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| Course Unit | Game ideation, design & development | | Field of study | Game Design/Informatics | |
| Master in | Digital Game Design and Development | | School | School of Public Management, Communication and Tourism | |
| Academic Year | 2023/2024 | Year of study | 1 | Level | 2-1 |
| Type | Semestral | Semester | 1 | ECTS credits | 6.0 |
| Code | 5074-802-1102-00-23 | | | | |
| Workload (hours) | 162 | Contact hours | T - | TP 30 | PL 15 |
| | | | TC - | S - | E - |
| | | | OT - | O - | |

T - Lectures; TP - Lectures and problem-solving; PL - Problem-solving, project or laboratory; TC - Fieldwork; S - Seminar; E - Placement; OT - Tutorial; O - Other

Name(s) of lecturer(s) Anabela Neves Alves de Pinho, Barbara Costa Vilas Boas Barroso, Raquel Cristina Sousa Pires, Rogerio Junior Correia Tavares

Learning outcomes and competences

At the end of the course unit the learner is expected to be able to:

1. Contextualize the area of digital games framing several types of classification;
2. Understand what a game is and the fundamental concepts associated;
3. Recognize and apply design and development methodologies for digital games;
4. Develop a global understanding about the concepts, steps, tools and processes of game design;
5. Develop a global understanding of game development and the various game programming paradigms;
6. Identify, analyze, categorize and evaluate existing systems and technology in the area of digital games;
7. Discern ethical and unethical behaviors in the practice of game design and development;
8. Operationalize knowledge in practical cases.

Prerequisites

Before the course unit the learner is expected to be able to:
Not applicable.

Course contents

Games introduction. Design and development methodologies. Game design. Game development. Devices and technologies for Digital Games. Ethics and digital games.

Course contents (extended version)

1. Introduction:
 - Origins of game design;
 - Historical milestones in the field of digital games;
 - The game as experience;
 - Player, game, interface;
 - Diversity of gameplay classifications and genres.
2. Design and development methodologies:
 - Waterfall methodologies;
 - Agile methodologies;
 - Comparative analysis of different approaches;
 - The problems of scale;
 - Implications for the work team.
3. Game design:
 - Principles and general concepts;
 - Different models;
 - Methods of ideation;
 - Documentation inherent to the process;
 - Perspectives on the support platform;
 - Perspectives on the player.
4. Game development:
 - Principles and general concepts;
 - Game programming paradigms;
 - Overview of tools and production cycles;
 - Technical documentation of development;
 - Tools for development.
5. Devices and technologies for Digital Games.
6. Ethics and digital games:
 - Case studies;
 - Ethical conduct in the practice of game design and development.

Recommended reading

1. Bond, J. G. (2017). Introduction to Game Design, Prototyping, and Development: From Concept to Playable Game with Unity and C#.
2. Fullerton, T. (2018). Game Design Workshop: A Playcentric Approach to Creating Innovative Games, 4th Edition. A K Peters/CRC Press. ISBN: 978-1138098770.
3. Lemarchand, R. (2021). A Playful Production Process: For Game Designers (and Everyone). The MIT Press. ISBN: 978-0262045513.
4. Martinho, Carlos, Santos, Pedro, Prada, Rui, (2014). Design e Desenvolvimento de jogos, Editora FCA. ISBN: 9789727227624
5. Sellers, M. (2021). Advanced Game Design: A Systems Approach. 1st Edition. Addison-Wesley Professional. ISBN: 978-0134667607

Teaching and learning methods

The teaching/learning process will be based on theoretical-practical/practical-laboratorial classes, to ensure reciprocal complementarity between theory and application.
Expositive method, for transmission of knowledge in a structured and continuous way; Interrogative method, questioning the students systematically; Active method, for resolution of exercises and development of assignments.

Assessment methods

- Final Evaluation - (Regular, Student Worker) (Final, Supplementary, Special)
 - Practical Work - 15% (Work Module 1 (minimum grade 7 values))
 - Practical Work - 15% (Work module 2 (minimum grade 7 values))

Assessment methods

- Practical Work - 15% (Work module 3 (minimum grade 7 values))
- Practical Work - 15% (Work module 4 (minimum grade 7 values))
- Practical Work - 40% (Common work across all modules.)

Language of instruction

1. Portuguese
2. English

Electronic validation

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|---|-----------------------------|----------------------------------|------------------------------|
| Anabela Neves Alves de Pinho, Barbara Costa Vilas Boas Barroso, Raquel Cristina Sousa Pires, Rogerio Junior Correia Tavares | João Paulo Pereira de Sousa | Barbara Costa Vilas Boas Barroso | Luisa Margarida Barata Lopes |
| 12-10-2023 | 15-10-2023 | 13-11-2023 | 11-12-2023 |