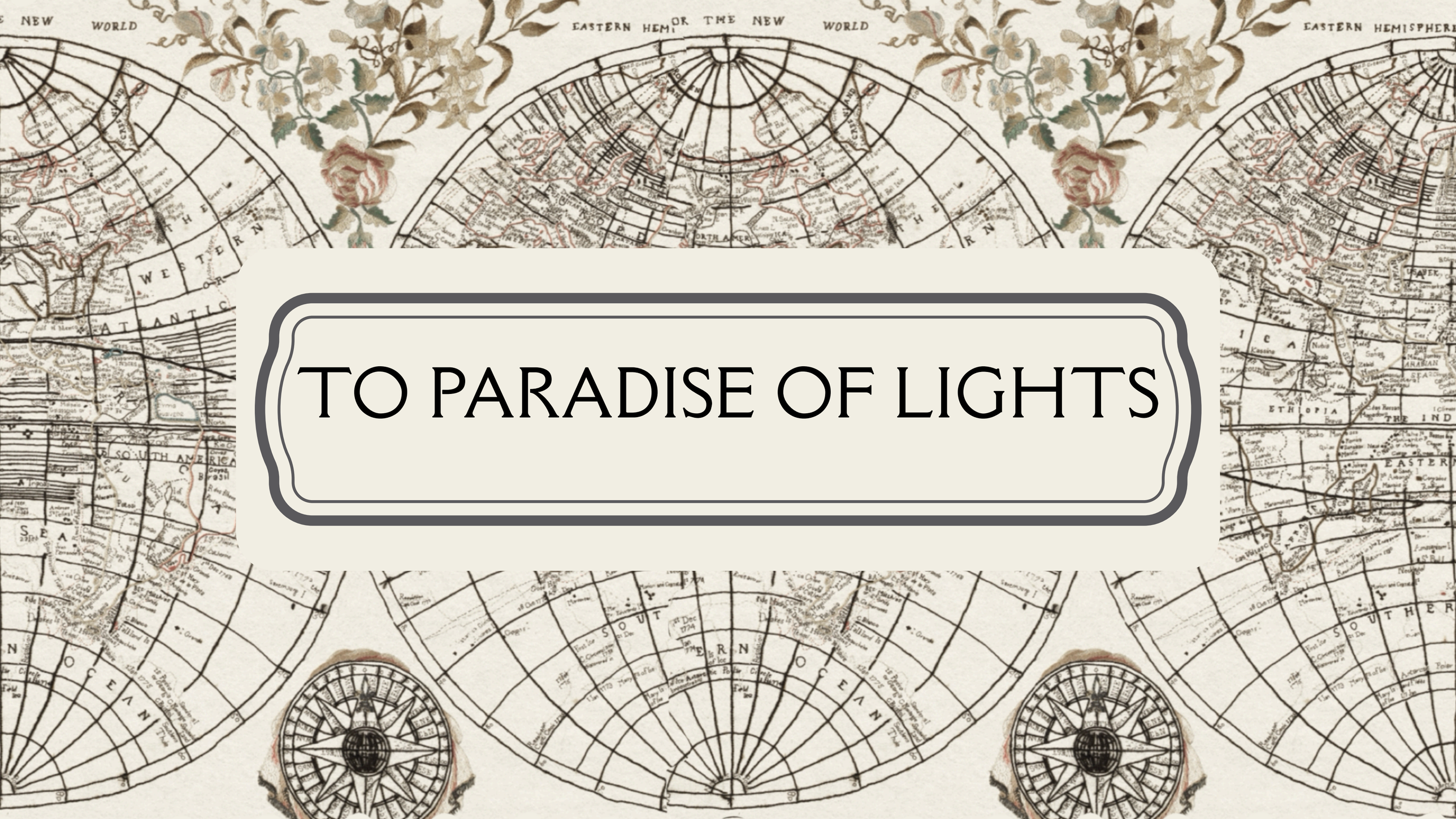


TO PARADISE OF LIGHTS

AN ELECTRONIC QUEST BOARD

Move the horse across the board on a journey to the paradise of lights.
Decode the clues and make your move.
Too puzzled? Do not fret.
Use a hint. But only once - do not regret.

CONCEPT NOTE

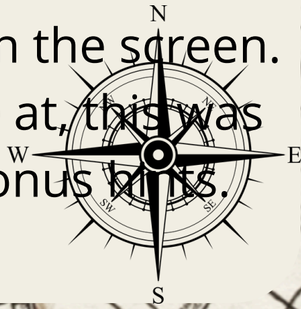
The game begins when the player presses the Start button. A prompt appears on the screen:
"Be kind to all beings. The horse is parched."The player must physically guide the horse to the river.
When the horse reaches the correct location, a reed switch and magnet mechanism is triggered. A blue LED glows, confirming the action. The NeoPixel also updates to reflect Stage 1 completion.
A new prompt appears:
“The path of the kind is always illuminated.”
Multiple paths are visible, An LED next to the correct path turns on. The player must trace this illuminated route.
Reaching the end of the path triggers another reed switch, confirming success.The NeoPixel advances to the next stage.
The screen displays the next challenge: “Drink from the Fountain of Immortality. All gryphons but one are poisoned.”
The horse hints at a riddle. Upon entering the correct answer through the keyboard, the servo motor turns to point at the right Gryphon.
Upon lifting the correct gryphon the LDR under it gets activated. A new prompt, “you may proceed to paradise now”.
The paradise has an IR sensor which detects the piece.The Neo pixel progress bar completes and the neo pixel displays a victory pattern.
the player may reset at any point during the game by the reset button.
The game allows one hint at any point and can be accessed by pressing start and reset button together.

