



Project Plan Presentation

My VR Language Tutor

The Capstone Experience

Team Launch

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*From Students...
...to Professionals*

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Project Sponsor Overview

Launch

by NTT DATA

- Division of NTT Data
- Develop digital solutions for large companies
- Design and manage product plans and strategies
- Code, develop, & improve applications for clients



Project Functional Specifications

- Immersive VR language learning tool
- Consolidates learning a language with using a language
- AI-driven NPCs, signs, and objects for users to practice reading and pronunciation
- Ability based scalable preferences



Project Design Specifications

- Immersive VR environment
- AI NPC conversations
- Object identification
- Sign pronunciation
- AI evaluation



Screen Mockup: NPC Interaction



Screen Mockup: Sign Interaction



Screen Mockup: User Preferences

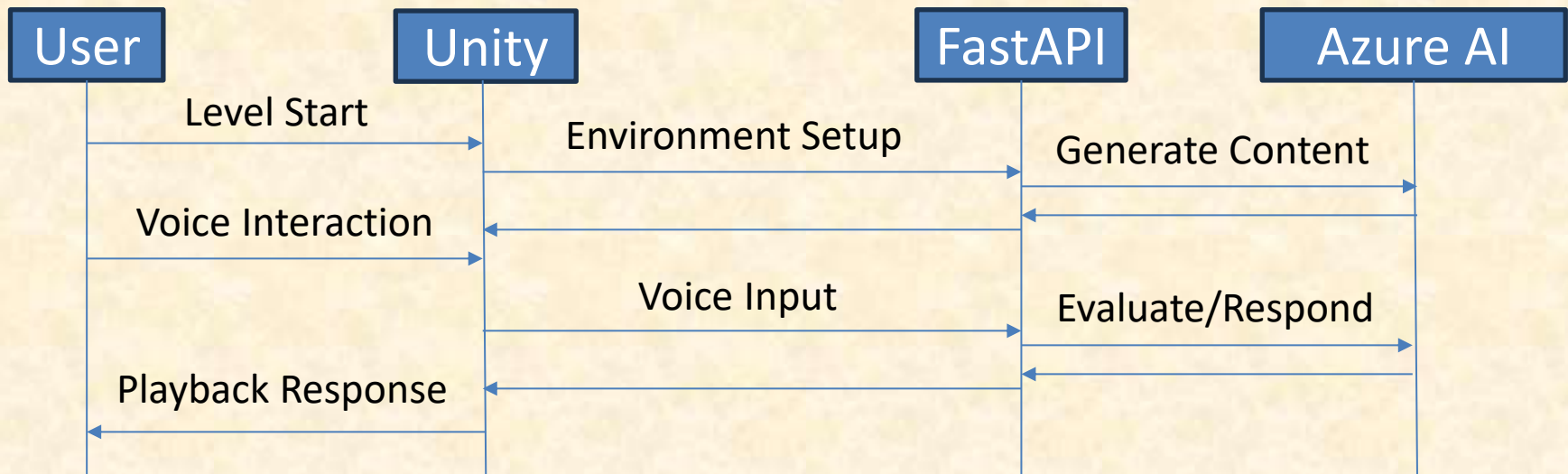


Screen Mockup: Object Interaction

