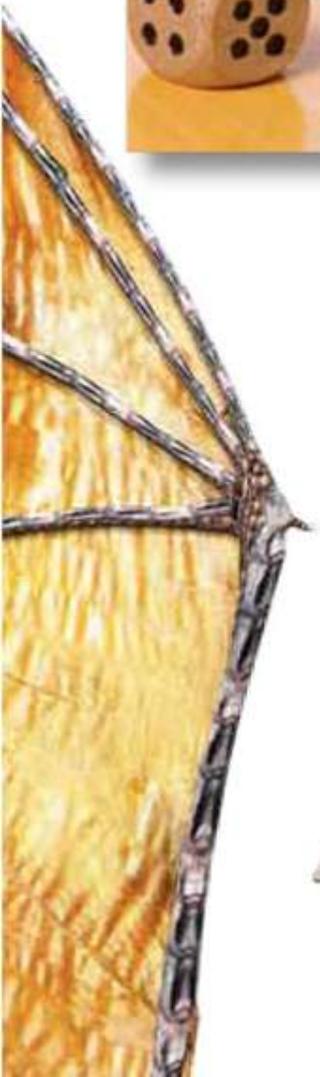




GAME DESIGN



GAME DESIGN

What is a Game?

There are so many types of games, they can be hard to define. But most games have the following traits:



- Form of play

- Objectives

- Rules

- Feedback

- Conflict

- Choices



GAME DESIGN

Which of the following are games?



GAME DESIGN

Painting



- Form of play: **Yes**
- Objectives: **Just what you set for yourself**
- Rules: **None.** You don't even have to use a brush!
- Feedback: **Just what you and others think**
- Conflict: **How well you meet your own goals**
- Choices: **Infinite**

How would you make painting into more of a game?



GAME DESIGN

Slot Machine



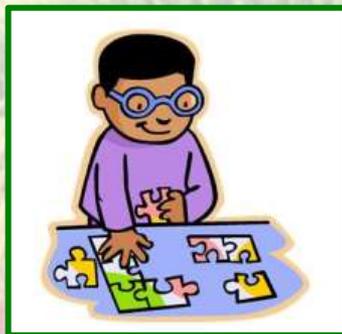
- Form of play: **Yes** (for adults in some states)
- Objectives: **Win more money than you put in**
- Rules: **Put in coin and pull lever**
- Feedback: **Matching symbols and coins returned**
- Conflict: **Odds of matching symbols appearing**
- Choices: **None**

How would you make slots into more of a game?



GAME DESIGN

Jigsaw Puzzle



- Form of play: **Yes**
- Objectives: **Connect all pieces to form a picture**
- Rules: **All pieces must be used and fit together**
- Feedback: **Image formed by connecting pieces**
- Conflict: **None. You keep trying until you're done**
- Choices: **Orientation and placement of pieces.**
How would you make puzzles into more of a game?



GAME DESIGN

Checkers



- Form of play: **Yes**
- Objectives: **Capture all the opponent's pieces**
- Rules: **Pieces move diagonally; jump to capture**
- Feedback: **Board and pieces**
- Conflict: **Your opponent is trying to win too**
- Choices: **Pieces to move and where to move them**



GAME DESIGN

Requirement 1a

Analyze four games you have played, each from a different medium. Identify:

- The Medium
- Player Format
- Objectives
- Rules
- Resources
- Theme (if relevant)



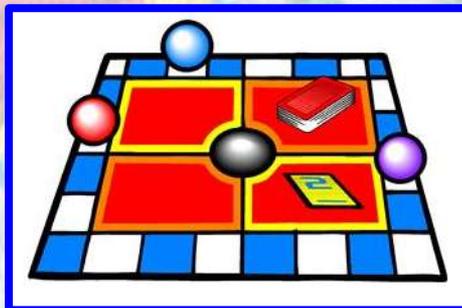
GAME DESIGN

Game Mediums

Games can be described by the resources the players use and by the way players interact in them.



Physical Games



Board Games



Tile Games



GAME DESIGN

Game Mediums

Games can be described by the resources the players use and by the way players interact in them.



