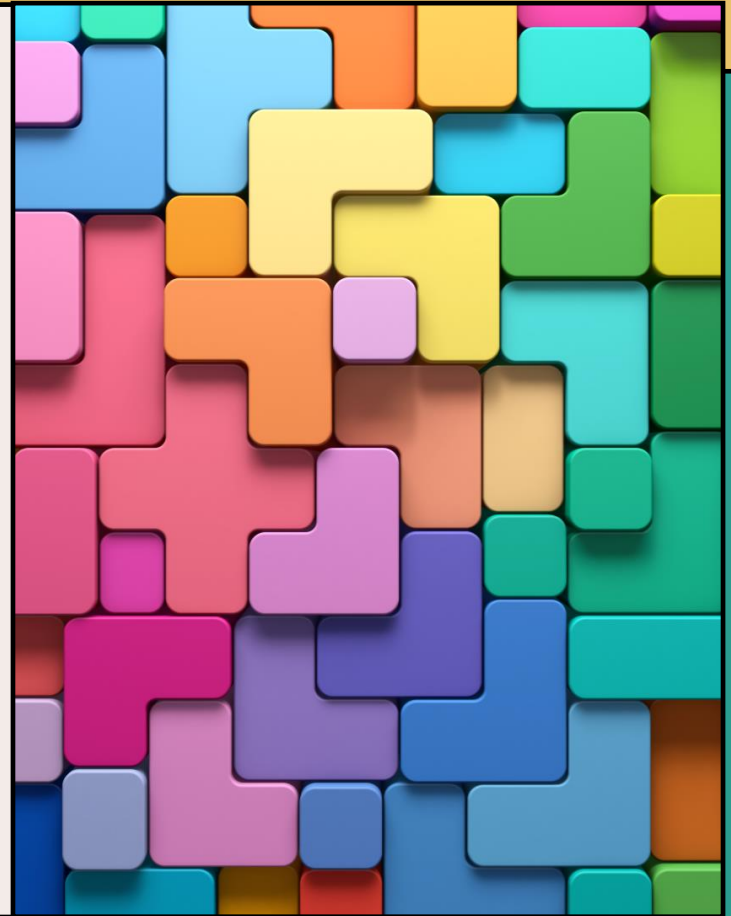
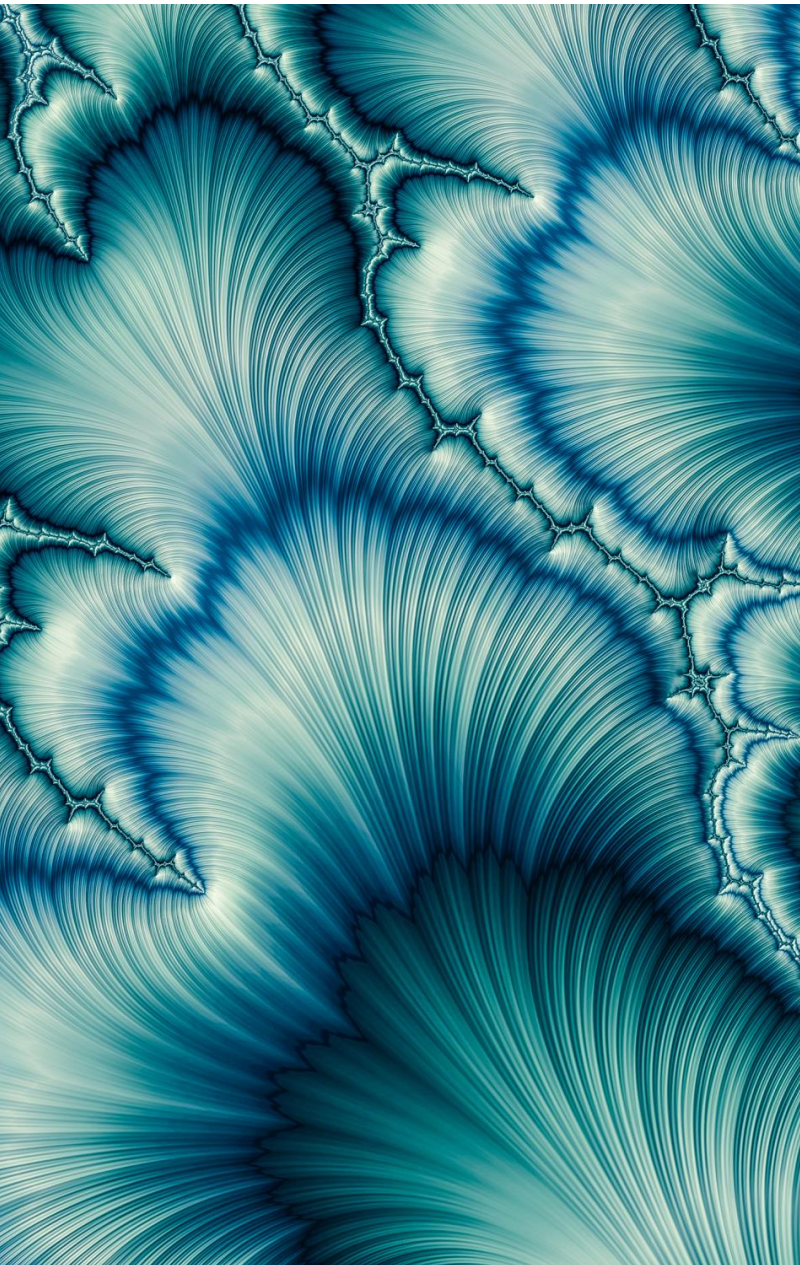


