Programming with Alice

Week 1 Objects

Objectives

- Be introduced to Alice and Java and how they're used in this book.
- Create virtual worlds in Alice.
- Call methods on objects to make them behave in particular ways.
- Explore the set of methods that are available to all Alice objects.
- Set and modify the properties of an object.
- Creating new objects from predefined classes.
- Cause multiple animation actions to occur at the same time.
- Explore composite objects and interact with a composite's individual parts.

Week 1 PowerPoint
Week1 Source code

1.1 Introduction to Alice

- What is Alice?
  - Watch the promotional video.
  - Watch A Demonstration of Alice
- Running Alice at home
  - Go to Downloads: We are presently using Alice 2.0. We will soon move to Alice 3.0 which features Sims 2 technology.
- The Sun Microsystems Collaboration
1.2 The Alice Environment

1.3 Objects in Alice
Source: Spinning Cubes
TryThis: 1,2
**Camera Controls**
Source: Spinning Cubes
TryThis: 3-5

**Calling**
Source: Spinning Cubes
TryThis: 6-8

- A *method* is a set of statements that can be *called*.
- Methods define every object’s behavior.
- The world object in every animation has a method called *my first method*.
- There are several *control statements* available in Alice.
- Calling a method – *sending a message* to an object.
- Methods can accept parameters.

**Methods and Properties**
Source: Spinning Cubes
TryThis: 9-11
### Properties

**cube's details**

<table>
<thead>
<tr>
<th>properties</th>
<th>methods</th>
<th>functions</th>
</tr>
</thead>
<tbody>
<tr>
<td>create new variable</td>
<td>capture pose</td>
<td></td>
</tr>
</tbody>
</table>

- **color** = 
- **opacity** = 1 (100%) 
- **vehicle** = world 
- **skintexture** = <None> 
- **fillingStyle** = solid 
- **pointOfView** = position: 0.88, 0.53, 0.38; orientation: (0, 0, 0) 1 
- **isShowing** = true 

**Seldom Used Properties**
- Sounds
- Texture Maps
1.4 Alice Classes
Source: Spinning Cubes, add the Anvil (Object Class), Stop sign (Roads and Signs Class)
TryThis: 12-13

1.5 Do Together – actions take place simultaneous
Source: Spinning Cubes, Blimps, Bugs
TryThis: 14-16
Do In Order – actions take place in order, one at a time.

1.6 Composite Objects
Source: SurferWave
TryThis: 17-19
1.7 More to Explore

**Built-in methods**

**Turn vs Roll**

HeBuilder/SheBuilder

Capture Pose