Games in the Classroom

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Computer and Information Sciences
Spring 2006
Why Use Games?

- Pedagogical benefits?
  - Who knows?

- My reasons
  - Have some fun
  - Allow students to get to know each other
  - Spice up Friday classes a little
  - "Active Learning"
Basic Approach

- Last half of most Friday classes
- Divide class into groups of 4 to 6 people
  - Divide groups differently each time
  - Group must sit together
  - Group must consult and agree on responses
- Students keep track of scores
Word Search

- Good for basic knowledge
  - Recognition
  - Identification
  - Listing?
  - Matching?

Example: programming language keywords

Java Keywords and Reserved Words

AbstracT| Boolean| Break| Byte| Case| Catch| Char| Class| Const| Conti| Nue| Float| For| GoTo| New| NULL| Package| Private| Protected| Public| Return| Synchronized| True| Try| Value| Void
Abstract| Boolean| Break| Byte| Case| Catch| Char| Class| Const| Conti| Nue| Float| For| GoTo| New| NULL| Package| Private| Protected| Public| Return| Synchronized| True| Try| Value| Void
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- Display key
- Group with most words wins
Crossword Puzzles

- More than just recognition
  - Comprehension
  - Application
  - Analysis
  - Synthesis
  - Evaluation

Across
1. (2 words) Shows relationships between problems and subproblems
4. Repeating a set of instructions
5. Writes code
7. (2 words) Development approach that focuses on data and operations
10. (2 words) Large boring example in chapter 1
11. Lifecycle phase in which methods and classes are defined
14. Interaction between objects
16. Java testing framework
20. Computer programs
23. Creates Java documentation
25. Lifecycle phase in which classes and methods are verified
26. A model of something
27. Converts an object to a string
29. Unified phase in which the new system is started up
30. Lifecycle phase in which overall architecture is determined
31. Must be true before using a method

Down
2. Unified Modeling Language
3. (2 words) Development approach that divides a problem into subproblems
4. Unified phase in which user's needs are collected
6. Author's last name
8. Tells if two strings have the same contents
9. Unified phase in which requirements and design are elaborated
12. Document that lists stipulations and constraints
13. Will be true after method finishes
15. Unified phase in which most coding happens
17. (2 words) A "story" about how a user uses software
18. Lifecycle phase in which classes and methods are coded
19. Lifecycle phase in which users' needs are collected
21. Old lifecycle model
22. Author's last name
24. Specification of an abstract data type
28. Template for creating objects
Crossword Puzzles

- After time limit
  - Display key
  - Group with most answers wins

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Created with EclipseCrossword — www.eclipsecrossword.com
Game Shows

- Most popular activity

I used these
Jeopardy!

- Modified rules
  - Don't have to answer in form of question
  - Control passes after three questions (at most)
  - Can't lose money
Millionaire

- Each group goes until
  - Wrong, or
  - Quit & take winnings
- Highest value wins
- One lifeline: 50-50
It's fun to play host!
Students' Motivation

- Students seem to have a lot of fun
- Games & groups combine cooperation and competition
- Valuable prizes!!
Tip #1

- Sound effects make a big difference
- Can be cheesy!

Clapping
Whistle
Wait…

Longer fanfare
Short fanfare
Tip #2

- "Pointer mouse"
  - Lets you walk around
  - $50 at Campus Computer Store
Free Game Resources

- **Word search (requires Perl)** [http://www.perl.org/get.html](http://www.perl.org/get.html)
  - [http://decafbad.net/projects/wordsearch/](http://decafbad.net/projects/wordsearch/)

- **Crossword (Windows)**

- **Jeopardy (PowerPoint)**
  - [http://soe.cahs.colostate.edu/faculty/johnson/games/Blank%20Single%20Jeopardy.ppt](http://soe.cahs.colostate.edu/faculty/johnson/games/Blank%20Single%20Jeopardy.ppt)

- **Millionaire (requires Java)** [http://java.sun.com/j2se/1.5.0/download.jsp](http://java.sun.com/j2se/1.5.0/download.jsp)
  - [http://sourceforge.net/projects/quizshow](http://sourceforge.net/projects/quizshow)

- **Other games (PowerPoint)**
  - [http://soe.cahs.colostate.edu/faculty/johnson/games/](http://soe.cahs.colostate.edu/faculty/johnson/games/)

- **Sounds**
  - [http://simplythebest.net/sounds/index.html](http://simplythebest.net/sounds/index.html)