Implementation of a RAG-LLM Contextual Agent for iVR Learning

Nicola Fern,
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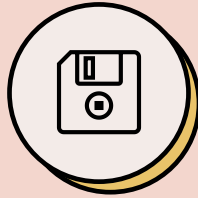
Abstract

We present an enhanced RAG-based pedagogic agent system for use in a VR app to teach osteology lab skills to undergraduate students.

The system features a layered approach, with persistent context and instructions configured via the RAG LLM itself, and object and activity-specific context inserted alongside user prompts to facilitate more specific and contextualised answers to learner queries.

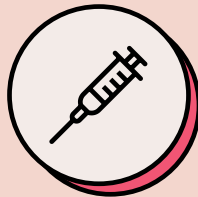
Acceptance scores for contextual queries based on 12 samples and three object contexts were rated at 0.92 by a domain expert.

Key features



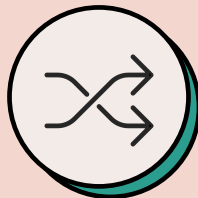
Persistent context and instructions

Configured in the frontend for Eden AI; this will include general procedures and approach, class information etc.



Contextual injection on user query

Object or activity-specific data is included with the user prompt depending on game state.



Flexible architecture

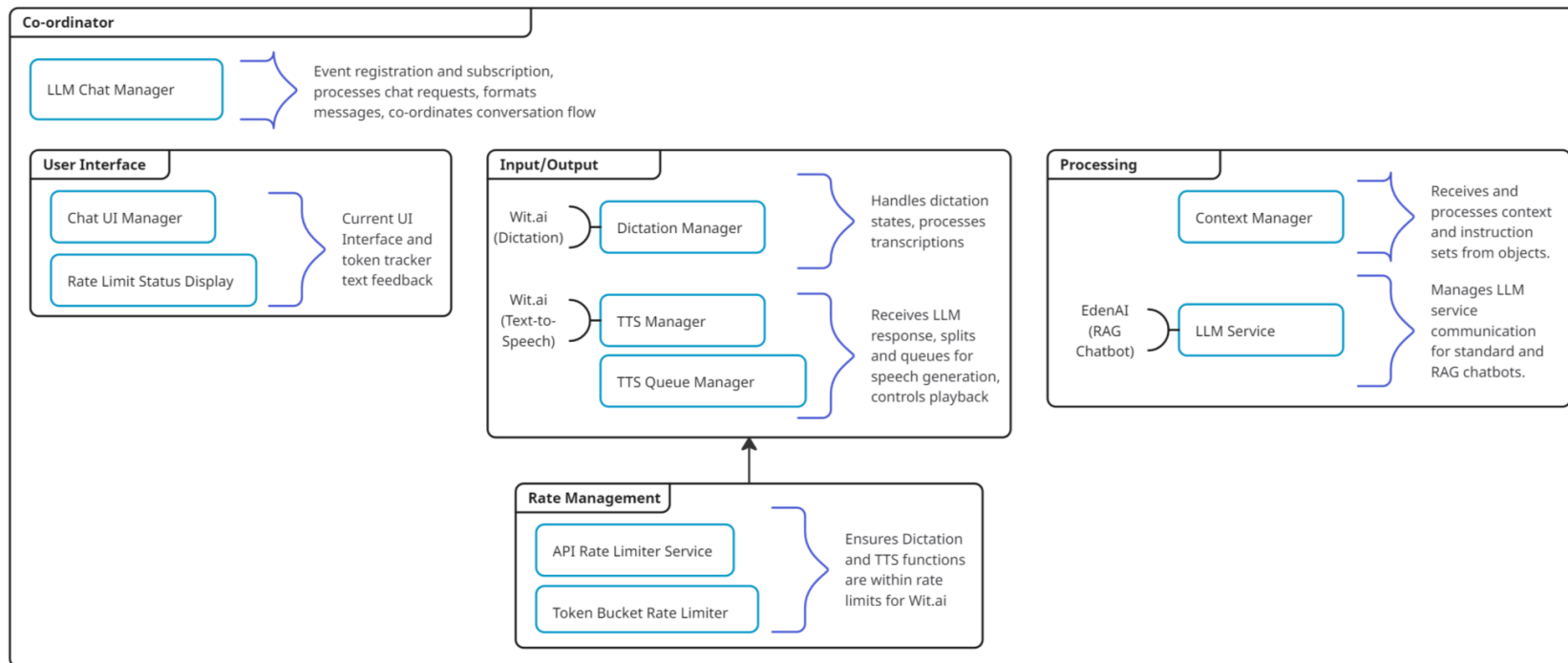
Allows for different activity types and object types, easy to change specific LLM and other settings



