NAME

mapper – Various functions of interest

SYNOPSIS

`source gmazones.tcl`

`ComputedReachMatrix` *size_code natural extended → template*
`CreatureDisplayedSize` *id → size_code*
`creature_display_zoom` *size_code dispsize zoom → effective_zoom*
`CreatureSizeParams` *size_code* → {*category natural extended space*}
`FullCreatureAreaInfo` *id* → {*space natural extended matrix custom*}
`MatchesStandardTemplate` *size_code natural extended → template*
`MonsterSizeValue` *size_code → grids*
`ReachMatrix` *size_code → template*

DESCRIPTION

This document describes the usage of a number of functions internal to the mapper client, either in the `mapper.tcl` or `gmazones.tcl` source file, but are not in their own package.

Over time, more functions may be added here as it seems useful to have them documented for reference.

`ComputedReachMatrix` *size_code natural extended*

If the specified values match an existing template, that is returned without going to any more trouble. Otherwise, a template is calculated and returned based on the requested values. The *natural* and *extended* values are in grid square units.

`CreatureDisplayedSize` *id*

Given a creature's *id* number, this returns the *size_code* that should be used for displaying it. This is based on the creature's `Size` and `DispSize` attributes.

`creature_display_zoom` *size_code dispsize zoom*

Given a creature's *size_code*, the size code *dispsize* that you want to display them as (temporarily), and the map's current *zoom* factor, this returns the zoom factor for the creature token image to use to accomplish this, assuming that creature images are available at zoom factors 0.25, 0.5, 1, 2, 3, 4, 6, 8, 12, 16, and 32. It will choose the image zoom factor from that list that is not larger than the creature's token size. This means a smaller image may be used.

`CreatureSizeParams` *size_code*

Given a creature size code in the form *category*[*nat*][->*ext*][=*space*], this function parses out the various parameters that may appear in that code. Note that the values for *nat*, *ext*, and *space* are in units of feet. If the *size_code* is invalid, the empty string will be returned. Otherwise the return value is a four-element list consisting of the following elements. Any which were not specified in the *size_code* are empty strings in the returned list.

category The size category as a single letter.

nat The natural reach diameter in grid squares.

ext The extended reach diameter in grid squares.

space The creature's occupied space diameter in grid squares.

`FullCreatureAreaInfo` *id*

This is the main function that will usually be called when managing on-screen creatures. It accepts a creature *id* which is used to look up the creature's `CustomReach`, `DispSize`, and `Size`. It then returns the creature's actual distance values as a list with the following elements, or it returns the empty string if it was unable to understand the creature's size.

space The creature's occupied space in grid-square units.

natural The creature's natural reach distance in grid-square units.

extended The creature's extended reach distance in grid-square units.

matrix The creature's threat zone matrix as described for `ReachMatrix`.

custom A dictionary containing the creature's `CustomReach` attribute if there is one; otherwise it is the empty string.

`MatchesStandardTemplate` *size_code natural extended*
Given a *size_code* as described above, and the desired *natural* and *reach* distances in grid squares, this function returns a *template* list, as defined in the description of the `ReachMatrix` function, if the values happen to exactly match one of the standard creature space and reach templates. Otherwise, it returns the empty string.

`MonsterSizeValue` *size_code*
Returns the space occupied by the creature in units of grid squares, which may be a real number. If the *size_code* cannot be understood, 0 is returned.

`ReachMatrix` *size_code*
Given a *size_code*, this returns a creature area template based on the first character of *size_code*. If that character does not correspond to a standard size category, the empty string is returned. Otherwise, the template is a 3-element list with the following values:

natural The distance in grid squares of the creature's natural reach zone.

extended The distance in grid squares of the creature's extended reach zone.

matrix a 2D list in row-major order. Each element describes a grid square on the map, with the creature in the center of that matrix. If an element has the value 0, that square is not part of the creature's threat zones. If it is 1, then it is part of the extended area; if 2, it is part of the natural area; if 3, it is part of both.

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COPYRGHT