SOCIAL SCIENCES & HUMANITIES

MEC App: Enhancing Legal Knowledge via Smartphone

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ABSTRACT

Knowledge and advancement in technology are indispensable in today's living. One of the most popular products is the smartphone. As smartphones continue to grow in popularity, it is important to look into how legal education and understanding could be enhanced via applications (apps) available in the smartphone. This paper discusses how smartphone application could enhance understanding of the Malaysia Federal Constitution among the public, academics and legal practitioners. The app, named MEC contains all provisions of the Constitution is invented to replace the print version whose bulk has long been a problem for students to bring it to the class. The app was developed using Rapid Application Development (RAD) methodology, a common method used in computer software and mobile apps development.

Keywords: Application, constitution law, smartphones

INTRODUCTION

According to Mothar, Hassan, Hassan and Osman (2013), the rise of smartphone is inevitable, but its main usage is centred on Integration and Social Interaction, i.e. calling and texting. Smartphones have the capability to function like a computer and even further such as it allows users to acquire information, play electronic games, stream videos, listen to radio, capture images, store data, browse Internet, read emails and make online payments. In Malaysia mobile learning is widely implemented at tertiary education level and is now approaching the Malaysian school education (Sa'don, Dahlan, & Ibrahim, 2014; Singh & Bakar, 2006).

Integrating technology with law is an innovation that could help many people to learn the laws using a mobile app. In today's technology driven world, legal professionals need the ability to access legal information

and documents while away from the office (Janoski-Haehlen, 2010). McKenna (2012) concluded that the intersection of three emerging technology trends – mobile technology, digital books and social media – is fundamental changing the day-to-day workflows of every legal professional. Thus, it is important to look into how legal education and understanding could be enhanced via the mobile applications (app) available in the smartphones.

One of the problems that law students face is carrying bulky books of legal acts, e.g. the Federal Constitution, to class or whenever they need it. Multiple versions of the act would make it even bigger problem as they have to buy newer version of it, should amendments are made in the law. Presently, there are a few legal apps associated with Malaysian laws available on mobile app stores, e.g. Apple App Store and Google Play Store. The more apps one has, the easier his or her life is, provided that the apps are of productivity apps.

This paper discusses a new invention of smartphone app which could enhance understanding of Malaysia Federal Constitution. The app, named as MEC contains all provisions of the Constitution and can be utilized for educational purposes free and benefit students, academics, researchers, legal practitioners, policy makers and the laymen.

The app has basic features such as Contents; Provisions; and Other Links, to access the Federal Constitution. The app also features Cases Summary; Professional Reviews; and Related Documents, with other functions: Search; Share; and Settings. However, these additional features are still under research and development, and await incorporation. Tentatively, users may subscribe to the additional features at a reasonable fee via In-App Purchase (IAP) function. The subscription allows users to access thousands of legal documents from paid online databases such as The Malayan Law Journal (MLJ) – LexisNexis Malaysia; The Current Law Journal (CLJ); eLaw; Common LII; et cetera.

Malaysia Federal Constitution

The Federal Constitution of Malaysia is the supreme law of Malaysia, which came into force in 1957. The Federation was initially called the Federation of Malaya (in Malay, Persekutuan Tanah Melayu) until the formation of Malaysia in 1963. The Constitution establishes the Federation as a constitutional monarchy having the Yang di-Pertuan Agong as the Head of State whose roles are largely ceremonial.[1] It provides for the establishment and the organisation of three main branches of the government: the bicameral legislative branch called the Parliament, which consists of the House

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[1] See Article 32(1) of the Constitution which provides that "There shall be a Supreme Head of the Federation, to be called the Yang di-Pertuan Agong..." and Article 40 which provides that in the exercise of his functions under the Constitution or federal law the Yang di-Pertuan Agong shall act in accordance with the advice of the Cabinet or an authorised minister except as otherwise provide in certain limited circumstances, such as the appointment of the Prime Minister and the withholding of consent to a request to dissolve Parliament.

