Risk Management

**Risk Identification**

In our project the first important and key step that we are going to take to analyse the risks involved with our project is by understanding the important aspects of the project , business needs and by analysing the skill sets each one of our group member possesses and comparing it with the skills required to complete the project. Understanding the scope of possible risks will help us in developing realistic, cost-effective strategies for dealing with them.

Second most important step that we will be undertaking for understanding the risks and its impact is by categorising the risks found into 5 top categories categories such as

**a. Risks related to the Schedule of the project : -** Such risks generally arise due to improper planning and mainly affect the project timeline and sometimes often lead to project failure.

**b. Operational Risks : -** Risks of loss due to improper process implementation, failed system or some external events that may affect the project.

**c. Technical risks : -** Such risks are associated technical aspects such no proper knowledge in using the libraries, software or programming language associated with the project along with some other technical associated risks which leads to failure of functionality and performance.

**d. General risk : -** Risk that arises occasionally throughout the project such as internal conflict between the group members , workload on individual member and so on which might or might not have and high impact on the project delivery.

**e. Specification Breakdown and Requirements Inflation :**  Along the timeline of development of the project , as it progresses some new features or requirements tends to emerge or sometimes there is a conflict related to contradicting requirement thus causing the disturbance in timeline of the project

Even after implementing the above two steps there’s a chance of leaving out few minor or major risks, to get near to addressing most of the risks it is necessary to review the entire project once again along with all the risk identified and asking questions to oneself related to project and analysing the solutions to the questions whether or not they are efficient in solving the issue or is that any other problem that emerges out as a result of the solution.

**Risk Management :**

Most of the risks can be prevented from emerging if we plan the project in a way that involves it implementation and processing such that all the members of the group along with the client are satisfied. One of the best way to do so is by S.M.A.R.T planning.

S 🡪 Specific : Clear about what is to be achieved

M 🡪 Measurable : Possible to measure the results when achieved

A 🡪 Achievable : Setting up achievable targets

R 🡪 Realistic : Attainable with available resources

T 🡪 Timed : Planning as per the time available to develop the project.

Later we are going to analysed the risk based on it impact to the project and will measure the scale based on probability of occurrence along with scale with severity and priority of the risk, that will help us to figure out how likely a risk is about to emerge during the project development and how severe the problem is when seen from project success point of view.

Depending on the risk assessment done we will take up risk avoiding strategy to ensure the quality work and timely delivery of the project to client. One of the Risk management strategy that we will be undertaking is Risk Avoiding: we will not proceed with the activities that is more likely to cause problems instead we will come up with the alternatives to achieve the specified task. This may involve changing in the methods or some execution processes for the projects, we will with the clients permission will modify our plans in such a way that it will not result in any additional risk. Along with this we will also try to reduce the risk issues emerging by following strategies like timed audit , data backup , group members training and so on.

**Initial list of risks :**

Some of the risks that has been identified and grouped as per our group members after understanding the business need and project grouped as per the categories mentioned are as follows :

**Key :**

Low – Unlikely to occur or affect the project

Medium – The chances of occurrence and impact is 50-50%

High – Risks that are very likely to occur

**1) Schedule Risks**

|  |  |  |  |
| --- | --- | --- | --- |
| **Risk** | **Probability** | **Severity** | **Strategy** |
| Size of the product is big than what was estimated | Medium | High | Proper and practical planning to be deviced such that no task turns out to be more complicated that what expected.  Proper Allocation of time to the tasks of varying complexity |
| Number of changes before project completion is more impacting the release date | High | High | Reviewing the Requirement the client on regular interval.  Getting the feedback and changes for individual module during the development phase.  Involving the client throughout the development cycle |
| Number of changes after project completion is more causing code conflicts | Low | Medium | Following the requirement specification as finely as much possible.  Involving client during the development phase will involve less or no changes after completion of the whole project or specific individual module |
| Resources allotted are not in order. | Low | Medium | Marinating a timeline along with the proper use of resources used by each of the module |
| Schedule is unrealistic. | Medium | High | Maintaining the Schedule / timeline designed for the project such that sufficient time is allocated to the modules / tasks of varying complexity |
| Schedule plan omits some of the necessary tasks | Medium | High | Reviewing the timeline of the project with the requirement to fill up the timeline with any missed information |
| Effort is more than expectations | High | High | Allocating the modules based on the skills of the individual. |
| Tight schedule of the members results in delay or poor productivity | High | Medium | Allocating the modules based on the schedule of the individuals for other courses |
| Exiting of a team member | Low | High | Division of the work allocated to the exiting member among the rest of the members equally |

