**ID:**CB24153 **NAME**: Hendianto Mohammad Farid

|  |  |
| --- | --- |
| **TOPIC** | **CHAPTER 2: PROJECT PLANNING** |
| **TIME** | 7 days |
| **MARK** | 50 |
| **INSTRUCTION** | 1. This work should be done individually. 2. Submit your answers on Kalam into the correct directory of your section. 3. Save as **pdf** file and set name your file as “**ID\_SECTION#\_ASGN4.pdf**”   **e.g CB20001\_1A\_ASGN4.pdf** |
| **TASK** | **TASK INSTRUCTIONS**  Based on your system/apps project, perform the following tasks:   1. Go to <https://www.youtube.com/watch?v=dPK0afWdm50> and watch the video. Then, draw a hierarchical Work Breakdown Structure (WBS) for your project up to Level 4. (**Serious Note:** The WBS must be relevant to your project, and you can use any suitable tool.) The attached Example 1 is a general WBS for a software project. 2. Go to <https://www.youtube.com/watch?v=Pn-C11LxSjs> and watch the video. Then, convert your Work Breakdown Structure (completed in Task #1) to an Excel format using Smartsheet.com. (**Serious Note:** The WBS must be relevant to your project, and you can only use Smartsheet.com for this task.) |

Example 1: General WBS (Up to Level 3) for software project.

|  |  |  |  |
| --- | --- | --- | --- |
| **WBS Level** | **Task ID** | **Task Name** | **Description** |
| 1 | 1.0 | **Initiation** | Start and define the project. |
| 2 | 1.1 | Project Charter | Define project objectives, scope, and deliverables. |
| 2 | 1.2 | Stakeholder Identification | Identify stakeholders and determine their needs. |
| 2 | 1.3 | Feasibility Study | Analyze technical and financial feasibility of the project. |
| 2 | 1.4 | High-Level Requirements Gathering | Gather and document initial requirements. |
| 2 | 1.5 | Approval and Sign-Off | Obtain project approval from stakeholders. |
| 1 | 2.0 | **Planning** | Plan tasks and resources for project execution. |
| 2 | 2.1 | Requirements Gathering | Conduct detailed interviews, surveys, and document requirements. |
| 2 | 2.2 | Requirement Analysis | Prioritize and validate requirements. |
| 2 | 2.3 | Risk Assessment | Identify potential risks and develop mitigation strategies. |
| 2 | 2.4 | Project Schedule | Define project timelines and milestones. |
| 2 | 2.5 | Resource Planning | Assign resources, including team members and budget. |
| 2 | 2.6 | Communication Plan | Develop a communication plan for project updates. |
| 2 | 2.7 | Approval of Project Plan | Obtain approval for the project plan from stakeholders. |
| 1 | 3.0 | **Execution** | Develop, build, and implement the software solution. |
| 2 | 3.1 | System Design | Create system architecture, database design, and UI design. |
| 3 | 3.1.1 | Architecture Design | Design high-level and low-level system architecture. |
| 3 | 3.1.2 | Database Design | Define data structures and schema. |
| 3 | 3.1.3 | UI/UX Design | Develop wireframes, prototypes, and style guidelines. |
| 2 | 3.2 | Development | Code and build individual modules and components. |
| 3 | 3.2.1 | Module Development | Develop modules according to specifications. |
| 3 | 3.2.2 | Code Review | Review code for quality and standards. |
| 2 | 3.3 | Integration | Integrate and assemble modules into the complete system. |
| 2 | 3.4 | Testing | Conduct various levels of testing. |
| 3 | 3.4.1 | Unit Testing | Test individual modules and components. |
| 3 | 3.4.2 | Integration Testing | Test integration between modules. |
| 3 | 3.4.3 | System Testing | Test the entire system for end-to-end functionality. |
| 3 | 3.4.4 | User Acceptance Testing (UAT) | Validate the system with end-users. |
| 1 | 4.0 | **Monitoring & Control** | Ensure the project remains on track and within scope. |
| 2 | 4.1 | Scope Management | Monitor changes in project requirements and scope. |
| 2 | 4.2 | Schedule Tracking | Track progress against the project schedule. |
| 2 | 4.3 | Quality Control | Monitor quality standards and testing results. |
| 2 | 4.4 | Risk Management | Monitor and mitigate project risks. |
| 2 | 4.5 | Stakeholder Communication | Provide updates and maintain alignment with stakeholders. |
| 1 | 5.0 | **Closing** | Finalize and close the project. |
| 2 | 5.1 | Final Testing & Quality Review | Ensure all testing is complete and quality standards are met. |
| 2 | 5.2 | Documentation | Complete project documentation, including user manuals. |
| 2 | 5.3 | User Training & Support | Train users and provide initial support. |
| 2 | 5.4 | Project Handover | Transfer the system to the client or operations team. |
| 2 | 5.5 | Project Review & Lessons Learned | Review the project and document lessons learned. |
| 2 | 5.6 | Final Project Sign-Off | Obtain final sign-off from stakeholders. |

**CHAPTER 2: PROJECT PLANNING**

**TASK 1. General WBS V.I.X.E.V.I.A.**

The Work Breakdown Structure (WBS) is a hierarchical decomposition of the V.I.X.E.V.I.A. project into manageable tasks and sub-tasks. It ensures clarity in task assignments, deliverables, and responsibilities. This structure is fundamental to project planning and execution, offering a clear roadmap for team members and stakeholders.

To develop the WBS, the following approach was adopted:

1. The project scope was reviewed to identify major components and deliverables.
2. The project was systematically broken down into levels, starting from high-level phases (Level 1) to detailed tasks (Level 4).
3. Each task was mapped to the project objectives to ensure relevance and consistency with V.I.X.E.V.I.A.'s goals.
4. project is structured into five primary levels: Initiation, Planning, Execution, Monitoring & Control, and Closing. Each level is further decomposed into specific tasks, sub-tasks, and actionable deliverables.

The WBS for the V.I.X.E.V.I.A. project is presented as a hierarchical structure, extending to Level 4. Below is an example extract from the WBS:

|  |  |  |  |
| --- | --- | --- | --- |
| **WBS Level** | **Task ID** | **Task Name** | **Description** |
| 1 | 1.0 | **Initiation** | Start and define the V.I.X.E.V.I.A. project. |
| 2 | 1.1 | Project Charter | Define project objectives, scope, and deliverables. |
| 3 | 1.1.1 | Define Objectives | Outline the main goals and desired outcomes of the project. |
| 4 | 1.1.1.1 | Identify Business Goals | Determine the business objectives V.I.X.E.V.I.A. aims to achieve. |
| 4 | 1.1.1.2 | Set SMART Goals | Establish Specific, Measurable, Achievable, Relevant, and Time-bound goals. |
| 4 | 1.1.1.3 | Align Objectives with Stakeholders | Ensure project objectives align with stakeholder expectations. |
| 3 | 1.1.2 | Define Scope | Specify the boundaries and limitations of the project. |
| 4 | 1.1.2.1 | Identify In-Scope Items | List all features and functionalities included in the project. |
| 4 | 1.1.2.2 | Identify Out-of-Scope Items | Clearly state what is not included in the project to avoid scope creep. |
| 4 | 1.1.2.3 | Develop Scope Statement | Create a detailed scope statement outlining project boundaries. |
| 3 | 1.1.3 | Define Deliverables | List the tangible and intangible products to be delivered. |
| 4 | 1.1.3.1 | Identify Key Deliverables | Determine the primary outputs of the project. |
| 4 | 1.1.3.2 | Define Deliverable Specifications | Detail the specifications and quality standards for each deliverable. |
| 4 | 1.1.3.3 | Create Deliverable Checklist | Develop a checklist to ensure all deliverables meet requirements. |
| 3 | 1.1.4 | Stakeholder Analysis | Identify and analyze project stakeholders and their expectations. |
| 4 | 1.1.4.1 | Identify Stakeholder Roles | Define the roles and responsibilities of each stakeholder. |
| 4 | 1.1.4.2 | Assess Stakeholder Influence | Evaluate the level of influence each stakeholder has on the project. |
| 4 | 1.1.4.3 | Develop Stakeholder Engagement Plan | Create strategies to engage and communicate with stakeholders. |
| 2 | 1.2 | Stakeholder Identification | Identify stakeholders and determine their needs. |
| 3 | 1.2.1 | Identify Internal Stakeholders | List all internal stakeholders involved in the project. |
| 4 | 1.2.1.1 | Identify Project Team Members | Determine the team members responsible for project tasks. |
| 4 | 1.2.1.2 | Identify Project Sponsors | Recognize individuals or groups funding or supporting the project. |
| 4 | 1.2.1.3 | Identify Management Stakeholders | Identify managers and executives overseeing the project. |
| 3 | 1.2.2 | Identify External Stakeholders | List all external stakeholders involved in the project. |
| 4 | 1.2.2.1 | Identify Clients and Customers | Determine who the end-users or clients of V.I.X.E.V.I.A. are. |
| 4 | 1.2.2.2 | Identify Vendors and Partners | Recognize any external vendors or partners contributing to the project. |
| 4 | 1.2.2.3 | Identify Regulatory Bodies | Determine any regulatory or compliance bodies involved. |
| 3 | 1.2.3 | Analyze Stakeholder Needs | Determine the specific needs and expectations of each stakeholder. |
| 4 | 1.2.3.1 | Conduct Stakeholder Surveys | Gather data on stakeholder needs through surveys. |
| 4 | 1.2.3.2 | Conduct Stakeholder Interviews | Interview stakeholders to understand their requirements. |
| 4 | 1.2.3.3 | Compile Stakeholder Requirements | Consolidate and document the gathered requirements. |
| 3 | 1.2.4 | Develop Stakeholder Communication Plan | Create a plan to communicate effectively with stakeholders. |
| 4 | 1.2.4.1 | Define Communication Objectives | Set clear objectives for stakeholder communications. |
| 4 | 1.2.4.2 | Choose Communication Methods | Select appropriate communication methods (e.g., meetings, emails). |
| 4 | 1.2.4.3 | Schedule Communication Activities | Plan the timing and frequency of communications with stakeholders. |
| 2 | 1.3 | Feasibility Study | Analyze technical and financial feasibility of the project. |
| 3 | 1.3.1 | Technical Feasibility | Assess the technical requirements and resources needed. |
| 4 | 1.3.1.1 | Evaluate Technology Stack | Determine the technologies and tools required for V.I.X.E.V.I.A. |
| 4 | 1.3.1.2 | Assess Technical Skills | Evaluate the technical skills available within the team. |
| 4 | 1.3.1.3 | Identify Technical Constraints | Recognize any technical limitations or challenges. |
| 3 | 1.3.2 | Financial Feasibility | Evaluate the financial aspects, including budget and cost estimates. |
| 4 | 1.3.2.1 | Develop Cost Estimates | Calculate the estimated costs for all project activities. |
| 4 | 1.3.2.2 | Analyze Budget Availability | Ensure the project budget is sufficient to cover all costs. |
| 4 | 1.3.2.3 | Perform Cost-Benefit Analysis | Assess the financial benefits against the projected costs. |
| 3 | 1.3.3 | Market Feasibility | Analyze market demand and potential for V.I.X.E.V.I.A. |
| 4 | 1.3.3.1 | Conduct Market Research | Gather data on market trends and user preferences. |
| 4 | 1.3.3.2 | Analyze Competitor Offerings | Evaluate competitors’ products and identify differentiators. |
| 4 | 1.3.3.3 | Assess Market Potential | Determine the market size and growth potential for V.I.X.E.V.I.A. |
| 3 | 1.3.4 | Risk Feasibility | Identify potential risks and their impact on the project. |
| 4 | 1.3.4.1 | Identify Potential Risks | List all possible risks that could affect the project. |
| 4 | 1.3.4.2 | Assess Risk Impact and Probability | Evaluate the likelihood and impact of each identified risk. |
| 4 | 1.3.4.3 | Develop Risk Mitigation Strategies | Create strategies to mitigate or manage each risk. |
| 2 | 1.4 | High-Level Requirements Gathering | Gather and document initial requirements. |
| 3 | 1.4.1 | Conduct Stakeholder Workshops | Organize workshops to gather requirements from stakeholders. |
| 4 | 1.4.1.1 | Plan Workshop Agenda | Develop an agenda for the requirements gathering workshops. |
| 4 | 1.4.1.2 | Facilitate Workshops | Lead and manage the requirements gathering sessions. |
| 4 | 1.4.1.3 | Document Workshop Outcomes | Record and summarize the requirements gathered during workshops. |
