



Project Proposal

Multiplayer Chess Game

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Executive Summary

This proposal outlines the development of a multiplayer chess game that will enable players to compete against each other in real time over a network. The game will be built using socket programming to facilitate communication between clients and the server.

Introduction

Chess, a timeless strategic game, has transcended its traditional boundaries and entered the digital realm. This project aims to leverage computer networks to create an engaging multiplayer chess platform.

Background

The concept of multiplayer games over networks is not new, yet it presents unique challenges and learning opportunities. This project is inspired by existing network games and aims to apply these principles to a chess game.

Objectives

- To design a network-based multiplayer chess game.
- To implement a robust server-client architecture using socket programming.
- To ensure real-time synchronisation between players.
- To create an intuitive user interface for game interaction.

Problem Statement

The need for interactive and synchronous multiplayer games is evident in today's digital age. This project addresses the lack of open-source, network-based chess games that utilise socket programming for real-time gameplay.

Literature Review

An examination of current literature on multiplayer network games, focusing on those that use socket programming, will be conducted to gather insights and best practices for implementation.

Methodology

- Programming Language: Python will be used due to its extensive support for network programming.
- Socket Programming: TCP/IP sockets will establish and maintain a connection between players.



- Game Logic: Server-side logic will enforce game rules and manage player interactions.
- User Interface: An interactive user interface (UI) will be developed for a seamless gaming experience.

Project Scope

The scope includes developing the game logic, server-client communication protocols, and the GUI. The project will be limited to two-player chess without AI opponents.

Feasibility Study

An analysis of the technical requirements, resource availability, and time constraints will be conducted to assess the project's viability.

Design

The design phase will involve creating wireframes for the UI and outlining the system architecture for the network communication.

Development Plan

A detailed plan for the development process will be laid out, including milestones, deliverables, and deadlines.

Testing Strategy

A comprehensive testing strategy will be implemented to ensure the game's functionality and network reliability.

Risk Management

Potential risks, such as technical challenges, resource constraints, and timeline slippage, will be identified along with mitigation strategies.

Conclusion

The project aims to deliver a fully functional multiplayer chess game that demonstrates the practical application of socket programming in computer networks.