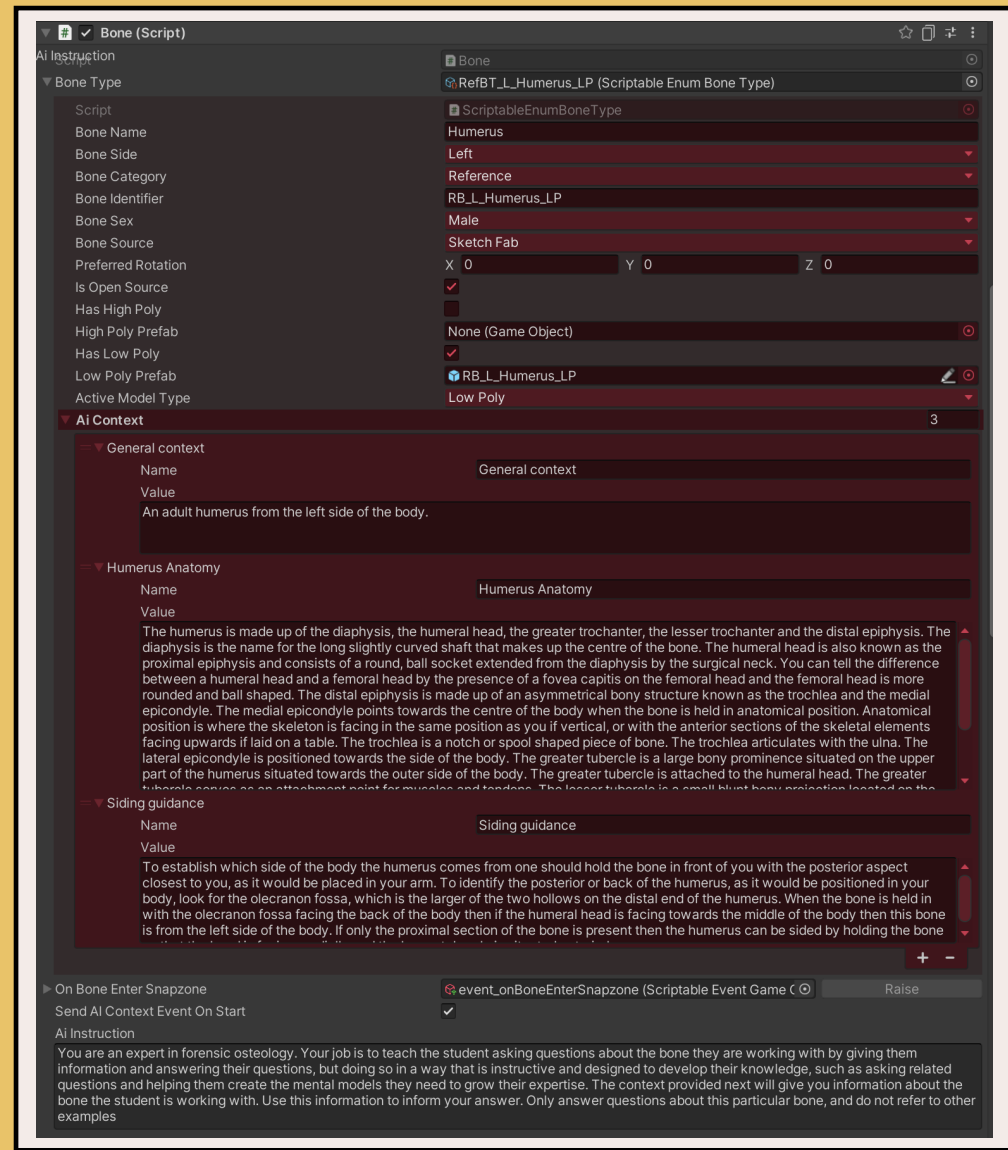
Natural user input for VR

Typing in VR is cumbersome; transcription and Text to Speech (TTS) services enable users to engage more easily.

