Game Design

Professor

- Rui Manuel Feliciano de Jesus

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- room: **13** or **F.0.13**

- Building: F

Curricular Units (I)

- **Game Design (GD)**
  - 5th Semester of the LEIM course (Optional)

Curricular Units (II)

- **Hours/week**
  - 4,5 hours = 1,5 theoretical-practical + 3 laboratory

- **Credits**
  - 6 ECTS

- **Recommendation**
  - Experience Game Development using Unity or other Game Engine

Learning Outcomes (I)

- Know and understand the importance of each of the main components of a digital game

- Be able to critically analyze existing video games in terms of playability, technical feasibility and public interest

- Know and understand the main methodologies used in the process of developing a digital game focused on the experience provided to the player

Learning Outcomes (II)

- Encourage critical reflection on the technologies and methodologies applied in the various stages of video game development, covering conceptualization, ideation, planning, implementation and evaluation

- Design and implement a game prototype using the adequate technologies.

Syllabus (I)

- **Game Design**
  - Introduction to digital games: concepts and definition of a video game; typical elements of a game; history of games, genres and the video game industry

  - The game and the player: the theme and narrative of the game; concept art methodologies; the rules of the game; player profiles and models; the experience and the progression of the experience provided to the player

Syllabus (II)

- **Game Design**
  - Game theory: foundations of game theory; the internal economy of a game; dilemmas; negotiation and cooperation.

  - Game development process: game concept; game planning; development team; support documentation; game development tools.

  - Game implementation: 2D and 3D game engine; game loop, scenarios and layers; text, animations and sprites; user interaction; physics and artificial intelligence; audio (music and effects); scoring and collisions.

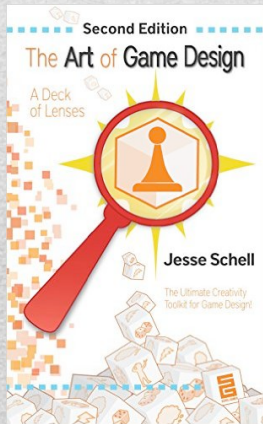## Syllabus (III)

- **Game Design**
  - Playability: user testing; usability; evaluation of the player experience; questionnaires; game flow

Bibliography - *Game Design*

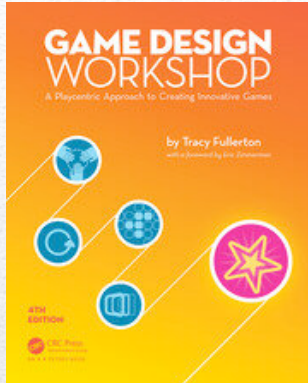■ Design e Desenvolvimento de Jogos

Carlos Martinho, Pedro Santos e Rui Prada
FCA – Editora de Informática , LDA
ISBN: 978-972-722-762-4

■ The Art of Game Design: A Book of Lenses

Jesse Schell
CRC Press
ISBN: 978-146-659-864-5

Bibliography

- Game Design Workshop: A Playcentric Approach to Creating Innovative Games

  T. Fullerton
  A K Peters/CRC Press
  https://doi.org/10.1201/b22309

Assessment

- **Classification**

  - 35% Lab works (Can be done in groups of 2 students) (minimum 8)

  - 30% Mobile Game (individual) + Discussion (oral evaluation) (not mandatory)

  - 35% Game Evaluation Report + Discussion (oral evaluation) (minimum 8)

