**Experiment No.3**

**Aim:** To carry out the **Risk Analysis** of Text Editor (Desktop Application).

**General Description:**

Risk is usually defined as the chance of exposure to the adverse consequences of future events. Risk Analysis is considered to be the first and foremost step in risk management, which concerns itself with addressing and mitigating the identified risks through appropriate measures.

Risk analysis identifies risks and assesses them on the basis of the following parameters:

* Probability of occurrence
* Severity of impact

A proper mitigation plan is essential to prevent the realization of risks from causing derailment of the development of the software project. Constant monitoring of the evolving nature of risks is essential for projects involving dynamic updation of modules.

The risk analysis of our software project shall focus on the following salient topics:

1**. Risk Identification**

Identifying the risks detailing the probable consequences should the risk be realized.

2. **Risk Assessment**

Estimating the probability of the risk occurring and determining the impact on the project. Most projects will record risks in a register or log – this activity helps prioritize defining key risks and maintain an action list.

3. **Risk Mitigation**

Developing and executing mitigation plans to help reduce occurrence and impact whilst developing contingency plans should the risk be realized.

4. **Risk Monitoring**

Reviewing the changes to the impact of the risk borne out of the mitigation strategy and considering changes to the mitigation plan as required.

**1. Risk Identification:**

The following risks are associated with our software project- Text Editor(Desktop application).

* **Technical Risks**
  + Maintenance of huge amount of software code.

The functionalities in the editor(File,Edit,Format functions etc) would yield great amount of code .Future modification of code would require making changes in code documents in different formats which may eventually require lot of effort in debugging.

* + Improper integration of different project modules.

The presence of different modules presents the risk of integration challenges.Accurate level of coupling of modules while maintaining data security is essential for the proper functioning of this software application.

* **Project Risks**
* Failure to correctly allocate responsibilities among team members.

This risk might arise when division of work among team members does not play to their strengths or when disproportional amount of work is assigned to a single team member. This could lead to improper development of different parts of the software project.

* Failure to resolve priority conflicts.

Different modules of varying complexity are parts of this software project. The ease of development of certain modules may force the developers to assign more time and effort to them when other modules may have to be completed sooner than them.(Example:Syntax detection is done before module aimed at creating a file.)

* **Business Risks**
* Other competitive text-editors.

The functionalities in a text editor are subject to change and varies from editor to editor. Constant competition will require frequent updation of the software to stay in the market.

**2. Risk Assessment:**

Probability of occurrence of a risk, i.e. its translation into a problem, must be assigned one of the following values based on the degree of the realization of the risk:

* High
* Medium
* Low

Severity of impact of the problem, should the risk be realized, must be assigned one of the following values based on the degree of the realization of the risk:

* Catastrophic
* Critical
* Marginal
* Negligible
* **Technical Risks**

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| --- | --- | --- | --- |
| **Serial No.** | **Risk** | **Probability of Occurrence** | **Severity of Impact** |
| 1 | Maintenance of huge amount of software code. | Medium | Critical |
| 2 | Improper integration of different project modules. | Medium | Critical |

* **Project Risks**

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| --- | --- | --- | --- |
| **Serial No.** | **Risk** | **Probability of Occurrence** | **Severity of Impact** |
| 1 | Failure to correctly allocate responsibilities among team members. | Low | Critical |
| 2 | Failure to resolve priority conflicts. | Medium | Critical |

* **Business Risks**

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| --- | --- | --- | --- |
| **Serial No.** | **Risk** | **Probability of Occurrence** | **Severity of Impact** |
| 1 | Other competitive text-editors. | Medium | Critical |

**3. Risk Mitigation:**

* **Technical Risks**

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| --- | --- | --- |
| **Serial No.** | **Risk** | **Mitigation Measures** |
| 1 | Maintenance of huge amount of software code. | * Proper commenting and annotation practices to document the intended functionality of discrete pieces of software code. |
| 2 | Improper integration of different project modules. | * Implementing a sequential flow of control from one module to the next. |

* **Project Risks**

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| --- | --- | --- |
| **Serial No.** | **Risk** | **Mitigation Measures** |
|  |  |  |
| 1 | Failure to correctly allocate responsibilities among team members. | * Equitable division of project development work among the team members. * Shifting of certain job roles to the other team member in case a team member is inundated with increased amount of work. |
| 2 | Failure to resolve priority conflicts. | * Prioritizing development of different functionalities at the start of project development on the basis of the time constraints associated with each of them. |

* **Business Risks**

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| **Serial No.** | **Risk** | **Mitigation Measures** |
| 1 | Other competitive text-editors. | * Updating the code regularly to provide advanced facilities. |

**4. Risk Monitoring:**

* **Technical Risks**

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| **Serial No.** | **Risk** | **Monitoring Measures** |
| 1 | Maintenance of huge amount of software code. | * Reviewing the existence of proper documentation for every section of code as and when development of new modules are completed. |
| 2 | Improper integration of different project modules. | * Performing trial runs on the completed versions of the software to test the consistency of coupling of different modules and the degree of data security achieved. |

* **Project Risks**

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| --- | --- | --- |
| **Serial No.** | **Risk** | **Monitoring Measures** |
| 1 | Inability to complete the project on time. | * Conducting weekly team meetings to chart out the current progress made in the software development life cycle and map out the remaining course of work. |
| 1 | Failure to correctly allocate responsibilities among team members. | * Direct communication between team members in case of disparate division of responsibilities to effectively redraw division of work in a more equitable manner. |
| 2 | Failure to resolve priority conflicts. | * Monitoring of strict adherence to the prioritization of work done at the start of project development. |

* **Business Risks**

|  |  |  |
| --- | --- | --- |
| **Serial No.** | **Risk** | **Monitoring Measures** |
| 1 | Other competitive text-editors. | * Continuous monitoring of changes required and implementing them at the earliest |

**Conclusion:**

The risks associated with the software project of Text Editor were analyzed and sufficient measures to tackle the problems arising from the realization of these risks were also considered in elaborate detail.