UTM Sports App Mobile Application

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Abstract. It is a trend nowadays that organization uses computerised system for systematic management of their daily business. Transforming the routines from manual to automated system is always desirable for more efficient, reliable and organized process with quality output. In line with that, a mobile application system is proposed to be developed for UTM Sports Unit which is based on mobile application and accessible online. Currently the UTM Sports unit or the management is still using the manual procedure to manage the booking for Hall 1 also, plus registration for an event activity. Furthermore, up to now there is no platform to centralize all the events organized inside UTM. Therefore, in order to improve the performance and productivity of UTM Sports Unit, this project proposed several modules to be implemented. The purpose of the system is to ease the work flow in UTM Sports Unit that eventually increase the productivity of the UTM as a whole. The main modules cover including booking Hall 1 court, swimming pool, and registration of an activity event. The methodology used in the development of the system is Agile model. This model practices in collaborative, iterative, and rapid development process. It is widely used in current development environment. In conclusion, this UTM Sports App will replace the current work flow such that the mobile application can work more effectively and could benefit not only the UTM Sports Unit itself but also the entire UTM students and staffs.

Keywords: Mobile Application, booking UTM facilities, register event activity.

1   Introduction

Sport facilities in University Technology Malaysia are widely available for their student. These facilities are provided for student to do recreational activities. Sports is part of the social activity, which improve the community value among peoples in UTM. Their participation in this activity increase the productivity, also generate great social relationship among participation. However, the process for booking the facilities is complicated and not efficient, and such a time consuming for UTM user. Besides, UTM Sport Unit sometimes organize an activity event for the students and staffs, it is required manual to register for the program. Therefore, based on the booking and regi ster process, my proposed system is to automate the booking and registration process.

2   Methodology

This system used Scrum method part from Agile methodology. This method can handle critical requirement, develop software iteratively, verify software quality and also improve the productivity. Scrum is a subset of Agile, which most widely used because It is a lightweight framework for agile development. A Scrum process is distinguished from other agile processes by specific concepts and practices. sight of any quality issues.

The iterative nature of agile development means features are delivered incrementally, enabling some

benefits to be realised early as the product continues to develop. As well as the higher revenue from incremental delivery, agile development philosophy also supports the notion of early and regular releases. Testing integrated through a life cycle is a principle used in Agile, which enabling regular inspection of the working product as it develops. This allows the product owner to make adjustments if necessary and gives developer early sight of any requirement issues.

Scrum is an agile methodology or framework that is usually done in a team consists of several team members. Main goal of scrum is to sustain complex products while ensuring product productivity and fast delivery rate. It is unlikely that scrum is done in a form of single operator since its structure itself is built for team base. However, with a little modification this can be implement for a single developer because the main core of the scrum methodology can still be executing, which are the artefacts and sprint phase.

Moreover, Scrum has four core elements that should enable it to be implemented even for a single developer. Most of the team activity in scrum will be directed to personal activates and more interaction with stakeholder. Although not all of scrum activity can be implement in solo scrum but it is still a useful way to develop UTM Sports App mobile application as all the necessary functionalities are adaptable. As for example, sprint retrospective can be done alone without the need of team member to respond on the work that has been done even if it is not as effective as it is design to be. Scrum such a great way to keep track with user demand having a product backlog help contribute a lot in the making the development stage much smooth as user requirement are more define.

3 Result

The development of the project is successfully done. The UTM Sports App are develop based on the use case of the system as shown in Figure 1 below.
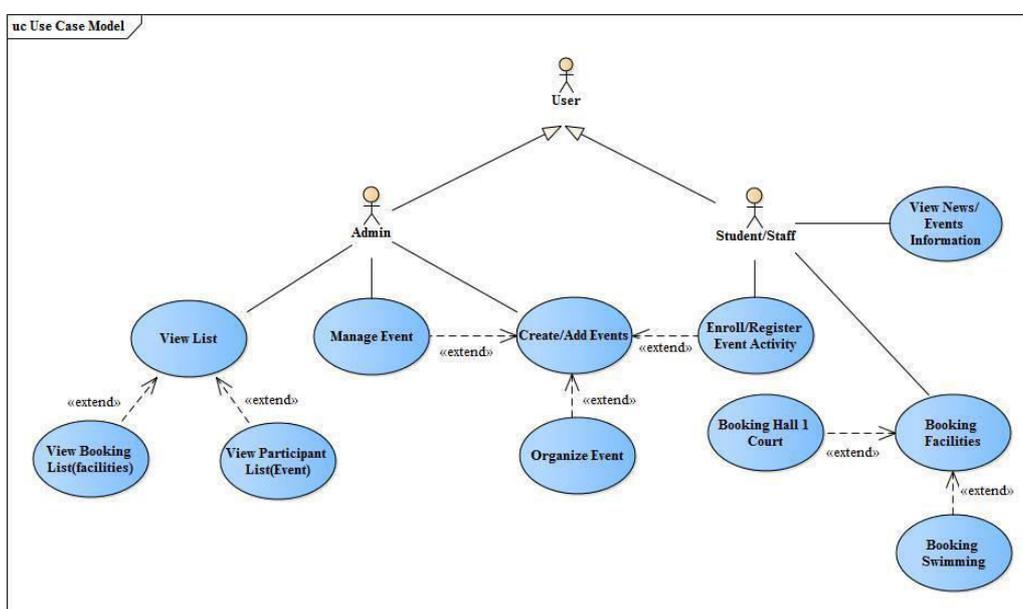

Figure 1 Overview UTM Sports App Use Case

There are two main modules for UTM Sports App which cover the interaction between user, basically a students and staffs, and the administrator who manage the user information. For user, they can reserve their court in Hall 1 which based on their login preference as a student either the staff. Once user have login, user are direct to the

dashboard which display their daily activity. Besides, for those who are not booked yet, they can browse the court available for them to reserve. Furthermore, the list of events activity available in the events page, which user can simply browse the page to see what current activity or program held in UTM. In addition, user can directly register for these events activity through this application. Plus, user can actually organize an events which they need to submit the events details to be approve by administrator.

Meanwhile, for administrator, need to manage the user information within the app. Admin can view the list all the events participant, organize an events also view daily booking activities for sports facilities. Moreover, the administrator can whether approve or reject the event submission from user. User will get notify about their events status. Figures 2, 3 and 4 display several user interface for UTM Sports App that has been developed.

Figure 2 User sign in for UTM Sports App

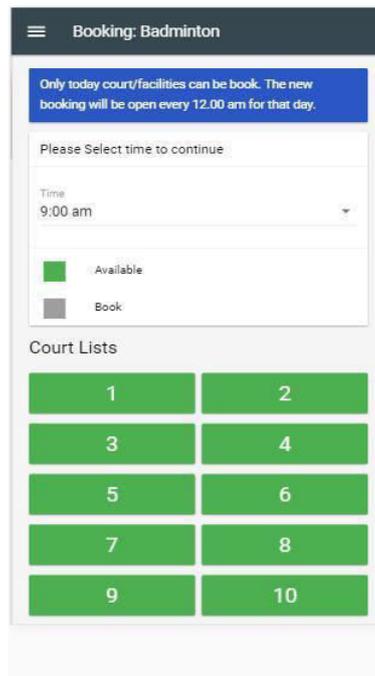**Figure 3** Main dashboard activity registration.

Figure 4 User interface for booking badminton court

4   Discussion

4.1   Challenging During Development

During the phase of development UTM Sports App, there are several challenge faced in order to make the development of the application successfully. At the beginning, the platform environment has to be decide before we proceed focus on development. The choice between Microsoft Windows and Ubuntu Linux operating sytem. It is consider the performance to compile the project code, Windows will take longer time than Linux. Moreover, in Linux operating system, the package are easy to to install, together with code editor, it is become extra lighter compare run with Windows operating system. Besides, The process flow regarding the main function need to be implement slightly different from manual procedure. Need an extra logic during the development process.

4.2   Future Improvement

For futher improvement, suggested that this appplication would intergrate with UTM system, which cover the SSO (single sign on) for the ACID intergration. By that, any activity implies on MyUTM system will be also inside this apps. All the facilities in UTM are encourage to register under UTM Sports unit, for scope management purpose, so that this application can be evolved to become social activity application for UTM.

Furthermore, an application filtering, while some events are only open to certain student and that why some events are not publish publicly. The need of filtering the application or the participation is limited to the certain course or faculty or people in UTM. Need a suitable procedure to handle this situation furtherThen, the system will be improving in future in term of the receipt of booking.

5   Conclusion

The development of this UTM Sports App re successfully done. The system allow user to get more flexible to explore, browse the events activity around UTM as what they prefered. It is expected that this system will improve more in the future. The project is completed in two semester and if needed, the future works will be caried out to enhance the productivity, efficiency which will improve the usability for the UTM Sports App.

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