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Experiential learning in immersive nature

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Table of content

1. **Team Role distribution**

2. **Project Description**

3. **Technical Solution**

4. **Research**
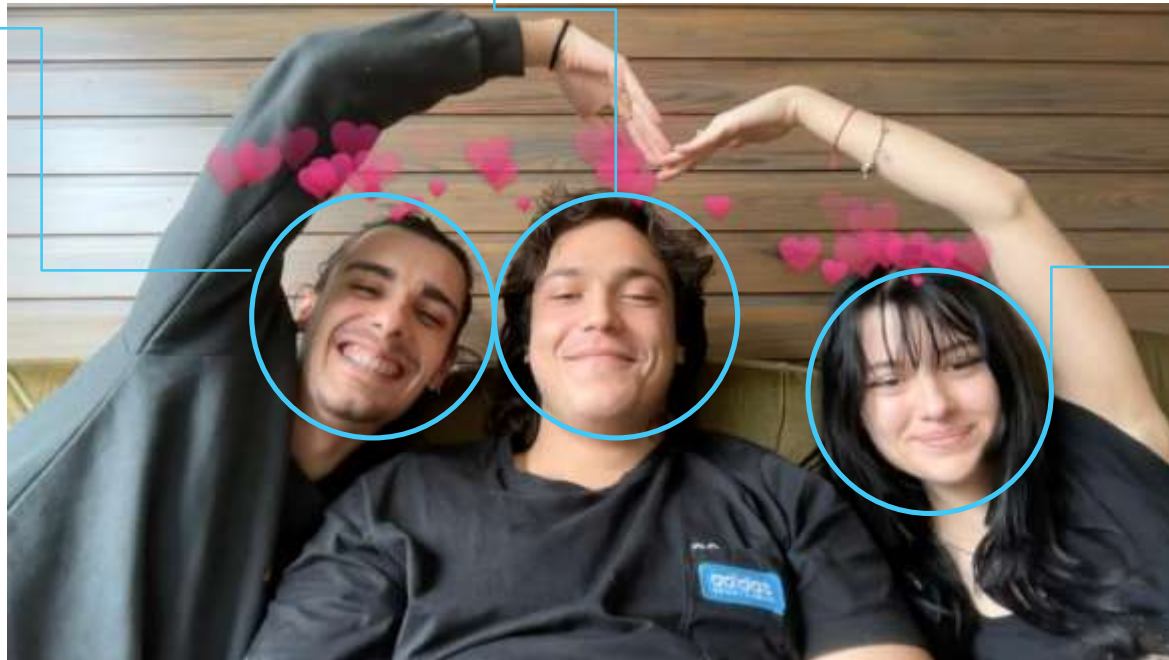
5. **Trello**

Team Role Distribution

Alexandru
Product Owner
Connectivity
Unity
API
Documentation

Roxana
Developer
Unity
UI/Digital design
AI

Matteo
Scrum Master
Trello
Unity
API

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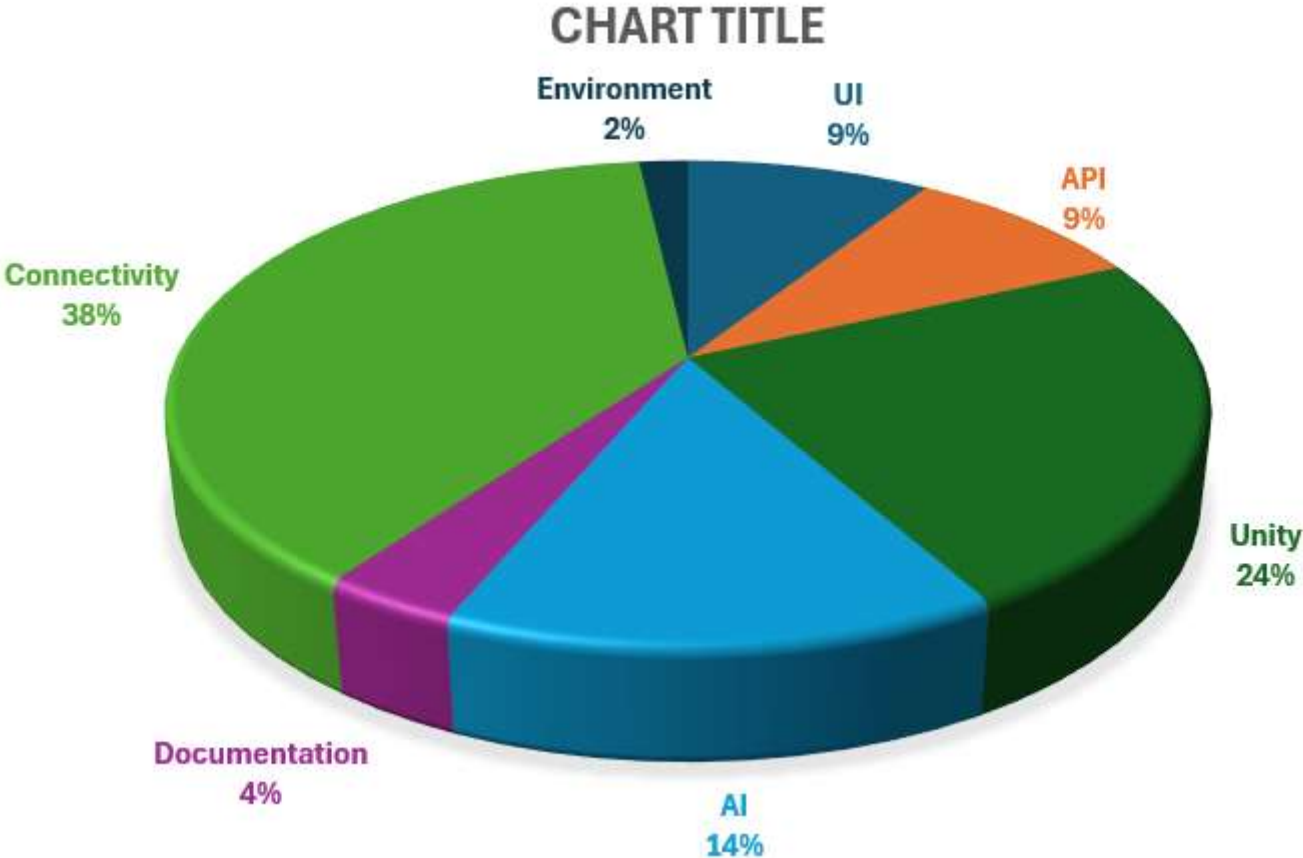hogeschool

Project Description

stablediffusionweb.com

What? 360° AI pre generated environments (video/photos) based on user's input for a relaxing learning experience.

