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Enterprise Resource Planning Software in Public Institutions: Mapping Based Internship Management Portal

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Article Info	Abstract
	ERP (Enterprise Resource Planning) Systems are the software for management of all business processes in an integrated portal. Even though ERP Systems are used in a wide range of private sector, researches are being conducted about these system's applicability on public sector too. For this purpose, ERP Software Companies make research and developments for new modules applicable for Public Sector. Nowadays, because of few solutions exist per public sector needs and their being extremely expensive, public institutes head for different software solutions for different departments. In this work, a web based portal applicated is designed for the tracking and management of internship at firms, which plays a vital importance for Vocational High Schools.

I. Introduction

Nowadays, the companies need requirements of solutions for a faster method to reaching, managing and evaluating data. As a result of this requirement, the companies compose of many departments require a single platform and database for a healthy and faster data usage. An ERP Software used per these requirements provides a single system integrating all departments together data flow. But although countless benefits, according to researches, the implementation of these ERP Softwares takes averagly 23 months and brings too much expense to the companies [1]. Therefore, although the usage of ERP has been increased rapidly, these system has not been integrated and implemented in Public Institutions enough yet.

Being Public Institutes, there is not any existing use of this kind of software solutions yet in Public Schools. These has been some ERP implementations in various number of education institutes but it has been seen that they have failed at %60-80 percent [2]. Although the system of e-okul implemented in Turkey Public Schools with the aim of collecting some data in a single database, the ERP Systems like designed for private sector has not been used in schools yet. However, recently there are some ERP Firms conduction researching that meets new sector needs including public sector institutes [3].

Because there is not any existing ERP system used in schools, a variety of different software are used instead. But for the Vocational Schools, there is not any software solution for tracking education period of internships for students.

In this work, a web based portal application is designed for the tracking and management of students' internship at firms, which plays a vital importance for Vocational High Schools.

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2. Content Development Used Technologies and Content

2.1 Html

Standing for Hyper Text Markup Language, the purpose of HTML is to create web sites that is displayed on browser and share information on internet. HTML is used for creating pages which contains data like text, images or videos, and connect these pages together. Being standardized by W3C, HTML consists of a variety of elements named as tags. With the help of these tags, structure of web pages are created and display of these pages are provided by the applications named Browsers.

A common html page containts <html><head>...</head><body>...</body></html> tags. While page definition elements are instructed inside head tags, contents of pages are defined inside body tags.

2.2 PHP

PHP is a programming language which is embeddable inside html codes and works server-based. PHP codes is compiled by a server which contains php module and as a results web pages are created. Codes can be fetched by being written in a different web page or it can also be added inside pages.

PHP scripts are placed inside <?php ...?> and to be compiled by server, the extension of the pages that contain php codes has to be ".php".

2.3 Javascript

Javascript is a client-side based scripting language placed inside HTML codes and provides interactivity to the web pages. Web browsers allows modification over HTML objects by interpreting these codes. That is, instead of being interpreted on server, Javascript codes work on our computers. And this makes web pages more interactive.

Javascript codes can be added in two different way inside pages. It can be added with "<script type="text/javascript">// Kodlar..... </script>" tags inside HTML codes. This method is easy for simple applications. For extensive applications, javascript codes are written in a different file and loaded in pages by adding "<script type="text/javascript" src="script.js"></script>" definition between "<head></head>" tags or anywhere inside HTML pages.

2.4 Google Maps API

Provided for web developers, Google allows users to add interactive maps by using Google Maps API. Contaning both satellite and standard maps, users can develop custom applications per their web site needs by using this API Google maps can be inserted into pages in two ways; directly or via embedding. API KEY is required to use Google Maps in web applications. A script like

