



## **THE IMPLEMENTATION OF A CLOUD SYSTEM FOR ELECTRONICS LEARNING IN A MOROCCAN PUBLIC UNIVERSITY**

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*Abstract- Educational laboratories are places for realizing experimentations and they are important for modern engineering education. The problem is what if there are simply not enough devices or time for conducting experimentation in a local lab? Other factors that prevent the use of local lab devices directly by students are inaccessible or dangerous phenomena, or polluting chemical reactions. The new technologies bring additional strategies of learning and teaching, so it becomes a challenge to integrate the information and communication technologies ICT into the engineering sciences learning. Nowadays, there are two types of online labs, virtual and remote labs. Virtual labs that provide simulation environments for experimentations, remote labs are based on conducting the experimentation remotely through the Internet. In this paper, an example of a successful development and deployment of a cloud based remote lab in the field of engineering education, integrated in the Moodle platform, using very low-coast, high documented devices and free software. The remote lab is user friendly for both trainers and students.*

**Index terms:** Remote lab, Cloud, Online learning, Moodle, Arduino, Engineering education, web 2.0.