# Creating a PERT Chart for the E-Learning Platform

To enhance understanding of project management techniques by creating a PERT chart for an E-Learning Platform's development process based on the provided Software Requirements Specification (SRS) document.

**Instructions**

1. Understand the Project Requirements:

- - Review the SRS document for the E-Learning Platform.
- - Identify the main phases and milestones of the project:

    - Requirements Analysis
    - Design
    - Development
    - Testing
    - Implementation
    - Monitoring

2. Define Activities:

    - Requirements Analysis: Gather user needs, identify system features.
    - Design: Create wireframes, draft use case diagrams.
    - Development: Implement backend and frontend systems, integrate APIs.
    - Testing: Conduct functional, integration, and performance testing.
    - Implementation: Deploy platform, train users.
    - Monitoring: Collect feedback, refine system.

3. Estimate Time Durations:

    - For each activity, assign estimated durations in three categories:

        - Optimistic Time (O)
        - Most Likely Time (M)
        - Pessimistic Time (P)

Calculate the Expected Time (TE) using the formula:

$$TE = (O + 4M + P) / 6$$

4. Identify Dependencies:

- Determine task dependencies for accurate sequencing:

    - Design depends on the completion of Requirements Analysis.
    - Development depends on the completion of Design.

5. 5. Draw the PERT Chart:

    - Create a network diagram representing tasks as nodes and dependencies as arrows.
    - Highlight the Critical Path, which determines the total project duration.

6. 6. Present Your Work:

Submit the following:

- A detailed list of activities with durations and dependencies based on your findings.
- The PERT chart, either drawn digitally or on paper.

A brief analysis of the Critical Path and its significance in the project timeline.

**Critical Path and Activities Table**

Below is a template for you to fill in based on your findings from the SRS document:

| Activity | Description | Optimistic (O) | Most Likely (M) | Pessimistic (P) | Expected Time (TE) |
|---|---|---|---|---|---|
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**Tasks**

1. Probability Calculation:

- Variance Formula: Variance = $(P - O)^2 / 36$
- Standard Deviation: $\sqrt{}$(Sum of Variances)
- Z-Score Formula: Z = (Target Time − Expected Time) / Standard Deviation

2. Resource Management:

- Human Resources: Assign roles for each phase, create a backup plan for resource unavailability.
- Material Resources: List required hardware/software tools, ensure licenses and subscriptions are available.
- Time Management: Create a Gantt chart to track progress.

3. Risk Management:

- - Identify Risks:
    - Technical Risks: Delays in integrating third-party APIs or payment gateways.
    - Operational Risks: Resource unavailability during critical phases.
    - Schedule Risks: Unforeseen delays in development or testing.
- - Analyze Risks: Assign probability and impact ratings.
- - Mitigation Plan: Implement contingency plans, schedule buffer time, and monitor progress.