CECS 491A Software Engineering Senior Project
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To The Sky

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Features List

Key: <mark>High</mark>   <mark>Medium</mark>   <mark>Low</mark>

1. **Features 4 Worlds with 3 levels per world**
2. **Full controller support**: Support for controllers such as Playstation, Xbox, X-Input etc.
3. **Tile Based Movement:** Locks the players movement so they move one block to another block.
4. **Turn Based Puzzles/Combat:** Our game will mainly focus on puzzles, and combat will involve thinking and become part of the puzzles itself.
5. **Puzzle Focused Gameplay:** Our game will mainly focus on puzzles and not strictly action based
   a. Inspiration from Pokemon Gym Puzzles
   b. Time Based Puzzles
   c. Sound puzzles
6. **Instant Respawn on Puzzles (Fast Level Rebuild on Death):** Upon death,the game will quickly rebuild the level so the player can quickly continue from their last autosave/checkpoint
7. **Multiple Level Formats**: Our game will focus on two main level formats,turn based and free roam
   a. **Turn Based:** For each action the player does, the enemy will do one movement action.
   b. **"Free" Roam:** The player is allowed to move freely without affecting the enemy's actions
   c. **Bonus:** Deviates from turn based and free roams. They can be minigame styled levels and are optional.
8. **World/Level Selection System:** We plan to allow the player to select which level they want to play by having an overworld map
   a. 4 levels per worlds
9. **4 Element World Theme**: For each world,we plan have it follow a theme based on four elements: water,fire,earth, and air
   a. **Water Theme:**
      i. Beach
      ii. Underwater
      iii. Ice
   b. **Fire Theme**
      i. Volcanic Debris/Meteors
      ii. Volcano
      iii. Lava river
   c. **Earth Theme**
      i. Cave
      ii. Forest
      iii. Mountain Scaling / Vertical Climbing
   d. **Air Theme**

        i.   Lightning/Wind storm/Peak of the mtn
        ii.   Tornado
        iii.   Sky/Clouds

10. **Boss Fights:** Each boss fight will follow either Turn based or Free roam format and will be the last level in that world
11. **Unique tiles:**
    a. Ice blocks
    b. Spring jumps
    c. Key blocks
    d. Gates
    e. Reset token
12. **Basic Physics Implemented:** Some tiles will have gravity or have some interaction with the world.
13. **Unique Enemy Types per World:** Enemy types will all be related to the theme of the world they are in.
14. **Enemy AI:** Enemies will have AIs in which that determine how they interact in turn based and free roam levels
    a. **Turn Based:** Enemies will have a pattern in which they move and attack
    b. **"Free" Roam:** Enemies will follow a predetermined path or chase the player or predetermined action.
15. **Trader/shop system:** This will be the primary way players will spend their persistent item in the world. players may purchase items such as health/shields.
    a. a way to use the persistent item
    b. items can be bought with coins collected in levels
16. **Lots of Collectibles:** Our game will have lots of collectibles for the player to collect. Each level will have its own list of items left to collect
    a. **keys:** unlock access to new levels/areas
    b. **coins:** used with the trader to buy items
    c. **power-ups:** special items that are pertinent to puzzles in each level
17. **Bonus Levels which deviate from main format of the game:** Optional levels that will deviate from the normal level formats and serve as an aspect to reward players who collect collectibles
18. **Power ups gained from boss fights (progressional mechanics):**
    a. **Plans:** Mega-man/crash bandicoot style -> future levels will include more complex mechanics
19. **Branching paths in levels**
    a. Unlocked by some criteria (challenges or collectibles)
20. **Customizable player cosmetics:** Players will be able to unlock cosmetics through exploration in the game
21. **Star rating based on level/stage objectives:** Player will gain 0-3 Stars per level based on the below criteria.
    a. Timed Completion
    b. Mobs Destroyed
    c. Amount of Collectibles

22. **Optional checkpoints:** Player can choose whether they would like to be able to save progress
    a. Located in the middle of stages
    b. Will reward the player somehow or be a criteria for a star
23. **Background music/Sound effects** Sounds/music that plays continually in the background while playing and sounds that occur when certain actions are made

Features	Our Game	Ms. Pac-Man Maze Madness	Frogger 2: Swampy's Revenge	Rust Bucket
Feature [X] amount of levels	✓	✓	✓	✓
Full controller support	✓	✓	✓	X
Tile based movement	✓	✓	✓	✓
Turn based puzzles/combat	✓	X	X	✓
Puzzle foused gameplay	✓	✓	X	✓
Instant respawn on puzzles (fast level rebuild on death)	✓	X	✓	✓
Multiple level formats	✓	X	X	X
World/level Selection System	✓	✓	✓	✓
4 Elemental World Theme	✓	X	X	X
Boss fights	✓	✓	X	X
Unique tiles	✓	✓	✓	✓
Basic physics implemented	✓	✓	✓	X
Unique enemy types per world	✓	✓	✓	X
Enemy AI	✓	✓	✓	✓

Feature				
Trader/shop system	✓	X	X	X
Lots of Collectibles	✓	X	X	X
Bonus levels which deviate from main format of the game	✓	✓	X	X
Power ups gained from boss fights (progressional mechanics)	✓	X	X	X
Branching paths in levels	✓	X	X	X
Customizable player cosmetics	✓	X	X	X
Star rating based on some objectives	✓	✓	X	X
Optitional checkpoints	✓	X	X	X
Background music/Sound effects	✓	✓	✓	✓