  - **Minimal classification to be approved: 9.5**

Report

- **Game Design Process**

- **Game Concept Document**

- **Game Design Document (GDD)**

- **UML Diagrams of the application (game)**

- **Playability and Usability evaluation**

Final Project

- **Design and Implementation of an Mobile Game**
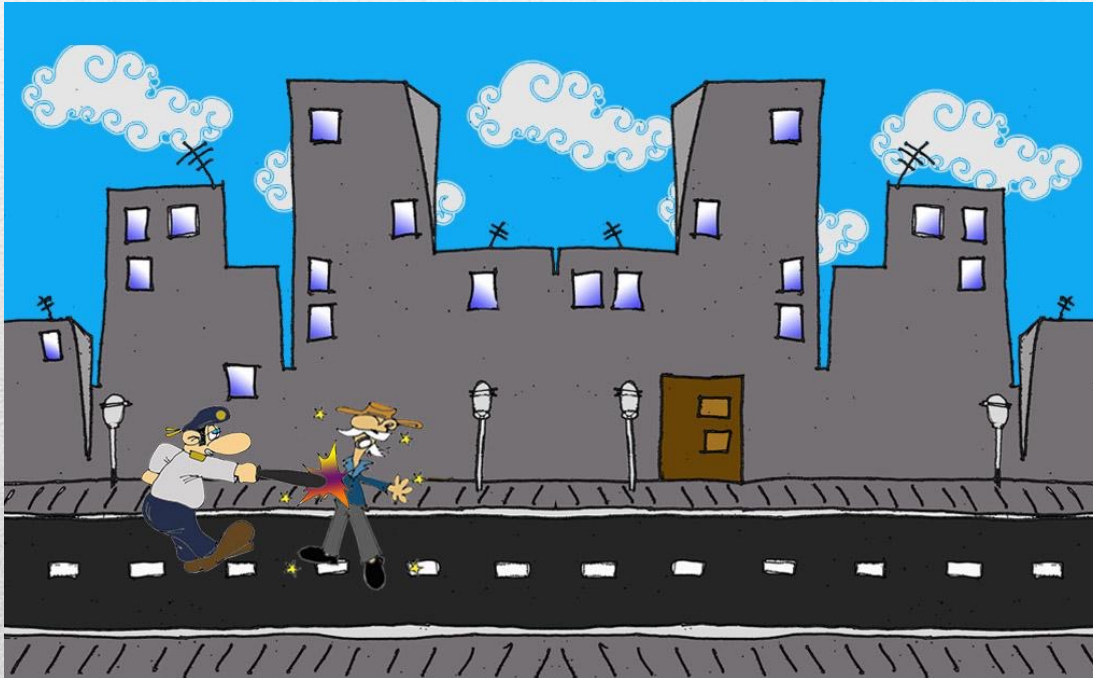 - Students are challenged to create and implement new mobile games

- **Classification (3 Levels)**
  - Version of an existing game (LEVEL 1)

  - New game inspired in an existing game (LEVEL 2)

  - Original game (LEVEL 3)
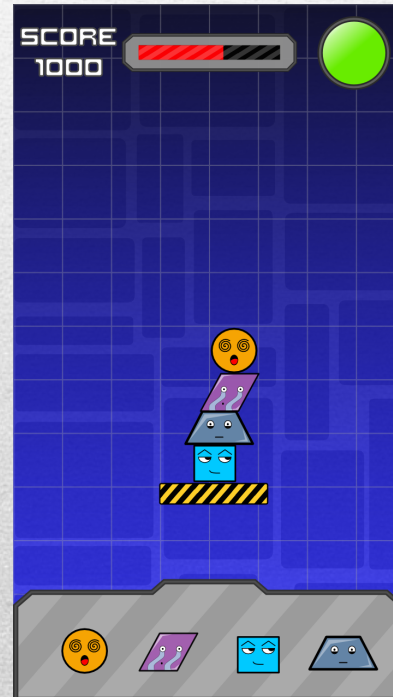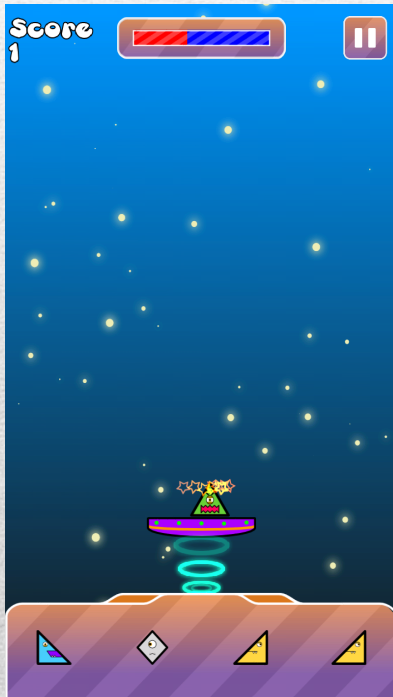
Games by Previous Students (I)

- **FatFuzz**
  - Helder Bastos e Rafael Santos

Games by Previous Students (II)

- **STACK' EM UP**
  - José Ramada e Diogo Monteiro

Games by Previous Students (III)

- **KatanaZombiee**
    - Carlos Correia e André Leitão

Lesson - NEXT WEEK

- **Game Design (History of Games and Video Game Consoles)**
  - 2:00 pm, room LH1, Building F