**CHAPTER 5**

**CONCLUSION AND RECOMMENCATIONS**

This chapter will cover the results of all the objectives, the constraints, and the suggestions for the project's forthcoming development phase.

**5.1 Project Overview**

Virtual Buddy Application: Chat Management System is developed to assist the assistant registrar, instructor for Hal Ehwal Akademik (HEA), and Hal Ehwal Pelajar (HEP) to control the student chat activities in the front-end system, Virtual Buddy Application: Chat Room. Since the front-end system is based on chat room, there will a case of cyberbullying, fake news and many other cases that has to do with the chat room. If there is no system that can control student chat activities, cases of system abuse will be rampant without containment, and it can also lead to cases of student depression if the student is often bullied in the chatroom.

This project is being done to support both mobile and web and to make it easy and quick to install. Progressive Web Application (PWA) will be integrated into the system to assist in resolving the issues mentioned. PWA is designed to be responsive and because of that it can be run on any type of device. By utilising PWA, this system will be able to be downloaded directly to any device from the web browser. The installed app is always accessible from the desktop or home screen of a mobile device. The functionality test will be used to gauge the effectiveness of the mobile application and make sure the system operates flawlessly.

**5.2 Project Achievement**

There are three goals listed earlier in chapter one, which are to identify the suitable features that can be included in the proposed Progressive Web Application regarding chat management system, to design and develop Progressive Web Application to assist the UiTM staff in managing student chat activities and to evaluate the functionality of the developed Progressive Web Application. The section below contains more information regarding to these objectives.

**5.2.1 Objective 1: To identify the suitable features that can be included in the proposed Progressive Web Application regarding to chat management system**

First-objective achievement was made possible by the examining the literature review to find potential features that the system could have. After that, a comparison of existing systems has been made. These comparisons are made to identify the shortcomings of the existing system. The lack of features in the existing system can be applied into the developed system to make this system different from others.

**5.2.2 Objective 2: To design and develop Progressive Web Application to assist the UiTM staff in managing student chat activities**

The Laravel web development framework, which is tailored specifically for back-end system, is used to develop the Progressive Web Application system. As for the system's user interface, it was created using HTML, Bootstrap, and JavaScript. Users can interact with the MongoDB database with the help of the user interface. The second goal of this project has been achieved because the system is interconnected and functions.

**5.2.3 Objective 3: To evaluate the functionality of the developed Progressive Web Application**

The system underwent functionality testing to make sure all features operate as intended to achieve this goal. The system had successfully completed the functionality testing and was now prepared for delivery to the end user. This is a crucial stage in making sure the system works as intended.

**5.3 Limitation**

Although the system that has been constructed is functional, it contains a flaw that is the unban process of the user is only can be done manually. Every time when the admin wants to unban the user, the admin needs to find the user that will be unban and then click the **Unban User** button to do the unban process. This will require more time to process.

**5.4 Recommendations**

For the system, there is room for improvement. To make the unban process faster and more efficient is by doing the process automatically. To do that, the scheduler function in Laravel framework can be use. The command scheduler in Laravel offers a novel way of handling scheduled operations. To implement this in the system, the admin needs to enter the unban date of the user, and the scheduler will run the task automatically on that date. This will be able to reduce the time to complete the unban process.

**5.5 Summary**

In a nutshell, this chapter brings the experiment to a close by outlining the general conclusion, limitations, and recommendation for next development. In conclusion, this system can assist the UiTM employees in managing the student chat activities in the Virtual Buddy Application: Chat Room. To control student chat activities, the admin will ban the student who violate the system rules. Each system will have its own limitation, as will this system. This system limitation is the ban function must be done manually by the admin which require more time to be done. The future recommendations that can overcome this is by using the scheduler function in Laravel framework that can do the unban task automatically when it reaches the appointed date.