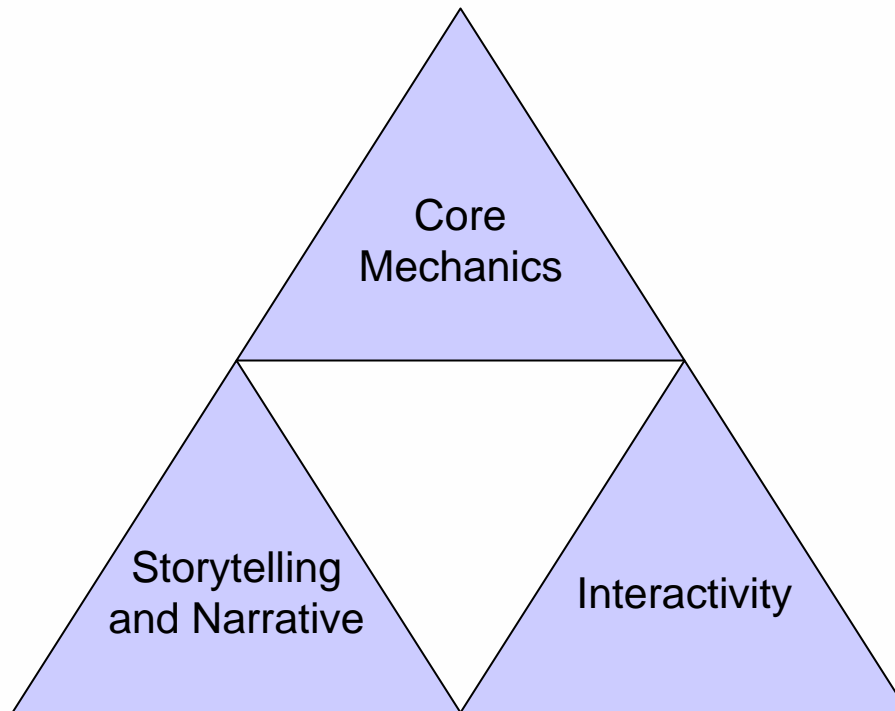# *Game Design*

- Game Design Principles -

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Game Design Areas

Game Design Areas

Core Mechanics

❑ … the rules that define the operation of the game world
or: the foundations of gameplay

❑ a translation of the designer's vision into a consistent set of rules that can be interpreted by the people who write the software running on the computer

❑ if core mechanics aren't sound, you end up with a poor game. Some reasons:

- designer ignorance of game mechanics
- marketing pressure
- conflicting demands for impressive technology and good gameplay

Game Design Areas

Storytelling and Narrative

- ❑ *All* games tell a story.
- ❑ Complexity and depth of the story depends on the games. Extremes:
  - ▪ The game *is* the story, e.g. adventure games
  - ▪ The player tells the story by the act of playing, e.g. ego-shooters, Tetris
- ❑ *Narrative* is the part of the story told by the game designer/author
  - ▪ narrative is the noninteractive, presentational part of the story
  - ▪ e.g. Tetris has a story but no narrartive
- ❑ There is an inherent clash bewteen interactivity and narrative!
  - ▪ playing games is an active process
  - ▪ listening to a narrative is a passive process
- ❑ Many games try to aim for a middle ground
  - ▪ they provide a back story and let the player fill in the details
  - ▪ e.g. completion of of missions that drive the plot along
- ❑ Narratives and linearity
  - ▪ linear story
  - ▪ non-linear story (exponential number of story threads!)
  - ▪ fully automated story-telling – mostly research yet

Game Design Areas

Interactivity

- ❑ ... the way that the player sees, hears, and acts in the game's world
  - ▪ graphics, sound, user interface
  - ▪ about making a game *playable*
- ❑ Poor interactive design ruins many products
  - ▪ e.g. nested series of icon-based menus using only right-clicks
- ❑ Positive example: Mario 64 on Nintendo 64 game console
  - ▪ jump, run, and collect collect goodies by pushing buttons on game pad
  - ▪ typing in commands like "run left", "jump right, "take coin" would be a completely ridiculous way of playing the game (the game would not sell at all)
- ❑ Graphics seem important in today's game design from commercial point of view
  - ▪ due to fast development of graphics hardware
  - ▪ is this a positive trend?
- ❑ The best user interfaces allow you to immersive yourself in the game so deeply that you are no longer aware of the interface ("Tetris Trance")

Skills of a (Perfect) Game Designer

- ❑ Imagination
  - ▪ visual, auditory, dramatic, conceptual
- ❑ Technical awareness
  - ▪ e.g. at least some programming experience
  - ▪ capabilities of target platform (game console, PC, handheld, …)
- ❑ Analytical competence
  - ▪ e.g. detecting dominant strategies that lead to easy winning
- ❑ Mathematical competence
  - ▪ statistics can be a tool for detecting dominant strategies
- ❑ Aesthetic competence
  - ▪ e.g. don't stereotype when designing characters
- ❑ General knowledge
  - ▪ well-versed in mathematics, logic, history, literature, art, science, and current affairs
- ❑ Writing skills
  - ▪ technical writing - fiction writing - dialogue writing
- ❑ Drawing skills
- ❑ Ability to compromise
  - ▪ game development is teamwork!