IDEATION

We wanted to create an interactive game that was engaging and unpredictable. We were inspired by the i story based mobile games, immersive escape rooms and tangible puzzle boxes and board games. We wanted to make it a hybrid between digital and analogous digital systems.

CODING LOGIC

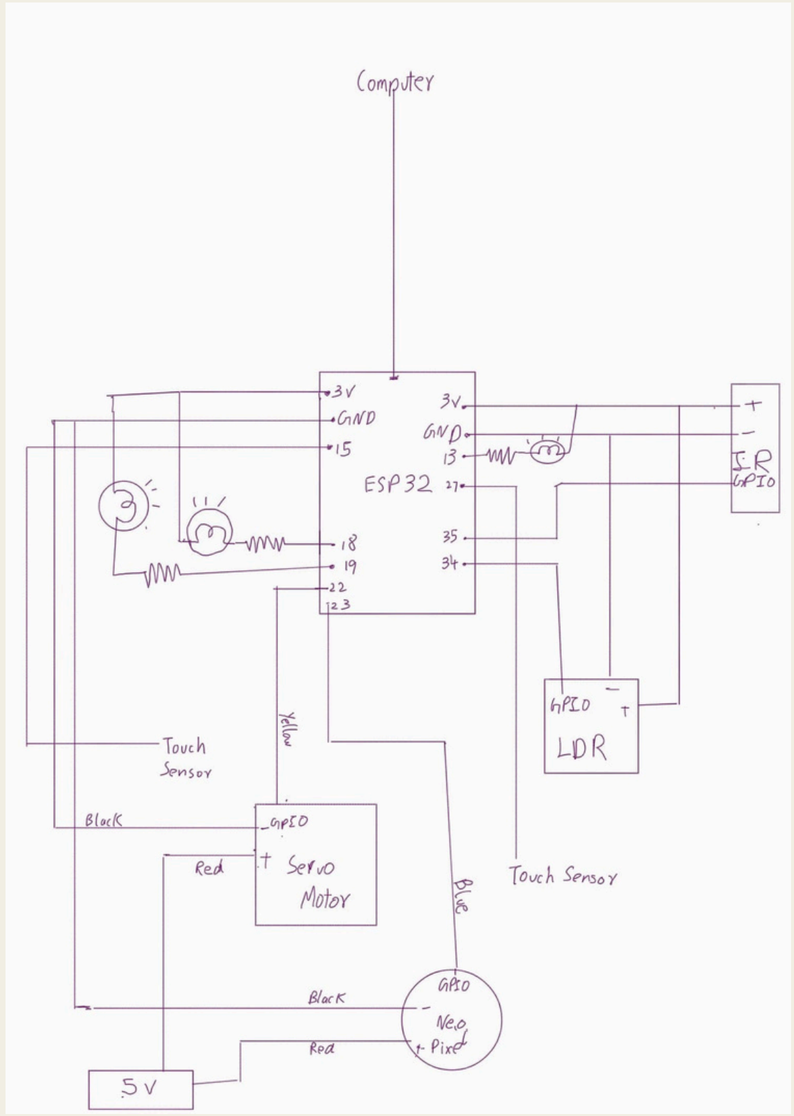
- In order to to allow the user to reset the game or ask for a hint at any stage of the game, the major part of the code had to be put under an infinite while loop.
- Another issue surfaced, the program had to progress step by step and wait for correct user input for an indefinite amount of time, but when the corresponding conditional statements dont immediately run true, the program would skip over them as false. This wasn't desirable for the game flow. Hence, each condion had to be put under a while loop that appropriated the step.
- The after the game ends, it has to auto reset - but the player wouldn't explicitly press the reset button, this was taken care by adding an or clause to the push-button reset block.
- Appropriate time delay has been added after each clue/statement displayed on the screen.
- Different hints have to be provided to the user depending on the step they are at, this was managed by using the variable traking the step to index a list containing the bonus hints.



LEARNING

- Interfacing multiple input and output sources at once.
- Ensuring the game progresses step by step while staying in a live infinite while loop.
- Integrating digital and analogus system into one seemless game.
- Using Reed switch as input source.
- Keeping track of many variables and devices.
- Seemlessly integrating circuitry with the game board surface.
- Handling loose connections and broken and malfunctioning hardware.

CIRCUIT DIAGRAM



CONTRIBUTION

Ideation : Collaborative (70% Kavya - 30% Awanti)
Concept Note : Kavya
Game board illustrations: Awanti
Pieces illustrations: Awanti
Coding: (Neopixel coding and Half of Electronic devices initialisation Awanti - rest Kavya)
Circuitry: (Neopixel and push buttons connections Kavya - rest Awanti)
Individual Pieces testing: Awanti
Circuit Diagram: Kavya
Circuit encasement: Awanti
Presentation: Kavya
Video: Awanti


THANK YOU