DungeonBots
> The Coding Education Game

Stewart Charles   Wesley Oates   Kevin Parker   Ken Richard

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.

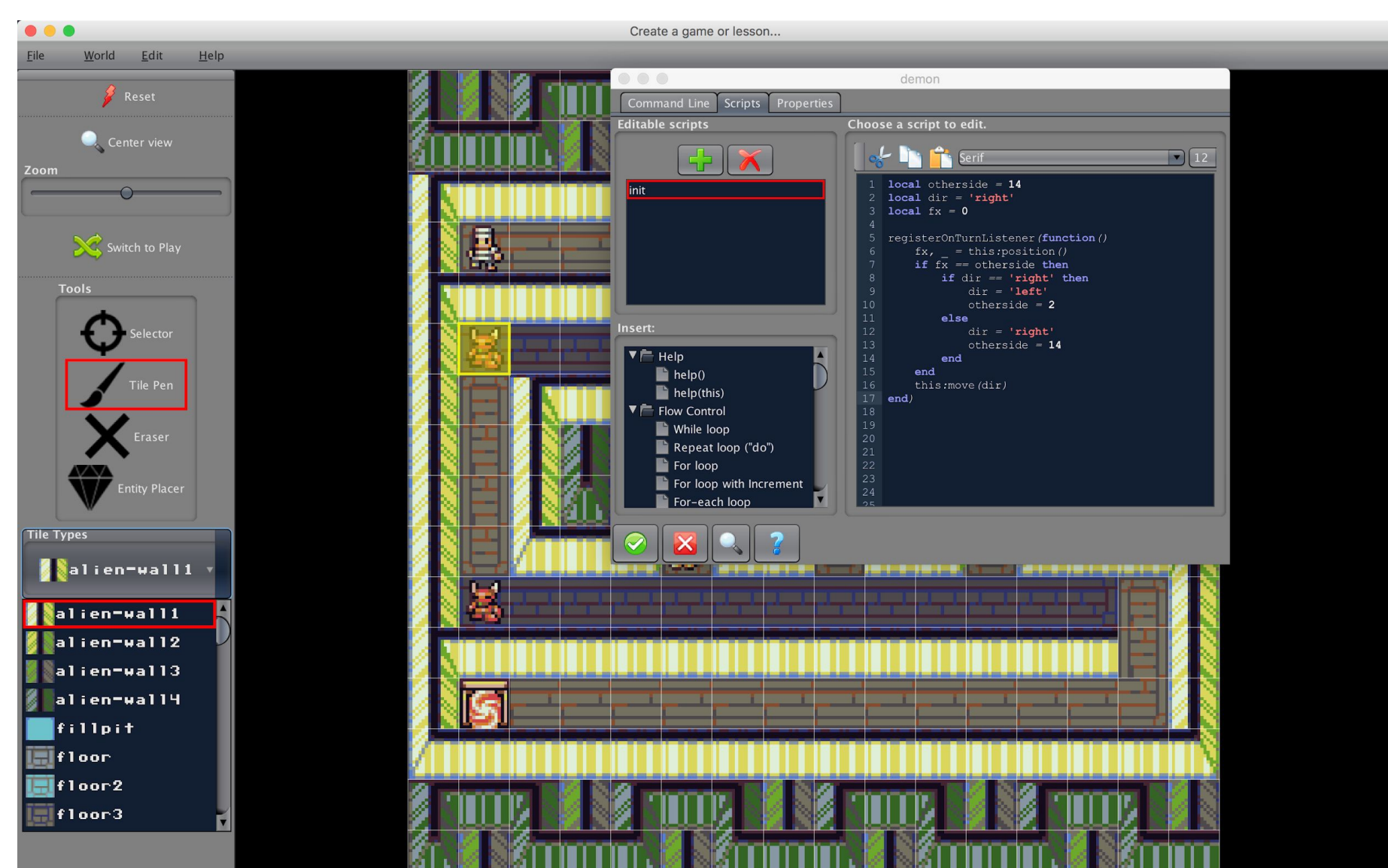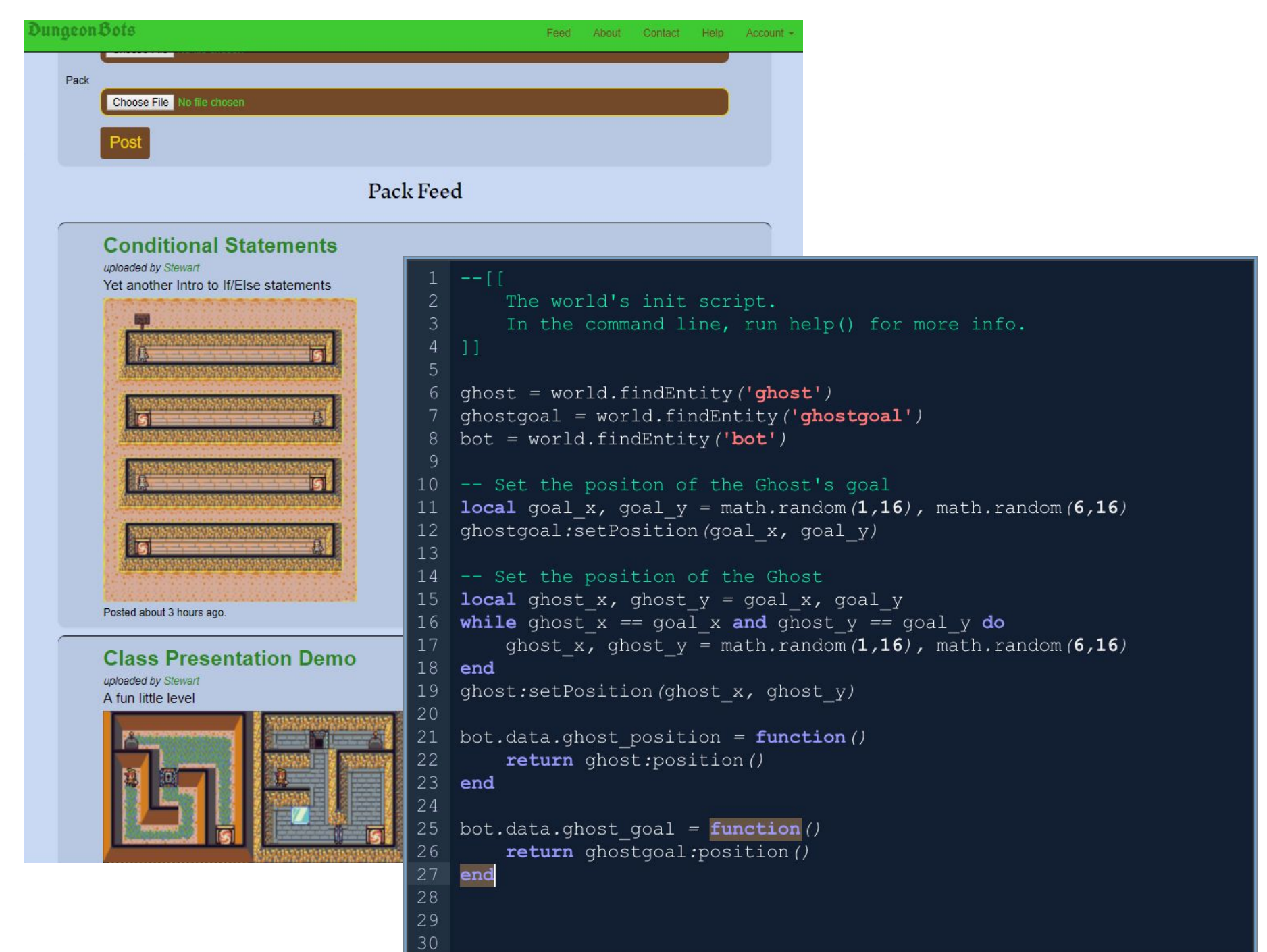