

### **Summarization of paper (Applying User Centered design to Mobile Application for Children)**

In this era with the development of modern technologies, the use of smartphones has become important to communicate and search for information and entertainment. Children between the ages of 5-12 are effective using smartphones to play or study, which encourages the development of educational mobile applications for children, so that the interface should be lively through colors and images. This research aims to produce an application of Batak, Indonesian and English language introduction for children.

To development application that fit the requirements of the children specifically, we will use Child Centered Design (CCD) methodology that involves users in every stage of development from the data collection stage to testing. The requirements of the children are collected directly by performing observations and interviews with children, parents and specialized experts to find the child's habits related information. and among the requirements of the application are:

- Attracting children's attention through the use of images, sounds, animations and colors.
- Selecting the appropriate colors that contribute to improving the quality of information delivery and providing comfort to the child, such as the red, yellow, brown and orange colors.
- Choose content that approbate the age of children.
- Add more diverse materials such as culture, history and geography.
- The application should have four main menu i.e. animals, plants, family, and organs. Each category on the application has a quiz feature, both in image and sound.

The prototyping method used is high fidelity which software semi-working of the real application, EACG design results will be implemented and then tested with children, in the paper there is no mention for specific tool for prototyping. In evaluating the application, they considered mobility context which the icons should appear in appropriate sizes on their mobile, they used warm colors, and they were interested in the quality of the images and the font by usability testing.

Usability testing can be used as a tool to decide whether a system is usable or not. which is the activity that focuses on observing users in using a product. Facial expressions such as smile can be used as a measuring instrument of expression provided by the child. developers also recording every facial gestures as well as the face of the child to be analyzed. Heuristic evaluation by the expert is important because it helps ensure the bottom of the user interface and the functions of the application are built according to principles of usability and meet the needs of the user. There are some criteria was a good experience while using an application, that is entertaining, visual appeal, usability, age appropriate content, and encourage learning.

In conclusion, the paper discussed how to apply the CCD methodology to build an educational application for children in order to benefit from spending their time on the mobile. They cared to make the lively and effective interface of application to attract users. Also, They used usability test to measure the quality of the application where designs are evaluated directly by children to satisfies children requirement, and the outcome is the user friendly application of Batak, Indonesian and English language introduction for children. it has four main content: animals, plants, family, and organs. In addition, there are picture and sound quiz features.

#### **Reference :**

[1] : Angrainy Sianturi, R., Sylvia Simanjuntak, I., Marten Simanjuntak, P. and Purba, G., 2019. Applying User Centered design to Mobile Application for Children. *Journal of Physics: Conference Series*, 1175, p.012094.