CompSci 4
Starting Alice
Sept 4, 2007

Prof. Susan Rodger

Alice is named in honor of Lewis Carroll's Alice in Wonderland

Announcements

- Research Study
- Assignment 1 – should have been turned in!
- Reading quiz 1 and quiz 2–must be completed before next class
  - Normally turn off 8:30am day of class
  - This time only, get a second chance on quiz 1…
- Due Thursday - HTML– on your web page
  - Assignment 2
  - Classwork from Aug 29 and Aug 31
- HELP – How do I get help?
- Alice is free – www.alice.org
- Laptop cart – Put back in slot and plug in!

How this class will work

- In class – ATTENDANCE REQUIRED
  - Lecture/Demos
  - Work in assigned pairs – create new folder to work in for each class period
  - Checkoffs – show work to TA/UTA/Prof
  - Save your work until the grade appears on Blackboard!
- Outside of class
  - Finish work done in class in pairs or singly
  - Reading before coming to class
  - Reading Quizzes
  - Assignments – individual work unless stated

What Is Alice?

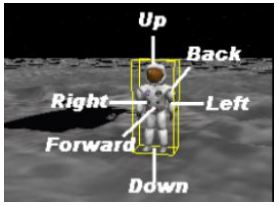
- A modern programming tool
- 3-D objects – automatically keeps track of
  - Which objects are in virtual world
  - Types of objects
  - Positions of objects in the world
- Animation
  - Objects can be made to move in world
- Written in Java – runs on PC and Mac

Memory Management

- Alice automatically manages memory
- Crashes can occur
  - Writing and testing an animation is an intense load on a computer
- SOLUTION
  - Save your world every 15 minutes
    - Alice will remind you!
  - Save a backup copy, maybe on another system
  - Don't need all backups (take up a lot of space)

Object Position

- Objects
  - Are positioned in 3D space
  - Have six degrees of freedom



Galleries of 3D Objects

- Sources of 3D objects
  - Local gallery – comes with Alice
  - Alice web gallery

Types of Animations

- In Appendix A – you will see two kinds of animations
  - Movie
    - User "watches" animation
    - "machine-centric"
  - Interactive
    - User "participates" – clicks mouse, types a key
    - "user-centric"

Events

- Animations that are “interactive” depend on user’s actions
  - Mouse click
  - Keypress
  - Others (HeadMountedDevice, etc.)
- Actions are “events”
- Interactive programs are “event-driven”
- More on this later in Chapter 5

Interactivity in Alice

- No interaction – ice skater routine

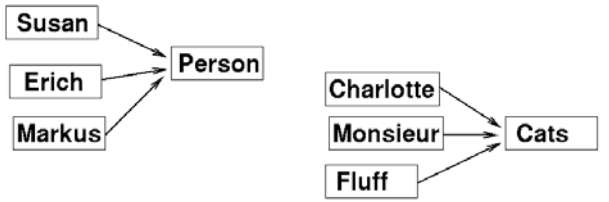
- Animation with interaction – Simple Ice Skater
  - What are the events?
  - What response does the skater make to each event?

Objects

- What is an object?
  - Can be identified as unique from other things
- How is an object unique?
  - Has a name
  - Has properties
    - Width, height, color, location, age, ss#, id#
  - Has a purpose (methods)
    - Associated actions it can perform
    - Tasks it can carry out

Class

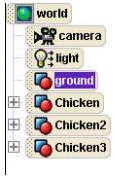
- Objects are categorized into classes

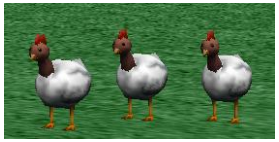


- Each object is an “instance” of the class
- All objects in a class
  - Have similar properties
  - Generally can perform the same tasks

Objects in a Virtual World

- In Alice, each 3D model is a class of objects
  - chicken, chicken2, chicken3

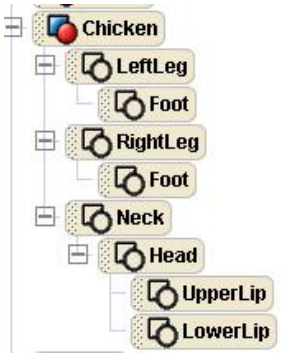


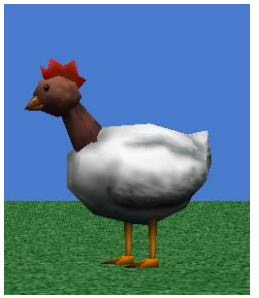


  - Has colors
    - red, white, blue, grey, black, …

Objects Have Multiple Parts that are moveable

- Objects already exist in libraries





Center

- At the center of mass
- Where it stands on the ground
- Where it is held

Today's Class

- Assigned groups
- Classwork (see sheet for details)
  - Appendix A – Part 1 and Part 2 (NOT Appendix B)
  - Problems in Chapter 1
- Get Checked off when finished
- For today only, you do not need to complete your work outside of class if you do not finish
- Save your work on your computer or your Duke space
  - Do copy your work to Duke account, put in folder public_html/compsci4, new folder "chapter1"
  - Save your work until grade appears on Blackboard