Pung.

Technical Process

This IoT project was developed by Damien De Courcy & Fletcher van Ameringen for 159.236, Assignment 3.

The project built on prior assignments, with the inclusion of multiple new features such as:

- Task Delays
- Task Handling
- Socket Setup and Management (Client and Server)
- Board-to-board wireless communication

Modes

The application follows 2 modes (server or client):

- *Server* mode – the user initializes as an **access point**. Once a player joins, a new local 'Pung game' starts.
- *Client* mode – the user initializes as a **station** scans for local 'Pung servers' to join.

Preliminary

To play Pung, an SSID and server port must be selected on each board. The port must be identical on each board to establish a connection. As EspressIDF does not 'free up' used socket bindings (an issue with the framework), a new port must be selected after each game. This can be done through Options.

Display

Aside from during the initialization stages mentioned above, both boards display identical GUI.

The following button selections (from memory flash) will display the respective 'pages':

- Play →
    - Host (create new local game)
    - Join →
        - (Select an SSID from the list displayed to join a local game)
    - Exit (return to main menu)
- Options →
    - Name (SSID selection)
    - Port (Port selection)
    - Colour scheme (change colour selection)
    - Help →
        - Game Instructions
    - Save (save options and return to main menu)