| 3 | 1.4.2 | Develop Requirements Specification | Create a detailed document outlining all project requirements. |
| 4 | 1.4.2.1 | Compile Functional Requirements | Document all functional requirements for V.I.X.E.V.I.A. |
| 4 | 1.4.2.2 | Compile Non-Functional Requirements | Document all non-functional requirements (e.g., performance, security). |
| 4 | 1.4.2.3 | Review Requirements Specification | Ensure the requirements specification is complete and accurate. |
| 3 | 1.4.3 | Validate Requirements | Ensure all requirements are accurate and meet stakeholder needs. |
| 4 | 1.4.3.1 | Conduct Requirements Validation Sessions | Hold sessions to validate requirements with stakeholders. |
| 4 | 1.4.3.2 | Adjust Requirements Based on Feedback | Modify requirements based on stakeholder feedback. |
| 4 | 1.4.3.3 | Finalize Requirements Document | Finalize and approve the requirements document. |
| 3 | 1.4.4 | Prioritize Requirements | Rank the requirements based on importance and urgency. |
| 4 | 1.4.4.1 | Develop Prioritization Criteria | Establish criteria for prioritizing requirements. |
| 4 | 1.4.4.2 | Assign Priority Levels | Assign priority levels (e.g., High, Medium, Low) to each requirement. |
| 4 | 1.4.4.3 | Review Prioritized Requirements | Ensure the prioritization aligns with stakeholder expectations. |
| 2 | 1.5 | Approval and Sign-Off | Obtain project approval from stakeholders. |
| 3 | 1.5.1 | Prepare Approval Documents | Compile all necessary documents for approval. |
| 4 | 1.5.1.1 | Assemble Project Charter | Gather the project charter and related documents. |
| 4 | 1.5.1.2 | Compile Requirements Specification | Include the finalized requirements document. |
| 4 | 1.5.1.3 | Include Feasibility Study Reports | Add reports from the feasibility study phase. |
| 3 | 1.5.2 | Review with Stakeholders | Present the project plan to stakeholders for feedback. |
| 4 | 1.5.2.1 | Schedule Review Meetings | Arrange meetings with key stakeholders to review project documents. |
| 4 | 1.5.2.2 | Present Project Plan | Showcase the project plan, objectives, scope, and deliverables. |
| 4 | 1.5.2.3 | Gather Stakeholder Feedback | Collect and document feedback from stakeholders. |
| 3 | 1.5.3 | Incorporate Feedback | Adjust the project plan based on stakeholder feedback. |
| 4 | 1.5.3.1 | Analyze Feedback | Review and analyze the feedback received from stakeholders. |
| 4 | 1.5.3.2 | Update Project Documents | Make necessary changes to project documents based on feedback. |
| 4 | 1.5.3.3 | Communicate Updates to Stakeholders | Inform stakeholders of the updates made to the project plan. |
| 3 | 1.5.4 | Final Sign-Off | Secure formal approval to proceed with the project. |
| 4 | 1.5.4.1 | Obtain Sign-Off from Project Sponsor | Get the project sponsor to formally approve the project plan. |
| 4 | 1.5.4.2 | Secure Formal Approval from Stakeholders | Ensure all key stakeholders have signed off on the project plan. |
| 4 | 1.5.4.3 | Document Approval | Record the approval in official project documentation. |
| 1 | 2.0 | **Planning** | Plan tasks and resources for project execution. |
| 2 | 2.1 | Requirements Gathering | Conduct detailed interviews, surveys, and document requirements. |
| 3 | 2.1.1 | Develop Survey Instruments | Create surveys and questionnaires to gather detailed requirements. |
| 4 | 2.1.1.1 | Design Survey Questions | Formulate questions to extract relevant information from users. |
| 4 | 2.1.1.2 | Pilot Test Surveys | Test the surveys with a small group to ensure clarity and effectiveness. |
| 4 | 2.1.1.3 | Distribute Surveys | Send out surveys to target user groups and stakeholders. |
| 3 | 2.1.2 | Conduct User Interviews | Interview end-users to understand their needs and expectations. |
| 4 | 2.1.2.1 | Schedule Interviews | Arrange interview sessions with selected users. |
| 4 | 2.1.2.2 | Prepare Interview Guides | Develop guides to ensure consistent and comprehensive interviews. |
| 4 | 2.1.2.3 | Conduct and Record Interviews | Perform interviews and document responses accurately. |
| 3 | 2.1.3 | Analyze Survey Results | Analyze the data collected from surveys and interviews. |
| 4 | 2.1.3.1 | Compile Survey Data | Gather all survey responses into a centralized database. |
| 4 | 2.1.3.2 | Perform Data Analysis | Use statistical tools to interpret survey results. |
| 4 | 2.1.3.3 | Identify Key Requirements | Extract the most critical requirements from the analyzed data. |
| 3 | 2.1.4 | Document Detailed Requirements | Create a comprehensive requirements specification document. |
| 4 | 2.1.4.1 | Organize Requirements | Categorize requirements into functional and non-functional groups. |
| 4 | 2.1.4.2 | Draft Requirements Document | Write detailed descriptions for each requirement. |
| 4 | 2.1.4.3 | Review and Validate Requirements | Ensure all requirements are clear, feasible, and aligned with goals. |
| 2 | 2.2 | Requirement Analysis | Prioritize and validate requirements. |
| 3 | 2.2.1 | Categorize Requirements | Group requirements into categories (e.g., functional, non-functional). |
| 4 | 2.2.1.1 | Define Functional Categories | Identify and categorize functional requirements. |
| 4 | 2.2.1.2 | Define Non-Functional Categories | Identify and categorize non-functional requirements. |
| 4 | 2.2.1.3 | Assign Categories to Requirements | Link each requirement to its respective category. |
| 3 | 2.2.2 | Prioritize Based on Impact | Rank requirements based on their impact on the project. |
| 4 | 2.2.2.1 | Develop Prioritization Matrix | Create a matrix to evaluate the importance of each requirement. |
| 4 | 2.2.2.2 | Assign Priority Levels | Assign priority levels (High, Medium, Low) to each requirement. |
| 4 | 2.2.2.3 | Review Prioritization with Team | Validate the prioritization with the project team for consensus. |
| 3 | 2.2.3 | Validate with Stakeholders | Confirm the prioritized requirements with stakeholders. |
| 4 | 2.2.3.1 | Present Prioritized Requirements | Share the prioritized requirements with stakeholders for feedback. |
| 4 | 2.2.3.2 | Gather Stakeholder Feedback | Collect feedback and suggestions from stakeholders on prioritization. |
| 4 | 2.2.3.3 | Adjust Priorities Based on Feedback | Modify prioritization based on stakeholder input. |
| 3 | 2.2.4 | Finalize Requirements List | Finalize the list of requirements for project development. |
| 4 | 2.2.4.1 | Review Final Requirements | Conduct a final review to ensure all requirements are captured. |
| 4 | 2.2.4.2 | Approve Final Requirements | Obtain formal approval of the finalized requirements list. |
| 4 | 2.2.4.3 | Distribute Approved Requirements | Share the approved requirements document with the project team. |
| 2 | 2.3 | Risk Assessment | Identify potential risks and develop mitigation strategies. |
| 3 | 2.3.1 | Identify Project Risks | List all potential risks that could affect the project. |
| 4 | 2.3.1.1 | Brainstorming Sessions | Conduct sessions to identify possible risks with the team. |
| 4 | 2.3.1.2 | Research External Factors | Analyze external factors that could introduce risks to the project. |
| 4 | 2.3.1.3 | Document Identified Risks | Create a comprehensive list of identified risks. |
| 3 | 2.3.2 | Analyze Risk Impact | Assess the impact and likelihood of each identified risk. |
| 4 | 2.3.2.1 | Determine Risk Probability | Estimate the likelihood of each risk occurring. |
| 4 | 2.3.2.2 | Assess Risk Severity | Evaluate the potential impact of each risk on the project. |
| 4 | 2.3.2.3 | Assign Risk Ratings | Rate each risk based on its probability and severity. |
| 3 | 2.3.3 | Develop Risk Mitigation Plans | Create strategies to mitigate identified risks. |
| 4 | 2.3.3.1 | Develop Contingency Plans | Plan for actions to take if a risk materializes. |
| 4 | 2.3.3.2 | Assign Risk Owners | Designate team members responsible for managing specific risks. |
| 4 | 2.3.3.3 | Implement Mitigation Strategies | Execute the planned strategies to reduce risk impact or probability. |
| 2 | 2.4 | Project Schedule | Define project timelines and milestones. |
| 3 | 2.4.1 | Develop Gantt Chart | Create a Gantt chart to visualize the project timeline. |
| 4 | 2.4.1.1 | Identify Project Tasks | List all tasks required to complete the project. |
| 4 | 2.4.1.2 | Assign Task Durations | Estimate the time needed to complete each task. |
| 4 | 2.4.1.3 | Plot Tasks on Gantt Chart | Place tasks on the Gantt chart with their respective durations. |
| 3 | 2.4.2 | Define Milestones | Identify key milestones and deliverable dates. |
| 4 | 2.4.2.1 | Determine Critical Milestones | Select milestones that are crucial for project success. |
| 4 | 2.4.2.2 | Assign Dates to Milestones | Set target dates for each milestone. |
| 4 | 2.4.2.3 | Communicate Milestones to Team | Ensure all team members are aware of milestone dates and importance. |
| 3 | 2.4.3 | Allocate Time Estimates | Assign time estimates to each task and sub-task. |
| 4 | 2.4.3.1 | Use Historical Data for Estimation | Utilize data from similar projects to estimate task durations. |
| 4 | 2.4.3.2 | Consult with Team Members | Gather input from team members on realistic time estimates. |
| 4 | 2.4.3.3 | Adjust Estimates for Contingencies | Add buffer time to account for potential delays or issues. |
| 3 | 2.4.4 | Review and Adjust Schedule | Review the schedule with stakeholders and make necessary adjustments. |
| 4 | 2.4.4.1 | Conduct Schedule Review Meetings | Hold meetings to review the project schedule with stakeholders. |
| 4 | 2.4.4.2 | Incorporate Feedback | Adjust the schedule based on feedback from stakeholders. |
| 4 | 2.4.4.3 | Finalize Project Schedule | Confirm the final schedule and distribute it to the team. |
| 2 | 2.5 | Resource Planning | Assign resources, including team members and budget. |
| 3 | 2.5.1 | Identify Required Resources | List all resources needed for the project (human, technical, etc.). |
| 4 | 2.5.1.1 | Identify Human Resources | Determine the personnel required for each project phase. |
| 4 | 2.5.1.2 | Identify Technical Resources | List all technical tools, software, and hardware needed. |
| 4 | 2.5.1.3 | Identify Financial Resources | Outline the budget and financial resources allocated for the project. |
| 3 | 2.5.2 | Assign Team Members | Allocate team members to specific tasks and roles. |
| 4 | 2.5.2.1 | Define Team Roles and Responsibilities | Clearly outline the roles and responsibilities of each team member. |
| 4 | 2.5.2.2 | Assign Tasks to Team Members | Allocate specific tasks to individual team members based on expertise. |
| 4 | 2.5.2.3 | Monitor Team Allocation | Ensure team members are not overallocated and adjust as necessary. |
| 3 | 2.5.3 | Develop Budget | Create a detailed project budget, including all expected costs. |
| 4 | 2.5.3.1 | Estimate Costs for Resources | Calculate costs associated with human, technical, and financial resources. |
| 4 | 2.5.3.2 | Allocate Budget to Project Phases | Distribute the budget across different project phases and activities. |
| 4 | 2.5.3.3 | Monitor Budget Expenditures | Track spending against the budget and manage any variances. |
| 3 | 2.5.4 | Allocate Budget to Tasks | Assign budget allocations to each task and sub-task. |
| 4 | 2.5.4.1 | Assign Costs to Specific Tasks | Allocate specific budget amounts to individual tasks. |
| 4 | 2.5.4.2 | Track Task Expenditures | Monitor spending for each task to ensure budget adherence. |
| 4 | 2.5.4.3 | Adjust Budget Allocations as Needed | Reallocate funds based on task progress and unforeseen expenses. |
| 2 | 2.6 | Communication Plan | Develop a communication plan for project updates. |
| 3 | 2.6.1 | Define Communication Channels | Identify the channels (e.g., email, meetings, reports) for communication. |
| 4 | 2.6.1.1 | Select Communication Tools | Choose tools (e.g., Slack, Zoom, MS Teams) for effective communication. |
| 4 | 2.6.1.2 | Establish Communication Protocols | Define how and when communication should occur within the team. |
| 4 | 2.6.1.3 | Implement Communication Tools | Set up and configure the selected communication tools for the team. |
| 3 | 2.6.2 | Establish Communication Schedule | Create a schedule for regular project updates and meetings. |
| 4 | 2.6.2.1 | Schedule Weekly Status Meetings | Plan and conduct weekly meetings to discuss project progress. |
| 4 | 2.6.2.2 | Define Reporting Frequency | Set the frequency for status reports (e.g., weekly, bi-weekly). |
| 4 | 2.6.2.3 | Assign Reporting Responsibilities | Designate team members responsible for preparing and distributing reports. |
| 3 | 2.6.3 | Assign Communication Responsibilities | Assign responsibilities for managing communications. |
