

Design an Android-based Applications called “BEVENTS!” as Event Promotion Platform in Bandung

Mustafa Afandi¹, Dani Hamdani²

Widyatama University, Jl. Cikutra No.204A, Bandung 4015, Indonesia

¹ mustafa.afandi@widyatama.ac.id; ² dani.hamdani@widyatama.ac.id

ARTICLE INFO

Article history:

Received December 24, 2019

Revised on January 15, 2020

Accepted February 06, 2020

Keywords:

Ticket, Event, Android Organizer

ABSTRACT

Bandung, as a creative city, has made many event organizers that want to hold an event in Bandung. More event organizers are popping up, and there will be many events in Bandung. However, the lack of media that can promote and informs events makes people less aware of information about any events due to lack of thorough event reporting in Bandung. People who want to attend an event are required to buy a ticket which is usually done directly on the spot, which sometimes makes them lazy because of long queues, so they need a system to assist event organizers in promoting events and selling event tickets online, which can simplify the process of booking event tickets to make it easier and more precise. Also, it can provide detailed information from an event in Bandung. In this research, the author tries to design an android-based application called “BEVENTS!” to make it easier for event organizers to promote and sell event tickets. Besides, this application also responds to problems that occur in the ticket booking process manually, which will make it easier for event enthusiasts to order tickets online through smartphones. With “BEVENTS!”, the author hopes that help event organizers to spread quickly of event information, so that it makes it very easy for the public to know about available events in Bandung. From the results of this research, the applications can run well, and the current system does not display an error. This application can connect the event organizers with people who interest the event in one platform.

Copyright © 2020

Association for Scientific Computing Electronics and Engineering.

All rights reserved.

I. Introduction

Information technology can help user process data and present quality information. To provide information, we need a tool or media to process various data so that it can be present in useful information with attractive packaging on quality information criteria. With the application of information technology proven to increase the effectiveness and efficiency of the company. Event is an activity organized to celebrate or commemorate a particular event. However, currently, there is a lack of media that informs about events in Bandung, which makes the citizens less aware of any events that notification about events in Bandung is less widespread. People who want to join the event are required to buy tickets directly at the venue for the event, so there is a buildup of ticket buyers on the event ticket booth.

Based on research conducted by [1] entitled "Application of Advertising and Booking Tickets of Web-Based Event Organizer." Advertising applications and ticket reservations that they made are web-based, wherein the application, the user can also see the information about any event, besides that, the user can also order event tickets that they are interested and that is an advantage of their research. The weakness of the research is that the application they made is still web-based, which at this time, people use smartphones as the primary tool media to get fast and accurate information.

In research that researchers do will make a study entitled Design of "BEVENTS!" Android-Based Application as Event Promotion Platform in Bandung. With this research, expected to expand

the dissemination of information about events in Bandung, thus supporting several parties such as the people of Bandung, event organizers who wish to hold events, and visitors from outside the city who are on holiday in the city of Bandung.

II. Literature Review

A. *Relevant Research Theory*

Some previous research results are relevant and in previous research has similarities and differences with research conducted by researchers, namely as follows:

Research conducted by [2], entitled “Perancangan Aplikasi Android Untuk Acara Berbasis QR Code.” Researchers use the QR code as a way to verify tickets, by scanning the QR code for attendance starting from the authentication process, generating QR codes, and using the Google Firebase Database as a data storage medium. What makes the difference between researchers and their research is that in their research, in the applications they are working on, users cannot see complete information about events, and cannot order tickets online.

Research conducted by [3], entitled “Perancangan Prototype Situs Web Sebagai Sarana Marketing Event Di Kota Bandung Dengan Menggunakan Metode Iterative Incremental.” In the research they did, they chose iterative and incremental methods in making websites. Applications that are designed by them, users can see what information is there and can order tickets at the event people want to participate. Furthermore, what distinguishes it from researchers is that in their research using the website as a medium, and in the research they are working on, there is no verification part such as scanning using QR code as an attendance.