of Representatives (in Malay, Dewan Rakyat) and the Senate (Dewan Negara); the executive branch led by the Prime Minister and his Cabinet Ministers; and the judicial branch headed by the Federal Court.[2]

The constitution came into force on 27 August 1957 but formal independence was only achieved on 31 August 1957. The constitution was then amended in 1963 to admit Sabah, Sarawak and Singapore as additional member states of the Federation and to make the agreed changes to the constitution that were set out in the Malaysia Agreement, which included changing the name of the Federation to "Malaysia". A statement by the Malayan permanent representative to the 18th session of the 1283 meeting of the United Nations General Assembly stated that, "constitutionally, the Federation of Malaya, established in 1957 … and Malaysia are one and the same international person. What has happened is that, by constitutional process, the Federation has been enlarged by the addition of three more States … and that the name 'Federation of Malaya' has been changed to 'Malaysia'". Thus, the establishment of Malaysia did not create a new nation as such but was simply the addition of new member states to the Federation created by the 1957 constitution, with a change of name (Harding, 2012).

The Federal Constitution is the supreme law of Malaysia, whereby according to Article 4(1), any law passed after 31 August 1957 which is inconsistent with the Constitution shall be void. Article 162(6) also states that any court or tribunal applying the provision of any law in operation immediately before 31 August 1957 may apply it with such modifications as may be necessary to bring it into accord with the Constitution. Fundamental liberties in Malaysia are set out in Article 5 to Article 13 of the Constitution, inclusive of liberty of the person; slavery and forced labour prohibited; protection against retrospective criminal laws and repeated trials; equality; prohibition of banishment and freedom of movement; freedom of speech, assembly and association; freedom of religion; rights in respect of education; and rights to property.

METHOD AND APP DEVELOPMENT

MEC was developed using Rapid Application Development (RAD) methodology. RAD integrates project management technique, development technique, users and tools to build quality application systems in a fixed timeframe to deliver good business value. RAD is a software development methodology, which involves interactive development and the construction of prototypes. Prototype is an approach based on creating a demonstrable result as early as possible and refining that result. Refinement is based on feedback from eventual users of the system. Prototyping requires an open approach to development and it also requires an emphasis on relationship management and change management.

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[2] For the establishment of the legislative branch see Part IV Chapter 4 – Federal Legislature, for the executive branch see Part IV Chapter 3 – The Executive and for the judicial branch see Part IX.

Figures 1 shows RAD processes, where the result of each phase, often called an end product or deliverables, flows to the following phase. This phase is a continuous phase where prototypes are rapidly developed until they fulfil the objectives of system requirements.

The first phase of the development process is to understand the requirements of system (analysis and quick design). It requires knowledgeable of end-users to determine the functions of the system should have. The process in this phase includes deciding programming languages and database need to be used. PHP scripts and MySQL database were chosen as tools to develop a prototype. PHP is a scripting language originally designed for producing dynamic web pages. It has evolved to include a command line interface capability and can be used in standalone graphical applications and is a free software released under the PHP License and widely used. It also includes the interface design (the end-user interface) and data design (type of data required). During these phases, the software overall structure is defined. It is important to understand the requirements of the system before proceeding to prototype development.

The second phase is a repetition of prototype development – development, demonstrate and design. It includes creating database physical design and mainly focuses on translation of design into programming codes. A code to connect from programming language to MySQL Database Management System (DBMS) is created. MEC was developed on a mobile app creation platform namely the Appy Pie. There are three basic steps in building the app: firstly, selection of a category of apps; secondly, designing the contents and customize accordingly; and finally, publishing the app on the web or installing it on smart devices. Nonetheless, publishing apps would need developers to subscribe to one of four plan options ranging from Free Plan, Sliver Plan, and Gold Plan to Platinum Plan. The end product is compatible on both Android and Apple iOS platforms.

