

# VL-Redback User Story

Size Estimation	
S	User Stories that are simple to implement and can be completed in 1-2 days.
M	User Stories that are moderate complex and can be completed in 3-5 days.
L	User Stories that are large and require approximately a week to accomplish.

MoSCoW Priority	
Must have	Non-negotiable product needs that are mandatory for the team.
Should have	Important initiatives that are not vital but add significant value.
Could have	Nice to have initiatives that will have a small impact if left out.
Will not have	Initiatives that are not a priority for this specific time-frame.

Epic ID	Epic	User Story ID	As a	I Want To	So That	Size Estimation	MoSCoW Priority	Justification
1	Environmental Creation	1.1	Teacher	Access an edit mode	I can customise the teaching environment to better suit my lesson plans	M	Must have	<i>Size Estimation:</i> Implementing an edit mode for teachers to access and customise the teaching environment might require a moderate amount of development effort, involving both interface design and backend functionality. <i>MoSCoW Priority:</i> Essential for allowing teachers to tailor educational settings. <i>Justification:</i> Facilitates pedagogical flexibility by enabling environment customization, critical for diverse educational needs.
		1.2	Teacher	Select and import 3D elements from a resource library	I can enhance the realism and relevance of educational content	L	Must have	<i>Size Estimation:</i> A substantial task, as it involves integrating external assets and ensuring compatibility with the VR environment. <i>MoSCoW Priority:</i> Foundational for building interactive and engaging learning environments. <i>Justification:</i> Provides essential tools for teachers to create visually rich and immersive educational experiences.
		1.3	Teacher	Import and utilise 3D scanned items in my virtual classroom	I can incorporate real-world elements into my designs	L	Must have	<i>Size Estimation:</i> Very complex to integrate advanced 3D technologies. <i>MoSCoW Priority:</i> Critical for incorporating authentic real-world elements into lessons. <i>Justification:</i> Enhances educational realism and student engagement by using real-world objects in lessons.
		1.4	Teacher	Drag and position imported items within the virtual space	I can design and organise interactive learning environments	L	Must have	<i>Size Estimation:</i> Large feature involving complex interactive logic. <i>MoSCoW Priority:</i> Key for user control over environment customization. <i>Justification:</i> Allows for precise and user-defined placement of elements, which is fundamental for effective educational setups.
		1.5	Teacher	Save the environment configurations I create	I can reuse and share educational setups easily	S	Must have	<i>Size Estimation:</i> Developing the feature to save environment configurations is relatively straightforward and should not demand extensive development resources. <i>MoSCoW Priority:</i> Basic functionality needed for operational continuity and usability. <i>Justification:</i> Critical for maintaining and managing educational content effectively, ensuring teachers can save and revisit created environments.
2	Account Management	2.1	Teacher or Student	Register an account using my email	I can access the system and have my information stored securely	M	Will not have	<i>Size Estimation:</i> Requires secure handling of personal data. <i>MoSCoW Priority:</i> Not planned for implementation in the current version. <i>Justification:</i> Allows the system to provide a personalised and secure experience by ensuring each user has a unique account.
		2.2	Teacher or Student	Use my username and password to log in	I can access the system	S	Will not have	<i>Size Estimation:</i> Developing the login functionality, including username and password validation, is relatively straightforward and should not require extensive development resources. <i>MoSCoW Priority:</i> Not planned for implementation in the current version. <i>Justification:</i> Ensures that only authenticated users can access their accounts, protecting user data and system integrity.
		2.3	Teacher or	Reset my password	I can reset my password	S	Will not have	<i>Size Estimation:</i> Implementing the password reset feature via email involves relatively

