

# Online Chess Software

## SYNOPSIS

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### Problem Statement:

To design a Graphical Chess Game using Object Oriented Programming with basic concepts of programming and to allow players to join from different locations.

### Abstract:

Since the COVID pandemic started, online chess has gained huge popularity. Our software is designed with attractive, easy to use interface. Our goal is to implement a completely functional online chess playing software as Desktop application. Two players can play against each other online. Also, a player can play with Chess Engine.

#### Scope :

Basically this project has two main purposes: Firstly, to encapsulate the chess gaming and chatting in one application so that a user can easily view and use both of them on a single window. Secondly, to make these two applications to run simultaneously on the network. Generally, the chess game is normally played against the human user and the computer on which the user is operating,

so the need is to make the chess game being played against two human users on two different machines on the network, no matter their physical location and as well as allowing chat among those two users

## **Aim:**

The aim of the project is to provide both a chess as well as chat facility in one application such that users can play the chess against each other as well as they can chat among themselves on the network that is any number of computers connected via a network. So the users can play the chess in pairs and in the meantime when any of them wants to communicate with the opponent player, he/she can do that simultaneously.

## **Objectives:**

- A. To provide a user-friendly interactive environment to the users of the application that helps them to play and communicate with a lot of ease.
- B. To provide help to the users in playing the chess, the different moves of the different pieces etc are being explained to the users, if they require.
- C. The care is taken that the user finds the same chatting mechanism as he is normally used to.
- D. As the project is based on client server architecture, where the server is serving as mediator in between the players and the client is making requests to the server as well as doing all the part that is related to playing logic.
- E. The statics of players will maintained on their own profile.
- F. Players will be able to do quick pairing or manually invite another player to play.

## Currently existing softwares / websites:

Sr no.	Software name	Opensource / proprietary	Advantages	Disadvantages
1.	Lichess.org	Open source	Great interface, ads-free, best for shorter time control	Chess.com has more quality players than lichess.org has.
2.	Chess.com	Proprietary	More accurate in terms of rating of a player	Better content is available only for paid users.

## Functional Requirements:

- A. The user should be able to create an account and log in.
- B. The user should have internet connectivity.
- C. The user should be able to communicate with the opponent through the chat option.
- D. The user will be able to send requests to his/her friend to play with him/her.
- E. User should run the application on any operating system which is able to run python

## Summary:

**Languages and Libraries** : 1)python3 2)pygame 3) tkinter

**Networking** : AWS services, python socket programming

**Database** : Mysql/sqlite3

Python language is programmer friendly and it provides a lot of functionalities and modules which are best suited for graphical designing. We chose AWS(Amazon Web Services) as it provides deployment of web servers so that the messaging during the game session can be handled. Mysql/sqlite3 are database services which will be used for storing information of user profiles and statistics.