VANIER CÉGEP/COLLEGE Vanier College Continuing Education

03 Project Planning

System Development

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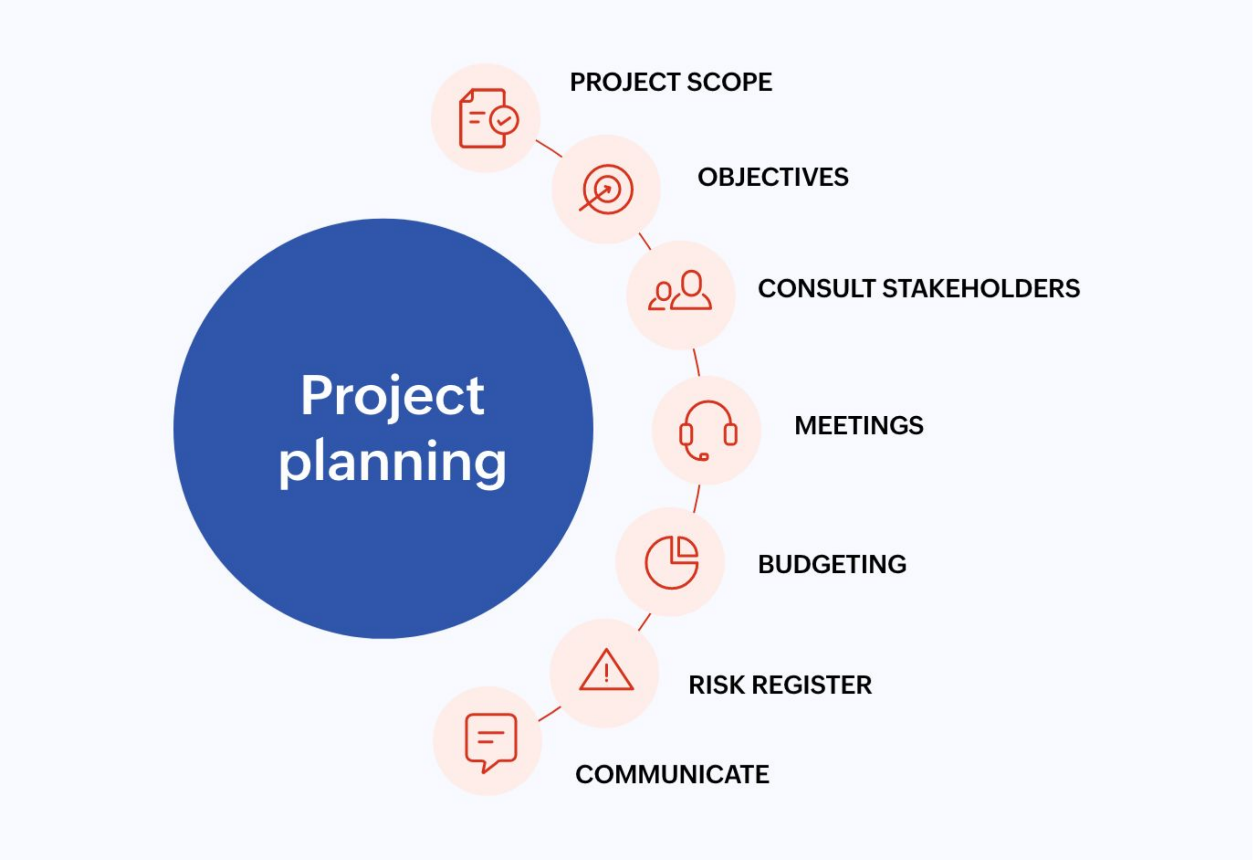


Content

- **Introduction to Planning Phase**

Introduction to Planning Phase

- **Definition:**
  - Initial phase where project goals, scope, and feasibility are defined.
  - Foundation for project management and decision-making.
- **Objectives:**
  - Establish a clear project vision.
  - Define resources, budget, and timeline.
  - Identify risks and mitigation strategies.

What is the Planning Phase?

- The **Planning phase** is the initial and foundational stage of the Software Development Life Cycle (SDLC).
- It involves defining the project's goals, scope, timeline, and resource needs.
- This phase sets the direction for the project, ensuring all stakeholders are aligned on the objectives and deliverables.
- Successful planning minimizes risks, manages resources efficiently, and avoids scope creep.

Importance of the Planning Phase

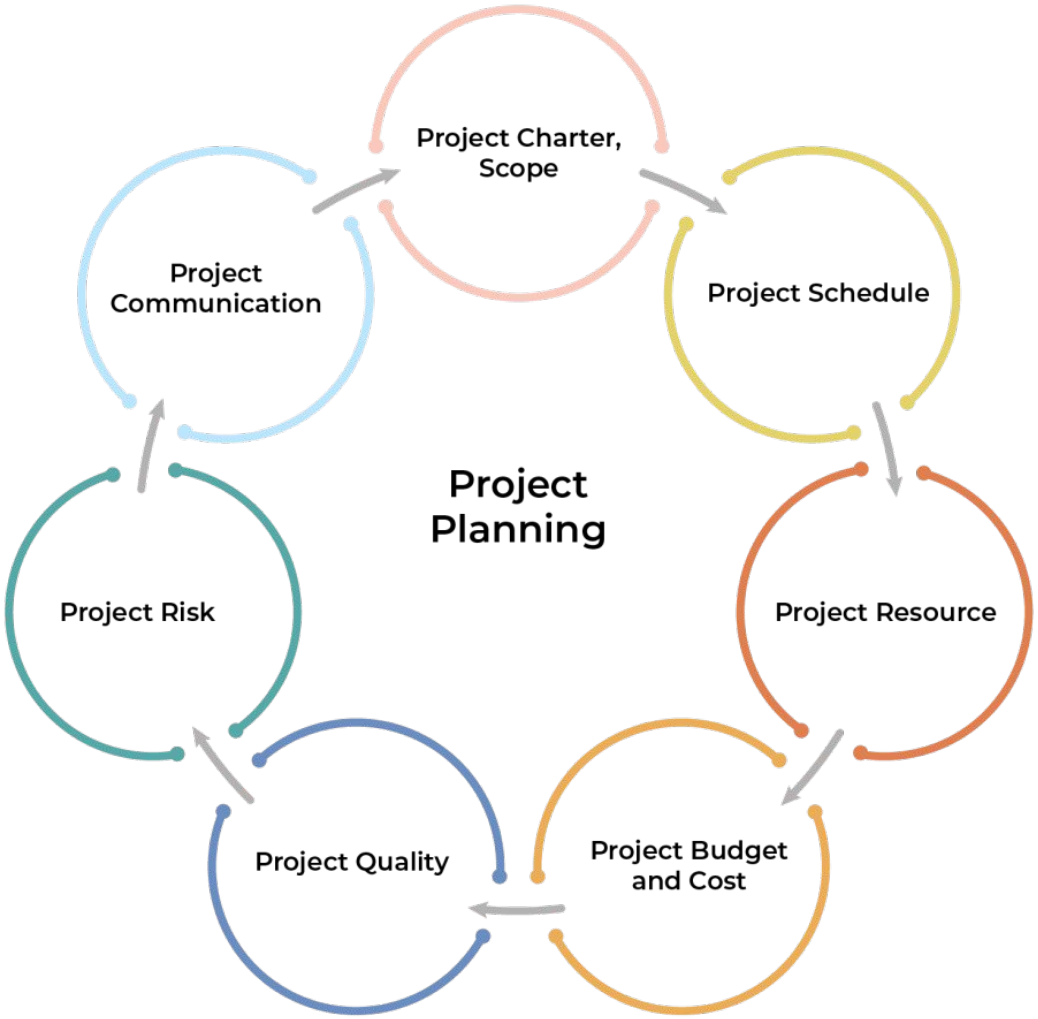
- **Foundation for Success**: Planning is crucial for setting the project up for success.
- **Alignment of Goals**: Ensures that the project aligns with the business needs and stakeholder expectations.
- **Risk Mitigation**: Identifies potential risks early and creates mitigation strategies.
- **Resource Allocation**: Ensures optimal use of human, financial, and material resources.
- **Project Monitoring**: Establishes a baseline for tracking progress and controlling deviations during execution.

