IMGD 1001:
Game Development Timeline

Robert W. Lindeman

Associate Professor

Interactive Media & Game Development

Department of Computer Science

Worcester Polytechnic Institute

gogo@wpi.edu

Outline

- Game Timeline (next)
- Team Sizes

Game Development Timeline (1 of 5)

□ **Inspiration: Treatment Document**
  - getting the global idea of the game
  - duration: 1 month (for a professional game)
  - people: lead designer, team discussion
  - result: treatment document, decision to continue

□ **Conceptualization: Concept Document**
  - preparing the "complete" design of the game
  - duration: 3 months
  - people: designer + prototype programmers/ artists
  - result: complete design document
  - (continued next slide)

Concept

- Define game concept
- Define core game features
- Find/Assign developer
- Estimate budget & Due date

- *Van Helsing*
  - 3rd person shooter for the PS2 and Xbox
- Released 2004
  - Developer: *Saffire*
  - Publisher: *Vivendi*
- Key:
  - Guns and ammo as upgrades
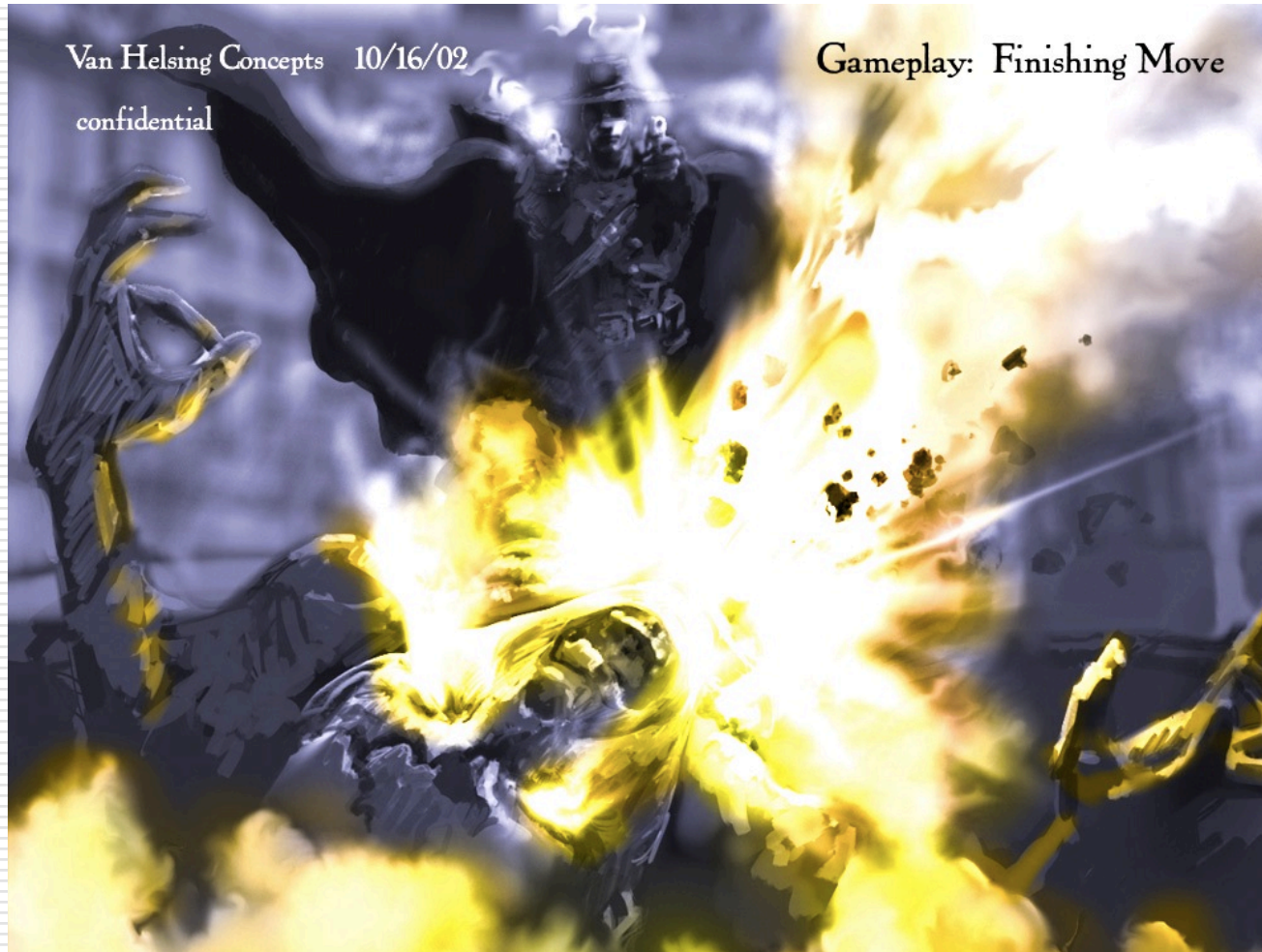 - Finishing move – 5 kills then single kill after 1 hit

