# Project Check Off Checklist

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## Minimum Commitment

| Maze game/FSM | ● Demonstrate transition through FSMs using labkit buttons<br>● State outputs displayed on labkit LEDs | EZ |
|---|---|---|
| Real-time Colored Object Recognition | ● Display camera image in color on screen via VGA<br>● Display object center of mass on screen (represented by colored block) | SP |
| Integrated display of scaled map and CoMs | ● Location of hand is scaled to the map on the monitor<br>● Single map can be displayed (static) | EZ |

## Project Implementation

| Maze game/FSM | ● Demonstrate timeout functions when player is invalid<br>● Control of visual elements using game state<br>  ○ Map is hidden/visible depending on state<br>  ○ Color overlay on screen when in warning state<br>  ○ 16-dot LEDs display messages | EZ |
|---|---|---|
| Dual camera integration | ● Display data transmitted from second labkit on LED of first labkit<br>● Display block representing center of mass as detected on second labkit on monitor attached to first labkit<br>● Scale com data from both labkits to fit maze map<br>● Integrate color recognition of two separate gloves<br>● Implement offset factor for data from second labkit | SP |
| User interface | ● Screen automatically updates maze map based off of user selection (only during NEWGAME state)<br>● Automatic start when player in area<br>● Commands over 16-dot LED display<br>● Display of total play time counter over 16-dot LED display | EZ |
| Player Feedback | 1. Outputs communicated with labkit LEDs<br>2. Demonstrate communication over UART to peripheral LEDs<br>3. Give haptic and visual feedback to player via UART and RF transmission | EZ |

# Stretch Goals

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|---|---|---|
| `Storage and retrieval of play times from BRAM` | ● Retrieve and display last high score/fastest time on LEDs<br>● Retrieve and display multiple last fastest times on the monitor (see the next stretch goal) | SP |
| `Advanced main menu display using COE files and flash memory` | ● Allow users to choose between New Game or How To Play/High Scores screens during NEWGAME state<br>● Add more visual frames (e.g. specific win/lose game display) | SP<br>EZ |
| `Automatic edge detection of areas` | ● Areas must be 5' x 8' or small due to physical and camera limitations<br>● Probably beyond the scope of this project with just two people (if we had a third person on our team, we could have made this a critical feature of the game!) | |