Key and Lock Puzzles in Procedural Gameplay

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Project Defense
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What this project is about

- What is procedural gameplay?
- Why is it important?
Conceptual Terms
Conceptual Terms

Keys
Conceptual Terms

Locks
Conceptual Terms

Tension
10 Properties
10 Properties

1) Keys have bearing on gameplay

2) Locks precede their key

3) Keys are rewards
10 Properties

4) Keys are encountered regularly

5) Old keys are useful

6) About 3 to 10 new areas are opened with each key
10 Properties

7) Locks protect small rewards and new areas

8) Keys improve movement through space, and change perception of it

9) Locks are not immediately visible

10) Some keys are non-essential
The Model
The Model Areas
The Model

Connections
The Model

Keys and Locks
The Model

Placed key

Lock name

Zone name

Early Implementation
Representation of properties in the Model
Representation of properties in the Model

All Models

Valid models
Representation of properties in the Model

All Models

Valid models

???

Renderable models
The Renderer
(Charbitat!)
The Renderer

RiverEntrance(North)
RiverExit(East)
RiverEntrance(South)
Coast(NW)
Coast(NE)
RiverEntrance(West)
Lake
The Renderer

River Entrance (North)
River Exit (East)

River Entrance (South)

Coast (NW)
Coast (NE)

River Mouth Configuration

River Entrance (West)

Lake

Lake Sink Configuration

River Curve Configuration
The Renderer
The Simulator
## The Simulator

<table>
<thead>
<tr>
<th>Question</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Keys precede locks?</td>
<td>0.81</td>
</tr>
<tr>
<td>Tension balances properly?</td>
<td>1.03</td>
</tr>
<tr>
<td>Zones balance enough?</td>
<td>0.54</td>
</tr>
<tr>
<td>Key distances OK?</td>
<td>0.97</td>
</tr>
<tr>
<td>Keys reused enough?</td>
<td>0.12</td>
</tr>
<tr>
<td>Enough new areas for keys?</td>
<td>0.70</td>
</tr>
<tr>
<td><strong>Total Score:</strong></td>
<td><strong>0.0367</strong></td>
</tr>
</tbody>
</table>
The Simulator
The Simulator

Renderer:

Simulator:

0.35 0.75 1.21 2.43 0.00 1.21
The Simulator