AI-powered Non-player Characters (NPCs)

Project X

GOAL

Non-playable characters (NPCs) in video games are computer-controlled figures essential to gameplay and narrative. The goal of our project is to develop a customizable NPC, both in appearance and personality, with animations and AI integration. The NPC can be used to represent different companies in metaverses and provide players with valuable information.

MOTIVATION

Traditional NPCs often feel static and predictable. By integrating AI, we aim to create a more interactive and lifelike character that enhances engagement. The customizability makes the NPC easily adaptable for both players and companies. Our NPC is designed to make metaverses more exciting and immersive and represent companies in whole new different way.

IMPLEMENTATION

We used Blender for 3D modeling and Unity for game development.

The implementation was carried out using C# and Python, with SonarLint used to ensure code quality.

Our project consists of a Unity application and a Python microservice, which was built with Flask and is deployed separately.

FEATURES

Character Editor: Players can customize hairstyles, tops, boots, and pants, with a variety of color options available for each item.

Text-to-Speech: The NPC is equipped with text-to-speech functionality, enabling verbal communication with players.

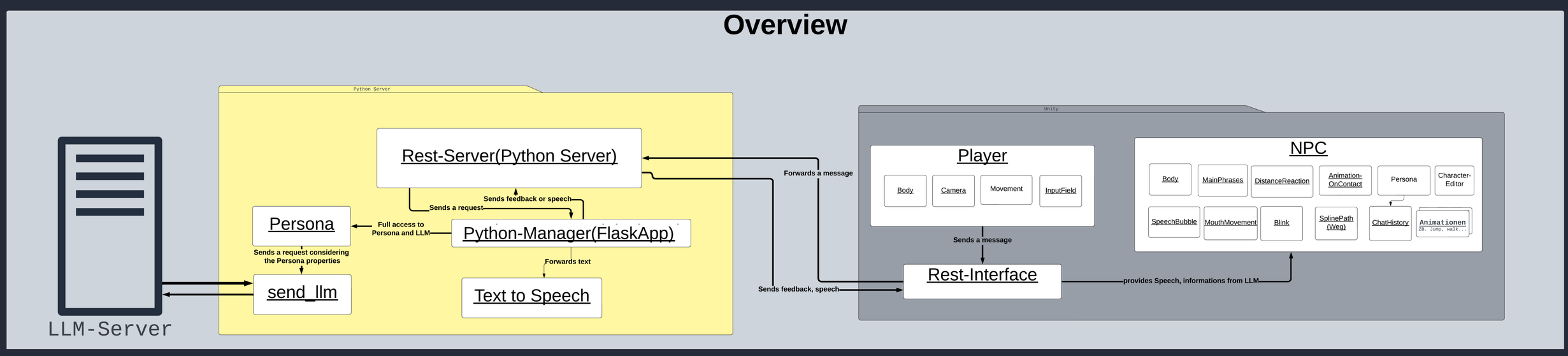
Animation: NPCs feature a range of animations, including transitions from waving to idle, blinking, and mouth movement. All animations are created using motion capture and are based on both rigging and shape keys.

Game World: The game environment includes a test player interacting with an immersive world. The NPC navigates to the player independently, avoiding obstacles along the way.

STACKIT Model Serving Interface: The integration of the LLM interface enables responsive feedback, interaction capabilities, and persona customization. The NPC retains chat history, allowing it to respond contextually to previous prompts.

Additionally, we have created a small robot NPC with a dynamic display and animations.

TECHNICAL INTERACTION



TOOLS

CSharp · Python · Blender · Unity · GitLab · Docker · SonarLint · STACKIT Model Serving

SCAN ME!

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