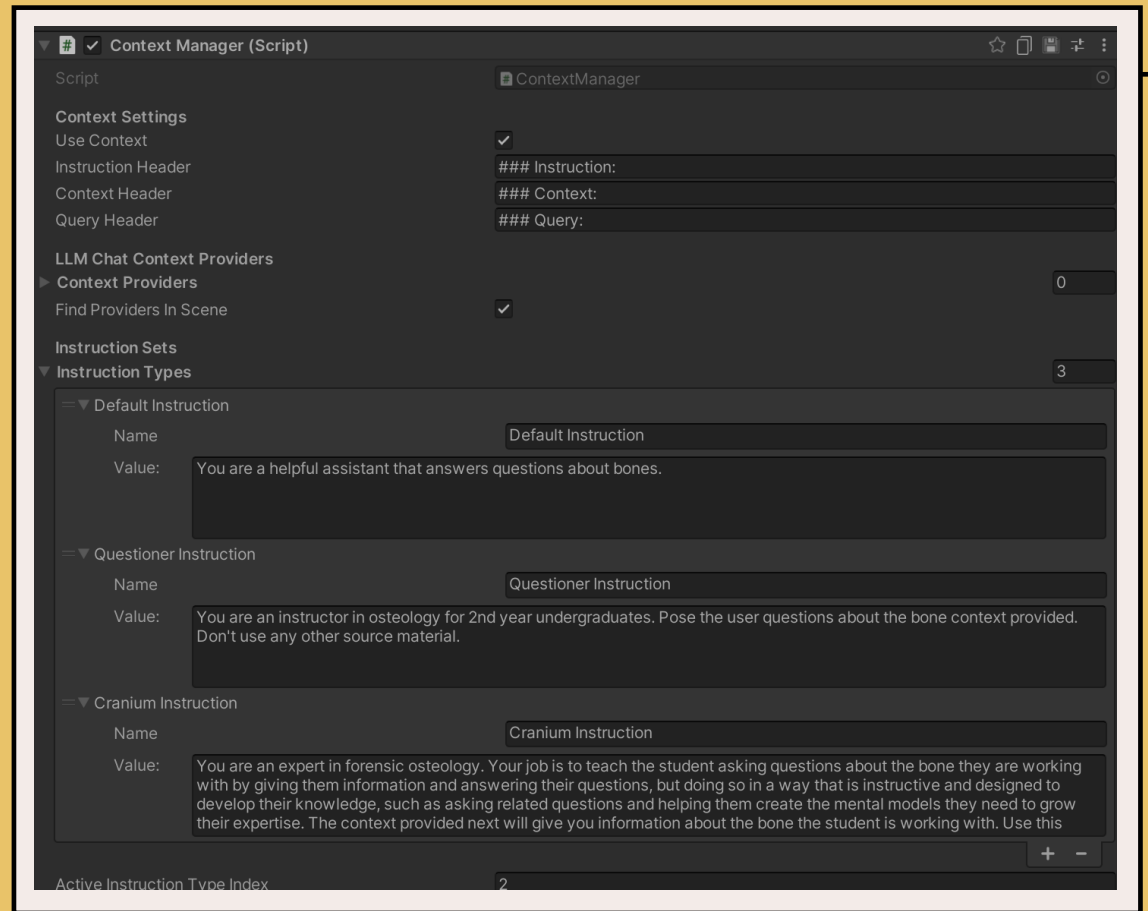
Components