Research conducted by [4], entitled “Perancangan Aplikasi Penampil Iklan Berdasarkan Titik Koordinat dan Radius.” The methodology used in this research is the descriptive method, and for the system development method, the researcher uses the SDLC (Software Development-Life Cycle) model. In his research, the application designed can see information about the event to be held by the organizer. Moreover, the difference between his research with researchers is that in his research, the events shown are seen based on the coordinates and particular location radius, and the user cannot make bookings or purchase available tickets, whereas what researchers do, the events shown are events in Bandung.

Research conducted by [5], entitled “Perancangan Sistem Booking Seminar Pada Perguruan Tinggi Berbasis Android.” In their research, they are discussing a prototype system that can view and order tickets for available events. Furthermore, what determines their research, this system is only made for the seminar organizers in universities.

Research conducted by [6], entitled “Web-based System Information and Management Event Model.” In their research, the research method used was the method of observation and interviews and using data modelling with the UML (Unified Modeling Language) technique. They made the applications with the programming languages PHP, HTML, CSS. In their research, they have the same problems and goals, which in their applications, they expected to help event organizers or committees to meet the number of event participants.

And then the research conducted by [7] is about “Model Sistem Informasi Promosi Dan Management Event Berbasis Web” which in their research is making a concert ticket booking system in Malang using a website, and making the website a platform designed specifically for booking concert tickets in Malang. Their research has a goal that is almost the same as researchers, to provide convenience to buy concert tickets through the website, so it makes it easy for interested people who want to come to a concert. The advantage of the system they are working on from the buyer's side is to use text preprocessing for data processing as a search feature that utilizes two calculation methods, namely TF-IDF (Term Frequency Inverse Document Frequency) and cosine similarity, making it easier for users to search a famous concert.

B. *Literature Review*

1) *Advertising*

According to [8], advertising is order news to encourage, persuade the public to be interested in goods and services offered. According to [9], advertising is a communication process that aims to persuade and lead people to take actions that benefit advertisers.

2) *Event*

Event is an activity organized for commemorating important things throughout human life, both individually or in groups that are bound in custom, culture, tradition, and religion for a specific purpose and involve the community environment that held at a specified time. Every event has the primary goals, one of the main goals of the event is to expect visitors to attend according to the desired target. The primary key is that visitors know what benefits they will get through an event. Every event has the main objectives, one of the main objectives is to make the visitors attend as expected, and to make the visitors know what benefits they will get through an event. [10].

3) *Android Studio*

Android Studio is an Integrated Development Environment (IDE), especially for building applications that run on the Android platform. Android studio is IntelliJ IDEA based, an IDE for the Java programming language. The primary programming language used is Java, while to make an appearance or layout is using XML. Android studio also integrated with the Android Software Development Kit (SDK) for deployment to Android devices [11].

4) *XML*

XML is a markup language that has become one of the standards of the World Wide Web Consortium (W3C) in creating markup documents that used as a medium for exchanging data between diverse systems. XML is a metalanguage such as the one in the HTML tag that used to describe specific data. The tags in XML are different from the tags in HTML because of the XML tags can be defined on their own while the HTML tags have been defined beforehand [12].

5) *JSON*

JSON is a data exchange language that can be easily read by humans and is easy to be parsed and used by computers. JSON is very suitable for use in the javascript programming language. JSON provides better performance compared to XML that performance JSON have is believed 100 times faster than XML [13].

6) *Firebase*

Firebase is a backend infrastructure service as a service (BaaS) that was acquired by Google. Firebase offers software developers the convenience of building better applications by developing a successful business through all its complementary features. According to Firebase, this technology works to receive update data automatically. Firebase has the main features of Analytics, Messaging Cloud, Authentication, Realtime Database, Storage, Hosting, Test Labs, Crash Reporting, Notifications, Remote Config, Application Indexing, Dynamic Links, Dynamics Invitations, Invitations, AdWords, and AdMob [14].