Concept: Van Helsing (1 of 4)

Gameplay:
Still firing after being hit

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Based on notes from Neal Robison, ATI

Concept: Van Helsing (3 of 4)

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Van Helsing
Pre-Production Video

Concept: Van Helsing (4 of 4)

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Van Helsing
Finished Concept Video

- Prototypes
  - Build prototypes as proof of concept
    - Can take 2-3 months (or more)
    - Typically done a few months after project start
  - In particular, used to test game play
  - Throw prototype away afterwards
    - Don't expect it to evolve into game!
    - The Pancake Principle (Fred Brooks)
      - "Plan to throw one away, you will anyway."
  - Pitch to Publisher
- (Continued next slide)

Prototype or 1ˢᵗ Playable

- ☐ Game Design Document & Technical Design Document = "The Bibles"
- ☐ Production budget & detailed schedule
- ☐ Working prototype, with game mechanics
- ☐ Focus test
- ☐ Submit concept to Sony, etc.
  - Part of "pitch process" (next)
  - You'll do this at the end of this course!
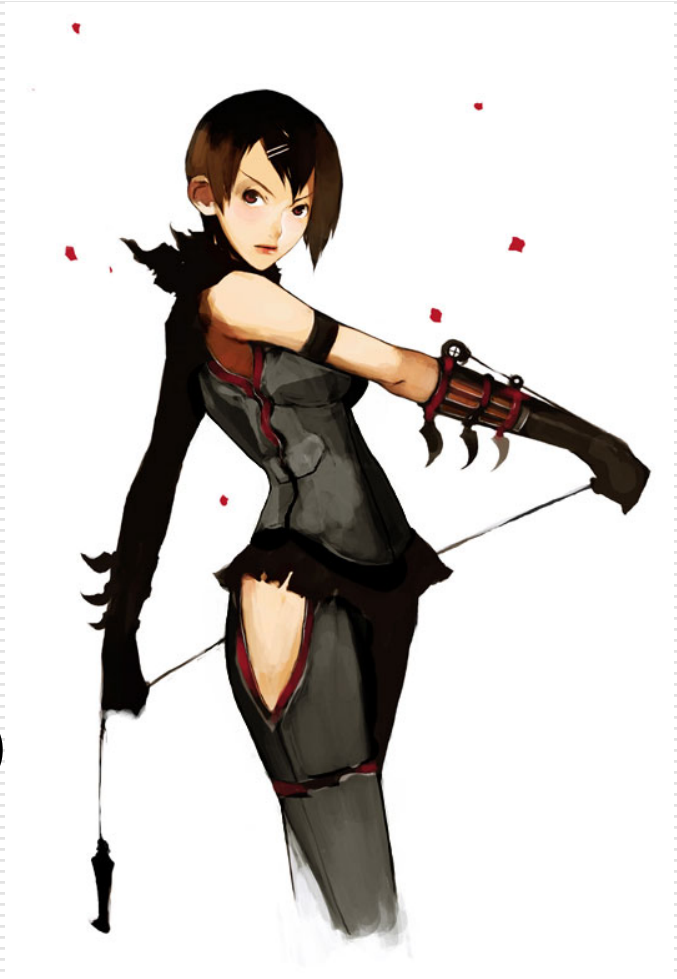
The Pitch Process: Presentation

☐ Key pitch presentation content:
- Concept overview & genre profile
- Unique selling points
  - What makes it stand out from its competitors
- Proposed technology & target platform(s)
- Team biographies & heritage
- Outline marketing information, including potential licensing opportunities

The Pitch Process: Prototype

□ Key game prototype features:
- Core gameplay mechanic
- Game engine / technological proficiency
- Artistic / styling guide
- Demonstration of control / camera system
- Example gameplay goals

The Pitch Process: Project Schedule & Budget

- ☐ Schedule & budget must:
  - Be detailed and transparent
  - Allow for contingency scenarios
  - Have several sets of outcomes for different size publishers
  - Be realistic

The Deal:
Choosing a Publisher = Research

□ Publishers screen Developers

□ But Developers should also research prospective Publishers:

  ■ Are they financially stable?
  ■ Do they have appropriate reach for target?
  ■ Do they market / PR their games well?
  ■ Is there a history of non-payment of milestones or royalties?
  ■ Have they produced many titles?

