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CS 583

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<div align="center">Ledge Runner</div>

Overview:

  With rock climbing being one of my hobbies, I think it'd be cool to make a 2D platformer game where the goal is to reach the top of a level. Instead of a rock surface, I'd like it to take place in a mega city full of skyscrapers and other tall structures. I'm not sure if I want there to be several different levels or one continuous one with a checkpoint system. Of course, there would be several ledges to take a rest. Along the way, there would be obstacles that would kill the player or make them lose progress. I want the movement to feel fluid, and responsive and have an emphasis on momentum conservation. Ideally, I want to implement things like wall jumping and sliding.

Controls:

The controls will be on the keyboard, and maybe the controller if there's enough time.

- **Movement:** Using WASD or a thumbstick will move the player in all directions.

- **Jumping:** Jumping will be done using space or the A button on the controller.

- **Wall Running:** If the player has enough momentum, they can run up walls.

- **Wall Sliding:** When players lose that momentum, they'll slowly slide down walls.

- **Ledge Grabbing:** When a player is near a ledge they can hold the jump button to grab.

Art Assets:

- **Player Character:** Initially a box but later a person.

- **Buildings:** Skyscrapers and futuristic-looking buildings.

- **Checkpoints:** A flag or a ladder/rope the player lets down.

- **Obstacles:** Things like saws, spikes, lasers, window washers with guns.

- **HUD:** I'd want the hud to show level progress and momentum/speed.

- **Background:** A cityscape of some kind.

Audio Assets:

- **Running:** I'd need a satisfying sound for running that increased in pitch with momentum.

- **Jumping:** I want a nice springy noise when the player jumps from a ledge or wall.

- **Impacts:** If the player falls, I want them to feel the impact.

Concerns:

- **Collision Detections:** Figuring out the code for a player colliding with a ledge or edge could prove to be challenging. As well as different obstacle types with potential projectiles.

- **Physics:** Getting the moment and physics right could also be challenging, some research into different techniques would need to be done.

- **Accessibility:** I want the game to be a challenging platformer, but I don't want to alienate less skilled players, maybe an easy mode could be useful.