7) *UML*

UML is a set and technique used for modelling systems or object-oriented programming (OOP) [15]. UML is a methodology for developing OOP systems introduced by the Object Management Group, which is an organization that has developed OOP models, technologies, and standards since the 1980s. UML uses a language that can determine, visualize, build, and document an information system. UML can make it easier for system analysts, software architects, and programmers to determine system requirements together.

III. Research Methodology

This research is generally research that aims to design an application that is "BEVENTS!". Following the research objectives described in section 1, the suitable method, according to the author, is to use the prototype research method as a software development method.

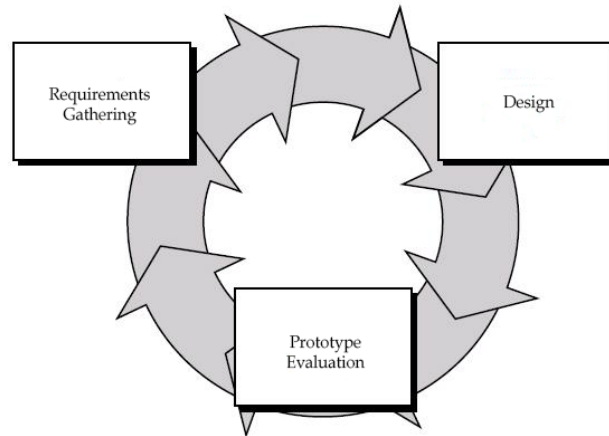


Fig. 1. Prototype Methodology [16]

In figure 1, there is some process in the prototyping model in general as follows:

A. Requirements Gathering

At requirements gathering step, developer and client or customer define the format and overall conditions of the software, identify all the needs that want to be in the application and made an outline of the system.

B. Design

At the design step, the developer does design quickly, and the design is done based on gathered data as needed, and this design will be a basis for making prototypes.

C. Prototype Evaluation

In the last step, the customer or client evaluates the prototype that the developer made to clarify the weakness and application needs.

IV. Discussion

A. Requirements Gathering

At this step, the author gathers needs through a literature study, which is looking for theoretical references that are relevant to the case or a problem found. Author looking for references in books, journals, and sites on the internet. The purpose is to strengthen the problem as a theoretical basis for conducting studies and also become the basis for designing a "BEVENTS!" application. In addition to the literature study, the author also carries out observations through direct observation of activities related to the problem taken, to obtain more complete information data. Observations were made directly in an event in Bandung.

B. Design

From the results of seeing references and observations, the author made a temporary picture of the applications that want to make. At this step, including the description of actors, the design of use case diagrams, the design of activity diagrams, the design of sequence diagrams, the design of the NoSQL document data model, and the design of the user interface of "BEVENTS!".

1) Actor Description

The actor description is an explanation of anyone involved in the system. The following is a description of the actors involved:

Table 1. Actor Description

<i>Actor</i>	<i>Description</i>
User	The user is the person who will use the application. Users can view and buy any available event tickets. Users can also add an event that they want to hold, then can sell the event tickets and see the number of buyers of the event tickets.

<i>Actor</i>	<i>Description</i>
Midtrans	Midtrans is an electronic service used in the process of payment transactions.
Admin	Manage user data and event data in Firebase

2) Use Case Diagram

Use Case Diagram is modelling that used to describe an interaction between one or more actors of the applications as well as to find out the functions that are in the "BEVENTS!" application.