| 4 | 2.6.3.1 | Designate Communication Leads | Assign team members to lead communication efforts. |
| 4 | 2.6.3.2 | Define Roles for Communication Tasks | Outline specific roles for communication-related tasks (e.g., reporter, facilitator). |
| 4 | 2.6.3.3 | Monitor Communication Effectiveness | Evaluate and improve the effectiveness of communication strategies. |
| 3 | 2.6.4 | Develop Reporting Templates | Create templates for project reports and updates. |
| 4 | 2.6.4.1 | Design Status Report Templates | Develop standardized templates for status reporting. |
| 4 | 2.6.4.2 | Create Meeting Agenda Templates | Develop templates to structure meeting agendas. |
| 4 | 2.6.4.3 | Develop Presentation Templates | Create templates for presentations to stakeholders. |
| 2 | 2.7 | Approval of Project Plan | Obtain approval for the project plan from stakeholders. |
| 3 | 2.7.1 | Prepare Project Plan Documentation | Compile all planning documents into a comprehensive project plan. |
| 4 | 2.7.1.1 | Integrate Project Charter | Include the project charter in the project plan documentation. |
| 4 | 2.7.1.2 | Incorporate Requirements Specification | Add the detailed requirements specification to the project plan. |
| 4 | 2.7.1.3 | Include Risk Assessment Reports | Attach risk assessment and mitigation plans to the project plan. |
| 3 | 2.7.2 | Review Project Plan with Stakeholders | Present the project plan to stakeholders for feedback. |
| 4 | 2.7.2.1 | Schedule Review Sessions | Arrange sessions to review the project plan with stakeholders. |
| 4 | 2.7.2.2 | Present Project Plan Details | Walk through the project plan, highlighting key components. |
| 4 | 2.7.2.3 | Collect Stakeholder Feedback | Gather and document feedback from stakeholders on the project plan. |
| 3 | 2.7.3 | Incorporate Feedback | Adjust the project plan based on stakeholder feedback. |
| 4 | 2.7.3.1 | Analyze Feedback | Review and analyze the feedback received from stakeholders. |
| 4 | 2.7.3.2 | Update Project Plan | Modify the project plan to incorporate necessary changes. |
| 4 | 2.7.3.3 | Communicate Changes to Stakeholders | Inform stakeholders of the updates made to the project plan. |
| 3 | 2.7.4 | Final Approval | Secure formal approval of the project plan to proceed. |
| 4 | 2.7.4.1 | Obtain Sign-Off from Project Sponsor | Get the project sponsor to formally approve the project plan. |
| 4 | 2.7.4.2 | Secure Approval from Key Stakeholders | Ensure all key stakeholders have signed off on the project plan. |
| 4 | 2.7.4.3 | Document Approval | Record the approval in official project documentation. |
| 1 | 3.0 | Execution | Develop, build, and implement the software solution. |
| 2 | 3.1 | System Design | Create system architecture, database design, and UI design. |
| 3 | 3.1.1 | Architecture Design | Design high-level and low-level system architecture. |
| 4 | 3.1.1.1 | Define System Components | Identify and define all system components and their interactions. |
| 4 | 3.1.1.2 | Create Architecture Diagrams | Develop diagrams to visualize the system architecture. |
| 4 | 3.1.1.3 | Review Architecture with Team | Present and review the architecture design with the development team. |
| 3 | 3.1.2 | Database Design | Define data structures and schema. |
| 4 | 3.1.2.1 | Identify Data Requirements | Determine the data requirements based on project needs. |
| 4 | 3.1.2.2 | Design Database Schema | Create the database schema and relationships. |
| 4 | 3.1.2.3 | Implement Database | Set up the database based on the designed schema. |
| 3 | 3.1.3 | UI/UX Design | Develop wireframes, prototypes, and style guidelines. |
| 4 | 3.1.3.1 | Create Wireframes | Develop wireframes for all major interfaces. |
| 4 | 3.1.3.2 | Develop Prototypes | Build interactive prototypes to visualize the UI/UX design. |
| 4 | 3.1.3.3 | Define Style Guidelines | Establish style guidelines for consistency in design. |
| 2 | 3.2 | Development | Code and build individual modules and components. |
| 3 | 3.2.1 | Module Development | Develop modules according to specifications. |
| 4 | 3.2.1.1 | Develop Front-End Modules | Code the front-end components based on UI/UX designs. |
| 4 | 3.2.1.2 | Develop Back-End Modules | Code the back-end components, including APIs and database interactions. |
| 4 | 3.2.1.3 | Integrate Front-End and Back-End | Ensure seamless integration between front-end and back-end modules. |
| 3 | 3.2.2 | Code Review | Review code for quality and standards. |
| 4 | 3.2.2.1 | Establish Code Review Process | Define the process and criteria for code reviews. |
| 4 | 3.2.2.2 | Conduct Code Reviews | Perform regular code reviews to ensure quality and adherence to standards. |
| 4 | 3.2.2.3 | Address Code Review Feedback | Implement changes based on feedback from code reviews. |
| 2 | 3.3 | Integration | Integrate and assemble modules into the complete system. |
| 3 | 3.3.1 | Module Integration | Combine individual modules into the main system. |
| 4 | 3.3.1.1 | Integrate Front-End with Back-End | Ensure front-end interacts correctly with back-end services. |
| 4 | 3.3.1.2 | Integrate Database with System | Connect the database to the system for data management. |
| 4 | 3.3.1.3 | Conduct Integration Testing | Test the integrated system to identify and fix issues. |
| 2 | 3.4 | Testing | Conduct various levels of testing. |
| 3 | 3.4.1 | Unit Testing | Test individual modules and components. |
| 4 | 3.4.1.1 | Develop Unit Test Cases | Create test cases for each module. |
| 4 | 3.4.1.2 | Execute Unit Tests | Run unit tests to verify functionality. |
| 4 | 3.4.1.3 | Document Unit Test Results | Record the outcomes of unit tests for reference. |
| 3 | 3.4.2 | Integration Testing | Test integration between modules. |
| 4 | 3.4.2.1 | Develop Integration Test Cases | Create test cases for integrated components. |
| 4 | 3.4.2.2 | Execute Integration Tests | Run integration tests to ensure modules work together seamlessly. |
| 4 | 3.4.2.3 | Document Integration Test Results | Record the outcomes of integration tests. |
| 3 | 3.4.3 | System Testing | Test the entire system for end-to-end functionality. |
| 4 | 3.4.3.1 | Develop System Test Cases | Create comprehensive test cases covering all system functionalities. |
