

***GROUP 3 - GROUP PROJECT ASSIGNMENT # 2 WBS***  
***PROJECT - AR/VR EMPLOYEE TRAINING MODULE***

**Team members –**

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  2. Aryan Kolath Sumeer
  3. Harry Sanil
  4. Mahdi Zangeneh
  5. Supreety Datta
  6. Yuvraj Singh
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# **AR/VR EMPLOYEE TRAINING MODULE**

## **WORK BREAKDOWN STRUCTURE DICTIONARY**

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**Version- 5.5**

**12/10/2023**

## VERSION HISTORY

Version #	Implemented By	Revision Date	Approved By	Approval Date	Reason
1.0	Project Managers: Yuvraj and Supreety	October 2023	Stakeholders: John and Carol	November 2023	Initial project proposal
	Project Managers (Yuvraj and Supreety):				- Oversee project planning and execution.
2.0 - 3.0	Procurement Manager: Gulshan and Mahdi	November 2023	Stakeholders: John and Carol	January 2024	Pre-Requisites Preparation version
	Procurement Manager (Gulshan and Mahdi):				- Manage procurement activities and vendor contracts.
2.0 - 3.0	AR/VR Development Team: Aryan and Harry	January 2024	Stakeholders: John and Carol	February 2024	Development version
	AR/VR Development Team (Aryan and Harry):				- Design and implement AR/VR experiences.
3.0 - 4.0	Integration Testing Team: Aryan and Harry	February 2024	Stakeholders: John and Carol	April 2024	Testing and Training version
	Integration Testing Team (Aryan and Harry):				- Conduct integration testing and ensure system compatibility.
4.0+	Project Manager: Supreety Datta	March 2024	Stakeholders: John and Carol	June 2024	Final version
	Project Manager (Supreety Datta):				- Oversee project completion and handover.
	Test Users: Yuvraj and Gulshan		Stakeholders: John and Carol		- Test and evaluate AR/VR systems.
	Training Manager: Aryan and Harry		Stakeholders: John and Carol		- Develop and deliver training programs.
	Evaluation Team Lead: Harry Sanil		Stakeholders: John and Carol		- Assess project outcomes and success.
	Subject Matter Experts: Mahdi and Yuvraj		Stakeholders: John and Carol		- Provide specialized domain expertise.
	Technical Writers: Harry and Aryan		Stakeholders: John and Carol		- Create project documentation and manuals.

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**AR/VR Employee Training Module**

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	Graphic Designers: Gulshan and Aryan		Stakeholders: John and Carol		- Design visual elements for AR/VR systems.
	Reviewers and Editors: Harry and Aryan		Stakeholders: John and Carol		- Review and edit project documentation.
	IT Manager: Yuvraj		Stakeholders: John and Carol		- Oversee IT infrastructure and systems.
	System Administrators: Mahdi		Stakeholders: John and Carol		- Manage and maintain IT systems and servers.
	Communication Team: Harry and Aryan		Stakeholders: John and Carol		- Manage project communication and updates.
	Stakeholder Engagement Team: Yuvraj and Mahdi		Stakeholders: John and Carol		- Maintain positive stakeholder relations.
	Document Management Team: Supreety and Gulshan		Stakeholders: John and Carol		- Organize and categorize project documentation.

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# 1 WBS ELEMENT DEFINITIONS

WBS Code	WBS Element
1.1	<b>Define Project Objectives and scope Assessment</b>
WBS Element Description	
<p><b>Define Project Objectives and Scope Assessment:</b></p> <ul style="list-style-type: none"> <li>• <b>Function:</b> <i>This phase involves setting clear project objectives and assessing the project's scope. It establishes what the project aims to achieve and defines the boundaries of the project.</i></li> <li>• <b>Associated Activities:</b> <ul style="list-style-type: none"> <li>• <i>Defining specific project objectives and goals.</i></li> <li>• <i>Conducting an in-depth assessment of the project's scope to identify the tasks and deliverables that are included or excluded.</i></li> <li>• <i>Documenting the assessment findings and aligning them with the project's objectives.</i></li> </ul> </li> <li>• <b>Milestones:</b> <ul style="list-style-type: none"> <li>• <i>Completion of well-defined project objectives.</i></li> <li>• <i>Finalization of the scope assessment report.</i></li> </ul> </li> <li>• <b>Performance Measurement Criteria:</b> <ul style="list-style-type: none"> <li>• <i>Project objectives are clearly defined and aligned with the project's goals.</i></li> <li>• <i>The scope assessment report accurately reflects the boundaries of the project.</i></li> </ul> </li> <li>• <b>Resource Requirements:</b> <ul style="list-style-type: none"> <li>• <i>Project manager and relevant stakeholders for objective definition.</i></li> <li>• <i>A team of experts to assess the project's scope.</i></li> </ul> </li> <li>• <b>Cost Estimates:</b> <ul style="list-style-type: none"> <li>• <i>Costs associated with this phase may vary based on the complexity and the number of experts involved.</i></li> </ul> </li> <li>• <b>Quality Requirements:</b> <ul style="list-style-type: none"> <li>• <i>Well-defined project objectives that provide clear direction.</i></li> <li>• <i>An accurate scope assessment report to avoid scope creep.</i></li> </ul> </li> <li>• <b>Technical Content:</b> <ul style="list-style-type: none"> <li>• <i>Documented project objectives, including specific goals and targets.</i></li> <li>• <i>The scope assessment report, including details of what's included and excluded from the project.</i></li> </ul> </li> <li>• <b>Contact Information:</b> <ul style="list-style-type: none"> <li>• <i>Project Manager: Yuvraj and Supreety</i></li> <li>• <i>Stakeholders : john and carol</i></li> </ul> </li> <li>• <b>Revision History:</b> <ul style="list-style-type: none"> <li>• <i>Version 1.0- Initial version – [October 2023 – November 2023]</i></li> </ul> </li> </ul>	