□ Sometimes you take what you can get!

The Deal: IP Rights

□ Intellectual Property Rights include:
  - Game name
  - Logos
  - Unique game mechanics & storyline
  - Unique characters, objects & settings
  - Game Source Code including artwork & associated assets
  - Unique sounds and music

□ Developers may not have much power
  - And it probably doesn't matter as many games don't succeed, anyway

The Deal:
Payment Negotiation (1 of 2)

☐ Current approximate development costs:
- $4-5 million for AAA multi-platform
- $2-3 million for AAA PlayStation 2 only
- $1 million for A-quality single platform

☐ Royalties
- Percentage payments of profits made after recoup of development costs
- Developer royalties range 0% ("work for hire") to 40%

☐ Other considerations:
- Rising-rate royalty: more units sold = higher percentage
- Clear royalty definition of 'wholesale price' (i.e., including cost of goods etc.)
- Right to audit publishers books
- Currency/exchange rate/VAT figures

Moving Projects Forward

- Most Publishers have a "Green-Light Process"
  - Used to determine which projects go forward

- Developers submit to committee at five, mostly independent stages:
  - Concept
  - Assessment
  - Prototype
  - First Playable
  - Alpha

- At each stage, committee:
  - Decides whether or not to continue funding
    - Developers then get next "lump" of money
  - Evaluates market potential
  - Adjusts unit forecasts accordingly

- Then, additional stages:
  - Beta
  - Gold Master
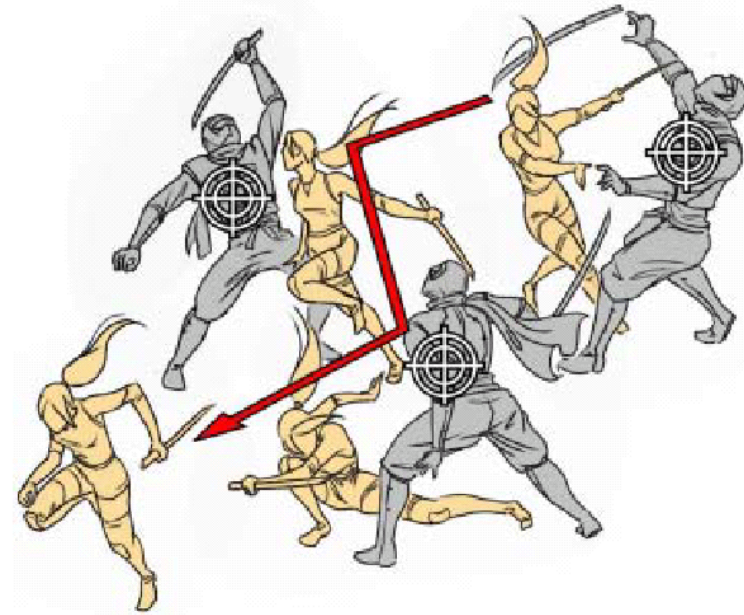
Red Ninja, PS2, released 2005
Publisher: *Vivendi*
Developer: *Tranji*
3rd person fighting
Fluid movement

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Red Ninja
Pre-Production Video

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Red Ninja
Final Production Video

☐ Blueprint
- separate the project into different tiers
- duration: 2 months
- people: lead designer, software planner
- result: several mini-specifications

☐ Architecture
- creating a technical design that specifies tools and technology used
- duration: 2 months
- people: project leader, software planner, lead architect
- result: full technical specification

□ Tool building
- create a number of (preferably reusable) tools, like 3D graphics engine, level builder, or unit builder
- duration: 4 months
- people: project leader and 4 (tool) programmers
- result: set of functional tools (maybe not yet feature complete)

□ Assembly
- create the game based on the design document using the tools; update design document and tools as required (consulting the lead designer)
- duration: 12 months
- people: project leader, 4 programmers, 4 artists
- result: the complete game software and toolset

Other Milestones: Alpha Definition

☐ At Alpha stage, a game should:

- Have all of the required features of the design implemented, but not necessarily working correctly

- Be tested thoroughly by QA to eliminate any critical gameplay flaws

- Still likely contains a certain amount of placeholder assets

- (Continued next slide)

Alpha Definition

- ☐ Feature complete
- ☐ "Localization" begins
- ☐ Focus test
- ☐ Play testing
- ☐ Marketing continues

