

# Product Requirements

*r/place*

## Core Requirements:

- User interface to display current board.
  - Should be synchronous so that users don't have difficulty collaborating (single versions of the board updating in real-time).
  - Able to zoom in and zoom out
- User interface to select tile and change color
  - User can select a color first, then a tile to modify
  - User can select a tile to modify, then a color
  - Confirmation prior to making backend update
  - Time constraint enforced for frequency of updates per user. Can place one tile every x minutes.

## Initial Demo (#1, initial prototype – Mar. 6th):

- Basic UI
  - Grid-based display skeleton (HTML canvas?)
  - User can select tile and color on grid
  - User can see grid (in full)
- Data storage schema defined
  - Understanding of how Firebase works
- Client & server communication
  - Node.js server serves Angular application
  - Test HTTP endpoint working (using Express)
    - Simple GET/POST to demonstrate working communication

## Mid-way Demo (#2, partial product – Mar. 27th):

- Time limit
  - Front-end
  - Stretch: IP
- Complete UI
  - Color picker
  - Zooming
  - Tile selection confirmation
  - Tile placement confirmation
- API Endpoints Complete
  - Request/Response structures clearly defined
  - GET endpoint for obtaining grid

- POST endpoint for placing a tile
- Multiple clients use the same server; users can see each others' tiles via refresh

## Final Demo (#3, final product Apr. 17th):

- Data persistence
- Real time updates of grid
- Deployment to Docker (or other server hosting)

## Features for flexible inclusion:

- Authentication
  - User can create and login to an account
  - Keep track of and display author of each tile
  - Only allow a tile to be placed every 5(?) minutes
    - Cookies/session management?