Erasmus+

EPR@LC
Elearning Course

Structure (Draft version)

Educational Robotic and Programming and Learning Scenarios
2020-1-PT01-KA201-078670

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Structure of the Elearning Course

Context

To be filled

Goals

To be filled

Content

MODULE 0 – PRESENTATION AND GOALS

MODULE 1 – LEARNING SCENARIOS – EXAMPLES (TURKEY)

GOALS

The intent of a goal-based scenario is to provide motivation, a sense of accomplishment, a support system, and a focus on skills rather than facts.

APPROACHES

Example 1: Compliance
This course uses a standard scenario based approach with relevant imagery as a backdrop, and this is overlaid with text and characters. It has intuitive layouts to make learning simple, effective, and scalable for rapid development.
Example 2: Soft Skills
The learners are given real-life situations, and the formative feedback helps them understand the impact of their actions and identify the right approach.

Example 3: Professional Skills
The goal is to help learners identify the most relevant and suitable audio strategy in a course. A storyline that uses branched scenarios is able to involve learners and provide a realistic context for them so that they can utilize their learning effectively in a real-world setting.

Example 4: Application Simulations
A master challenge at the end of the simulations helps the learners practically apply the learning (similar to what they would be required to do on the job).

AUTONOMOUS WORK

To be filled

MODULE 2 – USING ARDUINO AND SENSORS (AE CABRITA/ANPRI)

GOALS

Understand the functionality of a microcontroller;
Learn Arduino microcontroller programming techniques;
Learn how to connect different sensors and actuators to the Arduino;

APPROACHES

Installing and configuring the Arduino IDE or using Tinkercad.
Creation of circuits, observing the correct connection of the different components.
Implementation of code required to trigger sensors and actuators.

AUTONOMOUS WORK

The student must build an electronic circuit, with adequate componentes, to solve real problems.

EVALUATION

After completing the course, as part of the evaluation students will fill in the form, thanks to which it will be possible to increase the effectiveness of the course.

To implement this module in practice, the following material is recommended arduino starter kit (arduino Uno; leds; resistors; breadboard; LDR; potentiometer; wired jumpers; push buttons;

MODULE 3 – VIRTUAL REALITY (ITALY)

GOALS

The main goal is familiarizing with the use of VR/AR as a normal learning scenario and approach

APPROACHES

1. Download the software needed to use immersive learning scenario
2. Starting from creating the personal avatar and exploring the immersive world
3. Starting from building the work's land and using scratch for immersive world
4. Use of the immersive world to have online meeting and to work on the project
5. Use of an another on line platform to integrate the immersive one with the VR/AR

AUTONOMOUS WORK

While working, students will create their own land with buildings such as schools, library using scratch for immersive world too. They will meet in the immersive world to collaborate and to check all the work in order to solve problems. Finally students can check all the work with teachers and other students. They will record a video about their land.

EVALUATION

Students will fill in the form and present their work to other students.

MODULE 4- 3D PRINTING (POLAND)

GOALS

The main goal is to familiarize participants with 3D printing.
Starting from designing through cutting the design to be ready for printing.

APPROACHES

1. Preparation of the project through the program Inventor
2. Familiarization with the principles of 3D printing.
   - how work 3d printer
   - what is first layer
   - what is a support and how to use it
   - how to prepare a file for printing
3. Basics of using the program PrusaSlicer

AUTONOMOUS WORK

While working, students will create their own projects using the program Inventor. They will then export this step file for further processing using the program PrusaSlicer, they will prepare the project for printing with the use of appropriate print parameters, depending on the purpose of the project. Ultimately, students will oversee the printing process and respond appropriately to any difficulties that arise.

EVALUATION

After completing the course, as part of the evaluation students will fill in the form, thanks to which it will be possible to increase the effectiveness of the course.

MODULE 5- CHALLENGES TO THE IMPLEMENTATION OF EPR@LC (SC AND ALL PARTNERS)

GOALS

To create, apply and evaluate a learning scenario containing the exploration of ERP and its application in an educational context.

APPROACHES

Presentation of a flexible template to create learning scenarios.
Discussion of strategies for apply learning scenarios - creating a collaborative mental map about learning scenarios for EPR
Prepare a learning scenario and apply it into a pedagogical context
- Design the LC
- Implementation of the LC in the classroom
- Evaluation
  - Perceptions of the students
  - Reflection of the teacher

AUTONOMOUS WORK

In the autonomous work, it is intended to implement with its students the learning Scenarios created, articulating at least one of the modules with the curriculum. Teachers will submit the results of the LC application, with evidence, providing moments for sharing and reflection among the students inside the classroom.

Evaluation

There will be created a formative evaluation form to be filled by all the teachers at the end of each module. At the end of the course a final evaluation will be done.

Notes

Duration of each module (1 to 5) 5h synchronous + 5h asynchronous
For each Module, should be develop contents and evaluation in English and then translated by each partner (end of january – english version – to be discusses in Italy)
In the last Module, Teachers should present a learning scenario with a practice involving students and report how did it go.
Should be attended by 120 teachers
Promotion in each country - February
Certificate mechanism (Portugal – Anpri)
Course duration – 7 weeks – we need to set up a date! (March-April)
Must disseminate and gather teachers willing to do the course