WBS Code	WBS Element
1.7	<b>Develop Project Plan, Define Project Scope, Create Project Schedule, Allocate Resources &amp; develop Budget</b>
WBS Element Description	
<p><b>Define Project Scope:</b></p> <ul style="list-style-type: none"> <li>• <b>Function:</b> This phase sets the boundaries and purpose of the AR/VR employee training module project. It involves defining what the project will achieve, what specific skills or knowledge it will impart, and what's included or excluded from the project's scope.</li> <li>• <b>Associated Activities:</b> Defining project objectives and boundaries.</li> <li>• <b>Performance Measurement Criteria:</b> The scope document must align with project objectives.</li> <li>• <b>Resource Requirements:</b> Identify the necessary resources for defining the project scope, including personnel and materials.</li> <li>• <b>Cost Estimates:</b> Estimate the costs associated with defining the project scope, such as personnel costs and documentation expenses.</li> <li>• <b>Quality Requirements:</b> Define quality standards for the scope document to ensure it meets project objectives.</li> <li>• <b>Technical Content:</b> Specify the technical details and content to be included in the scope document.</li> <li>• <b>Timeline:</b> October 1, 2023, to October 7, 2023</li> </ul> <p><b>Create Project Schedule:</b></p> <ul style="list-style-type: none"> <li>• <b>Function:</b> This phase involves creating a detailed project schedule. It breaks down the project into tasks, sequences them logically, and estimates the time required for each task. The critical paths, which are sequences of tasks crucial to project success, are identified.</li> <li>• <b>Associated Activities:</b> Breaking down the project into tasks, sequencing, estimating task durations, and identifying critical paths.</li> <li>• <b>Performance Measurement Criteria:</b> The project schedule must adhere to the identified timelines.</li> <li>• <b>Resource Requirements:</b> Identify the necessary resources for creating a project schedule, such as scheduling software and project management personnel.</li> <li>• <b>Cost Estimates:</b> Estimate the costs associated with creating the project schedule, including software licenses and personnel costs.</li> <li>• <b>Quality Requirements:</b> Define quality standards for the project schedule to ensure it meets project objectives.</li> <li>• <b>Technical Content:</b> Specify the technical content and format of the project schedule.</li> <li>• <b>Timeline:</b> October 8, 2023, to October 21, 2023</li> </ul> <p><b>Allocate Resources:</b></p> <ul style="list-style-type: none"> <li>• <b>Function:</b> This phase focuses on assembling the resources needed for the project, including personnel, hardware, software, and equipment. It entails identifying the required team members, their roles and responsibilities, and the tools and technologies needed for AR/VR development.</li> <li>• <b>Associated Activities:</b> Identifying required resources and personnel, assigning roles and responsibilities.</li> <li>• <b>Performance Measurement Criteria:</b> Resources must be allocated as per the project plan and meet project objectives.</li> <li>• <b>Resource Requirements:</b> Identify the necessary resources for resource allocation, such as hardware, software, and team members.</li> </ul>	

- **Cost Estimates:** Estimate the costs associated with resource allocation, including personnel salaries and hardware procurement.
- **Quality Requirements:** Define quality standards for resource allocation to ensure the project's success.
- **Technical Content:** Specify the technical details of the resources and equipment needed.
- **Timeline:** October 22, 2023, to October 28, 2023

#### **Develop Budget:**

- **Function:** This phase involves estimating and allocating the budget for the project. It covers various project costs, including personnel expenses, software and hardware costs, materials, and other expenditures. A contingency fund is established to cover unforeseen expenses.
- **Associated Activities:** Estimating project costs, budget allocation, and establishing a contingency fund.
- **Performance Measurement Criteria:** The budget allocation and contingency fund must align with project estimates.
- **Resource Requirements:** Identify the necessary resources for budget development, such as financial experts and accounting tools.
- **Cost Estimates:** Estimate the costs associated with budget development, including budgeting software costs and personnel expenses.
- **Quality Requirements:** Define quality standards for budgeting to ensure financial accuracy and project success.
- **Technical Content:** Specify the technical details and format of the budget breakdown.
- **Timeline:** October 29, 2023, to November 4, 2023

#### **Revision History:**

- Version 1.0- Initial version – [October – November]

