# Initial Maze Design

## Actual Structure

- Classes/interfaces
  - Interfaces
    - Algorithm
      - Square[][] generate(int w, int h)
        - Generating a grid[][] of Squares and handing this off to the TextGenerator
    - Square
      - Square[] getAdjacentSquares()/getEdges()
  - Classes
    - TextGenerator
      - TextGenerator(char sideEdgeChar, char topEdgeChar, boolean spaces)
      - Isaac
    - WilsonSquare (same as Node) implements Square
      - List of adjacent squares
      - Square[] getAdjacentSquares()/getEdges()
      - Isaac
    - WilsonsAlgorithm implements Algorithm
      - Square[][] generate(int w, int h)
        - Using Wilson's Algorithm (http://weblog.jamisbuck.org/2011/1/20/maze-generation-wilson-s-algorithm) to generate a grid[][] of WilsonSquares and handing this off to the TextGenerator
      - David & Austin
    - Main (has Mazes??)
      - Knits everything together
      - Hunter
- Maze algorithm GRAPH THEORY! Spanning trees! YAY!
  - Array of vertices grid[][]
    - Finding the shortest path
      - Breadth-first search
    - What do vertices need to have?
  - David and Austin found a useful source and would like to pair program this part
  - https://www.jamisbuck.org/mazes/
    - Lots of algorithms about mazes
    - Wilson's algorithm is the one we're probably gonna use
- Tile class

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# Brainstorming

- Isaac has an Intel sticker on the right side of his laptop
- Could use Git
  - Record changes

## Spelunky Algorithms

- Tile-like interface implemented by various tile types

## Maze video style

- Removing characters as-needed to create solvable puzzles
- The Coding Train Maze Video
  - p5.js

## https://www.jamisbuck.org/mazes/

- Lots of algorithms about mazes
- Wilson's algorithm is the one we're probably gonna use

## Game?? (future portability)

Have a persistent display that updates regularly
30x30 maze
- Can only show so many characters per line/per screen
- Should record where \n is
  - Should NOT have the maze character length longer than an ordinary line
  - Could have early broken lines
    - Terminal builder program might give us access to maximum line width
      - As a possible solution, add a camera that knows how long lines should be
        - Or have input from the player/user of the line length of their specific console
        - Show portions of the maze at each time
    - Width and length is adjustable somehow
      - Algorithm should NOT be dependent on the size (i.e. 30x30)
  - Would be a better solution to have it scroll if possible

# Strengths and Weaknesses of groupmembers and project style/structure

Trello or kanban board to divvy up the workload
Seeing if people can understand code and explaining verbally confusions; writing comments based on this
Chill out session (i.e. lunch, games)

- Hunter
  - Strengths
    - Planning things out (Doucette method; vague programming)
    - Documentation
  - Weaknesses
    - Getting fixated on small problems and turning them into big problems and declaring its the end of the world
    - Plans to meet at stupid, extream, times of the day/night.
- David
  - Strengths
    - Planning with the whiteboard method
      - Good for mapping things out visually!!
  - Weaknesses
    - Time gauging
- Isaac
  - Strengths
    - Debugging
  - Weaknesses
    - Planning out structure initially