Dice Games



Card Games



Party Games



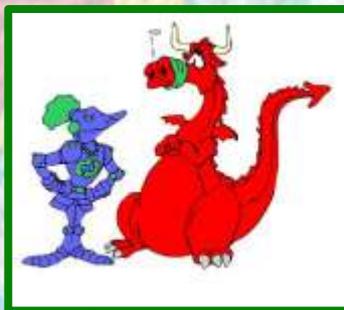
GAME DESIGN

Game Mediums

Games can be described by the resources the players use and by the way players interact in them.



Games With
Miniatures



Text-Based
Role-Playing
Games



Electronic
Games



Player Format

The number, arrangement and alignment of players in a game.

- Single Player: One player vs. game system
- Head-to-Head: One player vs. one player
- Cooperative or PvE: Many players vs. game system



Player Format

The number, arrangement and alignment of players in a game.

- *One Against Many*: One player vs. many players
- *Free-For-All*: One player vs. one player vs. one...
- *Team Competition*: Many players vs. many players



Player Format

The number, arrangement and alignment of players in a game.

- Predator-Prey: Each player attacks next in circle



Rules

There are three categories of rules in a game.

- **Setup:** Things you do one at the beginning of the game.
- **Progression of Play:** What happens (and usually repeats) during the game.
- **Resolution:** The conditions in which the game ends and how an outcome (usually winning) is determined.



Objectives (Goals)

Game objectives determine whether a player has advanced or won a game.

- Score
- Capture/Destroy
- Collection
- Solve
- Chase/Race/Escape
- Spatial Alignment
- Build
- Avoid a Loss
- Advance the Story
- Explore



Resources

All the things under a player's control and can be used as a game advances.

- Pieces in Chess
- Health, mana and currency in League of Legends
- Number of questions left in Twenty Questions
- Known information in Clue
- Weapons and power-ups in World of Warcraft
- Turns and time remaining in sports



Theme

Themes include a game's setting, story and/or characters. They answer the question, "What is this game about?"

Not every game has a theme, but a theme can:

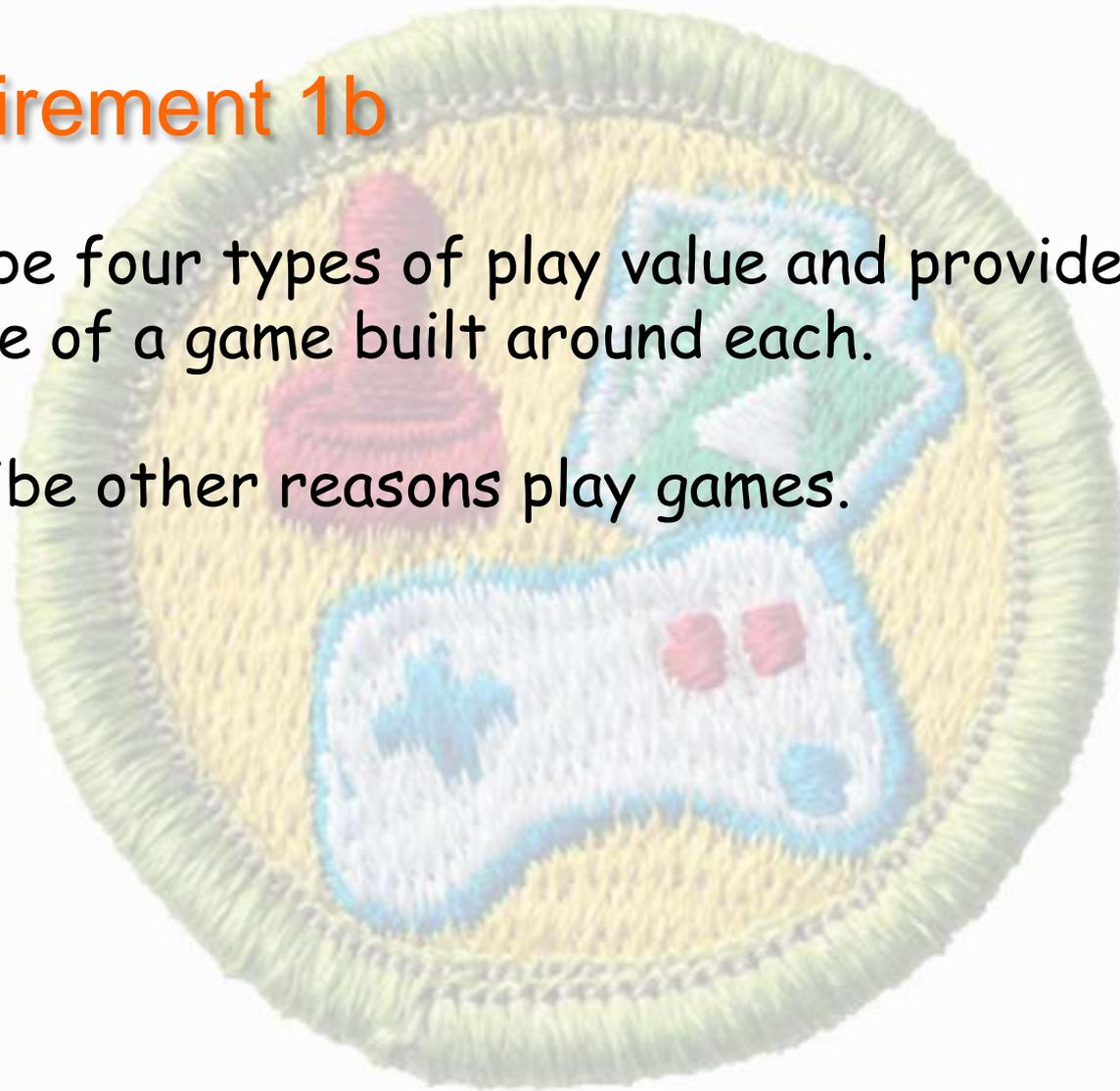
- Help players become more engaged
- Make a game easier to learn
- Tell a compelling story



Requirement 1b

Describe four types of play value and provide an example of a game built around each.

Describe other reasons play games.



Play Value

The reasons why we play a *particular* game:

- Novelty: Imaginative, new or unexpected experiences
- Challenge: Tasks that must be practiced and mastered
- Stimulation: The emotional excitement of play
- Harmony: Player-to-player interaction
- Threat: Tension, danger, and humiliation



GAME DESIGN

Requirement 2

Discuss five of these seventeen game design terms with your counselor.

For each term you pick, describe how it relates to a specific game.



Thematic Elements



- Story: The game's narrative story or player-created story
- Setting: The fictional environment in which the game takes place
- Characters: The people or creatures that appear in a game



Gameplay Elements

- Play Sequence: The order in which players (or the game system) take action
- Level Design: Creation of the game environment
- Interface Design: Creating effective methods for communicating information between players and games



Game Analysis

- **Difficulty:** How easy or hard it is to complete the game objectives
- **Balance:** The relative strength of the different resources, mechanics, objectives, or starting states
- **Complexity:** The number of rules or elements with which a player interacts
- **Depth:** The ability to find enjoyment in a game as one's ability improves



Game Analysis

- Pace: The speed of the game
- Play Value: The reason someone plays a game
- Replay Value: The reason someone plays a game again
- Age Appropriateness: The age or maturity level of the game's intended audience
- Depth: The ability to find enjoyment in a game as one's ability improves



