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804235 - IDI - Interfaces Design and Interaction

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: Fábregas Ruesgas, Juan José

Others: del Castillo Figueruelo, Arantzazu

Degree competences to which the subject contributes

Specific:

CEVJ 3. (ENG) Aplicar las metodologías de diseño de interfaces gráficas de una aplicación interactiva siguiendo criterios de usabilidad y accesibilidad y teniendo en cuenta las diferentes plataformas a las que puede ir dirigida.

Transversal:

04 COE. EFFICIENT ORAL AND WRITTEN COMMUNICATION. Communicating verbally and in writing about learning outcomes, thought-building and decision-making. Taking part in debates about issues related to the own field of specialization.

CT3. TEAMWORK: Being able to work in an interdisciplinary team, whether as a member or as a leader, with the aim of contributing to projects pragmatically and responsibly and making commitments in view of the resources that are available.

CT4. EFFECTIVE USE OF INFORMATION RESOURCES: Managing the acquisition, structuring, analysis and display of data and information in the chosen area of specialisation and critically assessing the results obtained.

07 AAT. SELF-DIRECTED LEARNING. Detecting gaps in one's knowledge and overcoming them through critical self-appraisal. Choosing the best path for broadening one's knowledge.

Teaching methodology

New contents explanation and guidethrough the stuff given for study or practice making. Students can take part, usually asking issues relating the contents and taking notes.
Discussions opened class where students take part, asking questions and doing side by side with the teacher practices revisions.
In-class practice making and out of them due to the guidelines given from the teacher. During the subject the students will make 2 practices.

Learning objectives of the subject

- Understand and know all the processes, techniques, technologies and softwares related to the GUI creation and being able to apply them to a real project.
- Being able to design, evaluate and test usability, accessibility and playability of videogame interfaces.
- Knowing all standards and regulations related multimedia applications and ussability, accessibility, playability and UCD focused on videogames players.
- Undesrtangind human behaviour in workflows and psichological processes and being able to apply this knowdleges ind the decision making videogames process.

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- Understand and handle UCD method (User Centeder Design) and all methods, techniques and technologies related for applying them into videogames design and development.
- Understand and beware about social responsability related to all accessibility guidelines and being able to apply them sutiably to every videogame or multimedia application.
- Plan strategies to prepare and make speeches and organize contents, style and grammar-ortography rules oriented to well structured documents.
- Improve team work skills for organise purposes, being efficient and rewarding communication, well balanced tasks and cohesion.
- Design and plan a good search of specialized resources locating the right information keeping in mind issues as relevance and quality rules. Being able to identifying academic document structure and identifying blibliographic references.
- Make works after basic guidelines given from faculty, organising timelines, making personal contributions and increasing the bibliographic references.

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

1. User Experience Design

Learning time: 10h
Theory classes: 4h
Self study : 6h

Description:
The basic concepts related to the user experience and its design are studied: Usability and playability. Player Experience. Accessibility. Interaction. Human Computer Interaction. Interface. Fun and video games. Formal approaches & Frameworks. Game User Research. User Experience & User Experience Design.

Lesson 2. Attention

Learning time: 5h
Theory classes: 2h
Self study : 3h

Description:
The concept of "attention." The attention in video games. Types of attention Determinants of attention. The attention according to type of task. Visual attention and eye-tracking technology

Lesson 3. Perception

Learning time: 5h
Theory classes: 2h
Self study : 3h

Description:
The concept of "perception". The perception in video games. Determinants of perception. Color and emotions. Depth perception. Perception of movement.

Lesson 4. Memory

Learning time: 5h
Theory classes: 2h
Self study : 3h

Description:
The concept of "memory." The concept of "learning." The structures and functions of memory. Memory and learning in video games.

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Lesson 5. Usability test with eye-tracking	Learning time: 7h 30m Theory classes: 3h Self study : 4h 30m

Description:
What are the usability tests and how are they planned and developed, and how how are the results analyzed. Visual field, saccadic movements and fixations. Usability test technique with eye tracking: Gaze plots. Heat maps Eye-tracking technology: design of eye-tracking projects.

Lesson 6. Playtesting	Learning time: 5h Theory classes: 2h Self study : 3h

Description:
What are the playtesting and how are they planned and developed, and how are the results analyzed.

Lesson 7. Heuristic Evaluation and Cognitive Walkthrough	Learning time: 7h 30m Theory classes: 3h Self study : 4h 30m

Description:
What are the heuristic evaluation and the cognitive walkthrough, and how are they planned and developed, and how are the results analyzed.

