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Software Development
P05
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Match 3 Game

Program Description

Players will be able to play a game of ~~Candy Crush~~ Coduckers on this site. There are two different game modes the user can select from. and there may end up being a user database implemented to hold player's scores. We will be extending a base candy crush game to include specials.

Game Modes

Every game mode will have the same base mechanic: match a line of 3 or more same duck to clear them, and matches of more than 3 will spawn powered up ducks that, when used, produce a special effect.

The two different modes will be *Endless* mode and *Clear* mode.

Endless mode will feature the player using coins to make moves, and earn coins and points by clearing duck. New blocks will fill in as the player clears them.

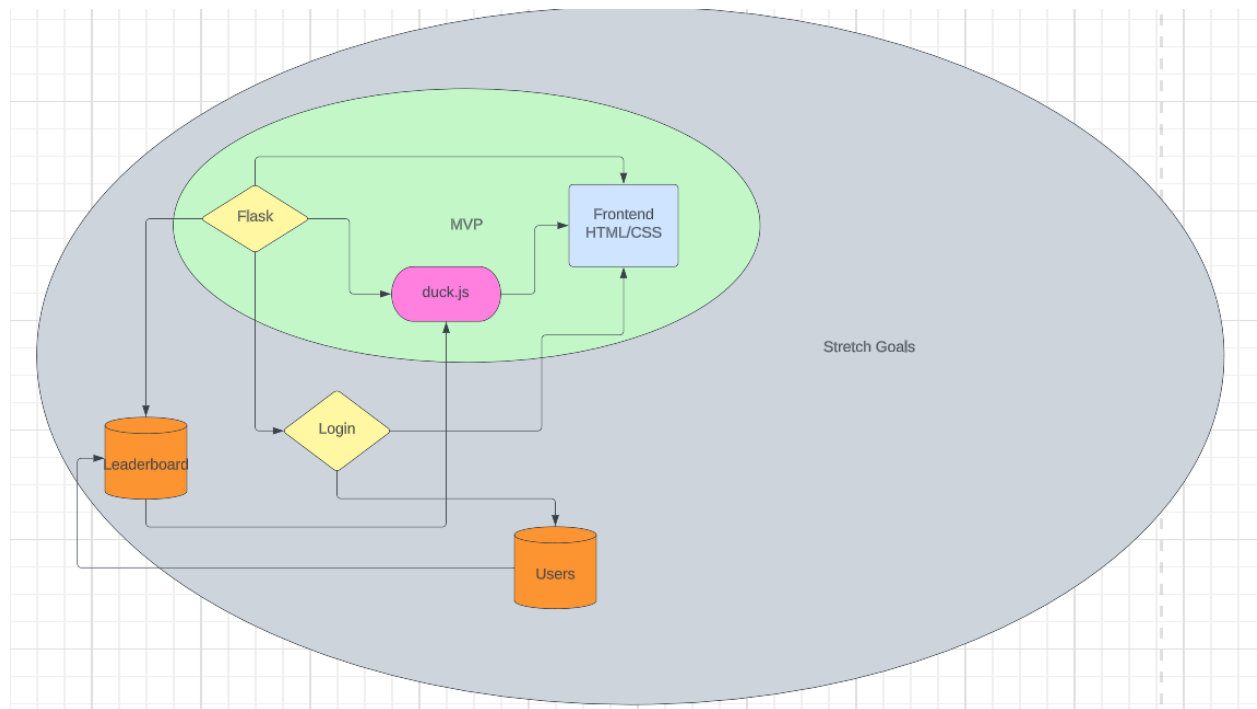
The *Clear* mode will feature the player trying to use the minimum number of moves to clear the field. New blocks will not spawn.

Program Components

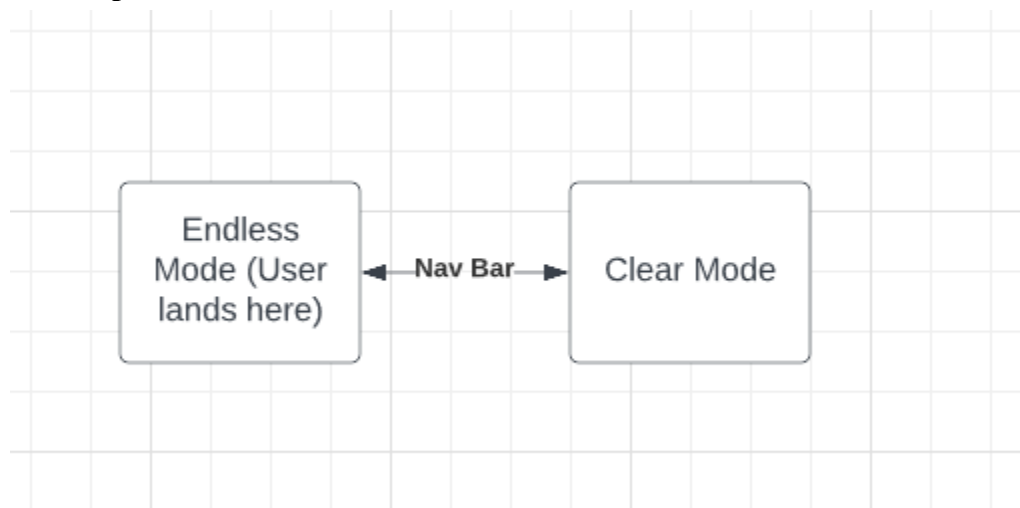
- **Python**
 - **Db.py:** contains the login information of each user
 - **Flask:** serves our game to the web server
- **SQLite3**
 - **High Score Database:** Stores scores
- **Javascript**
 - **duck.js:** controls the behavior of the special ducks
 - Regular ducks do nothing on clear.
 - Red/Green/Orange/Yellow/Purple/Blue
 - Special duck
 - (Balance to be determined later)
 - Clear adjacent 8 blocks (fat duck exploding)
 - Clear vertical / horizontal line depending on orientation of match (Striped duck)
 - Clear all ducks of the same color (rainbow duck)
- **Game.js:**

- Base game (from <https://github.com/ImKennyYip/candy-crush>)

Component Interactions/Component Map



Site Map



Task Breakdown

MVP:

- ~~Create grid object to store ducks~~
- ~~Create grid graphic~~
- ~~Create duck objects~~
 - ~~Store different attributes~~
 - ~~Super duck (for match of >4)~~
- ~~Create duck graphics~~
 - Different designs based on attributes
- ~~Create logic to to perform different operations on the grid object~~
- Framework for game
 - Score counter
 - Coin counter (for coin gamemode)
 - Store which game is chosen
- Database to store high scores
- Pause to save gamestate through cookies

Stretch Goals:

- Animations
- Login to store high scores

Jobs:

Ryan: Frontend HTML

Everyone else: JS + Flask

IDEAS:

- Infinite Match 3 (each move takes a coin, run out of coins and you lose)
- Special tiles
 - Reward tiles for getting to the bottom (more coins?)
- 1st game mode is coin based
- Other game mode- clear all tiles
- Login stuff(stretch)