



Course guide

804240 - P2VJ - Project II

Last modified: 14/03/2022

Unit in charge:	Image Processing and Multimedia Technology Centre	
Teaching unit:	804 - CITM - Image Processing and Multimedia Technology Centre.	
Degree:	BACHELOR'S DEGREE IN VIDEO GAME DESIGN AND DEVELOPMENT (Syllabus 2014). (Compulsory subject).	
Academic year: 2022	ECTS Credits: 6.0	Languages: Spanish, English

LECTURER

Coordinating lecturer:	Omedas Morera, Pedro
Others:	Fuentes Expósito, Maria Ángeles

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. Schematically and visually represent complex concepts, ideas and/or data based on personal skills and external references, in order to convey attractiveness, originality and creativity.

Generical:

CGFC1VJ. Design, develop, select and evaluate applications and computer systems from 0 for video games, ensuring their reliability, security and quality, in accordance with ethical principles and current legislation and regulations.

CGFC6VJ. Analyse, design, build and maintain video game applications robustly, securely and efficiently, choosing the most appropriate paradigm and programming languages.

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.



STUDY LOAD

Type	Hours	Percentage
Hours medium group	30,0	20.00
Self study	90,0	60.00
Hours large group	18,0	12.00
Guided activities	12,0	8.00

Total learning time: 150 h

CONTENTS

Creation of a micro studio

Description:

Study of the project and group formation.
Development of the internal roles for the groups.
Presence inside the social networks.
The SCRUM methodology.

Full-or-part-time: 15h

Theory classes: 6h
Self study : 9h

Planification and documentation

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

Full-or-part-time: 20h

Theory classes: 8h
Self study : 12h

Coding the Vertical Slice

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.

Full-or-part-time: 45h

Theory classes: 18h
Self study : 27h



Coding the Alpha

Description:

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.

Full-or-part-time: 50h

Theory classes: 20h
Self study : 30h

Coding the Beta

Description:

Theory behind quality assurance on software.
Follow up on the Beta protocol.

Full-or-part-time: 20h

Theory classes: 8h
Self study : 12h

GRADING SYSTEM

Each student will individually do a research project that will be presented in class as an online tutorial: 25% of the final grade

Practices

- Practice 1 with a weighting of 10% of the final grade of the subject: Presentation of the micro company and Concept Discovery
- Practice 2 with a weighting of 15% of the final grade of the subject: Presentation of the prototype of the video game.
- Practice 3 with a weighting of 20% of the final grade of the subject: Presentation of the Alpha version of the video game.

Final project

- Practice with a weighting of 20% of the final grade of the subject: Presentation of the final gameplayable with and documentation of the evolution of the product.

Participation and learning attitude, which will be valued at 10%

EXAMINATION RULES.

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

BIBLIOGRAPHY

Basic:

- Schwarzi, T. Game project completed: how successful indie game developers finish their projects. North Charleston: Createspace, 2014. ISBN 9781490555454.
- Hill-Whittall, R. The indie game developer handbook. Burlington, MA: Focal Press, 2015. ISBN 9781138828421.

Complementary:

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