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<script type="text/javascript"
src="https://maps.googleapis.com/maps/api/js?key=API_KEY&sensor=SET_TO_TRUE_OR_FALSE">
</script>
```

is added inside pages.

2.5 Sublime Text

Sublime text is an open-source cross-platform source code editor. Developed by Phyton programming language, Sublime Text is an application that contains many plugins created by extending packages. It has become a favorite text editor with its ability to define syntax and colouring for numerous programming languages.

3. Mapping Based Internship Management Portal

This application is developed for managing internship of students at vocational high schools effectively. By the help of this development, internships will be managed online and teacher appointments related to trainings can be processed on portal. This work also strengthens relation between Firms and Schools, which is an absolute must, and contributes the benefits on students of internship and adaptation of firm for the students' education.

3.1 Definition of School Information

In this section, the definitions of department, class, teachers and students are made, beside the common info of school like address, telephone ie. Department teachers been sent passwords for joining portal to their emails. Record of student info can be created one by one or by uploading the list of students by an excel file into system (Figure 1).
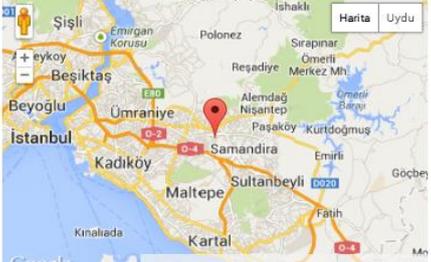
Figure 1. School information definition page of application

3.2 Editing Internship Information

Students create records of the firm's info themselves by entering into portal. For the students who can't handle this, a section for this purpose is created for portal manager to record internship info. In this section, the coordinates of firm is obtained by pinning its location on the map and its distance to school is automatically calculated. Thereafter, by using these info, assignments of teachers to the firms will be made over portal. Training info recorded by students will appear in coordinator assistant manager pages as "Pending Training Requests" and approved if they are proper for internship (Figure 2).

Figure 2. Editing Internship information of students

3.3 Teacher Assignment

After approval of internship, assignment of works for tracking student's trainings are made for teachers. On assignment screen, work assignment form, assigned works lists and documents screens exists. On the work assignment form page, you can see the location of firms, teacher and schools as pinned on map. With the help of this screen and portal manager may make assignments one by one, or assign all or remaining ones.

Figure 2. Editing Internship information of students automatically. At this point, distance of firms, assignment hours of teachers are taken into consideration during assignments made in order to have a justice decision (Figure 3).

Figure 3. Teacher assignment for internships

3.4 Student Screen

Students enter details of their internship themselves and can see if their appointments are approved. If approved they can see which teacher is assigned to control for their internship. Besides, they can also obtain the required documents for training uploaded by portal manager (Figure 4).
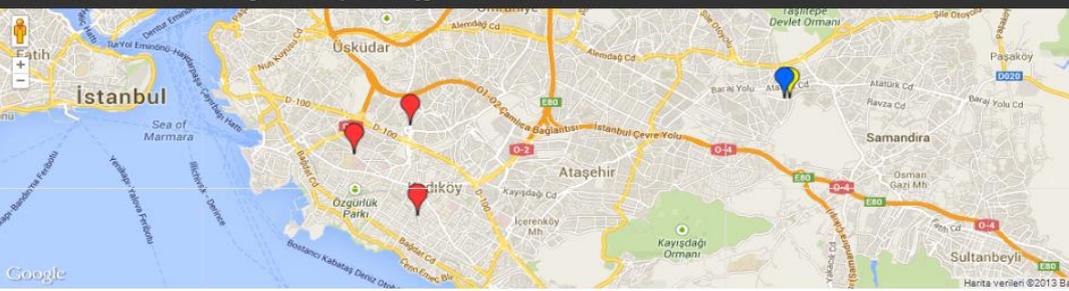

Figure 4. Page for students

3.5 Teacher Screen

Teacher enter to the system with their email address and provided passwords to the teacher screen. Principally, teachers are asked to update info about themselves and pin the location of their home on map. According to these information, tracking assignments for student internships are made. Also teachers will be able to see the assignments for them from this screen (Figure 5).

Figure 5. Page for teachers

4 Conclusions and Recommendations

With a purpose of simplifying tracking of internships, this work aims to create database for a sustainable school-firm relationships. By this means, reaching info for authorized officers of previously utilized firms will become easier and appreciation of the situation about both trainee requirements and firm training education can be made better.

Further, time spent for creating records of training information and assignment of teacher for firms will drop noticeably. Being automatically and bringing maximum benefits, assignments will make a major contribution for teachers.

On the other hand, the system is convenient for further developments. Instead of being applied in single school, the system can be designed for managing and documenting all school-firm relationships, requirements as an easily reached portal. Besides, this working environment can be evaluated for the contribution of the training at firm on the education of student, sufficiency of student substructure, and efficiency of the education provided at schools.

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