

804240 - P2VJ - Project II

Coordinating unit:	804 - CITM - Image Processing and Multimedia Technology Centre	
Teaching unit:	804 - CITM - Image Processing and Multimedia Technology Centre	
Academic year:	2019	
Degree:	BACHELOR'S DEGREE IN VIDEO GAME DESIGN AND DEVELOPMENT (Syllabus 2014). (Teaching unit Compulsory) BACHELOR'S DEGREE IN VIDEO GAME DESIGN AND DEVELOPMENT (Syllabus 2014). (Teaching unit Compulsory)	
ECTS credits:	6	Teaching languages: Catalan, Spanish, English

Teaching staff

Coordinator: Pillosu González, Ricard

Prior skills

Knowledge of programming using C and C++. Experience coding small 2D video games.

Degree competences to which the subject contributes

Specific:

CEVJ 2. (ENG) Representar de forma esquemàtica i visual conceptes, idees i / o dades complexes a partir d'habilitats personals i referències externes, amb l'objectiu de transmetre atractiu, originalitat i creativitat.

Generical:

CGFC1VJ. (ENG) Dissenyar, desenvolupar, seleccionar i avaluar aplicacions i sistemes informàtics d'o per a videojocs, assegurant la seva fiabilitat, seguretat i qualitat, d'acord amb principis ètics i a la legislació i normativa vigent.

CGFC6VJ. (ENG) Analizar, diseñar, construir y mantener aplicaciones tipo videojuego de forma robusta, segura y eficiente, eligiendo el paradigma y los lenguajes de programación más adecuados.

Transversal:

01 EIN. ENTREPRENEURSHIP AND INNOVATION: Knowing about and understanding how businesses are run and the sciences that govern their activity. Having the ability to understand labor laws and how planning, industrial and marketing strategies, quality and profits relate to each other.

05 TEQ N2. TEAMWORK - Level 2. Contributing to the consolidation of a team by planning targets and working efficiently to favor communication, task assignment and cohesion.

Teaching methodology

During each class, the lecturer will first show the students the theory behind the problem that need solving. Together with the students, the lecturer will explore the different solutions that exist in the present that solve and simplify the complexities of real time applications like videogames.

The students will have to work on a special research project assigned by the teacher to then show it in class. All the material will stay online.

Learning objectives of the subject

Learn how to embark in the development of a video game of mid size.

Learn how to work in a large team and coordinate with the rest.

How to structure a micro studio, bringing all the required documentation.



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Study load

Total learning time: 150h	Hours large group:	18h	12.00%
	Hours medium group:	30h	20.00%
	Hours small group:	0h	0.00%
	Guided activities:	12h	8.00%
	Self study:	90h	60.00%

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Content

<p>Creation of a micro studio</p>	<p>Learning time: 15h Theory classes: 6h Self study : 9h</p>
<p>Description: Study of the project and group formation. Development of the internal roles for the groups. Presence inside the social networks. The SCRUM methodology.</p>	
<p>Planification and documentation</p>	<p>Learning time: 20h Theory classes: 8h Self study : 12h</p>
<p>Description: Structure of a Game Design Document Creation of the Technical Design Document Creation of the Project Development Document Method to introduce your product to investors Creation and presentation techniques of the Pitch</p>	
<p>Coding the Vertical Slice</p>	<p>Learning time: 45h Theory classes: 18h Self study : 27h</p>
<p>Description: Internal structure of the videogame. Path finding using Dijkstra. Using the A* algorithm for better pathfinding. Dynamic obstacles during navigation. Searching entities in an area. System to accumulate modifier on entities. System to development of Skill Trees.</p>	

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Coding the Alpha	Learning time: 45h Theory classes: 18h Self study : 27h
<p>Description:</p> <ul style="list-style-type: none"> System for input management. System for minimap and radar generation. Creating the Fog of War. Systems to load and save games. Follow up on the Alpha protocol. 	
Coding the Beta	Learning time: 15h Theory classes: 6h Self study : 9h
<p>Description:</p> <ul style="list-style-type: none"> Theory behind quality assurance on software. Follow up on the Beta protocol. 	

Qualification system

The individual personal research project will weight 25%

Exercises

- Exercise 1 with a weight of 5% of the final grade: Introducing your micro studio.
- Exercise 2 with a weight of 5% of the final grade: Pitch Presentation.
- Exercise 3 with a weight of 15% of the final grade: Videogame Vertical Slice (prototype).
- Exercise 4 with a weight of 20% of the final grade: Videogame Alpha.

Final Exercise

- Exercise with a weight of 30% of the final grade: Fully functional videogame with all the documentation recording the evolution of the product.

Regulations for carrying out activities

All exercises will be presented in class. The content will be important as it will be the presentation skills of the group.

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Bibliography

Basic:

Hill-Whittall, R. The indie game developer handbook. Burlington, MA: Focal Press, 2015. ISBN 9781138828421.

Schwarzi, T. Game project completed: how successful indie game developers finish their projects. North Charleston: Createspace, 2014. ISBN 9781490555454.

Complementary:

Michael, D. Indie game development survival guide. Hingham, Mass: Charles River Media, 2003. ISBN 9781584502142.