

# ICS4U1 Final CPT - Connect-4

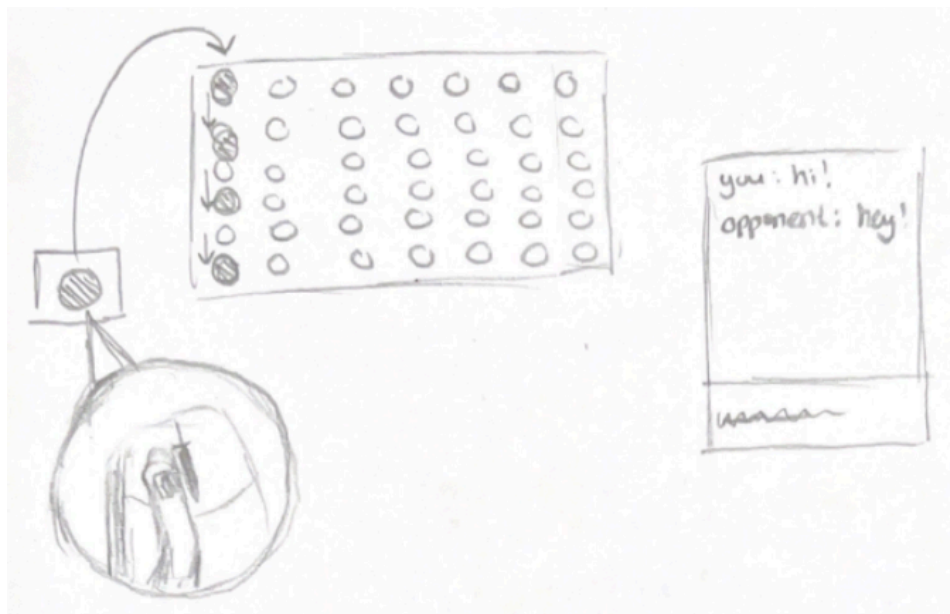
**Team Members:** Derek Lien, Adeline Lue Sang, Chloe Tai

**Overview:** Two players take turns dropping pieces into a 7x6-sized board until they form a line of four horizontally, vertically, or diagonally with their pieces.

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## Client Requirements

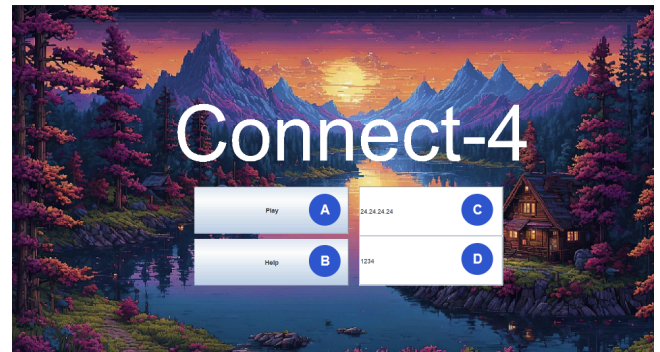
- Themes
  - Three themes with distinct design elements + one customized theme created with elements of other themes
  - Themes must be controlled by comma-separated values document (themes.csv)
- Drag & Drop Feature
  - User must be able to pick up pieces and move them to their desired column by holding down and dragging the mouse
  - There must be an animation component of the piece sliding into place after being dropped
- Chat Feature
  - Client and server must be able to communicate with each other through an in-game chat in real time



# UX Design

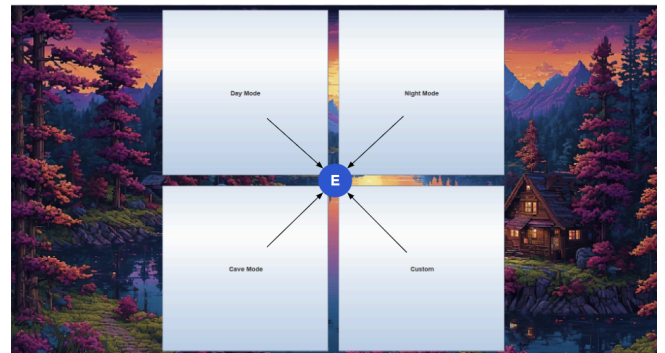
## Home Screen

- A: Play Button, loads theme screen
- B: Help Button, accesses help screen
- C: IP Address Field
  - If running program in server mode, leave field blank
  - If running program in client mode, input IP address
- D: Port Number Field
  - If running program in server mode, choose port number
  - If running program in client mode, match port number to server



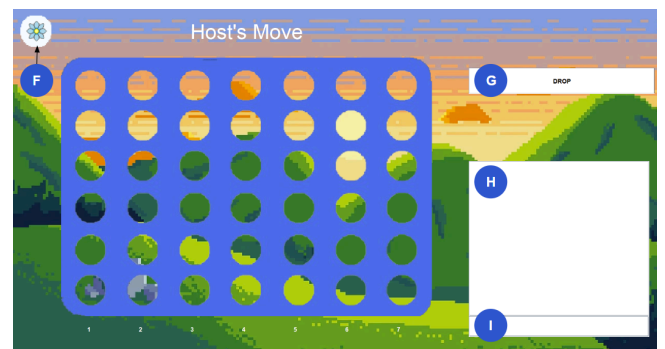
## Theme Screen

- E: Theme Buttons, loads play screen with day, night, cave, or custom theme; each theme produces a specific background, board, and pieces



## Play Screen

- F: Hold down mouse and drag piece over desired column
- G: Drop Button, drops the piece into the column it is positioned over
- H: Game Chat Box, prints chat and game history messages
- I: Chat Text Area, write message to send to opponent



## **Network Message Design**

Through SuperSocketMaster, the program sends a message between two different instances of the program. The program either sends a chat message, which allows the user to communicate with the other player, or it sends a game move message to the other player. This is done by using an identifier at the beginning of the message. For any game move message, the program sends the word “game”, followed by the column number over the network. On the receiving end, A function is used to index through the first four characters that are sent over the network to see if the game is in the first four characters in the message. If the game is the first four, the program will assume it is a game move message. If it is not, the program will assume it is a chat message.