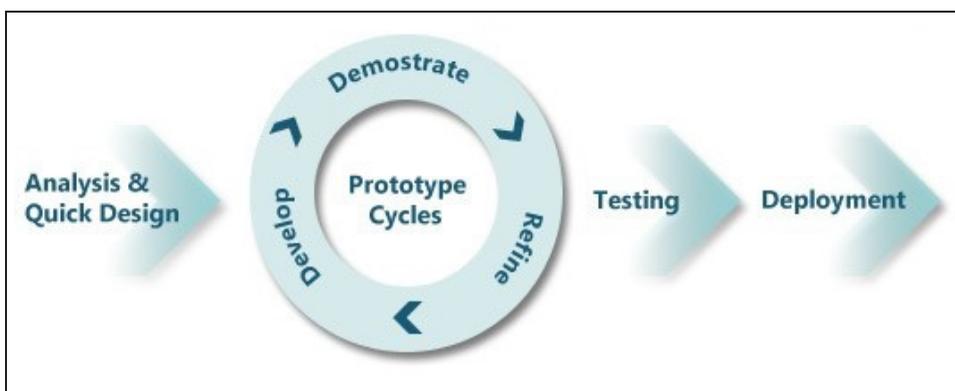The third phase is testing the prototype to validate the information delivery processes on the app. Programmes are

Figure 1. Rapid Application Development (RAD) Processes

written as a series of individual modules and functionality. The MEC app was tested using the functions available in the app. The flow of the system was tested to ensure that interface between modules work and the analysis report of the app system compiled. The next process involved an enhancement and error correction of the prototype. The final phase was deployment in actual environment when all system functionalities and databases design have been validated.

ARCHITECTURE AND FRAMEWORK

MECis a hybrid mobile app – a combination between native app and web-based app – which works offline on smartphones, but some contents would need Internet connection. For instance, the content of the Federal Constitution, Cases Summary and Professional Reviews are accessible offline, while subscribed contents and authoritative judgments need the Internet connection.

The app was designed based on multi-tier client-server architecture. Figure 2 shows the MEC app architecture and framework.

MEC app is structured into three tiers. Smartphone users who own the app with the Internet connection are the client presented in Tier 1 Presentation. In Tier 2 Application processing and data management, a web server provides data management services and implementing the logic of application to provide the required functionality to end users. The web server generates online contents to the MEC through opening additional windows on browser installed in the smartphones. The app database provides database services in Tier 3 Database processing. Efficient middleware that supports database queries in SQL (Structured Query Language) is used to handle information retrieval from the database.
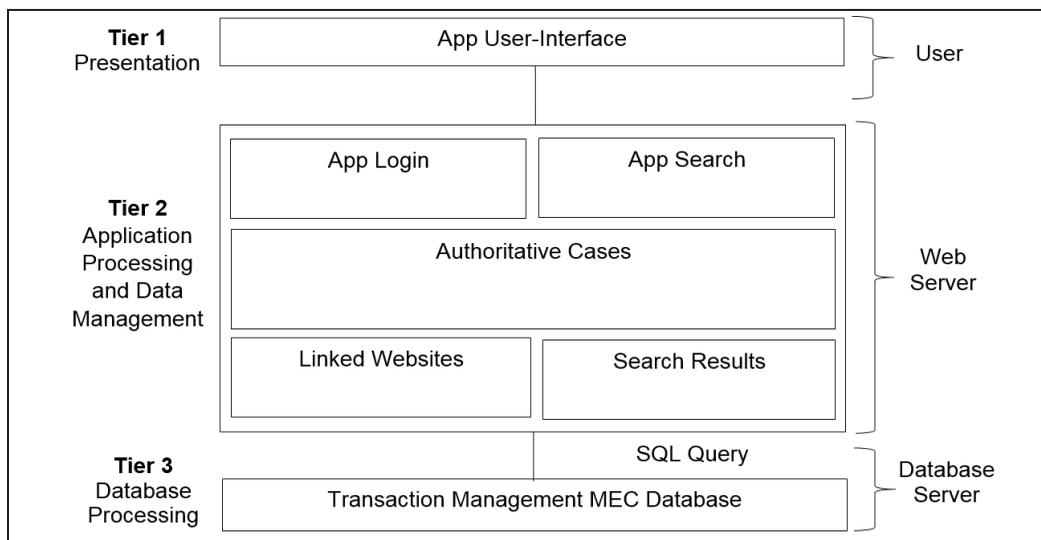