WBS Code	WBS Element
<b>2.1</b>	<b>Content Development</b>
WBS Element Description	
<p><b>Content Generation and Enhancement:</b></p> <ul style="list-style-type: none"> <li>• <b>Function:</b> Designing interactive AR/VR training scenarios and exercises, thoroughly testing them, and collecting feedback to enhance the content. Creating 3D models, simulations, stimulating lessons, and efficient lessons as part of the activities. Testing and content enhancement should be accomplished.</li> <li>• <b>Associated Activities:</b> Design interactive training scenarios, conduct thorough testing, collect feedback, create 3D models, simulations, lessons, and enhance content.</li> <li>• <b>Milestones:</b> Completion of AR/VR content creation and approval of the design.</li> <li>• <b>Timeline:</b> November 4, 2023, to November 11, 2023</li> <li>• <b>Resource Requirements:</b> Content designers, AR/VR development tools, and test users.</li> <li>• <b>Cost Estimates:</b> Estimated costs for content generation will be discussed in the later part.</li> <li>• <b>Quality Requirements:</b> User testing and refinement of content.</li> <li>• <b>Technical Content:</b> Change and improvement documentation.</li> </ul> <p>In this phase, we create AR/VR training content, including 3D models, virtual environments, and interactive materials. Milestones include content drafts and prototypes, with performance measured</p>	



through quality evaluations. Resource details and budget allocations are in a separate document. Maintaining a revision history is vital for content control and quality.

#### **Revision History:**

- Version 2.0- 3.0- Pre-Requisites Preparation version – [November 2023 – January 2024 ]

WBS Code	WBS Element
<b>2.3</b>	<b>Technology Assessment</b>
WBS Element Description	
<p><b>Technical Support:</b></p> <ul style="list-style-type: none"> <li>• <b>Function:</b> Technical Support elements include all activities related to the configuration of hardware and software required for the VR training program to ensure compatibility and functionality. This includes hardware requirements such as headsets, computers, and other necessary equipment, as well as the deployment of VR software.</li> <li>• <b>Associated Activities:</b> <ul style="list-style-type: none"> <li>• Purchase VR headsets, PCs, and other necessary devices.</li> <li>• Install and set up virtual reality software on the chosen platforms.</li> <li>• Create virtual reality training environments and platforms.</li> <li>• Test and ensure the compatibility and functionality of hardware and software components.</li> <li>• Connect to the network for remote assistance, data exchange, and updates.</li> </ul> </li> <li>• <b>Milestones:</b> <ul style="list-style-type: none"> <li>• Hardware acquisition is now complete.</li> <li>• Software development and configuration are now complete.</li> <li>• Test plan for integration and function is now created.</li> </ul> </li> <li>• <b>Performance Measurement Criteria:</b> <ul style="list-style-type: none"> <li>• VR hardware and software installation and configuration completed successfully.</li> <li>• Compatibility and functionality tests meet the expectations.</li> <li>• Hardware purchase was completed on schedule and within budget.</li> <li>• Network connectivity has been established successfully.</li> </ul> </li> <li>• <b>Resource Requirements:</b> <ul style="list-style-type: none"> <li>• IT and the Procurement Team oversee purchasing hardware.</li> <li>• IT and the Development Team oversee software development and configuration.</li> <li>• Team of Support for Network Connectivity</li> </ul> </li> <li>• <b>Cost Estimates:</b> <ul style="list-style-type: none"> <li>• \$60,000 for hardware procurement</li> <li>• \$80,000 for software development/configuration</li> <li>• \$10,000 for functionality and compatibility test</li> </ul> </li> <li>• <b>Quality Requirements:</b> <ul style="list-style-type: none"> <li>• Technical specifications must be met by both hardware and software.</li> <li>• Test reports are required to assure compatibility and reliability.</li> </ul> </li> <li>• <b>Technical Content:</b> <ul style="list-style-type: none"> <li>• Specifications and configurations for hardware.</li> <li>• Details on software development and configuration.</li> <li>• Criteria and results of functional and compatibility testing.</li> </ul> </li> <li>• <b>Contact Information:</b> <ul style="list-style-type: none"> <li>• Project Manager: Supreety Datta and Yuvraj Singh</li> </ul> </li> </ul>	

- *Procurement Manager: Gulshan and Mahdi*

**Revision History:**

- *Version 2.0- 3.0- Pre-Requisites Preparation version – [November 2023 – January 2024 ]*

WBS Code	WBS Element
<b>2.8</b>	<b>Develop AR/VR Software &amp; Test Software Components</b>
WBS Element Description	
<p><b>Develop AR/VR Software &amp; Test Software Components:</b></p> <ul style="list-style-type: none"> <li>• <b>Function:</b> This phase involves the development of AR/VR software components for the training module, followed by comprehensive testing to ensure their functionality, performance, and compatibility with the hardware and intended user experience.</li> <li>• <b>Associated Activities:</b> <ul style="list-style-type: none"> <li>• Software development, including creating AR/VR environments, interactive training content, and user interfaces.</li> <li>• Rigorous testing of the developed software components, including unit testing, integration testing, and system testing.</li> <li>• Feedback collection from test users and relevant stakeholders.</li> <li>• Iterative refinement of software based on testing and feedback.</li> <li>• Final quality assurance and validation of software.</li> </ul> </li> <li>• <b>Milestones:</b> <ul style="list-style-type: none"> <li>• Completion of AR/VR software development.</li> <li>• Successful software testing of individual components.</li> <li>• Feedback collection and iterative refinement.</li> <li>• Final quality assurance and validation of software.</li> </ul> </li> <li>• <b>Timeline:</b> <ul style="list-style-type: none"> <li>• Development: October 1, 2023, to December 20, 2023</li> <li>• Testing: January 21, 2023, to February 30, 2023</li> </ul> </li> <li>• <b>Criteria for Measuring Performance:</b> <ul style="list-style-type: none"> <li>• Successful development and functionality of AR/VR software.</li> <li>• Successful completion of testing phases.</li> <li>• Positive feedback from test users and stakeholders.</li> <li>• Compliance with technical specifications and project objectives.</li> </ul> </li> <li>• <b>Resource Requirements:</b> <ul style="list-style-type: none"> <li>• Development team with AR/VR software expertise.</li> <li>• AR/VR development tools and software.</li> <li>• Test users, VR headsets, and hardware.</li> <li>• Quality assurance and testing tools.</li> </ul> </li> <li>• <b>Cost Estimates:</b> <ul style="list-style-type: none"> <li>• Costs may vary based on the complexity of the AR/VR software and the number of test users, including personnel costs, software costs, and hardware expenses.</li> </ul> </li> <li>• <b>Quality Requirements:</b> <ul style="list-style-type: none"> <li>• AR/VR software must function effectively and meet the project's technical specifications.</li> <li>• User feedback and testing should inform iterative improvements.</li> <li>• Quality assurance procedures must be followed to ensure compliance with standards.</li> </ul> </li> <li>• <b>Technical Content:</b> <ul style="list-style-type: none"> <li>• Technical specifications for AR/VR software components.</li> </ul> </li> </ul>	

