Khadija Warraich (kwarraic) : 15-112 Project Proposal

**Project Description:** The project I will be completing at the end of this term is Multiplayer Chess, where I will be using the Pygame and Socket library to fully complete this project. 2 players with accounts on the class server may play against one another in live time. The game will ensure that players can only make allowed moves and provides each player as much time as they want to complete their turn.

**Comparative Analysis:** There are many chess and checkers type python projects out there, obviously my project will also implement the same game with the chess rules. There will be lots if similarity, however I hope to make more interesting graphics with my game, more with cases of check and check mate. Those games mostly focus on just functionality and simple user interfaces, and I would like to build on that.

**Structural Plan:** For this project I plan to make 2 classes, one class for the chess rules itself and a second class to deal with the manipulation of the board based on the choices of the players.

* Chess Class in essence would take care of the whole game functionality; it should work if both players had decided to play on the device.
* Transmission Class – Is a child class of the chess class but adjusts the board according to what was sent through the socket. These adjustments should be made with slight delay.

**Algorithmic Plan:** For the more difficult part of this code, it would be dealing with the sending and receiving of information and then adjusting the board. This part would be the most difficult mainly because it must deal with having to constantly receive information from the sever, and then make the according adjustments. It also means that there would not just be relevant information for my game so I would have to filter those unneeded messages out. The algorithm would involve using a similar algorithm to that from homework 8, where messages would constantly be checked, and if any new messages had come in, read the message and check if the message is from the right user, and if it is chess related.

Ti**meline Plan**: This timeline will be based on when there are submission requirements

* TP1
  + Set the board up
  + Have players take turns
  + Prevent pieces going out of bounds
  + All the pieces be able to make the moves they are allowed to make
* TP2
  + Create some sort of login page to authenticate the 2 users playing are active members of the server and are friends.
  + Have pieces eat one another
  + Implement the socket aspect
  + Fully functional and works completely with minor bugs
* TP3
  + Add interesting graphics for more moves like check mate.

**Version Control Plan:** I will user GitHub to keep track of version history.

Module List: For this project I will be using 2 extra libraries, pygame and socket. Pygame for making graphics and socket will be implemented for making the game multiplayer.

TP 3: