Garage Ready VR Design Document

CS 485 Assignment 2

October 18, 2026

Demo video: https://youtu.be/BIA2i71Cy2g

Garage Ready VR teaches equipment preparation across a Home Garage and an Auto Parts Store. Three tasks cover tire care, wiper care, and oil service preparation. The car provides context; the activity focuses on supplies and tool reuse.

Spatial Design

The two scenes separate shopping from workspace preparation. The garage has a clear central route, perimeter storage, a task board, an arrivals table, and a workbench. The larger store organizes six departments around open aisles and overhead signs. Learners select labeled exit doors to switch scenes. Distinct garage and store door designs make these connections recognizable. Inventory and storage locations persist between scenes during the session, allowing earlier purchases to be retrieved later.

Locomotion

The default setup enables teleportation, continuous movement, and snap turning together. I recommend teleportation for longer trips to limit sustained visual motion. Right-stick forward and release targets floor Teleportation Areas or the fixed workbench Teleportation Anchor. The left stick supports walking and strafing; right-stick sideways turns 45 degrees. Collision boundaries, a soft black movement vignette, and scene-transition fades support comfort. Clear arrival positions help users reorient. Headset comfort still needs evaluation.

Wayfinding

Overhead signs, a store directory, and north-up maps show departments, exits, and the learner's position. Selecting a directory category highlights its department. The portable map and checklist stay on the left hand, leaving the right hand clear for carrying. Checklist labels identify what to buy, store, or bring to the bench. At arrival, the fade clears near entrance guidance and a short sound confirms the transition. Labeled doors and raised task buttons make the next actions visible.

Learning

Learners travel to find missing supplies, organize purchases, and retrieve saved tools for later tasks. Repeated visits are intended to connect equipment categories with remembered locations. Recognizable objects, shelves, and a workbench place these decisions in a practical setting. Holding objects and releasing them into matching snap zones connects instructions with physical actions. New purchases count as ready after storage; reused tools must reach the workbench. Confirmation checks readiness before advancing. Learning benefits remain design goals rather than measured outcomes.