


Chapter in Book

Developing “MindKids Academy” as Mobile Learning in the Early Childhood Education

Khairudin Bin Baharum^{1, *}, Ahmad Maz Bin Azri², Nazirul Zuhdi Bin Mazlan³, Nur Karmila Maisara Binti Ismail⁴, Nur Damia Syaffiyah Binti Mohd Ridzuan⁵, and Muhammad Najmuddin Nabeel Bin Mohd Najib⁶

¹ Politeknik Ibrahim Sultan; khairudin@pis.edu.my;  ORCID ID (<https://orcid.org/0000-0002-4324-6399>)

² Politeknik Ibrahim Sultan; muazazri100@gmail.com

³ Politeknik Ibrahim Sultan; nazirulzuhdi12@gmail.com

⁴ Politeknik Ibrahim Sultan; mais50369@gmail.com

⁵ Politeknik Ibrahim Sultan; kacangmacadamia09@gmail.com

⁶ Politeknik Ibrahim Sultan; najmuddinnajib7@gmail.com

* Correspondence: khairudin@pis.edu.my

Abstract: *This project is about the development of game and learning applications for children in the scope of recognizing letters and pronunciation. This mobile learning is developed using Adobe Animate and Adobe Illustrator software named as MindKids Academy. The purpose of this project is to develop an application and design an interactive game. The target users are children from four years to six years old who do not yet know the alphabet. This game uses an attractive and interactive interface to create fun while using this application.*

Keywords: game, learning application, mobile learning, an interactive game.



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1. INTRODUCTION

Nowadays, there are various types of mobile game applications (mobile learning). Each of them is developed with its own purpose. Mobile learning is main choice for pre-school children because it is a fun educational approach that involves multimedia elements such as animation, graphic, audio and text in line with today’s technological developments. Digital technology in early childhood education continues to become more popular over time, mobile learning has indicated a number of benefits for young learners in early childhood education and care setting. A MindKids Academy is mobile learning that aims to teach kids about ABCs and words. It has interesting mini games and learning course to make sure the kids fully understand basic words and sentences. In order to make the kids understand the lesson, it designed fully interactive and interesting set of games.



Figure 1. Icon of MindKids Academy mobile app.

2. PROBLEM STATEMENT

- Some kids fail to remember all alphabets and simple words.
- Teachers having problem to teach the kids.
- Some kids having problem to learn through online learning due to lockdown from covid-19.

3. OBJECTIVES

- Designed to increase the intelligence and knowledge of children in a playful fun way along with enhancing vocabulary.
- Enhance kid's mind from alphabets to words.

4. USEFULNESS

There are differences in terms of content between digital games and educational digital games available in the market. And very few digital games that have an educational component. According to Ibrahim & Jaafar, 2009, the two components that must be present in educational digital games are the educational component (aspects of learning theory, learning style and pedagogy) and the game component (aspects of challenges, rewards, goals, space and mechanics). A positive combination between researchers, educators and digital multimedia companies needs to work together to produce an interactive application that is suitable for use in terms of teaching and learning. Apart from the suitability of syllabus content, cultural suitability can also be applied. The character and context of the game needs to be adapted because children are easily influenced and it becomes a concern for parents if an application has a bad effect on their child's thinking. If society, especially parents, see interactive applications or mobile learning as a positive medium, kindergarten schools can develop technology use activities such as interactive application in the classroom or outside the classroom. Mobile learning has a positive impact on children engagement, increasing motivation and enthusiasm, while they improve their productivity (Plowman et. al., 2020).

MindKids Academy is one stop an information centre prototype of mobile learning that provides learner with pre-school level knowledge. For example, ABCs and simple wording. It also contains interactive games like "guess the word" and alphabets soundboard.



Figure 2. MindKids Academy app's logo

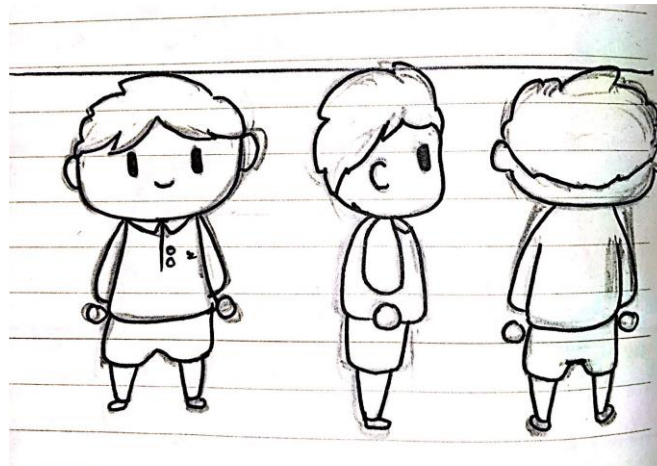
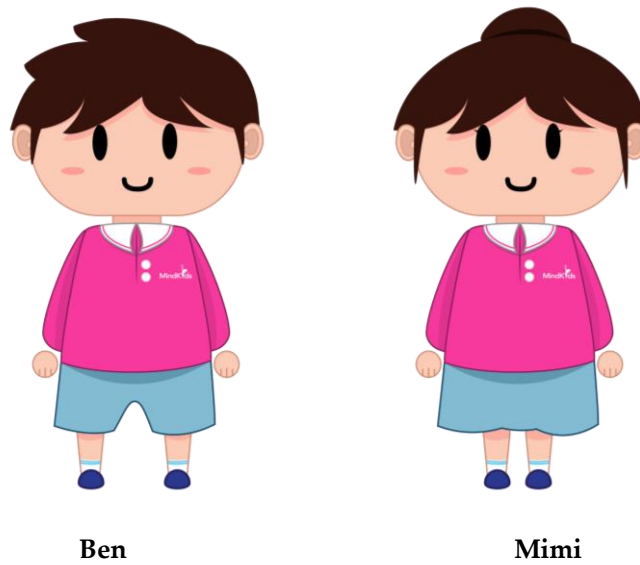


Figure 3. Character sketches



Ben

Mimi

Figure 4. Character digitalized

5. NOVELTY

MindKids Academy will be the first learning application that covered pre-school knowledge and allows users to interact with audiovisual information via gamification and visualization. Game approach in education is in the Malaysian preschool curriculum (KPM, 2001). Game can provide powerful learning environments, especially for children (Noor Azli NM et. al., 2008).

6. USER INTERFACE (UI)

On the introduction page, the house acts as a button to let user get inside the academy. There is logo of the application and the name on the top side of user interface (Figure 5). The next page is the main menu (Figure 6), on the blackboard it has Play, ABC and exit button. At the top, it has button of back, developer, client and setting.

The character at the bottom will say their name if the user clicked them. On figure 7, there is developer page that shows all the developer names. Figure 8 shows the game select menu, it states two games that can be played which is "Guess the Animal" and "Arrange". Figure 9 is one of the learning games that shows alphabets from A to Z. Clicking the button will tell the user how to pronounce the letter.

Figure 10 and 11 show one of the included game, which is "Arrange" game. These are the two sets of the first level to be completed. User can simply arrange the object to the right label. The correct arrangement of object will show green tick. Figure 12 is the second game called "Guess the Animal"; the user needs to click the letters and match them with the picture given. Wrong letter will result shaking letter animation.

Figure 13 shows the development process chart, starting with introduction and ends with the two main games.



Figure 5. Intro page



Figure 6. Main menu

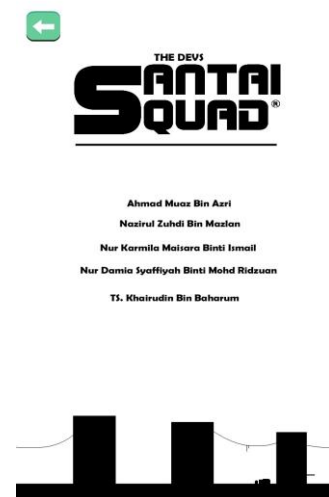


Figure 7. Developer page



Figure 8. Game's select menu



Figure 9. Alphabets from A to Z

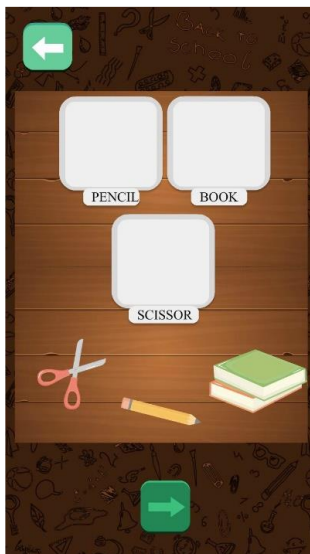


Figure 10. Arrange Game 1

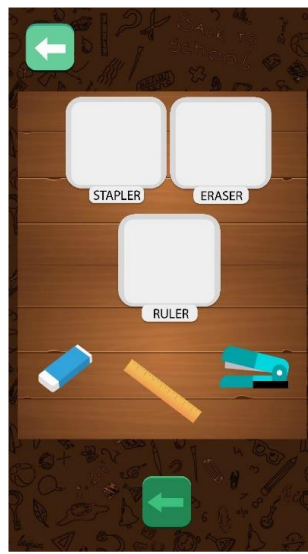


Figure 11. Arrange Game 2

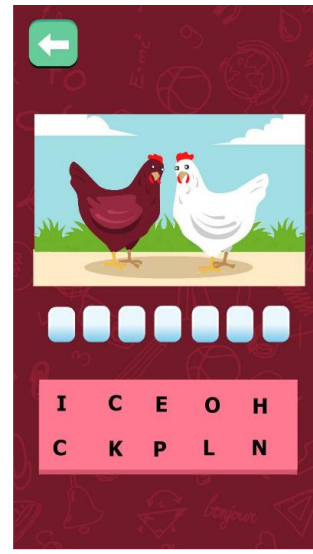


Figure 12. Guess the Animal

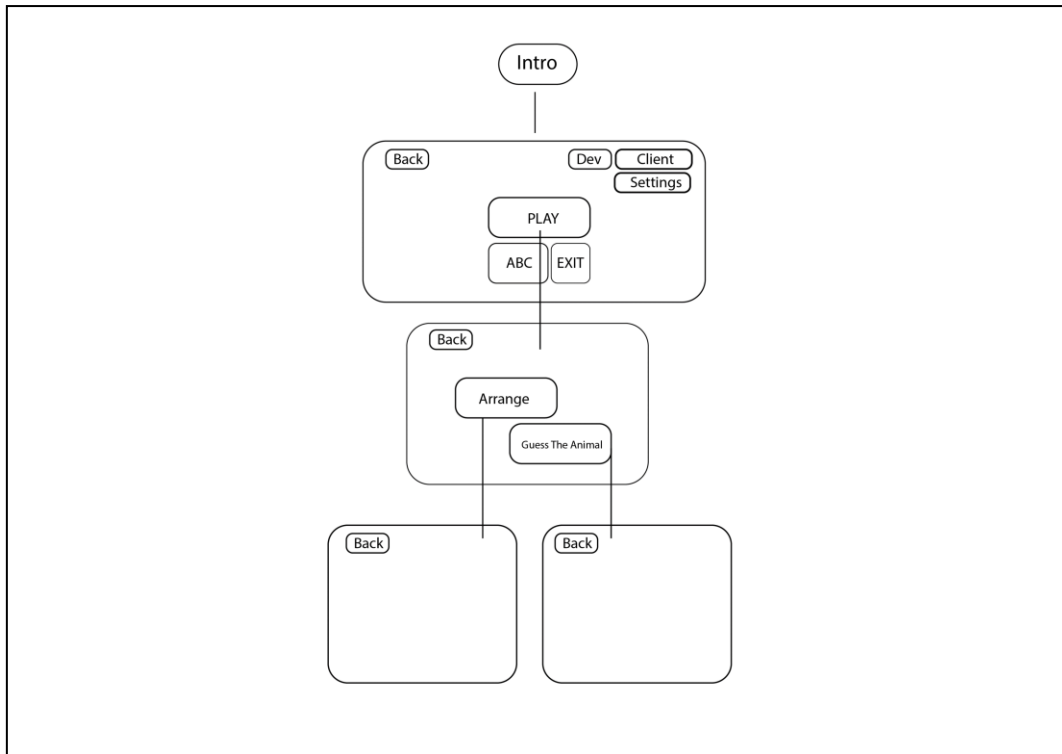


Figure 13. Development Process Chart

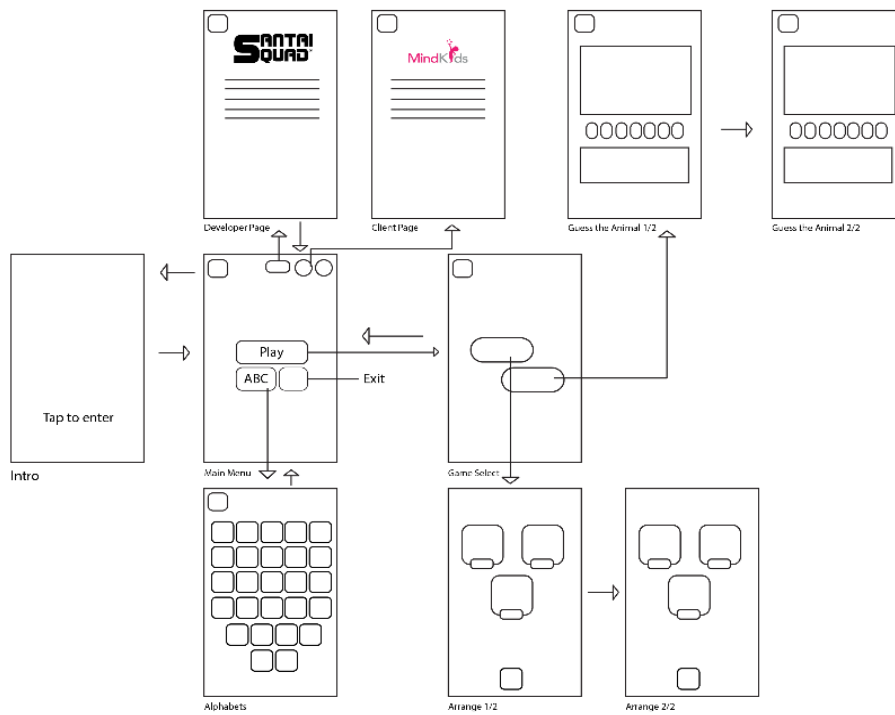


Figure 14. Storyboard planned for the app

7. COMMERCIALIZATION POTENTIAL

MindKids Academy features links that are very easy to access and very appealing to users because it is animated and has music that is appealing to pre-school children. It has a variety of applications in creative learning, educating kindergarten children, and preparing their minds to be ready to enter primary school to seek more knowledge. MindKids Academy application has been registered under the intellectual property of which the registration number is LY2022J04696. Registration of intellectual property is important to protect the copyright of this app from being replicated.

8. CONCLUSION

The team hopes that mobile learning will help pre-school kids with their vocabulary, words, and reading techniques so that they will be prepared to enter primary school and be able to ace academic subjects.

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