**2) Operational Risks**

|  |  |  |  |
| --- | --- | --- | --- |
| **Risk** | **Probability** | **Severity** | **Strategy** |
| Unavailability of online tutorials and documentation regarding available resources. | Low | Medium | Selecting the best known technology for implementing the project idea.  Select the technology that others can help with when stuck at certain point |
| Lack of Knowledge about the technologies used | Medium | Medium | Providing necessary online documentation , tutorials and necessary training to the team member.  Helping each other during problems |
| Unavailability of the resources | Low | Medium | Allocating resources and selecting the resources as per their availability and complexity to use.  Finding alternative to the unavailable resource |
| Security Flaws in the developed system | Medium | Medium | Following standards and guidelines with regards to application and application security |
| Members have difficulty in understanding each other’s code | High | Medium | Following certain guidelines , and having common ground rules for coding, language used.  Making mandatory among all the coders the use of comments. |

**3) Technical risks and General risks**

|  |  |  |  |
| --- | --- | --- | --- |
| **Risk** | **Probability** | **Severity** | **Strategy** |
| Use of new technology | Medium | High | Providing necessary skills and traing for the technology being used to all the members if possible  Or providing them with enough resources for self learning regarding the technology used |
| Compatibility of the backend and other resources with each other | Low | High | Select appropriate backend database so that the system developed is not only compatible but also efficient |
| Development of something new , i.e neither of the group members have built something similar in past | Medium | Medium | Helping each other with the codes when stuck or when help needed |
| Requirements putting constrains to the project | Low | Low | Reviewing the requirements , fining it and making a efficient copy of the requirement which doesn’t have any contractions within (with approval of the supervisior) |
| Functionality asked for is unrealistic | Low | Low | Explaining the customer / client about the unrealistic functionality  Seeking knowledge to confirm upon its unrealistic stage before discarding it or making an alternative |
| Lack of skills | Medium | Medium | Allocating tasks among group members as per their skill set.  Helping Each other out when required.  Reviewing the work done by each other or swapping of work if necessary |
| Corruption of files and data loss | High | High | Keeping regular backup of all the files |
| No proper Understanding of the requirements between the group members | Medium | High | Having meeting at regular intervals , thus clearing the requirements among all. |
| Communication gap between the members | Medium | Medium | Setting up an platform for sharing of all the tasks, posting problems , to communicate and to give feedback on each other’s work |

**4) Specification Breakdown and Requirements Inflation :**

|  |  |  |  |
| --- | --- | --- | --- |
| Risk | Probability | Severity | Strategy |
| Alignment mismatch between Requirements and Strategy used | Medium | Medium | Confirming to the strategy being used , reviewing it and setting up realistic targets |
| Ambiguous Requirements | High | High | Asking the client / customer more questions on a requirement if its unclear or in case of any doubts regarding it. |
| Low Quality Requirements | Medium | Medium | Setting up requirement to match the purpose along with following individual platform’s standards and guidelines |
| Incomplete Requirements | High | High | Using stages of client review over the requirements  Developing a prototype and demonstrating it to the client  Framing questions as per the accepted requirements.  Making use of use cases, scenarios , and other documents that will reflect the project and getting it reviewed by the client |
| Requirements keep changing during the project development phase | High | High | Creating a dependency matrix of requirements and thus marking other requirements that changes because of particular requirement change.  Involving client at regular stage in the development phase. |