Feature doc: Melee attack

# Executive Summary –

## Goals:

* + Give the player an option for close quarter combat.
  + Gives the player the opportunity to react to the lava-gun projectile.
  + Gives the player a tool which exploits his movement capabilities.

## High Level Summary:

* + The melee attack deals high damage.
  + The melee attack’s range is a wide arc in front of the player. The arc covers a wide vertical area and a thin horizontal area. However, it’s reach is short. (this means that its high damage is balanced by it’s short range. This weapon can be utilized optimally only through good movement to get close)
  + The melee attack, if timed correctly, must send back the lava goo projectile.
  + The melee attacks come out immediately.
  + The melee attack should not be spammable.

# Feature breakdown –

## Controls:

* + Since the move is fast, it must be easily done by the player. For this purpose, the player uses the F key (close to his index) to use the melee attack. He may also use the side mouse button.

## Mechanics:

* + On pressed, the hitbox of the whole move should be active for a split second.
  + The hitbox should be vertically wide but horizontally thin and should cover an area immediately in front of the player’s character (relative to where he is looking), The distance must be iterated, TBD.
  + The melee attack should apply 80% health damage.
  + The melee attack has a cooldown of 0.8 seconds /must be iterated, TBD).
  + If a lava goo projectile enters the melee attack hitbox while it’s active, it should send it back toward the direction the player is aiming at. This projectile can and should be able to hit its owner. (For more info on the projectile, see LavaGun FDD)

## Visuals:

* + The melee hit should feature a knife made of crystal (it’s immune to the lava’s heat).
  + The melee hit animation should be extremely fast.
  + The melee hit animation features a slash with the crystal knife which goes diagonally from one side to the other, to cover as much of the collision box area as possible. There should be two animations starting from different points, so that this animation could be “Chained” (example: first slash from top-left to bottom-tight, second slash from bottom-left to top-right.)

## Sound Effects:

* + The character must grunt once again to add to the power fantasy of the attack.
  + The grunt is more aggressive than the grunt features in the character’s jump.
  + The knife does a sort of crystally vibration noise, a bit like when a monk does his prayer with the metal bowl thingy (see reference picture)
  + The knife movement should feature a sound of slashing rapidly into the air.
  + If the crystal knife connects with a lava goo projectile, it should do a “bouncy ballon” noise. If it connects with a player, it should make a meat-cutting noise. It should make both if both happens.

## Challenge & Connections:

* + Must interact with the lava goo projectile.

## Backstory:

## A monk is never complete without his equipment. Cutting, carving, separating, digging, praying, all of these elements can be done with their most significant tool: the crystal knife. It is a religious artefact made of the precious crystal material extracted from the volcano’s belly, and it is one of the sharpest materials known to the island, as well as the only one completely immune to the wrath of the volcano’s lava.

Flags: