

## SIMON SAYS: SOUND EDITION

### GAME RULES

- The game is inspired by Simon Says, but uses sounds instead of colors or buttons
- At each level, the ESP32 shows a sequence of LED blinks, each representing a sound: Snap, Clap, or Knock
- Players must repeat the exact sequence using their own sounds, which are detected by the microphone
- The game uses sound classification to check if the correct sound was performed
- If a mistake is made (wrong sound or wrong order), the game ends
- If the sequence is repeated correctly, you advance to the next level

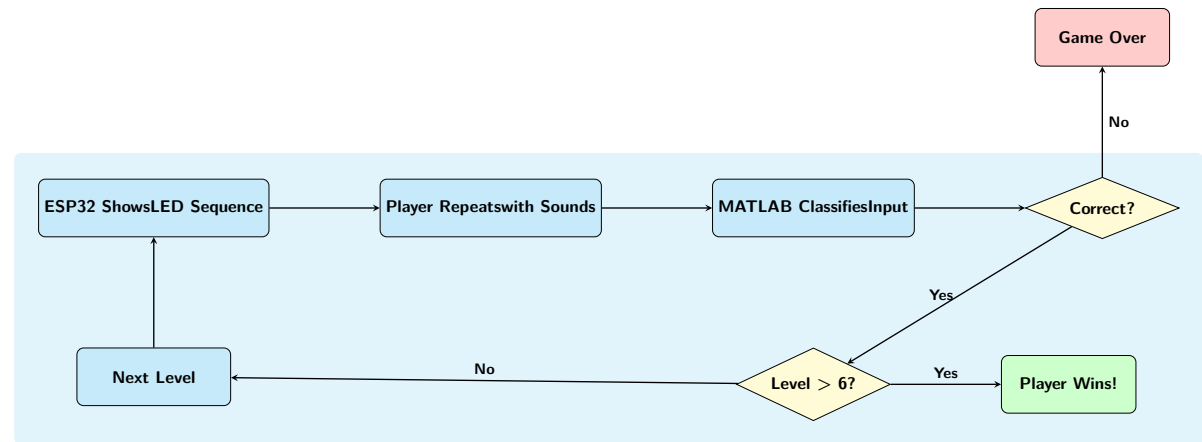
### LEVELS & PROGRESSION

- Level 1: Sequence of 1 sound
- Level 2: Sequence of 2 sounds
- Level 3: Sequence of 3 sounds
- Level 4: Sequence of 4 sounds
- Level 5: Sequence of 5 sounds
- Level 6: Sequence of 6 sounds (maximum)

### GAMEPLAY MECHANICS

- Random sequence generation ensures unique gameplay
- Real-time sound classification provides immediate feedback
- Visual indicators highlight detected sounds
- Progressive scoring system rewards advancement
- Special celebration sequence when player wins
- Automatic serial port detection for easy setup

## GAME WORKFLOW



## GAME INTERFACE

### MATLAB App Designer Interface

#### Interface Elements:

1. Level indicator showing current game progress
2. Color-coded sound buttons:
  - Yellow = Snap
  - Red = Clap
  - Green = Knock
3. Serial port connection control
4. Game progress visualization
5. Play/Stop game control button
6. Real-time sound detection feedback

