

Timer States and Behavior

1. Idle State (Waiting to Start)

- **OLED:** "Press button to begin"
 - **LED:** Off
 - **Buzzer:** Silent
 - **Action:** Waiting for button press
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2. Focus Session Active (25 minutes)

- **Trigger:** Button pressed
 - **OLED:** 25:00 countdown
 - **LED:** Red glow
 - **Buzzer:** Short confirmation beep
 - **Motion:** PIR checks for movement regularly
 - If no motion for 60 sec → Auto-Pause
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3. Auto-Paused (No Movement)

- **OLED:** "Paused: No motion"
 - **LED:** Orange glow blinking
 - **Timer:** Paused
 - **Resume:** Detect motion again → Resume countdown
 - If no motion for 5 minutes → Back to Idle State
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4. Focus Ends → Break Starts (5 minutes)

- **OLED:** "Focus done – Break started"
 - **LED:** Green glow
 - **Buzzer:** 3 short beeps
 - **Break:** Auto-starts; no button press needed
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5. Break Ends → Return to Idle

- **OLED:** "Break over"
- **Buzzer:** One long beep
- Returns to Idle State and the process repeats

6. Auto-Shutdown

- **Trigger:** On Idle for 5+ minutes
 - **OLED:** Off
 - **LED:** Off
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Logs Saved to SD Card:

Example log entries:

[2025-06-12 10:00] Focus started

[2025-06-12 10:25] Focus ended

[2025-06-12 10:30] Break started

[2025-06-12 10:35] Break ended

- Timestamps from DS3231 RTC
- Text file saved to microSD card