Project progress report

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Project goals

My project is to develop a web-based educational platform that can be used as a preparation tool for students attending the Edinburgh Community Pulmonary Rehabilitation Team for their placements. The goals of the project can be classified into two aspects, which are the front and back ends of the platform. For the front-end, it aims to support students in learning by themselves in a more accessible, interactive and efficient way. Based on the platform, students can gain the knowledge they are expected to have in their further work through interactive case studies, multimedia teaching materials like audios, videos, and images, and quizzes. In this case, the students can access the platform whenever and wherever they want to study, but also the process will be interactive and efficient. For the back-end of the platform, based on the fact that the team staff have varying abilities in computers, so it is important to make the platform easily accessible for the team staff to edit, add or remove, manage modules and enrich contents. In addition, it should be easy to maintain the back-end of the platform including updates or fixing some problems. The back-end should also record students’ study progression data so as to track their study performance and improve the course.

Methods

The whole development of the platform follows the ADDIE model, which represents *Analysis*, *Design*, *Development*, *Implementation*, *Evaluation*. In the first stage of the development, I have had two semi-structured interviews with the users, who are the team staff and the students to acquire the requirements. In order to understand the requirements more comprehensively and specifically, I also adopted a questionnaire survey, which was created by using Google forms. The questionnaire was written mainly based on the functional and non-functional requirements and some design related questions. After the stage of acquiring the requirements, I need to analyze the requirements carefully because it affects the following steps, which are design and delivery of the platform. Therefore, for analyzing these data in a comprehensive and qualitative way, I used thematic analysis method to identify and organize the patterns and themes representing some important information about the data in relation to the overall research questions driving the project. NVivo is such a useful qualitative data analysis (QDA) software, which is designed to help researchers working with rich text-based (in my case, they will be the interview transcriptions and the questionnaire results) or multimedia data do deeply qualitative analysis and organize, classify, sort and summarize the significant information.

When the requirements have been analyzed, I come to the stage of design and development. Based on the results analyzed in the previous stage, I need to think about how to integrate different instructional methods well such as quizzes, or case studies during the study in general.

During the implementation stage, I have been implementing the platform based on WordPress, which is the most popular Content Management System (CMS), because WordPress provides thousands of powerful plug-ins and themes. According to the previous requirements and design, I need to achieve the functionalities the platform is supposed to provide and also implement the interface of the platform to make it integrally and user friendly. For the last stage of evaluation, I will use interviews, questionnaires, and think aloud approaches together to help me evaluate the platform.

Current progress

For now, I am at the end of *Analysis* and *Design* stages. I have already had two meetings with our users. In the first meeting with the team leader Manos, we had a semi-structured interview, which aimed to acquire the main requirements of the platform. After the meeting, I transcribed the interview contents into a transcription document. Based on the interview transcription, I used NVivo software to make a qualitative and thematic data analysis for the requirements and summarized the requirements in a document. During the stage of Analysis and Design, I have attempted a lot of plug-ins and themes of the WordPress. And based on the requirements and resources Manos shared with me, I have implemented two demos using two different Learning Management System(LMS) plugins, which are *CoursePress* and *LearnPress* with many different quiz related plugins, such *as Quiz And Survey Master* and *WP-Pro Quiz*. I also have attempted some functionalities related plugins, such as

*Contact Form* 7, which is useful in managing and customizing forms. During this process, I have summarized the features and advantages or disadvantages of each useful plugin in a plugins review document for further design, implementation and the dissertation. In the second meeting with Manos and his colleague and one student of the team, I have confirmed the requirements with Manos and his colleague so as to ensure I understand what they want correctly. In addition, I have shown the demos I created to Manos and his colleague and the student Alex for acquiring feedback from them and discussing some specific unclear questions with them. After this meeting, I have perfected the requirements document and improved the design of the platform.

Further work plan

In the next one month, there are three main tasks needed to be completed. Firstly, based on the results of the previous work, I will integrate the existing plugins to make them work well together and implement the interface of the platform during the *Implementation* stage. After the implementation, I will evaluate the platform with the team and its students using interviews, questionnaires and Think-Aloud methods. Because the platform is run locally for now, I think it is hard to ask the users to evaluate it remotely. I believe it is better to have an evaluation meeting with both the students and the team. The date for the evaluation meeting is still uncertain, but it is supposed to be a date between 28th in July and 4th in August. During the meeting, I will deliver two questionnaires for the team and the students separately, combined with the System Usability Scale(SUS). Also I plan to make interviews with them separately so as to acquire more detailed feedback. If the time is allowed, I will use Think-Aloud approach for further evaluation of the platform. During the implementation and evaluation progression, I will keep working on my dissertation meanwhile. I have already at the end of the design and development phrase, so from now on, I will start writing the chapters of *background, related work, requirements, design* and *methodologies.* The following Gantt chart gives more details about my time plan of the project.