Related Terms

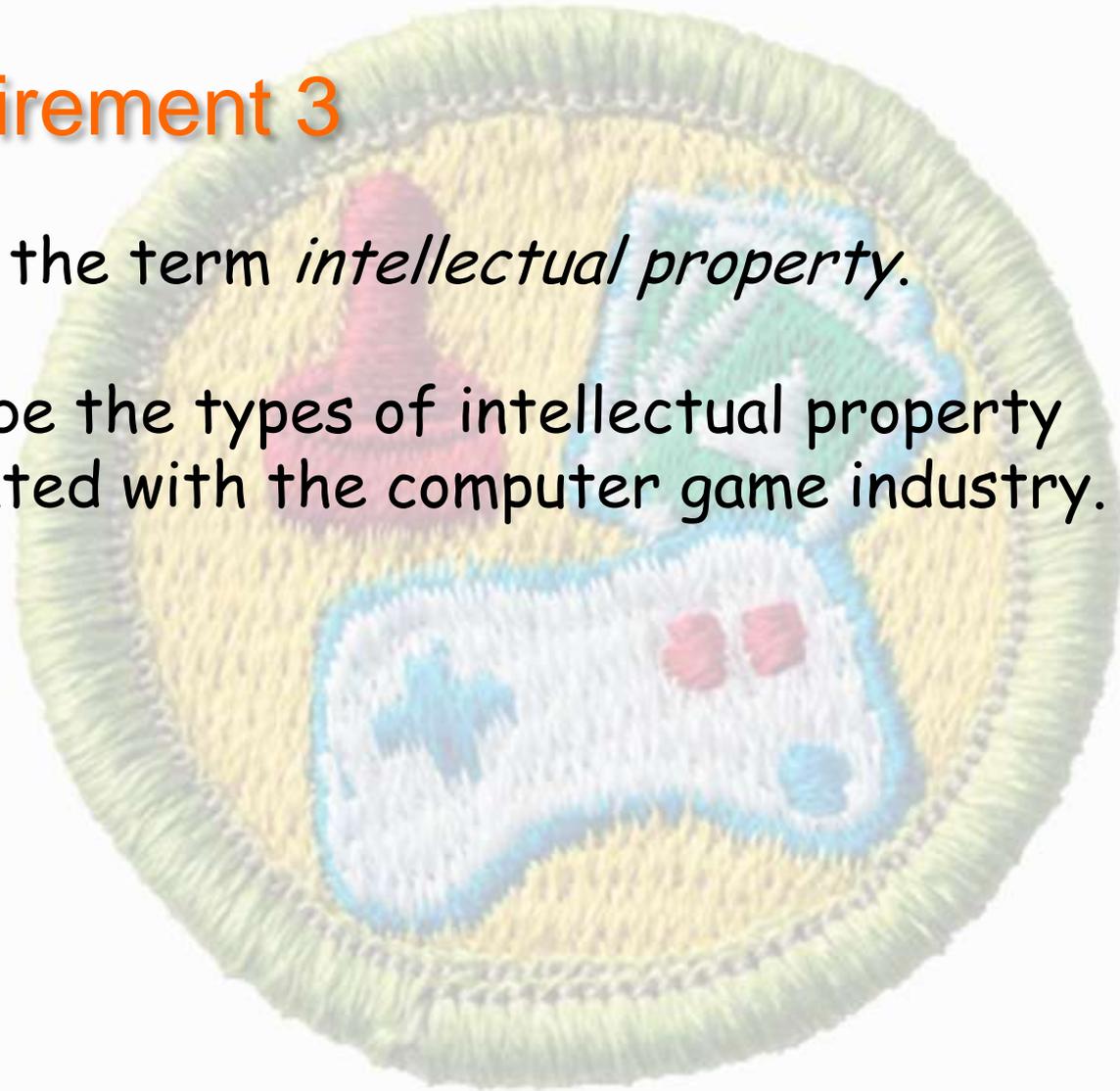
- Single-player vs. multiplayer
- Cooperative vs. competitive
- Turn-based vs. real-time
- Strategy vs. reflex vs. chance
- Abstract vs. thematic



Requirement 3

Define the term *intellectual property*.

Describe the types of intellectual property associated with the computer game industry.



Intellectual Property

Creations of the mind for which the creator has exclusive rights. For a game, this would be:

- Computer Code
- Visual Displays
- Story
- Characters
- Music
- Voice Recordings
- Game Board
- Game Pieces
- Instruction Manual
- Game Title
- Packaging
- Company Logo



Intellectual Properties

- Copyright: The right to make copies of creative, literary or artistic works.
- Trademark: Ownership of a word, phrase or symbol representing the goods or services of a company.
- Patent: Ownership of an invention or method of doing something.
- Licensing: A contract between you and a rights owner to use those rights.



GAME DESIGN

Intellectual Properties



How might copyrights, trademarks, patents and licensing be used in this game of Boy Scouts of America Monopoly?



