Robot Escape Room
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Major Qualifying Project

Puzzle Components:
- Pressure Plate
- Magnetic Block
- Block Dock
- Cabinet
- Wall Tile A
- Wall Tile B
- Wall Tile C
- Floor Tile A
- Floor Tile B

- No physical sensors, only ArUco markers
- Camera estimates marker's perimeter

Custom Mechanical/Electrical Designs:
- Developed a custom PCB to meet sensor requirements
- Reliable mechanical design to prevent user confusion

Modular Connectors: (no fasteners required)

- 3D printed construction
- WiFi communication through Raspberry PI 4

System Communication Protocol:

- Modular escape room design
- Wiring routed outside the room to an ESP32

Final Room Layout: