APPLICATION DEVELOPMENT PINJAMIN FOR RENTAL GOODS SECURELY BASED ON DEMAND USING THE GRAPH API FACEBOOK AND GPS SENSOR ANDROID SMARTPHONE

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ABSTRACT

Maxi Job is a company engaged in the field of Event Organizer especially job Fair that has been running in some major cities, the large number of STATE-OWNED ENTERPRISES and private companies who participated in the event berpartisivasi to open job vacancies the company needed to determine the location of a visitor using the QR Code to determine the position of the user in the event the job fair and the use of the algorithm is Dijkstra's shortest route to find a purpose.

Keywords: *Djistrack algorithm, QR CODE, Android applications, The Web Service Pogramming Technology*

1. INTRODUCTION

1.1 Problem Identification

Maxi Job is a company engaged in the field of Event Organizer especially job Fair that has been running in some big cities such as Jakarta, Surabaya, Bandung, Medan, Yogyakarta, Malang, Semarang, Makassar, Palembang, Pekanbaru, Riau, and various other towns. The large number of STATE-OWNED ENTERPRISES and private companies who participated in the event berpartisivasi to open the required job vacancies of the company, does not cover the possibility of a lot of berdatangaan to find a job that suits kemampuaan each of the applicants. Based on the results of the interviews and kursioner, the visitor a jobfair events often have difficulty in finding the location of the booth of the company that will be applied. Not rarely wasted time because it got lost in the building. In addition the visitor in a jobfair also had difficulty at the time of drop your CV or job application documents are put on a booth at the company. Often occur because of the length of the queue a long time while performing the drop a CV.

As an effort to minimize the chances of visitors getting lost and going on long queues in the building, the Committee split floor plan and booth providing computer visitors to drop a CV, but more than 50% of visitors do not directly find the booth

the company that is being sought so visitors prefer looking for his own company's booth to visit and ask questions to the people in the meet. The visitor is also difficult to determine the route inside the building to find the booth of the company that is being sought, so that visitors feel the spin – play in building because of not knowing the fastest route to find while visiting the boot perusahhan who wants to land on, and trouble in time to drop your CV or job application documents are put on a booth at the company. Often occur because of the length of the queue a long time while performing the drop a CV.

To determine the location of a visitor using the QR Code to determine the position of the user in the event the job fair and the use of the algorithm is Dijkstra's shortest route to in search of a purpose, then this system provides a navigation service in the the room is better than the use of GPS. To know his position, users just need to do a scan against a QR Code on a booth at the job fair. The user can then select the desired destination location, and the system will look for the route that is to get to the optimal distance objectives.

Of the problems that have been described thus it takes the application to help visitors determine the location of visitors, the route inside the building to go to the company's Booth, Drop YOUR CV using the QR Code that visitors do not wait long queue, because more than 79.87% of the population of indonesia has been using android smartphone application that makes it easy to be implemented.

Based on the thought-provoking to do her research titled the application "application development Real Time Indoor Positioning for navigation location of Booth at the Jobfair and Drop YOUR CV using the QR Code On the Android Platform."

1.2. Purpose and Goals

Based on the issue that has been Based on the issue that has been mentioned above in the background then the intent of the research is to build an "Indoor Positioning Real Time Applications For Booth Location at the Jobfair Navigation and Drop YOUR CV using the QR Code On the Android Platform"

While the goals to be achieved in this research are:

a. Provide optimum route guidance to the company's Booth at the event in the building was being searched by visitors and addresses the position of the visitor
b. to Facilitate the Viewer to the application document collection work by means of digital via QR Code so that visitors don't have to stand in line a long time to put together a working application Files.

2. CONTENT of the STUDY

2.1. Android

Andorid is software for mobile devices that includes an operating system, middleware, and applications in core-release by Google. The SDK is the tools and APIS necessary to develop applications on the Android platform or environment. Android application development using the Java programming language. As we know, the SDK was developed by OHA (Open Handsate Alliance). Organization of the OHA consists of Google, Intel, Motorola, Qualcomm, T-Mobile, and NVIDIA [1].

2.2. Djikstra's algorithm

Dijkstra algorithm invented by Edger Wybe Dijkstra who is one of the popular forms of this type of algorithm in solving problems related to optimization problems and is simple. These algorithms solve the problem of finding a shortest path from vertex a to vertex in the graph z weighted, the weights are positive numbers so could not be traversed by node negative, but if so, then the completion of the given is the infiniti or infinite number of [2].

2.3 *Indoor Positioning System* (IPS)

Indoor Positioning System (IPS) is an information service that uses wireless technology to find objects or someone in the building that uses radio waves, magnetic fields, acoustic signals or other sensor that is capable of send information through mobile devices [3].

