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Goal of the project

The aim of this project is to develop the e-Learning part of the AUTOSAR (AUTomotive Open System ARchitecture) Division in Continental Automotive Romania. The aim of AUTOSAR is to create and further establish different standards for Automotive Electrics and Electronics architectures. Such an infrastructure can assist with the developing of automotive software. The current trend is to adopt AUTOSAR on different functional areas therefore is a tremendous demand of state-of-the-art trainings, available in different R&D locations. Hence the need to offer e-Learning trainings in a reliable and dependable fashion.

Short description of the project

In the rapid developing market of automotive industry, cutting-edge technologies are being introduced. One such example is the AUTOSAR standard. Companies are investing a large amount of finances for the training of their employees into the intricacies of such technologies. In order to face such an increase of the training costs, automotive corporation have started lately switching their approach to e-Learning systems. In order to develop the e-Learning solution we focused on the Software Development part of automotive industry. Therefore we had to gather the ideas from different trainers, come with a common approach and use specific techniques so that the trainee should get a real feeling of the material. It is presented the design, implementation and evaluation of this e-Learning solution, but more than that faced issues and learned lessons. Developing this solution has offered different insights into how to approach such a task which are useful for the further expansion of the project, but also for future researchers who might encounter such a challenge of developing e-Learning solutions for the automotive industry. These are all grouped in a set of guidelines related to following a model of implementation, getting track of participants, user interaction with the AUTOSAR standard, test and production development and so on.

Project implemented by

Razvan Bogdan

Implementation period

July 2015 – March 2016

Main activities

The solution, which is nowadays part of an actual ongoing automotive project, is to transfer the existing materials, knowledge and also software tools in an e-Learning environment. In this way, the AUTOSAR training can be offered at a lower cost, but to a larger community around the world. In order to achieve this task different steps were taken into consideration.

Step 1: Search for different tools that can be used in order to achieve the above goal

Step 2: Defining a process in order to develop the online training material

Step 3: Evaluation of the e-Learning solution

Results

This solution is practically offering to each trainee the means to understand and apply the intricacies of AUTOSAR standard to different projects. Giving the fact that is an e-Learning system, issues such as time and cost were overcome. Participants can be from different locations around the world and the trainer does not have to move long distances for a certain Research & Development center. From the trainee point of view, he / she can spend as much time as needed until lessons are learned and also different quizzes and assessments are available both during the concept presentation and at the end of each module. The architecture of the e-learning solution is presented in the figure.

Also, 2 scientific papers have been published as results of this project. One of the paper, entitled "Guidelines for developing educational environments in the automotive industry", has been accepted for publication in the Web of Science rated journal, called International Journal on Interaction Design and Architectures.

Applicability and transferability of the results

The present project is being used in automotive industry since 2015.

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Research Centre

Mobile computing, sensor networks and embedded systems Laboratory

Research team

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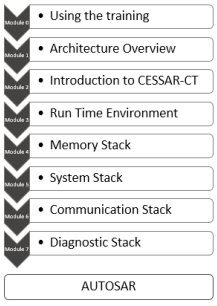

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