Key Objectives of the Planning Phase

- **Define Scope and Deliverables**: What will the project deliver? What is out of scope?
- **Identify Stakeholders**: Who are the key players, and what are their roles?
- **Estimate Budget and Timeframe**: How much will it cost, and how long will it take?
- **Perform Risk Assessment**: Identify, analyze, and plan for potential risks.
- **Outline Communication Strategy**: How will information be shared among stakeholders?

Key Deliverables of the Planning Phase

- **Project Charter:** Authorizes the project and provides a high-level overview.
- **Feasibility Study:** Determines if the project is viable in terms of technology, resources, and budget.
- **Project Plan:** Contains the detailed:
  - scope
  - schedule
  - timeline
  - risk management strategies
  - resource allocation


Project Charter, Scope
Project Schedule
Project Resource
Project Budget and Cost
Project Quality
Project Risk
Project Communication
Project Planning

Key Takeaways:

- The Planning phase is about **clarity, alignment, and preparation**.
- Proper planning avoids costly mistakes during development and ensures smoother execution.
- Every project’s success hinges on the robustness of its planning phase.

Content

- Introduction to Planning Phase
- **Project Initiation and Creating a Project Charter**

Introduction to Project Initiation

- **Project Initiation**: The first official phase of a project where it is formally authorized.
- **Purpose**: To define the project at a broad level, secure necessary approvals, and communicate the goals to all stakeholders.

Project Initiation: **Key Activities**

- Developing the Project Charter.
  - Identifying Stakeholders.
  - Establishing Project Boundaries.
  - Identifying High level Risks
  - Defining High level Success Criteria
  - Allocating Initial Resources.

Project Initiation: **Outcome**

Outcome:

- **Project Charter** approved.
- Initial project team and roles designated.
- Project officially moves from concept to planning phase.

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Creating a Project Charter

- A **Project Charter** is a document that formally authorizes a project or a phase.
- It provides a preliminary delineation of roles and responsibilities, outlines the objectives, identifies the main stakeholders, and defines the authority of the project manager.

Tools and Software for Creating Project Charters:

- Microsoft Word or Google Docs for document creation.
- Lucidchart or Microsoft Visio for diagramming requirements and scope.
- Project Management Software like Microsoft Project or Asana for outlining milestones and schedules.

Creating a Project Charter with Example

Let’s create an example of a **Project Charter** for a **Student Grading System Software** project, which would be used by a university to manage and automate their grading processes. This project involves the development of a comprehensive system that integrates with existing student information systems to provide a seamless experience for faculty and administrative staff.

Components of a Project Charter:

1. Project Purpose or Justification
2. Measurable Project Objectives and Related Success Criteria
3. High-Level Requirements
4. High-Level Project Description, Boundaries, and Scope
5. Risks
6. Summary Milestone Schedule
7. Financial Resources
8. Key Stakeholder List
9. Project Approval Requirements
10. Project Manager
11. Sponsor Authorization

Components of a Project Charter

1) **Project Purpose:**

- **What to Include**: Explain why the project is necessary, tying it back to business goals, market demands, legal requirements, or technological advancements.
- **Note**: Be specific about the problem the project solves or the opportunity it capitalizes on. Link it directly to strategic goals of the organization to underline its importance.

Project Purpose:

This project addresses the need for an efficient, error-free grading process at the university. The current manual system is time-consuming and prone to errors, affecting the timeliness and accuracy of report card generation and student performance analysis

Components of a Project Charter

2) Measurable Project Objectives and Related Success Criteria

- **What to Include**: Define clear, measurable objectives that the project aims to achieve. Include quantifiable metrics or goals.
- **Tips**: Use SMART criteria (Specific, Measurable, Achievable, Relevant, Time-bound) to set objectives. Define what success looks like for each objective to help in future evaluations.

Project Objectives and Related Success Criteria:

The objective is to develop and deploy a student grading system by the end of the academic year that reduces the grading processing time by 50% and decreases report errors by 90%.

Components of a Project Charter

3) High-Level Requirements

- **What to Include**: List the essential requirements needed to meet the project's objectives. These can be technical specifications, resource needs, or legal and regulatory requirements.
- **Tips**: Prioritize the requirements and ensure they are aligned with the stakeholders' expectations. Keep them flexible enough for refinements during the planning phase.

High Level Requirements:

The software must:

- *Integrate with the existing university student information system.*
- *Support secure access for faculty and administrative staff.*
- *Allow for both manual and bulk grade entry.*
- *Generate various reports (grade reports, performance analyses, etc.).*

Components of a Project Charter

4) High-Level Project Description, Boundaries, and Scope

- **What to Include**: Describe what the project will and will not cover (scope and boundaries). Include the key deliverables.
- **Tips**: Clearly defining what is in and out of scope can prevent scope creep. Ensure all stakeholders agree on these boundaries.

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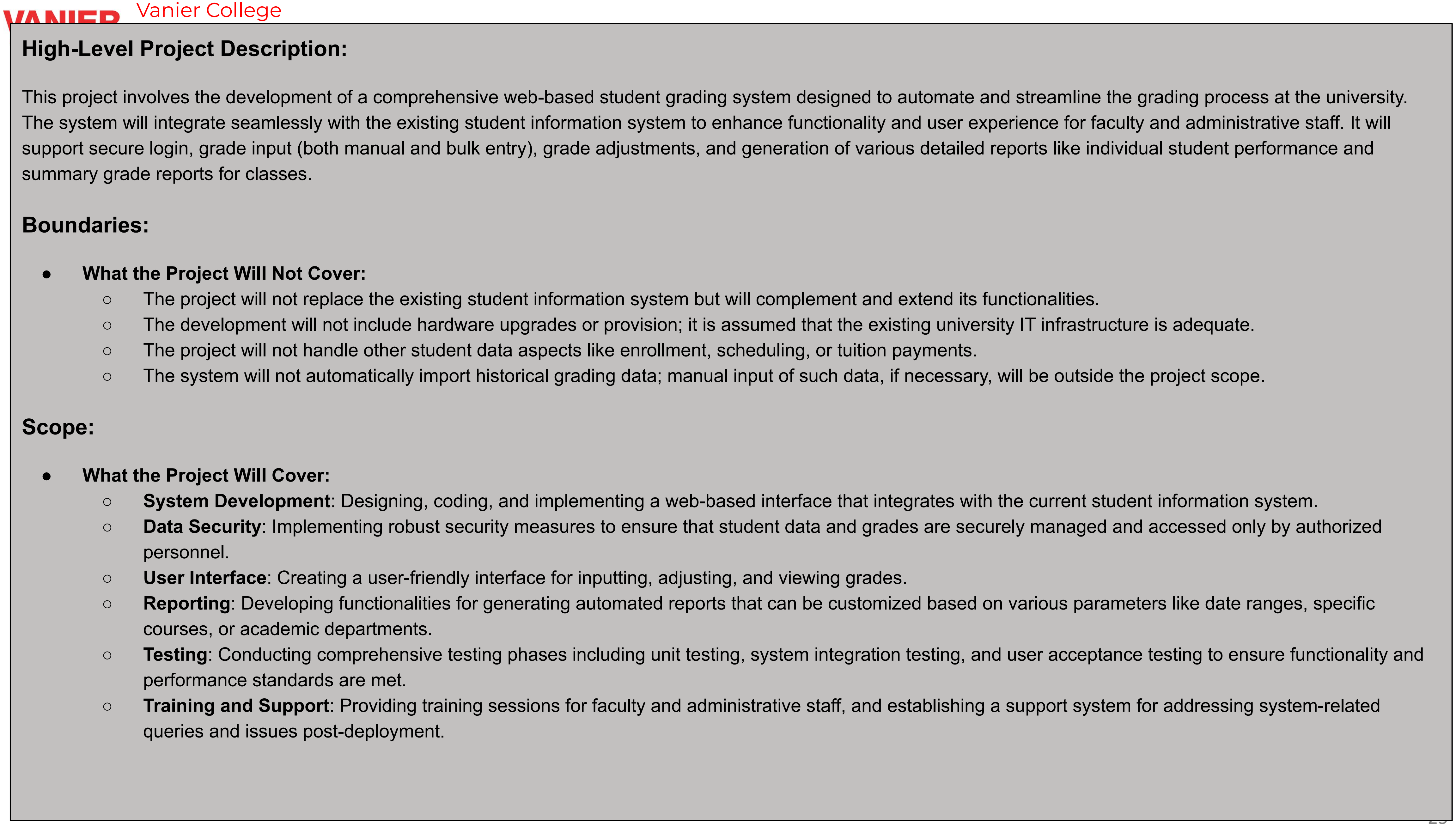


High-Level Project Description:

This project involves the development of a comprehensive web-based student grading system designed to automate and streamline the grading process at the university. The system will integrate seamlessly with the existing student information system to enhance functionality and user experience for faculty and administrative staff. It will support secure login, grade input (both manual and bulk entry), grade adjustments, and generation of various detailed reports like individual student performance and summary grade reports for classes.

Boundaries:

- **What the Project Will Not Cover:**
  - The project will not replace the existing student information system but will complement and extend its functionalities.
  - The development will not include hardware upgrades or provision; it is assumed that the existing university IT infrastructure is adequate.
  - The project will not handle other student data aspects like enrollment, scheduling, or tuition payments.
  - The system will not automatically import historical grading data; manual input of such data, if necessary, will be outside the project scope.

Scope:

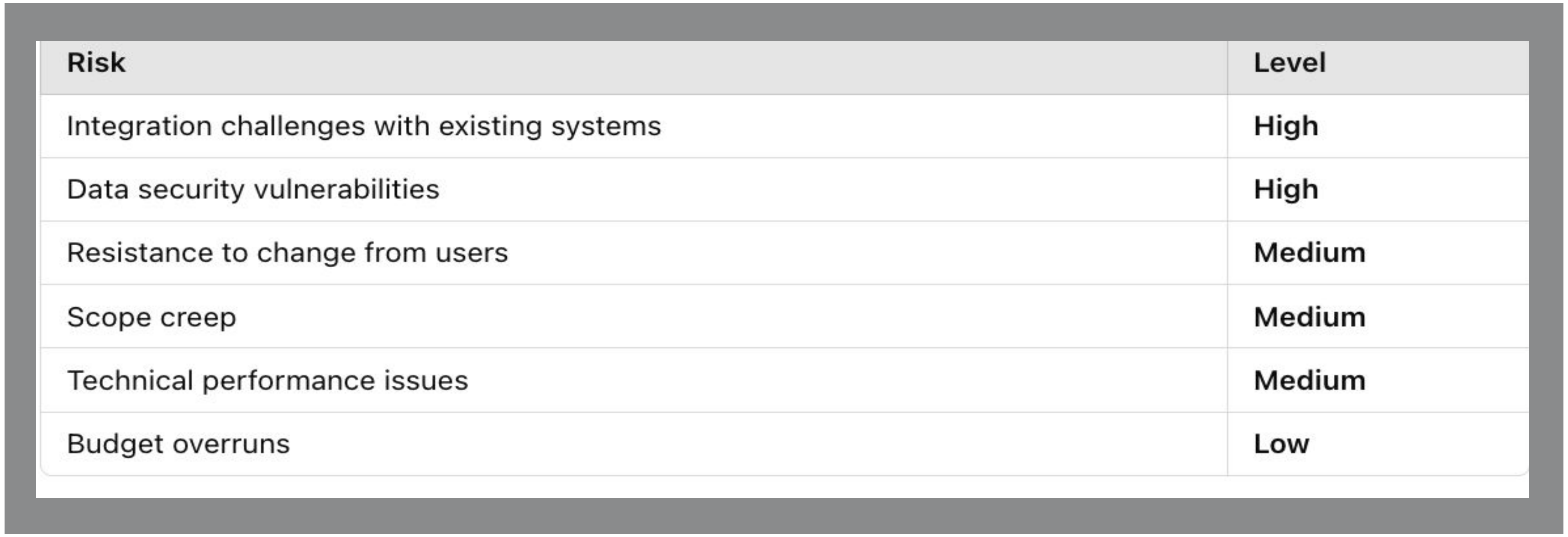
- **What the Project Will Cover:**
  - **System Development**: Designing, coding, and implementing a web-based interface that integrates with the current student information system.
  - **Data Security**: Implementing robust security measures to ensure that student data and grades are securely managed and accessed only by authorized personnel.
  - **User Interface**: Creating a user-friendly interface for inputting, adjusting, and viewing grades.
  - **Reporting**: Developing functionalities for generating automated reports that can be customized based on various parameters like date ranges, specific courses, or academic departments.
  - **Testing**: Conducting comprehensive testing phases including unit testing, system integration testing, and user acceptance testing to ensure functionality and performance standards are met.
  - **Training and Support**: Providing training sessions for faculty and administrative staff, and establishing a support system for addressing system-related queries and issues post-deployment.

Components of a Project Charter

5) Risks

- **What to Include**: Identify potential risks that could impact the project's success.
- **Tips**: Consider risks related to technology, resources, timelines, and external factors. Rate the risk as High, Medium or Low

Example:



