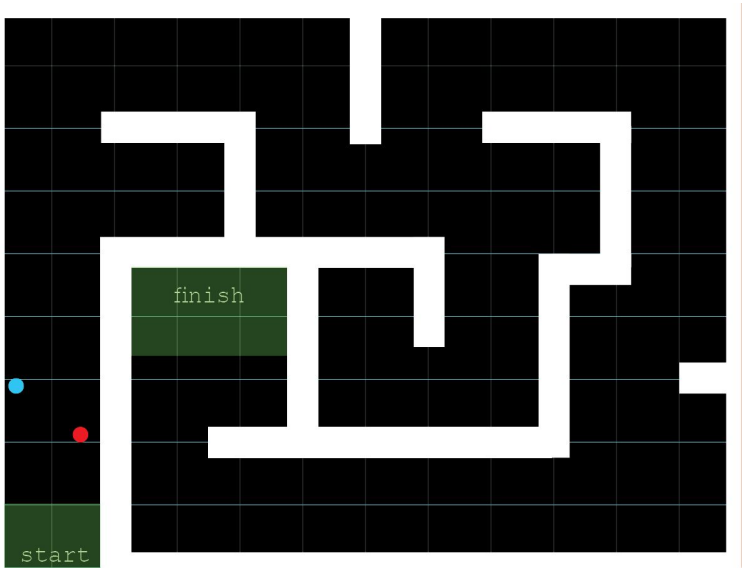
INVISIMAZE

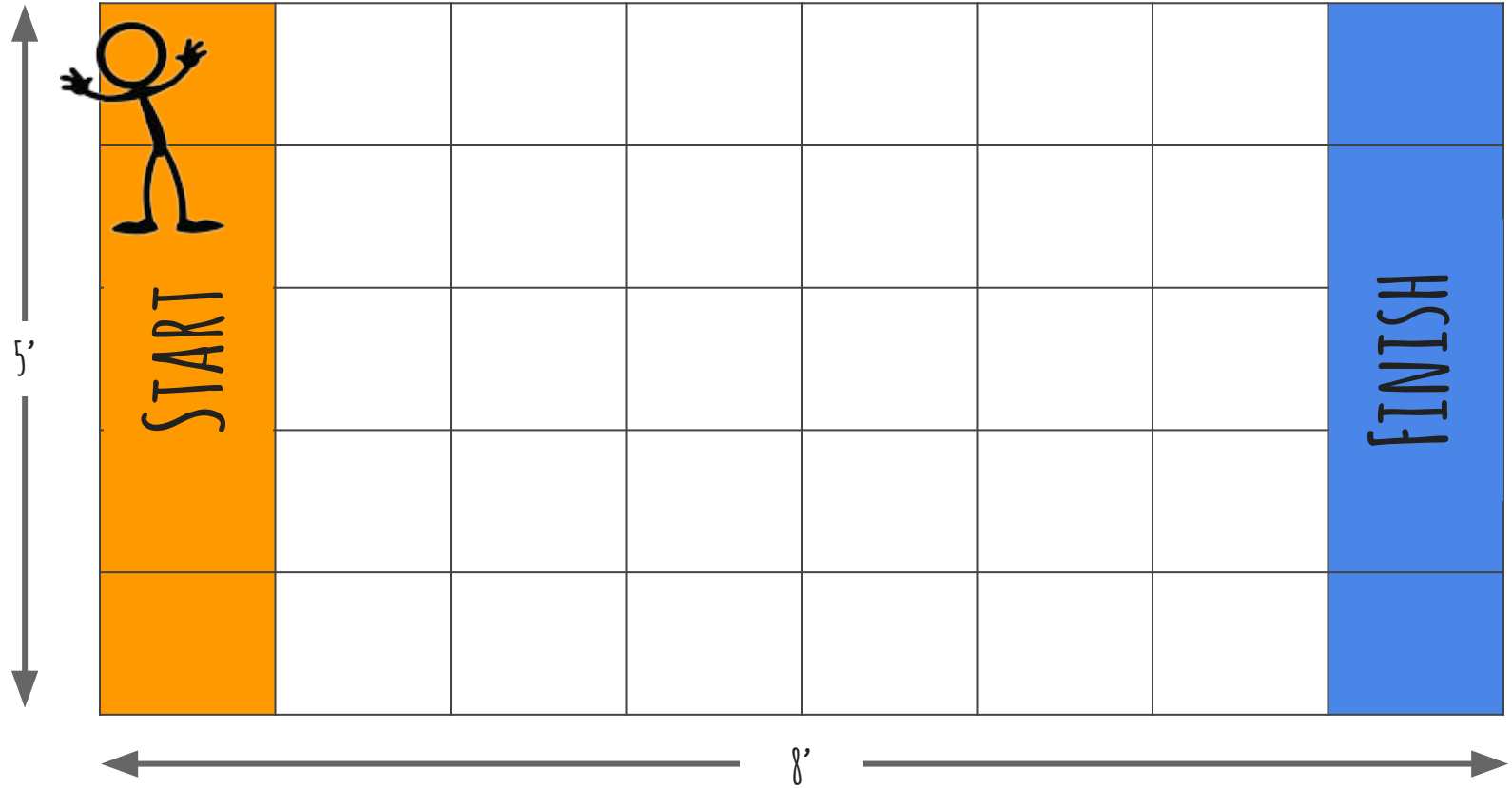
Libby Zhang and Stephanie Pavlick

Think this looks fun, but can't find one in Cambridge?

