

Designing An Investment Learning App for Students Using Design Thinking Approach

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Abstract – Young people's awareness of stock investment is still low. Lack of knowledge about the investment stock market is an example of financial literacy. Moreover, the development of financial applications with game elements has created a new trend in the investment field. Therefore, we proposed a playful application as a learning medium to improve young people's stock market investment knowledge. This research aims to develop a mobile his application that can be used to improve the financial literacy, especially investment literacy, of Politeknik Negeri Batam students. The study uses a design thinking approach and leverages gamification to increase user retention. A total of 50 participants contributed to this study. Tracking, observing, and identifying problems that exist in the spread of financial literacy practices among Politeknik Negeri Batam students allows us to find new ideas as solutions to existing problems. The trial conducted on the product revealed that while users found the application overall useful and aligned with their requirements, there are still areas that need improvement.

Keywords – *gamification, investment, stock*

I. INTRODUCTION

Financial literacy is a basic need for everyone to avoid financial problems. Financial difficulties are not only caused by low income, but can also arise due to errors in financial management. Having adequate financial literacy is one of the important things to get a prosperous and quality life.

As a developing country, the awareness of young Indonesians towards financial literacy is still relatively low [1]. Financial literacy can be improved by educating the public in the financial sector intensively [2]. Efforts to educate the public, especially young people, are challenging, especially in finding the right way in the educational process. One of the factors that need to be considered in the learning process to improve financial literacy among young people is their individual learning style [3–5]. The right approach is needed so that the learning process becomes something fun and makes them engaged with the learning process itself.

In October 2021, IDX or PT Bursa Efek Indonesia (BEI) held a financial education program as well as asset management for young people to improve financial literacy, entitled FinanSiap. This step is an expansion of the previous program targeting young people as the largest retail investor group in the Indonesian capital market [6]. In addition to education through events, IDX is also active in socializing the importance of financial literacy on their online platform, both through their official website and social media sites. Currently, several financial institutions use gamification to increase financial literacy among young people [7]. Gamification is the process of using in-game mechanisms or rules on non-game activities with the aim of increasing user interactivity. The use of gamification is seen as a good opportunity that is worth trying to achieve the points that have been targeted by the IDX.

This study aims to increase the knowledge of young Indonesians, especially students, about good and correct finance by utilizing gamification through the creation of

gamification applications that are intended for young people. The gamification technique in this study will be implemented through a mobile application. Previously, from August 2021 to September 2021, preliminary research was carried out through a literature review and a preliminary survey. The literature review is directed to obtain a theoretical basis for an appropriate application model to improve financial literacy among young people.

II. RESEARCH METHODOLOGY

We use design thinking method in this study. This method is known as a comprehensive thinking process that concentrates on creating solutions that begins with a process of empathy for a particular need that is human-centered towards an innovation. sustainable based on the needs of its users [8,9]. It was further explained that initially there were 3 stages consisting of inspiration, namely needs or problems that motivate the search for a solution or innovation, ideation, namely the process of generating ideas, developing and testing ideas, and finally implementation, namely finalizing the implementation to users. In its development, the three stages developed into 5 stages which are basically not much different but there is an emphasis on certain parts so as to produce more detailed procedures.

The first stage is Emphasize (Empathy) which is considered as the core of the human centered design process, this method seeks to understand the user in the context of the product being designed, by conducting observations, interviews, and combining observations and interviews with first. first given a scenario. The second stage is Define which is the process of analyzing and understanding various insights that have been obtained through empathy, with the aim of determining the problem statement as a point of view or main concern for research. The third stage is Ideate (Idea) which is a transition process from problem formulation to problem solving, while in this ideate process it will concentrate on generating ideas or



ideas as a basis for making prototype designs that will be made. Fourth, Prototype (Prototype) is known as the initial design of a product to be made, to detect errors early and obtain new possibilities. In its application, the initial design made will be tested for users to obtain appropriate responses and feedback to improve the design. The last stage is the Test stage or testing is carried out to collect various user feedback from various final designs that have been formulated in the previous prototype process. This process is the final stage but is a life cycle so that it allows looping and returning to the previous design stage if there are errors.

III. RESULTS AND DISCUSSION

Based on the design thinking method, the research was carried out by describing the problem in the framework of the method flow so that the design results were obtained that could overcome the main problems in this research.

- a. Empathy. This empathizing stage includes observation, interviews and distributing questionnaires to prospective users to gain insight into the focus of research on investment and financial literacy among students.
- b. Define. Based on the define process, it was found that the main problem that can be concluded from the results of the empathy process is the lack of information facilities that can inform the basics of investment and financial literacy among students. So the solution is to present alternative media in the form of mobile applications that are specifically designed according to target users who are able to facilitate the need for information exchange by utilizing internet technology. Furthermore, based on the data obtained, the specified target users are 19-25 years old and come from urban circles and are accustomed to using smartphones.
- c. Ideate. The idea that will be made from the previous define stage is about how to produce a mobile application that is able to answer the problem of the difficulty of getting information about basic investment and financial literacy for students.
- d. Prototype. From the process that was passed in the previous ideate stage, conclusions were obtained regarding various habitual flows carried out by students when they wanted to find out information about the basics of investment and financial literacy. The flow is then reformulated to become a flow that is used and used as a reference in designing the features that exist in this mobile application. Figure 1 shows a prototype that was successfully designed.

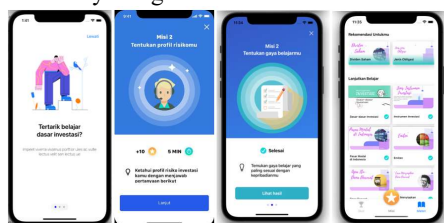


Figure 1. Prototype of miniVest

- e. Testing. The last stage in this design thinking method, the author conducts a trial of the product produced at the previous prototype stage. Testing this application is done through two stages, namely by testing digital prototyping and questionnaires. Even though the target user thinks that overall this application is very useful and has met their needs, it still has some obstacles to be used as input and improvement. First, users need some time before getting used to using the application and understanding the features, icons and buttons that the application has. Second, according to users, the distance between the buttons does not match the thumb, as well as the size of the buttons that they still feel have not found the best format.

IV. CONCLUSION

The result obtained in this study is a design model in the form of a mobile application on a smartphone which is a native mobile application, so that in future research if you want to perfect this design, you can consider doing a design in the form of a Hybrid mobile application where the application will be multi-platform that can consist of a combination of web design, mobile web, and native mobile applications themselves that are integrated with each other through separate research.

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