Computer game development and design

Lectures: Jaanus Jaggo
Practice sessions: Jaanus Jaggo, Margus Luik

2017
Let’s introduce ourselves
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- What are you studying?
- What are you good at?
- What kind of game would you like to make?
Organization

6 EAP = 156h of work

**Lectures:** $15 \times 1.5h = 22.5h$

**Practice sessions:** $15 \times 1.5h = 22.5h$

**Homeworks:** $20 \times 2h = 40h$

**Projects:** 71h

Organizational information
(Courses)
https://courses.cs.ut.ee/2016/gamedev/fall/Main/HomePage

Reading material (CGLearn)
https://cglearn.codelight.eu
Mentoring

**APT Game Generator** - [http://aptgg.ee/](http://aptgg.ee/)  
Every Monday at 18.00 - Kastani 42

**Introduction to blender**  
- 02. November (Thursdays) at 14:15 Liivi 2 room 003
Grading

**Some lectures give points:** 10 points

**Solve tasks:** 40 points (deadline 1 week, first task given today)

**Complete 2 game projects (2-3 persons):**

- **Project 1** (3 weeks) - 15 points
- **Project 2** (8 weeks) - 35 points

**Bonus points:**

- **Game jam bonus** - 10 points
- **Presentation bonus** - 10 points

91+ = A, 81-90 = B, etc

You will lose points if you miss the deadline or do not follow the requirements!
Projects

Rules

● 2-3 people in group
● **Small in scale**
● First one is about the size of Ludum Dare project - [http://aptgg.ee/ludum-dare-36/](http://aptgg.ee/ludum-dare-36/)
● Second one is about the same size but much more polished
● **No** extensive **violence** or improper material
● Milestones with **deadlines** (lose 5 points for each missed deadline)
● Mandatory project **presentation**

For the second project you can continue the first one!
Schedule

15 lectures
15 practice sessions
2 projects

We are here

September

Design document 1

October

Design document 2

November

Project 1 dev.

December

Project 2 dev.

Project 2 presentations are at the beginning of 2018
Lectures

- 04.09: Introduction to game design
- 11.09: Prototyping. Game mechanics
- 18.09: Player motives and socialization through games
- 25.09: Game narrative and setting
- **02.10: Design document presentations**
- 09.10: Game development lifecycle
- 16.10: Graphics design, graphics pipeline
- **23.10: Project 1 presentations and discussion**
- **30.10: Design document presentations**
- 06.11: Animations
- 13.11: Sound design, sound pipeline
- 20.11: Modern technologies
- 27.11: Level Design
- 04.12: Procedural generation
- 11.12: Marketing, player acquisition strategies
- 18.12: Student presentations.
- **TBA: Project 2 presentations and discussion.**
Game mechanics
Players / socialization
Narrative and setting
Game dev Lifecycle
Graphics design, graphics pipeline
Animations
Sound Design
Modern technologies
Level design
Procedural generation
Practice sessions

Ülikooli 17 (Paabel house) room 219 on Friday at 12:15
Practice sessions

- 08.09: Introduction to Unity 2D. (Bird game)
- 15.09: Unity 2D (Seal game)
- 22.09: Unity 2D (Tower game)
- 39.09: Project 1 roadmap and setup. (GIT)
- 06.10: Unity UI - slides.
- 13.10: Unity 3D. (Car game)
- 20.10: Unity patterns 1 (TBA)
- 27.10: Project 2 roadmap and setup.
- 10.11: Unity patterns 2 (TBA)
- 17.11: Milestone 1. - Introduction to 3D Modeling
- 24.11: - Advanced effects, 3D Lighting.
- 01.12: Milestone 2. - Peer review
- 08.12: - Procedural Generation.
- 15.12: Milestone 3. - Polishing
- 22.12: VR game design - CGVR lab excursion - slides.
Introduction to game design
Gameplay

**Gameplay** - interactivity that the game induces. How player interact with the game and how game world reacts to the choices.

In SimCity, the gameplay is laying out a city and observing the citizens that start to inhabit it.
Game Design

Game Design - determines the form of gameplay.
Game Designer

**Game Designer** - is the person who designs the game, thereby establishing the shape and nature of the gameplay.

Source: [https://www.gamedesigning.org/career/lead-game-designer/](https://www.gamedesigning.org/career/lead-game-designer/)
Group task!

What player wants from games?

Example: player wants a challenge!
What player wants

Players wants:
● a challenge
● to socialize
● a dynamic solitary experience
● bragging right
● emotional experience
● to explore
● to fantasize
● to interact
What player expect

- a consistent world -> expectation of what will happen
- to understand the game world bounds
- reasonable solutions to work
- direction
- to accomplish a task incrementally
- to be immersed
- some setbacks
- a fair chance -> Tharsis problem

- to not need to repeat themselves -> no man sky problem
- to not get hopelessly stuck
- to do not to watch
Working with limitations

Designer limitations:

- Technology available
- Members in the development team
- Budget available
- Time constraints
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The golden rule: **Do one thing, but do it well!**
The second golden rule: **Finished, not perfect!**

https://drive.google.com/open?id=0B232TQYJs91cMkIpYjFfcVJDSUE
Homework 1

Deadline: next monday at 12.00 (midday)

Watch the presentation: Hearthstone: 10 Bits Of Design Wisdom

https://www.youtube.com/watch?v=pyjDMPTgxxk

Now you have to design your game!

Write down following things:
1. What genre is this game?
2. core gameplay mechanics
   (at most 5 sentence)
3. Value for players
4. 5 design keywords
5. Gameplay limitations
APT GG first meeting

Starting Today at 18:15