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Research & Design in Challenging Environment
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Chapter 6

Design and Development of *Penyu Kita*, Interactive Media Mobile Application in Conveying Turtle Endanger Awareness

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ABSTRACT

The emergence of mobile technological devices has brought along new possibilities to all walks of life in various communities. Mobile devices with highest capabilities extend into all areas of human life. There are many mobile applications created for most of sharing information. Human activities such as overexploitation of the reef area, pollution, ineffective governance and coastal development have made the near shore ecosystem vulnerable to habitat change, deterring marine turtles from emerging ashore. It lead to the status of marine turtles in Malaysia is either endangered or critically endangered. Lack of awareness among public contribute to extinction to turtles. Thus, awareness about turtle has been chosen to be implemented as a multimedia-based mobile application to promote awareness as campaign tools in prevent turtles. The application; Penyu Kita was designed and developed by using ADDIE model. App Inventor 2 is using as a programming platform and Adobe Illustrator for designing the interfaces. This application consists of five modules; Information, Awareness, Games, Activity and Report

Key Words: extinction, turtle, awareness, mobile application, interactive media.

1. INTRODUCTION

Malaysia is home to important habitats for marine turtles such as nesting beaches for the laying of eggs and coral reefs and seagrass beds as their feeding grounds. According to (Jolis, 2015), World Wide Fund for Nature (WWF) Malaysia reported that Malaysia hosts four out of the seven species of marine turtles found in the world, which are the green, hawksbill, olive ridley and leatherback. Human activities such as overexploitation of the reef area, pollution, ineffective governance and coastal development have made the near shore ecosystem vulnerable to habitat change, deterring marine turtles from emerging ashore. The status of marine turtles in Malaysia is either endangered or critically endangered.

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2.   LITERATURE REVIEW

Campaign in providing awareness to public about the extinction of turtles has been done previously. Normally, the campaign is just one way communication method. Related campaign that have been done discuss below.

2.1   Public Awareness Program

Public awareness campaign is a marketing effort to build public recognition of a problem through media, messaging, and an organized set of communication tactics. These campaigns target a large number of people over a specific period of time to try and generate specific outcomes or achieve pre-determined goals. Rearding (Ruhana, 2017) in his study stated that standard 10 minutes standard power point presentation and 10 minutes video presentation session can give awareness to public.

2.2   Educational Toolkit

This toolkit developed by researcher from UNIMAS. In this toolkit videos that were produced for this project was developed using Adobe Premiere CS6 for Windows while the information kiosk (IK) was developed using Adobe InDesign CS6 for Windows software in which both were licensed to Universiti Malaysia Sarawak (UNIMAS), under the care of Faculty of Applied and Creative Arts. The toolkit was implemented on a kiosk platform during the awareness program.

2.3   Book Publishing

Daniel, 2019, discover that WWF-Malaysia collaborated with the Institute of Islamic Understanding Malaysia (IKIM) to publish a book entitled Islam, Wildlife Conservation and You, which heightened awareness on conservation of the environment and wildlife, and also serve as a point of reference for Islamic society, scholars and educators. In addition, WWF-Malaysia and partners celebrate World Sea Turtle Day every year on 16 June by organising events to educate the public about the importance of sea turtle conservation.

3. DESIGN AND IMPLEMENTATION

ADDIE model approach for mobile development was adopted in the development of *Penyu Kita*. Tools used include MIT App Inventor 2 and Adobe Illustrator for engine development and interface design. This application divides into five modules. Each module gives a different activity. The modules are Information, Awareness, Game, Activity and Report as shows in Figure 1.

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Figure 1

3.1   Information module

In this module, user will get information about turtles, types of turtles, habitat, and level of threaten of each type of turtles. Image for each type of turtles is provided in this module.

3.2   Awareness module

User can create an awareness by reading the Do and Don't in treate the turtle. This is because sometime we think that we do the right thing but as a fact it is wrong in treat the turtles.

3.3   Game module

Beside the information, to make it interactive, there are modules for user to play games. In this app, there are two types of games can be try. The first game is True or False game. This game is interactive which users will get the feedback base on the answer given. The other one is memory game. For this game, user need to remember the picture of the turtles and must match it.

3.4   Activity module

For activity module, it have four different activity base on type of turtle. User can choose the type of turtle and download the activity. In this activity, user can answering question, playing crossword, finding missing word and other.

3.5   Report module

This module aim is to give an easiness to user to make report regarding the threat towards turtles. In this module, user need to key in a simple information and it can help to prevent turtle from endanger.

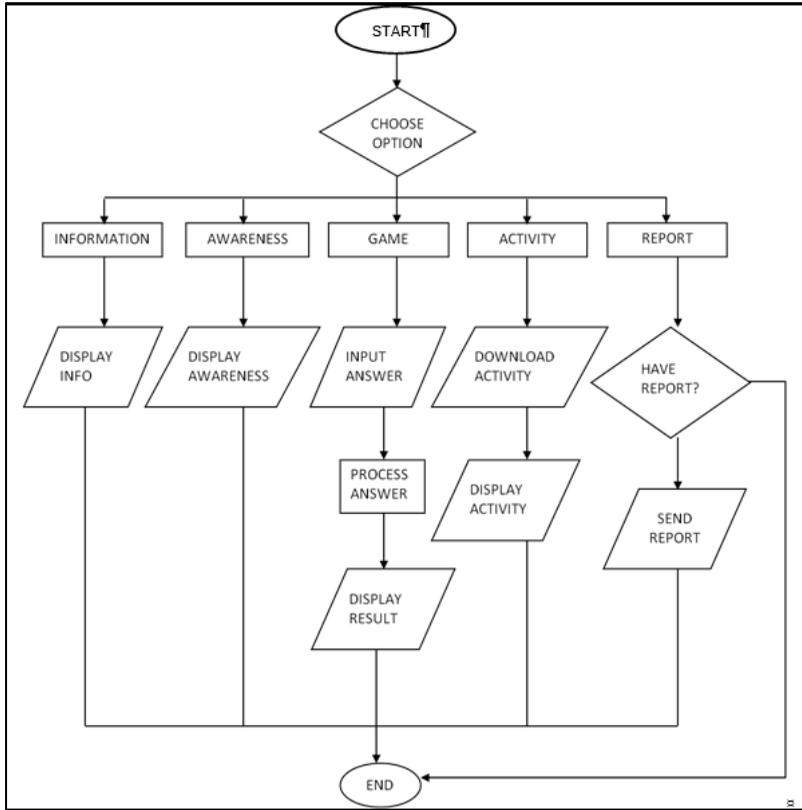The overall flowchart for *Penyu Kita* is illustrated in Figure 2, highlighting the five main modules of the App.