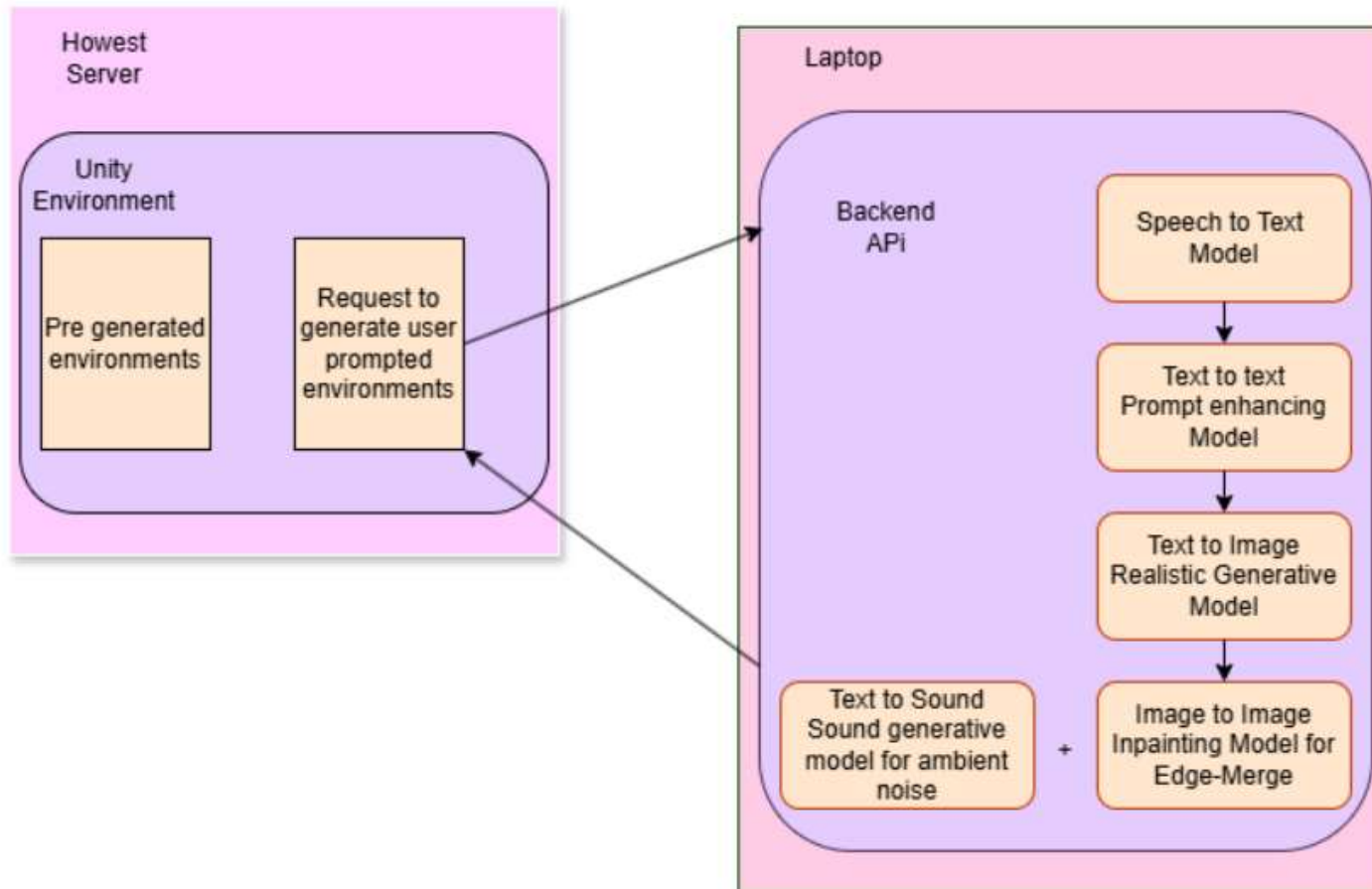**For**? Youngsters 12-25 years old
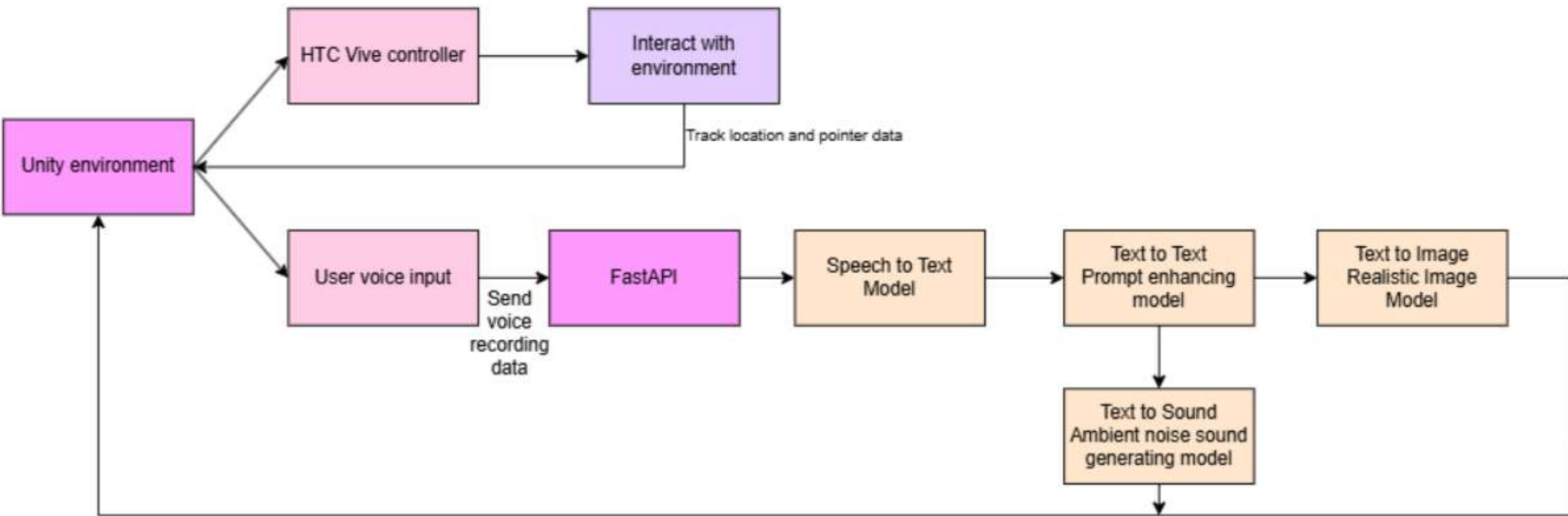
Where? Immersive Room in Forum Core Howest

- The user gives an input based on what environment they want

- The user can choose between pre generated videos with sound and interactive characters and generated images on the spot based on voice input.

