

**DEVELOPMENT OF COMMERCIAL WEB PORTAL:
USER REVIEW SYSTEM WITH SENTIMENT ANALYSIS**

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**FINAL YEAR PROJECT REPORT SUBMITTED TO QUALIFY FOR BACHELOR
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**FACULTY OF ARTS, COMPUTING AND CREATIVE INDUSTRY
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**FACULTY OF ARTS, COMPUTER AND
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APPRECIATION

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ABSTRAK

Ulasan pengguna memainkan peranan penting dalam menggambarkan pengalaman pengguna dan memberikan cara yang mungkin murah untuk menangkap petunjuk peningkatan kualiti dari pengguna. Keraguan pengguna tentang laman web atau produk adalah salah satu masalah utama mengapa banyak pengguna meninggalkan dan berkurangan. Secara khusus, projek ini dikembangkan untuk menganalisis ulasan pengguna dengan melaksanakan analisis perasaan yang merupakan sebahagian daripada Pemprosesan Bahasa Alam (NLP) untuk mengesan dan memahami perasaan pengguna dan menghasilkan wawasan bagaimana syarikat boleh meningkatkan pengalaman pengguna dan memperbaiki perkhidmatan pengguna.



DEVELOPMENT OF COMMERCIAL WEB PORTAL: USER REVIEW SYSTEM WITH SENTIMENT ANALYSIS

ABSTRACT

User reviews play a significant role in describing the experience of the users and provide a potentially inexpensive way to capture quality improvement hints from users. User doubts on the website or products is one of the major problems why so many users are leaving and decreasing. Specifically, this project is developed to analyze the user reviews by implementing sentiment analysis which is a part of Natural Language Processing (NLP) to detect and understand user feelings and generate insights into how companies can enhance the user experience and improve user service.



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LIST OF ABBREVIATIONS

LMS Learning Management System





APPENDIX LIST

A	Software Requirement Specification
B	Software Design Document
C	Software Test Document





CHAPTER 1

INTRODUCTION



In this day and age, most learning sessions are assisted with computer aided instruction to help the educator to teach. With the rise of technology development, most of the learning is conducted via electronic devices that are mostly connected with the internet that is known as E-learning nowadays. Learning Management System (LMS) is one form of E-learning that is mostly used by educators, learners and other individuals that want to learn or teach. According to Rabiman et al. (2020), LMS was created to address the requirement for interactive multimedia, instructional materials, lecture assignments, online discussions, learning videos, and even interactive video conferences to be organized more easily. Besides, Bradley, V. M. (2021) suggests that school districts should incorporate the usage of LMS in order to reinforce more productive and attractive learning.





Most developers promote their respective LMS through advertisements on popular platforms such as YouTube, Tiktok, Social Medias etc. By having a commercial web portal, the chances of getting more users of the LMS is higher as the web portal serves as a communication gateway for access for information regarding LMS promoted. To develop a good web commercial portal, there are a lot of features and elements that must be taken into consideration. One of them is the online review section. Users may use online review systems to analyse the quality of the LMS whether it is worth or not. Review comments, in particular, reflect how customers describe, relive, rebuild, and share their experiences, which are valuable to them (Cheng et al., 2019).



Therefore, it is essential to integrate the review section in the web portal to commercialize the learning management system in order to gain users' trust. According to the Review Trackers survey, 45% of people are more likely to visit a business that replies to bad reviews. There is no doubt that the review section is one of the most important elements and features in a web portal that will eventually lead the user to use the learning management system that is being commercialized.



1.2 Project Background

This Thesis focuses on the effectiveness of online review in commercial web portals in order to promote the desired E-learning platform, xcelearn. Online reviews play a significant role in describing the experience of the users and provide a potentially inexpensive and effective way to capture quality improvement hints from users. According to Ali Ahani et al.(2019), about 1336 hotels have been registered and 119,254 topics have been posted about the Canary Islands in TripAdvisor (TripAdvisor, 2018). Given the importance of the hotel industry to the Canary Islands, a hotel's capacity to continue offering appealing tourist goods and services in line with customer preferences and demands will be a determining factor in whether it survives in the fiercely competitive market.. Therefore, it is crucial for hoteliers to understand how visitors to the Canary Islands behave. This study reflects on how review can affect the development of something whether business, products or services etc.

The problem may occur like having no clue or guide to improve the product that is currently being worked on if no one uses and reviews it because online reviews are an important information source for companies analysing users' demands. How intended attributes may impact consumer satisfaction should be taken into account when designing a product. Further exploring the effects of price, Yuren et al. (2018), conclude that customers who purchase cheap goods should be addressed differently from those who purchase expensive goods since the importance of design characteristics to each group's happiness varies. Thus, in line with the development of technology in education, adding an online review section in a web portal is the best



move to boost the productivity of the web portal and many users will use the Xcelearn E-learning platform.

1.3 Problem Statement

Doubts from users about a website or products are causing a decrease in user engagement. Reviews are the first thing users look for when intending to make a purchase on a website, according to "Why Product Reviews Are Important in ECommerce?" (2020). The 2017 Local Consumer Review Survey found that 97% of consumers read online reviews for local businesses. Review valence, quantity, and timeliness influenced 54%, 46%, and 38% of consumers respectively (Cheong et al., 2019). However, readers are often presented with contradictory opinions or advice in online reviews. This creates a major issue with trust in online reviews, making it difficult for readers to determine their truthfulness (Evans, Stavrova, & Rosenbusch, 2019).

In addition, numerous businesses fabricate reviews, and it is difficult to differentiate a legitimate user review from a counterfeit one. Joni and colleagues (2022) indicate that fake reviews are produced in two primary ways: the first is through human-generated methods, whereby businesses pay individuals to create fraudulent evaluations that seem genuine but are not based on any actual experience with the product. The second method involves the use of text-generation algorithms to automatically generate fake reviews, which are then written by human reviewers.





1.4 Project Objectives

Specifically, the following objectives need to be achieved for this purpose:

- a) To identify the main problem to gain user/customer trust to online reviews
- b) To implement/develop a functioning prototype of a social online reviews section to commercialize Xcelearn E-learning Platform.
- c) To test the functionalities the prototype developed.

1.5 Project Questions



The project questions are as follows:

- a) Why does online review need to be implemented in every website?
- b) How to overcome the problem encountered regarding online review?
- c) How to ensure the functionality of the online review section developed on the website?

1.6 Project Scope

There are two types of scope which are user scope and system scope. User scope is what the user can do and system scope shows what the system will be capable of.



1.6.1 User Scope

The intended target audience and geographical area is all students, teachers and parents in Malaysia. However, there are no limitations for the user to access the web portal which means anyone can be the user.

All the users can:

- Display Review Comments
- Write Review Comments
- Delete Review Comments
- Manage Sentiment Analysis

There are two functions that need to be considered which is

- Sentiment analysis systems
- Customer review/ feedback

1.7 Project Significance

The significance of this project is to have a better understanding of the user. Understanding the online reviews and what your users are saying about the web portal is the key to making better decisions to make improvements. Furthermore, online



review also can help the user gain trust and confidence to use the web portal. In today's web-based world, everyone is reading online reviews. In fact, 91% of people read them and 84% trust them as much as they would a personal recommendation (Truitt, 2020). The more reviews, the better, and according to one research, for customers to feel confident in an average star rating, they need to read at least 40 reviews.. However, even a few reviews are preferable to none. With that being said, it will give a strong reputation to the web portal.

1.8 Conclusion

In a nutshell, adding a review online section module in a commercial web portal is the best move to promote the desired e-learning platform, Xcelearn. Reviews have become a primary source of information that users can decide where, what, and when to do if they visit the web portal. Without online reviews, the user decision-making process becomes a lot more complicated and might end up leaving the website just like that. Therefore, it is essential to have an online reviews section and encourage users to leave reviews, monitor the reviews they leave, and improve any negative reviews received. With all that matters, more visitors might be interested to use the e-learning platform, Xcelearn through the commercial web port

