What Do You Think Goes Into Developing Games?

☐ Consider a computer game you want to build (or, one you like that has been built)
☐ Assume you are inspired (or forced or paid) to engineer the game
☐ Take 3-4 minutes to write a list of the tasks required
  ▪ Chronological or hierarchical, as you wish
  ▪ Include your name and name of game
    ☐ (I'll collect and read, but not grade)
☐ What do we have?

IMGD 1001 - The Game Development Process: Introduction

What to Expect

☐ This course is mainly about the process of successfully bringing a game from idea to delivery
  ▪ Major "players" in the process
  ▪ Steps in the development lifecycle
  ▪ What makes a good (and bad!) game
☐ Presupposed background
  ▪ Not much!
☐ Nice to have
  ▪ Gaming experience in a few genres

Topics

☐ Background
☐ Syllabus Stuff
☐ Motivation
☐ First Year Advice

Instructor Background (*Who Am I?*)

☐ Dr. Mark Claypool (Prof, "Mark")
  ▪ Computer Science
    ☐ Operating Systems, Distributed Computer Systems, Multimedia, Networks
  ▪ Director of the IMGD program
    ☐ The Game Development Process
    ☐ Technical Game Development
☐ Research interests
  ▪ Networks, Multimedia, Network games, Performance
☐ Like to play
  ▪ RTS (Battle for Middle Earth, Warcraft, …)
  ▪ Sports (FIFA, Madden, Strikers, …)
  ▪ FPS (Battlefield, Doom, …)
  ▪ Adventure (Uncharted, Indigo Prophecy, Fable II…)

Student Background (*Who Are You?*)

1. Year (freshman, sophomore, …)
2. Major (IMGD (Art or Tech), CS, HUA, …)
3. Programming: (none) 1 to 5 (master)
   a) Java
   b) C++
   c) Flash
4. Gamer: (casual) 1 to 5 (hard-core)
5. Number of Games Built (zero is ok!)
6. Other …

Syllabus Stuff

http://www.cs.wpi.edu/~imgd1001/a09/

- ☐ Office hours:
  - TBA (about 3-4 per week each)
  - See Web page
- ☐ Email:
  - {bmoriarty, claypool, tjloughl} at wpi.edu
  - id111x-ta at cs.wpi.edu
  - id111x-all at cs.wpi.edu
- ☐ GDC Forums
  - IMGD 1001 forum: http://forums.gdc.wpi.edu/
  - For discussions, announcements ...

Course Materials

- ☐ Slides
  - On the Web (PDF)
  - Caution! Don't rely upon the slides alone! Use them as supplementary material
    - ☐ (come to class!)
- ☐ Timeline
  - Tentative planning
- ☐ Project writeups
- ☐ Resources
  - Game creation toolkits, documentation, etc.

Text Books

- ☐ Main text:
  - *The Game Development Process*
    - ☐ Written by lots of people, edited by Steve Rabin
    - ☐ Close to course material, required for this class
    - ☐ 1000 pages! But good reference
- ☐ Supplemental texts:
  - *Game Architecture and Design - A New Edition*
    - ☐ by Andrew Rollings and Dave Morris
    - ☐ Heavily used for design
  - *On Game Design*
    - ☐ by Andrew Rollings and Ernest Adams
    - ☐ Some solid game design material
  - *Designing Arcade Computer Game Graphics*
    - ☐ by Ari Feldman
    - ☐ Creating 2D art for games
  - *Creating the Art of the Game*
    - ☐ by Matthew Omernick
    - ☐ Creating 3D art for games
  - Maybe some other articles (i.e. Gamasutra) as needed ...

Course Structure

- ☐ Prerequisites
  - None!
  - Neither Programming nor Art
- ☐ In-Class
  - Lecture
  - Discussion
  - Exercises
  - Exams
- ☐ Out-of-Class
  - Reading
  - Projects
- ☐ Grading
  - Exams (40%)
  - Projects (60%)

(More on Exams and Projects, next)

Exams

- ☐ 2 exams
- ☐ 40% of grade
- ☐ Non-cumulative
- ☐ Closed-note
- ☐ Closed-paper
- ☐ Closed-friend

Projects (1 of 2)

- ☐ About 5 projects
  - 1 has three parts, tutorials with some "add ons"
  - 4 are original, made from "scratch"
- ☐ 60% of your grade
- ☐ Groups (3 is good, 2 or 4 are possible with permission)
- ☐ Apply concepts taught in class
- ☐ Related to *Game Development*
- ☐ Build upon each other
  - Should have working game at end!
  - Add this to your portfolio
- ☐ 10% penalty on late projects
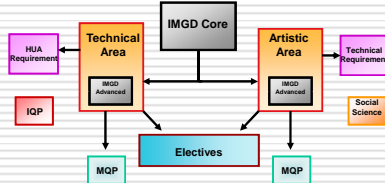
Projects (2 of 2)

- Project 2: Game Inception and Design
  - Inspiration of a game, design and documentation
- Project 3: Content Creation
  - Create 2-d animated sprites (or other art) and select supporting content
- Project 4: Game Logic
  - Implement game objects and game rules
- Project 5: Level Design
  - Put above components together in compelling game
- Project pitch
  - To panel of experts

Course Topics

- Game Industry
  - Structure
  - Major actors
  - Trends
- Game Design
  - The Creative Process
  - Design Documentation
- Artistic Content Creation
  - Color and Displays
  - 2D and 3D
    - Graphics
    - Animation
  - Audio
    - Music
    - Sound Effects
- Introduction
  - Team
  - Timeline
  - Size and Shape
- Engineering
  - Game Architectures
  - Programming
- Production, etc.
  - Release
  - Postmortem

Why This Class?

- IMGD requirements (Core Course, see http://imgd.wpi.edu)

- Introduction to steps of Game Development
  - Help decide on Technical/Artistic Area
- Fun! ("*passion for games*")

First Year Advice – your "Job"

- High school is different than college!
- Go to class!
  - Think of your classes as your full-time job
  - First-year grades pave way to grades in subsequent years
- Make a study schedule early
  - WPI expects 3-4 hours study for each hour of class (i.e. 17 hours per class, so ~54 hours)
  - Maybe a time management calendar
    - http://www.collegeboard.com/student/plan/college-success/118.html

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First Year Advice – the Syllabus

- Read syllabus for each class
  - Key to performing successfully!
- Some key things to note:
  - Grading policy
  - Attendance policy
  - Professor/TA name, location and office hours
  - Learning outcomes and course expectations
  - Deadlines for course requirements

First Year Advice – ask Questions

- Help is there, but you must ask
- Office hours
- Discussion forums
- Peers
- Tutoring
- Online help
- Especially important in later classes

First Year Advice – get Involved

- Involvement in campus organizations/events is an important part of your education!
- Find out what is going on campus
  - http://www.wpi.edu/Admin/SAO/Orgs/
- Balance this with your classes
- IMGD Seminars – Thursday at 11am (with food!)

First Year Advice – Resources

- Academic advising
- Counseling center
  - http://www.wpi.edu/Admin/SDCC/
- Professors, Upper-classmen/women
- Tutoring services
  - Specific for major/class (i.e. ACM and GDC)
- Career development center
  - http://www.wpi.edu/Admin/CDC/

Homework

- Reading:
  - Rabin, Chapter 7.2 and 7.3
- IMGD Lab (FL222)
  - ID on lock
  - Login
  - (Tomorrow, Project 1 is out!)
- Get to know some fellow class mates!
  - (Groups for Project 2+)