

1- Research Aim Revision

How can player decisions dynamically influence and generate video game environment and objectives in real time?

2- Research Pipeline

<i>Phase 01: Initial Research & Setup</i>	<i>Phase 02: Data Acquisition</i>	<i>Phase 03: Experimentation</i>	<i>Phase 04: Evaluation</i>	<i>Phase 05: Improvements</i>
Define the research focus.	Define Player Profiles e.g. Explorer, Warrior.	Set up basic adaptive environment logic and DDA controller.	Analyze player decision logs.	Explore enhancements, Light weight LLM m models, smarter behavior
Study Literature on Research Focus.	Analyze how player choices could influence quests, environment etc....	Implement basic FSM/Behavior tree-based NPC reactions.	Review decision to outcome mapping consistency.	Implement more refined player profiles, more diverse quest generation etc.
Set up a unity project.	Identify quest patterns to player profiles.	Implement basic adaptive quest generation.	Conduct informal playtests (is gameplayer more dynamic).	Future upgrades like large-scale NPC memory systems.
Prepare Tools for Unity Project.	Prepare dialogue and environment variation rules.	Implement simple player decision logs	Gather feedback.	
		Test real time reactions.	Identify unbalanced quest difficulty, latency etc.	

3- Research Method Explanation

Proposed Research Methods

To evaluate the Unity prototype, a mixed-method approach will be used:

- **Gameplay Logging:** Automatically record player decisions, quest generation, and environment changes.
- **Simulated Behavior Testing:** Use predefined player profiles to test dynamic responses.
- **User Feedback:** Collect qualitative feedback through playtesting and short interviews.
- **Quantitative Metrics:** Measure quest diversity, system responsiveness, and replayability.

This approach balances system performance analysis with player experience evaluation, aligning with methods used in the reviewed literature.