

## Educational and School Management Platform

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**Abstract:** Education and School Management Platforms (ESMP) determines in a large scale the quality of school institutions especially in administrative aspect. There are several platforms with limited services depending where those platforms are applicable. We designed and implemented a new web system which covers several new features from administrative tasks, students requests, quality assurance, and professors evaluation including also video conferences and broadcasting. This all in one platform seems to be very efficient, easy to use and also is open-source platform.

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### 1. INTRODUCTION

Although there are hundred different platforms [Koretz, D. M., 2008][Peng Yueqing, 2010] of School and Education Management Systems, none of them fulfills all needs or requirements of specific institutions. In such cases the Educational Institutions are forced to buy more than two different products in order to complete their needs. Based on this we implemented a cross-platform web application that helps managing education and school systems named ESMP. It supports interactions between school administrations, professors and students, using the services that this platform offers. Administrative officials manage students and services within this platform as well as aims to provide scalability, high availability and low latency. It comes out of the box with LMS, advanced online request system, intelligence evaluation system, class scheduling system, multi-party video-conference, statistically and quality reporting services, recording attendances for both, students and professors, document archiving. This paper does not deal with philosophic aspects of ESMP features but with new technical solution. An overview of ESMP structure is shown in Fig. 1.

### 2. LEARNING MANAGEMENT SYSTEM

Learning Management System (LMS) [He Ren Yu, 2014] provided within ESMP is customized to meet the needs of universities and colleges Fig.2. Its design is based on the experience of students and professors. Main services of LMS included in this platform are lectures, tasks and groups. LMS is bundled with a video conference system that helps creating video rooms for communication be-

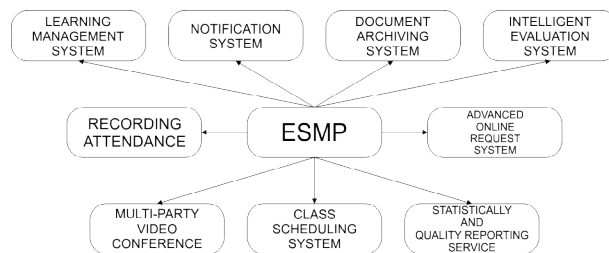


Fig. 1. ESMP Structure

tween professors and students. It is device responsive, it uses bootstrap [Bootstrap] framework as the most popular HTML, CSS, and JS framework for developing responsive, projects on the web. The first page of LMS displays to students new informations, comments and latest lectures as well as displays to professors newest students comments on their lectures. LMS main page shows a list of students subjects where each subject its represented with lectures, tasks and groups as shown in Fig. 3.

#### 2.1 Lectures

For the specific subjects professors can create lectures which can be viewed or downloaded from students as specific files. In order to do this professors share these files in LMS Fig. 4 and then they can be discussed by students and other classmates as well as professors on the comment section Fig. 5.

LMS have area where the files can be viewed or downloaded after they are selected. There is also a discussions area where students can collaborate with other classmates

