SE 3XA3: Test Plan
Rogue Reborn

Group #6, Team Rogue++

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Date	Version	Notes
Dec 6	0.1	Initial draft

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Ori

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6 Automated Testing

6.1 Automated Testing Strategy

For this project we elected not to use a 3rd party testing library. We made this decision to ease configuration/installation problems and reduce our dependencies, as we judged it would not be necessary. Instead a series of files (labeled test.foobar.cpp) in the repository hold tests, which are run by our custom test runner. These automated tests are run on command by executing the produced executable, or by the continuous integration script run whenever changes are pushed to the central repository. The results of these tests are automatically reported, resulting in a failed or successful build.

6.2 Specific System Tests

The following is a list of all system tests in the project.

Name:	Amulet Construction
Initial State:	None
Input:	Coordinate, context value
Expected Output:	Amulet object in valid initial state
Name:	Armor Construction 1
Initial State:	None
Input:	Coordinate
Expected Output:	Armor object in valid initial state
Name:	Armor Construction 2
Initial State:	None
Input:	Coordinate, context value, type value
Expected Output:	Armor object in valid initial state
Name:	Armor Identification
Initial State:	Cursed Armor
Input:	None
Expected Output:	Verification that armor is identified
Name:	Armor Identification
Initial State:	Cursed Armor
Input:	None
Expected Output:	Verification that armor is identified

Name:	Armor Curse
Initial State:	Cursed Armor
Input:	None
Expected Output:	Verification that armor is cursed
Name:	Armor Enchantment
Initial State:	Cursed Armor
Input:	Curse level
Expected Output:	Verification that armor enchantment is correct
Name:	Armor Rating
Initial State:	Cursed Armor
Input:	None
Expected Output:	Verification that armor rating is correct
Name:	Coordinate Ordering
Initial State:	None
Input:	(0,0) coordinate and (1,1) coordinate
Expected Output:	Verification that (0,0) ¡ (1,1)
Name:	Coordinate Equality
Initial State:	None
Input:	Two (0,0) coordinates
Expected Output:	Verification that the two inputs are equal
Name:	Coordinate Inequality
Initial State:	None
Input:	(0,0) coordinate and (1,1) coordinate
Expected Output:	Verification that the two inputs are not equal
Name:	Coordinate Addition
Initial State:	None
Input:	(2,3) coordinate and (1,2) coordinate
Expected Output:	(3,5) coordinate
Name:	Coordinate Subtraction
Initial State:	None
Input:	(2,3) coordinate and (1,2) coordinate
Expected Output:	(1,1) coordinate
Name:	Feature Construction
Initial State:	None
Input:	Symbol, coordinate, visibility, color
Expected Output:	Feature object in valid initial state
Name:	Feature Symbol Check

Initial State:	Feature with given symbol
Input:	Symbol
Expected Output:	Verification that feature's symbol matches given
Name:	Feature Invisibility Check
Initial State:	Invisible feature
Input:	None
Expected Output:	Verification that feature is invisible
Name:	Feature Visibility Check
Initial State:	Visible feature
Input:	None
Expected Output:	Verification that feature is visible
Name:	Feature Location Check
Initial State:	Feature with given location
Input:	Coordinate
Expected Output:	Verification that feature's location matches given coordinate
Name:	Food Construction
Initial State:	None
Input:	Coordinate and context value
Expected Output:	Food object in valid initial state
Name:	Food Eating
Initial State:	Food and player objects
Input:	None
Expected Output:	Verification that food has increased the player's food life by an appropria
Name:	GoldPile Construction
Initial State:	None
Input:	Coordinate, gold amount value
Expected Output:	GoldPile object in valid initial state
Name:	GoldPile Quantity Check
Initial State:	GoldPile with given amount of gold
Input:	Amount of gold value
Expected Output:	Verification that gold's amount matches given amount
Name:	Item Construction 1
Initial State:	None
Input:	Symbol, coordinate, context value, item class specifier, name value, psued
Expected Output:	Item object in valid initial state
Name:	Item Construction 2
Initial State:	None