Requirement 4

Pick a game where the players can change the rules or objectives (basketball, hearts, chess, kickball)

- Briefly summarize the standard rules and play through the game normally
- Propose changes to several rules or objectives
- Predict how each change will affect gameplay
- Play the game with one change and write down observations of the players
- Repeat the process with two other changes
- Discuss with counselor



GAME DESIGN

Example: Tic Tac Toe



- What changes might you make to the rules?
- How would those changes affect the player's actions and emotions?



Requirement 5

Design a new game in any medium. Record your work in a **game design notebook**.

- Write a vision statement
- Identify the medium, player format, objectives, and theme. If applicable, describe the setting, story and characters.
- Describe the play value
- Make a preliminary list of rules and define the game resources
- Draw the game elements



Requirement 6a

Prototype your game from requirement 5. If applicable, demonstrate to your counselor that you have addressed player safety through rules and equipment.

You must have your merit badge counselor's approval of your concept before you begin creating your prototype!



Prototype

An early version of a game, section of game or game system.

A prototype is:

- Playable
- Quick to make
- Easy to change
- Can use paper to represent the playing area.
- Can use tokens to represent resource attributes



Requirement 6b

Test your prototype with as many people as you need to meet the player format.

- Compare the play experience to your descriptions from requirement 5b.
- Correct unclear rules, holes in the rules, dead ends, and obvious rule exploits.



Requirement 6b

- Change at least one rule, mechanic, or objection from your first version of the game, and describe why you are making the change.
- Play the game again.
- Record whether or not your change had the expected effect.



Requirement 6c

Repeat 6b at least two more times.

First Repetition:

- Test your prototype with as many other people as you need to meet the player format.
- Compare the player experience to your descriptions from requirement 5b
- Correct unclear rules, holes in the rules, dead ends, and obvious rule exploits.



Requirement 6c

Repeat 6b at least two more times.

First Repetition:

- Change at least one rule, mechanic, or objection from your first version of the game and describe why you are making the change.
- Play the game again.
- Record whether or not your change had the expected effect.



Requirement 6c

Repeat 6b at least two more times.

Second Repetition:

- Test your prototype with as many other people as you need to meet the player format.
- Compare the player experience to your descriptions from requirement 5b
- Correct unclear rules, holes in the rules, dead ends, and obvious rule exploits.



Requirement 6c

Repeat 6b at least two more times.

Second Repetition:

- Change at least one rule, mechanic, or objection from your first version of the game and describe why you are making the change.
- Play the game again.
- Record whether or not your change had the expected effect.



Requirement 7

Blind test your game. Do the following:

- a. Write an instruction sheet that includes all of the information needed to play the game.
 - Clearly describe how to set up the game, play the game, and end the game.
 - List the game objectives.



Requirement 7

b. Share your prototype from requirement 6a with a group of players that has not played it or witnessed a previous playtest.

- Provide them with your instruction sheet(s) and any physical components.
- Watch them play the game, but do not provide them with instruction.
- Record their feedback in your game design notebook.



Requirement 7

b. Share your prototype from requirement 6a with a group of players that has not played it or witnessed a previous playtest.

- Provide them with your instruction sheet(s) and any physical components.
- Watch them play the game, but do not provide them with instruction.
- Record their feedback in your game design notebook.



Requirement 7

c. Share your game design notebook with your counselor.

- Discuss the player reactions to your project and what you learned about the game design process.
- Based on your testing, determine what you like most about your game and suggest one or more changes..



Requirement 8a

With your parent's permission and your counselor's approval:

- Visit with a professional in the game development industry and ask him or her about his or her job and how it fits into the overall development process.

OR

- Meet with a professional in game development education and discuss the skills he or she emphasizes in the classroom.



Requirement 8b

- List three career opportunities in game development.
- Pick one and find out the education, training, and experience required for this profession.