			Student	through my email				simple logic and user interface components, requiring minimal development effort. <i>MoSCoW Priority:</i> Password reset functionality, while useful, is not deemed critical for the initial release of the system and can be deferred to future iterations. <i>Justification:</i> Provides a means for users to securely manage their credentials, ensuring they can always access their accounts.
		2.4	Teacher or Student	Exit the game	I can end this tour	S	Must have	<i>Size Estimation:</i> Adding an exit option to end the session is a simple task. <i>MoSCoW Priority:</i> Basic requirement for managing sessions and enhancing security. <i>Justification:</i> Allows users to safely end their sessions, ensuring that their information remains secure when not actively using the system.
		2.5	Teacher or Student	Choose my role (teacher or student)	I can simulate the appropriate scenery for my role	S	Must have	<i>Size Estimation:</i> Implementing role selection with different eye levels for players and teachers involves relatively simple user interface adjustments. <i>MoSCoW Priority:</i> Role selection is crucial for users to simulate appropriate perspectives and interactions within the virtual environment. <i>Justification:</i> Enhances the realism and appropriateness of the virtual environment by aligning visual perspectives with user roles.
3	Player Creation & Customization	3.1	Teacher	Create a player character	I can facilitate multi-user interactions for collaboration and engagement in the virtual learning environment	M	Must have	<i>Size Estimation:</i> Moderate complexity, involves character design and interaction mechanics. <i>MoSCoW Priority:</i> Essential for enabling a personalised and interactive learning experience. <i>Justification:</i> Allows the implementation of multi-user scenarios, crucial for interactive learning and user engagement.
		3.2	Teacher	Define the player's speed	I can customise the player's speed to suit different scenarios	S	Could have	<i>Size Estimation:</i> A simple implementation of input fields and a button to customise the player's speed should work just fine. <i>MoSCoW Priority:</i> Enhances user experience but is not critical for the basic functionality. <i>Justification:</i> Provides flexibility in gameplay dynamics, enhancing the realism and applicability of the virtual environment to diverse learning settings.
		3.3	Teacher	Define the player's jump height	I can customise the player's jump to move around a 3D environment	S	Could have	<i>Size Estimation:</i> A simple implementation of input fields and a button to adjust the player's jump height should work just fine. <i>MoSCoW Priority:</i> Adds to the gameplay experience but is not essential for core educational interactions. <i>Justification:</i> Allows users to engage more fully with the 3D space, making the virtual environment more interactive and fun.
		3.4	Teacher	Define the player's height	I can customise the player's height to simulate different scenarios	S	Could have	<i>Size Estimation:</i> A simple implementation of a scaling percentage adjustment box to modify the player's size should work just fine. <i>MoSCoW Priority:</i> While customising player size could enhance immersion, it's considered non-essential for the core functionality of the VR teaching platform and can be deferred to future iterations. <i>Justification:</i> Critical for ensuring the player character fits the educational purpose, such as simulating different age groups or historical figures.
		3.5	Teacher	Define the player's control type (motion controls or on rails)	I can decide the player's control type to suit different scenarios	S	Will not have	<i>Size Estimation:</i> A simple implementation of buttons to select the player's control mode should work just fine. <i>MoSCoW Priority:</i> Enhances customization but not vital for the fundamental operation of the system. <i>Justification:</i> Offers teachers the flexibility to select the best interaction method based on the lesson's goals, enhancing educational effectiveness. Due to the project scope consideration, this function will not be developed in our project.
4	Character Operation	4.1	Teacher or Student	Use my external equipment to control my character moving	I can move around in a virtual environment	M	Must have	<i>Size:</i> Control the model moving to interact with things in the environment could require medium effort, other features should be simple to implement as API is provided in Unity. <i>MoSCoW Priority:</i> Picking up or dropping off items won't be implemented in this system