- A 360° image/video is shown and sound is played.

- The base environment is pre generated. The images will be generated on the spot using AI through an API.

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Story points

CHART TITLE

Environment 2% · UI 9% · API 9% · Unity 24% · AI 14% · Documentation 4% · Connectivity 38%
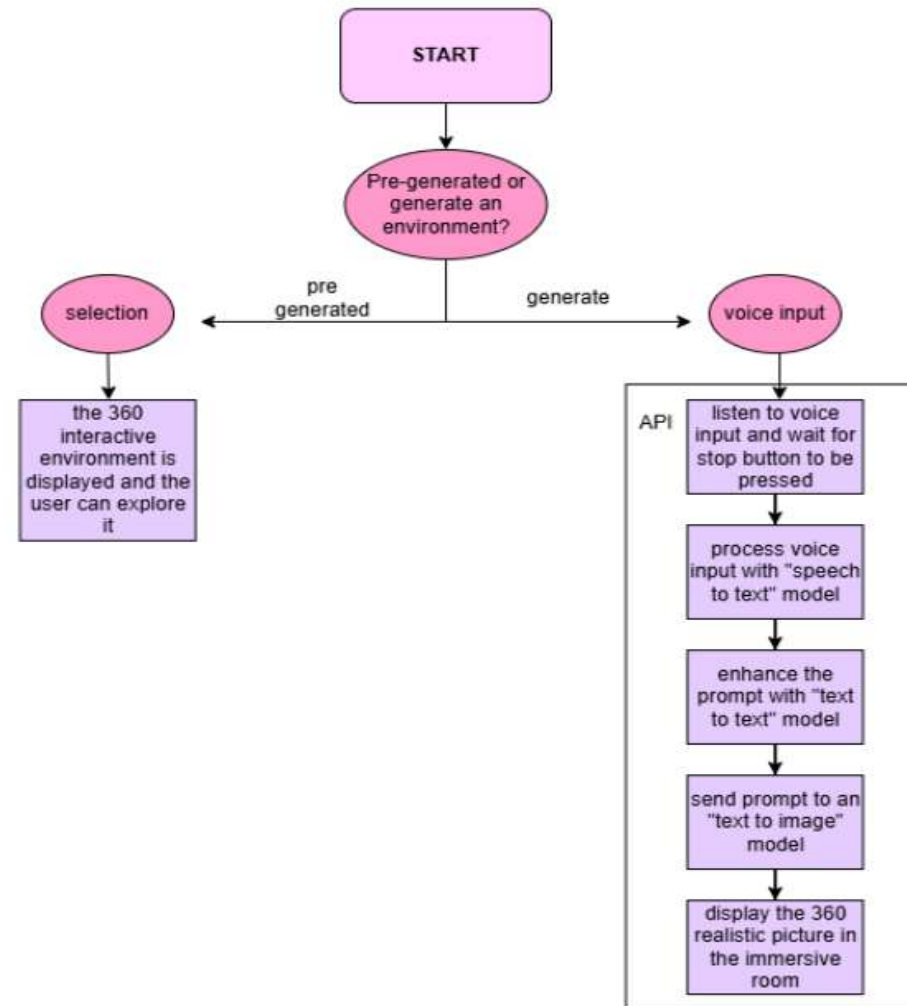
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Technical solution
Diagram

User Journey

Experiential learning

- In our pre-generated environments, we will create digital characters that will guide the user throughout the immersive learning experience

- Additionally, we will have some selectable elements in the background which will enhance the learning process in a fun way, providing an enriching educational experience

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AI

- Speech to Text:

Convert user speech into text prompts for flexible processing and further enhancement.

- Text to Text:

Refine and enrich the prompt using advanced language models, ensuring a clearer and more accurate description.

- Text to Image:

Generate realistic images (e.g., natural scenery) using a state-of-the-art AI image generation model; users can refine results iteratively.

- Image to Image:

Apply realistic inpainting to create seamless 360-degree visuals that avoid merging artifacts at the scene boundaries.

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Unity

- Unity is essential for creating interactive experiences within the immersive room environment.

- It is used to animate both characters and the user interface for improved engagement and usability.

- A static character is included to provide information, enhancing the overall learning experience for users.

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Research

- Vive controller
https://www.vive.com/eu/accessory/controller/
-FastAPI
https://github.com/fastapi
-Hugging face
https://huggingface.co/docs/hub/index
-Rewild our planet
http://rewild.wwf.sg/

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Trello