

In the development of our senior design project, which involves creating a game with reinforcement learning integration, we recognize several key constraint topical areas that influence our project design:

Economic Constraints: As students working on this project, we have budget constraints, and we aim to minimize expenses wherever possible. We plan to utilize open-source tools and libraries for game development and reinforcement learning to keep costs low. Funding for any necessary hardware or software licenses will come from personal funds, and we do not have access to extensive financial resources. Our solution aims to be cost-effective and not reliant on significant financial investments.

Professional Considerations: Our project has a direct impact on our professional development. It provides an opportunity to apply and expand our knowledge in game development, reinforcement learning, and collaborative teamwork. It also influences our public reputation within our academic community and potentially future employers. Specialized expertise in areas like machine learning, game design, and project management is essential for the successful execution of this project.

Ethical and Social Impact: We acknowledge the ethical dimension of our project, particularly concerning the gameplay and the potential impact on players. Ensuring that the game is enjoyable and does not promote harmful behavior is a priority. We are committed to promoting a positive gaming experience. Additionally, we aim to make the project available for public access and possibly contribute to the educational or entertainment aspects of society, with a focus on enhancing the quality of life for players and learners.

Legal Constraints: Legal considerations are essential in our project involving game development and reinforcement learning integration. We must use licensed or open-source resources to avoid intellectual property disputes. We'll adhere to licensing agreements and platform policies for distribution when using Unity and any game assets. Clear disclaimers and terms of use will be included to manage potential liability issues if any arise.

In conclusion, our senior design project is guided by economic considerations to keep costs low, professional aspirations to enhance our skillsets, ethical responsibilities to create a positive experience, and a commitment to legal constraints to stay within legal boundaries. These constraints and considerations shape our project design and decision-making process, influencing the types of solutions we explore and implement.