| 4 | 3.4.3.2 | Execute System Tests | Perform system testing to identify and fix issues. |
| 4 | 3.4.3.3 | Document System Test Results | Record the outcomes of system tests for future reference. |
| 3 | 3.4.4 | User Acceptance Testing (UAT) | Validate the system with end-users. |
| 4 | 3.4.4.1 | Develop UAT Plan | Create a plan outlining the scope and approach for UAT. |
| 4 | 3.4.4.2 | Conduct UAT Sessions | Facilitate UAT sessions with end-users to gather feedback. |
| 4 | 3.4.4.3 | Address UAT Feedback | Implement changes based on feedback from UAT sessions. |
| 1 | 4.0 | **Monitoring & Control** | Ensure the project remains on track and within scope. |
| 2 | 4.1 | Scope Management | Monitor changes in project requirements and scope. |
| 3 | 4.1.1 | Change Request Management | Establish a process for handling change requests. |
| 4 | 4.1.1.1 | Receive Change Requests | Collect and document all change requests from stakeholders. |
| 4 | 4.1.1.2 | Evaluate Change Requests | Assess the impact and feasibility of each change request. |
| 4 | 4.1.1.3 | Approve or Reject Changes | Decide whether to approve or reject each change request. |
| 3 | 4.1.2 | Scope Verification | Ensure all project deliverables meet the defined scope. |
| 4 | 4.1.2.1 | Conduct Scope Reviews | Regularly review project progress against the scope. |
| 4 | 4.1.2.2 | Update Scope Documentation | Make necessary updates to scope documents based on reviews. |
| 4 | 4.1.2.3 | Report Scope Status | Provide regular updates on scope status to stakeholders. |
| 2 | 4.2 | Schedule Tracking | Track progress against the project schedule. |
| 3 | 4.2.1 | Develop Schedule Tracking Tools | Create tools for monitoring project timelines and milestones. |
| 4 | 4.2.1.1 | Implement Gantt Chart Updates | Regularly update the Gantt chart with current project status. |
| 4 | 4.2.1.2 | Utilize Project Management Software | Use software tools (e.g., MS Project, Jira) to track progress. |
| 4 | 4.2.1.3 | Monitor Milestone Completion | Ensure milestones are achieved on time and address delays promptly. |
| 3 | 4.2.2 | Conduct Schedule Reviews | Regularly review the project schedule with the team and stakeholders. |
| 4 | 4.2.2.1 | Hold Progress Meetings | Schedule and conduct regular progress meetings. |
| 4 | 4.2.2.2 | Update Stakeholders on Schedule Status | Provide updates on schedule status to all relevant stakeholders. |
| 4 | 4.2.2.3 | Adjust Schedule as Needed | Make necessary adjustments to the schedule based on project needs. |
| 2 | 4.3 | Quality Control | Monitor quality standards and testing results. |
| 3 | 4.3.1 | Develop Quality Management Plan | Create a plan outlining quality standards and procedures. |
| 4 | 4.3.1.1 | Define Quality Standards | Establish the quality criteria for all project deliverables. |
| 4 | 4.3.1.2 | Implement Quality Assurance Processes | Set up processes to ensure adherence to quality standards. |
| 4 | 4.3.1.3 | Conduct Quality Audits | Perform regular audits to verify quality compliance. |
| 3 | 4.3.2 | Monitor Testing Results | Track and analyze testing outcomes to ensure quality. |
| 4 | 4.3.2.1 | Collect Testing Data | Gather data from all testing activities. |
| 4 | 4.3.2.2 | Analyze Testing Results | Analyze the data to identify quality issues and areas for improvement. |
| 4 | 4.3.2.3 | Report Quality Metrics | Provide regular reports on quality metrics to stakeholders. |
| 2 | 4.4 | Risk Management | Monitor and mitigate project risks. |
| 3 | 4.4.1 | Implement Risk Mitigation Strategies | Execute the strategies developed in the planning phase. |
| 4 | 4.4.1.1 | Assign Risk Owners | Designate team members responsible for managing specific risks. |
| 4 | 4.4.1.2 | Monitor Risk Triggers | Keep an eye on indicators that may signal the occurrence of risks. |
| 4 | 4.4.1.3 | Execute Mitigation Plans | Carry out the planned actions to mitigate identified risks. |
| 3 | 4.4.2 | Update Risk Register | Continuously update the risk register with new and ongoing risks. |
| 4 | 4.4.2.1 | Log New Risks | Document any new risks that emerge during the project. |
| 4 | 4.4.2.2 | Update Risk Status | Change the status of risks based on their current state. |
| 4 | 4.4.2.3 | Review Risk Effectiveness | Assess the effectiveness of risk mitigation measures. |
| 2 | 4.5 | Stakeholder Communication | Provide updates and maintain alignment with stakeholders. |
| 3 | 4.5.1 | Develop Communication Materials | Create reports, presentations, and updates for stakeholders. |
| 4 | 4.5.1.1 | Prepare Status Reports | Compile and distribute regular status reports. |
| 4 | 4.5.1.2 | Create Presentation Decks | Develop presentation materials for stakeholder meetings. |
| 4 | 4.5.1.3 | Manage Communication Channels | Ensure effective use of communication channels for stakeholder updates. |
| 3 | 4.5.2 | Conduct Stakeholder Meetings | Hold regular meetings to discuss project progress and issues. |
| 4 | 4.5.2.1 | Schedule Meetings | Plan and conduct regular meetings with stakeholders. |
| 4 | 4.5.2.2 | Facilitate Meetings | Lead and manage stakeholder meetings effectively. |
| 4 | 4.5.2.3 | Document Meeting Minutes | Record and distribute minutes from stakeholder meetings. |
| 4 | 4.5.2.4 | Address Stakeholder Concerns | Resolve any issues or concerns raised by stakeholders during meetings. |
| 3 | 4.5.3 | Manage Stakeholder Expectations | Ensure stakeholder expectations are managed and met. |
| 4 | 4.5.3.1 | Set Clear Expectations | Clearly define what stakeholders can expect from the project. |
| 4 | 4.5.3.2 | Monitor Stakeholder Satisfaction | Regularly assess stakeholder satisfaction levels. |
| 4 | 4.5.3.3 | Address Dissatisfaction | Take action to resolve any dissatisfaction among stakeholders. |
| 1 | 5.0 | **Closing** | Finalize and close the V.I.X.E.V.I.A. project. |
| 2 | 5.1 | Final Testing & Quality Review | Ensure all testing is complete and quality standards are met. |
| 3 | 5.1.1 | Conduct Final System Testing | Perform comprehensive testing to verify system readiness. |
| 4 | 5.1.1.1 | Execute Final Test Cases | Run all remaining test cases to ensure full system functionality. |
| 4 | 5.1.1.2 | Validate Test Results | Confirm that all test results meet quality standards. |
| 4 | 5.1.1.3 | Address Final Issues | Resolve any outstanding issues identified during final testing. |