								since we don't plan to make a backpack for every user in this version. We will only have a folder in an academic computer to save all the resources. Other features here are very important for the user to control their character to interact with the system, so they should be 'Must have'. <i>Justification:</i> This feature enhances user engagement and facilitates active participation, which are essential aspects of effective learning in VR-based educational settings.
		4.2	Teacher or Student	Move my mouse to control the view	I can face on any side I want	S	Must have	<i>Size Estimation:</i> A simple implementation of mouse-based view control, allowing users to face any direction within the virtual environment, should work just fine. <i>MoSCoW Priority:</i> Critical for the fundamental operation of the system. <i>Justification:</i> Allows users to control the view within the virtual environment by moving their mouse, providing essential navigation and exploration capabilities for an immersive experience.
		4.3	Teacher or Student	Use my external equipment to control my character to pick up	I can pick up and collect items in the virtual environment	S	Will not have	<i>Size Estimation:</i> Integrating with existing gameplay mechanics does not need too much effort. <i>MoSCoW Priority:</i> Not planned for implementation in the current version. <i>Justification:</i> While using external equipment to control character movement is feasible, implementing the ability to pick up and collect items in the virtual environment is not within the scope of the current development phase according to client's requirement.
		4.4	Teacher or Student	Use my external equipment to control my character to drop off items	I can put items in the virtual environment	S	Will not have	<i>Size Estimation:</i> Integrating with existing gameplay mechanics does not need too much effort. <i>MoSCoW Priority:</i> Dropping off items, while enhancing interaction, is considered non-essential for the initial release. <i>Justification:</i> Implementing the functionality to drop off items in the virtual environment is not planned for the current development phase.
		4.5	Teacher or Student	Use my external equipment to control my character to trigger an event	I can trigger events in the virtual environment	S	Must have	<i>Size Estimation:</i> Implementing the functionality for users to trigger events using external equipment involves moderate development effort, requiring integration with event-based systems within the virtual environment. <i>MoSCoW Priority:</i> Event triggering is crucial for interactive learning experiences, enabling users to engage with educational content dynamically and effectively within the virtual environment. <i>Justification:</i> Enables users to use external equipment to control their character and trigger events with imported resources in the virtual environment, essential for interaction and progression in the virtual learning experience.
		4.6	Teacher or Student	Open a setting page	I can customise the system	S	Will not have	<i>Size Estimation:</i> Only requires the UI design and backend configuration options. <i>MoSCoW Priority:</i> Critical for the users to allow them to customise the system. <i>Justification:</i> Provides users with the ability to customise system settings, ensuring a personalised and tailored experience, which is essential for user satisfaction and usability.
5	Content Integration	5.1	Teacher	Import images from external sources into the 3D environments created	I can enhance the virtual learning experience with image elements	S	Must have	<i>Size Estimation:</i> Only requires file handling and rendering optimizations. <i>MoSCoW Priority:</i> Critical for setting up a virtual learning environment. <i>Justification:</i> Enables teachers to import images from external sources into the 3D environments and interact with them, enhancing the virtual learning experience with visual elements. The ability to trigger events, such as 'watch', when moving close to images adds interactivity and engagement to the learning process.
		5.2	Teacher	Import videos from external sources into the 3D environments created	I can enhance the virtual learning experience with video elements	S	Must have	<i>Size Estimation:</i> Importing videos only requires video playback and streaming capabilities. <i>MoSCoW Priority:</i> Essential for core functionality. Without it, the system would lack crucial capabilities necessary for effective virtual learning.