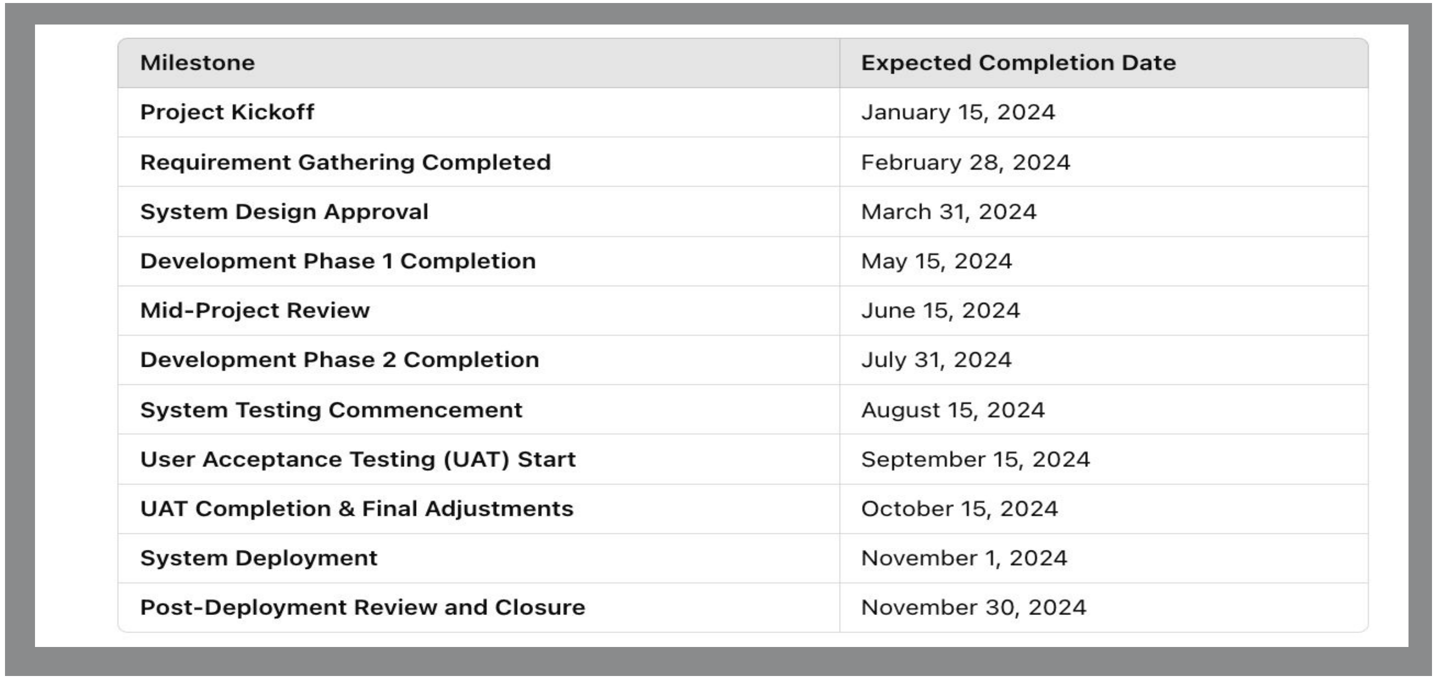
Risk	Level
Integration challenges with existing systems	**High**
Data security vulnerabilities	**High**
Resistance to change from users	**Medium**
Scope creep	**Medium**
Technical performance issues	**Medium**
Budget overruns	**Low**

Components of a Project Charter

6) summary of Milestones/ Tentative Timeline

- **What to Include**: Outline the major milestones of the project along with their expected completion dates.
- **Tips**: Milestones should mark significant phases or events in the project. Ensure they are realistic and reflect critical dependencies.

Example:



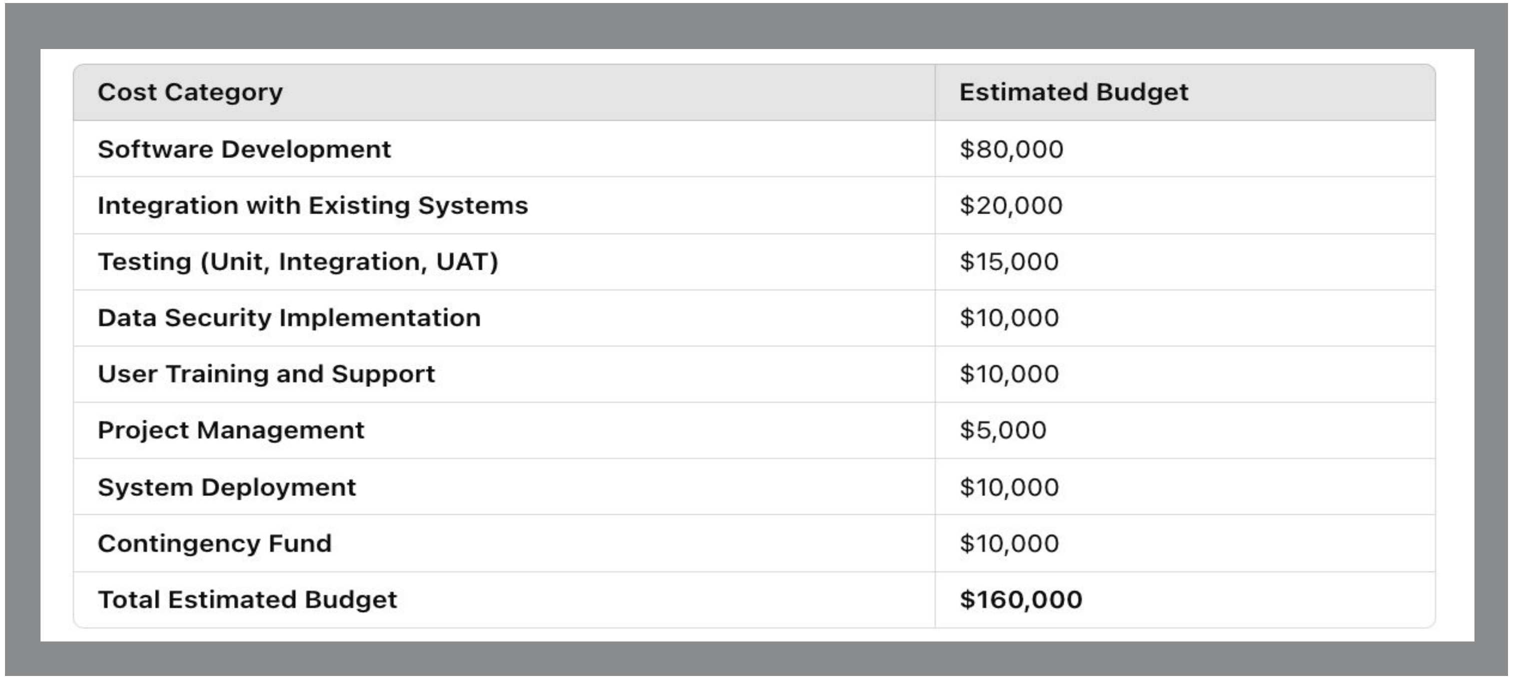
Milestone	Expected Completion Date
Project Kickoff	January 15, 2024
Requirement Gathering Completed	February 28, 2024
System Design Approval	March 31, 2024
Development Phase 1 Completion	May 15, 2024
Mid-Project Review	June 15, 2024
Development Phase 2 Completion	July 31, 2024
System Testing Commencement	August 15, 2024
User Acceptance Testing (UAT) Start	September 15, 2024
UAT Completion & Final Adjustments	October 15, 2024
System Deployment	November 1, 2024
Post-Deployment Review and Closure	November 30, 2024

Components of a Project Charter

7) Financial Resources

- **What to Include**: Document the budget allocated for the project, including funding sources and major cost elements.
- **Tips**: Ensure the budget is detailed and covers all aspects of the project. Highlight any financial constraints or prerequisites.

Example:



Cost Category	Estimated Budget
Software Development	$80,000
Integration with Existing Systems	$20,000
Testing (Unit, Integration, UAT)	$15,000
Data Security Implementation	$10,000
User Training and Support	$10,000
Project Management	$5,000
System Deployment	$10,000
Contingency Fund	$10,000
Total Estimated Budget	**$160,000**

Stakeholders

Stakeholders are individuals, groups, or organizations that have an interest or influence in the project's success or outcome.

1. Steps to Identify Stakeholders:

- **1. Analyze Project Scope and Objectives**:
  - Who will be impacted by the project's deliverables?
  - Example: For a student grading system, think about faculty, students, IT staff, and administrators.
- **2. Engage with Key Decision Makers**:
  - Meet with the project sponsor, senior management, or clients to understand who they expect to be involved.
- **3. Review Organizational Structure**:
  - Look at departments, teams, and external parties (vendors, regulatory bodies) that might be affected by the project.
- **4. Conduct Interviews or Workshops**:
  - Hold discussions with people knowledgeable about the project to identify key roles and individuals.
- **5. Examine Similar Past Projects**:
  - Look at stakeholders from previous, similar projects for insight on who should be involved.

2. Key Stakeholder Categories:

- **Internal**: Project team, employees, management.
- **External**: Clients, users, vendors, regulators.

Components of a Project Charter

8) Stakeholder List

- **What to Include**: List all major stakeholders, including sponsors, customers, and end-users, with their roles and levels of interest.
- **Tips**: Understanding stakeholder perspectives can guide many project decisions. Regularly update and engage stakeholders to manage their expectations.

Key Stakeholder List

- Stakeholders include:
  - University IT Department (project sponsor)
  - Faculty (end-users)
  - Students (indirect beneficiaries)
  - Administrative staff

Components of a Project Charter

9) Project Approval Requirements

- **What to Include**: Define what needs to be met for the project to be considered successful. Include who has the authority to sign off on these success metrics.
- **Tips**: These requirements should be clearly measurable and agreed upon by all key stakeholders to avoid disputes at project close.

Example:

Project Approval Requirements

Success will be evaluated based on system performance criteria (as per the objectives) and user satisfaction rates in a post-deployment survey.

Components of a Project Charter

10) Project Manager

- **What to Include**: Name the project manager and outline their responsibilities and the extent of their authority.
- **Tips**: The project manager’s authority level should be sufficient to make critical decisions that affect the project's course.

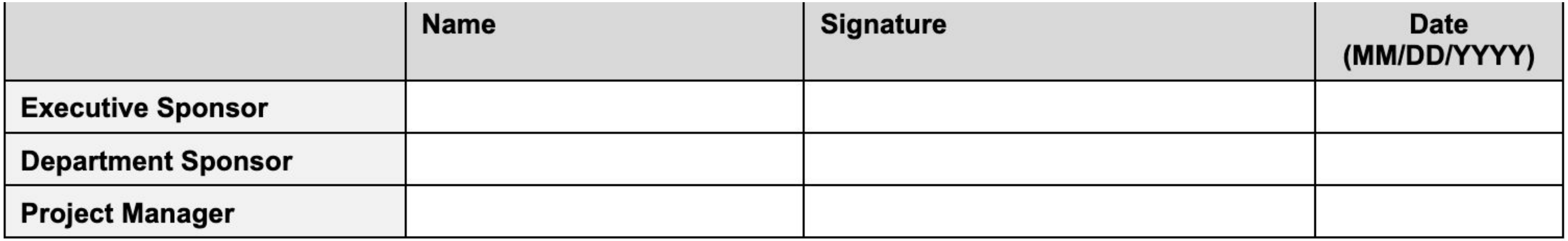
Project Manager:

Jay Patel [Email]

Components of a Project Charter

11) Sponsor Authorization

- **What to Include**: Obtain formal approval from the project's sponsor, including their signature.
- **Tips**: The sponsor's authorization signifies official support and commitment to the project from a higher level of management.



	Name	**Signature**	**Date (MM/DD/YYYY)**
Executive Sponsor			
Department Sponsor			
Project Manager			

Content

- **Introduction to Planning Phase**
- **Project Initiation and the Project Charter**
- **Feasibility Study**

What is feasibility study ?

A **feasibility study** is an evaluation of a project's potential to succeed, assessing its technical, operational, and financial viability before moving forward with development.

Why is a Feasibility Study Important?

- **Reduces Risk**: A feasibility study helps in identifying potential risks and challenges early in the project.
- **Saves Time and Money**: Ensures that the project is worth pursuing before investing significant time and resources.
- **Informed Decision-Making**: Provides valuable insights into whether the project is practical, viable, and aligned with business goals.
- **Stakeholder Confidence**: A thorough study ensures stakeholder confidence and sets realistic expectations for project outcomes.

Key Takeaways:

- Conducting feasibility studies prevents project failure by identifying issues upfront.
- Helps determine whether the project is achievable with available resources and technology.

Types of Feasibility Studies

1. Technical Feasibility:

- **Focus**: Can the technology and infrastructure support the project?
- **Key Considerations**: Required software, hardware, technical skills, and integration with existing systems.
- **Example**: For the student grading system, can the university's current IT infrastructure support the new system?

2. Operational Feasibility:

- **Focus**: Will the project work within the existing operations?
- **Key Considerations**: Alignment with the current processes, stakeholder buy-in, and ease of use for the endusers.
- **Example**: Will faculty and administrative staff adopt and effectively use the new system?

3. Financial Feasibility:

- **Focus**: Is the project financially viable?
- **Key Considerations**: Cost estimates, funding sources, and expected return on investment (ROI).
- **Example**: Will the cost of developing and maintaining the grading system be justifiable compared to its benefits?

Creating a Feasibility Study Document

Key Content in this Report:

1. Executive Summary
2. Technical Analysis
3. Operational Analysis
4. Financial Analysis
5. Risk Assessment
6. Recommendation
7. Conclusion

Refer to Example Feasibility Study Document Template

Performing and Documenting a Feasibility Study

Steps to Perform a Feasibility Study:

- **1. Gather Information**: Identify project goals, constraints, and resource requirements.
- **2. Analyze Options**: Evaluate different technical solutions, operational models, and financial plans.
- **3. Risk Assessment**: Identify potential risks and their mitigation strategies.
- **4. Make Recommendations**: Decide if the project is feasible or suggest alternatives.

Documenting Feasibility Study Results:

- **Executive Summary**: Summarize key findings.
- **Technical Analysis**: Outline the technology and infrastructure needed.
- **Operational Analysis**: Explain how the project fits within current operations.
- **Financial Analysis**: Present detailed cost estimates and financial viability.
- **Recommendations**: Provide clear guidance on whether to proceed with the project.

In Which Phase Is the Feasibility Study Conducted?

The feasibility study is performed during the **Project Planning Phase**, usually after the initial project concept is approved but before detailed planning and execution begin. This phase ensures that the project is viable and worth pursuing before committing extensive resources to its development.

Content

- **Introduction to Planning Phase**
- **Project Initiation and the Project Charter**
- **Feasibility Study**
- **Scope Management**

What is Project Scope?

Definition:

- The project scope outlines all the work required to deliver a project, including its boundaries (inclusions and exclusions).

Inclusions:

- Define the deliverables and features the project will provide.
- Example: In the student grading system, inclusions might be grade entry, report generation, and system integration.

Exclusions:

- What is **not** part of the project.
- Example: Excluding features like managing student schedules or handling enrollment data in the grading system project.

Understanding Scope Creep and Its Impact

- **What is Scope Creep?**
  - **Definition**: Scope creep refers to uncontrolled changes or additions to the project's scope after it begins.
- **Causes of Scope Creep**:
  - Poorly defined scope from the beginning.
  - Continuous client requests for additional features.
  - Lack of proper change control processes.
- **Impact on Projects**:
  - **Time Delays**: Adding new requirements can delay project completion.
  - **Cost Overruns**: Expanding the project scope without adjusting the budget can lead to overspending.
  - **Quality Issues**: Introducing new features may dilute focus on core deliverables, affecting quality.

Project Scope Statement

The Project Scope Statement clearly defines the following:

- Project Objectives
- Deliverables
- Boundaries (Inclusions and Exclusions)
- Assumptions
- Constraints
- Acceptance Criteria
- Key Milestones

Project Scope Statement

1. Objectives:

- Clearly define the **purpose** of the project.
- Example: “To develop a student grading system to automate and improve grading efficiency.”

2. Deliverables:

- List the **tangible outputs** of the project.
- Example: “A web-based platform for grade entry, report generation, and secure data management.”

3. Assumptions:

- Identify the **factors assumed to be true** for planning purposes.
- Example: “The university will provide all necessary hardware and software infrastructure.”

4. Constraints:

- Highlight **limitations** such as budget, timeline, or technical resources.
- Example: “The system must be completed within six months and operate on the current IT infrastructure.”

Project Scope Statement: Case Study

Refer to Sample project Scope Statement for Student Grading System Software

Content

- **Introduction to Planning Phase**
- **Project Initiation and the Project Charter**
- **Feasibility Study**
- **Scope Management**
- **Risk Management**

Introduction to Risk Management

Risk Management is the process of identifying, analyzing, and responding to risks that could affect the outcome of a project.