- Testing procedures, protocols, and reports.
- User feedback and improvement documentation.
- **Contact Information:**
  - AR/VR Development Team: Aryan and Harry
  - Test Users: Yuvraj and Gulshan
  - Project Manager: Supreety

***Revision History:***

- *Version 2.0- 3.0- Development version – [January 2023 – February 2024 ]*

WBS Code	WBS Element
2.10	<b>Conduct Integration Testing &amp; Optimize System Performance</b>
WBS Element Description	
<p><b>Conduct Integration Testing &amp; Optimize System Performance:</b></p> <ul style="list-style-type: none"> <li>• <b>Function:</b> This phase involves conducting integration testing to ensure that hardware and software components of the AR/VR training system work together seamlessly. Additionally, it includes the optimization of system performance to enhance the user experience.</li> <li>• <b>Associated Activities:</b> <ul style="list-style-type: none"> <li>• Integration testing to validate the compatibility and functionality of hardware and software components.</li> <li>• Performance optimization, which may include code optimization, resource allocation, and system fine-tuning.</li> <li>• Monitoring and assessing system performance to identify bottlenecks and areas for improvement.</li> <li>• Iterative optimization based on test results and user feedback.</li> <li>• Final validation of system performance.</li> </ul> </li> <li>• <b>Milestones:</b> <ul style="list-style-type: none"> <li>• Successful completion of integration testing.</li> <li>• System performance optimization.</li> <li>• Monitoring and assessment of system performance.</li> <li>• Iterative optimization based on testing and feedback.</li> <li>• Final validation of optimized system performance.</li> </ul> </li> <li>• <b>Timeline:</b> <ul style="list-style-type: none"> <li>• Integration Testing: November 31, 2023, to January 10, 2024</li> <li>• System Performance Optimization: January 11, 2024, to March 20, 2024</li> </ul> </li> <li>• <b>Criteria for Measuring Performance:</b> <ul style="list-style-type: none"> <li>• Successful integration testing, with hardware and software working seamlessly.</li> <li>• Optimized system performance, meeting or exceeding performance targets.</li> <li>• Positive user feedback regarding system performance and user experience.</li> </ul> </li> <li>• <b>Resource Requirements:</b> <ul style="list-style-type: none"> <li>• Integration testing team.</li> <li>• AR/VR hardware and software.</li> <li>• Performance monitoring tools.</li> <li>• AR/VR development tools for optimization.</li> </ul> </li> <li>• <b>Cost Estimates:</b> <ul style="list-style-type: none"> <li>• Costs may vary based on the complexity of testing and optimization, including personnel costs, software costs, and potential hardware expenses.</li> </ul> </li> <li>• <b>Quality Requirements:</b> <ul style="list-style-type: none"> <li>• Integration testing must validate seamless hardware and software interaction.</li> <li>• System performance should meet or exceed defined performance targets.</li> <li>• User feedback should inform iterative optimization efforts.</li> </ul> </li> <li>• <b>Technical Content:</b> <ul style="list-style-type: none"> <li>• Integration testing procedures, protocols, and reports.</li> <li>• Optimization techniques and improvement documentation.</li> <li>• User feedback and optimization feedback documentation.</li> </ul> </li> <li>• <b>Contact Information:</b> <ul style="list-style-type: none"> <li>• Integration Testing Team: Aryan and Harry</li> </ul> </li> </ul>	

- AR/VR Development Team: Aryan and Supreety
- Project Manager: Supreety
- **Revision History:**

