17T: Technology Enhanced Tabletop Board Game

Collaborative Experience

#Collaboration #Gameplay #BoardGame #UserExperience

Project brief

This project aims to create a technology-enhanced tabletop board game that integrates physical technology components to provide an immersive and interactive gaming experience. The board game will use a combination of physical components, such as Arduino, RFID, sensors, and actuators, to enrich traditional gameplay. The objective is to design a game that leverages technology to introduce novel mechanics, streamline gameplay, and provide dynamic content while maintaining traditional board games' tactile and social aspects.

Problem space

Traditional tabletop board games offer rich, tactile experiences and foster social interaction. However, they can be limited in dynamic content, variability, and complexity management. Managing game rules, scoring, and tracking game state manually can be cumbersome, especially for complex games. Moreover, traditional games cannot often provide personalised experiences and adapt to different player preferences and skill levels.

This project addresses these limitations by integrating physical technology into the board game design. By incorporating components like Arduino and RFID, the game can offer enhanced interactivity, automate rule enforcement and scoring, provide dynamic content, and create a more engaging and immersive experience for players.

Success criteria

This project necessitates the development of a hybrid board game that combines traditional physical components with advanced technological enhancements.

This project **MUST** have

— Physical board game components (board, cards, tokens, etc.) integrated with technological enhancements (Arduino, RFID, sensors, etc.).

— Technology integration to automate game mechanics, track game state, and manage scoring.

— An engaging and interactive user interface for the digital component, if applicable.

— Clear instructions and seamless interaction between physical and technological components.

This project **COULD** have

— Augmented reality (AR) features to overlay digital content onto physical components.

— Adaptive difficulty settings and personalized content based on player performance and preferences.

— Voice recognition and natural language processing for intuitive game control and interaction.

Expected skills to have or develop

— Board game design and prototyping.

— Experience with Arduino programming and hardware integration.

— RFID technology and sensor integration.

— Embedded systems and electronics (sensors, actuators).

— UX/UI design for both physical and digital components.