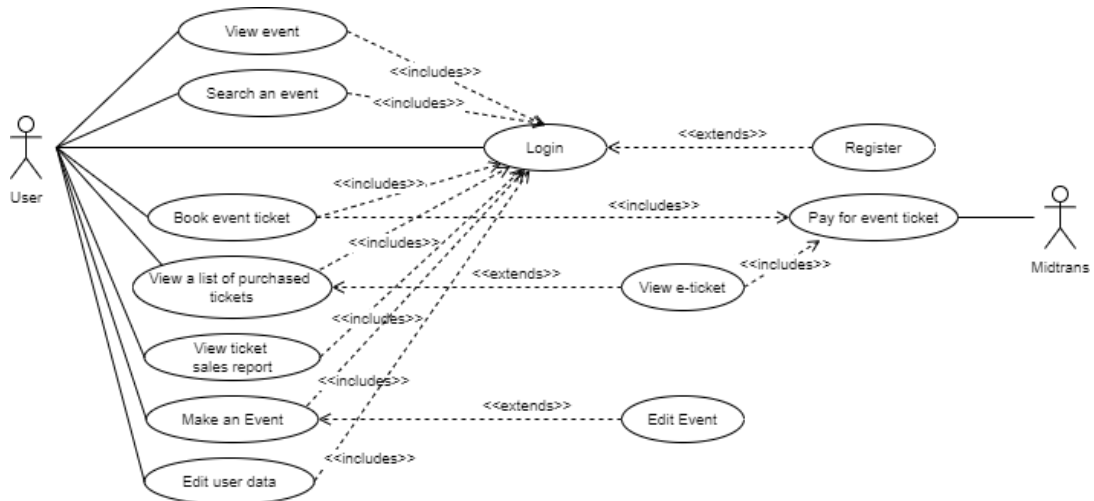


Fig. 2. Use Case Diagram of "BEVENTS!"

3) Activity Diagram

After creating the use case diagram, then graphically modelling the steps of each activity carried out in an activity diagram.

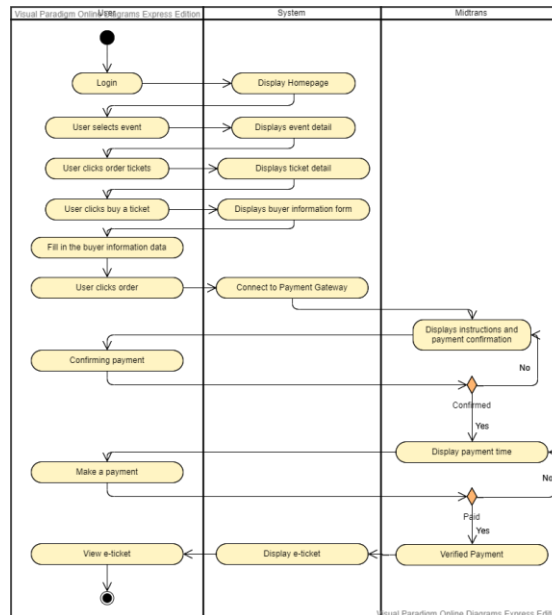


Fig. 3. Activity Diagram of "BEVENTS!"

4) Sequence Diagram

From the use case diagram and activity diagram above illustrates the interaction between the system and the user. The results of both diagrams, then it is used as input for the sequence diagram step. This sequence diagram illustrates the interaction between objects in the system through

messages sent from one object to another object. This sequence diagram based on a use case diagram.