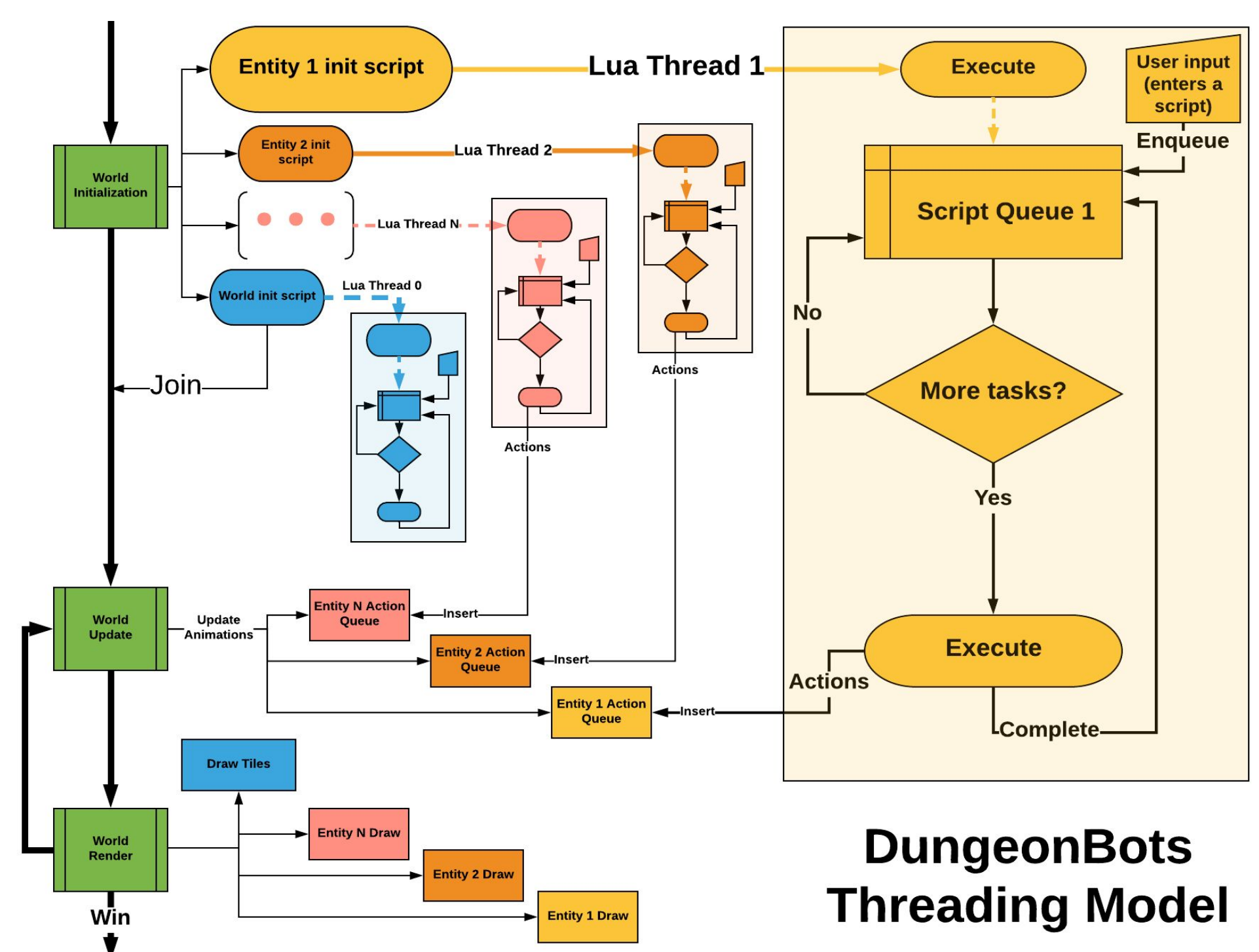Make a community space that facilitates sharing of games among players and teacher-to-student.

Key Features

The level editor is a powerful tool for hobbyists and teachers to create new programming challenges.

The game is a visually appealing environment for solving challenges, and is customizable so it can respond to key presses, command-line scripting, and runtime scripting.

The 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 Tech.