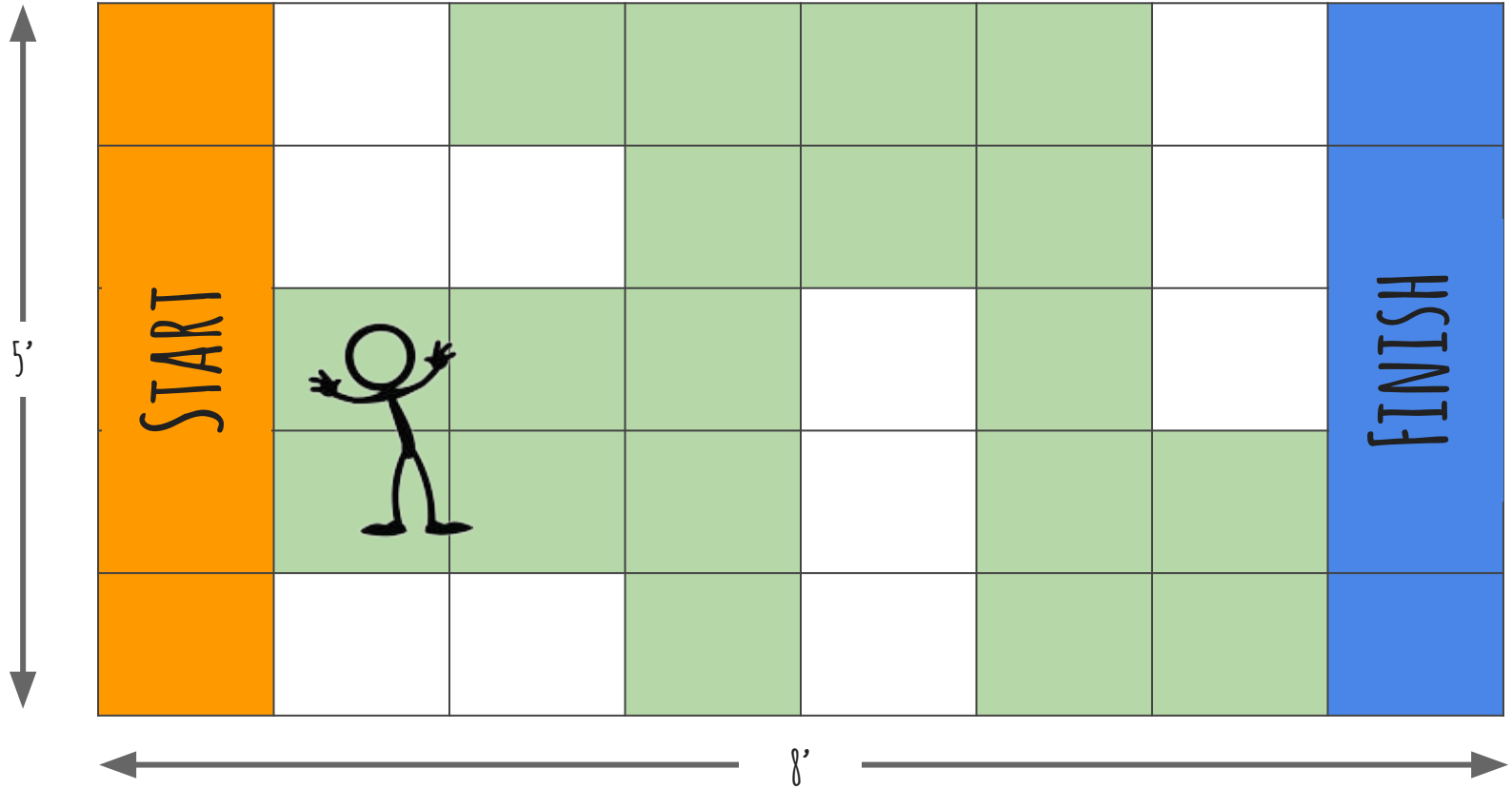


Worry no more, thanks to INVISIMAZE, the virtual maze experience!

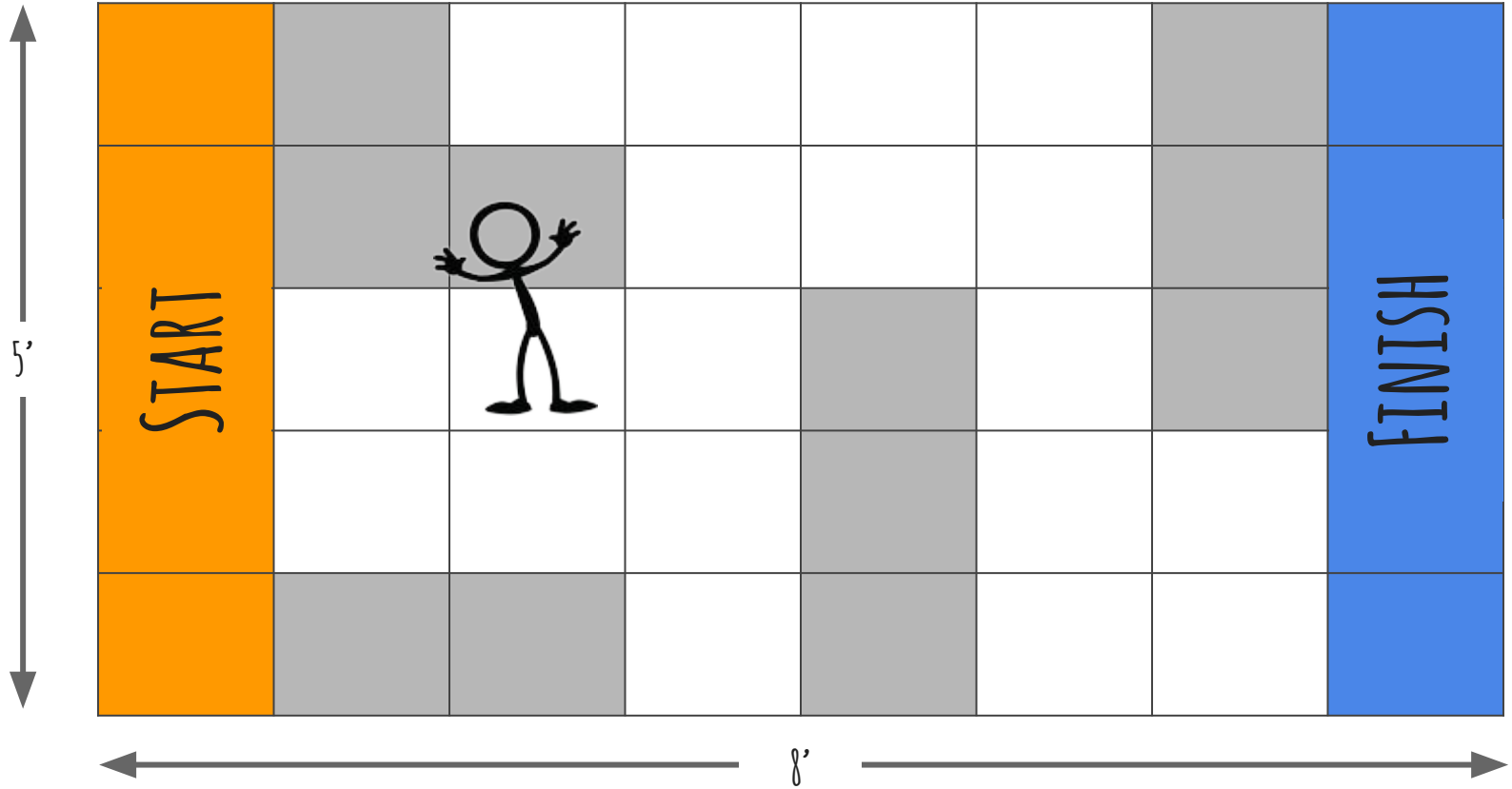
How to Play



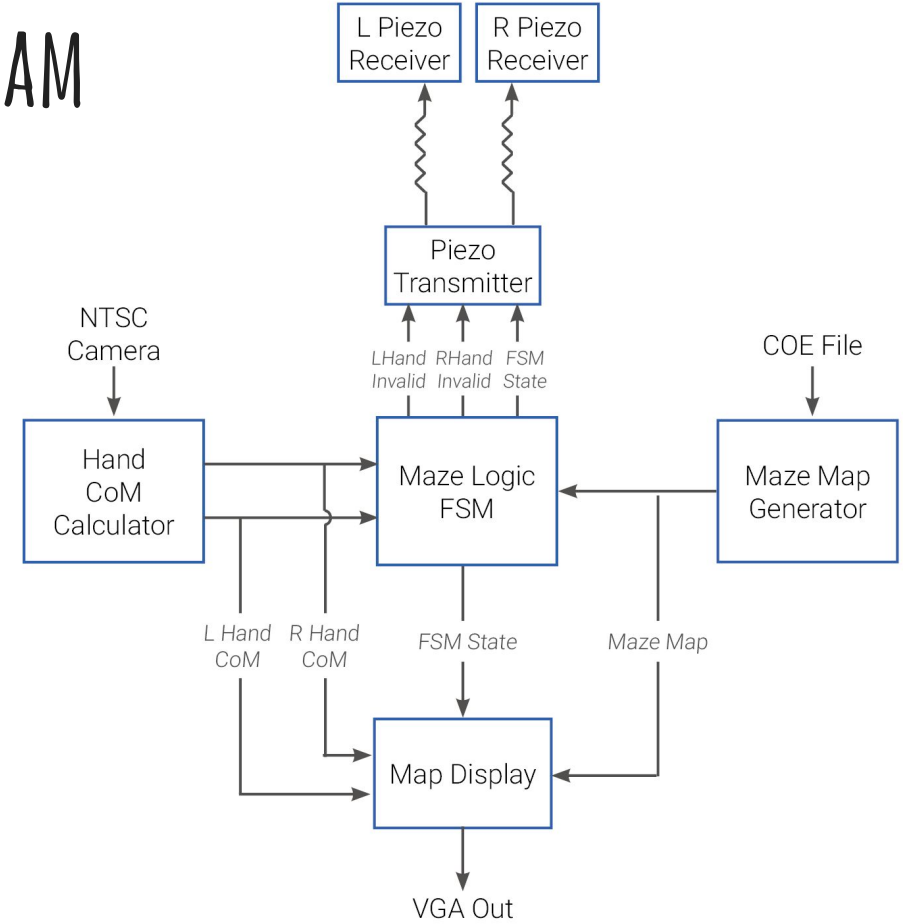
How to Play



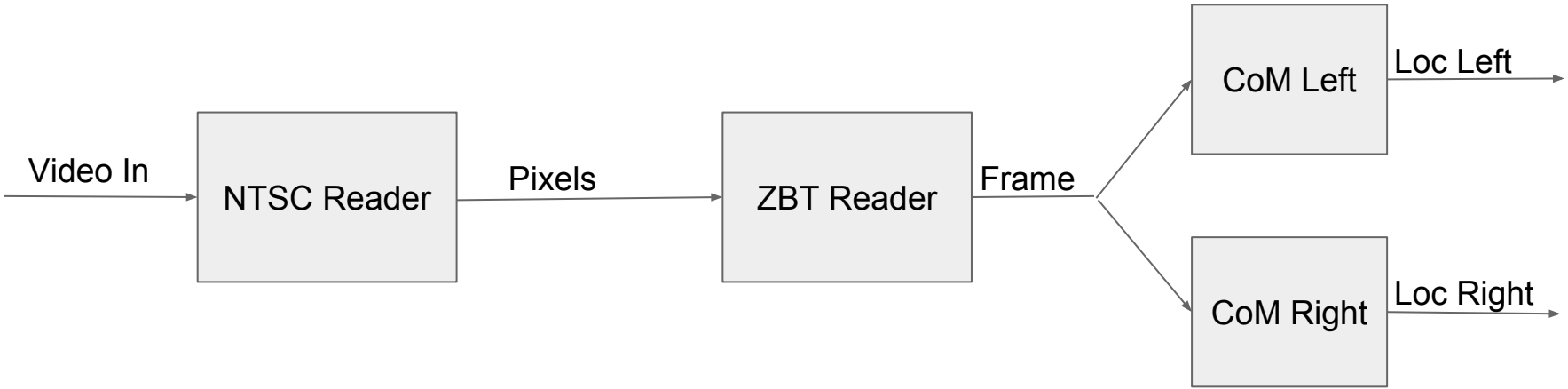
How to Play



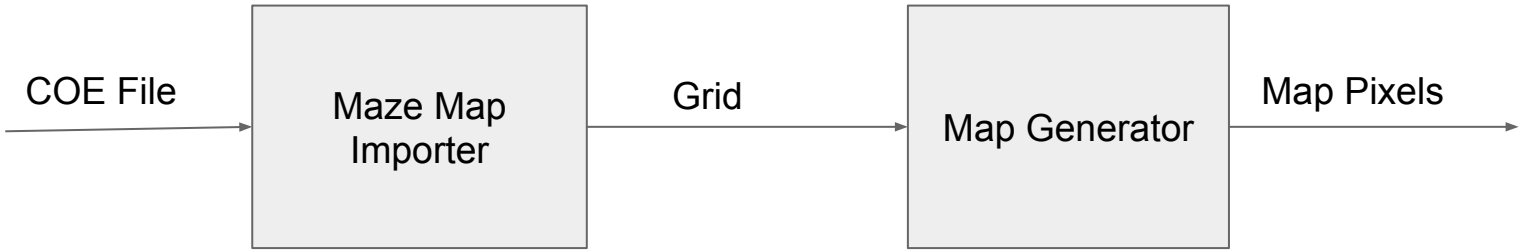
System Diagram



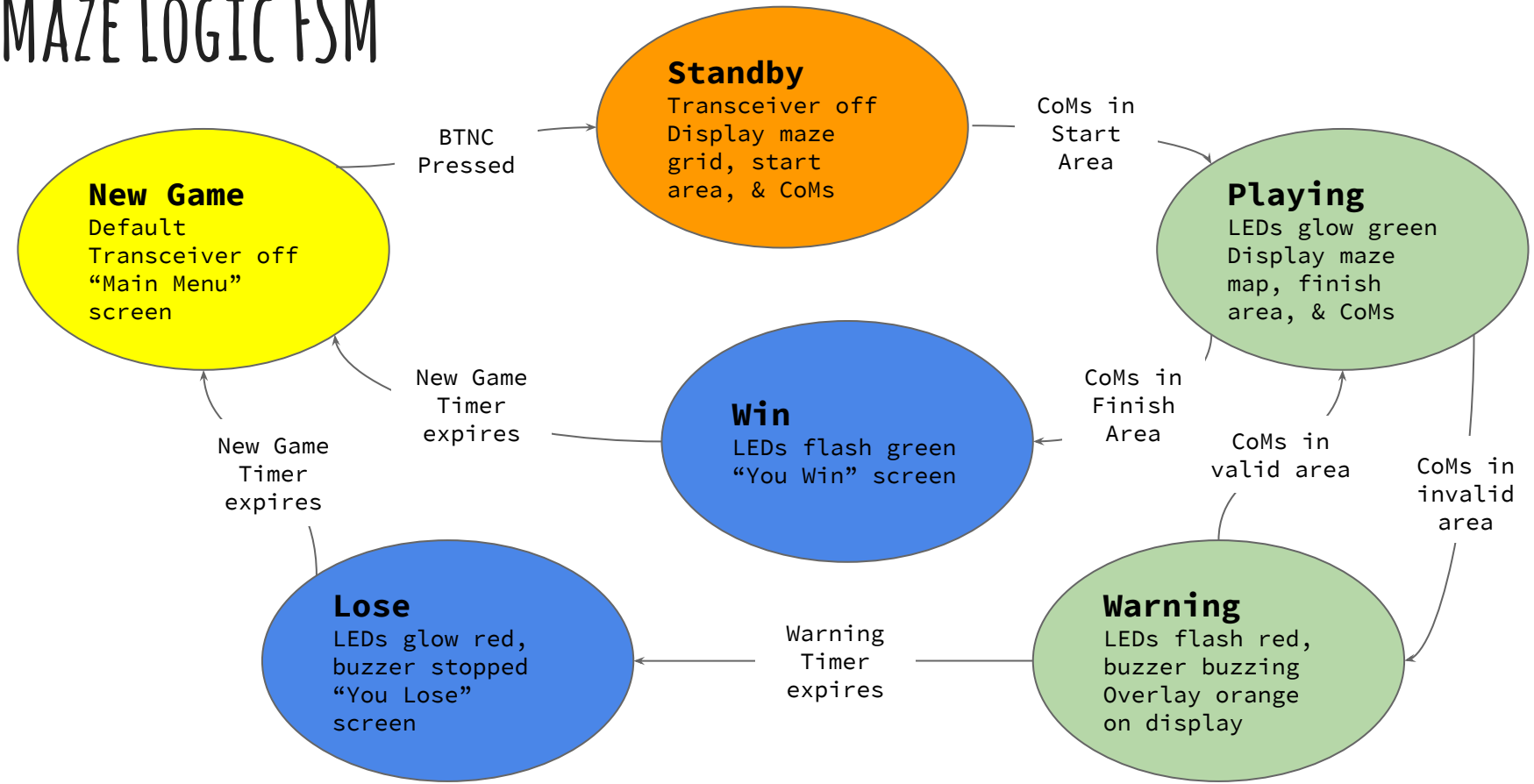
Hand Center-of-Mass Calculator



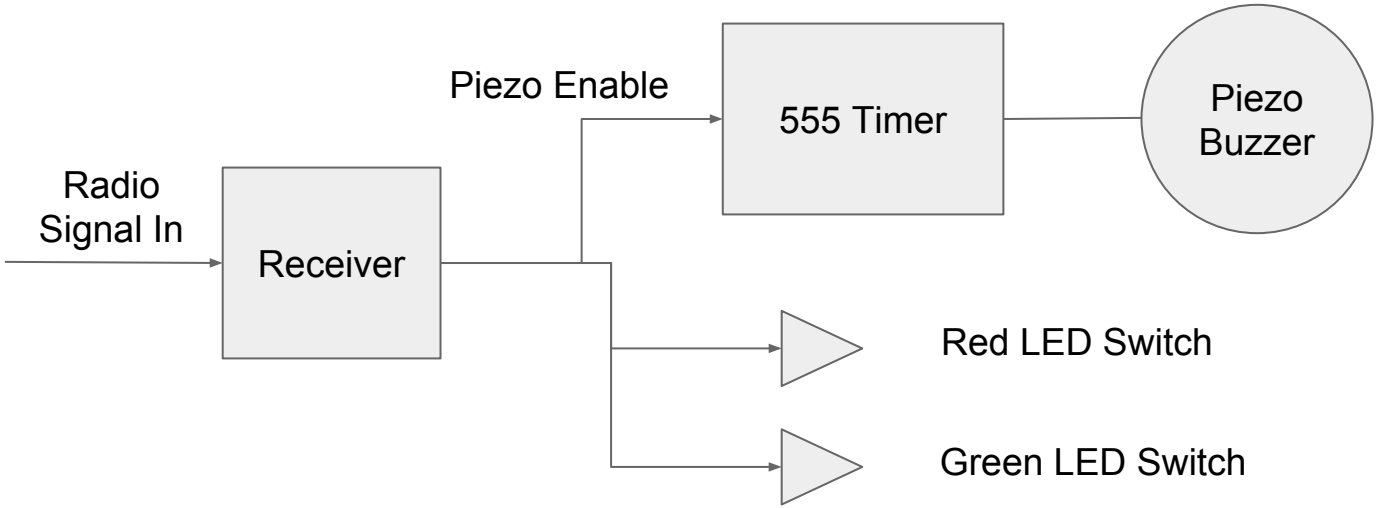
Maze Map Generator