***Revision History:***

- *Version 2.0- 3.0- Development version – [November 2023 – January 2024*
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WBS Code	WBS Element
<b>3.2</b>	<b>Execute Functional Testing &amp; conduct Usability Testing</b>
<b>WBS Element Description</b>	
<p><b>Testing and Quality Assurance:</b></p> <ul style="list-style-type: none"> <li>• <b>Function:</b> Testing and Quality Assurance process includes testing the AR/VR hardware and software components to guarantee they operate correctly and ensuring the quality of training content aligns with safety and competency standards.</li> <li>• <b>Associated Activities:</b> <ul style="list-style-type: none"> <li>• Test AR/VR training modules.</li> <li>• Test realistic and interactive training scenarios.</li> <li>• Conduct pilot training sessions.</li> <li>• Get feedback and make necessary improvements.</li> <li>• Scale up training for all employees.</li> </ul> </li> <li>• <b>Milestones:</b> <ul style="list-style-type: none"> <li>• AR/VR training modules have been tested.</li> <li>• Realistic training scenarios have been tested.</li> <li>• Pilot training sessions are completed.</li> <li>• Feedback is collected, and improvements have been made.</li> <li>• Full-scale training implementation is achieved.</li> </ul> </li> <li>• <b>Performance Measurement Criteria:</b> <ul style="list-style-type: none"> <li>• Training modules meet the objective.</li> <li>• Realistic and interactive training scenarios function effectively.</li> <li>• Sessions receive positive feedback.</li> <li>• Training is successfully achieved for all employees.</li> </ul> </li> <li>• <b>Resource Requirements:</b> <ul style="list-style-type: none"> <li>• Training facilities and equipment setup.</li> <li>• A cross-functional team with IT team.</li> <li>• Safety Consultants and Hazard Assessment Specialists.</li> </ul> </li> <li>• <b>Cost Estimates:</b> <ul style="list-style-type: none"> <li>• Training facility setup: \$40,000</li> <li>• External Consultants: \$10,000</li> </ul> </li> <li>• <b>Quality Requirements:</b> <ul style="list-style-type: none"> <li>• Ensuring that employees gain the necessary knowledge and skills to work safely in a hazardous environment.</li> <li>• Store user data and employee feedback of the training and make improvements.</li> </ul> </li> <li>• <b>Technical Content:</b> <ul style="list-style-type: none"> <li>• Training module content, scenarios, and objectives.</li> <li>• Training feedback and improvement reports.</li> </ul> </li> <li>• <b>Contact Information:</b> <ul style="list-style-type: none"> <li>• Project Manager: Supreety Datta and Yuvraj</li> <li>• Training Manager: Aryan and Harry</li> <li>• Procurement Manager: Gulshan and Mahdi</li> </ul> </li> </ul> <p><b>Revision History:</b></p> <ul style="list-style-type: none"> <li>• <i>Version 3.0- 4.0- Testing and Training version – [February 2024 – April 2024 ]</i></li> </ul>	

WBS Code	WBS Element
3.6	Training Module Deployment
WBS Element Description	
<p><b>Configuration and Deployment:</b></p> <ul style="list-style-type: none"> <li>• <b>Function:</b> This involves configuring, deploying, and reviewing the success of the training module and its influence on employee performance.</li> <li>• <b>Milestones:</b> <ul style="list-style-type: none"> <li>• The selection and configuration of AR/VR gear and software is complete.</li> <li>• Employees have successfully received AR/VR training modules.</li> <li>• Data collection for pre- and post-implementation is complete.</li> <li>• A report on the module's efficacy is created.</li> </ul> </li> <li>• <b>Criteria for Measuring Performance:</b> <ul style="list-style-type: none"> <li>• Successful implementation of an AR/VR training program.</li> <li>• The module is compatible and functioning on the systems specified.</li> <li>• High levels of staff involvement and participation.</li> <li>• Employee performance and learning outcomes have improved.</li> <li>• Employees have provided positive comments.</li> <li>• Completion of deployment and assessment on time and under budget.</li> </ul> </li> <li>• <b>Resource Requirements:</b> <ul style="list-style-type: none"> <li>• IT and Procurement Teams will pick hardware and software.</li> <li>• IT and Development Teams will install and configure applications.</li> <li>• Employee training will be overseen by the Training Team.</li> <li>• The module efficacy will be assessed by the Evaluation Team.</li> </ul> </li> <li>• <b>Cost Estimates:</b> <ul style="list-style-type: none"> <li>• \$70,000 for software installation and setup.</li> <li>• \$20,000 for data gathering and review.</li> </ul> </li> <li>• <b>Quality Requirements:</b> <ul style="list-style-type: none"> <li>• The AR/VR training module must meet technical specifications.</li> <li>• Evaluation criteria must be well-defined and aligned with organizational goals.</li> <li>• Module effectiveness must be assessed through data-driven insights.</li> </ul> </li> <li>• <b>Technical Content:</b> <ul style="list-style-type: none"> <li>• Specifications and configurations for selected AR/VR hardware and software.</li> <li>• Evaluation criteria and metrics for assessing module effectiveness.</li> <li>• Data collection methods and tools.</li> <li>• Module effectiveness analysis techniques.</li> </ul> </li> <li>• <b>Contact Information:</b> <ul style="list-style-type: none"> <li>• Project Manager: Supreety Datta (CEO)</li> <li>• Procurement Manager: Gulshan</li> <li>• Evaluation Team Lead: Harry Sanil</li> </ul> </li> <li>• <b>Revision History:</b> <ul style="list-style-type: none"> <li>• Version 3.0- 4.0- Testing and Training version – [February 2024 – April 2024 ]</li> </ul> </li> </ul>	

WBS Code	WBS Element
<b>4.1</b>	<b>Create User Manuals</b>
<b>WBS Element Description</b>	
<p><b>Create User Manual:</b></p> <ul style="list-style-type: none"> <li>• Function: This phase involves developing a user manual for the AR/VR training module, providing detailed instructions for users. The user manual aims to facilitate a smooth user experience, ensure safety, and optimize learning outcomes.</li> <li>• <b>Associated Activities:</b> <ul style="list-style-type: none"> <li>• Gather information and specifications for the AR/VR training module.</li> <li>• Develop clear and user-friendly content for the user manual.</li> <li>• Design and format the user manual for easy comprehension.</li> <li>• Review and edit the manual for accuracy and clarity.</li> <li>• Seek feedback from potential users and make necessary improvements.</li> </ul> </li> <li>• <b>Milestones:</b> <ul style="list-style-type: none"> <li>• User manual content is created.</li> <li>• User manual design and formatting are completed.</li> <li>• User manual is reviewed and edited.</li> <li>• Feedback is collected, and improvements are made.</li> <li>• Final user manual is approved for distribution.</li> </ul> </li> <li>• <b>Criteria for Measuring Performance:</b> <ul style="list-style-type: none"> <li>• The user manual effectively guides users on how to use the AR/VR training module.</li> <li>• The manual content is accurate and clear.</li> <li>• Feedback from potential users is positive and suggests ease of use.</li> <li>• The user manual is approved for distribution on time and within the budget.</li> </ul> </li> <li>• <b>Resource Requirements:</b> <ul style="list-style-type: none"> <li>• Subject matter experts to provide information and specifications.</li> <li>• Technical writers and content developers.</li> <li>• Graphic designers for manual design and formatting.</li> <li>• Reviewers and editors for quality control.</li> </ul> </li> <li>• <b>Cost Estimates:</b> <ul style="list-style-type: none"> <li>• \$40,000 for content development and gathering.</li> <li>• \$20,000 for design and formatting.</li> <li>• \$10,000 for review, editing, and feedback collection.</li> </ul> </li> <li>• <b>Quality Requirements:</b> <ul style="list-style-type: none"> <li>• The user manual must provide clear and accurate instructions.</li> <li>• User feedback must be used to make improvements.</li> <li>• The final user manual must meet quality standards for distribution.</li> </ul> </li> <li>• <b>Technical Content:</b> <ul style="list-style-type: none"> <li>• Specifications and details about the AR/VR training module.</li> <li>• User manual content, design, and format.</li> <li>• Feedback collection methods and analysis.</li> </ul> </li> <li>• <b>Contact Information:</b> <ul style="list-style-type: none"> <li>• Project Manager: Supreety Datta</li> <li>• Subject Matter Experts: Mahdi and Yuvraj</li> </ul> </li> </ul>	



- Technical Writers: Harry and Aryan
- Graphic Designers: Gulshan and Aryan
- Reviewers and Editors: Harry and Aryan
- **Revision History:**
  - **Version 4.0+ - Final version.-** [March 2024 – June 2024 ]

WBS Code	WBS Element
<b>4.4</b>	<b>Include Software Update Features</b>
WBS Element Description	
<p><b>Software Update Procedures:</b></p> <ul style="list-style-type: none"> <li>• <b>Function:</b> Software update procedures are essential for keeping software systems up-to-date, secure, and optimized. These procedures ensure that updates are applied smoothly, minimizing disruptions and security vulnerabilities.</li> <li>• <b>Associated Activities:</b> <ul style="list-style-type: none"> <li>• Identify the need for software updates, including security patches, bug fixes, and feature enhancements.</li> <li>• Assess the impact of updates on the system and its users.</li> <li>• Plan the update process, including scheduling and communication with stakeholders.</li> <li>• Prepare for updates by backing up data, creating a rollback plan, and ensuring necessary resources.</li> <li>• Perform the actual software update, following established protocols and testing.</li> <li>• Verify the update's success and test the system's functionality.</li> <li>• Communicate the completion of updates to users and relevant stakeholders.</li> <li>• Monitor and report on the performance of the updated software.</li> </ul> </li> <li>• <b>Milestones:</b> <ul style="list-style-type: none"> <li>• Identification of the need for updates.</li> <li>• Update impact assessment and planning.</li> <li>• Update preparation, including backups and resource allocation.</li> <li>• Successful execution of updates.</li> <li>• Verification of updated system functionality.</li> <li>• Communication of update completion.</li> <li>• Post-update performance monitoring and reporting.</li> </ul> </li> <li>• <b>Criteria for Measuring Performance:</b> <ul style="list-style-type: none"> <li>• Timely identification and application of necessary updates.</li> <li>• Minimized impact on system performance and user experience.</li> <li>• Successful execution of updates without critical issues.</li> <li>• Functional verification of the updated system.</li> <li>• Effective communication with users and stakeholders.</li> <li>• Continuous monitoring and reporting on the updated software's performance.</li> </ul> </li> <li>• <b>Resource Requirements:</b> <ul style="list-style-type: none"> <li>• IT staff for update identification, planning, and execution.</li> <li>• Backup and recovery systems.</li> <li>• Communication tools for user notifications.</li> <li>• Monitoring and reporting tools.</li> </ul> </li> <li>• <b>Cost Estimates:</b> <ul style="list-style-type: none"> <li>• Costs may vary depending on the scale and complexity of the software system. This includes personnel costs, tools, and potential downtime costs.</li> </ul> </li> <li>• <b>Quality Requirements:</b> <ul style="list-style-type: none"> <li>• Updates must be applied with minimal disruption.</li> <li>• Security updates should be prioritized to prevent vulnerabilities.</li> <li>• The updated software should meet or exceed previous performance levels.</li> <li>• User feedback should be considered for continuous improvement.</li> </ul> </li> <li>• <b>Technical Content:</b> <ul style="list-style-type: none"> <li>• Details about the software system, including the need for updates.</li> <li>• Update plans and schedules.</li> <li>• Backup and recovery procedures.</li> <li>• Communication templates for user notifications.</li> <li>• Monitoring and reporting processes.</li> </ul> </li> </ul>	