| 3 | 5.1.2 | Perform Quality Review | Conduct a thorough quality review of all project deliverables. |
| 4 | 5.1.2.1 | Review Documentation | Ensure all project documentation is complete and accurate. |
| 4 | 5.1.2.2 | Validate Deliverables | Confirm that all deliverables meet the defined quality standards. |
| 4 | 5.1.2.3 | Obtain Quality Sign-Off | Secure formal approval of quality standards from stakeholders. |
| 2 | 5.2 | Documentation | Complete project documentation, including user manuals. |
| 3 | 5.2.1 | Develop User Manuals | Create comprehensive user guides and manuals for V.I.X.E.V.I.A. |
| 4 | 5.2.1.1 | Write Installation Guides | Document the installation process for end-users. |
| 4 | 5.2.1.2 | Create User Operation Manuals | Provide detailed instructions on how to use V.I.X.E.V.I.A. |
| 4 | 5.2.1.3 | Develop Troubleshooting Guides | Offer solutions for common issues users might encounter. |
| 3 | 5.2.2 | Compile Technical Documentation | Gather all technical documents related to the project. |
| 4 | 5.2.2.1 | Create System Architecture Documents | Document the system architecture and design specifications. |
| 4 | 5.2.2.2 | Document Codebase | Provide detailed documentation of the codebase for future reference. |
| 4 | 5.2.2.3 | Compile Testing Reports | Gather all testing reports and quality assurance documents. |
| 2 | 5.3 | User Training & Support | Train users and provide initial support. |
| 3 | 5.3.1 | Develop Training Materials | Create training resources for end-users and support teams. |
| 4 | 5.3.1.1 | Create Training Presentations | Develop presentations to guide training sessions. |
| 4 | 5.3.1.2 | Develop Interactive Tutorials | Build tutorials that allow users to practice using V.I.X.E.V.I.A. |
| 4 | 5.3.1.3 | Prepare Training Videos | Produce videos demonstrating key features and functionalities. |
| 3 | 5.3.2 | Conduct Training Sessions | Hold training sessions for end-users and support staff. |
| 4 | 5.3.2.1 | Schedule Training Sessions | Plan and schedule training sessions. |
| 4 | 5.3.2.2 | Deliver Training Presentations | Present training materials to users. |
| 4 | 5.3.2.3 | Facilitate Hands-On Training | Provide opportunities for users to interact with V.I.X.E.V.I.A. |
| 3 | 5.3.3 | Provide Initial Support | Offer support to users post-deployment. |
| 4 | 5.3.3.1 | Set Up Support Channels | Establish channels (e.g., email, chat) for user support. |
| 4 | 5.3.3.2 | Develop Support Documentation | Create FAQs and troubleshooting guides for users. |
| 4 | 5.3.3.3 | Assign Support Staff | Designate team members to handle user support requests. |
| 2 | 5.4 | Project Handover | Transfer the system to the client or operations team. |
| 3 | 5.4.1 | Prepare Handover Documentation | Compile all necessary documents for handover. |
| 4 | 5.4.1.1 | Create Handover Package | Assemble all deliverables, documentation, and support materials. |
| 4 | 5.4.1.2 | Develop Handover Plan | Outline the steps for transferring the system to the client. |
| 4 | 5.4.1.3 | Review Handover Documents | Ensure all documents are complete and accurate before handover. |
| 3 | 5.4.2 | Conduct Handover Meeting | Hold a meeting with the client or operations team to transfer responsibilities. |
| 4 | 5.4.2.1 | Present Handover Package | Present the compiled handover package to the client. |
| 4 | 5.4.2.2 | Demonstrate System Operations | Show how to operate and maintain V.I.X.E.V.I.A. to the client. |
| 4 | 5.4.2.3 | Address Client Questions | Answer any questions the client may have regarding the system. |
| 3 | 5.4.3 | Obtain Handover Acceptance | Secure formal acceptance of the system from the client. |
| 4 | 5.4.3.1 | Receive Acceptance Sign-Off | Get the client to sign off on the successful handover. |
| 4 | 5.4.3.2 | Address Any Post-Handover Issues | Resolve any issues that arise immediately after handover. |
| 4 | 5.4.3.3 | Finalize Handover Documentation | Ensure all handover documents are finalized and archived. |
| 2 | 5.5 | Project Review & Lessons Learned | Review the project and document lessons learned. |
| 3 | 5.5.1 | Conduct Project Review Meetings | Hold meetings to discuss project performance and outcomes. |
| 4 | 5.5.1.1 | Schedule Review Meetings | Plan and schedule project review meetings. |
| 4 | 5.5.1.2 | Facilitate Review Discussions | Lead discussions on what went well and what could be improved. |
| 4 | 5.5.1.3 | Collect Feedback from Team | Gather feedback from all team members involved in the project. |
| 3 | 5.5.2 | Document Lessons Learned | Create a comprehensive document outlining lessons learned. |
| 4 | 5.5.2.1 | Identify Key Learnings | Highlight the most important lessons from the project. |
| 4 | 5.5.2.2 | Recommend Improvements | Suggest improvements for future projects based on lessons learned. |
| 4 | 5.5.2.3 | Distribute Lessons Learned Document | Share the lessons learned document with relevant stakeholders. |
| 2 | 5.6 | Final Project Sign-Off | Obtain final sign-off from stakeholders. |
| 3 | 5.6.1 | Prepare Final Sign-Off Documents | Compile all necessary documents for final approval. |
| 4 | 5.6.1.1 | Create Final Project Report | Develop a comprehensive report summarizing the project. |
| 4 | 5.6.1.2 | Compile All Deliverables | Ensure all project deliverables are complete and accounted for. |
| 4 | 5.6.1.3 | Review Final Documents | Verify the accuracy and completeness of all final documents. |
| 3 | 5.6.2 | Present Final Report to Stakeholders | Share the final project report with all stakeholders. |
| 4 | 5.6.2.1 | Schedule Final Presentation | Arrange a meeting to present the final project outcomes. |
| 4 | 5.6.2.2 | Deliver Final Presentation | Present the final report and project achievements to stakeholders. |
| 4 | 5.6.2.3 | Obtain Final Approval | Secure final approval and sign-off from stakeholders. |
| 3 | 5.6.3 | Archive Project Documents | Store all project documents for future reference. |
| 4 | 5.6.3.1 | Organize Documentation | Categorize and organize all project-related documents. |
| 4 | 5.6.3.2 | Store in Secure Location | Save all documents in a secure and accessible location. |
| 4 | 5.6.3.3 | Backup Critical Data | Ensure all critical project data is backed up and protected. |

**TASK 2. Convert to an Excel Format. (app.smartsheet.com)**

This task focuses on translating the hierarchical WBS created in Task 1 into a tabular format using Smartsheet.com. The purpose is to integrate project tasks into a cloud-based project management tool for better collaboration, tracking, and updates.

A new sheet was created in Smartsheet.com, reflecting the WBS hierarchy from Task 1. Each task from the WBS was entered as a row, with the following columns:

1. WBS Level
2. Task ID
3. Task Name
4. Description
5. Start
6. End

The hierarchical relationship of tasks was maintained by using Smartsheet's indentation feature. Additional columns, such as Assigned Team, Start Date, and End Date, were added to enhance project management functionality.

The WBS has been fully converted into Smartsheet format, as demonstrated in the link provided:

**Project Link V.I.X.E.V.I.A. on smartsheet.com**

<https://app.smartsheet.com/sheets/mVjwfcgHHJjxMmh3CgmWRppcj2q262Rr2PGqGHm1>

A screen shot of a computer

Description automatically generated

Figure Image of demo Project V.I.X.E.V.I.A. Software Project Management using smartsheet.com.

The WBS was successfully translated into a Smartsheet-based format, ensuring the project's tasks are easily manageable and accessible. This format provides flexibility for updates, task tracking, and collaboration with team members and stakeholders. A PDF export of the Smartsheet document is attached for offline use.