



Knight Foundation
School of Computing
and Information Sciences

Langscape 3.0

Students: Jordan Fernandez, Muhammad Taha, Sahil Sethi, Carlos Lopez, Alexis Lopez

Mentor: *Steven Luis (Product Owner)*

Instructor/Faculty: Dr. Masoud Sadjadi, Florida International University

FUTURE WORK

- Enhancing the AI assistant through further fine-tuning and targeted prompts.
- Increase the grid size of the main scene to allow more grid generation
 - Improve randomness and overlapping of assets in grid generation
- Replace Whisper API with a local Whisper instance on FIU servers

SUMMARY

Langscape 3.0 is an engaging and interactive VR platform equipped with an AI assistant. Users have the ability to instruct the AI to modify structures and alter the VR settings. This project aims to enhance interaction between virtual and physical environments using a localized Large Language Model (LLM).

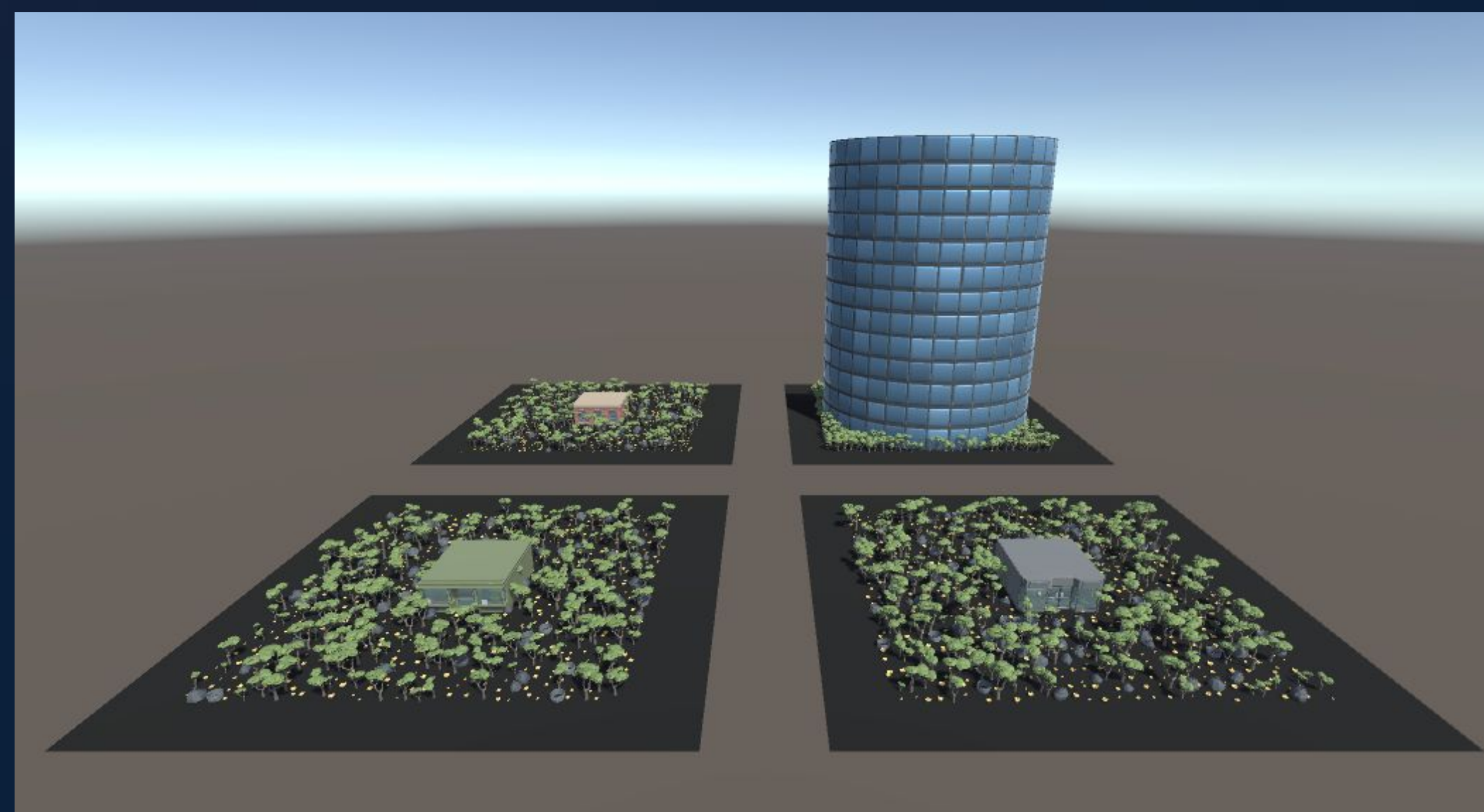


INDIVIDUAL CONTRIBUTIONS

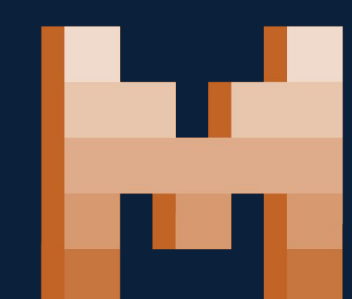
- Developed a dynamic grid system in Unity for creating architectural landscapes.
- Enhanced asset importing via LLM to improve visual and functional landscape quality.
- Optimized large language model prompting to support and refine grid generation, aligning AI inputs with architectural designs.
- Created a feature for random but controllable spawning of environmental assets via the LLM

TEAM CONTRIBUTIONS

- Successfully deployed the Mistral large language model on a local FIU server, setting up the initial operational framework for AI integration.
- Fine-tuned the Mistral AI for enhanced performance and re-integrated all project scripts to operate seamlessly with the newly deployed LLM.
- Developed and improved the process for generating assets, significantly enhancing visual elements and interactions within Unity.
- Conducted research to support project development and documented all processes



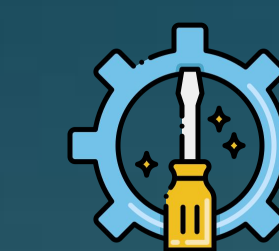
TECHNOLOGIES USED



MISTRAL
AI_



OpenAI



Fine Tuned AI Assistant

FIU

Engineering
& Computing

ACKNOWLEDGEMENT

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