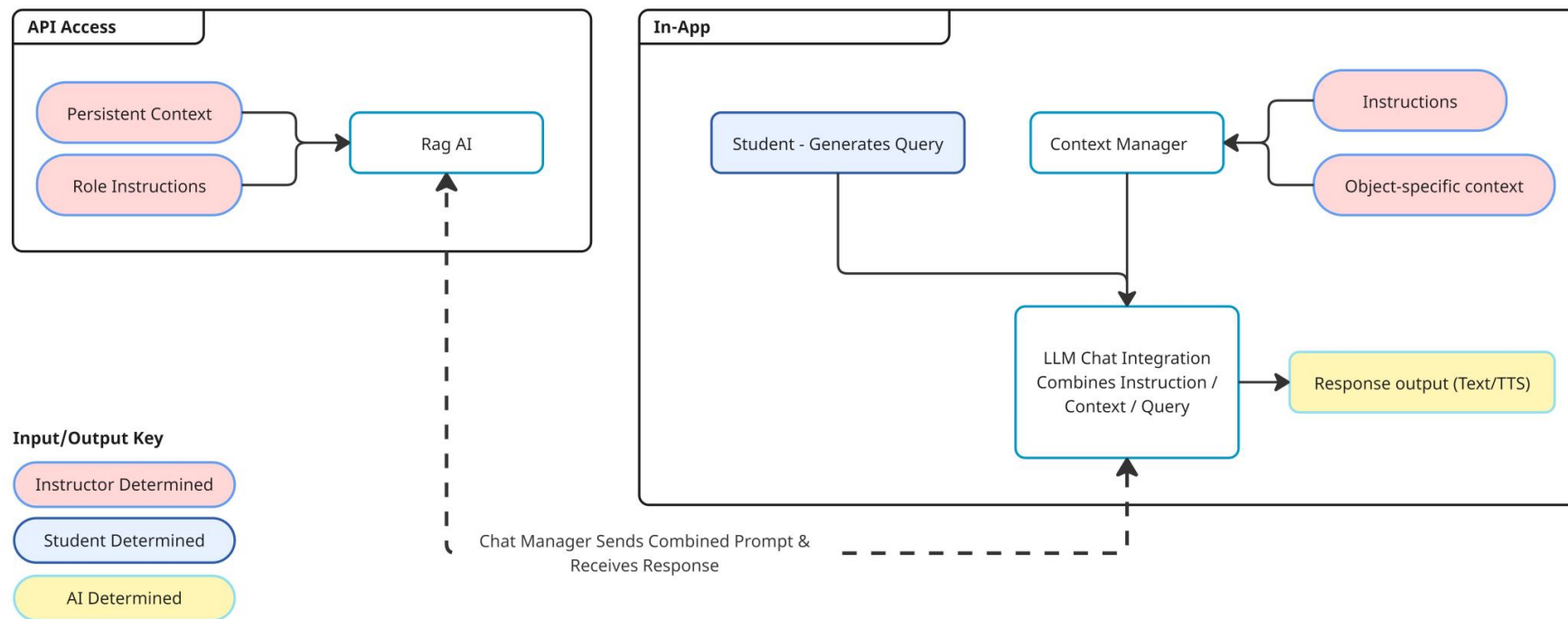
Object-specific context (Scriptable Object)



