Custom Rules

Here you can design your own fuzzy rules with an intuitive logic process. Fuzzy Logic operates with Linguisit Variables to facilitate the weight calculation process.

This process uses .\UFE Addons\Runtime\AIRulesGenerator.cs to automatically generates its own fuzzy rules.

•≡ Rule Name: ▶ Events (4) ▶ Reactions (2) Generated Fuzzy Rules (2) Rule Name: Grapple Defensive Opponents ▶ Events (2) ▶ Reactions (1) Generated Fuzzy Rules (1) Rule Name: Avoid Zoning Events (2) ▶ Reactions (1) Generated Fuzzy Rules (1) Rule Name: ▶ Events (2) ▶ Reactions (1) Generated Fuzzy Rules (1) New Rule

Rule

A rule is a set of events and conditions that tell the engine how likely a reaction should be.

This interface was created to better emulate linguist variables into UFE through its events and conditions. From a logical operator point of view, think of events, conditions and reactions with the following operators:

IF (Condition1 AND Condition2 AND ...) OR (Condition3 AND Condition4 AND ...)
THEN [Reaction] is [Desirable Value]

Where:

(Condition1 AND Condition2 AND ...) Equals Event1 (Condition3 AND Condition4 AND ...) Equals Event2 And so on...

The linguistic variables used by the engine are a direct translation of this system, and they can be seen by clicking on *Generated Fuzzy Rules*.

By default, every reaction has 0 weight, and by default, if no weight is applied to reactions, the character should stay idle.

Rule Name: Use this to make a small description of what the rule is suppose to do.

▼Events (2)
Valid when all conditions are TRUE + +=
Enabled 🔽 Conditions (3)
Valid when all conditions are
Enabled ⊽ ► Conditions (2)
New Event
▶ Reactions (1)

Event

Events contain conditions. A Rule is valid when at least one of the events is **valid**.

Valid when all conditions are: Allow you to invert the logic of this event. If set to *FALSE*, this event will be considered as a valid entry for the Reaction weight manipulation if its <u>not</u> *TRUE*.

Enabled If disabled, this event will not be considered for validation. Use this option for debugging purposes.

Rule Name: Counter Slow Attacks (VC C) ^{+≡}
▼Events (4)
Valid when all conditions are TRUE 🛊 👎
Enabled 🗸
▼ Conditions (2)
Valid when condition is TRUE + +=
Enabled 🔽
Target: Opponent ‡
Condition Type: Attacking +
Current Frame Data: Any +
Any Attack Type
Attack Type: Neutral + Gauge Usage: Any +
Gauge Usage: Any ≄ Any Hit Type ✔
Hit Type: High Low +
Any Hit Confirm Type
Hit Confirm Type: Hit +
Startup Speed: Very Slow +
Recovery Speed: Any +
Attack Range: Any +
Valid when condition is TRUE + +=
Enabled 🗹
Target: Self +
Condition Type: Distance +
Proximity: Very Close +

Event: Condition

An event is only valid if all of its conditions are **valid**.

Valid when condition is: Allow you to invert the logic of this condition. If set to *FALSE*, this condition will be considered to be valid if the dictated entry is <u>not</u> *TRUE*.

Enabled If disabled, this condition will not be considered for validation. Use this option for debugging purposes.

Target: Should this condition happen to the opponent or to itself.

Condition Type:

- *Idle*: Condition valid if the target is idle.
- Horizontal Movement: Condition valid if the target is moving horizontally.
 - $\circ~\textsc{Direction}$

- *Moving Forward*: is moving forward.
- *Sill*: is <u>not</u> moving horizontally.
- *Moving Back*: is moving back.
- Movement Speed: The speed the target is moving (numeric variations can be defined under Definitions).
- Vertical Movement: Condition valid if the target is moving vertically.
 - Direction
 - *Crouching*: is crouching.
 - *Standing*: is <u>not</u> moving vertically.
 - *Jumping*: is jumping (or moving vertically through applied force).
- *Health Status*: Condition valid if the target's health matches the Health variation set here.
- *Gauge Status*: Condition valid if the target's gauge/meter matches the Gauge variation set here.
- *Distance*: Condition valid if the target's distance matches the Proximity variation set here (numeric variations can be defined under Definitions).
- *Attacking*: Condition valid if target is playing a move matching the conditions below.
 - Current Frame Data: Valid for moves with active frames.
 - Startup Frames: move being played is on its startup frames.
 - Active Frames: move being played is on its active frames.
 - Recovery Frames: move being played is on its recovery frames.
 - Attack Type: Move matches the classification provided under Move Editor -> Al Definitions.
 - Gauge Usage: Move uses a certain amount of gauge/meter.
 - Hit Type: Move matches this classification under Move Editor -> Al Definitions.
 - Hit Confirm Type: Move matches this classification under Move Editor -> AI Definitions.
 - Startup Speed: Move matches this classification under Move Editor -> AI Definitions.
 - Recovery Speed: Move matches this classification under Move Editor -> AI Definitions.
 - Attack Range: Move matches this classification under Move Editor -> AI Definitions.
- *Blocking*: Condition valid if target is blocking.
 - $\,\circ\,$ Blocking State: Is the target blocking High|Low|Air.
- Stunned: Condition valid if target is stunned.
- *Down*: Condition valid if target is down.

Reaction

When the conditions for one of the events is true, how likely is the AI to attempt the following reaction.

Crouch	+ *≡
	÷ .
Desirable	
Desirable	
Play Move	+ =
\checkmark	
Any	
\checkmark	
\checkmark	
Fast	
Any	
Any	
ry Desirable	
	≑ *≡
	÷
	+
	+
Any	
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tion	
	 ✓ Neutral Any ✓ High Low ✓ Hit Fast Any Any Any Y Desirable y Move ✓ Neutral Any ✓ High Low High Low High Low <

Generated Fuzzy Rules

Allows you to read the result of all the rules being generated by these options. Useful to debug how each combination interact and the end result that is sent to the Fuzzy Core.

This option is for debug viewing only and it has no impact on the game.

< Back to A.I. Editor

From: http://www.ufe3d.com/ - Universal Fighting Engine

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Last update: 2014/10/26 19:08