

Lethal Injection

Combat Design rev. 2

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Overview

You are a biological experiment--Earth's last weapon against the monstrous Outsiders. But when the scientists stole your humanity, they made a lethal mistake. Now your veins run with the blood of beasts, and human and Outsider alike will know your fury.

"Lethal Injection" is a brawler game played from an over-the-shoulder perspective. The player uses melee attacks to beat a path through the enemy forces and advance in each level.

The player uses keyboard "WASD" controls for forward/backward and strafing movement. Mouse control is for aiming and attacking.

(This document is a plan to add a deeper combat system to a game already in development in Unreal Engine 3. It does not describe features that have already been implemented. It does refer to the timelines of existing combat animation sequences.)

1. Player Combat Actions

Initiating a combat Action interrupts walking and any animation or Cooldown of its Precondition. Actions may be initiated during walking as long as one Precondition is met. After an Action is activated, the player no longer meets the Preconditions for that action until the Preconditions are renewed. During any combat Action's Cooldown, walking control is disabled, but the character is not Idle. While in Cooldown for an Action, a character does not satisfy the Idle or Walk Preconditions. However, there are some Actions with Preconditions that allow them to be activated during the Cooldown of other Actions. If an Action is activated within the duration of a previously activated Action, the earlier Action is ended.

The following combat Action table describes the combat Actions the player may initiate. The Damage column shows the timeframe after activation during which an attack checks for targets to damage. An individual may only be damaged once within a given damage timeframe. The Cooldown column shows how long after activation will the character be prevented from being Idle. The Animation column shows which part of the player's AnimSet to use, and the timeline endpoints. In some cases, animations are played in reverse. The Effect column shows what the attack does besides damage. Some Effects are also Preconditions. If an Effect is a Precondition for an Action, when that Action is used, the Effect immediately ends. Effect and Control are described in later tables.

1.1 Action Table

Action	Precondition	Control	Damage	Effect	Cooldown	Animation
Swipe	Idle, Walk	LMB	1 (0.27s to 0.38s)	Shove	0.76s	attack1

Block	Flurry, Idle, Walk	LMB(H)	N/A (0.2s to sustain stop)	Block	0.4s, or 0.2s after sustain stops	attack3 start: reverse 1.13s to 0.93s sustain: 0.93s end: 0.93s to 1.13s
Lunge	Idle, Walk	RMB	4 (0.46s to 0.8s)	Shove, Rush (0.56s to 0.8s)	1.6s	attack2
Flurry	Idle, Walk	RMB(H)	1 (0.29s to 0.34s) 1 (0.8s to 0.89s)	Flurry	1.13s	attack3
Bash	BashSet (see Flurry Effect)	RMB	4 (0.38s to 0.49s)	Harden, Shove, Break, Rush (0.38s to 0.55s)	0.76s	attack1, reverse
Dodge	DodgeSet (see Block Effect)	Back	N/A (0.0s to 0.5s)	Dodge, ThrustSet	0.5s	crouch
Thrust	ThrustSet	RMB	4 (0.4s to 0.9s)	Harden, Shove, Break, Heal 5, Rush (0.5s to 0.9s)	1.4s	attack2 start: reverse 1.6s to 0.9s end: attack2, 1.6s to 0.9s

1.2 Effect Table

The Effect table describes Effects that may be caused by combat actions or other Effects. Most Effects durations are independent from the timeframes and cooldowns of attacks.

Effect	Duration	Description
Shove	0.5s	Target instantly turns to face attacker Target cannot act Target is moved backward at walk speed x3
Break	5.0s	Target takes 5 extra damage from attacks Target glows yellow
Rush	See Action	Attacker moves forward during attack at walk speed x3

Block	While Sustained	Blocker reduces frontal attack damage by 50% Blocker reduces Shove effect by 90% If hit, blocker has 30% chance of receiving DodgeSet Effect If blocker is hit, attacker has 30% chance of receiving BreakSet Effect
DodgeSet	1.0s	Subject may use Dodge Action Subject glows blue
BreakSet	1.0s	Target glows green If target is hit by attacks, it receives Break Effect
Dodge	0.5s	Dodger moves backward at walk speed x3 Dodger is immune to attacks
Harden	Until Action Cooldown ends	Attacker reduces incoming damage by 90% Attacker immune to Shove
Flurry	While Sustained	Continuous attacks On each attack, the attacker has 20% chance of receiving BashSet Effect An attack must hit at least 1 enemy to give BashSet chance
BashSet	1.0s	Subject may use Bash Action Subject glows red
Heal	Instant	Attacker regains some health
ThrustSet	1.0s	Subject may use Thrust Action

In the event that a player acquires BashSet and ThrustSet Effects with overlapping durations, the player is considered to have ThrustSet. After ThrustSet ends, the player gains BashSet with a renewed duration.

Any Effect with a movement component will terminate the movement components of previously applied Effects. For example, the Thrust Action could be used during the Dodge Effect, and the Rush Effect from Thrust will give the user forward movement that overrides the backward movement of Dodge.

1.3 Control Table

Control	Description
LMB	Click and release left mouse button without holding it more than 0.5s
RMB	Click and release right mouse button without holding it more than 0.5s
LMB(H)	Hold left mouse button more than 0.5s to activate and sustain
RMB(H)	Hold right mouse button more than 0.5s to activate and sustain
Back	Press "S" or "down arrow" on keyboard

2. Armblade

The player equips and unequips the armblade with the middle mouse button (MMB). While the armblade is equipped, a blade extends from the character's fist during attacks, which increases range and adds other effects.

Armblade Action	Precondition	Effect
Equip	Took damage within last 5.0s	Deal double damage with attacks Extra damage from Break effect also doubled Player receives 1 damage per second Heal 10 per kill Heal 10 each time enemy receives Break
Unequip	None	None

3. Example of Combat Gameplay

The player sees three monsters approaching. He starts with a Lunge, the slowest but strongest attack he can use while Idle. Lunge's Rush effect moves the player toward the monsters to damage one of them. The player then tries to use Lunge again, but the attack is too slow, and a Shove attack by the monsters interrupts the Lunge. The monsters try to surround the player, but he uses a few quick Swipe attacks to Shove them away so he can maneuver and keep them all in front.

He uses Block to reduce damage from the front and sees one of the monsters become BreakSet from hitting his Block. The player takes the opportunity to hit the BreakSet monster and inflict Break. He uses Flurry to focus damage on the Break monster, relying on Flurry's high attack rate to maximize the bonus damage from Break.

The player finishes off his target and blocks another attack, which fortunately activates DodgeSet for him. He takes advantage of DodgeSet to Dodge backwards and prepare Thrust. He activates Thrust to Heal himself and inflict Break on another monster. The player then initiates Swipe to shove the healthier monster away while using Flurry to kill the weakened one. Finally, he continues to Flurry his last foe until he gains the BashSet effect. BashSet allows him to use Bash to inflict Break on the monster and improve his attacks against it.