Focus on minimizing negative impacts and maximizing opportunities.

- **Objective**:
  - Protect the project from potential disruptions.
  - Ensure the project stays on track in terms of scope, budget, and time.

Approach to Risk Management

- Risk Identification
- Risk Assessment
- Risk Response Strategies
- Risk Communication

Risk Identification

The stage where We identify possible risks in project.

How ?

1. Brainstorming Sessions:
   - Hold collaborative sessions with the project team and stakeholders to generate a list of potential risks.
2. Expert Consultation:
   - Consult with subject matter experts to gain insights into potential technical, operational, and financial risks.
3. Historical Data Review:
   - Analyze previous similar projects to identify risks that may recur in this project.
4. Risk Checklists:
   - Use predefined checklists tailored to software development to ensure no common risks are overlooked.
5. Stakeholder Interviews:
   - Conduct interviews with key stakeholders to gather additional perspectives on risks related to the project's scope and objectives.

Tools: MS Excel, Jira Risk Module

Risk Identification: Types of Risks in Projects

1 **Technical Risks**:

   - Issues with technology, software bugs, integration problems.
   - Example: In the Student Grading System, the system might fail to integrate with the university’s existing IT system.

2. **Operational Risks**:
   - Challenges related to processes or team inefficiencies.
   - Example: Delays in user training, which affects adoption of the grading system.
3. **Financial Risks**:
   - Budget overruns, unexpected costs.
   - Example: Higher costs for system testing than originally planned.
4. **External Risks**:
   - Factors outside the organization’s control like regulatory changes, market conditions, or supplier issues.
   - Example: New government data protection regulations might affect how student data is handled.

Risk Assessment

The step where we assess each risk from created list of risks.

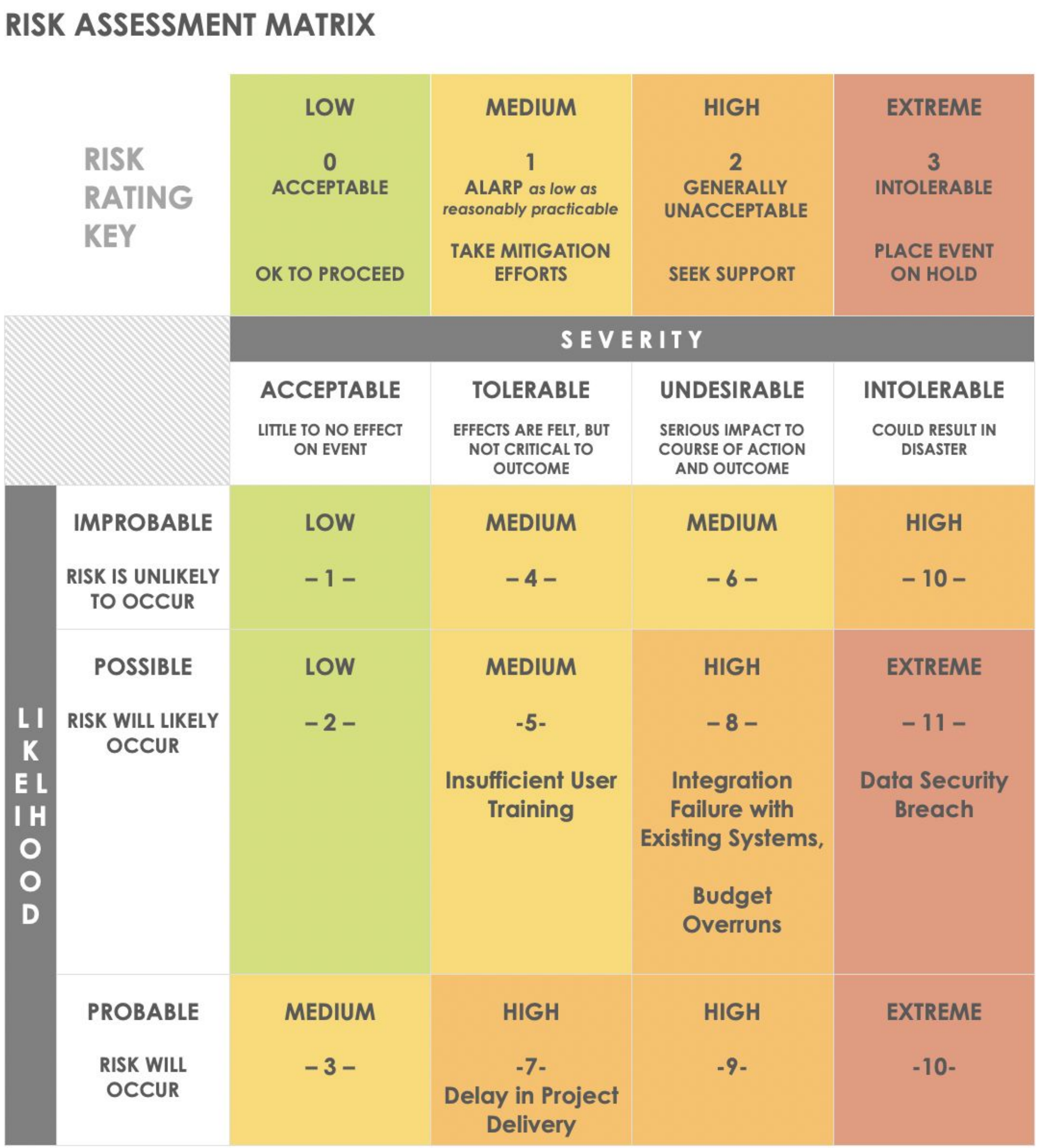
1. **Risk Identification**:
   - Collect the list of identified risks from the risk identification process.
2. **Likelihood Assessment**:
   - Evaluate how likely it is that each risk will occur (Low, Medium, High).
3. **Impact Assessment**:
   - Analyze the potential consequences or impact of the risk on the project (Low, Medium, High).
4. **Risk Matrix**:
   - Combine likelihood and impact using a **Risk Matrix** to categorize risks (Low, Medium, High, Critical).
5. **Risk Prioritization**:
   - Use the risk matrix to prioritize which risks need immediate attention based on their composite score.

Tools:

- Risk Matrix, MS Excel, Jira Risk Module

Risk Assessment Matrix

Risk Assessment Matrix is often used in project management to visualize the level of risk by combining the likelihood of occurrences with the severity of their impact.



RISK ASSESSMENT MATRIX

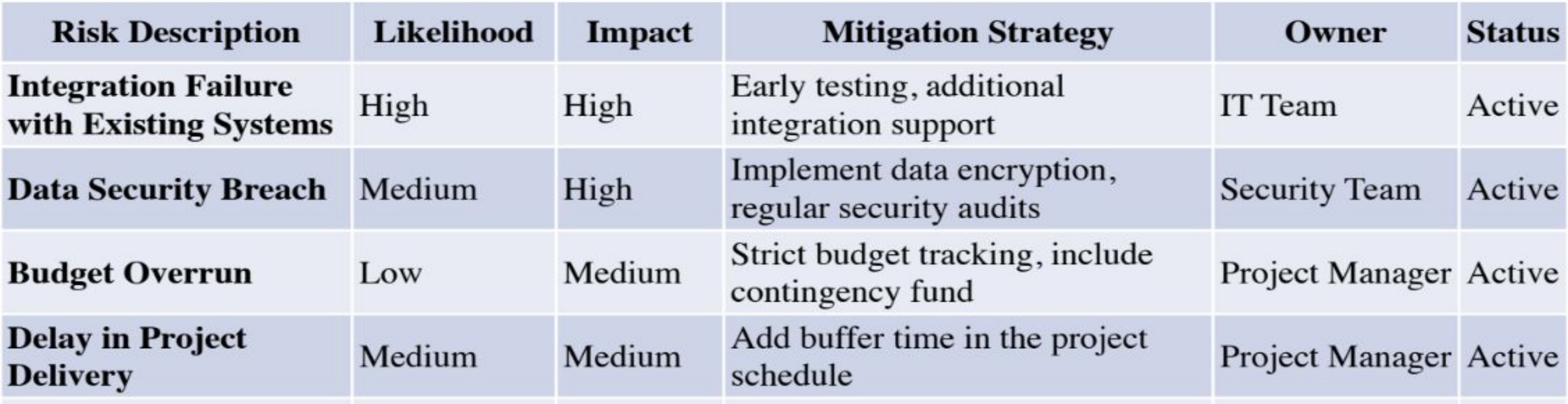
	RISK RATING KEY	LOW 0 ACCEPTABLE OK TO PROCEED	MEDIUM 1 ALARP *as low as reasonably practicable* TAKE MITIGATION EFFORTS	HIGH 2 GENERALLY UNACCEPTABLE SEEK SUPPORT	EXTREME 3 INTOLERABLE PLACE EVENT ON HOLD
		SEVERITY			
		ACCEPTABLE LITTLE TO NO EFFECT ON EVENT	TOLERABLE EFFECTS ARE FELT, BUT NOT CRITICAL TO OUTCOME	UNDESIRABLE SERIOUS IMPACT TO COURSE OF ACTION AND OUTCOME	INTOLERABLE COULD RESULT IN DISASTER
LIKELIHOOD	IMPROBABLE RISK IS UNLIKELY TO OCCUR	LOW – 1 –	MEDIUM – 4 –	MEDIUM – 6 –	HIGH – 10 –
	POSSIBLE RISK WILL LIKELY OCCUR	LOW – 2 –	MEDIUM -5- Insufficient User Training	HIGH – 8 – Integration Failure with Existing Systems, Budget Overruns	EXTREME – 11 – Data Security Breach
	PROBABLE RISK WILL OCCUR	MEDIUM – 3 –	HIGH -7- Delay in Project Delivery	HIGH -9-	EXTREME -10-

Risk Response: Strategies

1. **Mitigation**:
   a. Develop strategies to reduce the likelihood or impact of the risk. Example: Increasing testing for integration risks.
2. **Avoidance**:
   a. Change the project plan to eliminate the risk. Example: Selecting more reliable software to avoid technical failures.
3. **Transfer**:
   a. Shift the responsibility for the risk to a third party. Example: Outsourcing data migration to an expert vendor.
4. **Acceptance**:
   a. Acknowledge the risk and take no action, used for low-priority risks. Example: Accepting minor delays that have low impact.

Risk Response: Risk Register

A **Risk Register** is a table/ template that tracks all identified risks in a project, including their likelihood, impact, and mitigation strategies. It helps project teams monitor and manage risks throughout the project lifecycle, ensuring that risks are addressed proactively.



Risk Description	Likelihood	Impact	Mitigation Strategy	Owner	Status
Integration Failure with Existing Systems	High	High	Early testing, additional integration support	IT Team	Active
Data Security Breach	Medium	High	Implement data encryption, regular security audits	Security Team	Active
Budget Overrun	Low	Medium	Strict budget tracking, include contingency fund	Project Manager	Active
Delay in Project Delivery	Medium	Medium	Add buffer time in the project schedule	Project Manager	Active

Risk Communication

Steps for risk Communication

Content:

1. **Identify Communication Channels**:
   - ○ Decide how risks will be communicated. Example: Weekly meetings, email updates, and project dashboards.
2. **Establish Communication Frequency**:
   - ○ Set regular intervals for risk reporting. Example: Weekly risk updates during project status meetings and monthly reports for stakeholders.
3. **Assign Roles and Responsibilities**:
   - ○ Define who is responsible for communicating risk updates. Example: The project manager is responsible for communicating to the project sponsor and stakeholders.
4. **Document Communication**:
   - ○ Ensure all risk communication is recorded in the risk register or project documentation for future reference.

Tools:

- Slack/Teams for real-time updates, Jira for tracking, MS Excel for reporting

Risk Management Document: Case Study

Refer to Sample Risk Management Document for Student Grading System Software

Content

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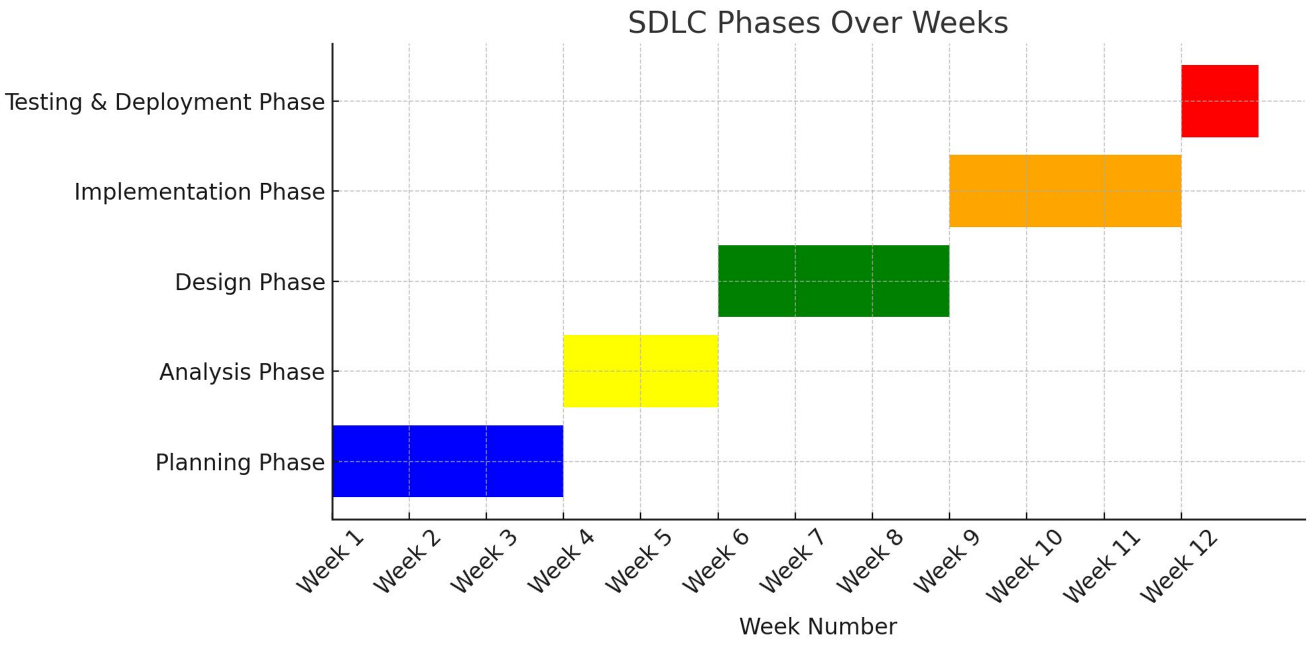
- **Scope Management**
- **Gantt Chart**

What is Gantt Chart ?

- A Gantt chart is a visual representation of a project’s schedule, showing tasks, timelines, dependencies, and progress over time.
- Gantt charts help in tracking project progress, setting task deadlines, and understanding the dependencies between different tasks.



