DungeonBots
> The Coding Education Game

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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

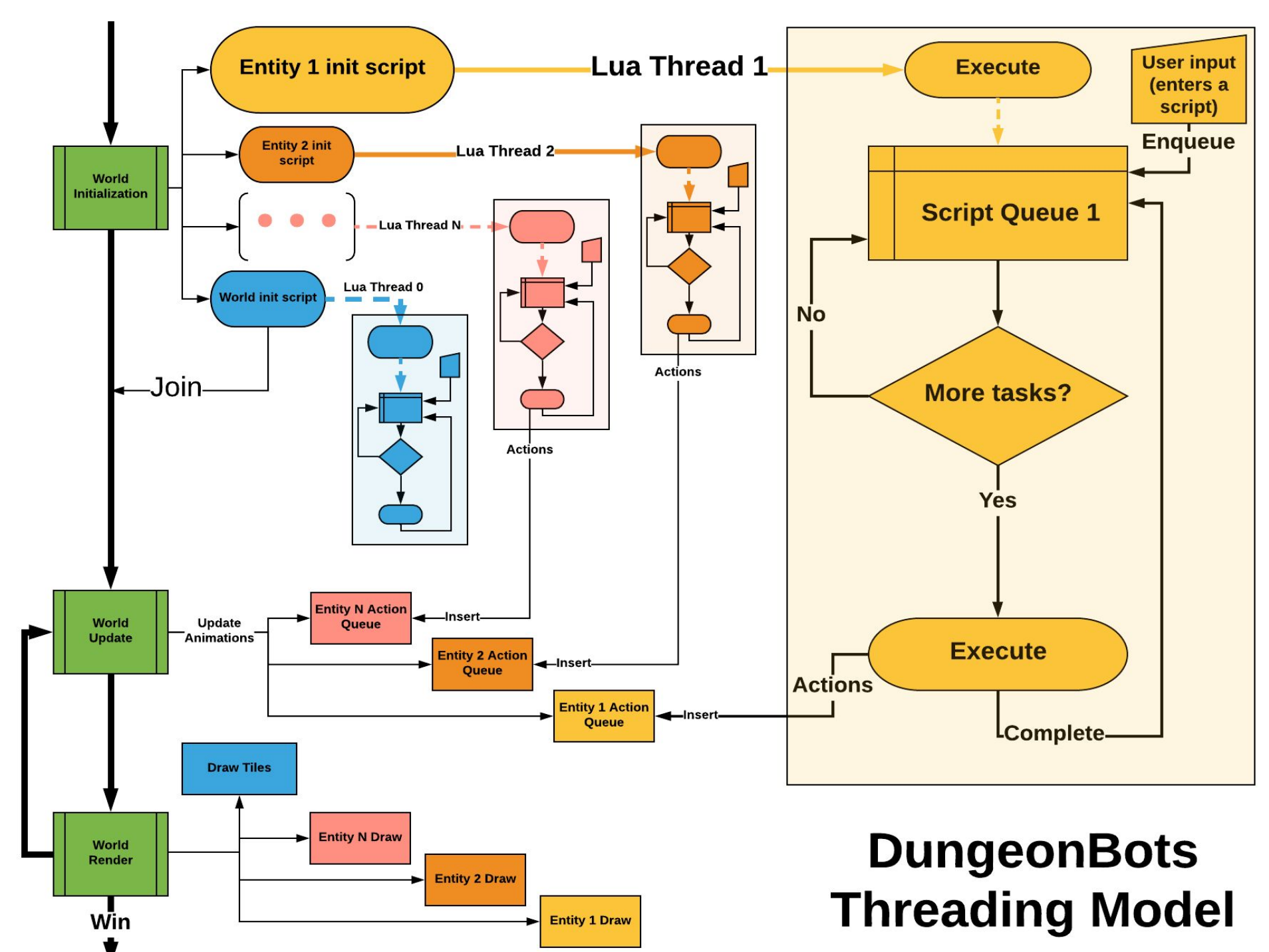Make a community space that facilitates sharing of games among players and teacher-to-student
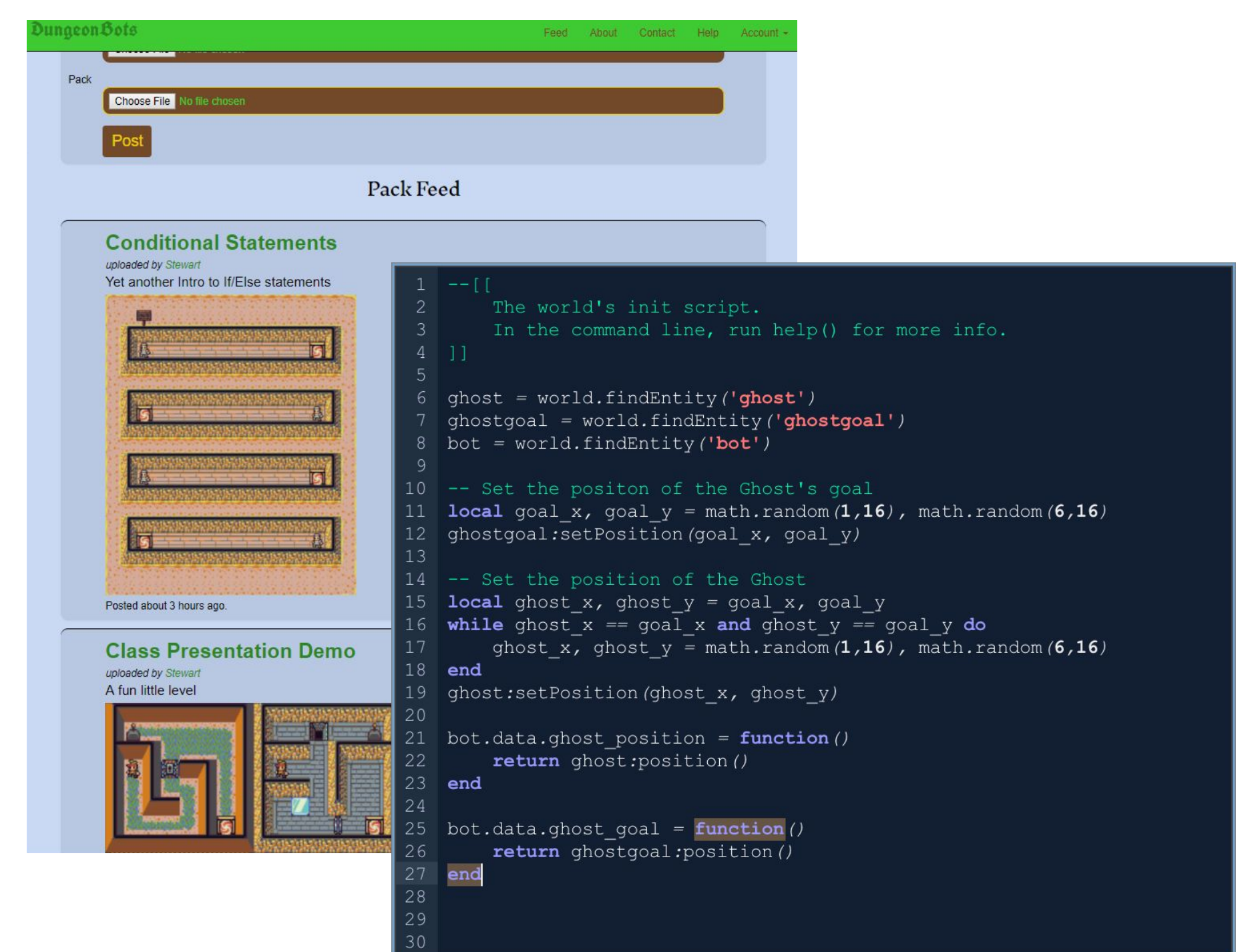
Key Features

