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Project Title:

Integrating Baxter Robot into the Factory of the Future

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Summary:

Baxter Robot is an example of the new generation of industrial robots. The main characteristic of Baxter which distinguishes it from other industrial robots is its harmlessness towards human being. Unlike ordinary industrial robots, Baxter does not need to be isolated inside cages for human protection. It is designed to work hand in hand with human workforces, which means human workforces can work with Baxter to do some popular factory works such as assembly, packaging palletizing etc. From the other side, to utilize the full capacity and functionalities of it, Baxter has to be integrated into the flexible manufacturing systems which are going to replace the traditional and rigid manufacturing plants and therefore is called factory of the future. Thus, the main aim of this project is to design and implement an integration plan for Baxter in AIC3 lab at SRT, which is our State-Of-The-Art laboratory, resembling the factory of the future concepts in academia. Figure1 shows the Baster Robot in AIC3 Laboratory at SRT. However, the main aim of this project can be addressed by achieving the objectives mentioned below.

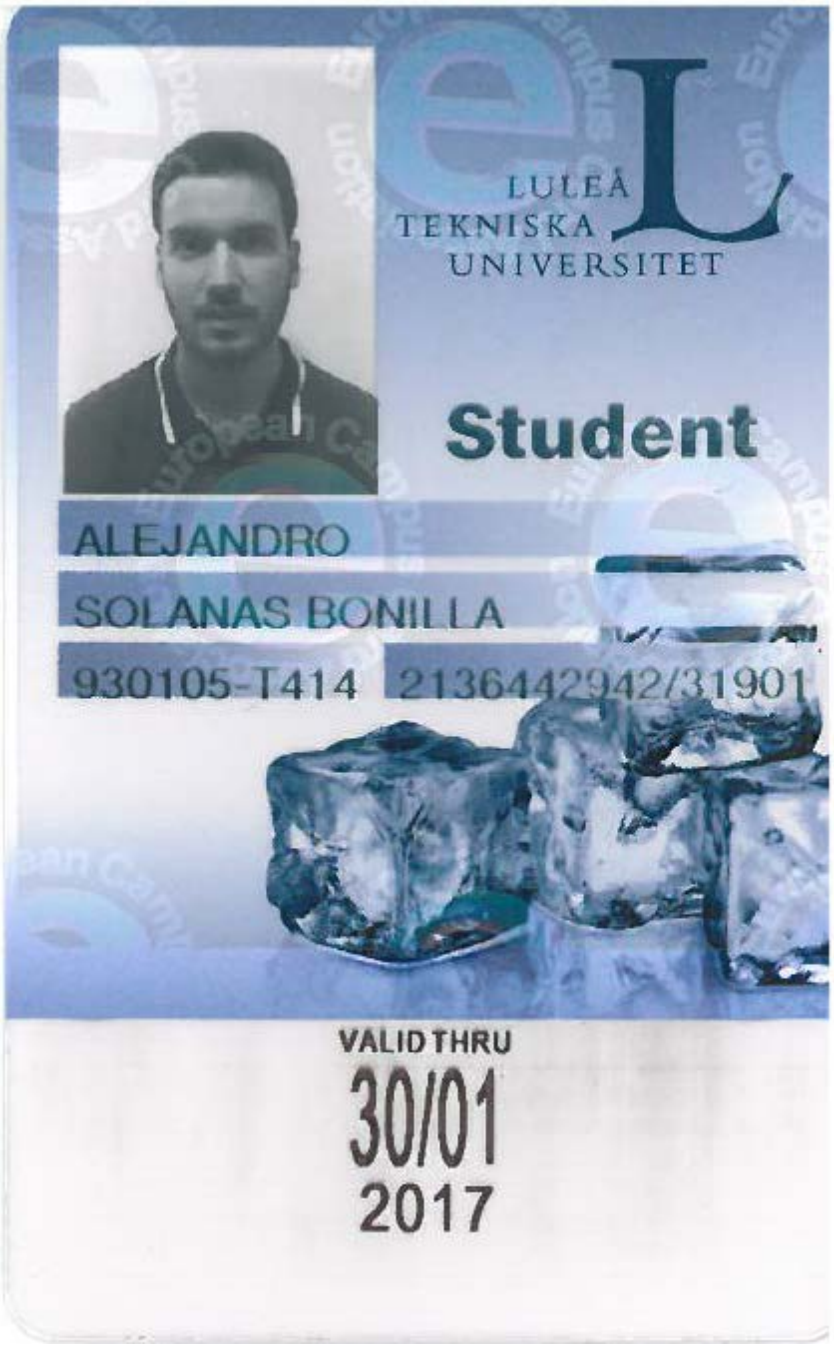
Objectives of the project:

1- Installation of appropriate software as well as communication tools to create an integrated programming environment for Baxter Robot
2- Testing and gaining appropriate knowledge to work with Baxter Robot and its accessories.
3- Design and implementation of a communication model between Baxter Robot and IEC61499 industrial automation model.
4- Design and implementation of a simple operational scenario for Baxter Robot, to test the usability of the suggested communication model.

Duration of the project:

September 1, 2016 - December 30, 2016

Figure1: Baster Robot in AIC3 Laboratory at SRT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