

804230 - P1VJ - Project I

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

Degree competences to which the subject contributes

Specific:

5. (ENG) Dissenyar les mecàniques, les regles, l'estructura, el guió i el concepte artístic d'un videojoc, maximitzant la immersió i els criteris de jugabilitat i balanceig per oferir la millor experiència d'usuari possible.
7. (ENG) Dominar el gran abanico de herramientas profesionales del sector para la elaboración de contenidos digitales de todo tipo.
8. (ENG) Identificar el procés de producció i les metodologies de desenvolupament d'un videojoc, així com el paper de cada un dels perfils implicats i les funcions.
11. (ENG) Implementar y gestionar proyectos de diseño y desarrollo de videojuego incluyendo la planificación, dirección, ejecución y su evaluación.
13. (ENG) Utilizar lenguajes de programación, patrones algorítmicos, estructuras de datos, herramientas visuales de programación, motores de juego y librerías para el desarrollo y prototipado de videojuegos, de cualquier género y para cualquier plataforma y dispositivo móvil.

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 lecturer will provide source code for the student to study and complete while integrating it in their own source code for future reference and use. Closing each session, the lecturer will provide with ideas for improving the systems challenging student in order to help and orientate the students in the self learning time.

Learning objectives of the subject

Learn how to embark in the development of a video game of small complexity.
Learn how to work in a small team and coordinate with the rest.

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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>1. Development tools</p>	<p>Learning time: 20h Theory classes: 8h Self study : 12h</p>
<p>Description: Distributed work with Git Services of github.com Tools for communication and teamwork: Trello and Slack</p>	
<p>2. Introduction to SDL programming</p>	<p>Learning time: 25h Theory classes: 10h Self study : 15h</p>
<p>Description: Initial setup for a game with SDL Sprites and transparencies Using input devices Using the audio features</p>	
<p>3. Coding arcade games</p>	<p>Learning time: 50h Theory classes: 20h Self study : 30h</p>
<p>Description: Modular code structure The renderer and texture management The input subsystem The channels audio Sprite animation and the parallax effect Collision management Foundation for User Interfaces</p>	
<p>4. FSM and entering Beta</p>	<p>Learning time: 25h Theory classes: 10h Self study : 15h</p>
<p>Description: Introduction to functional QA QA for quality Graph theory Programming state machines</p>	



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Qualification system

First Assignment with a weight of 20%: Documenting the arcade game.
Second Assignment with a weight of 15%: First SDL demo.
Third Assignment with a weight of 25%: Playable demo (Alpha).
Final Assignment with a weight of 40%: Final presentation of the game.
WARNING: This subject does not feature any content that can be reevaluated.

Bibliography

Basic:

Ernest Pazera. Focus on SDL. Course Technology PTR, 2002. ISBN 1592000304.

Shaun, Mitchell. SDL game development. Packt Publishing, 2013. ISBN 1849696829.

Others resources:

Hyperlink

<http://www.uml.org/>

<http://www.proyectosagiles.org/>