Level editor is a powerful tool for game designers and teachers to create unique 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

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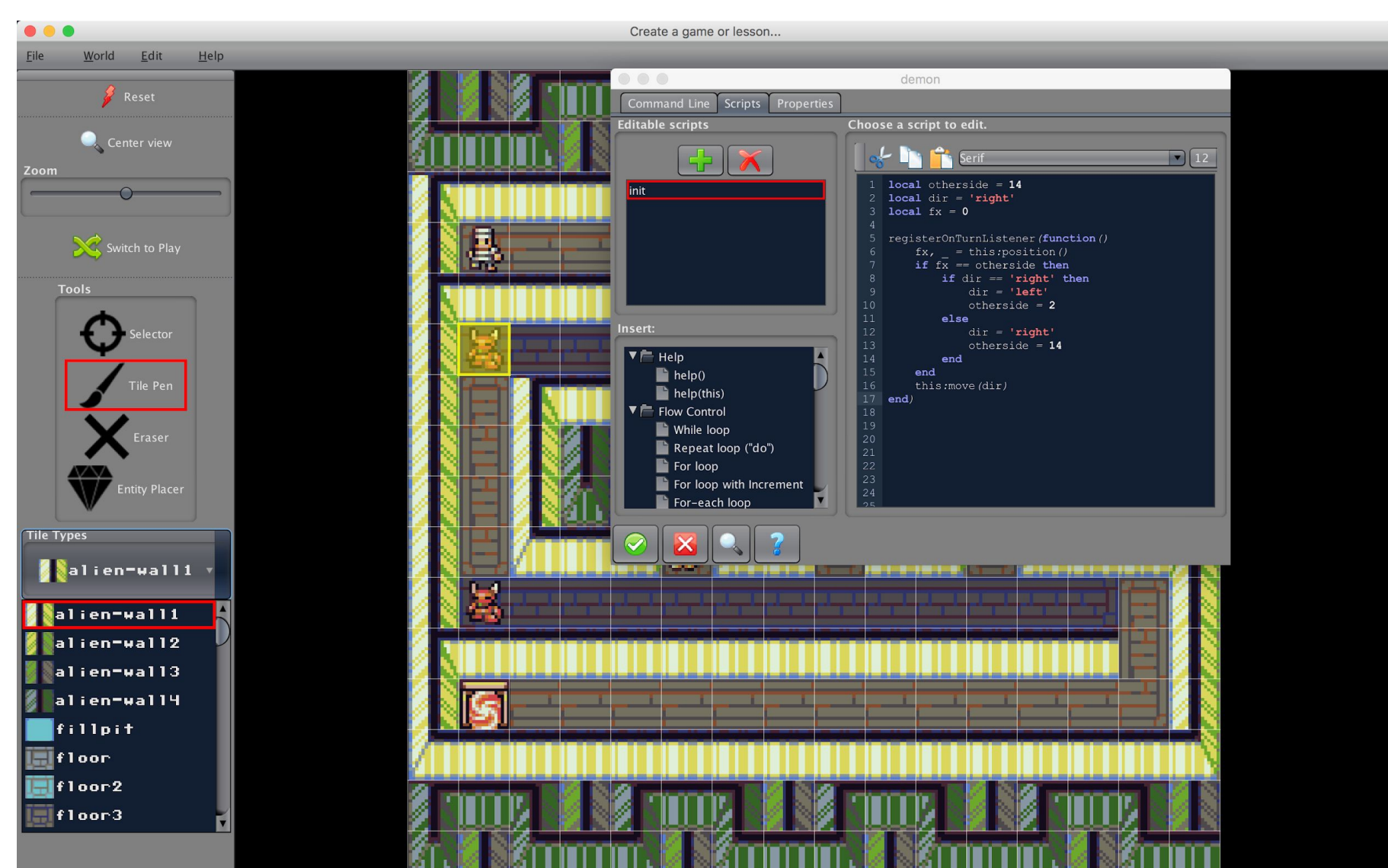
System Design

Built on our custom Java game engine

Has a highly concurrent architecture

Designed for integrated Lua scripting support

DungeonBots Threading Model

Utilized Technologies