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MOLP: AN EASY AND INTERACTIVE WAY TO LEARN MATHEMATICS USING ONLINE LEARNING PORTAL

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ABSTRACT

Learning mathematics can be done in many ways. However, during this Covid-19 pandemic, the most effective way of learning is through online learning where students can get all the information about the lesson quickly on the internet. Online learning portals can be a useful way to gather all the information and can be accessed easily by the students. Therefore, MOLP was developed as a one-stop center to combine all the interactive materials together. It can be an easy and interactive way to learn mathematics using online learning portal. MOLP was specifically developed for Pre-Commerce students who is learning Intensive Mathematics 1. A survey has been conducted to understand the student's limitations with the distribution of the current learning materials and their satisfaction in using MOLP. All the respondents agree that MOLP can help them in their studies, and they fully recommend MOLP to their friends.

Keywords: MOLP, one-stop center, interactive

Introduction

The rise of different forms of online learning platforms allows users to access all the information needed easily. Learning portals are special informatic tools which can provide effective usage of information learning on the internet. It is an online learning tools which provide a set of learning materials that are combine and stored in one place and can be accessed over the Internet.

Learning portals provide many advantages to categories of users. Student use portals for creative expression, interactive communication and for adopting new knowledge to speed up the learning process while educators use portals for interactive communication among themselves, information, cooperation, and specialization in their field. Besides that, parents can get latest information about their children study place and activities, while the education institution itself can provide information on anything related to the institution to the outside users (Anton & Nadia, 2007).

Learning Management Systems (LMS) are online learning portals where it provides a two-way communication between the educators and students. Besides accessing the learning materials, students can also communicate with their lecturers through the forums provided in the LMS (Chiang, Ahmad Fauzi & Wong, 2010). Most of the education institutions nowadays provide their own LMS for the ease of educators and students. Though, this LMS depends on the lecturer to upload all the materials whether in document or slide and student need to download the materials for them to read the content. Some

other lecturers will use different platform such as Google Classroom and Ms Teams to deliver the materials to the students. However, like other LMS, this platform needs the students to download all the shared materials and store it in their storage devices.

MOLP was being developed to overcome this problem as it can be a one stop center for students to get all the materials easily. Besides that, the content in MOLP is interesting and interactive as it is created using latest online tools such as TikTok and Wordwall. The contents are also being presented using animated videos. Hence, MOLP do not only provide interactive online materials to students but also will help the students to understand during their revision.

Literature Review

The main platform to develop MOLP is by using Google Sites. Google Sites is a straightforward and user-friendly platform. It is a tool that can be done to create a webpage using plain text and webpage creator do not need to have knowledge on HTML. Besides, Google Sites provide template-based system which can be customized easily. It is the easiest way to make information accessible to people who need quick and up-to-date access (Kalyan, 2020).

MOLP features includes notes which are developed using MS PowerPoint. Animations are applied to the slides and are converted into videos to make it more interactives. PowerPoint can be a very easy and useful tools for all the students to create notes after they have learnt each lesson in class. In order to prepare a good and easy presentation, PowerPoint is the most chosen platform to be used (Undrill & McMaster, 2013). It has also been widely used by students and academicians as it enables them to quickly make better, neat, and professional presentations (Amadi & Origi, 2017).

Furthermore, MOLP also contain video features which are being developed using TikTok applications. TikTok is a video-sharing social networking apps which is rapidly growing. Besides sharing other contents, TikTok can be a very useful tools for sharing knowledge (Fiallos, Fiallos & Figueroa, 2021). Ichsan and Ulya (2021) in their studies agree that most students prefer using TikTok video as a learning tool as it is more interesting and enjoyable. Throughout 2018, the TikTok application has dominated the App Store with more than 500 million downloads where most of TikTok users are known to be young generations.

Lastly, exercises feature in MOLP consists of Mathematics examples and solutions which are also created using PowerPoint. On the other hand, to make MOLP more interesting, students can test their knowledge after learning each chapter by playing games provided in MOLP. These games were

created using Wordwall. Wordwall is a gaming platform which contains a collection of related work and can be converted to interesting activities or games (Jasmine & Schiesl, 2009). Wordwall activities can be very useful to get students understanding after they have learnt each topic (Callella, 2001).

Methodology

This online learning portal was developed using the 7 steps in developing web-based system (digitalsilk.com, 2022). The first step is to define the project that we have chosen which is MOLP. MOLP is an online learning portal which is aimed to provide interactive materials to pre-commerce students who is taking basic mathematics course.

The second step is to plan the portal by creating a storyboard. A storyboard is an effective way to visually present information, explaining a process, and showing the passage of time. The main purpose of storyboard is to create a story by using a set of sequential drawings. By breaking a story into linear, bite-sized chunks, it allows the developer to focus on each cell separately, without distraction (Sherman, 2022).

The next step is designing the website by looking at the user interface. It is very important to choose the suitable color palette, logo, and images in your portal. These elements should remain consistent across all the pages. After that, start planning and creating your web content. Contents are created based on the target of audience. In MOLP, content consists of the landing or starting page which consists of all the features in MOLP, and other pages consists online and interactive learning materials for the users to view and use such as notes, videos, and exercises.

Start to develop the portal by choosing a suitable tool. Developers need to have some knowledge and experience in developing website using certain tools. Many web development tools are available in the market such as Microsoft Front Page and Adobe Dreamweaver. For expert developers, they can use HTML (Hypertext Markup Language), ASP (Active Server Page) or PHP (Hypertext Preprocessor). However, by using Google Site, it is more user friendly, and less knowledge is needed when developing a website using this tool. However, each web development tools provide different features and functionalities, and should be built with the ability to scale and match the website functionality and growth potential.

Once the portal is fully developed, test the functionality of each feature provided in the portal. The aim is to detect any issues such as broken links and compatibility with different devices to ensure everything works properly. In the end, the portal should be maintained from time to time. Depending on

the current situation, update should be done by increasing the number of pages, add more functionalities and features and more. Below are MOLP interfaces:

MOLP Interfaces

Figure 1: MOLP main page

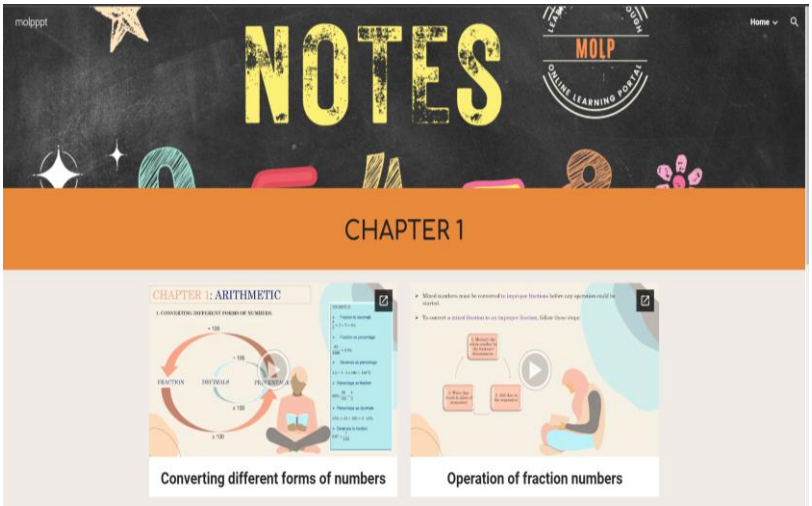

Figure 2: NOTES page

Figure 3: VIDEOS page

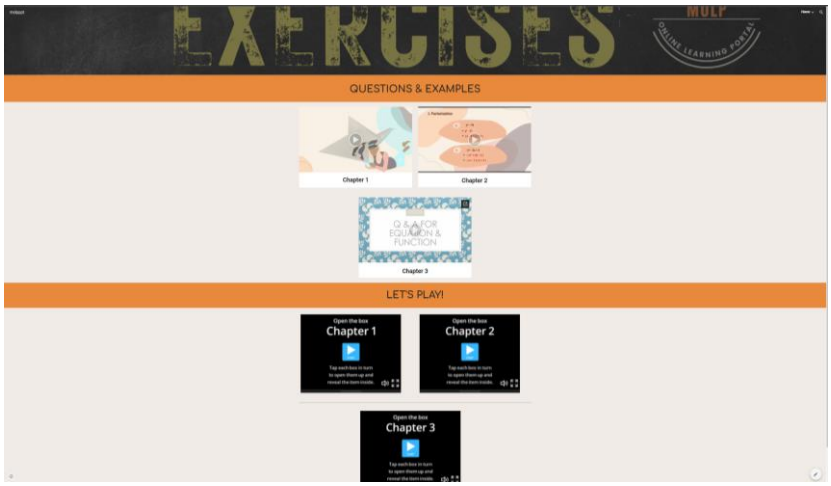

Figure 4: EXERCISES page

Results and Discussion

This paper is to identify students' revision method and MOLP satisfaction in learning MAT037 among Pra Pendidikan Tinggi (PPT) students. A survey has been conducted to 50 Pre-Commerce (PBA002) students from UiTM Cawangan Pulau Pinang who is taking Intensive Mathematics 1 (MAT037) course in semester October 2021-February 2022. The questions are divided into three parts which are:

- Demographic
- Revision method
- MOLP satisfaction