SPA 4 - Part A

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repository: `https://github.com/shinysocks/csc2210/tree/main/morsecoder`

morsecoder is a prototype for a game project to "gamify" decoding morse code from user input.

The core game engine being used to handle keyboard events, visuals, and timing is raylib.

The MorseTree class stores each morsecode sequence within a binary tree path.

Window

-WIDTH
-HEIGHT
-SPACE_TEXT
-DOT
-DASH
-INVALID_CODE
-is_dot
-countdown_timer
-decoded_char
-message

+Window()
+render()
+is_symbol_dot(bool)
+set_countdown(int, char)
+set_message(char*)

Node

+data
+left
+right

+Node(E)
+Node(E, Node, Node)

MorseTree

-root

+add(E, string)
-add(E, string, Node)
+decode(string)
-decode(string, node)

```
                          waiting for input
                                │
                          space pressed
                                │
                                ▼
                     start stopwatch + play
                              tone
                                │
                          space released
                                │
                                ▼
                        record time + stop tone
                                │
                                ▼
                           time is dot?
                          ╱          ╲
                       true          false
                        ╱              ╲
                       ▼                ▼
                  encode dot        encode dash
                        ╲              ╱
                         ▼            ▼
                     display encoded symbol
                                │
                                ▼
                          exit countdown
                                │
                             timeout
                                │
                                ▼
                     play back phrase and
                     output letter by letter
```

space pressed