- **Contact Information:**
  - IT Manager: Yuvraj
  - System Administrators: Mahdi
  - Communication Team: Harry and Aryan
- **Revision History:**
- **Revision History:**
  - **Version 4.0+ - Final version.-** [March 2024 – June 2024 ]

WBS Code	WBS Element
<b>4.9</b>	<b>Provide Project Updates and address Stakeholder concerns</b>
WBS Element Description	
<p><b>Reviewing Stakeholder Concerns and Providing Updates:</b></p> <ul style="list-style-type: none"> <li>• <b>Function:</b> The process of reviewing stakeholder concerns and providing updates is essential for maintaining positive stakeholder relationships, addressing their feedback, and ensuring alignment with project objectives. This function enables effective communication and responsiveness to stakeholder needs.</li> <li>• <b>Associated Activities:</b> <ul style="list-style-type: none"> <li>• Identify and collect stakeholder concerns and feedback through various communication channels.</li> <li>• Categorize and prioritize stakeholder concerns based on their impact on the project.</li> <li>• Analyze each concern to understand its implications and potential solutions.</li> <li>• Develop an action plan for addressing concerns, including assigning responsibilities and setting timelines.</li> <li>• Communicate updates and responses to stakeholders, addressing their concerns.</li> <li>• Monitor and report on the progress of concern resolution.</li> <li>• Continuously engage with stakeholders to gather additional feedback and maintain a feedback loop.</li> </ul> </li> <li>• <b>Milestones:</b> <ul style="list-style-type: none"> <li>• Identification and collection of stakeholder concerns.</li> <li>• Categorization and prioritization of concerns.</li> <li>• Development of action plans for each concern.</li> <li>• Communication of updates and responses to stakeholders.</li> <li>• Progress monitoring and reporting.</li> <li>• Ongoing stakeholder engagement for feedback collection.</li> </ul> </li> <li>• <b>Criteria for Measuring Performance:</b> <ul style="list-style-type: none"> <li>• Timely identification and collection of stakeholder concerns.</li> <li>• Effective categorization and prioritization of concerns.</li> <li>• Well-defined action plans with assigned responsibilities and timelines.</li> <li>• Clear and responsive communication with stakeholders.</li> <li>• Timely resolution of stakeholder concerns.</li> <li>• Continuous stakeholder engagement and feedback integration.</li> <li>• Positive stakeholder satisfaction and alignment with project goals.</li> </ul> </li> <li>• <b>Resource Requirements:</b> <ul style="list-style-type: none"> <li>• Stakeholder engagement team or responsible individuals.</li> <li>• Communication channels for feedback collection.</li> <li>• Project management tools for tracking concerns and actions.</li> <li>• Reporting and documentation tools.</li> </ul> </li> <li>• <b>Cost Estimates:</b> <ul style="list-style-type: none"> <li>• Costs may vary based on the number and complexity of stakeholder concerns, including personnel costs and potential costs associated with implementing solutions.</li> </ul> </li> <li>• <b>Quality Requirements:</b> <ul style="list-style-type: none"> <li>• Stakeholder concerns must be addressed promptly and effectively.</li> <li>• Responses and updates should align with stakeholder expectations.</li> <li>• Stakeholder satisfaction and alignment with project goals are key quality indicators.</li> </ul> </li> <li>• <b>Technical Content:</b> <ul style="list-style-type: none"> <li>• Stakeholder concerns, feedback, and their implications.</li> <li>• Action plans, responsibilities, and timelines for concern resolution.</li> <li>• Communication templates for updates to stakeholders.</li> <li>• Progress monitoring and reporting processes.</li> </ul> </li> <li>• <b>Contact Information:</b></li> </ul>	




- Stakeholder Engagement Team: Yuvraj and Mahdi
- Project Manager: Supreety
- **Revision History:**
  - **Version 4.0+ - Final version.-** [March 2024 – June 2024 ]