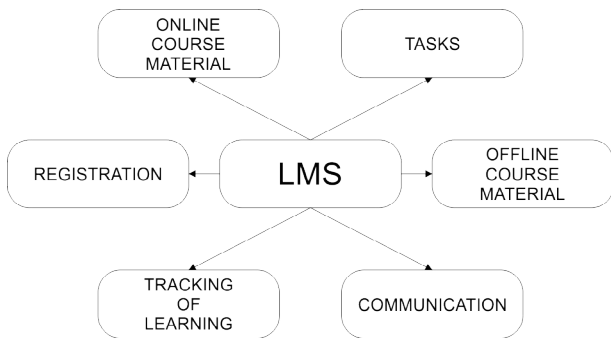


Fig. 2. LMS Structure

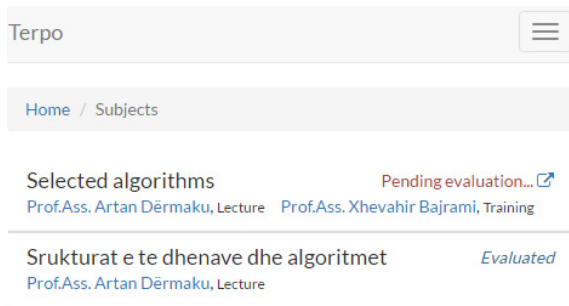


Fig. 3. List of student subjects

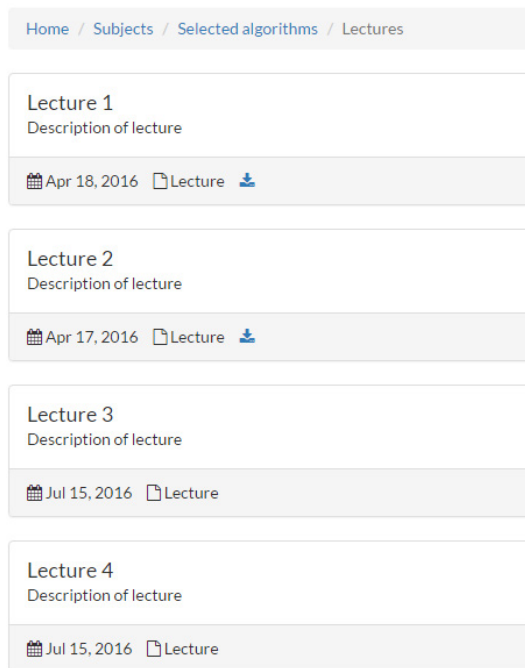


Fig. 4. List of lectures on selected subject

and professors, which embraces collaborative learning and establishes positive teacher-student relationship Fig. 5.

### 2.2 Tasks

Tasks are managed by professors. Professors can create and assign tasks to students or group of students as well as can make assessments based on their answers. So professors can track students progress during the academic year and engages students in other class activities Fig. 6.

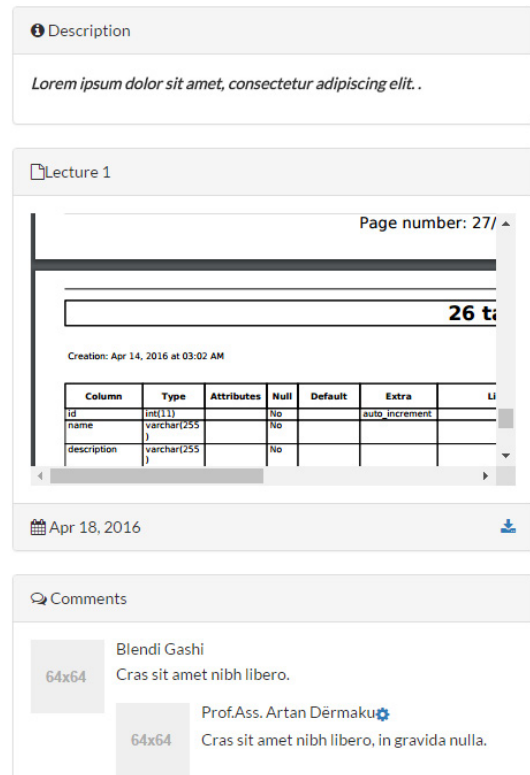


Fig. 5. View of lecture page and comments section

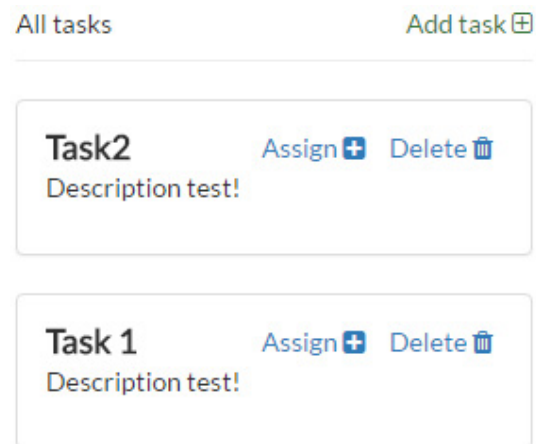


Fig. 6. Professors list view of tasks

Students can view task details including:

- (1) Description of the task,
- (2) Professor who created the task,
- (3) Deadline,
- (4) Included files.

Below the task panel (Fig. 7) can be found a form (Fig. 8) for submitting the answers to the task. In this form can be uploaded different file formats.

### 2.3 Groups

For each subject professors can create a single group or multiple groups at once. These groups appear automatically on the LMS students page where they can join these groups. After students join groups, professors can assign

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