Input:	Symbol, coordinate, context value, item class specifier, name value, psued
Expected Output:	Item object in valid initial state
Name:	Name Vector Check
Initial State:	None
Input:	Vector of item names
Expected Output:	Shuffled vector of item names
Name:	Item Curse Check
Initial State:	Uncursed item
Input:	None
Expected Output:	Verification that item is uncursed
Name:	Item Curse/Effect Check 1
Initial State:	Uncursed item to which the cursed effect has been applied
Input:	None
Expected Output:	Verification that item is cursed
Name:	Item Curse/Effect Check 2
Initial State:	Cursed item whose curse effect has been removed
Input:	None
Expected Output:	Verification that item is uncursed
Name:	Item Unindentified Check
Initial State:	Identified item
Input:	None
Expected Output:	Verification that item is unidentified
Name:	Item Identified Check
Initial State:	Unidentified item
Input:	None
Expected Output:	Verification that item is identified
Name:	Item Display-Name Check 1
Initial State:	Unidentified item
Input:	Psuedoname
Expected Output:	Verification that item's display name matches psuedoname
Name:	Item Display-Name Check 2
Initial State:	Identified item
Input:	True name
Expected Output:	Verification that item's display name matches true name
Name:	ItemZone Containment Check 1
Initial State:	ItemZone with 2 items
Input:	None

Expected Output:	Verification that ItemZone contains the first item
Name:	ItemZone Containment Check 2
Initial State:	ItemZone with 2 items
Input:	None
Expected Output:	Verification that ItemZone contains the second item
Name:	ItemZone Empty Check
Initial State:	ItemZone with 2 items
Input:	None
Expected Output:	Verification that ItemZone is not empty
Name:	ItemZone Size Check
Initial State:	ItemZone with 2 items
Input:	None
Expected Output:	Verification that ItemZone's size is 2
Name:	ItemZone Keybind Check 1
Initial State:	ItemZone with 2 items
Input:	None
Expected Output:	Verification that first item is bound to 'a' key
Name:	ItemZone Keybind Check 2
Initial State:	ItemZone with 2 items
Input:	None
Expected Output:	Verification that second item is bound to 'b' key
Name:	ItemZone Contents Retrieval 1
Initial State:	ItemZone with 2 items
Input:	None
Expected Output:	Item map with exactly 1 copy of first item
Name:	ItemZone Contents Retrieval 2
Initial State:	ItemZone with 2 items
Input:	None
Expected Output:	Item map with exactly 1 copy of second item
Name:	ItemZone Removal
Initial State:	ItemZone with 2 items
Input:	Removal command
Expected Output:	ItemZone with only second item
Name:	ItemZone Keybind Persistence
Initial State:	ItemZone with first item removed
Input:	None
Expected Output:	Verification that second item is still bound to 'b'

Name:	ItemZone Weight Enforcement
Initial State:	Empty ItemZone
Input:	Attempt to add 500 pieces of armor to ItemZone
Expected Output:	ItemZone with max-weight worth of armor
Name:	Level Construction
Initial State:	None
Input:	Depth, player object
Expected Output:	Level object in valid initial state
Name:	Level Depth Check
Initial State:	Level with given depth
Input:	Depth value
Expected Output:	Verification that level's depth matches given value
Name:	Level BFSPerp Diagonal Small
Initial State:	Empty level object
Input:	Pair of coordinates diagonally adjacent
Expected Output:	Path between coordinates with expected length, utilizing taxicab moveme
Name:	Level BFSPerp Horizontal
Initial State:	Empty level object
Input:	Pair of coordinates with equal y-values
Expected Output:	Path between coordinates with expected length, utilizing taxicab moveme
Name:	Level BFSPerp Vertical
Initial State:	Empty level object
Input:	Pair of coordinates with equal x-values
Expected Output:	Path between coordinates with expected length, utilizing taxicab moveme
Name:	Level BFSDiag Horizontal
Initial State:	Empty level object
Input:	Pair of coordinates with equal y-values
Expected Output:	Path between coordinates with expected length, utilizing orthogonal move
Name:	Level BFSDiag Vertical
Initial State:	Empty level object
Input:	Pair of coordinates with equal x-values
Expected Output:	Path between coordinates with expected length, utilizing orthogonal move
Name:	Level BFSPerp Diagonal
Initial State:	Empty level object
Input:	Pair of coordinates on diagonal line
Expected Output:	Path between coordinates with expected length, utilizing taxicab moveme
Name:	Level Starting Position

