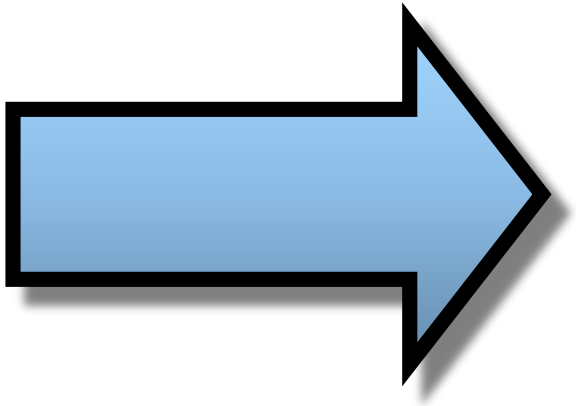
Ludology

Chapter 1.3
Ludology for Game Developers – An Academic Perspective



Slides from:
Steve Rabin: Introduction to Game Development

Ludology?

- *Ludus*
- *Logos*
- Ludology = Scientific analysis of games
- Ludology is a general term for studies and theories focusing on games
- Compare with ‘narratology’ = set of theories on narrative and narration

Historical studies of games

- Ludology extends to all kinds of games
- Early examples displaying ludological interests:
  - Stewart Culin, *Games of the North American Indians: v 1: Games of Chance & v 2: Games of Skill* (1907)
  - Johan Huizinga, *Homo Ludens: A Study of the Play-Element in Culture* (1938)
  - John von Neumann & Oskar Morgenstern, *Theory of Games and Economic Behavior* (1944)
  - Roger Caillois, *Man, Play and Games* (transl. in 1961)
  - E.M. Avedon & Brian Sutton-Smith, *The Study of Games* (1971)
- These studies try to find common, generic aspects across various forms and cultures of games and game play

Rise of game studies

- Game scholar Espen Aarseth, editor of gamestudies.org declared 2001 as "year one" of game studies
- There are earlier examples:
  - Mary Ann Buckles' doctoral thesis on *Adventure* from 1985
- However, these were scattered efforts
- Year 2001 marks the emergence of an *academic community* focused on studying *computer and video games*
- Ludology.org, by Gonzalo Frasca, as its hub
- Germany z.B. http://digitale-spiele.fh-trier.de/

Ludology defined

- Ludology is an *academic attitude to games*
- it requires a generic approach to games
- Ludological efforts aim to understand better
  - What games are
  - How they work
  - Why people play them
  - How to design more diverse and better games
- Market research, technology development, background research are often too case-specific to be regarded as representatives of ludology

Design Research

- DR is interested in integrating research methods and results into design and product development processes
- See Brenda Laurel (ed.) *Design Research: Methods and Perspectives* (2003) for introduction
- 'Game design research' is a means to apply ludology to practical game development tasks
- GDR is, thus, a development-oriented means to practice ludology

Key Areas of Design Research

- Research *into* design
- Research *through* design
- Research *for* design

In terms of Ludology:

- Research *into* game design
  - Analyses of existing games, i.e. their designs, and how players engage with those designs, i.e. play the games
- Research *through* game design
  - Research into games that builds prototypes as its results
- Research *for* game design
  - The most fruitful area to cover in more detail

Origins of Game Design

- Early game design practices resemble the authoring of folk tales:
  - The game elements and rules evolve over time by the effort of countless nameless "designers"
- Game design has developed towards systematic practices, **games designed on purpose**

Making design principles explicit

- Some argue that **designing games is an art** or a mystical craft
- Game design does require talent and skill
- Yet Ludologists also believe that it is desirable to find and **describe the basic features and patterns** which can assist, guide, and inspire design work
- Game design research aims at
  - Making the **principles** of how to design explicit
  - Giving designers a **conscious** layer of **self-evaluation**
  - Making it easier to **consciously break the principles** and to seek new forms of expression
  - Creating **vocabulary** that enables communicating design ideas and teaching the trade

Examples of Ludological Methods & Tools

- Many researchers and practitioners have developed methods and models to design games
- The following methods and models display the ludological attitude in practice

Chris Crawford

- *The Art of Computer Game Design* (1984) may well be the first contemporary treatise with a strong ludological attitude
- See also *Chris Crawford on Game Design* (2003)

MDA Framework (1/2)

- A formal approach to understanding games
- '**Mechanics**, **Dynamics**, and **Aesthetics**'
- By Robin Hunicke, Marc LeBlanc and Robert Zubek
- Employed in the Game Tuning Workshops held in Game Developers' Conferences since 2001
- MDA framework consists of three main components:
  - **Mechanics** that describe the parts of a game at the level of data representation and algorithms
  - **Dynamics** that describe the run-time behavior of the game
  - **Aesthetics** that describe desirable emotional responses evoked in the player during gameplay

MDA Framework (2/2)

- The Aesthetics can be broken up into more distinct components; '*Eight Forms of Fun*':
  - **Sensation**, game as sensory pleasure
  - **Fantasy**, game as make-believe
  - **Narrative**, game as drama
  - **Challenge**, game as obstacle course
  - **Fellowship**, game as social framework
  - **Discovery**, game as uncharted territory
  - **Expression**, game as self-discovery
  - **Submission**, game as pastime.
- MDA's goal is to provide a framework to span between game design, development, game criticism and research

