

Project Proposal

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Introduction to Computer Science Section 001

Game Name: *AstroJiggle*

Game Description: A tile-matching video game. In the game, players will complete levels by swapping colored pieces of tile on a game board to make a match of three or more of the same color, eliminating those tiles from the board and replacing them with new ones, which could potentially create further matches. The initial board dimension will be 8x10. However, if time allows, different difficulty levels will be added and the dimensions of the board will change according to that. Following are the details of the game (*Optional* features are not necessary and will be implemented only if the time allows)

Features:

- **Main menu** - Play Game - Controls(*Optional*) - Power(*Optional*) - Dashboard(*Optional*) - Credits
- **Player Selection** - Entering name of the player so that it can be added to the leadership dashboard.
- **Challenges:**
 - a. Matching certain amount of candies within time
 - b. Matching the certain amount of certain colors within time
 - c. Reaching a target score in time
- **Sound design** - Interesting sound for relevant actions and music on the background
- **Powers:(Optional)**
 - 1. matching 4 tiles vertically will eliminate the column
 - 2. matching 4 tiles horizontally will eliminate the row
 - 3. Matching 5 tiles will create a special tile for eliminating all the candies from same color from the board when matched (*optional*)
 - 4. A special tile which will have the ability of No. 3 but will fall normally like other candies.(*optional*)
- **Game over** - Displays the score with Highest score or the Dashboard

Game implementation:

- Will create the board and tiles using Tile class
- For level 1, the initial board will be pre-decided. However, the newly generated tiles that will fall after matching the tiles from the initial board will be randomly generated
- Score and time-left will be shown on the tape.
- Special Tile class will be created after polymorphism of the Tile class
- The game will randomly shuffle itself if there's a case of no possible matches

Since we are still deciding on the game design, we are including an image of a similar game that already exists:



Figure: A screenshot of a popular tile-matching game similar to our proposed game

Responsibilities of each member:

Despite having our own strengths and weaknesses, we both plan to equally work on each section of the project for developing our skills equally.

Aysa:

1. **Game Concept and Design:** Designer for the overall game play, game mechanics and special power and the board.
2. **Programming:**
 - a. Creating the board and initial tiles
 - b. Working with the basic logic
 - c. Working with the advanced level(*optional*)
3. **Debugging and Testing:** Testing the initial menu, matching 3 tiles, leadership board and storage
4. **Audio:** Using certain sounds for certain activities(Like shuffling, matching tiles etc)
5. **Documentation:** All documentation

Jexi:

1. **Game Concept and Design:** Designer for the user interface and overall aesthetic of the game including the tiles and the scoreboard.
2. **Programming:**
 - a. Creating the stop-watch, score-board
 - b. Working with the logics of special powers
 - c. Working with the advanced level(*optional, if time allows*)
3. **Debugging and Testing:** Testing the initial board and matching 4 tiles
4. **Audio:** Overall background music for different time-frames and menu(like using a nervous music for the last 5 seconds of the game)
5. **Documentation:** All documentation

