Maze Mania Documentation

November 20, 2017:

Our first meeting was held to get to know each other and garner some ideas on what to do for the final project.

Ideas/themes we decided on possibly incorporating:

- The DVD logo that bounces around the screen and changes color (popular in the 2000s). Maybe you could try and make the sprite bounce into the corner
- Picture puzzle generator. Two people could work together to make it…. But one-player is probably more effective
- Something randomized could be interesting/not to complex
- Possible scenario: a screen with nine blocks. Each player has a color and has to make the blocks their color to win.
- Race game with player vs. computer
- Possible arcade games to draw inspiration from: Club Penguin games i.e. Astro Barrier or Thin Ice, Starship, Pacman
- Have 3-5 levels as a basis. Not too little and just right in terms of the time we have
- Time vs. point system, need some way to lose the game

November 21, 2017:

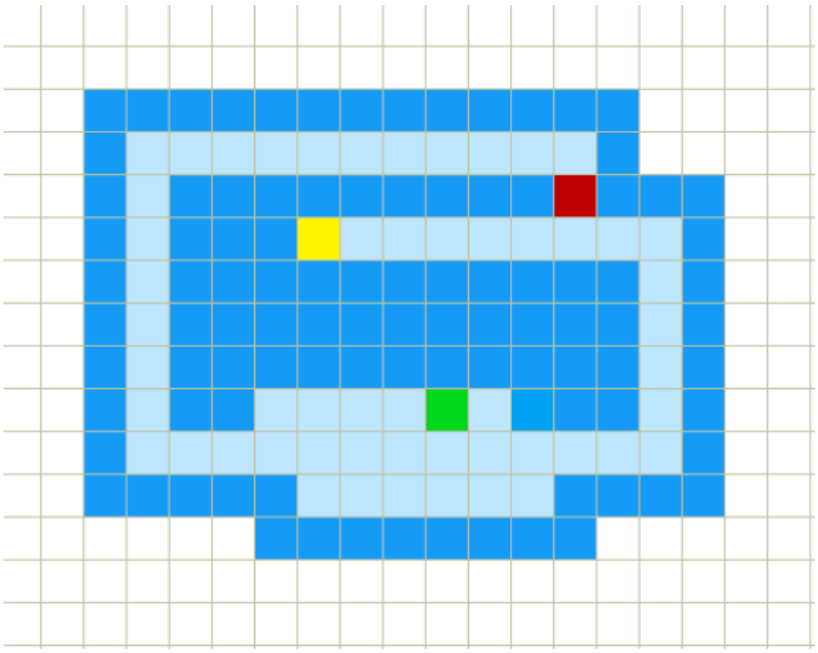
Decided on a grid like game concept surrounded by walls and blocks. The goal would be to reach the treasure square as quickly as possible, but also go over as many square as possible within the boundaries to get the best score. Possible addition to increase your score by going over bonus squares. Going over a past path or square could mean that you lose and have to start over.

Point system:
Points are based on how much time you save when completing the level + how many squares you used. The bonus squares can award double the points. We will have a scoreboard and a countdown timer. If squares have already been stepped over, the color will change to indicate that it's been used already. If you step on them again or you run out of time, the game is over.

Levels change and the timer restarts once you reach the treasure on each level. If you reach the treasure on the last level, you'll be shown the WIN screen that also displays the score.

Possible additions:
Adding an extra life feature, a bomb square the removes barrier pieces for more points, or a lock and key feature that opens another area.

Design Ideation #1:



Red: Player
Yellow: Treasure
Green: Bonus

November 30, 2017:

Coding roles were assigned to each person on the team. Tried to keep it fair by taking into account how hard each task is/how long it would take.

Duo-Wei

- Change color and add the block trail behind the sprite
- Reset the game when you go over a square you've already done

Jasmin

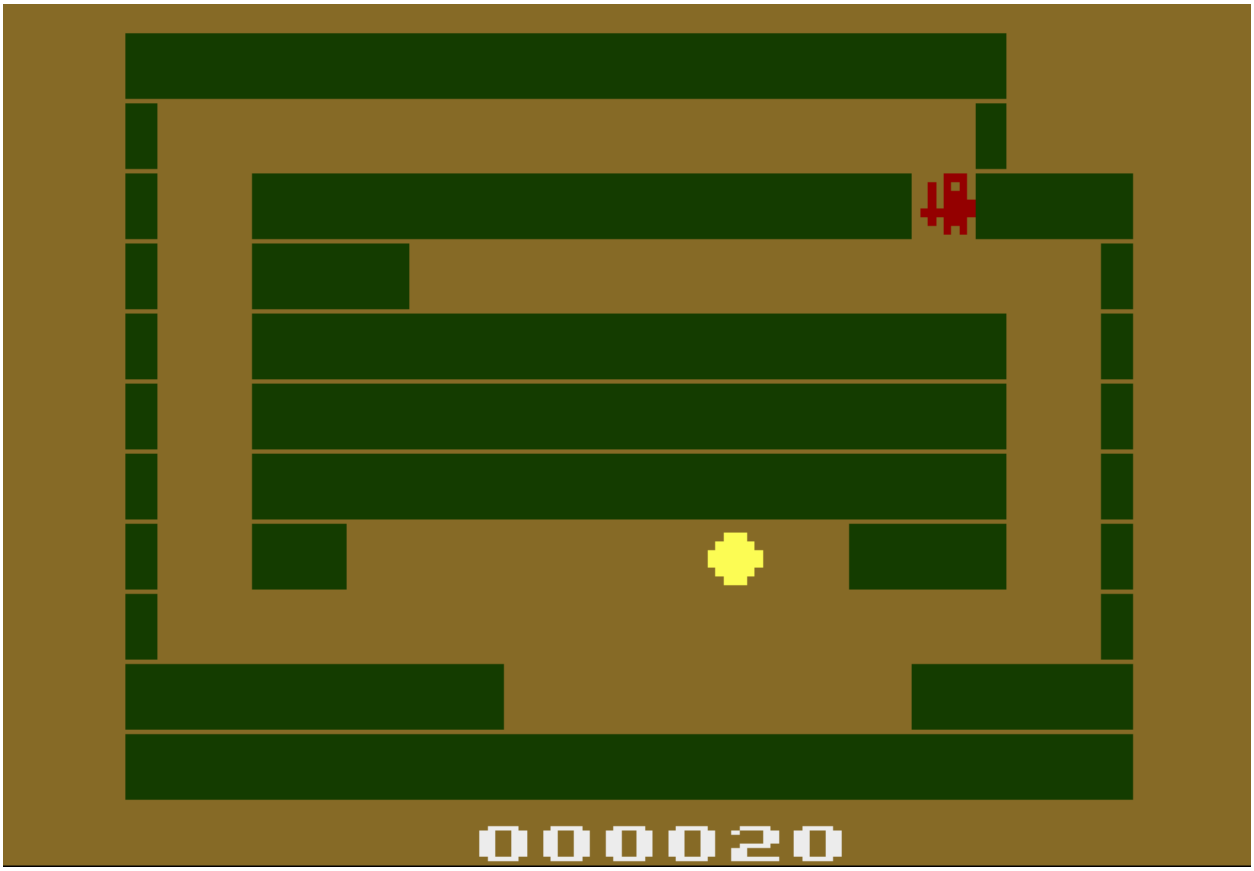
- Increment the score and display a timer
- Create win/lose screen
- Add sounds

Mariana

- Make drafts on each level's layout
- Design the playfields

December 1, 2017:

Design Ideation #2:



Game Concept changes:
Score decided by number of seconds left each level (added at end of game), removed concept of bonus tiles.

December 2, 2017:

Established a couple problems in the course of creating the game.

Problem: We found that changing the color of specific pixels of the game would be extremely difficult after trial-and-error and going through examples online. Changing the color of the entire background or playfield is relatively simple, however, that is not helpful in our case. We contemplated using the kernel option set, but that would mean restructuring a lot of the code we already wrote to create the maze.

Solution: Come up with a new idea for the game obstacle (TBD)

Problem: Game size issues. The playfield on it's own is taking up a huge chunk of the program with 3KB and we haven't even added an obstacle, other levels, or wording to our win/lose screens yet.

