Degree competences to which the subject contributes

Specific:
- CEVJ 3. Apply graphic interface design methodologies in an interactive application based on usability and accessibility criteria, taking the various platforms to which it can be directed into account.

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.
- Understanding human behaviour in workflows and psychological processes and being able to apply this knowldges ind the decision making videogames process.
- Understand and handle UCD method (User-Centered Design) and all methods, techniques, and technologies related for applying them into videogames design and development.
- Understand and beware about social responsibility related to all accessibility guidelines and being able to apply them suitably to every videogame or multimedia application.
- Plan strategies to prepare and make speeches and organize contents, style, and grammar-orthography rules oriented to well-structured documents.
- Improve team work skills for organize 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 bibliographic references.
- Make works after basic guidelines given from faculty, organizing timelines, making personal contributions and increasing the bibliographic references.

**Study load**

<table>
<thead>
<tr>
<th>Total learning time: 150h</th>
<th>Hours large group: 18h</th>
<th>12.00%</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Hours medium group: 30h</td>
<td>20.00%</td>
</tr>
<tr>
<td></td>
<td>Hours small group: 0h</td>
<td>0.00%</td>
</tr>
<tr>
<td></td>
<td>Guided activities: 12h</td>
<td>8.00%</td>
</tr>
<tr>
<td></td>
<td>Self study: 90h</td>
<td>60.00%</td>
</tr>
</tbody>
</table>
Content

<table>
<thead>
<tr>
<th>Lesson 1. User Experience Design</th>
<th>Learning time: 10h</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Theory classes: 4h</td>
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<tr>
<td></td>
<td>Self study: 6h</td>
</tr>
</tbody>
</table>

**Description:**

<table>
<thead>
<tr>
<th>Lesson 2. Attention</th>
<th>Learning time: 5h</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Theory classes: 2h</td>
</tr>
<tr>
<td></td>
<td>Self study: 3h</td>
</tr>
</tbody>
</table>

**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.

<table>
<thead>
<tr>
<th>Lesson 3. Perception</th>
<th>Learning time: 5h</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Theory classes: 2h</td>
</tr>
<tr>
<td></td>
<td>Self study: 3h</td>
</tr>
</tbody>
</table>

**Description:**

<table>
<thead>
<tr>
<th>Lesson 4. Memory</th>
<th>Learning time: 5h</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Theory classes: 2h</td>
</tr>
<tr>
<td></td>
<td>Self study: 3h</td>
</tr>
</tbody>
</table>

**Description:**
The concept of "memory." The concept of "learning." The structures and functions of memory. Memory and learning in video games.
Lesson 5. Usability test with eye-tracking

| Description: |
| What are the usability tests and how are they planned and developed, and 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. |

Learning time: 7h 30m
- Theory classes: 3h
- Self study: 4h 30m

Lesson 6. Playtesting

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

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

Lesson 7. Heuristic Evaluation and Cognitive Walkthrough

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

Learning time: 7h 30m
- Theory classes: 3h
- Self study: 4h 30m

8. Game Accessibility.

| Description: |
| Accessibility: concept and accessibility of video games. |

Learning time: 5h
- Theory classes: 2h
- Self study: 3h
### 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.
- Tests average, 15% worthing of final grade.
- Test exams.
  - 1 mid-term exam, 20% worthing of final grade.
  - 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.
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 evaluation 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:


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.


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