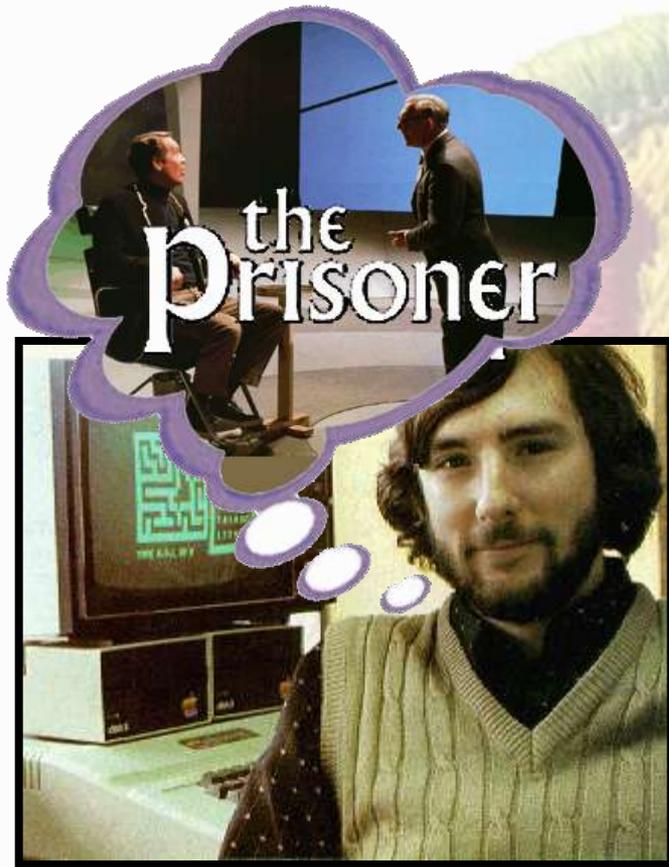
GAME DESIGN



CAL STATE NORTHRIDGE COMPUTER LAB - 1977



GAME DESIGN



the Prisoner
by David Mullich

Inspired by the highly acclaimed television series, your Apple puts you in a nightmare 1984 world whose rulers seek to break you down by an extensive array of brainwashing techniques, while you are armed only with your intelligence and sense of individuality. Can you escape to freedom or will you remain forever THE PRISONER?

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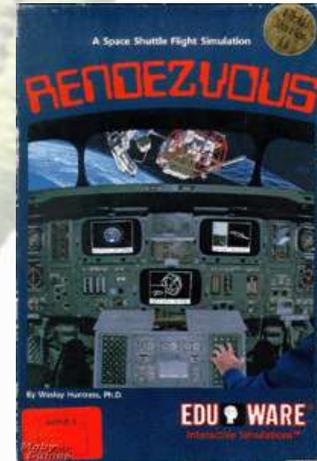
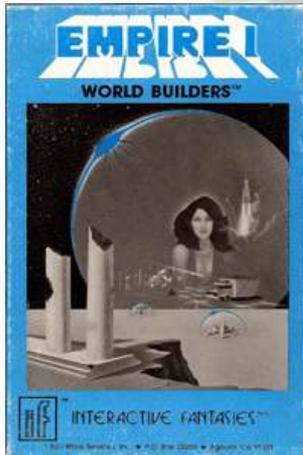


Designer

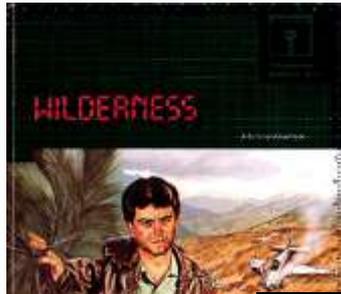
Programmer

Programmer

Programmer



GAME DESIGN



GAME DESIGN



Producer

Lead Designer

System Designer
Technical Designer
Content Designer
Writer
Level Designer
User Interface Designer

Lead Programmer

Engine
Gameplay
Artificial Intelligence
User Interface
Audio
Multiplayer
Tools

Lead Artist

Concept
Textures
Characters
Environments
Special Effects
User Interface
Cinematics

Lead Audio

Sound Effects
Music
Voice-Over



GAME DESIGN



Publisher
(Activision)

