

## **What Lies Beneath - Player Movement Milestone #1**

**September 6th, 2022**

### **Milestone 1 - Report #1**

#### **What Has Been Done:**

Created a Stamina Bar that is visible and connected to the player for the time being as I feel it showcases the stamina running out and filling up. This will be turned to hidden (visible = true) on the final milestone push.

Interactable Objects have a particle effect and can be interacted with, but Objects triggering dialog is currently empty. During the Dialog Milestone, Objects that trigger dialog will be flushed out.

Updated all placeholder animations to include the text of the current animation to display the animation it's trying to display for troubleshooting purposes. Will leave this on to assist in troubleshooting animations as they are integrated with any new Sprite Sheets

Created a Crate Sprite to Push and Pull. Only allow the Left/Right Direction, but if Up/Down is wanted, that can be implemented as well, but worried about visual confusion as pulling/pushing from top will hide character.

Iterated on the aiming and removed the Laser Pointer. Now the mouse is strictly limited to where you would be able to shoot.

Added a transparency for world objects, so while walking behind them, it would appear that the player is making the object transparent. This function won't work for objects that are movable, but seeing if it's visually interesting enough to investigate a proper implementation.

#### **Challenges/Lessons Learned**

Doing floors was an interesting challenge in one level, and I can now see why Streets Of Rage kept it on 1 level. The best way I could make the floors work was to assign and create masks/layers for each floor and move around the player's interaction/hitboxes masks/layers to match the floor they are traveling to. When the player moves to the floor, they are then moved to the Floor# YSort Node to live and interact with the world there. This will be an effective way of working the system.

I had tried to just simply disable the shapes, and turn off the monitoring/monitorable states of the Area2D's and found that there were in-consistent issues with the states. The shapes would show enabled, sometimes the monitoring/monitorable states would show true, but would not trigger any actions, or provide collision until toggled a second time later. call\_deferred reduced the occurrence, but was still occurring roughly 25% of the time. Even yielding all code until

everything was processed, and then processing the area2d and shape state changes still had about a 20% issue. Collision Layers and Masks on the other hand work perfectly fine and are responsive.

The climbing has definitely added a lot more complexity to the scene, but it does add a very interesting vertical movement in a 2D Side Scroller. The implementation I included should also allow for monsters to continue to move and interact with the floor they exist on, even allowing the player to shoot and kill enemies safely from another floor assuming no obstructions were placed on the floor, etc. Whether that is something you would like to have (or not) can be determined during the Combat Milestone.

Climbing on Boxes is a very different beast. It's alright on it's own, climbing up and falling down, but if there is a scene in which you would expect to climb 1 box, and walk along the tops of many, I would maybe recommend building that scene static, and to enable it once the boxes are in the right location. I will highlight the full function of how the boxes work in my next report once the climbing/dropping is resolved. Currently the plan is just to have the player fall off the ledge vs. climbing down off the side for ease, but can implement a specific animation for that if an animation is present.

### **Next Steps:**

Finalize the climb and falling for the player interacting with crates.

When a new Sprite Sheets is generated, will need to tweak placeholder animations and movement speeds to match, and customize some animation functions

Code Cleanup - Code will need to be reviewed and cleaned up to organize the edge cases and make it a bit more modular/readable

### **Delivered in Commit e3e9e3a(Player Movement Branch)**

- ☒ General Movement
  - ☒ Hidden Stamina Bar New
  - ☒ Climb Ladder
  - ☒ Fall/Drop
- ☐ Interactions
  - ☐ Push/Pull Box/Climb Box
  - ☒ Interactable Object (Shimmer)

### **Previous Delivered(Commit 4aec2cb):**

- ☐ General Movement
  - ☒ Walking
  - ☒ Running (Hold Shift)
  - ☐ Hidden Stamina Bar New
  - ☐ Climb Ladder
  - ☐ Fall/Drop
- ☐ Interactions
  - ☐ Push/Pull Box/Climb Box
  - ☒ Kneeling (Looting/Interacting)
  - ☐ Interactable Object (Shimmer)
- ☒ Basic Combat
  - ☒ Aiming (across the walkable axis)
  - ☒ While Aiming you can only Walking
  - ☒ Button to pull out gun
- ☒ Game Camera
  - ☒ Dynamic Camera Primarily on Character