Multidisciplinary Students And Instructors: A Second-Year Games Course

Nathan Sturtevant
University of Alberta
March 14, 2008
Collaborators

- Jonathan Schaeffer, CS Department Chair
- H. James Hoover, Finnegang Southey, Michael Bowling (CS)
- Sean Gouglas (Humanities Computing / History)
- Matthew Bouchard (Humanities Computing)
- Ghassan Zabaneh (Industrial Design)
- John Bartoszewski (Lab technician)
January 2005

• Started design of new Computer Game course
  • Interdisciplinary team of collaborators
    • Computing Science
    • History / Humanities
    • Industrial Design
  • Interdisciplinary teams students
• Second year course with no prerequisites
Course Goals

• Create a stimulating, collaborative learning environment

• Give CS students the opportunity to work with students of other disciplines

• Expose non-CS students to intellectual traditions of CS

• Explore theoretical and technical issues of game design
Course Goals

• Practical Goals
  • Engage new students in computing science discipline
  • Give students skills needed for their future careers
“It is one thing to just train students to have a set of skills, but it is much more important to train them to use those skills within the context of an interdisciplinary project. The ability to harmonize with a group is one of the most important employee skills when working for a company such as ours.

Dave Hibbeln, Art Director, BioWare Corp.
Course Overview

- Interdisciplinary Lectures
- Individual Labs
- Group Project
Major Lecture Topics

• Narrative
• Project Management
• Hardware/Graphics Technology Cycles
• Artificial Intelligence
• Cultural Aspects of Gaming
• Game Industry Guests

• Game postmortems to tie ideas together
Lab

• Practical experience using course tools
  • Tutorials and other exercises
  • TA interaction

• Lab Exam
  • Motivate students to learn tools
Tools

• Neverwinter Nights (BioWare)
• ScriptEase
  • Free scripting tool
  • http://www.cs.ualberta.ca/~script/
NWN / NW Script
const float DAY_NIGHT_SPEED = 1.0;
void Cycle(object oPC, int bState = 0)
{
    if (GetArea(oPC) != OBJECT_SELF) return;
    if (bState)
        NightToDay(oPC, DAY_NIGHT_SPEED);
    else
        DayToNight(oPC, DAY_NIGHT_SPEED);
    DelayCommand(DAY_NIGHT_SPEED,
            Cycle(oPC, !bState));
}
ScriptEase

Award XP for acquired item - When an item is acquired, XP is awarded.

Required Aurora Toolset Objects:
1) an Item - Use Paint Items to create and name a custom Item type in the module.

Related encounters:
1) This encounter specializes the Acquired item encounter.

Instance Name: Award XP for acquired gold
Course Project

• Build a short game
  • ~15 minute Neverwinter Nights module
• Interdisciplinary teams of 3-5 students
• Open-ended
“In most courses students work on assignments with well defined goals and deadlines. The problems faced in industry are never so simple and clear-cut, so it is valuable for students to work on projects with more uncertainty including a need to adapt and refine goals as the project progresses.”

Loren Andruko, former Director of Programming, BioWare Corp.
Project Milestones

- Group formation
- Setting Document
- Design Document
- Prototype Walkthrough
- Design Issue Presentation
- Pitch
- Beta
- Release
Student Groups

- Lead designer
  - Facilitate design decisions
- Assistant Producer
  - Help schedule and coordinate group
Experience Counts

• Hire former students from course as “producers”
  • Informal design feedback
  • Hands-on experience
  • Help groups with dynamics
# Course Demographics

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## Course Evaluation

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On a scale of 1…5
Student comments

[CMPUT 250] was one of the most enjoyable and fascinating classes I have ever taken.

[CMPUT 250] is the culmination of great professors from different artistic and technical disciplines that integrates the course into one great learning experience.
Lessons learned

• Storyboard
  • Turned milestone into skeleton walkthrough
• Budget / Project restrictions
  • Students need help limiting their projects
Lessons Learned

• Design Issue Presentations
  • Try to get students to think critically about design choices faced
  • Limits on game can facilitate creative decisions

• Lab / Tools
  • Pay attention to non-CS students
Advice for duplicating course

• Persuade the right people
• Cater to your strengths
• Good hardware support
  • Different issues than other courses
• Involve industry
Convincing game companies to help

- Academic Expansion - How Rare Recruits Graduates
Ashes of Sententia

- Fall, 2005
- Poster
Mask of Mephist

- Winter, 2005
- Poster
Dirge

- Fall, 2007
- Box Art
Cosa Nostra

- Fall, 2007
- Poster
Questions

• Slides will be available:

http://www.cs.ualberta.ca/~nathanst/papers/
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A dead father…