Computer Science 4: Java for Video Games

www.cs.duke.edu/education/courses/spring04/cps004

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Introduction

• Administrative material
• Introduction to Java
• Webpage development
• First assignment (due Friday)
Administrative Material

- Course Webpage
- What you will learn?
- Is this course right for you?
- Structure of the course
What you will learn in this course

• Two primary goals are to teach
  – Basic programming
  – Basic computer science concepts

• To explore these topics we’ll study
  – Video game design
  – Algorithms used in video games
What you won’t learn in this course

• The same amount and type of programming as in CPS6 for majors
• Enough about Java or video games to market your own games
• Programming concepts that will only be useful using our video games package
Who should take this course

• Non-computer science majors
• Students with little or no background in computer programming
• Undecided major, but probably not computer science
Who should not take this course

• Computer Science Majors
• Computer Programmers
• Undecided major, but probably computer science (take CPS 6 for majors instead)
Structure of the Course

• Homeworks 50%
  – Weekly
  – Typically done in pairs or triples
  – Build toward project

• Tests 30%
  – 2 Each 15% (no final)

• Project 20%
  – Used in place of final
  – Done in pairs or triples
Introduction to Java
Downloading Source Code

• Open course website: http://www.cs.duke.edu/education/courses/spring04/cps004/
• Click on Code at the upper right
• Right click on pong.jar
• Select Save Link Target As
• Save to Desktop
Introduction to Java
Using Eclipse

- Starting Eclipse
- Making a project
- Importing files into a project
- Editing source code
- Compiling source code
- Executing source code
- Saving project
Starting Eclipse

• Double Click on Classroom Applications on the Desktop
• Double Click on eclipse.exe
Making a project

• File->New->Project
• Java->Java Project
• Click on Next
• For Project Name type Sample
• Click on Finish
• Switch to Java Perspective? Yes
Importing files into a project

- File->Import
- Zip file
- Click on Next
- From zip file Click on Browse
- Click on Desktop
- Double click pong.jar
- Open
- From Into folder Click on Browse and select Sample
- Finish
Executing source code

• Click on + by Sample
• Click on + by pong
• Click on Pong.java
• Run->Run as->Java Application
• Play the game
  – Using the mouse
  – Using the keys ‘i’ and ‘m’
Editing source code

• Double Click on PongLoop.java
• Go to line 69 where it says
  \[ \text{position1.y} -= 2; \]
  (you’ll see 69:23 in the lower right hand corner as you move the cursor in the code)
• Change it to say
  \[ \text{position1.y} -= 8; \]
• Click on the disk icon to save
  (or File->Save)
Compiling source code

- Always be sure to save any changes before compiling (done in the previous step)
- Project->Rebuild All
Executing the modified code

• Click on Pong.java
• Run->Run as->Java Application
• What changed?
Saving project

• During class projects are saved on the desktop
• Before leaving the lab be sure to save your project to your acpub account
Saving project

• Click on Sample
• File->Export
• Jar file
• Click on Next
• Select P drive
• Create and/or change into cps4 folder
• Use filename mypong.jar
• Select Export java source files and resources
• Click on Finish
Web Page Development

- Where files should be placed
- How to create and use directories (folders)
- Using Netscape Composer
Webpage Placement

• Your webpage is located in P:\public_html
• Your individual course webpage will be located in P:\public_html\cps4
• Your webpage is viewable from http://www.duke.edu/~yourlogin
• Your course webpage is viewable from http://www.duke.edu/~yourlogin/cps4
Creating Directories

- Double Click on My Computer
- Double Click on P drive (could also be indicated by your login)
- Double Click on public_html
- File->New->Folder
- Type in cps4 and Enter
Netscape/Mozilla Composer

• Open up Netscape/Mozilla
• Window->Composer
• Type Hello in the editor
• File->Save as
• Enter Hello as the title for the page
• Select P:\public_html
• Save as Hello.html (assuming you don’t already have one in your own webpage)
Netscape/Mozilla Composer

• In Netscape/IE, go to http://www.duke.edu/~yourlogin/hello.html
• If you don’t already have a webpage prior, rename Hello.html to index.html and go to http://www.duke.edu/~yourlogin/
• index.html is searched for automatically if no filename is given
• Experiment on your own time with Composer to make more webpages and add links
First Assignment

• Visit the course website and complete the first assignment due on Friday