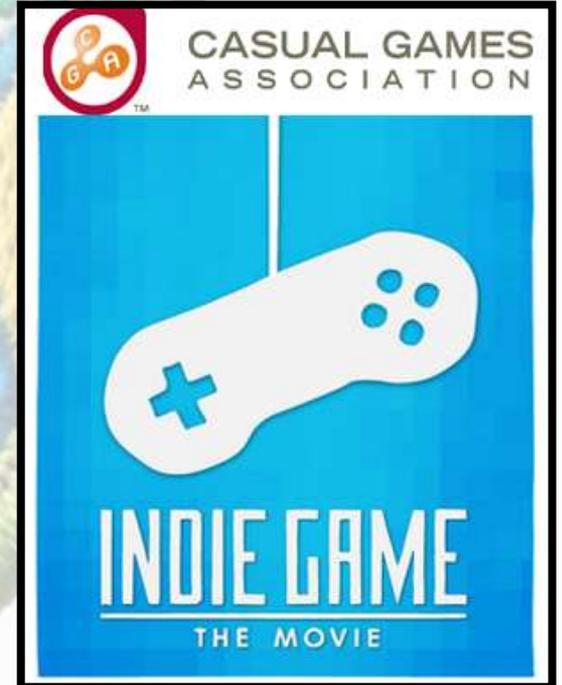
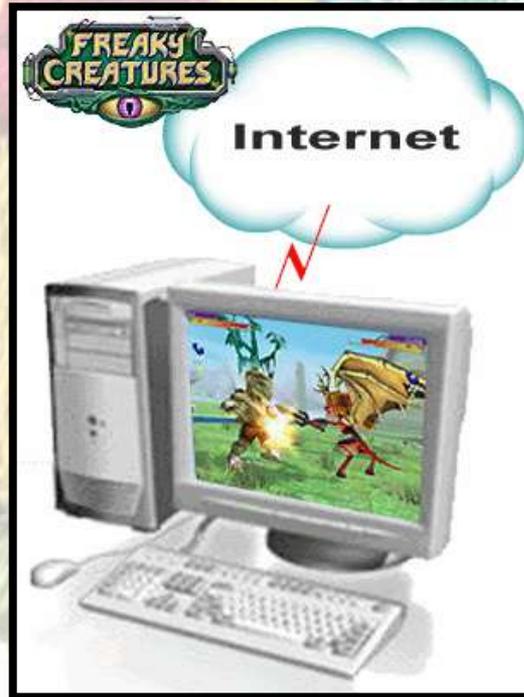
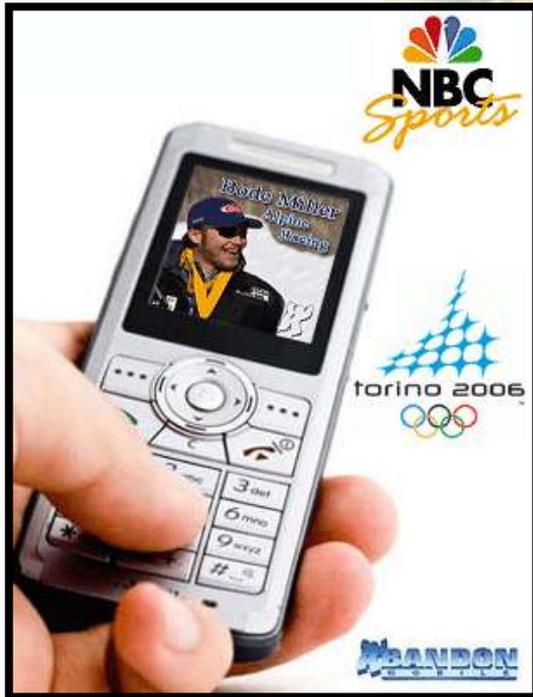
Developer
(Treyarch)

Producer Duties

- Recruit Developers
- Negotiate Contracts
- Budgets/Schedules
- Evaluate Progress
- Game Testing
- Developer Payments
- Risk Management
- Liaison with
 - Executives
 - Sales
 - Marketing
 - Legal
 - Testers
 - Press



GAME DESIGN



GAME DESIGN

Schools for Careers in Games



USC Viterbi
School of Engineering



● Art Center College of Design

