CS 106A, Lecture 13
Animation

reading:
*Art & Science of Java*, Ch. 9
You are here

The River of Java

Graphics Programs

Animation

Memory

Events
Plan For Today

• Announcements
• Midterm
• Animation
• Practice: Animated Square
• Practice: DribbleCastle
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Simple animation

- A Graphics program can be made to animate with a loop such as:

```java
public void run() {
    ...
    while (test) {
        update the position of shapes;
        pause(milliseconds);
    }
}
```

- The best number of ms to pause depends on the program.
  - most video games ~= 50 frames/sec = 25ms pause
Graphical methods

• These methods in graphical objects can be useful for animation:

<table>
<thead>
<tr>
<th>Method</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>obj.getX()</code></td>
<td>the left x-coordinate of the shape</td>
</tr>
<tr>
<td><code>obj.getY()</code></td>
<td>the top y-coordinate of the shape</td>
</tr>
<tr>
<td><code>obj.getWidth()</code></td>
<td>number of pixels wide the shape is</td>
</tr>
<tr>
<td><code>obj.getHeight()</code></td>
<td>number of pixels tall the shape is</td>
</tr>
<tr>
<td><code>obj.move(dx, dy)</code>;</td>
<td>adjusts location by the given amount</td>
</tr>
<tr>
<td><code>obj.setLocation(x, y)</code></td>
<td>change the object's x/y position</td>
</tr>
<tr>
<td><code>obj.setSize(w, h)</code>;</td>
<td>change the object's width*height size</td>
</tr>
</tbody>
</table>

• The GraphicsProgram itself has these methods, too:

<table>
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</tr>
</thead>
<tbody>
<tr>
<td>getWidth()</td>
<td>number of pixels wide the window is</td>
</tr>
<tr>
<td>getHeight()</td>
<td>number of pixels tall the window is</td>
</tr>
<tr>
<td>setCanvasSize(w, h)</td>
<td>change the canvas’s width*height size</td>
</tr>
</tbody>
</table>
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Recap

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Next Time: Interactive Graphics Programs