

Course Unit	Image and 2D Assets	Field of study	Visual Arts/Computer Science
Bachelor in	Game Design	School	School of Public Management, Communication and Tourism
Academic Year	2023/2024	Year of study	1
Type	Semestral	Semester	2
Workload (hours)	162	Contact hours	T - TP 30 PL 30 TC - S - E - OT - O -
		Level	1-1 ECTS credits 6.0
		Code	8309-801-1203-00-23

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) Paulo Ricardo da Silva Alves

Learning outcomes and competences

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

1. Recognize and employ the basic principles of visual design for image display and printing;
2. Comprehend the phenomenon of image perception and produce images in response to this;
3. Distinguish, use and create different image formats maximizing quality for different outputs;
4. Understand the differences between vectorial and non vectorial images;
5. Identify and use different typographic family;
6. Demonstrate knowledge related to image generation and effectively use IT tools for that purpose;
7. Analyze themes, compositional structures, models and techniques found in images with different formats and functions;
8. Develop the use of software to produce bitmap or vector images to improve the visuality and communication of a product.

Prerequisites

Before the course unit the learner is expected to be able to:
The student must have IT literacy.

Course contents

- 1) Image, its perception and principles of composition 2) Digital instruments: bitmap 3) Digital image editing and generation 4) Pixel Art 5) Digital instruments: vector 6) Vector Art 7) Case studies

Course contents (extended version)

1. The concept of image:
 - Human visual system;
 - Image concept, resolution, formats;
 - Bitmap vs. vector
 - Principles of visual composition
 - Graphic styles in digital games
2. Digital instruments: bitmap
 - Introduction to bitmap image editing
 - Common features of an image editor
 - Interface, tools, export
3. Digital image editing and generation
 - Basic concepts and techniques
 - Digital painting for concept art
 - Photocomposition for concept art
4. Pixel Art
 - Process and techniques
 - Pixel Art vs. Voxel Art
 - Sprites e Spritesheet
 - Tilesets
5. Digital instruments: vector
 - Introduction of the vector image creation
 - Common features of a vector software
 - Interface, tools, export
6. Vector Art
 - Process and techniques
 - Graphic styles (flat, isometric, cartoon and skeuomorphism)
7. Case studies

Recommended reading

1. Fichner-Rathus, L. (2014). Foundations of Art and Design. 2nd Ed. Cengage Learning. [ISBN 978-1285456546]
2. Glitschka, V. (2015). Vector Basic Training: A Systematic Creative Process for Building Precision Vector Artwork. 2nd Ed. New Riders. [ISBN 978-0134176734]
3. Silber, D. (2015). Pixel Art for Game Developers. CRC Press. [ISBN-13: 978-1138413559]
4. VVAA (2009). Digital Painting Techniques: Practical Techniques of Digital Art Masters. Routledge. [ISBN 978-0240521749]
5. Zeegen, L. (2010). Complete Digital Illustration: A Master Class in Image-Making. Mies: Rotovision SA. [ISBN: 9782888930969]

Teaching and learning methods

Expositive method: with the viewing of various visual compositions, enabling the transmission of knowledge in a structured and continuous manner. Interrogative method: in order to develop students's critical skills. Demonstrative method: leaning on technical equipments and software tools. Active method: where the students take the lead in solving some exercises and works.

Assessment methods

- Final Evaluation (Interns e Erasmus) - (Regular, Student Worker) (Final, Supplementary, Special)
 - Projects - 25% ("Photobashing and digital painting" individual project.)
 - Projects - 20% ("Pixel Art" individual project.)
 - Projects - 25% ("Vector Art" individual project.)
 - Projects - 5% (Project conducted at the Interdisciplinary Week of DJD. Minimum grade: 7.)
 - Work Discussion - 5% (Participation, attendance and punctuality)

Assessment methods

- Projects - 20% (Integrated Project.)

Language of instruction

Portuguese, with additional English support for foreign students.

Electronic validation

Paulo Ricardo da Silva Alves	Barbara Costa Vilas Boas Barroso	Carlos Sousa Casimiro da Costa	Luisa Margarida Barata Lopes
25-05-2024	29-05-2024	31-05-2024	04-06-2024