



# IMGD 1001 - The Game Development Process: Introduction

**Robert W. Lindeman**

Associate Professor

Interactive Media & Game Development

Department of Computer Science

Worcester Polytechnic Institute

[gogo@wpi.edu](mailto:gogo@wpi.edu)

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# What Do You Think Goes Into Developing Games?

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- 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

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- 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

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- Background
- Course Topics
- Course Materials
- Motivation

# Instructor Background (Who Am I?)

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- 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?)

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- ❑ 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?

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- 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

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<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

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## 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

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- 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

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- ❑ 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.)

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- *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

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## □ 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

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- ❑ 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)

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- 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)

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- 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

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- ❑ 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

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- ❑ 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

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- ❑ 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

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- ❑ 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”

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- 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>

# First-Year Advice – the Syllabus

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- 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

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- ❑ 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

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- ❑ 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



# Don't Panic

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- 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/>
  - Professors
  - Tutoring services
    - Specific for major/class (i.e., ACM and GDC)
  - Career development center
    - <http://www.wpi.edu/Admin/CDC/>

# IMGD Portfolio

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- ❑ 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