

The Development of Emporia Digital Raya's "IKI Canvasser" Stores Acquisition Mobile Application

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Abstract— Inequity technology development in Indonesia had a bad impact on micro and small local stores all over Indonesia. This condition made Emporia Digital Raya acquire micro and small local stores as digital store partners to boost up their income. In a way to fasten the process, Emporia Digital Raya developed a mobile application to help and fasten the Acquirer (Emporia Digital Raya call it Area Leader) process in acquisition. This journal explains how this application is developed in the form of a mobile application based on Area Leader needs like acquisition, supervise store performance, and store visit report. This research was conducted with a quantitative method. The data collection is done by survey and literature study. Mobile application development is carried out using Java, Codeigniter 2 as the Application Programming Interface or API, PostgreSQL as database server, and Apache as the server. The study shows an overall result that this application is useful in helping Area Leaders to acquire and supervise their stores. This application is also considered user friendly. The results of application testing have been confirmed to pass the quantitative test using a survey method with 100 Area Leader from all over Indonesia.

Keywords— acquisition application, digital store, mobile application, technology development.

I. INTRODUCTION

The number of gadget users is growing rapidly, making many application developers and start-ups engaged in application development choose the economic and business sector as their target market, this is because there are still many economic market segments that have not been touched by the banking sector.

As a result, there are applications that allow us to sell or buy goods online. The industry is referred to as e-commerce. With e-commerce applications, the advantages of sellers selling online are far more than selling physically / with shops. Meanwhile, from buyers, the variance in choosing goods is far more than having to go to the store, especially if the desired item runs out. Only by relying on e-commerce applications, people can buy the things they want.

However, these developments have had a huge impact on physical stores that depend on shoppers coming to their stores and impacting their income or turnover. Companies or businesses that can compete in the business world are businesses that can implement technology into their business [1]. Many shops and department stores are closed because they cannot implement technology in their companies and businesses.

When the impact of digitalization has begun to spread evenly in Indonesia, for those who don't master it, technological advances are seen as a threat. The development of technology and information in Indonesia is low and lagging behind countries in Southeast Asia [2]. Inequality

in terms of technological development between provinces is still very pronounced. This tells us that technological progress has not been enjoyed or even felt equally in Indonesia. In his journal [2] states that technological progress has a positive effect on the income of the 20% group with the highest income and a negative effect on the income of the 40% group with the lowest income. Research from Hyytinen [3] which explains that technological progress has a positive effect on economic inequality. Technological progress in Indonesia, according to Schumpeterian [4], produces more creative accumulation than creative destruction, resulting in high economic inequality.

This is where PT. Emporia Digital Raya, a technology company that develops Financial Technology applications for micro and small local stores to increase turnover and directly provide education about technology, one of which is the "IKI Canvasser" application. "IKI Canvasser" is developed as a mobile application because from the journal [5], it is estimated that in the future the use of mobile devices will exceed the use of desktop devices in total. "IKI Canvasser" helps agents registered under PT. Emporia Digital Raya and third parties to acquire stores.

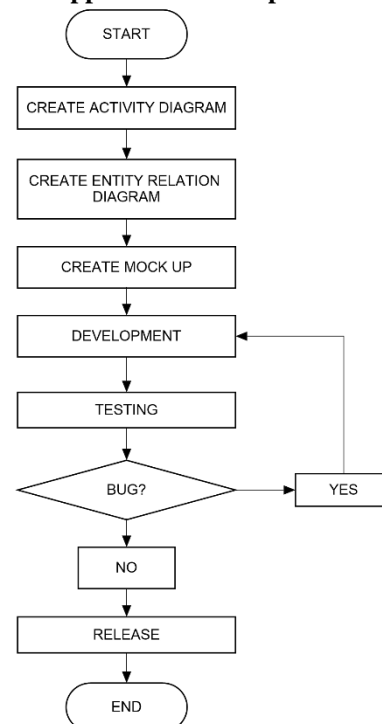
II. METHOD

A. Application Development Methods

A lot of methods, applications, and tools have been used by the authors for developing "IKI Canvasser" mobile applications. Authors using Java and Android Studio for the application development. Besides having a variety of features, Android Studio also has a variety of ready-to-use libraries [9]. For the database access point authors using Codeigniter as API. Codeigniter provides convenience for building REST Servers or you can also use libraries that are included in the program you want to make [12]. In terms of data speed, Codeigniter compared to Laravel is also still superior with a difference of 40.08 Kbit/s [13]. Besides

that, CodeIgniter uses the PHP language which can be implemented in mobile applications that require dynamic data [8]. The authors is using PostgreSQL as the database management because PostgreSQL has massive scalability, flexibility, and performance [10]. From other journals it is stated that the performance test results of the Postgresql query process are better than MySQL. The results state that the average difference is 0.44 seconds between Mysql and Postgresql from 50 thousand data, 100 thousand data, and 1 million data [11]. For the web server, the author is using Apache. Netcraft survey results stated in January 2005, 68% more share of web servers running on the Internet using Apache [14]. From other journals, the assessment is taken from the connection time speed, transfer rate, and time per request. And from this assessment it shows that the average transfer value of Apache is 701 Kbytes/sec and Nginx is only 522 Kbytes/sec which proves that Apache is faster than Nginx [15]. The development of "IKI Canvasser" mobile application starts with gathering requirements and creating a business flow mock up. Here is the application development flowchart.

Figure 1. Application Development Flowchart



Activity diagram was made using ClickCharts and the Entity Relationship Diagram was viewed and designed in Navicat 12. The mock up was created in Balsamiq MockUp 3. And for the asset like icons and design was made from Adobe Photoshop CS6. The authors are designing the result because the design and arrangement of the interface display is important and really needs to be considered carefully in order to get a good look [6]. In its development, the authors also focus on maximizing the completeness of application features and navigation design because according to the following journal [7], the completeness of application features and navigation design has a major effect on user experience. When the application is ready to release, the authors continue to test the application to minimize errors. Testing is done by a quality assurance team. When they are done testing it, the authors release the application in the Play Store.

B. Data Collection Techniques

The technique used in this data collection is by survey using google form as the media to the "IKI Canvasser" Users in Indonesia and written sources of information such as scientific journals, papers, and online journals.

C. Data Sources

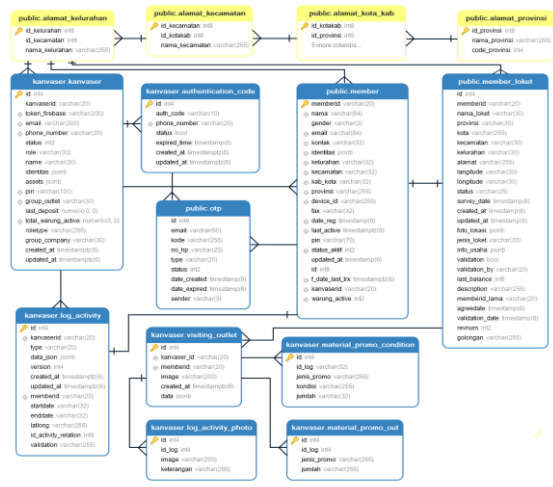
The primary data source comes from a questionnaire distributed to 100 Area Leaders using the "IKI Canvasser" application under PT. Emporia Digital Raya throughout Indonesia. Secondary data sources are taken and obtained from journals or wikipedia references with topics related to the use of applications, as well as articles about micro and small business in Indonesia.

III. RESULTS AND DISCUSSION

From all the methods the authors applied in the research, the authors obtained results as follows.

A. Entity Relation Diagram

Figure 2. Entity Relation Diagram



Entity Relationship Diagram is created to outline the relationship between database entities in the IKI Canvasser application. There are three relationships between entities, namely many to many, many to one, and one to one.

B. Activity Diagram

The next process after creating ERD or database relations, next is the creation of the core flow of the IKI Canvasser application. It should be an activity diagram, which explains the stages of flow / activities that exist simply. The activity diagrams in Figure 3, Figure 4 and Figure 5 will explain the core flow of the "IKI Canvasser" application.

Figure 3. Area Leader Registration Activity Diagram

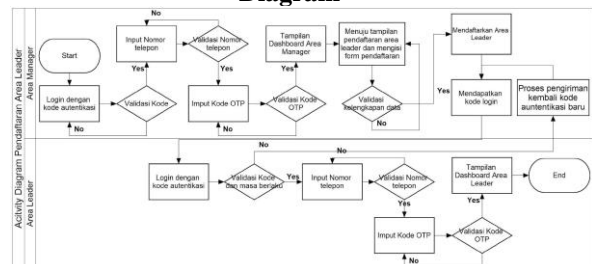


Figure 4. Store Registration Activity Diagram

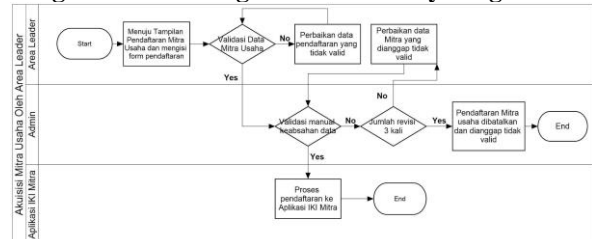


Figure 5. Store Visitation Activity Diagram

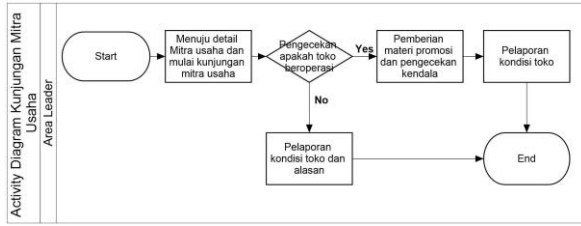
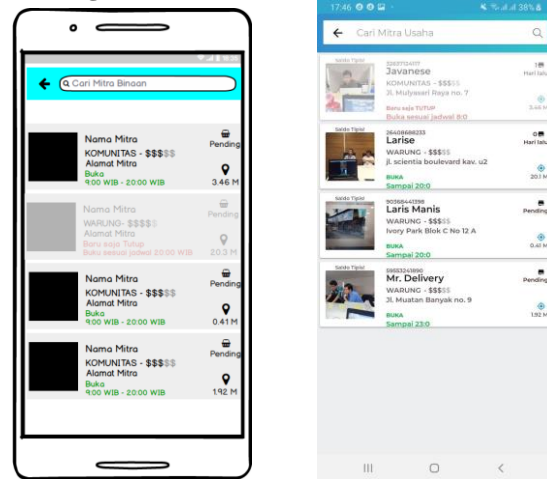


Figure 6. Store List MockUp and Result



C. Business Process

Users of the "IKI Canvasser" application are Area Leaders who have the task of acquiring and building relationships with micro and small stores and businesses who are partners and want to become partners of PT Emporia Digital Raya. Application used to acquire business partners (grocery stores, cooperatives, to BPR) throughout Indonesia to become partners and users of the "IKI Mitra" application. Here some mock up and result for the following roles.

1. Area Leader

The Area Leader is tasked with acquiring Business Partners and making regular visits. The Area Leader is also tasked with contacting partners for data collection if transactions decrease. Figure 5, 6, 7, and 8 below is the display mock up and result for the area leader.

Figure 7. Store Acquisition Mock Up and Result

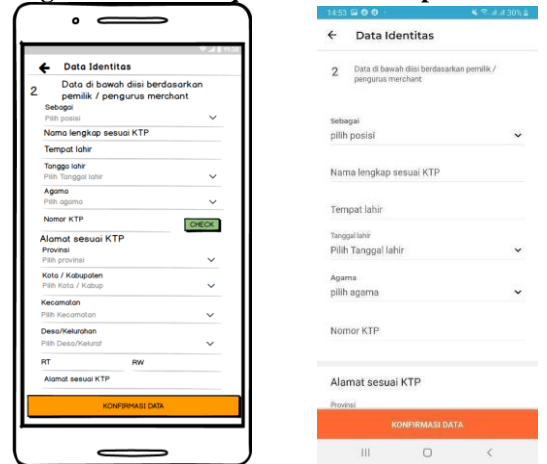


Figure 5. Area Leader Dashboard Mock Up and Result

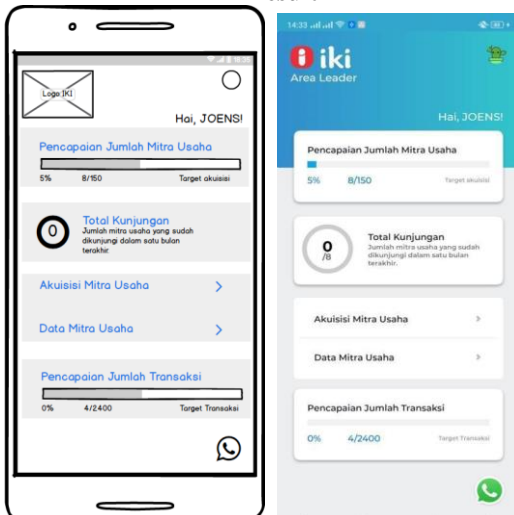
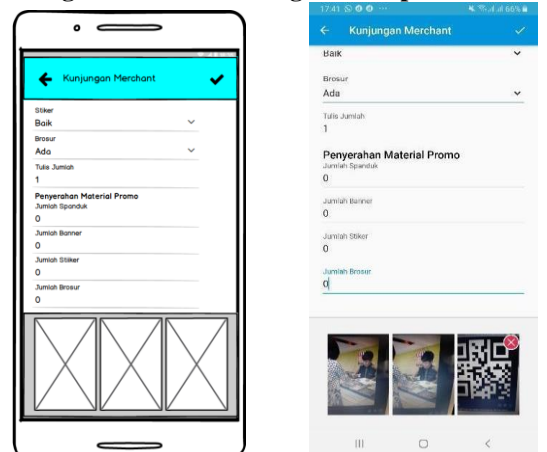


Figure 8. Store Visiting Mock Up and Result



2. Area Manager

The Main Dealer or MD and the Area Manager or AM are in charge of controlling the progress of the Area Leader, adding new Area Leaders and validating the incentives received. Figure 9 below is the mock up and

result that only the area manager can access and do.

Figure 10. Area Manager Dashboard MockUp and Result

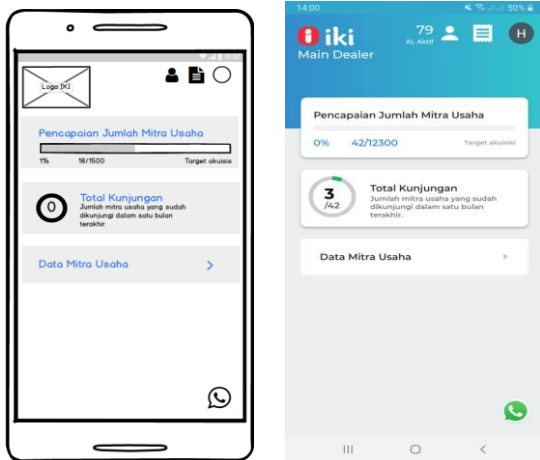


Figure 11. Area Leader List Mock Up and Result

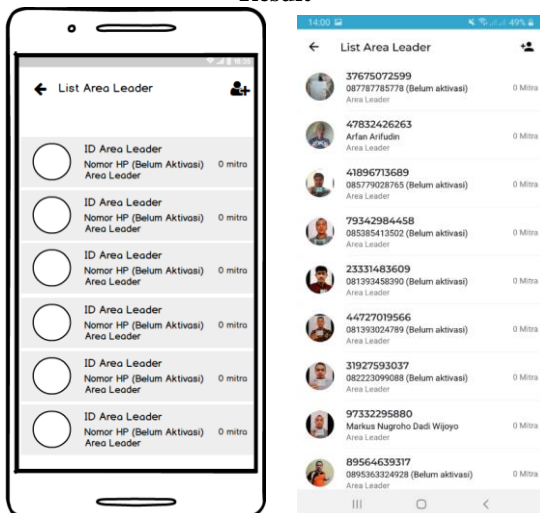


Figure 12. Area Leader Registration Mock Up and Result

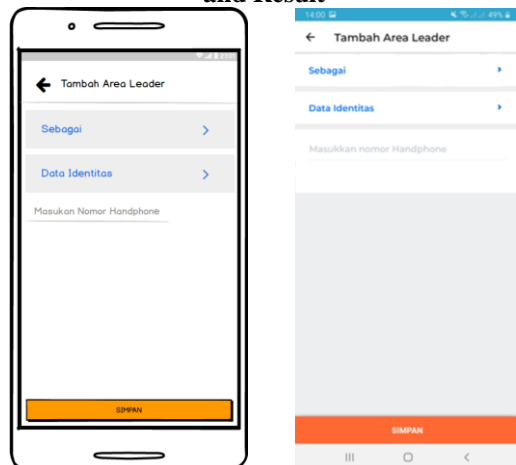
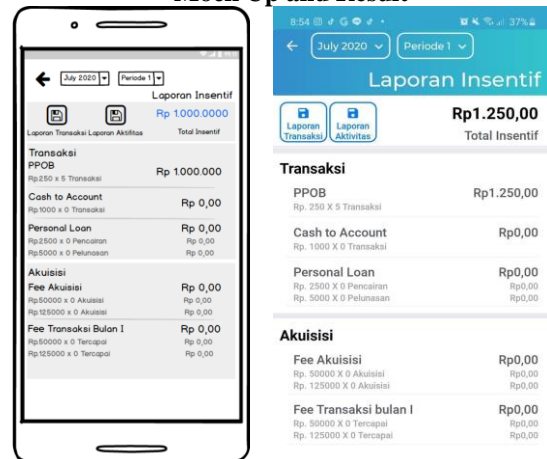


Figure 13. Area Manager Incentive Report Mock Up and Result



D. Test Instrument

1. Operational definition

Table 1 below shows the operational definition based on the existing variables. the following table serves to support the test.

Table 1. Operation Definition

Variables	Operational definition
Usefulness (PE)	How far users believe that using the IKI Canvasser application will help users achieve personal and corporate benefits.
Intention (CI)	How far users want to use the IKI Canvasser application in the future.
Convenience (EE)	The level of ease associated with using the IKI Canvasser application.
Device Support (FC)	How far users believe that the infrastructure and support environment exists to support the use of the IKI Canvasser application.
Satisfaction (US)	How far users perceive that using the IKI Canvasser application is satisfactory.
Confirmation (C)	How far users feel that the IKI Canvasser application meets expectations.

The test questionnaire was designed using various variables including 3 Performance Expectancies, 3 Continuance Intentions, 3 Effort Expectancies, 3 Facilitating Conditions, 3 User Satisfaction and 3 Confirmations.

2. Test Result

The test results were carried out using the questionnaire method to 100 IKI Canvasser system users, who are Area Leaders. Most users are male, and aged

between 25-31 years. The tests used include the validity test, reliability test and correlation test.

Figure 14. Validity Test Result

Outer loadings - Matrix

	C	CI	EE	FC	PE	US
C1	0.949					
C2	0.955					
C3	0.949					
CI1		0.934				
CI2		0.942				
CI3		0.941				
EE1			0.950			
EE2			0.951			
EE3			0.950			
FC1				0.837		
FC2				0.904		
FC3				0.911		
PE1					0.931	
PE2					0.932	
PE3					0.944	
US1						0.963
US2						0.965
US3						0.948

Table 2. Reliability Test Result

Variables	Composite Reliability	Cronbach's alpha
PE	0.954	0.928
CI	0.957	0.932
EE	0.965	0.946
FC	0.915	0.860
US	0.972	0.956
C	0.966	0.947

Table 3. Correlation Test Result

	O	M	STD EV	O/ST DEV	P val
C→CI	0.091	0.094	0.124	0.735	0.462
EE→CI	-0.148	-0.148	0.121	1.222	0.222
FC→CI	0.421	0.417	0.101	4.171	0.000
US→CI	0.405	0.405	0.130	3.113	0.002
C→CI	0.166	0.166	0.110	1.514	0.130

IV. CONCLUSION

The authors can conclude that development of a small stores acquisition application made using Android Studio and Java language by displaying a dashboard and having a business partner acquisition feature that is useful for supporting area leader performance.

Based on the results of tests on users of the "IKI Canvasser" application, it was found that the "IKI Canvasser" application improved the performance of area leaders in acquiring small stores, reporting small stores visits, and monitoring the performance of each area leader.

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