

## CMPE 492 “TEDU GuidAR” Senior Design Project Backlog

Task Name	User Story	Sprint Ready	Priority	Status	Effort	Assigned to Sprint
<b>SPRINT 5</b>	No	No	Not Started	In Progress	80	Yes
<b>Initial Real-World Environment Testing</b>	Test the system in a real building.	Yes	High	In Progress	16	Yes
<b>Navigation Accuracy Benchmarking</b>	Measure localization and routing accuracy.	No	Medium	Not Started	8	Yes
<b>Basic UX Refinement</b>	Make clearer navigation cues.	Yes	High	Not Started	10	Yes
<b>Performance Profiling &amp; Bottleneck Identification</b>	Identify FPS drops and resource bottlenecks.	Yes	Medium	In Progress	8	Yes
<b>Tracking Stability Improvements</b>	Ensure more stable tracking.	Yes	Medium	In Progress	8	Yes
<b>Test Scenario Development</b>	Define indoor test scenarios.	No	High	Not Started	12	Yes
<b>Data Logging &amp; Debug Tools</b>	Log SLAM and navigation.	Yes	High	In Progress	10	Yes
<b>Refinement Backlog Creation</b>	Document issues and improvements.	Yes	High	In Progress	8	Yes
<b>SPRINT 4</b>	No	No	In Progress	In Progress	80	Yes
<b>Advanced Multi-Floor Routing Logic</b>	Improve routing decisions across complex floor transitions.	Yes	High	In Progress	12	Yes
<b>Landmark-Based Navigation Support</b>	Use visual landmarks to enhance navigation clarity.	Yes	Medium	In Progress	8	Yes
<b>Re-localization After Tracking Loss</b>	Recover user position after SLAM failure.	Yes	High	In Progress	12	Yes
<b>Dynamic Obstacle Awareness</b>	Adjust navigation cues based on moving obstacles.	No	Medium	Not Started	10	Yes

<b>User Feedback Collection Module</b>	Allow users to report navigation issues.	Yes	Medium	In Progress	6	Yes
<b>Map Scaling for Large Buildings</b>	Support larger and more complex indoor spaces.	Yes	High	In Progress	14	Yes
<b>Indoor POI (Point of Interest) Management</b>	Add, update, and categorize indoor locations.	Yes	High	In Progress	8	Yes
<b>Continuous Localization Accuracy Monitoring</b>	Track navigation accuracy over time.	Yes	High	Not Started	10	Yes
<b>SPRINT 3</b>	No	Yes	High	In Progress	114	Yes
<b>Cross-Platform AR Framework Integration</b>	Enable consistent AR behavior across Meta Quest 3 and mobile devices.	Yes	High	In Progress	16	Yes
<b>Persistent Spatial Anchors</b>	Allow users to revisit the same indoor map accurately.	Yes	High	In Progress	14	Yes
<b>Improved Occlusion Handling</b>	Ensure navigation cues respect real-world obstacles.	Yes	Medium	Not Started	10	Yes
<b>Map Persistence &amp; Storage</b>	Save and reload indoor maps.	Yes	High	In Progress	12	Yes
<b>User Calibration Flow</b>	Guide users through initial calibration process.	Yes	Medium	In Progress	8	Yes
<b>Gesture-Based Interaction</b>	Enable gesture controls for navigation actions.	Yes	Medium	In Progress	12	Yes
<b>Voice Command Support</b>	Allow hands-free destination selection.	No	Medium	Not Started	10	Yes
<b>Environmental Lighting Adaptation</b>	Adjust AR visuals to lighting conditions.	Yes	Medium	In Progress	8	Yes
<b>Navigation Accuracy Evaluation</b>	Measure localization and path accuracy.	Yes	Medium	In Progress	10	Yes
<b>Battery &amp; Resource Optimization</b>	Reduce power and CPU/GPU usage.	Yes	High	Not Started	8	Yes

<b>Mid-Project DEMO Preparation</b>	Prepare demo for stakeholders.	Yes	High	Complete	6	Yes
<b>SPRINT 2</b>	No	Yes	High	In Progress	141	Yes
<b>SLAM Algorithm Integration</b>	Enable real-time localization and mapping.	Yes	High	In Progress	20	Yes
<b>Camera &amp; IMU Sensor Fusion</b>	Combine camera and IMU for stability.	Yes	High	In Progress	14	Yes
<b>AR Path Visualization</b>	Overlay arrows and navigation cues.	Yes	High	In Progress	16	Yes
<b>Indoor Map Data Structure</b>	Define building data representation.	Yes	Medium	In Progress	10	Yes
<b>Destination Search Module</b>	Search locations.	Yes	High	In Progress	12	Yes
<b>Path Planning Algorithm</b>	Compute optimal route.	Yes	High	In Progress	15	Yes
<b>Dynamic Route Update</b>	Recalculate route.	Yes	High	In Progress	12	Yes
<b>Multi-Floor Navigation</b>	Support stairs and elevators.	Yes	Medium	In Progress	10	Yes
<b>AR UI Design</b>	Simple interface.	Yes	Medium	In Progress	8	Yes
<b>Performance Optimization</b>	Maintain 60 FPS.	Yes	High	In Progress	10	Yes
<b>System Integration Testing</b>	Test full system.	Yes	High	Not Started	8	Yes
<b>Error Handling</b>	Prevent crashes.	Yes	Medium	In Progress	6	Yes
<b>SPRINT 1</b>	No	Yes	High	Complete	24	Yes

<b>Requirement Analysis and Use Case Definition</b>	Gather functional and non-functional requirements and define scope.	Yes	High	Complete	4	Yes
<b>Establish Contact with Potential Partner</b>	Reach out for feedback/sponsorship.	Yes	High	Complete	12	Yes
<b>Technology Stack Selection</b>	Choose AR/SLAM tools and setup environment.	No	Medium	Complete	8	Yes
<b>Preliminary SLAM Feasibility Test</b>	Initial experiments using sensors.	No	Medium	Complete	0	Yes