The Grineer Hellion

A case study in NPC design and implementation

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www.warframe.com

What is Warframe?

- Fast, action-packed, multiplayer, co-op, 3rd person shooter
- Multiple enemy factions
- Procedural Levels for repeat mission play-throughs
- Players level up their gear and abilities
- Free-to-play allows us to improve and add features and support the community

Space Ninjas with machine guns!

www.warframe.com

What is Warframe?

It's the Grineer!

The Environment

The Environment

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The Environment

The Grineer Hellion

- Rocket-man!
- Jet Pack gives him mobility and allows him to dodge attacks
- Long jumps to outmaneuver players
- Iconic hover attack with missile-swarms in addition to his assault rifle

Technical Considerations

- Behavior Tree allows for easily self contained code

- Warping animation-driven dodges

- NavMesh dodge position search

- Possibly animation-driven hover attack

- Procedural hover attack for prototype while we wait for animations

Dodge Animations

- Animation Driven Dodges
- Loads of iterations
- Animations needed to be quick enough for game-play
- Identify what is important in the movement
- Animations needed to suit the character
- Needed to have a little weight to the movements
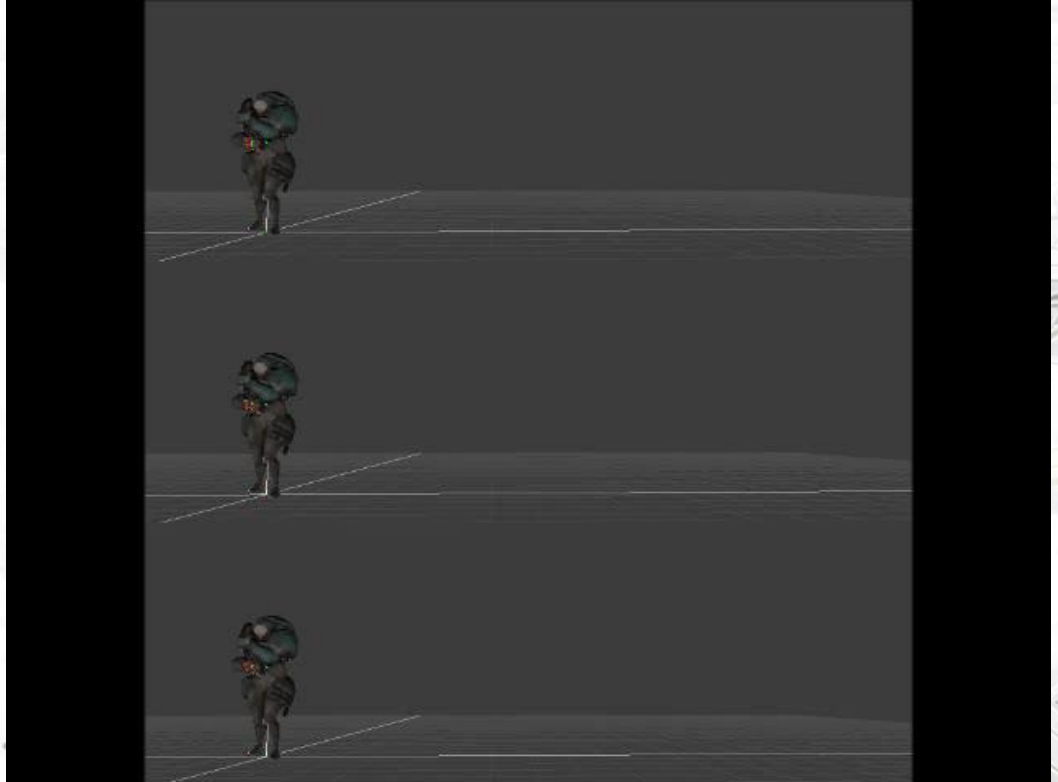
The Hover Attack

- Procedural hover attack
- Not limited by animations
- Important to have a distinct, recognizable audible cue
- Sound needs to fit the feel of the character
- Visual FX help to stand out from environment

The Twist

- This is great but…

- Jet Pack needs to be used for enhanced movement too.

- Needs to be able to jump from one ledge to another or across a ravine or up onto a catwalk

- Needs to jump between islands of NavMesh

- Could use explicit jump action Nav-Bridges

- But we want a more free-form solution

The Solution

- Dynamic, run-time Off-Nav Links
- Follow visible targets only
- Quick nav traces to find landing positions and couple raycasts to check for collisions mid jump
- Again, code can be self-contained inside a behavior
- This saves LDs from having to place explicit links throughout the environment and provides more freedom of movement

Finished Product

NINJAS PLAY FREE AT

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