WBS Code	WBS Element
<b>5.5</b>	<b>Provide Project Updates and address Stakeholder concerns</b>
WBS Element Description	
<p><b>Store Project Documentation &amp; Ensure Accessibility for Future Reference:</b></p> <ul style="list-style-type: none"> <li>• <b>Function:</b> Storing project documentation and ensuring accessibility for future reference is crucial for maintaining organized records, knowledge retention, and compliance with record-keeping standards. This function ensures that project information is readily available for future use.</li> <li>• <b>Associated Activities:</b> <ul style="list-style-type: none"> <li>• Identify and gather project documentation, including reports, plans, communications, and artifacts.</li> <li>• Organize and categorize project documentation based on relevance and importance.</li> <li>• Establish a secure and structured document repository or system.</li> <li>• Implement access controls and permissions to protect sensitive information.</li> <li>• Develop a documentation retention and disposal policy to manage document lifecycle.</li> <li>• Create an index or search system for easy retrieval of specific documents.</li> <li>• Ensure regular backups and disaster recovery procedures for document preservation.</li> </ul> </li> <li>• <b>Milestones:</b> <ul style="list-style-type: none"> <li>• Identification and gathering of project documentation.</li> <li>• Organization and categorization of documents.</li> <li>• Establishment of a secure document repository.</li> <li>• Implementation of access controls and permissions.</li> <li>• Development of a documentation retention policy.</li> <li>• Creation of an index or search system.</li> <li>• Implementation of regular document backups and disaster recovery procedures.</li> </ul> </li> <li>• <b>Criteria for Measuring Performance:</b> <ul style="list-style-type: none"> <li>• All project documentation is identified and stored.</li> <li>• Documentation is well-organized and easy to locate.</li> <li>• Access controls and permissions are effectively managed.</li> <li>• Documentation retention policy is adhered to.</li> <li>• Documents are retrievable within a reasonable timeframe.</li> <li>• Backups and disaster recovery procedures are successful.</li> </ul> </li> <li>• <b>Resource Requirements:</b> <ul style="list-style-type: none"> <li>• Document management team or responsible individuals.</li> <li>• Document repository or system.</li> <li>• Access control and permission management tools.</li> <li>• Backup and disaster recovery systems.</li> <li>• Indexing and search tools.</li> </ul> </li> <li>• <b>Cost Estimates:</b> <ul style="list-style-type: none"> <li>• Costs may vary based on the volume of documentation and the complexity of the storage and retrieval system, including personnel costs and technology expenses.</li> </ul> </li> <li>• <b>Quality Requirements:</b> <ul style="list-style-type: none"> <li>• Documentation must be complete and organized.</li> <li>• Access controls should protect sensitive information.</li> <li>• Document retrieval should be efficient and user-friendly.</li> <li>• Backup and disaster recovery procedures must ensure document preservation.</li> </ul> </li> <li>• <b>Technical Content:</b> <ul style="list-style-type: none"> <li>• Details about project documentation types and sources.</li> <li>• Document organization and categorization criteria.</li> <li>• Access control and permissions guidelines.</li> <li>• Documentation retention and disposal policy.</li> <li>• Backup and disaster recovery procedures.</li> </ul> </li> </ul>	

- **Contact Information:**
  - Document Management Team: Supreety and Gulshan
  - IT Administrator: Yuvraj
- **Revision History:**
  - **Version 4.0+ - Final version.-** [March 2024 – June 2024 ]

## APPENDIX A: REFERENCES

The following table summarizes the documents referenced in this document.

Document Name and Version	Description	Location
<i>Project-Scope-Statement.xlsx</i>	<i>Project scope document</i>	 Project-Scope-Statement.xlsx
<i>Stakeholder-Analysis.xlsx</i>	<i>Stakeholder Analysis document</i>	 Stakeholder-Analysis.xlsx
<i>Budget.xlsx</i>	<i>Estimated costs for content generation</i>	 Budget.xlsx
<i>VR Training Guide v1.0</i>	<i>Guide for training employees in VR</i>	<a href="#"><u>Link to Guide for training employees in VR</u></a>
<i>Hardware Requirements V1.0</i>	<i>Hardware Recommendations for Virtual Reality</i>	<a href="#"><u>Link to Hardware Recommendations for Virtual Reality</u></a>
<i>Stream VR V 1.26</i>	<i>Software Required</i>	<a href="#"><u>Link to Software Required</u></a>



## APPENDIX B: KEY TERMS

The following table provides definitions for terms relevant to this document.

Term	Definition
<i>Communication</i>	<i>Communication - A process through which information is exchanged among persons using a common system of symbols, signs, or behaviors</i>
<i>Budget</i>	<i>The approved estimate for the project or any work breakdown structure component or any schedule activity.</i>
<i>User/Customer-</i>	<i>The person or organization that will use the project's product.</i>
<i>Test Reports</i>	<i>Test Reports are completed at the end of each test to verify expected results. A summary report should be created at the end of the testing phases to document the overall test results. These reports summarize the testing activities that were performed and describe any variances between the expected test results and the actual test results and includes identification of unexpected problems and/or defects that were encountered</i>
<i>Test Plan</i>	<i>The Test Plan defines the types of tests (e.g. unit, function, integration, system, security, performance (load and stress), regression, user acceptance, and/or independent verification and validation) to be carried out. . . .</i>
<i>Element</i>	<i>A piece of data within a document. Within the WBS an element is one box, at any level, of the WBS.</i>
<i>Data Exchange</i>	<i>The movement of electronic information between computer software applications, either within an organization or between organizations.</i>
<i>Work Breakdown Structure (WBS)</i>	<i>A subdivision of the work which the project is responsible for, defined as hardware, software, and service elements, integrating effort, and provides a framework for planning, control, and reporting.</i>
<i>Information Technology (IT)</i>	<i>Information technology, as defined by the Clinger-Cohen Act of 1996, sections 5002, 5141, and 5142, means any equipment or interconnected system or subsystem of equipment that is used in the automatic acquisition, storage, manipulation, management, movement, control, display, switching, interchange, transmission, or reception of data or information.</i>