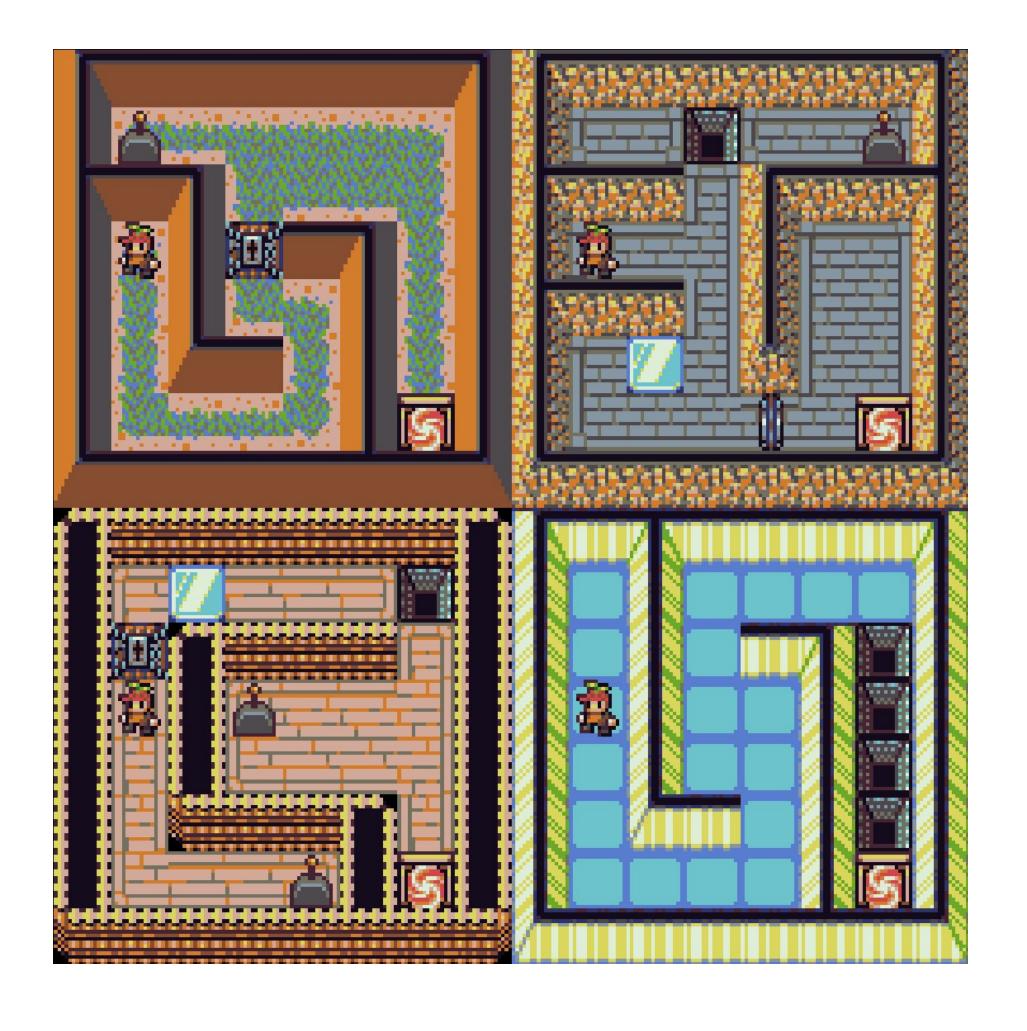


Abstract

DungeonBots is a fun, powerful gaming platform that facilitates coding education, allowing educators to write make game-like lessons that demonstrate programming principles.



Goals

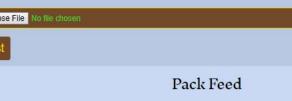
Give level authors and educators an intuitive, flexible, and powerful development environment.

Provide players and students fun and exercises that also teach programming principles.

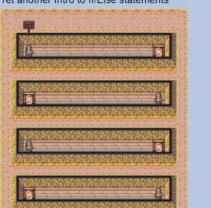
Make a community space that facilitates sharing of games among players and teacher-to-student.

Key Features

Level editor is a powerful tool for hobbyists and teachers to create new programming challenges. Game is a visually appealing environment for solving challenges, and is customizable so the game can respond to key presses, command-line scripting, or runtime scripting.









