Analysis

My project will involve creating a web API using the web framework Flask, and programming the game connect four. The game will run on a server which will store the players’ user-name and their number of wins and losses. Players will be able to play against each other online.

I have tested online games of connect 4, but I feel like there are still many ways to improve on the ideas. For starters, most of the sites I could find only supported local multi-player1,2, so you would have to be in the same room to play with a friend. I found only a single website that allowed you to play over the internet3. However the way this was implemented was to provide a URL which you would need to send to a friend. Furthermore you had to repeat this process each time you wished to play against the same person. This made it very slow and tedious if you wanted a rematch. None of the games I found supported playing against a randomly matched opponent.

I will focus on the network multi-player for my project as I find that this is what is lacking in many other online versions of connect 4. My implementation will support user accounts that you can log into, and will give the player the choice to play with a friend or a stranger. I will also provide the option for users to see statistics of their previous matches, and a leader-board amongst friends. I will give the site a simple interface that is easy to use, and you will just need to press a button to select your move.

I have researched into the web framework Flask. I have chosen this framework as it can be versatile but is easy to get started on. It also has a simple and easy to understand format, and the use of function decorators in it is very effective.

I am aiming my project at end-users who will be in general a few years younger than me, approximately 10 years old, but have a good degree of familiarity with computers and spend a fair bit of time online. I believe this age-range particularly enjoy classic problem-solving games such as Four in a Row, that they may be already familiar with outside of the online world. Alternatively, it is also aimed at people who spend a large portion of their time online and frequently get bored. Furthermore they also increasingly want to play them with their friends when they are not in the same physical space.

Objectives:

Create a web API

Create a working connect 4 backend

Make a server with accounts so that players can record how many wins and losses they’ve had in total and can play online with others.

Make a frontend website people can play the game on, using the web API.

Have a ranking system based on the chess Elo system, and provide a global leader-board as well as one amongst friends.

Stuff to add:

links to existing connect 4 games using footnotes, more detailed critique of each site and separate paragraph into critiques and what I’m going to do,

Documented design

Hardware specification:

To play connect four the user will need a computer, a keyboard, a monitor and access to the internet. As the game will be multiplayer, you will likely also want a friend, who also has access to the previously mentioned hardware, alternatively they will be able to play with a random player instead.