Projects for ETSIST Incoming Students - PROJECT PROPOSAL

Academic year 2024 / 2025

Project description	
Project name: Therapeutic videogames and natural interfaces for people with disabilities	
Academic year: 2024/25	Semester: ●Fall ● Spring
Starting date[1]: Sep 2024 or Feb 2025	Ending date[2]: Jan 2025 or July 25
UPM Centre: ETSIST	Hours per week: 12 / 16
Total hours: 180 / 240	Credits: 6 / 9

Supervisor data:	
Name: Martina Eckert	
Department: Ingeniería Audiovisual y Comunicaciones (DIAC)	
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Project contents and requisite skills

In the GAMMA research group (Group of MultiMedia and Acoustic Applications) we have been working for several years on the design and creation of video games for people with disabilities or certain therapeutic needs, i.e., exergames based on Kinect motion capture or games to train auditive skills. All work done by students is presented here:

https://naturalinterfaces.etsist.upm.es/

Collaborating students are supposed to contribute to the development of the games and the associated web platform, which is used to monitor the players progress and to adjust the difficulties of the games according to each player's needs.

The work requires good skills in programming, documentation, and communication. Previous knowledge of Unity, Blender, C#, Java, Python etc. would be welcome.

Expected learning outcomes

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[1] Note that the starting date cannot be before the beginning of the lectures in the corresponding semester
[2] Note that the ending date cannot be after the last exam in the corresponding semester

Capacity for abstraction, analysis and synthesis and problem solving.

Ability to search and select information.

Autodidactic learning of new software applications and programming environments.

Critical reasoning.

Ability to design, create, and program video games in general and especially with application in therapeutic environments.

Understanding of usability and accessibility criteria for interactive games for people with disabilities or special needs.

Rules for students

a) To join the project, to follow the rules and schedule agreed with the supervisor, and to duly justify any possible absence.

b) To carry out the activities specified in the project schedule and to keep the necessary contact with the supervisor.

c) To inform to the Internship Coordinator at ETSIST, or to the Mobility Office, of any event or complaint that may arise in the development of the project.

d) To send to the Internship Coordinator at ETSIST an interim report (Annex II), a final report of the work carried out (Annex III) and the satisfaction questionnaire of the internships, according to the forms and the deadlines set in the annexes of this regulation.

e) To maintain the confidentiality of the internal information of ETSIST, Department or Center to which they have got access, as well as to not exploit the work carried out in the project without express authorization.