Understanding Your Audience

❑ Core Gamers
- play a lot of games
- games are a hobby that demands time and money
- play for the exhilaration of defeating the game: The greater the challenge, the greater the sense of achievement
- tolerate frustration well
- don't like easy games; they like challenging games

❑ Casual Gamers
- play for the enjoyment of playing the game
- if the game becomes frustrating, they stop playing
- will not spend hours learning complex controls
- a game must challenge their minds at least as much as their motor skills

❑ You must have some understanding of who will play your game. A game concept is not complete without a statement describing its intended audience.

Game Genres

❑ Action games

❑ Strategy games

❑ Role-playing games

❑ Real world simulations

❑ Construction and management games

❑ Adventure games

❑ Puzzles

❑ Sometimes hybrids

Motivations that Influence Design

❑ Market-driven games

- publishing companies want to sell as many copies as they can
- experience shows that market-driven games are not very good
- they make a fair amount of money, but seldom qualify as blockbusters

❑ Designer-driven games

- rely on vision and creative instincts of game designers
- few games are designed this way; only few "star" designers

❑ License exploitation

- which will sell better? A game about a suave, well-dressed British spy or a game about James Bond?

❑ Technology-driven games

- show off particular technological achievements, mostly graphics; e.g. Quake

❑ Art-driven games

- show off someone's artwork; rather rare

Types of Game Machines (1/2)

- ❑ Home Game Consoles
    - ▪ typically in living room, use TV set as display
    - ▪ TV displays are low-res, game graphics cannot be designed as intricate as for PCs
    - ▪ TV is usually placed so that several people can watch together
        - • good for multiplayer games where all players use same screen
    - ▪ sell for about 200 €
    - ▪ less processing power than a PC
- ❑ Personal Computers
    - ▪ usually placed on a computer desk
    - ▪ relatively small display (compared to TV), but high-res
    - ▪ single user, ca. 20-50 cm away from screen
    - ▪ often connected two internet
    - ▪ no two PCs are alike
        - • configuration problems
        - • implications for distributed game play?

Types of Game Machines (2/2)

❑ Handheld Game Machines

  ▪ inexpensive, mainly used by children

  ▪ e.g. Nintendo Gameboy

  ▪ standardized hardware, no customization

  ▪ severe limits on amount of video, audio, graphics, animation

  ▪ with no room for fancy graphics, game designer must focus on good gameplay

❑ Other devices

  ▪ cell phones

  ▪ PDA

  ▪ video gambling machines

  ▪ arcade machines

  ▪ …

Types of Design Documents

- ❑ High concept (2-4 pages)
  - ▪ first step after scribbling down initial idea
  - ▪ purpose: get a hearing from someone (e.g. producer)
  - ▪ topics covered:
    - • premise of game
    - • its intended audience
    - • its genre (if it belongs to one)
    - • its unique selling points
    - • the target platforms
    - • the overall storyline
    - • gameplay (what the player is supposed to do) / general overview of game flow
  - ▪ also see game concept worksheet below
- ❑ Game treatment (10-20 pages)
  - ▪ purpose: present the game to someone who is already interested in it
- ❑ Game script (50-200 pages)
  - ▪ purpose: document design decisions (not persuade anybody of anything)

Game Concept Worksheet

To turn your game idea into a fully fledged game concept, you need to think about and answer the following questions. You don't need to be precise or detailed, but you should have a general answer to each of them.

1. What is the nature of gameplay? I.e., what challenges will the player face? What actions will the player take to overcome them?

2. What is the victory condition for the game, if any? What is the player trying to achieve?

3. What is the player's role? Is the player pretending to be someone or something, and if so, what? How does the player's role help to define the gameplay?

4. What is the game's setting? Where does it take place?

5. What is the player's interaction model? Omnipresent? Through an avatar? Something else? Some combination?

6. What is the game's primary perspective? How will the player view the game's world on the screen? Will there be more than one perspective?

7. What is the general structure of the game? What is going on in each mode, and what function does each mode fulfill?

8. Is the game competitive, cooperative, team-based, or single-player? If multiple players are allowed, are they using the same machine with separate controls, or different machines over a network?

9. Does the game have a narrative story as it goes along? Summarize the plot in a sentence or two.

10. Does the game fall into an existing genre? If so, which one?

11. Why would anyone want to play this game? What sort of people would be attracted to this game?