

## Assignment 7: Project Constraints

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Our senior capstone project focuses on the development of a detective-style video game that features adaptive, player-driven dialogue supported by language model technology. The goal is to create a dynamic narrative experience where characters respond naturally to player choices, expanding beyond the limitations of traditional scripted dialogue systems. Several constraints influence the design and implementation of this project.

Economically, our team is operating with minimal funding and relying primarily on open-source tools and existing software licenses to control costs. The main financial consideration involves the use of cloud-based computing resources for running and hosting the language model components, which may limit the extent of large-scale testing and iteration.

Ethical and legal considerations play a significant role in shaping our development process. We are committed to utilizing only licensed and approved software, ensuring compliance with intellectual property guidelines, and maintaining transparency in the use of AI-generated content. Additionally, we aim to mitigate potential bias in generated dialogue and safeguard any user data that may be processed during gameplay.

Socially, our narrative draws inspiration from classic detective fiction in the style of Agatha Christie and investigative games such as Ace Attorney. While the story is entirely fictional, we are attentive to tone and presentation, ensuring that our source material is used thoughtfully and in a way that feels original within the genre. Our focus is on delivering a compelling mystery experience that rewards player reasoning and curiosity.

Professionally, the project provides an opportunity for each team member to apply specialized skills in software development, artificial intelligence, and visual design. We aim to produce a cohesive and innovative game that reflects both technical competence and creative design, while preparing us for future professional roles in industry.