

CSE440 Project Update 1: Adventure Quest

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This report presents the first update of my CSE440 project, titled *Adventure Quest*. The goal of this project is to develop a Python-based interactive adventure game utilizing factor graph concepts for dynamic narrative decision-making. This report covers the progress made during the first six weeks of project development.

I. Introduction

The *Adventure Quest* project aims to combine interactive storytelling with computational decision models. The game is designed to adapt narrative outcomes based on player choices using a probabilistic reasoning system built on factor graphs. This update focuses on developing the game's basic features, implementing its main concept, and setting up the foundation for later updates.

II. Weekly Progress

II-A Week 1 (Sep 22 – Sep 28):

The semester started; no project was assigned.

II-B Week 2 (Sep 29 – Oct 5):

The formation of the group was in process.

II-C Week 3 (Oct 13 – Oct 19):

We chose the project "Adventure Quest" utilizing factor graphs for decision-making in a dynamic narrative where players embark on an interactive journey where their decisions influence the outcome of the story.

II-D Week 4 (Oct 20 – Oct 26): Project Setup and Conceptual Design

During this week, I finalized the game concept and narrative framework. The primary goal was to design a dynamic adventure game where player decisions affect future events. I researched factor graphs, message passing algorithms, and their possible application in this game.

II-E Week 5 (Oct 27 – Nov 02):

The fifth week focused on implementing the baseline code architecture. I set up the development environment in Python and organized the initial file structure for the module and implemented object-oriented design for the Player and Enemy classes, introducing basic attributes such as health, strength, and defense.

II-F Week 6 (Sep 29 – Oct 5):

This week, I implemented a functional command-line game loop that allows a player to engage in battles with enemies. I came up with a storyline. Right now, the game is fully executable, which will serve as a foundation for integrating factor graph in future updates.

III. Summary and Next Steps

So far, I have completed the first stage of the project: a minimal playable adventure game with stable class interactions and battle logic. I plan to enhance player progression and integrate probabilistic reasoning in future updates.