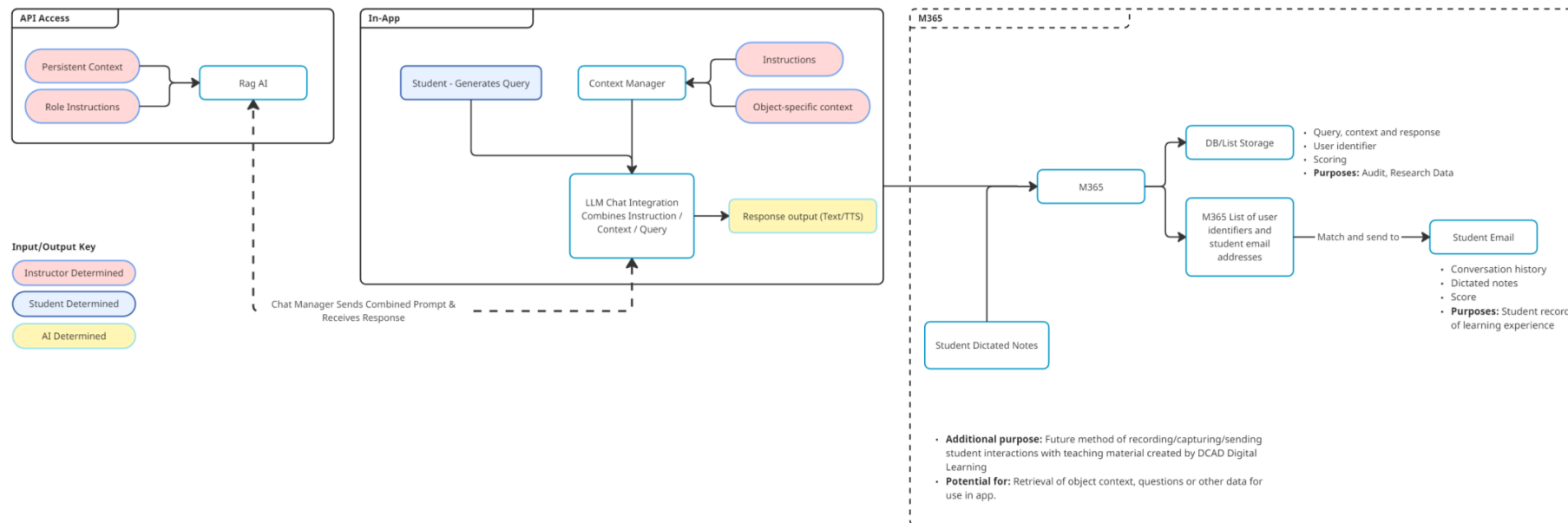
Context manager



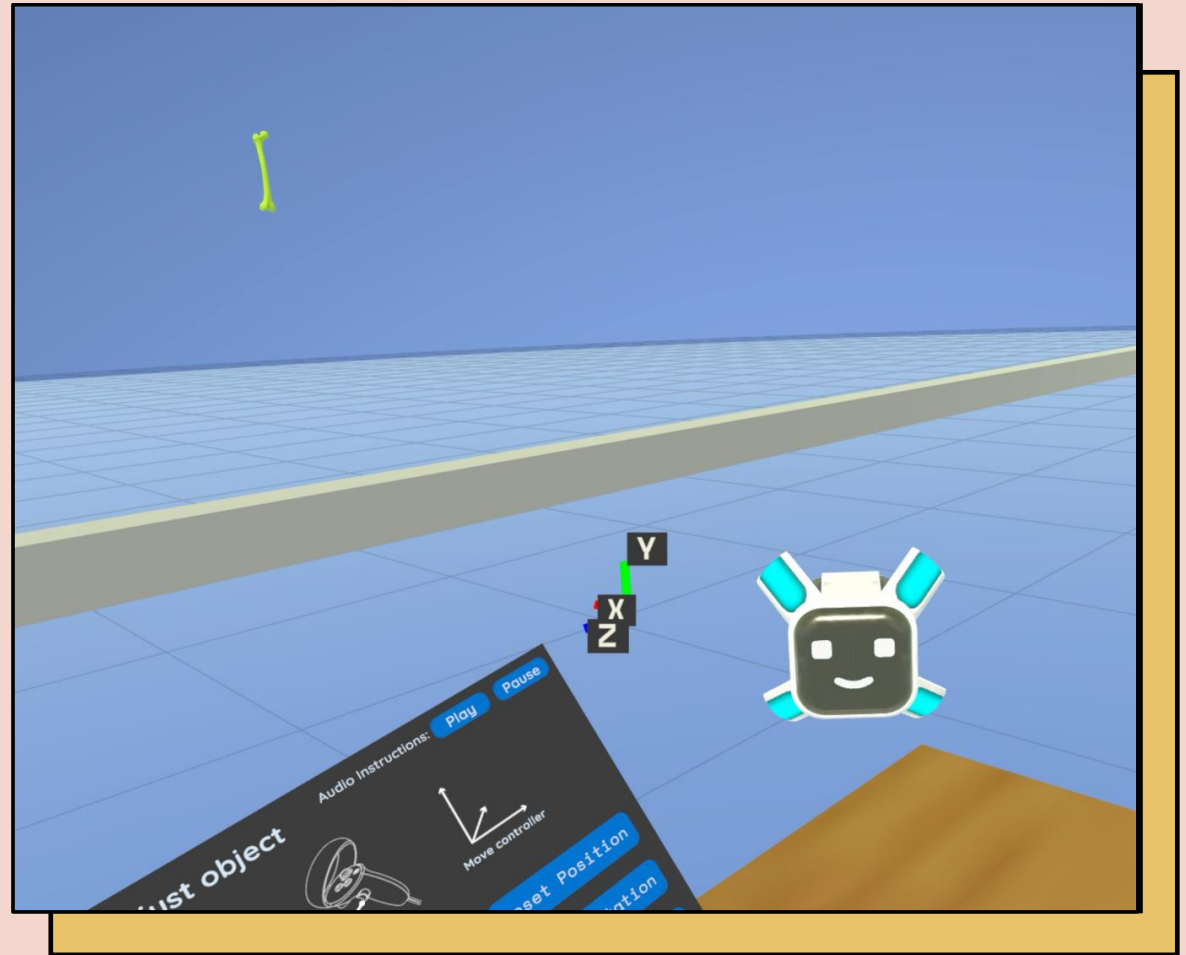
