Project Charter
Agents and Arcane

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Problem Statement

One of the most enjoyable parts of video gaming is the immersive relationships players develop with the game's non player characters. However, players may begin to notice that the NPCs' behavior and dialogue become repetitive due to their limited number of deterministic options. We will seek to create a game with highly personable minions that make proactive choices based on their assigned personality traits, orders, and resources utilizing generative AI. Players will manage and interact with their independently acting agents from a top down perspective, and force feedback glove support will be implemented in VR to maximize player immersion.

Problem Objectives

- Build an immersive and customizable strategy game with two gameplay sections: a turn based world map and a real time micro battler.
- In the turn based mode: Players can move their agents across a large scale battlefield based on their enemy's troop movements.
- In the real time mode: The player's agent will command a battalion of lower ranking troops. The agent will command and act independently, but can take input from the player for suggestions. The player will also have some special abilities to support their agent.
- Allow players to create agents with different backgrounds and personalities in their description, and the agents will generally communicate and behave in line with that description.
- Players will be able to physically pick up and move their units around the field while in VR mode.

- Allow players to save their game data and come back later to the same point.

Stakeholders

- Users: The people playing our game
- Software Developers: Aryan Samantaray, Colby Lanier, Joseph Corbett, Junyi Wang, Will Irvin
- Project Owners: All team members

Deliverables

- A management strategy game built in Unity with C#
- The Unity game will have different modes for keyboard/mouse and VR with Lucid Gloves
- An independent backend reached by API call within Unity to wrap the OpenAI API and return formatted game updates
- A backend system that manages and saves the player's game data with locally stored files.
- Players will be able to experience force feedback through the use of LucidGloves in virtual reality.

307 Projects

Colby Lanier, Joseph Corbett, Will Irvin: Calendar++
Our GitHub repository is private.
In CS 307, our group made a locally run Calendar application using C++. The application utilized a GUI and Command Line Interface for user interaction. C++ handled the front end GUI and command line as well as the back end processing. Data was stored locally in an SQLite database. The goal was to make a calendar application that prioritized speed and customizability through the use of C++ and a command line interface. However, we also included a graphical user interface to help less experienced users feel comfortable with our program.

Aryan Samantaray: BoilerPal
Our GitHub repository is private.
My team developed a comprehensive web application that provides a unified and intuitive platform for Purdue students to manage class schedules, campus amenities, and bus routes. Students can create personalized calendars for classes and events, book rooms in various campus buildings, and get directions to different locations using bus and navigation information. Additionally, they can access information on Purdue amenities, such as vending machines, dining courts, food menus, and floor plans/emergency exits for various buildings. Our web application features a GPT-powered AI chatbot that assists users in navigating and performing

actions on the application, as well as providing important or relevant Purdue-related information and trivia.

Junyi Wang: Crafted Cataclysm
Our GitHub repository is private.
In CS307, my team developed a game called Crafted Cataclysm by Unity, that allows the player to develop their skills by utilizing a crafting system and random enemies in a randomly generated dungeon environment so that the player learns to be adaptable, a highly useful skill for anything. We also implement puzzles like classic Legend of Zelda, so our unique combination of dungeon crawling, crafting, and puzzle solving creates a game different from the ones already out there.