--[[The world's init script. In the command line, run help() for more info

ghost = world.findEntity('ghost')
ghostgoal = world.findEntity('ghostgoal')
bot = world.findEntity('bot')

-- Set the positon of the Ghost's goal

local goal_x, goal_y = math.random(1,16), math.random(6,16)
ghostgoal:setPosition(goal_x, goal_y)

- Set the position of the Ghost

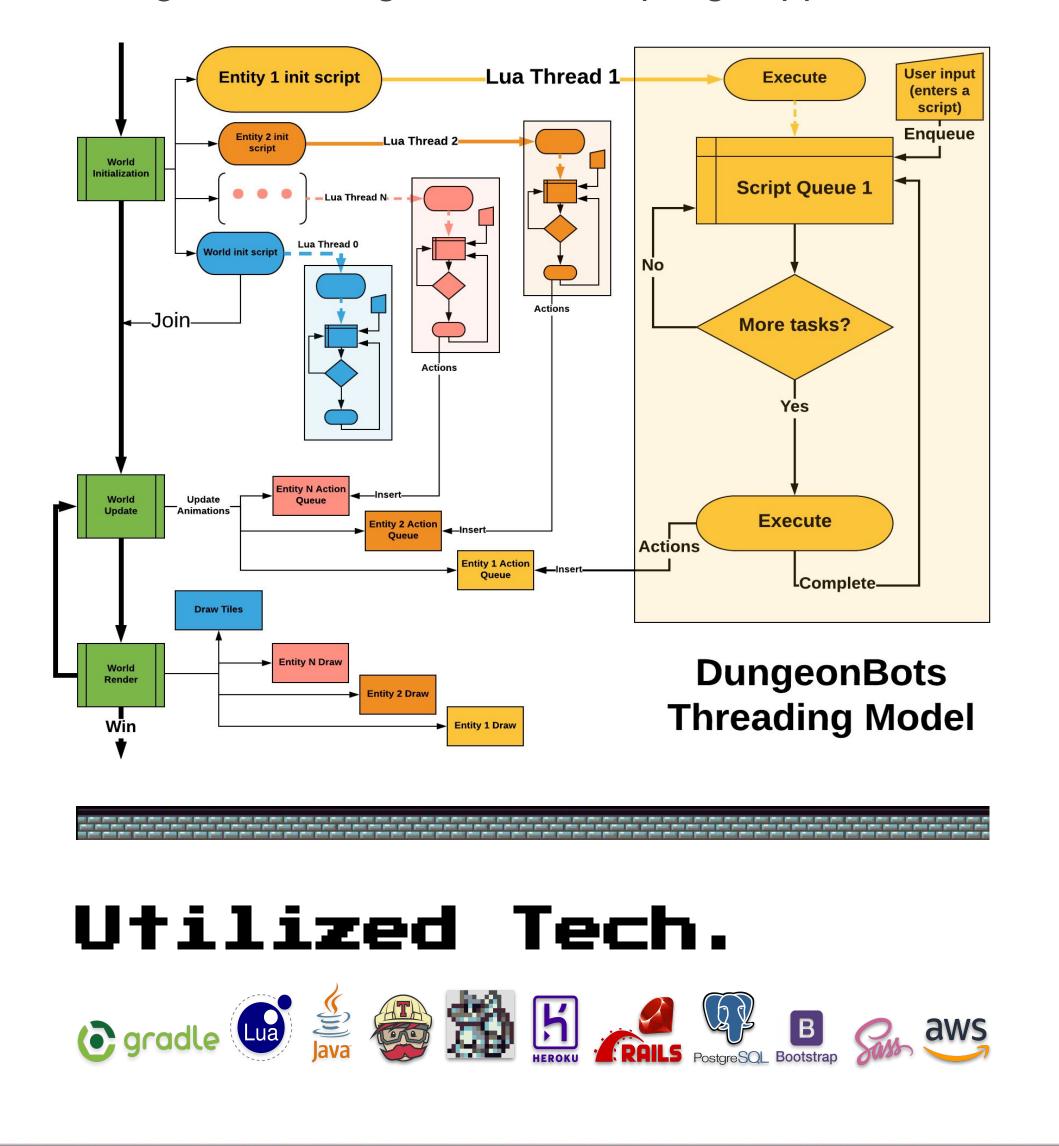
local ghost_x, ghost_y = goal_x, goal_y
while ghost_x == goal_x and ghost_y == goal_y do
 ghost_x, ghost_y = math.random(1,16), math.random(6,16)
end
ghost:setPosition(ghost x, ghost y)

bot.data.ghost_position = function() return ghost:position() end

bot.data.ghost_goal = function()
 return ghostgoal:position()
end

System Design

Built on our custom Java game engine.Has a highly concurrent architecture.Designed for integrated Lua scripting support.



Community facilitates in-game downloads of lessons, links users to follow each other, and allows publication of new lessons.

