Customization of CMS Software for E-Learning Platform Implementation for Dentists

Amit Ashok Kamble
Native Software
Tauranga, Bay of Plenty
amit.kamble@hotmail.com

Kevin Reynolds
Triodent Ltd
Katikati, Bay of Plenty
kevin.reynolds@triodent.com

Jimmi Rosa
School of Business Studies
Bay of Plenty Polytechnic
Tauranga
jimmi.rosa@boppoly.ac.nz

Pablo Matamoros
Triodent Ltd
Katikati, Bay of Plenty
pablo.matamoros@triodent.com

ABSTRACT

This poster outlines an E-learning project at the Bay of Plenty Polytechnic which was conducted as a collaborative partnership with a local dental equipment manufacturing company. The resulting E-learning platform website for professional and student in dentistry was built based on a CMS software and its extensions.

Keywords

Collaborative project, E-learning platform, content management systems (CMS), certification and professional development.

1. INTRODUCTION

In this poster paper, we outline an E-learning project at the Bay of Plenty Polytechnic (CPIT, 2011). The project is conducted as a collaborative partnership with a local dental equipment manufacturing company that has been providing dental equipments locally and internationally since 2003.

The main objective of the project is to provide an online educational/certification platform for the dentists, dental technician and students pursuing career in dentistry to access up-to-date topics and information. In addition to taking classes and courses, they will also be able to interact with each other via online discussions, comments, emails and other online communication services (Schleyer & Dodell, 2005). See Figure 1 for functionalities and features.
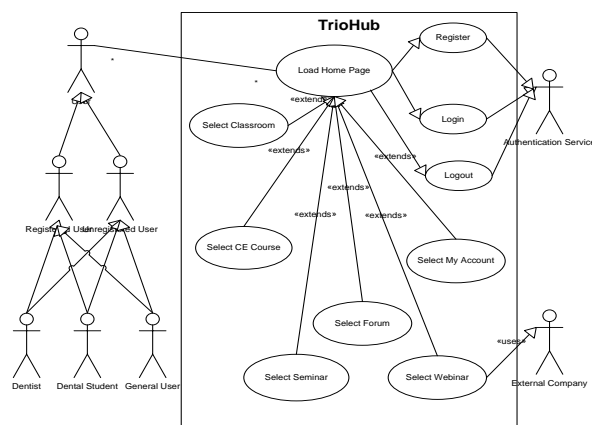

Figure 1: Overview of the E-learning platform

2. METHODOLOGY

The project used a variant of agile development methodology named as Adaptive Software Development (ASD) and Rapid Application Development (RAD) (Highsmith & Highsmith, 2009) and incorporated best practices in development of E-learning for education and professional development in dentistry (Schönwetter, 2010). It employed student and academic staff from the polytechnic and also web programmers, web designer and content/subject matter experts from the partner company.

The technology used for creating the E-learning platform is a content management system (CMS) software named Joomla ver. 2.5.0 (Joomla, 2012a). This software was chosen because it provides a large number of services and modules which can be easily installed, configured and modify that closely match the objective of the project. Joomla is based on PHP scripting language and implements MVC framework (Leff & Rayfield, 2001) and it preferably uses MySQL database software for storing data. Furthermore Joomla has a back-end where the administrator of the website can create, update and delete any data, information and relevant files/documents shown on the website. Majority of the development works was evolved around programming in the CMS framework and also around application of various Joomla's extension/plugins notably CourseManager, Kunena, Payflow Pro, etc. (Joomla, 2012b).
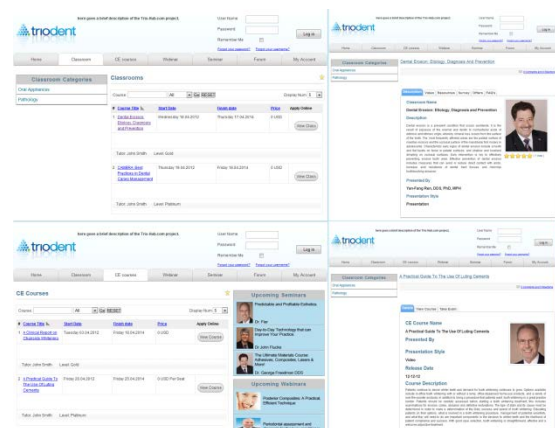

Figure 2: Front ends for Classroom and Certification Course

3. RESULTS

The E-learning platform is currently hosted as a prototype in the corporate website of the partner company (http://trio-hub.com). In the website the users are provided with several options e.g. Classrooms, Certification Courses, Webinar, Seminar, Forum, and MyAccount (Figure 2). For example, once a user selects the Classroom option the user is taken to a web page where various course materials i.e. articles, videos, links, quizzes, etc. are provided. The same goes for Certification Course option except it has fewer options to select from and this option allows the dentists to take exams so that they can keep up and

earn their credits for their licensing. The users are also able to communicate with expert presenters and other users through online discussion in the Forum, live interactions in the Webinar, comments, email, etc.

4. CONCLUSION

Being an E-learning platform the website will be online 24/7 and any users with web browser and access to the Internet can access it. The website will not only provide courses to the users, but also provide a way for the users to interact with others taking the course. The CMS software used and its extensions as the platform to develop the website were found to be really easy to configure and customize. The website is expected to be effectively manageable for the administrator and also runs across multiple browsers.

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