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GAME DESIGN AND DEVELOPMENT

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Welcome!

- Who am I?
- Why am I here?
- Why are you here?

What is This? Why?

- This is both a course of *Game Design AND Game Development*.
 - *This is not a course on Art, Sound, Animation or anything not related to Game Design or Development!*
- The topics of Game Design and Development are of great interest for students and industry, but were absent from the FCS curricula.
- I love games! :D
- I want to help develop the GDD community and industry in Iași.
- Check the GDD Iași community pages and join!
 - <https://www.facebook.com/groups/gdd.is/>
 - https://www.youtube.com/channel/UC5a-_aNeaF4G677glpmk_ZQ

Game Design Topics: The Structure of Games

- What is a Game? Genres, ...
- The Role of the Game Designer
- Working with Formal Elements: Players, Objectives, Procedures, Rules, ...
- Working with Dramatic Elements: Challenge, Premise, Character, Story, ...
- Working with System Dynamics: Objects, Properties, Behaviors, ...

Game Design Topics: Designing a Game

- Conceptualization: turning ideas into games
- Prototyping and Digital Prototyping
- Playtesting
- Functionality, Completeness, and Balance
- Communicating Design: the Design Document

Game Design References

- Primary:

- Fullerton, T., *Game Design Workshop: A Playcentric Approach to Creating Innovative Games*, CRC Press, 2014

- Secondary:

- Aronson, L., *The 21st Century Screenplay: A Comprehensive Guide to Writing Tomorrow's Films*, Allen&Unwin, 2010
- Hiwiler, Z., *Players Making Decisions: Game Design Essentials and the Art of Understanding Your Players*, New Riders, 2016
- Sweetser, P., *Emergence in Games*, Charles River Media, 2007
- Iuppa, N., Borst, T., *Story and Simulations for Serious Games: Tales from the Trenches*, Elsevier, 2007

Game Development Topics: Unreal Engine 4 (secondary Unity)

- Getting Started, Terminology: Project, Object, Class, Component, Pawn, ...
- Level Design: Editor, Actors, Managing Content, ...
- Game Programming Essentials: C++ vs Blueprints
- Using Physics, Controlling Input, ...
- AI with Behavior Trees
- UMG UI Designer
- ... 😊 - the list can go on almost forever, we will adapt the topics as we progress

Game Development References

- I highly recommend using the primary sources from Epic Games and Unity Technologies:
 - <https://docs.unrealengine.com/latest/INT/>
 - <https://unity3d.com/learn>
- Game Engine technology evolves at a rapid pace, so many books on the subject become largely obsolete within a year with respect to the latest engine features. For example, check the release announcements of the latest versions of both UE4 and Unity:
 - <https://www.unrealengine.com/blog/unreal-engine-4-15-released>
 - https://blogs.unity3d.com/2016/11/29/unity-5-5-is-ready-for-you/?_ga=1.18521465.179794246.1486970085

Other Topics

- Working in teams with version control (GIT)
- What it means to be an *indie developer*?
- Monetization strategies.
- Publishing on marketplaces.
- Developing multi-platform games, including mobile.
- *Serious Games or Game Based Learning*: Using games for education and other purposes than entertainment.
- Using free and cheap asset sources to build your prototypes.

Game Engine Versions

- The latest available when the course started (February 22nd, 2017):
 - *Unreal Engine 4.15*
 - *Unity 5.5.1*
- Please make sure you have these installed AND
DO NOT UPDATE your game engine to future releases!
- Sometimes upgrading from one game engine version to another leads to projects getting broken!
- I will be using exactly these engine versions to check your projects.

Evaluation

Course Objective:

By the end of the semester, you will be able to build a game of medium complexity, in terms of programming and design.

- Weekly tasks, to be done individually (5 p / task)
 - *will help you improve your skills both in design and development*
 - *will only be evaluated during the assigned week! No late submissions!*

Evaluation

- Semester project: Build a game!
 - *teams of 3-5 students*
 - *weekly reporting of progress*
- Three milestones:
 - *(20 p) Week 4. Game Proposal Document + Proof of Concept*
 - *(30 p) Week 9. Complete Game Design Document + Working Prototype*
 - *(50 p) Week 14. Final Game Design Document + Minimum Viable Product*
- Pass criteria: Total points ≥ 50 p
- Final grading on a curve using the standard FCS percentages.

Working with GIT

- Check this event on GDD laşı for more on how to work in a team:
<https://www.youtube.com/watch?v=KadhiVK8ZWE>
- How to use GIT with Unreal Engine 4:
[https://wiki.unrealengine.com/Git_source_control_\(Tutorial\)](https://wiki.unrealengine.com/Git_source_control_(Tutorial))
- How to use GIT with Unity:
<https://unity3d.com/learn/tutorials/topics/cloud-build/creating-your-first-source-control-repository>

Assignment for Week 1

- Join the Facebook group of the class:
<https://www.facebook.com/groups/1761623210831895/>
- Form a team of 3-5 students. Choose one Team Leader.
 - *The TL role will rotate between ALL team members EVERY WEEK!*
- Decide if you are going to use Unreal Engine 4 or Unity.
 - *One team will use ONLY ONE game engine!*
- Each member will create an account with UE4 or Unity and install the game engine on their own computer.
- Create a GIT repository on BitBucket (or any other server that I will be able to access).

Assignment for Week 1

- Make sure all team members have full access to the repository.
- Give me read access to the repository (alaiba@info.uaic.ro), if it is not already public.
- The Team Leader will then submit this form no later than February 26th:
<https://goo.gl/forms/faHvC9sse33dhuy22>
 - *If the form is submitted before the deadline and with all the correct information, every team member will gain 5 p.*

Ask for Help!

- Post any questions you have on the Facebook group of the class:
<https://www.facebook.com/groups/1761623210831895/>
- You can also try the GDD Iași community:
<https://www.facebook.com/groups/gdd.is/>
- Or ask me directly in class or via Facebook Messenger.