

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

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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

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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 ☺

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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

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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



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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?



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Game Creators

- Shigeru Miyamoto
 - Donkey Kong
 - Mario Brothers
 - Legend of Zelda
- Will Wright
 - SimCity, SimEarth, ...
 - The Sims
 - Spore



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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)

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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

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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



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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)

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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?

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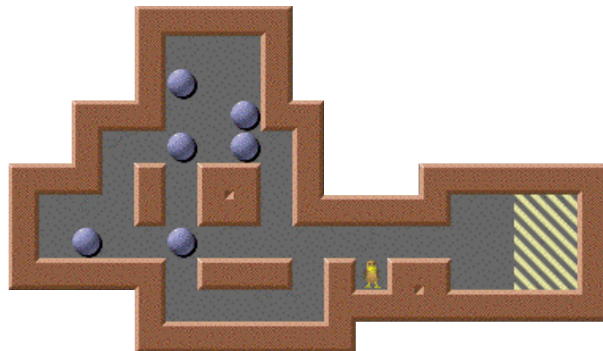
Prototyping

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

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Warehouse Man (4)



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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

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Warehouse Man (5)

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

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Sokoban (1)



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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!

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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!](#)

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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

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Testing

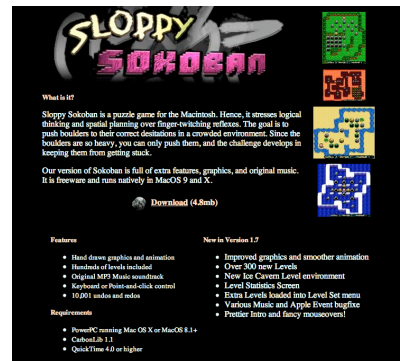
- Companies have their own “quality assurance” team, they contract it out, or it is part of their publisher’s agreement
- Extensive testing for bugs, aesthetics, user interface issues, game balance, etc.
- Bugs still escape into the wild, and the game company may have to release periodic updates

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Retail

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



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Sleep!



Start work on the next game...

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- Great idea
- Shape idea
- Concept document
- Design document
- Build prototype
- Post-prototyping
- ~~Build production~~
- ~~Post production~~
- Testing
- ~~Retail~~

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Who Works in the Game Industry?

The development team consists of:

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

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\$\$\$ 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)

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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

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Designers

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

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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!

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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

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Level Designers Responsibilities

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

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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

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Artists

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

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Programmers

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

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Other Roles

- Musicians
- Motion capture
- Lawyers
- Writers
- Computing system technical support

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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>)

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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
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Acknowledgments

- Judy Robertson

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