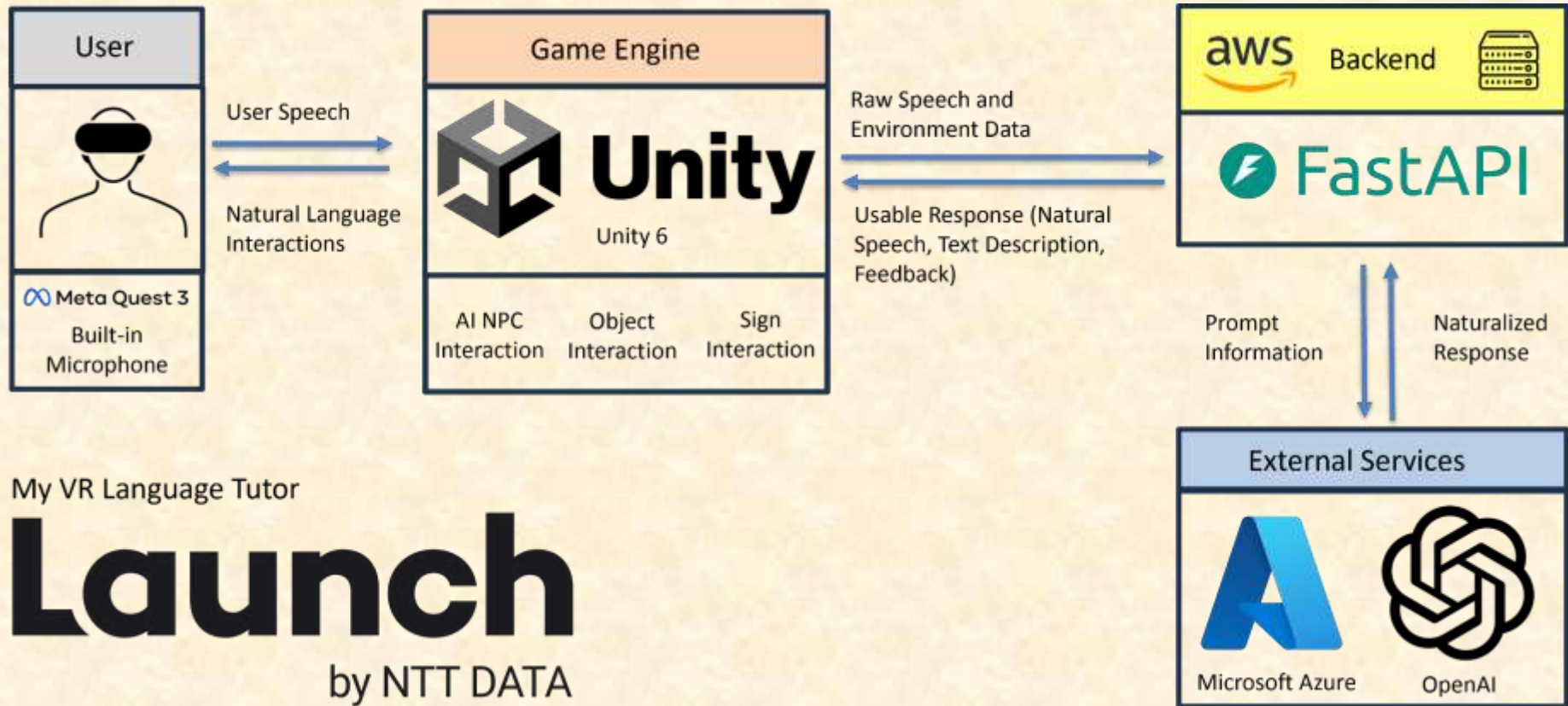


Project Technical Specifications

- Unity environments, Meta Quest microphone
- Unity scripts and AWS + FastAPI integration
- Azure AI evaluation and synthesized response



Project System Architecture



Project System Components

- Hardware Platforms
 - Meta Quest 3
- Software Platforms / Technologies
 - Unity 6
 - C#
 - FastAPI
 - Python
 - Azure AI Foundry
 - AWS



Project Risks

- Risk 1
 - High latency during “conversation” with NPCs
 - Look into more efficient data transfer, and prioritize performance
- Risk 2
 - Language expectations might be too difficult for beginners
 - Implement difficulty settings by changing vocabulary and syntactic metrics
- Risk 3
 - Pronunciation assessment is specific to different accents & locales
 - Provide settings so user can pick specific locations
- Risk 4
 - Unnatural or inappropriate NPC responses inhibit user education
 - Effectively prompt engineer LLMs & leverage appropriate models



Questions?

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