FPS things to fix

* Fix problem where gun can be stuck firing continuously
* I should try reworking my fire control code to just use Update() instead of an IEnumerator.
* Fix problem where player can be stuck moving in a particular direction
* Proper controller support
* Tweak walk cycle so steps play at the start of the cycle

Bugs I noticed with FPS options menu

* Resolution and framerate option dropdowns will not match the current resolution, when the player changes them.
* When selecting a resolution, the refresh rate dropdown will not update with a proper value.
* ~~When selecting certain resolutions, sometimes only one refresh rate will appear~~ (only a problem in the editor, works fine in the build).
* When changing to a less rectangular aspect ratio (e.g. 4:3), parts of the screen will get cut off.
* The fullscreen option names are not formatted appropriately, and are missing spaces.
* Player camera sensitivity seems to be dependent on graphical quality setting. When on Very Low and Low, the sensitivity will be incredibly slow, and on Medium or higher the sensitivity will be incredibly high.

ADS study

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Game | Ironsights |  | Red dot | Scope |
| Far Cry 3 | Seems to be exactly the same as what I have. |  | Red dot appears and disappears in the sight picture when aiming vs. hipfiring. Reticle is positioned forward relative to the actual sight glass to mimic the real life effect of the ADS moving relative to the glass to represent the actual aim direction.  Zoom is just accomplished by altering the player’s FOV instead of any extra camera trickery. | After a certain point in the animation cycle, the gun model will disappear from view and the overlay will appear. Similar to what I had before, except the overlay will shift around when the player moves. Not sure how they ensure the aim still lines up, but I would assume it to involve the aim overlay rotating around the aim and camera axis, so it moves but does not appear distorted relative to the camera.  The scope is just a tube with transparent material for the lenses on the front and back. The inside of the scope is just black. |
| Titanfall 2 |  |  | The set of illuminated sights closer to the camera enables when the player activates ADS. The centre dot is at the far end of the scope. | Does the similar scope thing of having a rapid switch animation, disabling the weapon model and enabling a HUD overlay.  The overlay tilts on the Z axis when the player adjusts their aim from side to side, to provide a pleasant cosmetic effect without altering the reticle relative to everything else. This might be a very good idea. |
|  |  |  |  |  |

Personal idea:

For the scope, have the glass material use a custom shader with a 0-1 variable that shifts between opaque and translucent enough to see through based on the ADS status

Or have it be based on the angle of the scope relative to the player camera.

Or alternatively, do just have it appear instantly based on the scope angle. I was looking at the actual rifle scope I happen to have, and that’s kind of what it looks like.

Ideas for specific weapons

Pistol

1. Semi-auto 9mm pistol that takes Glock magazines
2. Glock 18

Rifle

1. Civilian bolt-action hunting rifle
2. Semi-auto AR-15
3. F90 assault rifle with underbarrel grenade launcher

Shotgun

1. Sawn-off over-under double-barrelled shotgun
2. Shortened Adler A110
3. M26 in standalone configuration

Things to fix

* EventSystem transitions are messed up, and will switch to options in hidden windows.
* Movement controller cosmetic tilting will jitter when moving forwards or backwards
* Gun ADS on handgun will fail to trigger if the player starts in the target range level, leaves and then loads into it again. This might not be worth fixing since in the final build the player will always start off in the main menu

Alternate ammunition type ideas

Shotgun

* Buckshot
* Slug
* Taser
* Beanbag
* Rock salt
* Flechettes
* Flares
* Flashbangs
* Tiny shells
* More capacity, less damage
* Only makes sense with a tube fed design, though
* Bolo rounds

Grenade launcher

* HEDP
* Airburst
* Gigantic shotgun shell
* Smoke
* Tear gas

HL2 weapons

1. Crowbar
2. Gravity gun
3. Pistol
4. Revolver
5. SMG
6. SMG grenades
7. OSIPR
8. OSIPR energy ball
9. Shotgun – single barrel
10. Shotgun – both barrels
11. Crossbow
12. Grenades
13. Rocket launcher
14. Bugbait

Weapons I plan on having in my game (to make sure I have an actually impressive arsenal)

1. Kick
2. Pistol – semi-auto
3. Pistol – full-auto
4. Assault rifle – full-auto
5. Assault rifle – semi-auto
6. Shotgun – buckshot
7. Shotgun – Taser slugs
8. Grenade launcher – HEDP rounds
9. Hand grenades (or flashbangs)
10. .
11. .
12. .
13. .
14. .