Figure 2. Overall Flowchart for Penyu Kita

4. RESULT

There are six important interface been develop in this mobile application. Figure 3 show interfaces in Information Module. In this module, user can get information about types of turtles in Malaysia.

Figure 2

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In Awareness Module as shown in Figure 3 consist of do and don't in treating the turtles. User need to click at each button number appear and it will respond to the different screen.

Figure 3

Figure 4 shows the interfaces in Activity Module. In this module, user can do an activity such as answering question, fill in the blanks and many more. Activities are different for each button.
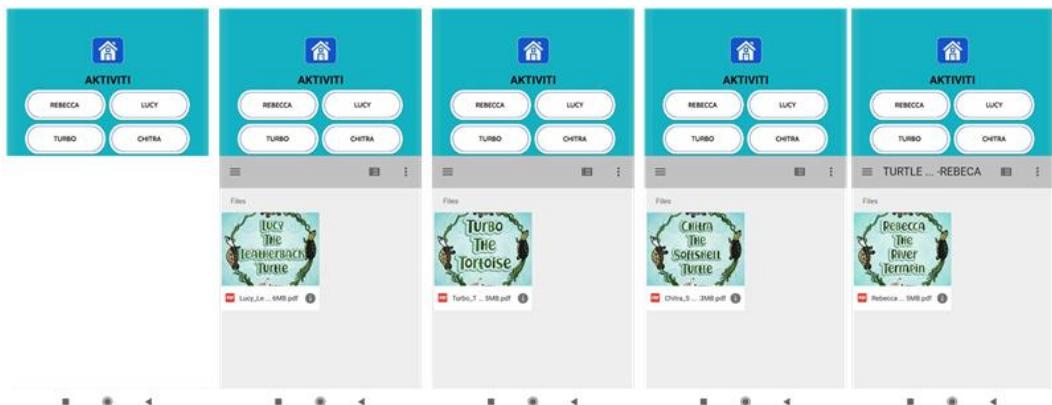

Figure 4

As to attract user attention, this application provide module for game. In Game Module it consists of two types of games. The games are True or False and Memory game. True or False game is a game to test user knowledge about turtles and Memory game can test user memory in memorizing the turtle picture.
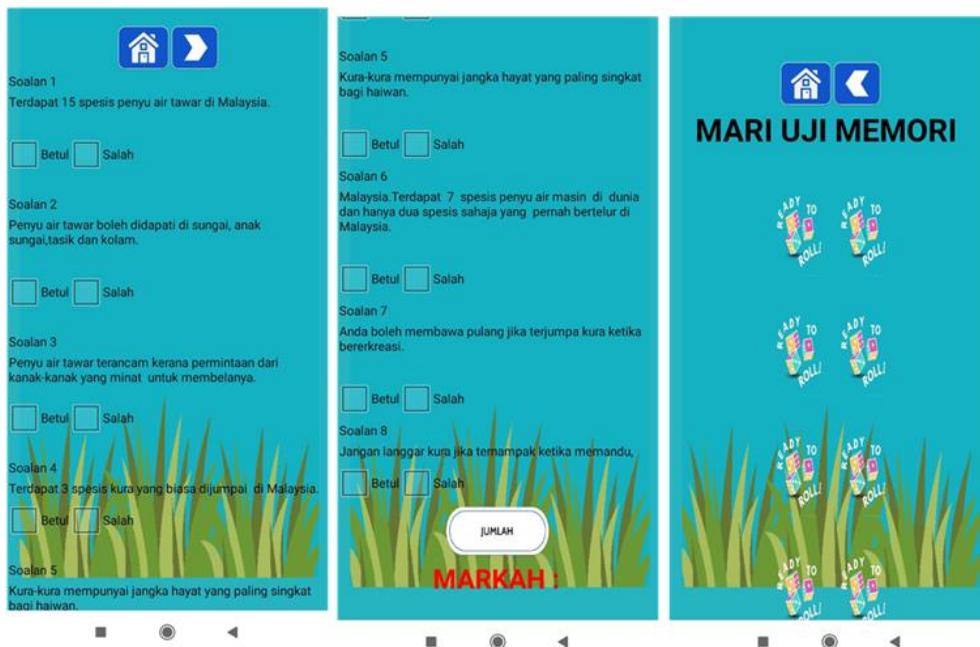
Figure 5

5. CONCLUSION

As a conclusion, the development of Penyu Kita mobile application as interactive application in convey message to public about an awareness of turtles have been succeed. Due to this application only developed in Android, it have been published in Play Store for user to download and spread the awareness.

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