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1 Graph Game: Design Document
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5 The goal of this game is to brush up on graphs while at the same time creati
6
7 -- The Game --
8
9 This is an exploration game, with the goal being to get through a dungeon fu
10
11 The player is presented with a list of options to go in (north, south, east
12
13 For example, this may be a sample playthrough:
14
15 Player enters the dungeon.
16
17 Starting stats:
18 Health      10
19 Defense     1
20 Attack      1
21
22 -- Room 0 --
23 Enemy: None
24 Item: None
25 Directions to go: North, South
26
27 What would you like to do?
28 [F]ight
29 [P]ick up item
30 [M]ove
31
32 >> M
33
34 Move where?
35
36 [N]orth
37 [S]outh
38 [E]ast
39 [W]est
40 [B]ack to menu
41
42 >> W
43
44 Can't move West.
45
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46 Move where?
47
48 [N]orth
49 [S]outh
50 [E]ast
51 [W]est
52 [B]ack to menu
53
54 >> N
55
56 -- Room 3 --
57 Enemy: Goblin
58 Item: Jewel
59 Directions to go: North, South, East
60
61 What would you like to do?
62 [F]ight
63 [P]ick up item
64 [M]ove
65
66 >> P
67
68 Picked up the Jewel.
69 Defense raised 1.
70 Current stats:
71 Health      10
72 Defense     2
73 Attack      1
74
75 What would you like to do?
76 [F]ight
77 [P]ick up item
78 [M]ove
79
80 >> F
81
82 Fighting the goblin!
83 The goblin swings for 2.
84 You swing for 3.
85 Your health: 8
86 Goblin's health: 2
87 Keep fighting?
88 Y/N
89
90 >> Y
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91
92 The goblin swings for 1.
93 You swing for 3.
94 Your health: 7
95 Goblin's health: 0
96 The goblin dies!
97 The goblin drops: Axe
98 Attack raised by 2.
99 Current stats:
100 Health      7
101 Defense     2
102 Attack      3
103
104
105
106
107
108
109 -- Code Design --
110
111 We will be using a graph data structure to represent the dungeon. Each node
112
113 Room
114 - An adjacency list with North, South, East and West pointers that are either
115 - Enemy pointer, either null or pointing to an Enemy struct
116 - Item pointer, either null or pointing to an Item struct
117
118 The Player has members
119 - Health
120 - Defense
121 - Attack
122
123 Enemy struct has
124 - Name
125 - Health
126 - Attack
127
128 Item struct has
129 - Name
130 - HealthPlus
131 - DefensePlus
132 - AttackPlus
133
134
135
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