Alpha: Crash Bandicoot (1 of 2)

Alpha: Crash Bandicoot (2 of 2)

Crash Bandicoot Video

- Level design
  - create the levels for the game
  - duration: 4 months
  - people: project leader, 3 level designers
  - result: finished game with all levels, in-game tutorials, manuals

- Review
  - testing the code, the gameplay, and the levels
  - duration: 3 months (partially overlapping level design)
  - people: 4 testers
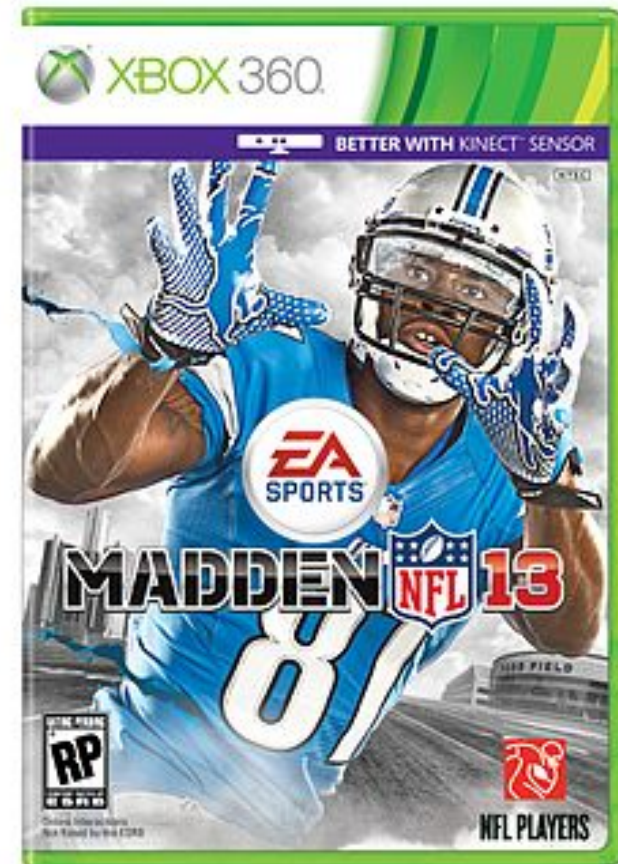 - result: the gold master

Other Milestones: Beta Definition

□ At Beta stage, a game should:

- Have all content complete
- Be tested thoroughly for bugs and gameplay tweaks
- Be shown to press for preview features
- (Continued next slide)

Stages of Development: Beta

☐ Polish, polish, polish!

☐ Test, test, test!

☐ Game balancing

☐ Localization continues

☐ Demo versions

Other Milestones:
Gold Master Definition

□ At Gold Master stage, a game should:

- Be sent to the platform holder/s (where applicable) for TRC (Technical Requirements Checklist) testing

- Be sent to press for review

- Be sent to duplication for production

- Be backed up and stored
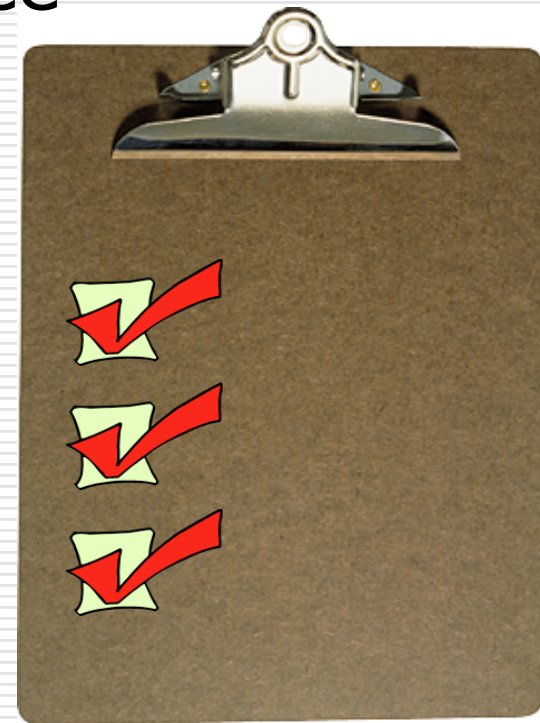
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Final/GMC/Gold

- ☐ The Game is "Done"

- ☐ Testing, testing, testing

- ☐ Intense pressure

- ☐ Submit to console developers

- ☐ Manufacturing timing

Post-Mortem

- ☐ Analysis of PR, marketing
- ☐ Analysis of production, source Code
- ☐ What went right
- ☐ What went wrong
- ☐ Archive all assets
- ☐ Kick-off the Sequel!

