Light-Key Puzzle Game

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Objective: Create an environment with sensors activated by appropriate colors of light, which can be expanded into a complete puzzle game.
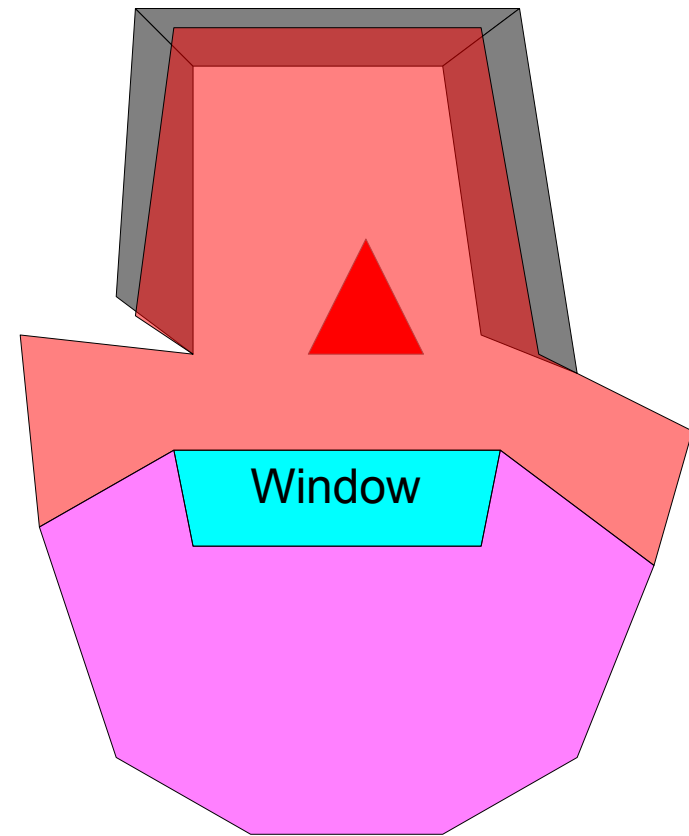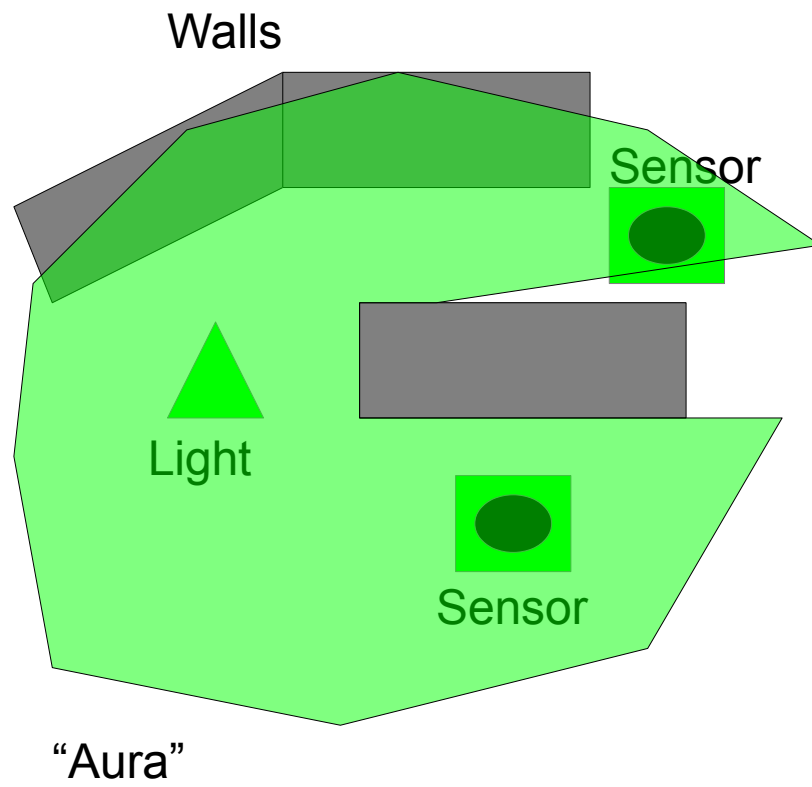
Core Functionality:

- Create sensor objects which respond to a range of color values of light
- create light objects which produce visible auras, so the player may see the light
  - dim light effects with distance
  - prevent light from shining through solid objects like walls
- Apply collision detection such that light objects my not be dragged through other solid objects, like walls and other lights
- Allow sensor activation to trigger effects such as opening doors
  - this involves detecting the combined light color on the sensor outside of the shaders

Planned Extras:

- Tinted windows
  - a transparent wall that alters the color of light that passes through it
  - hard to do
  - needs to effect aura color
- Mirrors
  - would be fun to have, and would add to gameplay
  - time will probably prevent implementation

Sample Object Design

Walls

Sensor

Light

Sensor

"Aura"

Window

Progress:

- Prog3 does most of the basic world functionality
- basic camera controls mostly working

Foreseen Issues:

- Drawing auras may be difficult unless occlusion can be leveraged
- calculating light dissipation
- opaque objects blocking light
- collision detection
  - may allow objects to pass through each other for simplicity
- Combining aura colors
- properly detecting if a sensor is bathed in the appropriate net light color