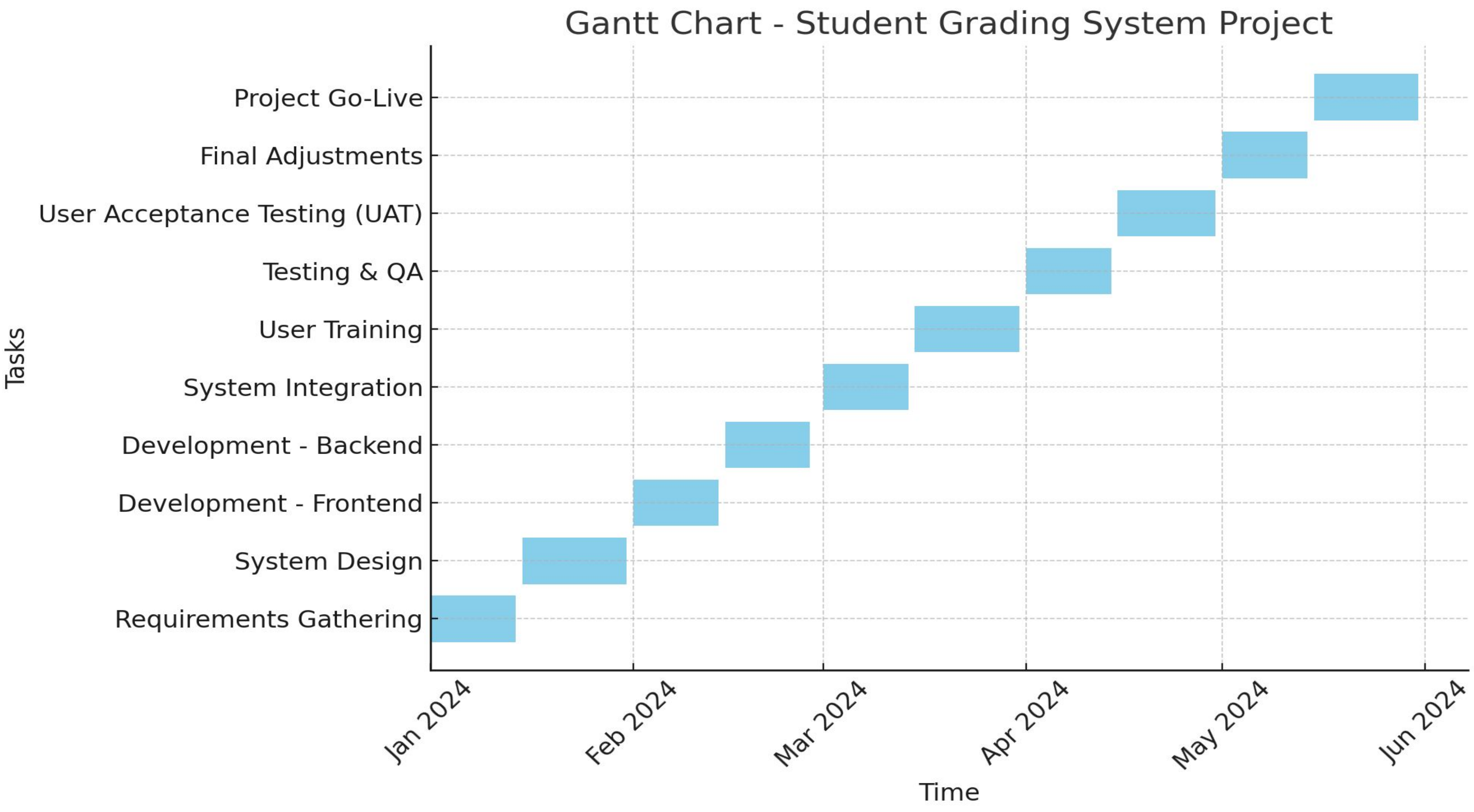
Representing Tasks, Timelines, and Dependencies

How to Represent Tasks, Timelines, and Dependencies in a Gantt Chart ?

1. **Tasks**: Break the project into smaller tasks or work packages that need to be completed.
2. **Timelines**: Each task is assigned a start date and an expected end date, which is represented as a horizontal bar across the timeline.
3. **Dependencies**: Some tasks depend on the completion of others. These dependencies are shown with arrows connecting related tasks.
   - Example: Task B (Development) cannot start until Task A (Design) is completed.

Tools for Gantt Chart:

- **MS Excel/ Google Sheets**
- **MS Project**: A comprehensive project management tool for creating and tracking Gantt charts with detailed task management features.
- **GanttPRO**: An online tool designed specifically for Gantt chart creation with easy collaboration features.
- **Monday.com**: A flexible project management tool that includes Gantt chart views for tracking project timelines and task dependencies


Gantt Chart - Student Grading System Project
Tasks
Project Go-Live
Final Adjustments
User Acceptance Testing (UAT)
Testing & QA
User Training
System Integration
Development - Backend
Development - Frontend
System Design
Requirements Gathering
Jan 2024
Feb 2024
Mar 2024
Apr 2024
May 2024
Jun 2024
Time

Interactive Task: Create a Gantt Chart

- **Task**: Use **MS Project/ MS Excel** to create a Gantt chart for a mock project. The project should include at least 5 tasks with start/end dates, dependencies, and one milestone.
- **Goal**: Understand how to create and adjust timelines, visualize task dependencies, and monitor project progress.

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- **Gantt Chart**
- **PESTLE and SWOT Analysis**

Understanding PESTLE and SWOT

PESTLE: A tool used to analyze the external macro-environmental factors that can impact a project.

SWOT: A framework used to analyze the internal strengths and weaknesses, and external opportunities and threats related to a project.

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PESTLE Analysis Overview

- **Political**: How government policies, regulations, and political stability affect the project.
- **Economic**: Factors like inflation, interest rates, and economic growth impacting the project.
- **Social**: Cultural trends, demographics, and consumer behaviors relevant to the project.
- **Technological**: Technological advancements, automation, and innovation that influence the project.
- **Legal**: Laws, regulations, and compliance standards.
- **Environmental**: Environmental concerns, sustainability, and ecological impact.

Example of PESTLE Analysis for a Student Grading System

- **Political**: Government regulations on data privacy (e.g., FERPA).
- **Economic**: Budget constraints within educational institutions.
- **Social**: Demands for more inclusive and accessible educational tools.
- **Technological**: Integration with existing educational platforms and emerging technologies.
- **Legal**: Compliance with educational and privacy laws.
- **Environmental**: Cloud-based solutions reduce physical infrastructure needs.

What is SWOT Analysis?

- **Strengths**: Internal attributes that provide an advantage for the project.
- **Weaknesses**: Internal limitations or areas for improvement.
- **Opportunities**: External factors that the project can capitalize on.
- **Threats**: External risks that could negatively affect the project.

Example of SWOT Analysis for a Student Grading System

- **Strengths**: Automation of grading processes, improved accuracy.
- **Weaknesses**: Potential resistance from staff unfamiliar with new technology.
- **Opportunities**: Growing demand for digital solutions in education.
- **Threats**: Competition from established software vendors, data security concerns.

Content

- **Introduction to Planning Phase**
- **Project Initiation and the Project Charter**
- **Feasibility Study**
- **Scope Management**
- **Gantt Chart**
- **PESTLE and SWOT Analysis**
- **Resource Plan (Homework: Explore templates and content for this document)**

References

- Azal University. (2020). *Software Development Life Cycle* [PDF file]. Retrieved from https://www.auhd.edu.ye/upfiles/elibrary/Azal2020-01-22-12-35-12-90529.pdf
- Lean Software by Mary Poppendiek DevOps Handbook Mythical Man Month
- First Image on Project Planning from: https://www.linkedin.com/pulse/10-essential-project-planning-templates-pmptemp/
- Understanding Templates and the formats, from https://www.linkedin.com/pulse/10-ess
- ential-project-planning-templates-pmptemp/
- https://ucube.biz/management/project-planning-templates

Thank You!