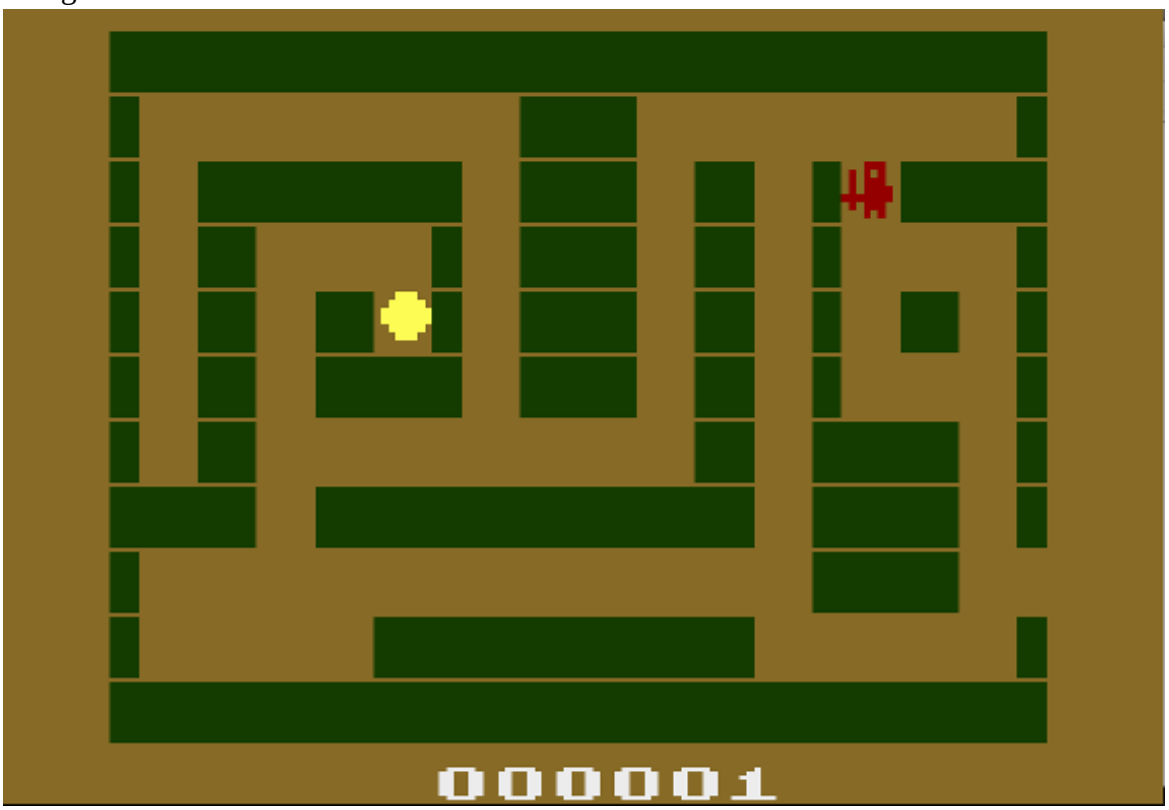
Solution: Focus our efforts on one level instead of multiple.

December 4, 2017:

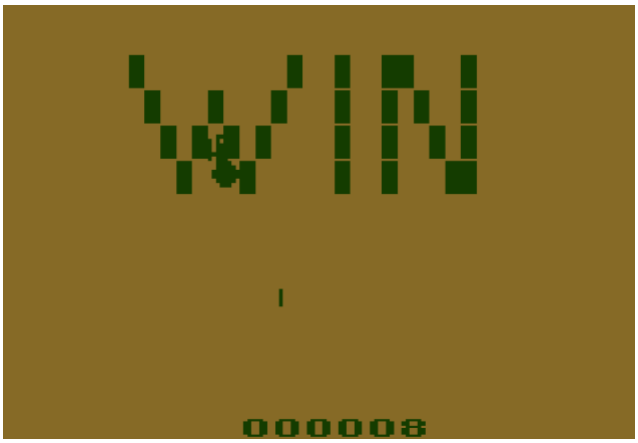
Breakthrough with the game size issue:
Changed the coding structure of the maze playfield, so it takes up much less memory. Now use "X"s and "."s rather than the "pfpixel" formatting. Were able to also use this for the win/lose screens to save space in those playfields also.

To increase the difficulty of the game and make it more challenging, we decided to change the maze design and decrease the time the player has to complete the level to 20 seconds.

Design Ideation #3:



We also added a WIN and LOSE screen, along with sound effects for those screens.



December 5, 2017:

Cleaned up the game and made minor maze design changes. Removed unused variables and removed comments to conserve space. New Obstacle: “acid rain” created using atari’s ball feature. Randomly appears at different coordinates to achieve movement and pushes player back upon impact.

Final Design: