Game Creation Process

CMPUT 299
Fall 2005
Tuesday September 13

Overview

- Making a computer game is a lengthy process, involving many creative people
- This lecture discusses:
  - The process of creating a game
  - The people involved in the process

The Creative Process

- Designer’s Point of View
  - Great idea
  - Shape idea
  - Concept document
  - Design document
  - Build prototype
  - Post-prototyping
  - Build production
  - Post-production
  - Testing
  - Retail

Many of these steps are iterative

The Publisher’s Point of View

- Most games companies do not sell their own products – need to go through a publisher
- The publisher contributes…
  - Market intuition
  - Quality assurance
  - Marketing
  - Shelf space in retail stores

… in return for veto power and a hefty share of the sales 😊
The Creative Process
Publisher’s Point of View

- Assess the great idea -- and possibly veto the project
  - Game creator likely has one chance to see the idea
  - Five minutes to impress people
- Assess the prototype -- and possibly veto it
- Assess the production -- and possibly veto it
- Quality assurance
- Marketing and sales

The Great Idea

- Come up with a great idea
- Do research to find out whether it has been done before
  - If not, why not? Is it feasible?
  - If so, how can it be improved?
- Get feedback from other designers/players
  - Get constructive criticism
  - It’s not possible to please everyone all the time

Warehouse Man (1)

I’ve got a great idea! I want a character to push boxes around in a room. From the starting configuration of boxes, the man has to push the boxes into a final configuration. The man can only push a box, never pull.

Cool, eh?

Game Creators

- Shigeru Miyamoto
  - Donkey Kong
  - Mario Brothers
  - Legend of Zelda
- Will Wright
  - SimCity, SimEarth, …
  - The Sims
  - Spore
Shaping the Idea (1)

- If the idea seems to be worth investing more time in, prepare an overview document stating:
  - The target audience
  - The core objective of the game
  - A list of challenges that the player will face
  - How the player will control the game
  - Unique features of the game
  - The game-play theme (not just the visual theme)

Shaping the Idea (2)

- Present the idea at an initial meeting with other team members
  - Include the technical director, lead programmer, art director, lead artist, other designers, etc.
  - Discuss technical and artistic constraints
  - Get more ideas from team members
  - At this stage the idea might be dropped if no one likes it, or if it appears that the technical and/or financial hurdles are too great

Warehouse Man (2)

- Audience: people who like to solve puzzles
- Objective: to solve the puzzles, optionally to solve them in as few moves as possible
- Challenges: a bad move could lead to a state which is unsolvable; solutions could be very long and intricate
- Control: up/down/left/right movements
- Unique: new setting for a “simple” problem that gives rise to extraordinary complexity

Design Document

- If the concept is approved, work will commence on the design document
- The document takes typically 4 – 6 months to produce
- It is the project bible – all design decisions are detailed
- The document contains highly detailed technical information (it is not a marketing document)
- The document is updated as the design evolves
- Team members need only view the aspect of the document which is relevant to them (so it has to be well structured)
Wharehouse Man (3)

- Theme (warehouse isn’t exciting)
  - Need graphics for warehouse man, boxes, target locations, empty locations, walls, etc.
  - Music?
- Game play
  - Graduated levels of difficulty
  - Who is going to design warehouse layouts (not trivial)?
- Features
  - Include a solver?
  - Include tools for users to create their own puzzles?

Prototyping

A prototype is a low risk way of testing out initial ideas for a software product:

- Scope out new technology – what is feasible? what is hard?
- Prove the concept
- Demonstrate game play and some initial challenges
- Demonstrate the art style
- Define a production schedule
- Reduce the risk of spiralling budgets
- Motivate team members

Warehouse Man (4)

Post-Prototyping

- Post prototyping is a period of reflection after the initial prototype is created.
- The prototype is focus tested by members of the target user group
- Any problems which are highlighted by user testing should be solved before commencing
- If the prototype is totally unsuitable for the target audience, the project may finish here
Warehouse Man (5)

- Need a better name…
  - Japanese name for a warehouse man is “Sokoban”
  - Interesting, exotic, catchy
- Need to commit to a theme

Production

- Level design, art work, scripts are developed
- Throughout this stage the game should be regularly tested and balanced for game play
- Team members may have an intense workload and work long hours
- Projects can still be cancelled at this stage!

Sokoban (1)

We now have a working program!
Is it fun?
How can we improve it?

Need a name… how about… Sloppy Sokoban

Sloppy Sokoban

Sokoban (2)

- We now have a working program!
- Is it fun?
- How can we improve it?
- Need a name… how about… Sloppy Sokoban
- Play Sloppy Sokoban!
Post-Production

In the post production phase, the game is edited to make sure it is the highest quality product possible.
- As with movies, improving the game might mean cutting large sections of it
- It can seem demoralising to discard loving crafted art work, levels or scripts, but sometimes it is necessary to optimise the game play

Testing

- Companies have their own “quality assurance” team, they contract it out, or it is part of their publisher’s agreement
- Extensive testing for bugs, aesthetics, user interface issues, game balance, etc.
- Bugs still escape into the wild, and the game company may have to release periodic updates

Retail

- Prepare to be meet the press 😊
- Watch sales roll in

Sleep!

Start work on the next game…
CMPUT 299 Project

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Who Works in the Game Industry?

The development team consists of:

- Producers
- Designers
- Artists
- Programmers
- Numerous other talented people

$$$
and Sense

- The cost of developing a marquee game is growing; $20 million US is not unheard of
- The industry is being dominated by big studios
- Where does all the money go?
- It is still possible for a small team to create a hit game for handheld devices (e.g., cell phones)

Producers

- Producer
  - Manages a single game project
  - Ensures project is delivered on time
  - Ensures that the project is delivered within budget
  - Ensures quality
- Associate producer
  - Support the producer
  - Documents the development process
  - Organises research activities such as play testing and product comparison
Designers

- Lead game designer
  - Optional: Game designers
- Lead level designer
  - Optional: Level designers / world builders
- Interface designer

Lead Game Designer

- The visionary – has an overall view of the game
- Must be able to communicate and present ideas
- Creative and imaginative
- Technically savvy
- Artistically astute
- A good writer
- Must have passion for the game!

Game Designer Responsibilities

- Give input on game design issues
- Propose game play ideas
- Build and test scenarios/missions
- Test and balance game play parameters
- Test the usability of the interface
- Update the game design document regularly

Level Designers Responsibilities

- Design detailed levels
- Designs and implements game content
- Evaluates levels of bugs, playability, fun
Interface Designers - responsibilities

- Understand the target audience
- Ensure the UI design meets the audience needs
- Oversee the development of the UI
- Create and maintain art assets for the UI
- Seek feedback from art director on style and mood
- Coordinate user testing to identify usability issues

Artists

- Art director
- Lead artist
- 2D/3D artists
- Skins artists
- Texture artist
- Environment modeller
- Lead animator
- Character animator

Programmers

- Technology director
- Lead programmer
- Games programmer
  - Artificial intelligence
  - Audio
  - Network
  - Graphics
  - Game engine
  - Tools

Other Roles

- Musicians
- Motion capture
- Lawyers
- Writers
- Computing system technical support
Quality of Life (1)

In a recent survey of games developers:
- 35.2% said that during “crunch times” they work 65 – 80 hours per week
- 48% said they didn’t get paid overtime
- 44% said they could use more people or special skills on their team

Source: IGDA Quality of Life White Paper (http://www.igda.org/qol/whitepaper.php)

Quality of Life (2)

- What do the spouses say?
  - “You work too much” (61.5%)
  - “You are always stressed out” (43.5%)
  - “You don’t make enough money” (35.6%)

Source: IGDA Quality of Life White Paper (http://www.igda.org/qol/whitepaper.php)

Acknowledgments

- Judy Robertson