Game Design Workshop

- Tracy Fullerton, Christopher Swain & Steven Hoffman: Game *Design Workshop: Designing, Prototyping, and Playtesting Games* (2004)
- They identify eight basic formal elements:
  - **Players**
  - **Objective**
  - **Procedures**
  - **Rules**
  - **Resources**
  - **Conflicts**
  - **Boundaries**
  - **Outcomes**
- Their design method is to use the formal elements to describe the current design and make sure that all aspects of a game design are taken into consideration

Game Design Patterns (1/2)

- Bernd Kreimeier: "Case for Game Design Patterns" (2002)
- Kreimeier articulates four basic **aims of game design methods**:
  - They should **relate to game design**
  - Have **utility as a tool**
  - Be **abstract**
  - Be **formalized**
- Inspired by Christopher Alexander's pattern approach to architecture
- Kreimeier developed an approach to game design based on the concept of game design patterns
- See http://www.gamasutra.com/view/feature/4261/the_case_for_game_design_patterns.php

Game Design Patterns (2/2)

- Staffan Björk and Jussi Holopainen: Game Design Patterns Project (2002-)
- They follow the basic principles of Alexander to describe **invariant and recurrent characteristics of game design**
- These are expressed as interdependent semiformal pattern descriptions
- *Patterns in Game Design* (2004): A collection of almost 300 patterns

Summary

- **Ludology** is an attitude towards game design and development driven by a need to **understand games** in general terms
- Ludology finds practical applications both in **academic studies** of games and **formal methods** for game design
- Ludologists adapt psychology, architecture, play theory, design theory, information theory, semiotics, rhetorics, etc. for the purposes of **game analysis and development**
- Ludological attitude also points the way for finding **common vocabularies and practices** for game scholars and developers

Your task: the GDD

- What we do now:
  - make teams of 3-4 people
  - per team, develop a game concept
  - dot down the game concept in a *game design document*
  - *present May 27 (Powerpoint)*
    - *deliver document one week later!*

27.5	Game design
27.5	team brainstorm, game idea preparation
	presentation (Powerpoint)

The GDD

- Document describing the game and underlying structure / mechanisms
- Structure: comes now ☺
- Inspired by GDD / Fullerton et al.

Game Design Document

- Formal elements
  - Project title
    - Name)
  - Authors
    - All members WITHOUT „Matrikelnummern“

Game Design Document

Komponenten

- Background
  - Main idea
    - Context
  - State of the art
  - Similar games

Describe the background of the game idea and cite on a scientific basis

Game Design Document

Komponenten

- Formal elements
  - „Game Design Workshop“ (T. Fullerton et al.):
    - **Players**
    - **Objective**
    - **Procedures**
    - **Rules**
    - **Resources**
    - **Conflicts**
    - **Boundaries**
    - **Outcomes**

Game Design Document

Komponenten

- Formal elements
  - **Players → target audience**
  - **Objective**
  - **Procedures**
  - **Rules**
  - **Resources**
  - **Conflicts**
  - **Boundaries**
  - **Outcomes**

Describe the target audience, with required capabilities, cultural background, age restrictions, etc..

Game Design Document

Komponenten

- Formal elements
  - Players
  - **Objective → Goals**
  - Procedures
  - Rules
  - Resources
  - Conflicts
  - Boundaries
  - Outcomes

What is the main goal of the game?
When does it end?

Game Design Document

Komponenten

- Formal elements
  - Players
  - Objective
  - **Procedures**
  - Rules
  - Resources
  - Conflicts
  - Boundaries
  - Outcomes

Describe the main phases of the game (storyboard) as well as the subsets of each phase

Game Design Document
Komponenten

- Formal elements
  - Players
  - Objective
  - Procedures
  - **Rules**
  - Resources
  - Conflicts
  - Boundaries
  - Outcomes

Describe the main rules the game / players need to adhere to.

Game Design Document

Komponenten

- Formal elements
  - Players
  - Objective
  - Procedures
  - Rules
  - **Resources**
  - Conflicts
  - Boundaries
  - Outcomes

Describe the main resources (game characters, game world, music etc.) and calculate the effort to complete each.

Game Design Document

Komponenten

- Formal Elements
  - Players
  - Objective
  - Procedures
  - Rules
  - Resources
  - **Conflicts**
  - Boundaries
  - Outcomes

Describe potential areas of conflicts / problems, and how they can be solved.

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Game Design Document

Komponenten

- Formal elements
  - Players
  - Objective
  - Procedures
  - Rules
  - Resources
  - Conflicts
  - **Boundaries**
  - Outcomes

Describe the product boundaries, such as legal issues

Game Design Document

Komponenten

- Formal elements
  - Players
  - Objective
  - Procedures
  - Rules
  - Resources
  - Conflicts
  - Boundaries
  - **Outcomes**

What will be the result, how can it be distributed, marketing, ...

Game Design Document

Komponenten

- Literature
  - make use of scientific citation style (example: ACM or IEEE)
    - S. Peterson, M. Axholt, and S. Ellis, "Label segregation by remapping stereoscopic depth in far-field augmented reality," in *Proceedings of the 7th IEEE/ ACM International Symposium on Mixed and Augmented Reality*, 2008, pp. 143–152.