

International Traineeship Proposal

Host Institution (placement place)	Polytechnic Institute of Beja							
Web	https://www.ipbeja.pt/en/Pages/default.aspx							
Activity (working area)	Virtual Environments / Gestural Interaction							
Contacts of the Host Institution (contact person, address, tel and e-mail)	Luís Bruno (PhD) Av. Pedro Soares 7800-295 Beja* Portugal (lbruno@ipbeja.pt)							
Number of students	2							
Student Profile (academic area)	computer science / IT							
Duration in months	3 to 6 months							
Starting date (preview)	1st march 2016							
Host department	Engineering							
Department function / job title	IT Researcher Trainee							
Description of activities (general program of the training period and main activities)	<p>Design and implementation of an interactive application prototype that allows users to control the avatar position in a virtual environment and manipulate (selection, motion and deletion) objects in a large screen using natural gestures. The avatar motion control should be detected from footstep gestures and the object manipulation should be captured from the arm/hand/finger gestures. The main purpose of this system is to encourage physical and sensory their users specially people with special needs (motor control), or elderly persons. These examples explore similar goals to this proposed project.</p> <p>The input data for the gestures are from the Microsoft Kinect sensor, programmed using SDK Kinect for Windows 2.0. The virtual environments should be developed using the Unity – Game Engine.</p> <p>The system should be developed by the following steps:</p> <ul style="list-style-type: none"> • Users, tasks and use cases analysis • Interaction Design Models • Virtual Environments Modelling • Development of iterative gestural prototypes • Tests with users 							
Other qualifications or comments	<ul style="list-style-type: none"> • Apply knowledge of programming, human computer interaction and virtual environments areas; • Resume the developed work using a poster and a four pages article/paper. • Self Study 							
Computer skills	<table border="1"> <thead> <tr> <th>Skills</th> <th>Level</th> </tr> </thead> <tbody> <tr> <td>1. Computer Programming</td> <td>good</td> </tr> <tr> <td>2. Interaction Design</td> <td>good</td> </tr> </tbody> </table>	Skills	Level	1. Computer Programming	good	2. Interaction Design	good	
Skills	Level							
1. Computer Programming	good							
2. Interaction Design	good							

	3. Virtual Environments Modeling	adequate				
Language skills	<table border="1"> <tr> <th>Skills</th> <th>Level</th> </tr> <tr> <td>1. English</td> <td>good</td> </tr> </table>	Skills	Level	1. English	good	
Skills	Level					
1. English	good					
Comments on the trainee profile	The trainees must have a strong will to learn new skills and knowledge to apply it in a practical way in order to get a functional system prototype.					
Monthly remuneration	€					
Accommodation (please select)	<input type="checkbox"/> Accommodation will be provided <input checked="" type="checkbox"/> We can assist with finding accommodation <input type="checkbox"/> Student to make own arrangements					
Other facilities	Accommodation (depending on the availability at the time)					
Contact person at the HOST Institution (name, position, e-mail)						

Applications:

In order to proceed with the application, interested students should send the following documents to

Luís Bruno (bruno@ipbeja.pt) until February 10th:

- Letter of Motivation
- Curriculum Vitae (europass model) <http://europass.cedefop.europa.eu/europass>