Software Engineering (CS301)
Risk Management Plan(1.0)
Travel Diaries

Group 5

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RISK MANAGEMENT

1 Risk Management:

Risk management is the process of identifying risk, assessing risk, and taking steps to reduce risk to an acceptable level . The risk management approach determines the processes, techniques, tools, and team roles and responsibilities for aspecificproject.

1.1 The Risk Management Practice

The risk management process can be broken down into two interrelated phases, risk assessment and risk control. These phases are further broken down. Risk assessment involves risk identification, risk analysis, and risk prioritization. Risk control involves risk planning, risk mitigation, and risk monitoring.Each of these will be discussed in this section. It is essential that risk management be done iteratively, throughout the project, as a part of the teams project management routine.

1.2 Risk Identification

In the risk identification step, the team systematically enumerates as many project risks as possible to make them explicit before they become problems. There are several ways to look at the kinds of software project risks. There are some specific factors to consider when examining project, product, and business risks. Some examples of these factors are listed here, although this list is meant to stimulate your thinking rather than to be an all-inclusive list

- People risks are associated with the availability, skill level, and retention of the people on the development team.
- Size risks are associated with the magnitude of the product and the product team. Larger products are generally more complex with more interactions. Larger teams are harder to coordinate.
- Process risks are related to whether the team uses a defined, appropriate software development process and to whether the team members actually follow the process.
- Technology risks are derived from the software or hardware technologies that are being used as part of the system being developed. Using new or emerging or complex technology increases the overall risk
- Customer risks are derived from changes to the customer requirements, customers lack of understanding of the impact of these changes, the process of managing these requirements changes, and the ability of the customer to communicate effectively with the team and to accurately convey the attributes of the desired product.
- Estimation risks are derived from inaccuracies in estimating the resources and the
- the risk management practice, which involves risk identification, analysis, prioritization, planning, mitigation, monitoring, and communication
- software development risks that seem to reoccur in educational and industrial projects
- a risk-driven process for selecting a software development model

1.3 Risk Elication Techniques

Spontaneous and sporadic risk identification is usually not sufficient. There are various risk elicitation techniques the team can use to systematically and proactively surface risks:

- Meeting. The team, including the development team and the marketing and customer representatives if possible, gathers together. The group brainstorms; each participant spontaneously contributes as many risks as they can possibly think of.
- Checklists/Taxonomy. The risk elicitors are aided in their risk identification by the use of checklists and/or taxonomies (in other words, a defined, orderly classification of potential risks) that focuses on some subset of known and predictable risks. Checklists and taxonomies based upon past projects are especially beneficial. These artifacts should be used to interview project participants, such as the client, the developers, and the manager.
- Comparison with past projects. The risk elicits examine the risk management artifacts of previous projects. They consider whether these same risks are present in the new project.
- Decomposition. Large, unwieldy, unmanageable risks that are identified are further broken down into small risks that are more likely to be managed. Additionally, by decomposing the development process into small pieces, you may be able to identify

2 Analyse

After risks have been identified and enumerated, the next step is risk analysis. Through risk analysis, we transform the risks that were identified into decision-making information. In turn, each risk is considered and a judgment made about the probabilityand the seriousness of the risk. For each risk, the team must do the following:

2.1 Priortize

After the risks have been organized into a risk table, the teamprioritizes the risks by ranking them. It is too costly and perhaps even unnecessaryto take action on every identified risk.Some of them have a very low impact or a very low probability of occurring or both. Through the prioritization process, the team determines which risks it will take action on.

2.2 Plan

Risk management plans should be developed for each of the above the line prioritized risks so that proactive action can take place. These actions are documented in the Action column of the Risk Table . Following are some examples of the kinds of risk planning actions that can take place:

- Contingency plans. A contingency plan is a plan that describes what to do if certain risks materialize. By planning ahead with such a plan, you are prepared and have a strategy in place do deal with the issue.
- Risk reduction. For example, if the team is concerned that the use of a new programming language may cause a schedule delay, the budget might contain a line item entitled potential schedule to cover a potential schedule slip. Because the budget already covers the potential slip, the financial risk to the organization is reduced. Alternately, the team can plan to employ inspections to reduce the risk of quality problems.
- Risk acceptance. Sometimes the organization consciously chooses to live with the consequences of the risk and the result of the potential loss. In this case, no action is planned.

2.3 Mitigate

Related to risk planning, through risk mitigation, the team develops strategies to reduce the possibility or the loss impact of a risk. Risk mitigation produces a situation in which the risk items are eliminated or otherwise resolved. Some examples of risk mitigation strategies follow:

- Risk avoidance. When a lose-lose strategy i.,e the team can opt to eliminate the risk An example of a risk avoidance strategy is the team opting not to develop a product or a particularly risky feature.
- Risk protection. The organization can buy insurance to cover any financial loss should the risk become a reality. Alternately, a team can employ fault-tolerance strategies, such as parallel processors, to provide reliability insurance.

3 Mitigation Plan

Risk Mitigation Planning of developing options and actions to enhance opportunities and reduce threats to project objectives.Risk mitigation implementation is the process of executing risk mitigation actions.Risk mitigation progress monitoring includes tracking identified risks,identifying new risks and evaluating risk process effectiveness throughout the project..

- Characterize the root causes of risks that have been identified and quantified in earlier phases of the risk management process.
- Evaluate risk interactions and common causes.
- Identify alternative mitigation strategies, methods, and tools for each major risk.
- Assess and prioritize mitigation alternatives.
- Select and commit the resources required for specific risk mitigation alternatives.
- Communicate planning results to all project participants for implementation.

4 Contingency Plan

Contingency plan is a course of action designed to help an organisation respond effectively to a significant future event or situation that may or may not happen.

- People are often poorly motivated to develop a strong Plan B, because they have so much of an emotional investment in the Plan A that they want to deliver. Stress that Plan B needs to be properly thought-through.
- Theres often a low probability of a crisis occurring, so people often dont see contingency planning as an urgent activity. Unfortunately, this can mean that it gets stuck at the bottom of their To Do Lists as a task that never gets done.

4.1 contingency plan maintenance process:

- Communicate the plan to everyone in the team.
- Inform people of their roles and responsibilities related to the plan.
- Provide necessary training for people to fulfill these roles and responsibilities.
- Distribute revised plans throughout the company, and make sure that the old plan is discarded.

5 Risk Plan Table

NO.	Risk	Impact	Mitigation Plan	Contingency Plan
01	If we find some requirement which is to be changed i.e., (add or remove)	It would be time consuming so deadline may be violated	Do proper requirement analysis and be up to date	Make modules independent and keep hard and soft dead line for changes and work overtime to meet customers' requirements.
02	Team member(s) is/are not available for project due to some health issues or unavoidable circumstances.	Deadline of project tasks may be extended	Proper hygienic atmosphere, food and water should be available.	If team member(s) is/are not available, then other members will have to do extra work.
03	Internet is not available	Some tasks will remain	All tasks having depending on internet for their functionality should be done with higher priority	Purchase of internet with our own money to finish tasks.
04	Database system crashes	Loss of data	Backup in Dropbox, Github and Offline(Hard-disk)	Start with full fledge andrecreate it
05	Insufficient Time	Work dependencies will be there and efficient work will not be done	Give each member multi tasks and use multimedia communication like whatsapp	Do overtime
06	CASE tools' current version is unstable or it's support is pulled out	Project implementation part will be affected	First research the internet or use help from other people to find out the stable version of that tool or go for the best alternative	If this doesn't workout rework it