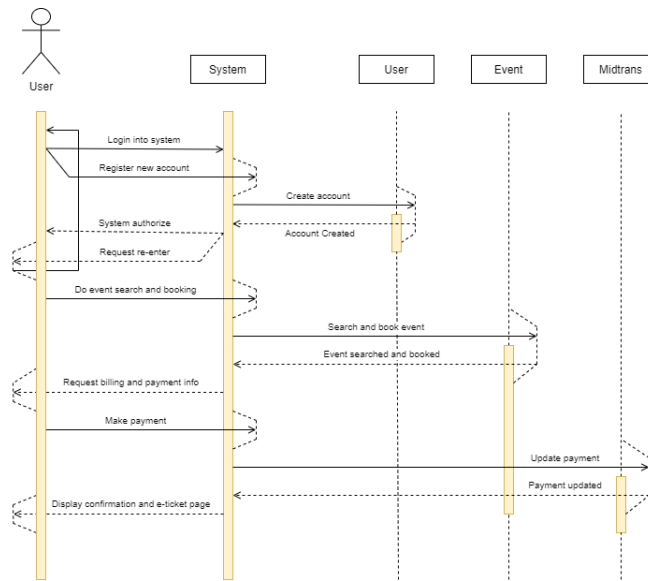


Fig. 4. Sequence Diagram of "BEVENTS!"

5) NoSQL Document Data Model

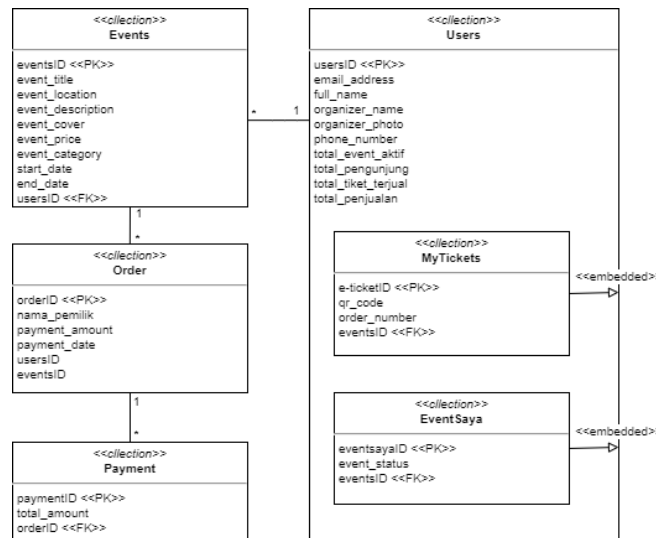


Fig. 5. NoSQL Document Data Model

6) User Interface

The following are some pictures of the user interface display on the application "BEVENTS!"

a) Get Started Page

The picture below is the get started page or start page when the user not logged in.



Fig. 6. Get Started User Interface of "BEVENTS!"

b) Homepage

In figure 7 is the main page of the applications, where users can see a list of available events.



Fig. 7. Homepage of "BEVENTS!"

c) Event Detail Page.

Figure 8 is what contains the details or complete information of an event chosen by the user.



Fig. 8. Event Ticket Detail Page of "BEVENTS!"

d) User Settings Page

Figure 9 is the user settings page, where the user can change user information, and also log out from the applications

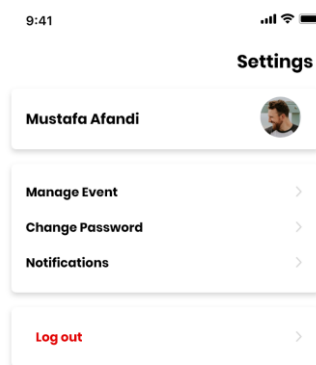


Fig. 9. User Settings Page of "BEVENTS!"

e) Dashboard Page

Figure 9 is a dashboard that the user can see statistics or reports an event managed by the user.

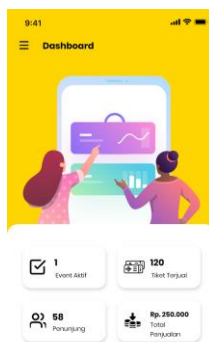


Fig. 10. Dashboard Page of "BEVENTS!"

C. Prototype Evaluation

Among the services designed and depicted in [1]-[7], these services have the same goals and have their respective advantages, services that have not been materialized are where all of the services are made into one application which can facilitate the user with a variety of services such as being able to see available events, buy event tickets, manage activities, selling event tickets that achieved by users and can view a report of events that are maintained.