								<p><i>Justification:</i> Allows teachers to import videos from external sources into the 3D environments, enhancing the virtual learning experience with dynamic visual elements. Integration of video elements provides valuable multimedia content that can enrich educational materials and engage learners more effectively.</p>
		5.3	Teacher	import text from external sources into the 3D environments created	I can enhance the virtual learning experience with text elements	S	Must have	<p><i>Size Estimation:</i> An easy task that only requires text rendering and formatting options.</p> <p><i>MoSCoW Priority:</i> Essential for the core functionality; its absence would significantly hinder the effectiveness of the virtual learning experience.</p> <p><i>Justification:</i> Incorporates the ability for teachers to import text from external sources into the 3D environments, thereby enriching the learning environment with textual elements. The integration of text elements serves to provide vital information, instructions, or supplementary materials within the virtual space, thereby enhancing comprehension and engagement in the learning process.</p>
		5.4	Teacher	Import quizzes from external sources into the 3D environments created	I can enhance the virtual learning experience with quiz elements	S	Should have	<p><i>Size Estimation:</i> Only requires some interactive features for quiz display.</p> <p><i>MoSCoW Priority:</i> Ideal function but not a core one. Desirable for the overall functionality and user experience; its implementation would significantly improve the educational value of the virtual learning environment.</p> <p><i>Justification:</i> Introduces the capability for teachers to import quizzes from external sources into the 3D environments, thereby enriching the virtual learning experience with interactive assessment elements. The inclusion of quiz elements enhances user engagement and reinforces learning outcomes by providing opportunities for self-assessment and feedback within the immersive environment.</p>
		5.5	Teacher	Import slides from external sources into the 3D environments created	I can enhance the virtual learning experience with slide elements	S	Should have	<p><i>Size Estimation:</i> Only need to present slides and incorporate some navigation controls.</p> <p><i>MoSCoW Priority:</i> Desirable for the overall functionality and user experience; its implementation would significantly enhance the educational value of the virtual learning environment.</p> <p><i>Justification:</i> Enables teachers to import slides from external sources into the 3D environments, thereby enriching the virtual learning experience with visual presentation elements. The incorporation of slide elements enhances the delivery of educational content by providing structured and organised information within the immersive environment, facilitating comprehension and engagement for learners.</p>
		5.6	Teacher	Drag various media to any place I want when creating the 3D environment	I can create an environment with different media	S	Should have	<p><i>Size Estimation:</i> Implementing the drag-and-drop functionality for media placement is enough.</p> <p><i>MoSCoW Priority:</i> This is an ideal function, not a core one. It's desirable for the overall functionality and user experience; its implementation would enhance the flexibility and creativity in creating immersive 3D environments.</p> <p><i>Justification:</i> Facilitates the ability for teachers to drag various media types to any desired location within the 3D environment during creation, thereby enabling the creation of environments with diverse media elements. This feature enhances user autonomy and creativity in designing immersive learning spaces, promoting engagement and exploration within the virtual environment.</p>
6	Resources events	6.1	Teacher or Student	Trigger the event 'watch' when moving close to an image	I can watch the imported image within the virtual learning environment	S	Must have	<p><i>Size Estimation:</i> Simply implements the event trigger mechanism for watching images.</p> <p><i>MoSCoW Priority:</i> Critical for the fundamental operation of the system; without it, users would be unable to interact with and view imported images within the virtual learning environment.</p> <p><i>Justification:</i> Enables the triggering of the 'watch' event when users move close to an</p>

