IMGD 1001 - The Game Development Process: Introduction

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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?
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
Today's Topics

- Background
- Course Topics
- Course Materials
- Motivation
Instructor Background
(Who Am I?)

☐ Dr. Rob Lindeman (Professor, "Rob")
  ■ Computer Science
  ■ Like to play
    ☐ Driving games (NFS, Ridge Racer)
    ☐ Platformers (Oni, Onimusha, Prince of Persia)
    ☐ Rhythm games (Guitar Hero, Oendan)
    ☐ Real FPS, with alternate input/output devices (TimeCrisis)
    ☐ Geocaching (geocaching.com)

☐ Research interests
  ■ Virtual Reality, Immersive User Interface, Computer Graphics, HCI, Large-Scale Virtual Worlds, Evaluation and User Studies
Student Background
(Who Are You?)

☐ Year (freshman, sophomore, ...)
☐ Major (IMGD (Art or Tech), CS, HUA, ...)
☐ Programming Classes
☐ Gamer: (casual) 1 to 5 (hard-core)
☐ Number of Games Built (zero is ok)
☐ Other ...
Why This Class?

- An IMGD Core course
  - IMGD 1000: Critical Studies of Interactive Media & Games
  - IMGD 1002: Storytelling in Interactive Media & Games

- An introduction to the roles, skills, tools and procedures needed to bring a computer game to market.
  - **Here you learn the process that you will apply repeatedly throughout the program, and beyond**
  - It’s all about the **process**, and not the **product**
Syllabus Stuff

http://www.cs.wpi.edu/~gogo/courses/imgd1001/

☐ Office hours:
  ■ TBA (about 3 per week each)
  ■ See Web page

☐ Email:
  ■ {gogo, wangjia} at cs.wpi.edu
  ■ imgd1001b-ta at cs.wpi.edu
  ■ imgd1001b-staff at cs.wpi.edu
  ■ imgd1001b-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!

- Course Schedule
  - Tentative planning

- Readings

- Project descriptions

- Resources
  - Game creation toolkits, documentation, etc.
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
Text Books

☐ All texts available as E-Texts, for FREE! (Woo hoo!)

☐ Must be logged into WPI network

☐ Never more than a few dozen pages per assignment

☐ Check readings page on Web site for study questions

☐ Answer the questions to prepare for quizzes
Text Books (cont.)

☐ The Game Development Process
  ■ Written by lots of people, edited by Steve Rabin
  ■ Close to course material

☐ Game Design by Bob Bates
  ■ Very solid book on game design principles.

☐ Designing Arcade Computer Game Graphics, by Ari Feldman
  ■ Creating 2D art for games

☐ A Theory of Fun for Game Design, by Raph Koster
  ■ A classic book talking about what makes games fun.

☐ Chris Crawford on Game Design, by Chris Crawford
  ■ A lot of good war stories about game development and some good, general game design tips.
Course Structure

- **Prerequisites**
  - None!
  - Neither *Programming* nor *Art*

- **In-Class**
  - Lecture
  - Discussion
  - Exercises
  - Quizzes
  - Presentations

- **Out-of-Class**
  - Readings
  - Projects

- **Grading**
  - Quizzes (25%)
  - Intro Project (5%)
  - Treatment Doc (15%)
  - Asset List (10%)
  - First Playable (15%)
  - Status Report (5%)
  - Final Prototype (25%)
Quizzes

- Six short, closed-book quizzes
- Based on reading/tutorial assignments and in-class lectures
- All PowerPoints will be posted
- Always at beginning of class
- Each quiz is 5% of your final grade
- Lowest-graded quiz is dropped
Projects (1 of 2)

- About 6 projects
  - 1: Set of tutorials, with some "add ons"
  - 5: Milestones for your made-from-scratch game

- Intro Assignment
  - DONE INDIVIDUALLY!

- Other Projects/Milestones
  - Done in Groups of 3 (and ONLY 3!)

- Apply concepts taught in class
- Related to Game Development
- Build upon each other
  - Should have working game at end!

- 10% penalty on late projects
Projects (2 of 2)

- Project 2: Treatment Document
  - Inspiration of a game, design and documentation

- Project 3: Asset List
  - Create 2-d animated sprites (or other art) and select supporting content

- Project 4: First Playable
  - Implement game objects and game rules

- Project 5: Status Report
  - Put above components together in compelling game

- Project pitch: Final Result
  - To panel of experts
Attendance

- Regular, punctual attendance is required
- You are responsible for all material covered in missed classes
- Quizzes cannot be made up
- Miss four or more classes = NR
- Do not come to class or meet with your project team if sick!
- Email me ASAP if you will miss class
Participation

- Make yourself known to me
- If I have to stop and wonder whether or not you participated enough, you didn’t participate enough
- Degree of participation is deciding factor in edge grading cases
Grading

- B = Basic objectives of assignments and participation were met
- C = Most objectives met, work sufficient for credit
- A = Consistently exceed objectives
- NR = It never happened, but waste of your time and somebody’s money
- Incomplete = Given only for documented emergencies
Professionalism and courtesy

- Arrive for class on time
- Turn off cell phones, pagers, all sound-producing devices
- Computers in class
  - Strongly discouraged
  - Please be considerate of others (including instructor)!
- No extraneous conversations
- Don’t leave or pack up early
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
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/](http://www.wpi.edu/Admin/SAO/Orgs/)

☐ Balance this with your classes
Don’t Panic

☐ First two terms are the most stressful

☐ Lots of help available
  ■ Office hours (see course Web site)
  ■ Academic advisor
  ■ Counseling center
    ☐ [http://www.wpi.edu/Admin/SDCC/](http://www.wpi.edu/Admin/SDCC/)
  ■ Professors
  ■ Tutoring services
    ☐ Specific for major/class (i.e., ACM and GDC)
  ■ Career development center
    ☐ [http://www.wpi.edu/Admin/CDC/](http://www.wpi.edu/Admin/CDC/)
IMGD Portfolio

- Work samples for prospective employers
- Start thinking about it now
- Every project is a potential portfolio piece
  - Including the final project of this course!
- Strive for excellent project work