V. Conclusion

The author concludes the results of research that the "BEVENTS!" applications can connect the event organizers with people who interest the event in one platform for free. So the people can see what activities will take place in Bandung and also can buy the tickets online, which will shorten the time to make an order. With using a mobile system on the "BEVENTS!" application, it can make it easy for people to find information about updated events in Bandung.

References

- [1] T. I. Fadillah, G. P. Kusuma, and H. P. Utomo, "Aplikasi Periklanan Dan Pemesanan Tiket Event Organizer," *e-Proceeding Appl. Sci.*, vol. 1, no. 3, pp. 1693–1698, 2015.
- [2] D. Ramadana, I. I. Tritasmoro, and N. Ibrahim, "Perancangan Aplikasi Android Untuk Ticket Acara Berbasis QR Code," vol. 6, no. 1, pp. 950–955, 2019.

- [3] I. Agung, R. Andreswari, and M. A. Hasibuan, "Perancangan Prototype Situs Web Sebagai Sarana Marketing Event Di Kota Bandung Dengan Menggunakan Metode Iterative Incremental," *e-Proceeding Eng.*, vol. 5, no. 3, pp. 7303–7313, 2018.
- [4] S. A. Syarif, *Perancangan Aplikasi Penampil Iklan Berdasarkan Titik Koordinat dan Radius*. Bandung: Widyatama University, 2019.
- [5] N. Rahayu, D. Rustiana, and Verawati Romauli Girsang, "Perancangan Sistem Booking Seminar Pada Perguruan Tinggi Berbasis Android," *Semin. Nas. Sist. Inf. Indones.*, no. November, 2018.
- [6] H. Firmansyah and R. Arnie, "Model Sistem Informasi Promosi Dan Management Event Berbasis Web," *Jutisi*, vol. 6, no. 2, pp. 1547–1558, 2017.
- [7] R. Pinandita, F. Pradana, and W. H. N. Putra, "Pengembangan Sistem Informasi Pemesanan Tiket Konser Malang Berbasis Web," *Pengemb. Teknol. Inf. Dan Ilmu Komput.*, vol. 3, no. 7, pp. 7068–7077, 2019.
- [8] L. Ali, *Kamus Besar Bahasa Indonesia Edisi Kedua*. Jakarta: Balai Pustaka, 1995.
- [9] M. Jaiz, *Dasar-Dasar Periklanan*. Yogyakarta: Graha Ilmu, 2014.
- [10] A. Noor, *Manajemen Event*. Bandung: Alfabeta, 2009.
- [11] I. Al Fikri, D. Herumurti, and R. Rahman H., "Aplikasi Navigasi Berbasis Perangkat Bergerak dengan Menggunakan Platform Wiktitude untuk Studi Kasus Lingkungan ITS," *J. Tek. ITS*, vol. 5, no. 1, pp. 48–51, 2016, doi: 10.12962/j23373539.v5i1.14511.
- [12] T. Bray, J. Paoli, and M. Sperberg-McQueen, "Extensible Markup Language (XML) 1.0: W3C Recommendation 10-Feb-98," 1998.
- [13] D. Susilo and Marcel, "Rancang Bangun Aplikasi Identifikasi Aset TIK Menggunakan QR Code Berbasis Android: Studi Kasus Laboratorium Komputer UKRIDA , Kampus 1," *J. Teknol. Inf.*, pp. 31–36, 2015.
- [14] Google, "Firebase." [Online]. Available: <https://firebase.google.com/>. [Accessed: 26-Jan-2020].
- [15] H. Kaur and P. Singh, "UML (Unified Modeling Language): Standard Language for Software Architecture Development," *Int. Symp. Comput. ...*, vol. 1, no. Isccc 2009, pp. 118–125, 2011.
- [16] R. S. Pressman, *Software Quality Engineering: A Practitioner's Approach*. Newyork: Published by McGraw-Hill, an imprint of The McGraw-Hill Companies, Inc, 2001.