8. Game Accessibility.	Learning time: 5h Theory classes: 2h Self study : 3h

Description:
Accessibilit: concept and accessibility of video games.

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Planning of activities

Practice 1. Inspections of video games	Hours: 17h 30m Practical classes: 7h Self study: 10h 30m

Description:
Students will inspect video games to identify usability problems related to visual attention and visual perception.

Exercise 2. Usability test with eye tracking	Hours: 30h Practical classes: 12h Self study: 18h

Description:
Students will develop a usability test with eye-tracking of a part of a videogame to confirm that there are no usability problems related to attention or visual perception and, in the event of finding any problem, they will raise the proposed solution.

Exercise 3. Playtesting, Heuristic Evaluation and Cognitive Walkthrough of video games	Hours: 32h 30m Theory classes: 13h Self study: 19h 30m

Description:
Students will design and develop a playtesting, a heuristic evaluation and a cognitive walkthrough of a video game. They may be different video games for each technique

Qualification system

Practices.
. Exercise 1, 15% worthing of final grade.
. Exercise 2, 15% worthing of final grade.
. Exercise 3, 15% worthing of final grade.
Test exams.
Tests average, 15% worthing of final grade.
Mid-term exam.
· 1 mid-term exam, 20% worthing of final grade.
Final exam
· 1 final exam, 25% worthing of final grade.

Participation and student learning attitude, 10% worthing of final grade.

Suspended students can reach for the re-evaluation, no matter the final grade obtained (There is no minimum grade to access, if and when the grade is different from NP). The grade obtained in the re-evaluation replaces, if it is higher of the grade obtained in the continuous evaluation, except for the participation and learning attitude. The final grade of the course, calculated from the re-evaluation exam, can not exceed 5.

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Regulations for carrying out activities

Practices will be done mostly out of class, in personal work time, but some of the work will be also done in-class with faculty support.
Practices evaluacion doesn?t imply only the final result but also in-class public speeches and on-time and format-right deliveries through digital campus.
Documents structure must be due to the guidelines, specially in file-names format and contents organization. Right documentations handling is one of the subject?s purpose, so it will be key in subject evaluation.

Bibliography

Basic:

Bernhaupt, R. Game user experience evaluation. Springer, 2015.

Complementary:

Geslin, E., Jégou, L., & Beaudoin, D. "How color properties can be used to elicit emotions in video games". International journal of computer games technology. 2016, núm. 1.

Caroux, L., & Isbister, K. "Influence of head-up displays: characteristics on user experience in video games". International journal of human-computer studies. 2016, núm. 87, p. 65-79.

Lucero, A., Karapanos, E., Arrasvuori, J., & Korhonen, H. "Playful or gameful?: creating delightful user experiences". Interactions. 2014, vol. 21, núm. 3, p. 34-39.

Sharek, D., & Wiebe, E. "Measuring video game engagement through the cognitive and affective dimensions". Simulation & gaming. 2014, vol. 45, núm. 4-5, p. 569-592.

Almeida, S., Veloso, A., Roque, L., & Mealha, O. "The eyes and games: A survey of visual attention and eye tracking input in video games". Proceedings of the SBGames. 2011, p. 1-10.

Koeffel, C., Hochleitner, W., Leitner, J., Haller, M., Geven, A., & Tscheligi, M. "Using heuristics to evaluate the overall user experience of video games and advanced interaction games". Evaluating user experience in games. 2010, p. 233-256.

Przybylski, A. K., Rigby, C. S., & Ryan, R. M. "A motivational model of video game engagement". Review of general psychology. 2010, vol. 14, núm. 2, p. 154.

Brockmyer, J. H., Fox, C. M., Curtiss, K. A., McBroom, E., Burkhart, K. M., & Pidruzny, J. N. "The development of the Game Engagement Questionnaire: A measure of engagement in video game-playing". Journal of experimental social psychology. 2009, vol. 45, núm. 4, p. 624-634.

Pagulayan, R. J., Keeker, K., Wixon, D., Romero, R. L., & Fuller, T. "User-centered design in games". Human-computer interaction: designing for diverse users and domains. CRC Press, 2009.

Chen, J. "Flow in games (and everything else)". Communications of the ACM. 2007, vol. 50, núm. 4, p. 31-34.

El-Nasr, M. S., & Yan, S. "Visual attention in 3D video games". Proceedings of the 2006 ACM SIGCHI international conference on Advances in computer entertainment technology. 2006, p. 22.