							imported image in the virtual learning environment, allowing them to view the image in detail. This functionality enhances user interaction and engagement, facilitating effective learning experiences within the immersive environment.
		6.2	Teacher or Student	Trigger the event 'watch' when moving close to a video	I can watch the imported video within the virtual learning environment	M	Must have <i>Size Estimation:</i> A moderate amount of effort including event handling, video playback integration, and potentially additional considerations such as buffering and streaming. <i>MoSCoW Priority:</i> Critical for the fundamental operation of the system; without it, users would be unable to interact with and view imported videos within the virtual learning environment. <i>Justification:</i> Facilitates the triggering of the 'watch' event when users move close to an imported video in the virtual learning environment, allowing them to view the video content. This functionality enhances user engagement and interactivity, enabling effective utilisation of multimedia resources for learning purposes within the immersive environment.
		6.3	Teacher or Student	Trigger the event 'read' when moving close to a text	I can read the imported text within the virtual learning environment	S	Must have <i>Size Estimation:</i> <i>MoSCoW Priority:</i> Essential for the fundamental operation of the system; without it, users would be unable to interact with and read imported text within the virtual learning environment. <i>Justification:</i> Enables the triggering of the "read" event when users move close to imported text in the virtual learning environment, allowing them to read the text content. This functionality enhances user engagement and comprehension, facilitating effective utilisation of textual resources for learning purposes within the immersive environment.
		6.4	Teacher or Student	Trigger the event 'start quiz' when moving close to a quiz	I can start and complete the imported quiz within the virtual learning environment	S	Should have <i>Size Estimation:</i> Only requires quiz interaction design. <i>MoSCoW Priority:</i> This is an ideal function, not a core one. Desirable for the overall functionality and user experience; its implementation would enhance the interactive nature of the virtual learning environment. <i>Justification:</i> Facilitates the triggering of the 'start quiz' event when users move close to an imported quiz in the virtual learning environment, allowing them to initiate and complete the quiz. This functionality enhances user engagement and assessment within the immersive environment, providing valuable opportunities for self-assessment and feedback to reinforce learning outcomes. However, it's not a must and can be optional to be implemented for the primary version.
		6.5	Teacher or Student	Trigger the event 'watch' when moving close to slides	I can watch the imported slides within the virtual learning environment	S	Should have <i>Size Estimation:</i> S (Simple feature, estimated to require 1-2 days of development) <i>MoSCoW Priority:</i> This is an ideal function, not a core one. Desirable for the overall functionality and user experience; its implementation would enhance the multimedia capabilities of the virtual learning environment. <i>Justification:</i> Enables the triggering of the 'watch' event when users move close to imported slides in the virtual learning environment, allowing them to view the slide content. This functionality enhances user interaction and engagement, facilitating effective utilisation of visual presentation materials within the immersive environment to support learning objectives. However, it's not a must and can be optional to be implemented for the primary version.
7	Resources Management	7.1	Teacher or Student	Open a folder to save resources	I can save all the resources and share them between users	S	Must have <i>Size Estimation:</i> Implementing the functionality to open a folder and save resources would require a small amount of effort, primarily involving user interface design for the folder interface and basic file management functionalities. <i>MoSCoW Priority:</i> Critical for the fundamental operation of the system; without it, users would

							be unable to save and share resources effectively. <i>Justification:</i> Implements the functionality to open a folder within the virtual learning environment, enabling users to save all resources and share them between users. This feature is essential for organising and managing resources efficiently, facilitating collaboration and knowledge sharing among users within the immersive environment.	
		7.2	Teacher or Student	Open a backpack to save items I have uploaded or picked up	I can effectively manage and utilise my creative resources	M	Will not have	<i>Size Estimation:</i> Implementing the functionality to open a backpack and manage items involves a moderate development effort, including user interface design, inventory management, and interaction mechanics. <i>MoSCoW Priority:</i> Methods for better resource organisation can be considered in later design. <i>Justification:</i> While the functionality to open a backpack and save items would enhance resource management, it is not within the scope of the current development phase. This feature may be considered for future iterations to further enhance user experience and creativity within the virtual environment.
		7.3	Teacher or Student	Share resources in my resources library with others	I can spread my creativity	M	Will not have	<i>Size Estimation:</i> Implementing the functionality to share resources with others requires a moderate development effort, including access control, sharing mechanisms, and potentially user permissions management. <i>MoSCoW Priority:</i> In the current stage, the primary focus is on providing essential functionalities that directly contribute to the individual user's experience rather than emphasising collaboration or sharing features. <i>Justification:</i> Although sharing resources with others would promote collaboration and creativity, it is not within the scope of the current development phase. This feature may be considered for future iterations to enhance user interaction and community engagement within the virtual environment.
		7.4	Teacher or Student	Save the object shared by others	I can learn and draw inspiration from others' resources, promote information sharing and exchange, and enhance the teaching experience	M	Will not have	<i>Size Estimation:</i> Implementing the functionality to save shared objects involves a moderate development effort, including storage management, access control, and potentially versioning mechanisms. <i>MoSCoW Priority:</i> Saving shared objects to promote information sharing and exchange can be deferred to future designs. <i>Justification:</i> While saving objects shared by others would enhance learning and collaboration, it is not within the scope of the current development phase. This feature may be considered for future iterations to further enrich the user experience and foster knowledge sharing within the virtual environment.