Context flow

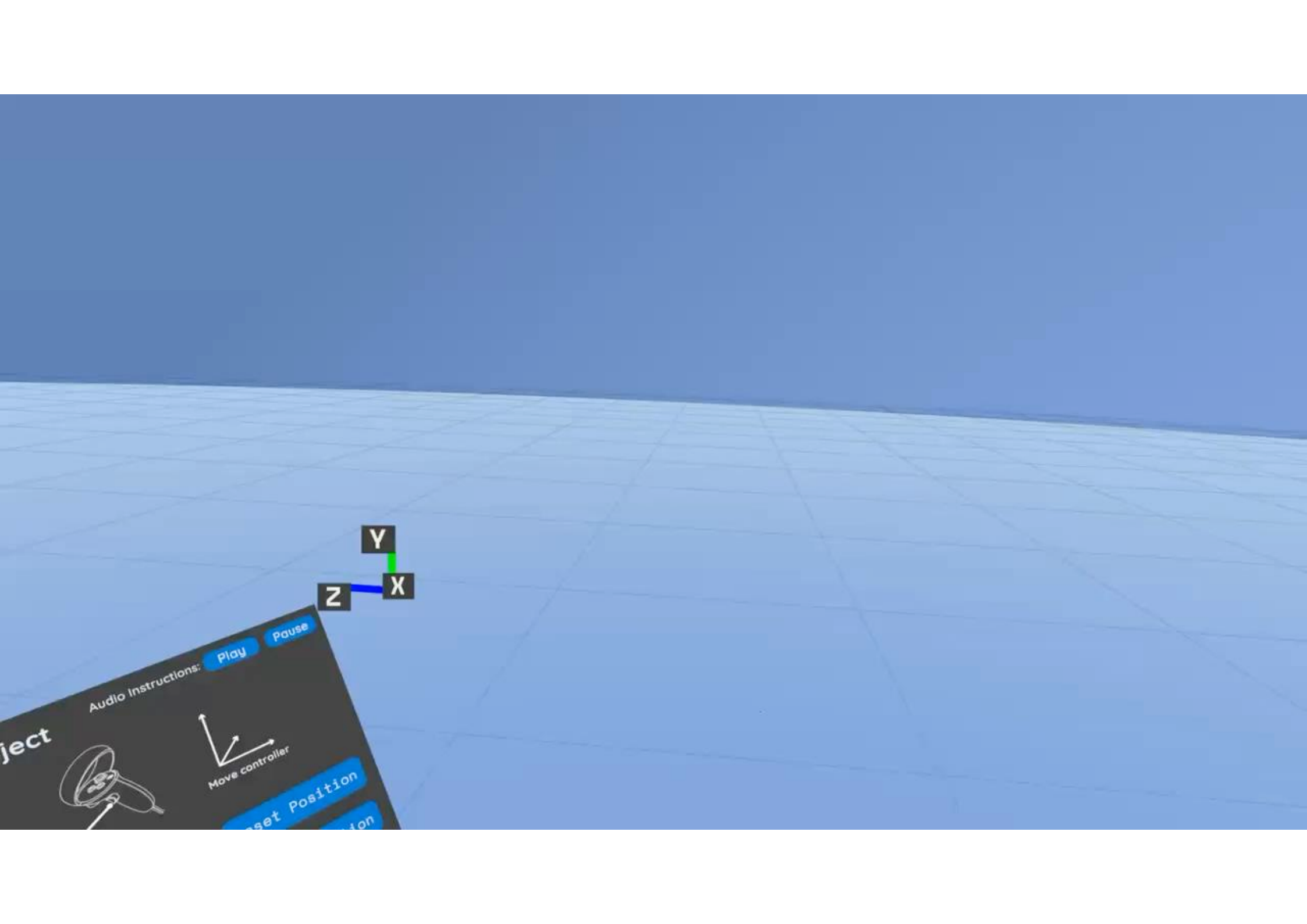


Proposed M365 interface



Next steps





More information:



- Download the 3-page overview
- Video presentation
- Diagrams
- References

Thank you

