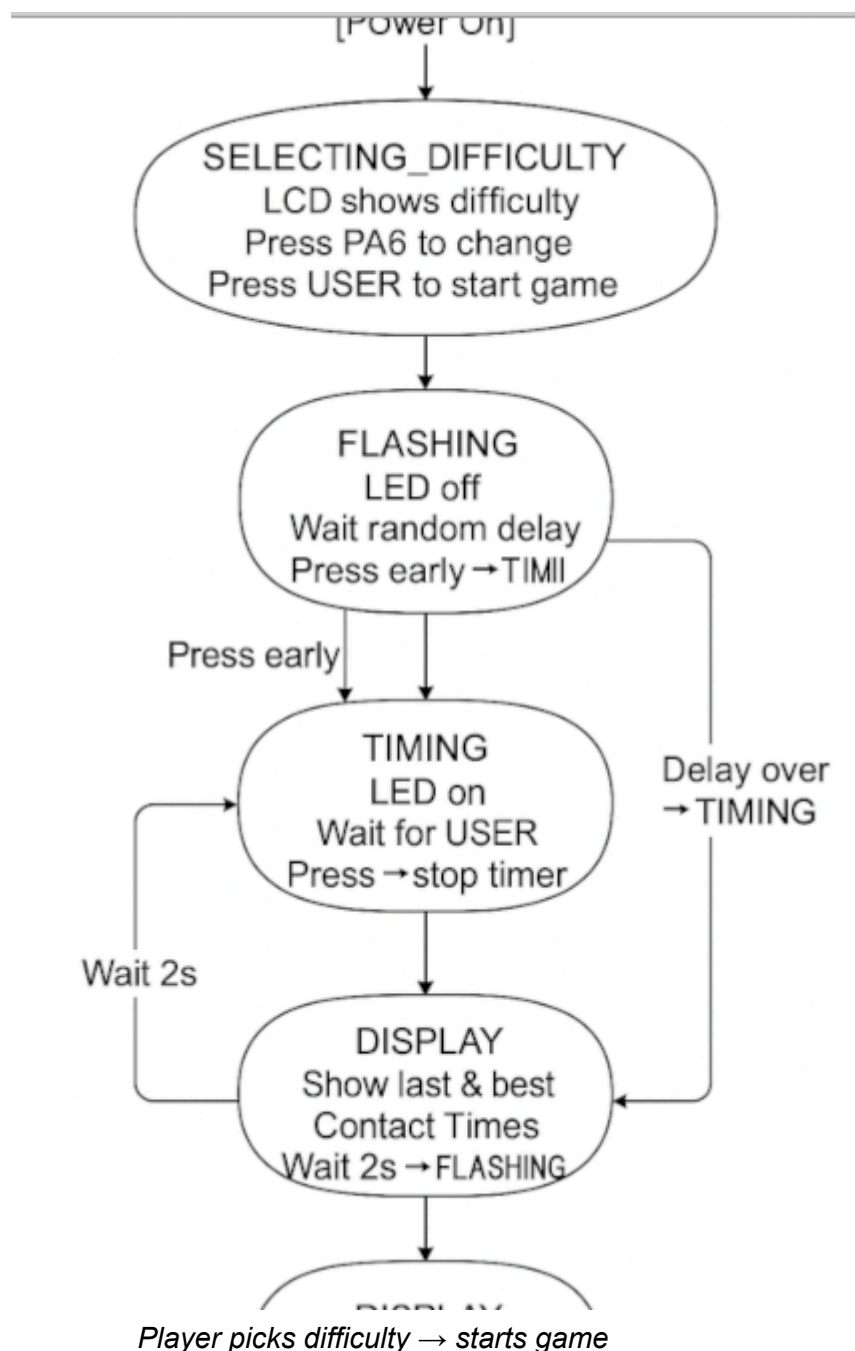


Project Description

The Alien Signal Catcher project transforms a basic hardware setup into a themed, interactive game where the player takes on the role of a space technician intercepting messages from distant alien civilizations. What makes this project truly creative is how it layers storytelling and gameplay over embedded motor control and timing logic. Players choose from three difficulty levels — Easy, Medium, and Hard — which control how unpredictable and suspenseful each alien signal becomes. The built-in LCD displays animated feedback like “👁️ Signal Received!” or “🚫 Signal Jammed!” to keep the experience immersive and fun. The gameplay evolves with each difficulty setting, making it more immersive and challenging as the player climbs from Easy to Hard. In Easy mode, signals arrive quickly and predictably, giving the player a comfortable window to respond and get used to the mechanics. Medium mode increases the suspense — signals appear at completely random intervals within a wider time range, keeping the player alert and on edge. When set to Hard, the signal timing becomes even more unpredictable and longer, testing the player’s patience and precision under pressure. By adding multiple modes, live feedback, LED indicators, and a quirky sci-fi theme, the project goes beyond a technical demo — it becomes an engaging alien-hunting mini-game that sparks curiosity and creativity, all while showcasing real-time embedded control.

FSM DIAGRAM



1. LED OFF, random delay begins
2. LED ON = alien signal
3. Player presses button → system records time

4. Results shown → loop restarts

Image of Project

The LCD screen in the Alien Signal Catcher game displays different information depending on the current state. In the difficulty selection state, it shows the current mode (Easy, Medium, or Hard) and prompts the user to start the game. During the display state after a signal is caught, it shows the player's last contact time (how quickly they responded) and the best time achieved so far. It also shows themed messages like “👁️ Signal Received!” or “🚫 Signal Jammed!” to make the game more engaging and interactive.

