

Abstract

DEVELOPMENT OF E-COMMERCE MOBILE APPLICATION USING REACTIVE PROGRAMMING (CASE STUDY MUSIC GEAR)

by

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During the past decade because of the rapid growth of internet and mobile technology, e-commerce has grown exponentially. One of the most promising markets in today's e-commerce is the music gears market. In foreign country such as USA and Europe there is C2C e-commerce platform that specifically sells music gear. In Indonesia currently, there is no C2C e-commerce platform that specifically sells music gear, which can be resulted in the individual seller having difficulty selling their music gear. Right now a lot of e-commerce are built and available on the mobile app. Because modern mobile applications are more complicated and complex, reactive programming has become a popular approach to developing modern mobile application. While developing a modern e-commerce app is highly complex, without reactive programming building a modern e-commerce app would be difficult. Since without reactive programming all the asynchronous tasks, error handling and complex user interfaces have to be handled manually. On this research, with the use of reactive programming paradigm, an iOS mobile application with the name "Arpeggio" are built to make a C2C music gear-focused e-commerce platform to help music gears enthusiast to buy and sell music gear more easily. The Arpeggio iOS mobile application that is created on this research is built using iOS native development, Firebase online database and RxSwift for reactive programming. After the development of the Arpeggio app is finished, the app is deployed through Apple TestFlight. Finally after the app is deployed, participant that have tested the arpeggio app fill in a survey that measures the usability, functionality, user experience of the app, and overall opinion of users about the app. From the whole process on this research it is concluded that the users satisfied with the arpeggio app, the arpeggio app functions properly despite a few minor issues, and the reactive programming feature on the arpeggio app works pretty well.

Keyword: E-commerce, Music Gear, Mobile Application, iOS, Reactive programming