

GAME DEVELOPMENT TIME LINE & TEAM SIZE

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HOW MANY TIME FOR 1 GAME ?

Video game ?
Online game ?
Mobile Game ?

Ex: FIFA ? Dzota, Flappy ?

How many phases for game development ?

GAME DEVELOPMENT TIMELINE

Inspiration & idea

- getting the global idea of the game
- duration: 1 day - 1 month ? (for a professional game)
- people: lead designer
- result: treatment document, decision to continue

Angry Birds Main Idea Game



Directions: Print, cut out, and laminate all cards.

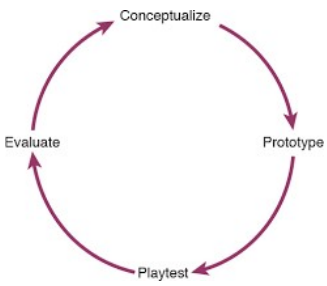
To Play: Mix all the cards together in a pile. Each student draws a card on his turn. If he draws a bird card, he comes up with the main idea of the passage. If he is correct, he keeps the card. If he gets it wrong, another student gets to try for the card. If a pig card is drawn, the student either loses a turn or gets an extra turn. The student with the most cards when they all run out is the winner.

*Note: All non-fiction cards were adapted from Wikipedia.

Lauren LaCour MA CCC-SLP
Bugsiespeechinlogspot.com

CONCEPTUALIZATION

- preparing the "complete" design of the game
- duration: 1 week - 3 months ?
- people: designer + prototype programmers/artists
- result: complete design document



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graph TD; Conceptualize --> Prototype; Prototype --> Playtest; Playtest --> Evaluate; Evaluate --> Conceptualize;
```

CONCEPT

game concept is a very important document. The **concept** outlines the features of the **game**, the goals, and the overall **gameplay**.

Development usually starts with a **game concept**

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



Based on notes from Neal Robison, ATI

PROTOTYPES

- Build prototypes as proof of concept
 - Can take 2-3 months (or more)
 - Typically done a few months in
- In particular, use to test game play
- Throw prototype away afterwards
 - Don't expect it to evolve into game!
- Pitch to Publisher

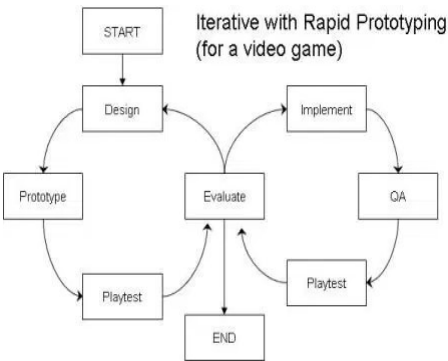


PROTOTYPE OR 1ST PLAYABLE

Game Design Document & Technical

Design Document= "The Bibles"

- Production budget & detailed schedule
- Working prototype, with game mechanics
- Focus testSubmit concept to Sony, etc. pPart of "pitch process", next)



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

Chapter 7.3. Introduction to Game Development

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

THE DEAL: RESEARCH

- The stress was Publishers screening Developers
- But points *Developers* should also research prospective Publishers:
- Are they financially stable?
 - Do they have global reach?
 - Do they market / PR their games well?
 - Is there a history of non-payment of milestones or royalties?
 - Have they produced many titles?

Chapter 7.3. Introduction to Game Development

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



Chapter 7.3. Introduction to Game Development

THE DEAL: PAYMENT NEGOTIATION

- 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, increasing percentage the more units sell
 - 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 “Greenlight Process”
 - Use to determine which projects go forward
- Developers submit to committee at five, mostly independent stages:
 - Concept
 - Assessment
 - Prototype
 - First Playable
 - Alpha

GAME DEVELOPMENT

- 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 functionally 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 DEVELOPMENT 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 contain a certain amount of placeholder assets
- Feature complete
- “Localization” begins
- Focus test
- Play testing
- Marketing continues

GAME DEVELOPMENT TIMELINE

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



Based on notes from Mark Overmars

OTHER DEVELOPMENT 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
- Polish, polish, polish
 - Game balancing
 - Localization continues
 - Demo versions

OTHER DEVELOPMENT MILESTONES: GOLD MASTER DEFINITION

- At Gold Master stage, a game should:
- Be sent to the platform holder/s (where applicable) for TRC testing
 - Be sent to press for review
 - Be sent to duplication for production
 - Be backed up and stored
- 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!



Based on notes from Neal Robison, ATI



TEAM SIZES

- What is a Game?
- Genres
- The Game Industry
- Game Timeline
- Team Sizes (next)

DEVELOPMENT TEAM SIZE

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

Today, teams today 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

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



Laird and Jamin, EECS 494, Umich, Fall 2003

DEVELOPMENT TEAM 1995

Interplay's *Descent*

- Used 3d polygon engine, not 2d sprites

6 Programmers

1 Artist

2 Level Designers

1 Sound Designer

Off-site Musicians



Laird and Jamin, EECS 494, Umich, Fall 2003

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



Laird and Jamin, EECS 494, Umich, Fall 2003

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)
- 1000 Volunteer staff (for 200K users)

A (LARGER) DEVELOPER COMPANY TODAY

Designing and creating computer games is serious business

- Large budgets (\$1 million+)
- Large number of people involved
- Large risk

Wisdom

- Use modern software development techniques
- Keep creativity where it belongs
 - In the design
 - Not during the programming

IS THIS THE WAY FOR EVERYONE?

Some companies still work in old-fashioned ways

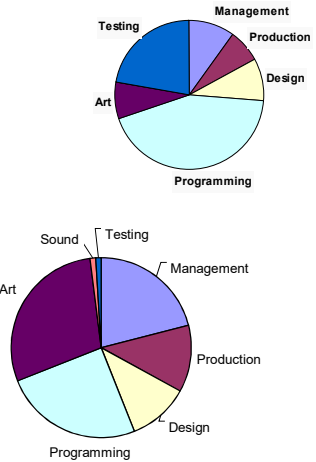
- No good division of tasks
- No good schedule/deadlines
- No good design
- Feature creep
- No good software development techniques
- No reusable components
- Not object oriented (or even assembly)
- No working hours, dress codes, etc.
- Bad salaries

Things need to change

- It is getting too expensive
- Games are getting too complex
- Many projects fail
- Many companies go bankrupt
- Divide tasks and responsibilities
- See the timeline above

STUDIO STRUCTURE

- ❖ 10~100 employees
- ❖ Everyone works in teams
- ❖ Generally a casual work environment
- ❖ Sometimes a strict hierarchy, sometimes not

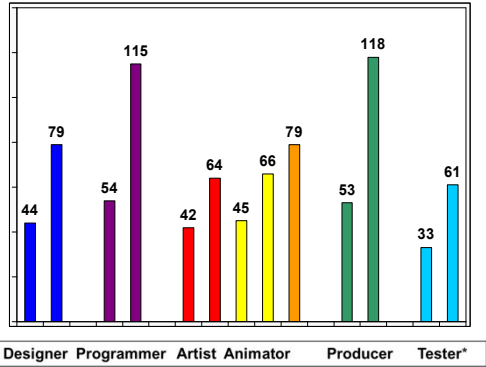


SALARIES

- ❖ Game designers are generally paid less than programmers.
- ❖ The average salary of a male designer is \$53k
- ❖ Females comprise 9% of the design force.
- ❖ The average salary for female designers is \$48k
- ❖ No overtime – only testers get overtime

SALARIES (ENTRY VS. LEAD)

Thousands of dollars per year
Based on 2,091 responses



SUMMARY