Initial State:	Empty level object
Input:	None
Expected Output:	Valid starting position coordinate
Name:	Level getAdjPassable
Initial State:	Empty level object
Input:	Coordinate
Expected Output:	List of coordinates orthogonally adjacent to given coordinate
Name:	Level Path Generation
Initial State:	Player object and generated level
Input:	Series of path requests between random coordinates
Expected Output:	Valid paths between locations
Name:	Level Connectedness
Initial State:	Player object and generated level
Input:	Series of path requests between all rooms in the level
Expected Output:	Valid paths between each room
Name:	Level Staircase Check
Initial State:	Player object and generated level
Input:	None
Expected Output:	Verification that level contains a staircase
Name:	Level GoldPile Check
Initial State:	Player object and generated level
Input:	None
Expected Output:	Verification that level contains at least one goldpile
Name:	Monster Construction
Initial State:	None
Input:	Symbol, coordinate, armor value, HP value, exp value, level value, maxH
Expected Output:	Monster object in valid initial state
Name:	Dice-Math 1
Initial State:	None
Input:	1 1-sided die
Expected Output:	Sum of values of 1
Name:	Dice-Math 2
Initial State:	None
Input:	2 1-sided die
Expected Output:	Sum of values of 2
Name:	Dice-Math 3
Initial State:	None

Input:	1 2-sided die
Expected Output:	1 ¡= Sum of values ¡= 2
Name:	Dice-Math 4
Initial State:	None
Input:	3 4-sided die
Expected Output:	3 ¡= Sum of values ¡= 12
Name:	Mob Armor Check
Initial State:	Mob object
Input:	None
Expected Output:	Verification mob armor is in valid range
Name:	Mob HP Check 1
Initial State:	Mob with given HP value
Input:	HP value
Expected Output:	Verification mob has correct HP value
Name:	Mob MaxHP Check
Initial State:	Mob with given MaxHP value
Input:	MaxHP value
Expected Output:	Verification mob has correct MaxHP value
Name:	Mob Level Check
Initial State:	Mob with given level value
Input:	Level value
Expected Output:	Verification mob has correct level value
Name:	Mob Location Check
Initial State:	Mob with given location
Input:	Coordinate
Expected Output:	Verification mob has correct location
Name:	Mob Name Check
Initial State:	Mob with given name
Input:	Name value
Expected Output:	Verification mob has correct name
Name:	Mob setMaxHP
Initial State:	Mob with default MaxHP
Input:	setMaxHP command with MaxHP value
Expected Output:	mob with given MaxHP value
Name:	Mob setcurrentHP
Initial State:	Mob with default currentHP
Input:	setCurrentHP command with currentHP value

Expected Output:	mob with given currentHP value
Name:	Mob Dead Check 1
Initial State:	Living Mob object
Input:	None
Expected Output:	Verification mob is alive
Name:	Mob HP Check 2
Initial State:	Living Mob object
Input:	Hit command for ¿¿¿ mob's current HP
Expected Output:	Verification mob has HP ¡= 0
Name:	Mob Dead Check 2
Initial State:	Dead mob object
Input:	None
Expected Output:	Verification mob is dead
Name:	Monster Construction
Initial State:	None
Input:	Symbol, coordinate
Expected Output:	Monster object in valid initial state
Name:	Monster Flag/Invisibility
Initial State:	Visible monster object
Input:	SetFlag command to make monster invisible
Expected Output:	Invisible monster object
Name:	Monster Aggrevate
Initial State:	Idling, sleeping monster object
Input:	Aggrevate command
Expected Output:	Awake, chasing monster object
Name:	Monster Damage Calculation
Initial State:	Monster object
Input:	calculateDamage command
Expected Output:	Correct amount of damage
Name:	Monster Hit Chance
Initial State:	Monster and player objects
Input:	calculateHitChange command
Expected Output:	Hit chance in valid range
Name:	Monster Armor Check
Initial State:	Monster object
Input:	None
Expected Output:	Verification that monster armor is in valid range

Name:	Invisible Monster Name Check
Initial State:	Invisible uonster object
Input:	None
Expected Output:	Verification monster has hidden name
Name:	Visible Monster Name Check
Initial State:	Invisible monster object
Input:	RemoveFlag command to make monster invisible
Expected Output:	Verification monster has real name
Name:	Monster Symbol/Level Association
Initial State:	None
Input:	Depth value
Expected Output:	Set of symbols for monsters that are valid candidates for given depth
Name:	Monster Symbol/Treasure/Level Association
Initial State:	None
Input:	Depth value
Expected Output:	Set of symbols for monsters that are valid candidates for given depth for
Name:	
Initial State:	
Input:	
Expected Output:	
Name:	
Initial State:	
Input:	
Expected Output:	

7 Trace to Requirements

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8 Trace to Modules

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9 Code Coverage Metrics

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