SE

Assignment-2

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1) What is risk? Explain types of risk?

Ans - **Risk** is uncertain events associated with future events which have probability of occurrence but it may or may not occur and if occurs it brings loss to the project.

- Types of Risk

1. **Schedule Risk**: This risks refers to time related risks or project delivery related planning risks.
The wrong schedule affects the project development and delivery.
It indicates to running behind time as as a result it affects the delivery.

- Reasons
  - ↳ Time is not estimated perfectly
  - ↳ Improper resource allocation
  - ↳ Tracking of resources like system, skill, staff, etc
  - ↳ Frequent project scope expansion
  - ↳ Failure in function indentification and it's completion.

2. **Budget Risk**: It refers to the monetary risks mainly ~~to~~ it occurs due to budget overruns.
If finances are mismanaged the there may be rise to budget risks.

- Reasons
  - ↳ Wrong/Improper budget estimation
  - ↳ Unexpected project scope expansion
  - ↳ Mismangement in budget handling
  - ↳ cost overruns.
  - ↳ Improper tracking of budget.

3. Operational Risks: This risks happen in day-to-day operational activities during project development due to improper process implementation or some external operational risks.

- Reasons
  - ↳ Insufficient resources
  - ↳ Conflict between tasks and employees
  - ↳ Improper management of tasks
  - ↳ Insufficient training
  - ↳ lack of communication and cooperation

4. Technical Risks: This are mainly associated with functionality of product or performance part of the software product.

- Reasons
  - ↳ Frequent changes in requirement
  - ↳ less number of skilled employee
  - ↳ Improper integration of modules
  - ↳ High complexity in implementation
  - ↳ less use of future technologies

5. Programmatic Risks: These are the external risks which are unavoidable in nature. These risks come from outside and it is out of control of programs.

- Reasons
  - ↳ Rapid development of market
  - ↳ changes in Government ~~suet~~ rules/policy
  - ↳ Loss of contracts due to any reason.

2) Explain Proactive and Reactive approach for risk management.

Ans - Proactive and Reactive are two types of risk analysis & management.

- Proactive Risk Management :
  - ↳ Formal risk analysis is performed.
  - ↳ begins long before technical work is initiated
  - ↳ Potential risks are identified, their probability and impact are assessed and they are ranked by importance.
  - ↳ Organization corrects the root causes of risk.
  - ↳ examining risk sources that lie beyond the bounds of the software
  - ↳ developing the skill to manage change

- **Reactive Risk Management :**

↳ Project team reacts to risks when they occur

↳ mitigation - the team flies into action in an attempt to correct the problem rapidly. This is often called a fire-fighting mode.

↳ fix on failure - resource are found and applied when the risk.

↳ Crisis management - failure does not respond to applied resources and project is in danger.

3b Explain Risk Management.

Ans - Risk analysis and management are actions that help a software team to understand and manage uncertainty.

- A Risk is potential problem, it might happen and it might not.

- **Two characteristics of Risk.**

1) **Uncertainty** :- The risk may or may not happen that is there are not 100% risks

2) **loss** :- The risk become a reality and unwanted consequences or loss occur.

- Three conceptual base concerns for risks :

  - Future
  - Change
  - Choice

- Types of Risks

  - Project risks
  - Product risks
  - Business risks.

- Seven Principles of Risk Management.

1) Maintain a global perpective :-
view software risks within the context of system and the business problem.

2) Take a forward-looking view :-
think about the risks that ~~we~~ may arise in the future; establish possibility plans.

3) Encourage open communication :-
if someone states a potential risk, don't discount it.

4) Integrate :-
a consideration of risk must be integrated into the software process.

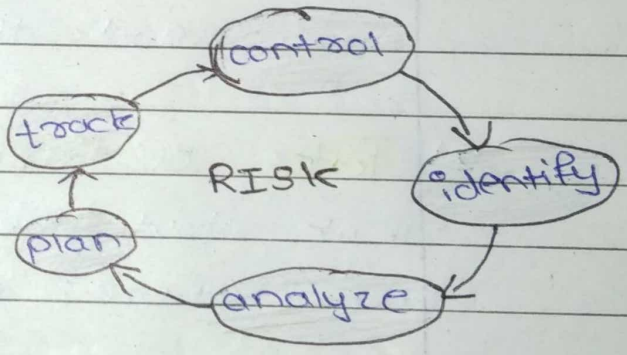
5) **Emphasize a continuous Process** :-
the team must be alert throughout the software process, modifying identified risks as more information is known and adding new ones as better insight is achieved.

6) **Develop a shared product vision** :-
if all stakeholders share the same vision of the software, it likely that better risk identification and assessment will occur.

7) **Encourage teamwork** :-
the talents, skills and knowledge of all stakeholder should be pooled.

- **Risk Management Paradigm**

- Risk Identification
- Risk Projection
- Risk Refinement
- Risk Mitigation



4) Explain Risk Mitigation, Monitoring.
- It is also called as RMMM Plan where Risk Mitigation, Monitoring and Management.

- But as we are talking about only RMM, we'll see that in detail.

- **Risk Mitigation :**

- To mitigate this risk you would develop a strategy for reducing turnover. Among the possible steps to be taken are :-

↳ Meet with current staff to determine causes for turnover.

↳ Mitigate those causes that are under your control before the projects starts.

↳ Organize project teams so that info. about each development activity is widely dispersed.

↳ Assign a backup staff member for every critical technologist.

- **Risk Monitoring :**

- The project Manager monitor factors that may provide an indication of whether the risk becoming more or less likely.

- Objectives :

↳ to assess whether predicted risks do in fact, occur

↳ to ensure that risk dislike steps defined for the risk are being properly applied.

↳ to collect information that can be used for future risk analysis.

5) Why Project Scheduling is required.

Ans - It involves seperating the total work involved in a project into separate activities and juding the time required.

- Two views:

↳ End date for release has been established for a project & organization is responsible for distribution of effort within fixed time frame

↳ Rough chronological wounds are discussed & end date is set by organization.

- Scheduling Principles

↳ compartmentalization :- divide project into distinct tasks.

↳ Interdependency :- indicate task interrelationship

↳ Time allocation :- each task is assigned some work unit i.e. effort by person in days.

↳ Effort Validation :- be sure resources are available

↳ Defined Responsibilities :- people must be assigned

↳ Defined outcomes :- each task must have an output

↳ Defined milestones :- review for quality

- Tools & Techniques

1. PERT (Program Evaluation and Review Technique)

2. CPM (Critical Path Method)

- They use data & information from earlier developments.

- They allow to determine:
  ↳ critical path
  ↳ duration of projects and time estimate for individual activity
  ↳ efforts taken
  ↳ calculate "boundary times".