Figure 2. MEC app architecture and framework

IMPLEMENTATION

The app is built to be user-friendly and easy-to-access contents with simple interface and functions. This section displays all actions taken in the app implementation process to show it can operate properly. The process includes installation, configuration, running, testing and making any necessary changes according to users' feedback. It is expected that the app can be downloaded from the app stores as soon as it is available online. For the time being, users could install the app on their smartphone through private link shared to them. After installation, users can configure the app according to their preference. Figure 3 to 6 show the screenshots of the app that has been installed in a smartphone.

Figure 3 shows the profile page or the homepage of the app once the app is opened. The page displays the description of the Federal Constitution of Malaysia. Figure 4 shows the auto-hide sidebar in the profile page that lists the menu of the app such as

Contents; Part I to Part XV; Schedule 1 to Schedule 13; and Other Links. User can tap on each menu to go to the preferred part.

Figure 5 shows the arrangement of Articles of the Federal Constitution that reflects the contents of the app. Users can go through the contents to look for the articles. Figure 6 shows the full contents of the MEC App, ranging from Part I to Part XV and Schedule 1 to Schedule 13, which are the end product of the app.

The MEC app has been run and tested by users particularly law students and lecturers. The development team has gained positive feedback from users and testers at Research Week and Innovation Competition, Universiti Sultan Zainal Abidin in March 2016 and International Carnival on e-Learning, Universiti Teknologi Malaysia in September 2016. Both competitions received the app Bronze Medal for educational and innovative significance. Most respondents would download this app for educational purpose

Figure 4. Auto-hide menu bar

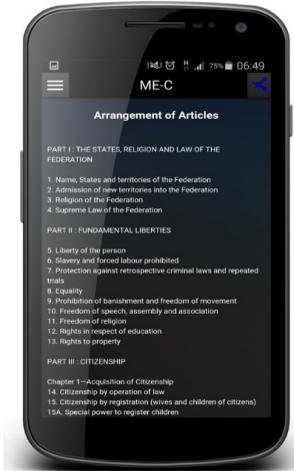*Figure 3.* MEC app profile page

Figure 5. Arrangement of Articles

Figure 6. Part I of the MEC app

as it is user-friendly compared to e-books or PDF-format document. Some of the respondents also suggested the team build similar apps on other legal acts in the future such as land code, penal code et cetera.

The app has also been shortlisted as a finalist in Inclusive Innovation Competition by Yayasan Inovasi Malaysia in December 2016, and received constructive feedback from competition judges. Some of the comments concerned copyright issue and commercial value of the app.

CONCLUSION

Apps have helped people in their daily chores, for instance finding information, making decisions, completing tasks, et cetera. The more apps one has the easier his or her life is, provided that the apps are productivity apps. Integrating technology with law is an innovation that could help many people in learning and understanding the laws using a mobile app. The MEC app

comes at the right time and at the right place since currently there is no mobile app on the Malaysian laws available in the Google Play Store or Apple App Store. The app offers the contents of the Malaysia Federal Constitution to anybody interested to learn it. With its latest features and functions, the authors believe that the app can make a change in society, not just for educational purposes, but also to encourage people to think further in legal terms and therefore creating a law-abiding society.

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