drive, server breakdown)	0.3	Marginal	All the projectrelated documents and source codes would be stored in all the local machines of the members	All the files and codes will also be stored online (like on GoogleDocs) so, in case there is a major hardware failure the data can be recovered.
Performance Risk(Inefficient Test cases, time and memory constraints)	0.3	Critical	Check thoroughly whether the test cases cover all the requirements	Team will Review all the test cases and make necessary changes
Conflict among team members	0.1	Critical	<ul style="list-style-type: none"> • Everyone will try to address problems than person. • Distributed work scheme would be used. • Team building would be aimed at. 	<ul style="list-style-type: none"> • Try to sort out the differences between them. • They must be realized that the whole team is getting affected and personal issues must be kept aside.

Integration of different modules.	0.3	Critical	<ul style="list-style-type: none"> • Coding standards would be adhered to. • The integration Team has full idea of what is happening in different modules 	Work would be done on common platforms, using similar versions of the tools.
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Key:

Probability (0-1): Higher the probability more chances of the risks to occur.