Game Logic

Project 4

Due date: Monday, September 29th

Introduction

☐ Third in a series of related projects
  ■ Will build towards working game

☐ Focuses on
  ■ Development of game objects
  ■ Game logic

☐ Using Game Maker
Motivation

- At core of game are the rules
  - Such as rules on gameplay (i.e., payoff matrices)
- More than that
  - Hit points
  - AI for computer-controlled objects
  - Obstacles
  - Interface objects ...
- Begin prototyping the game
  - Gain experience implementing and testing game logic

Overview

- Work in same group
- Use the treatment from Project 2
- Use the art from Project 3
  - Intent is not to more art or design (but can add – art is not “frozen”).
- All effort on implementing a variety of objects
  - in Game Maker!
- Evaluated based on
  - object activity
  - object interactivity
  - user interactivity
  - AI/reactivity
- Options
  - Informal README with flexible grading
Details (1 of 4)

- At least 10 Game Maker Objects
  - Next project on *Level Design* so consider choices
- Each should have somewhat unique behavior
  - More than a copy or sub-class of another
- As a whole, your objects will meet the following criteria:
  - (Specific criteria next slide)

Details (2 of 4)

- **Object Activity** - Change state, reflected to the user in some fashion.
  - Ex: change in location (motion)
  - Ex: change in appearance (damaged object)
- **Object Interactivity** - interaction with other objects (i.e. – at least one changes state)
  - Ex: collision between two objects causes rebound
  - Ex: collision between two and “pickup” other item
- **User Interactivity** - respond to user input
  - Ex: pressing arrow keys moves avatar
- **AI/Reactivity** – “intelligent” behavior in reacting to objects around it. Adapt as situation changes.
  - Ex: Object pursues hero once awake
Details (3 of 4)

- For testing, create 1+ Game Maker Rooms
  - NOT meant to be playable levels (that’s next project)
  - Do not spend much time on the rooms themselves
  - Rather, use to test your objects (TAs will use to evaluate),
  - Use as many rooms and as many copies as needed

- Write a short README (text file)
  - Describes the objects, behaviors, and which objects fill which criteria.
  - List the members of group
  - Grading criteria (next)

Details (4 of 4)

- Options screen/buttons
  - At least two options to influence game world
  - Ex: number of lives, health, game speed, difficulty...

- Tell how options work (how affect world and objects) in README

- README also tells where you put your “flex points”
### Grading Guidelines

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Object Activity</td>
<td>15%</td>
</tr>
<tr>
<td>Object Interactivity</td>
<td>15%</td>
</tr>
<tr>
<td>User Interactivity</td>
<td>15%</td>
</tr>
<tr>
<td>AI/Reactivity</td>
<td>15%</td>
</tr>
<tr>
<td>Flexible</td>
<td>25%</td>
</tr>
<tr>
<td>- Distribute across 2-3 criteria, above</td>
<td></td>
</tr>
<tr>
<td>Options</td>
<td>10%</td>
</tr>
<tr>
<td>README + Rooms</td>
<td>5%</td>
</tr>
</tbody>
</table>

---

### Submission

- Turnin (see Web page for instructions)
- Game Maker .gmk file
  - Will have art, audio content embedded
- README Document
Group Exercise

- Break into groups:
  - Blinky, Pinky, Inky, Clyde, Pac

- Consider objects in Pac-Man

- List and describe (5-7 minutes)
  - Object activity
  - Object interactivity
  - User interactivity
  - AI/Reactivity

- Are some objects related to others? If so, how?