Outline

- ☐ Game Timeline

- ☐ Team Sizes   (next)

Development Team Size

- As late as the mid-80's teams as small as one person

- Today, teams ranging from 10-60 people

- Programming now a proportionally smaller part of any project, artistic content creation proportionally larger

- See Gamasutra, (www.gamasutra.com)
  - Search for "`post mortem`"
  - Game data at bottom includes team size and composition

- But it depends a lot on the genre

Development Team 1988

- Sublogic's *JET* (early flight sim)
  - Sublogic later made scenery files for Microsoft flight simulator

- 3 Programmers

- 1 Part-Time Artist

- 1 Tester

Total: 5
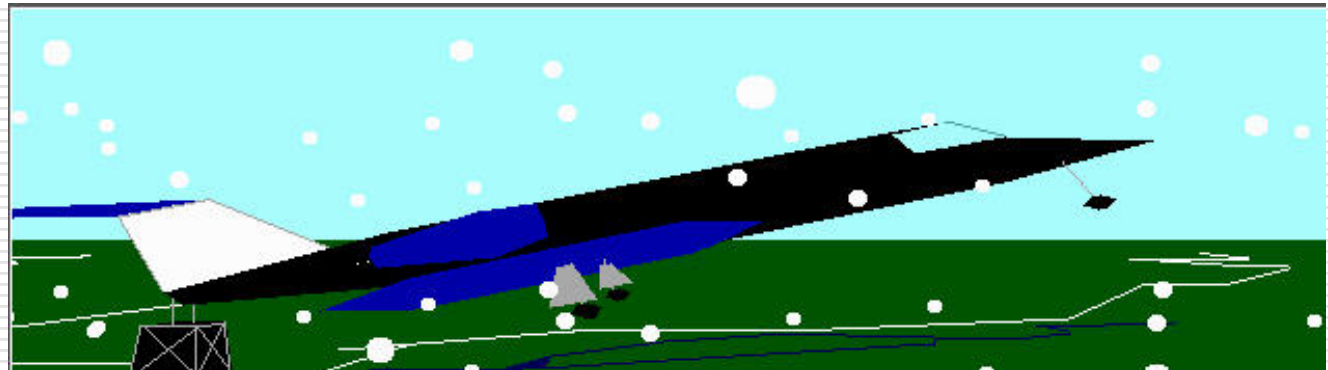
Development Team 1995

Interplay's *Descent*

- Used 3-D polygon engine, not 2-D sprites

☐ 6 Programmers

☐ 1 Artist

☐ 2 Level Designers

☐ 1 Sound Designer

☐ Off-site Musicians

Total: 11

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Development Team 2002

THQ's *AlterEcho*

- 1 Executive Producer
- 1 Producer
- 4 Programmers
- 2 Game Designers
- 1 Writer
- 3 Level Designers

- 3 Character Modelers and Animators
- 1 2d and Texture Artist
- 1 Audio Designer
- 1 Cinematic Animator
- 1 QA Lead and Testers

Total: 19+

Development Team 2007

2K's *Bioshock*

- Boston:
  - Programmer: 1
  - Artists and Animators: 15, plus 2 borrowed from Firaxis
  - Designers: 6 in-house, 1 contract
  - Audio Developers: 2 in-house, 7 contract
  - Producers: 3 in-house, 2 contract
  - Testers: 13 contract, plus 8 on-site publisher testers

- Australia:
  - Programmers: 12
  - Artists And Animators: 10
  - Designers: 5
  - Audio Developer: 1
  - Producers: 2
  - Testers: 1 in-house, 7 contract

- Shanghai:
  - Artists And Animators: 12
  - Designers: 3

- At peak: ~90 developers, 30 contractors, 8 on-site publisher testers

http://www.gamasutra.com/view/feature/3774/postmortem_2k_boston2k_.php

Development Teams for Online Games

☐ Star Wars online (~2003)

☐ Development team: 44 people
- 50% Artists
- 25% Designers
- 25% Programmers

☐ 3 Producers

☐ "Live" Team (starting at Beta, 6 months before done)
- 8 Developers
- 50-60 Customer support (for 200K users)
- 1,000 Volunteer staff (for 200K users)

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A (Larger) Developer Company Today

- ☐ Designing and creating computer games is serious business
  - Large budgets ($10 million+)
  - Large number of people involved
  - Large risk

- ☐ Wisdom
  - Use modern software development techniques
    - And maybe not the ones we just talked about
  - Keep creativity where it belongs
    - In the design
    - Not during the programming