

# User Stories

Epic	Epic ID	User Story ID	As a ...	Want to ...	So that ...	Size	Priority	Justification
Detect objects visually  (Computer Vision)	CV	CV.1	Operator	Can see the tracking status of items on the GUI	I can check whether the item is recognized	LARGE	HIGH	Size: As it requires a model that can separate and recognise items  Priority: As it is necessary for all actions of the robot arm
		CV.2	Operator	Can see the tracking status of human anatomy on the GUI	I can check whether the human anatomy is recognized	LARGE	HIGH	Size: Need to track multiple parts of human anatomy, while also making it visually clear  Priority: Needed for understanding visual commands
		CV.3	Tech Support	Can see the tracking status of items on the GUI	I can debug when objects can not be recognised	LARGE	HIGH	Size: As it requires a model that can separate and recognise items  Priority: Accurate tracking of items is important
		CV.4	Tech Support	Can see the tracking status of human anatomy on the GUI	I can debug when human anatomy can not be recognised	LARGE	HIGH	Size: Need to track multiple parts of human anatomy, while also making it visually clear  Priority: To make sure that human cues are correctly interpreted
		CV.5	Operator	Place the required items in the field of view of the robot camera	I can ensure the vision system can detect the items	LARGE	LOW	Size: Implementing object placement detection is a non-trivial task.  Priority: Important for user guidance, but not the core functionality
		CV.6	Operator	Received feedback that the item could not be found	I can identify the cause of the failure	SMALL	LOW	Size: Simple to implement  Priority: Can also receive feedback from GUI
Interact with the environment aurally  (Voice Recognition)	VR	VR.1	Operator	Speak commands through the microphone	I can give voice commands to the robotic arm	LARGE	HIGH	Size: Need to have microphone receive speech, convert to text, and convert it to prompts  Priority: Necessary for the issuing of commands
		VR.2	Operator	See or hear the command I have given	I can check whether the robot understands my command	LARGE	HIGH	Size: Implementing real-time command visualization involves UI and audio components.  Priority: Ensures user confidence in command execution.
		VR.3	Operator	Input the action commands that the robot can perform into the system	I can command the robot to move	LARGE	LOW	Size: Implementing a command input system requires UI and backend development.  Priority: Important for command versatility, but not immediate.

		VR.4	Operator	Seeing the tracking situation of various objects from the vision of the robot	I can check if the vision system is working properly	LARGE	LOW	<p>Size: Involves visualizing real-time tracking data from the robot's perspective.</p> <p>Priority: Important for system monitoring, but not immediate.</p>
		VR.5	Operator	Received feedback on command completion	I can know the action is ended and check if it is correct.	SMALL	LOW	<p>Size: Handling successful command completion is relatively simple.</p> <p>Priority: Useful for user feedback, but not top priority</p>
		VR.6	Operator	Received feedback on command failure	I can Identify the cause of the failure	SMALL	MEDIUM	<p>Size: Handling command failure cases and providing feedback is relatively simple</p> <p>Priority: Immediate feedback is crucial for user interaction.</p>
Integrate visual and audio inputs (Decision Making)	DM	DM.1	Operator	Integrate visual and audio sensory abilities into the robotic arm	The robotic arm can act autonomously without the need to input information manually	X-LARGE	HIGH	<p>Size: Developing a robust system that can process both visual and audio inputs and make autonomous decisions is a complex task.</p> <p>Priority: Critical for achieving a higher level of autonomy and interaction.</p>
Move robotic arm (Robotic Control)	RC	RC.1	Operator	See the robot action as soon as possible after issuing the command	I can know whether the system has received my command and is running normally	MEDIUM	LOW	<p>Size: The prompt requires implementing real-time feedback, which involves handling various signals and synchronization.</p> <p>Priority: While important for user experience, it's not the primary functionality of the system</p>
		RC.2	Operator	Create new action for the robot	I can design new actions and new command	X-LARGE	MEDIUM	<p>Size: Designing and implementing new robot actions involves complex development</p> <p>Priority: Important for system versatility, but not the highest priority</p>
		RC.3	Operator	Received feedback that the action could not be found	I can Identify the cause of the failure	SMALL	LOW	<p>Size: Handling failure cases related to actions not found is relatively simple</p> <p>Priority: Important for user guidance, but not top priority</p>
Check & adjust system status (System Status)	SS	SS.1	Tech Support	Reboot the entire system	I can reset the configurations and parameters	SMALL	LOW	<p>Size: Resetting configurations and parameters is a relatively straightforward task that doesn't require extensive development effort</p> <p>Priority: While system reboot is important, it might not be needed frequently, hence the lower priority.</p>

		SS.2	Tech Support	Receive notification when a subroutine encounters a problem	I can know where the problem specifically occurred and investigate it	SMALL	HIGH	<p>Size: Implementing a notification system for subroutine problems is relatively simple</p> <p>Priority: Immediate notification is crucial for troubleshooting</p>
		SS.3	Operator	Restore the robotic arm to its initial state after the command is completed	I can make it execute other commands	MEDIUM	MEDIUM	<p>Size: Implementing a reliable reset functionality requires careful handling of system states.</p> <p>Priority: Important for system operability and transitioning between commands</p>