Maze Logic FSM



Piezo Transmitter



Stretch Goals

- Game timer and fastest-times stored in RAM
- User options at beginning of game
  - New Game, How to Play, View recent times
- Audio component to game play
- Auto-calibration of physical play spaces

Timeline

Blue - Steph, Red - Libby, Green - Both

	10/26	11/2	11/9	11/16	11/23	11/30	12/7
Proposal and Planning							
Camera/Object Recognition							
Map Generator and Display (UI)							
Maze logic FSM							
Haptic Transmitter							
Integration and Debugging							

Challenges

- CoM calculations with the dual labkit communications
- Timing for retrieving ZBT memory data
- Integrating all the visual components for VGA display
  - Center of mass, alpha-blending overlay, maze map
- Communicating over RF reliably to provide haptic feedback

Thank you!

Map Display

- Outputs 1024x728 VGA Display using computer monitor
- Integrate all graphic components of system
  - Maze map and grid
  - Right and left hand CoMs (displayed as dots within the maze)
  - Flashing alpha-blended color transparencies displaying different game states (i.e. warning, game lost, game won)

Things to add to presentation

Big picture of game, physical location and limitations at beginning, game setup

Design choices -> Why gloves? Why 5 x 8? etc

At the end: stretch modules -> high scores

Project challenges, and constraints

This presentation is pportunity to present your design proposed implementation, and to elicit feedback