2.4 Quick Response Code

Quick Response Codes are often called Qr Code or QR code is a kind of two dimensional symbol developed by Denso Wave that is a subsidiary of Toyota, a company of Japan in 1994. The purpose of the Qr Code in this research is to keep the corporate email and location shaped Qr code [4].

2.5. The deliberations of the

Analysis of the existing problems include such things as follows:

a. Visitors don't know the optimal route to the Booth company that will be targeted so not much time wasted to spin the company's booth and searched visitors sometimes do not know its position in the building of implementing event.
b. Visitor the difficulty at the moment of drop your CV or job application documents are put on a Booth at the company. Often occur because of the length of the queue a long time while performing the drop a CV.

2.6. Analytical method for Determining the location of the Job Fair (Indoor Positioning System)

This positioning is in charge to get the position of the user, it is divided into Positonig is divided into several stages, namely, scan barcod and the system will show the current location of your visitors in real time.Positioning system for modeling can be seen in Figure1.

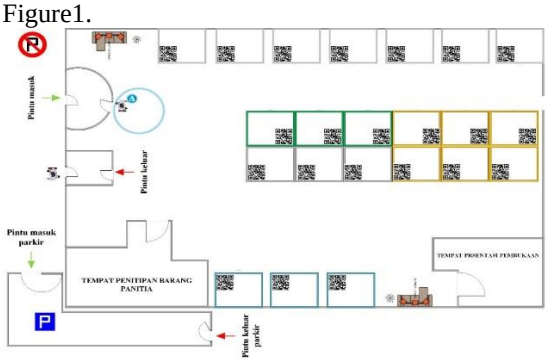


Figure 1 . Determine the location of the user

2.7. Analisis Metode Djistrak

In this stage the shortest path to locate the position of the user to the destination booth, The algorithm in use are algorithms Djikstra, the algorithm is used for the shortest path from position mecari users to position the goal. Modeling system to draw such a figure 2.

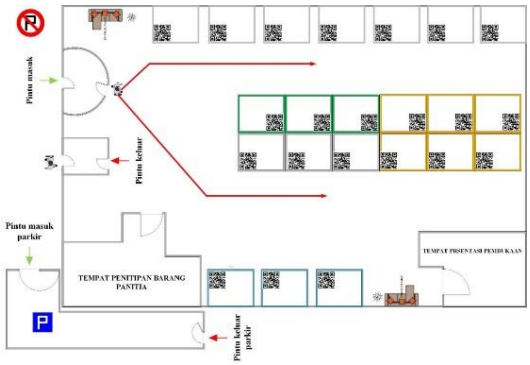


Figure 2 Modeling Navigation System

Application of Algorithm for Dijkstrak the initial coordinates are Required, Coordinates and maps, the end of the initial Coordinates are the position of the User in real time, the end user is the destination Coordinates and map used is the floor plan as the floor plan of the objectives, the result of this algorithm is to find the line teprndek and guide users to get to its destination. Flow diagram navigation system described as Figure 3.

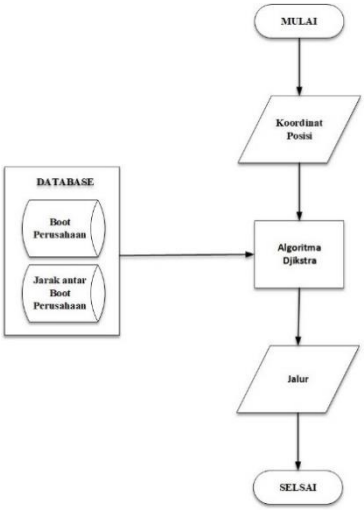


Figure 3 Diagram Alir Navigasi

The first phase serves to Scan the barcode to coordinate the positions of the start and end positions of an input. Database boot-shaped nodes with their respective coordinates from the room and the value of the distance between nodes. Nodes at each booth were incorporated into the map as shown in Figure 4.

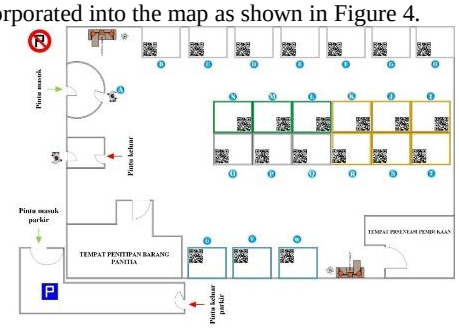


Figure 4 Company Booth Nodes

The second stage, to serve as A Start node and destination node is a node O, each connected edge between node already has a value as shown in Figure 5.

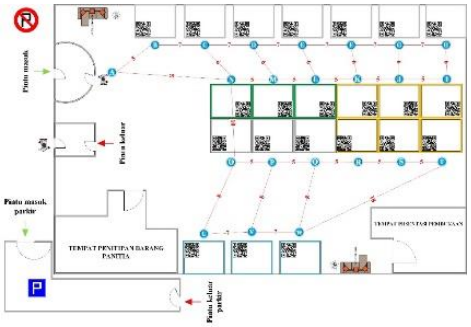
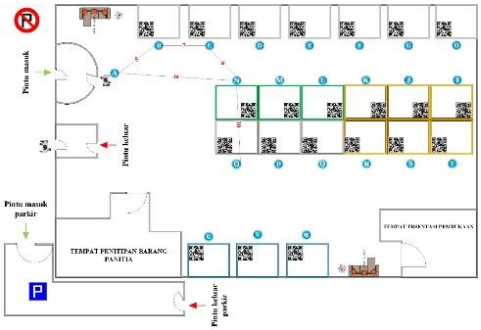


Figure 5 The Second Stage

The third stage, the Dijkstra calculation towards neighboring node performs directly connected with the departure node (node A), and the results obtained are 5 nodes, because the weights the value of node 5 most smaller than the weights of other nodes with value value = 5 (0 + 5) then node B made a departure into fashion, can be seen in Figure 6.



Gambar 6 The third stage

The fourth stage, the Dijkstra calculation towards neighboring node performs directly connected with the departure node (node B), and the results obtained are node C, node C value weighting because most are small, with a value of = 12 (5 + 7) then the node C be made into fashion the departure ofthetwo,canbeseeninFigure7.

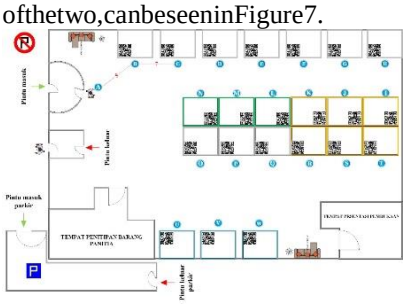


Figure 7 The Fourth Stage

Stage five, Dijkstra do calculation towards neighboring nodes directly connected with the

departure node (node b), and the results obtained are N nodes, the node value weighted N because most are small, with a value of = 18 (6 + 12) then node N was made into fashion departure to the Three, can be seen in Figure 8.

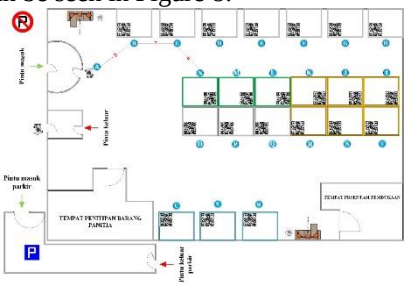


Figure 8 The Fifth Stage

The sixth phase of dijkstra do calculation again, and found that the O node (node) has been achieved through the node b. terpendeknya Line is A-B-C-N-O, and niilai weights obtained are 28 (10 + 18). When the destination node has been reached then dijkstra calculation is declared complete, can be seen in Figure 9.

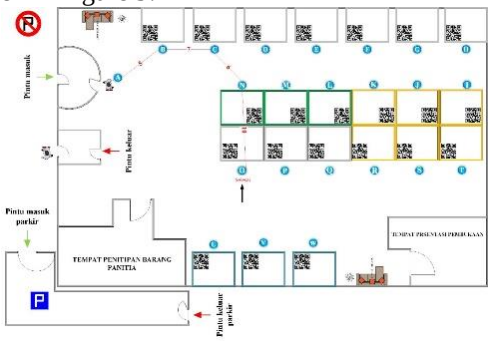


Figure 9 The Sixth Stage

2.8. Analisis Arsitektur Aplikasi *Job Fair*

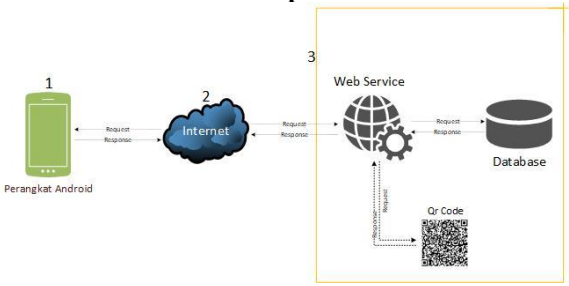


Figure 10 Analisis Arsitektur Aplikasi *Job Fair*

The following is a description of the architecture of the system:

a. android device users request data to the server over the internet
b. Web Server receives the request and determines the type of request data that is requested.
c. Web server received a request from scan qr code, then the web server will send the request immediately, while if the receive request data text then the server will direct mengieim request data to the database.
d. After the web server receives the response to the requested data, the data will be sent to your android device users to process data in JSON form.
e. After being processed, then the data will be sent to the user in accordance with the requirements requested by users.

2.9. Analysis of the architecture of the Drop a CV using the QR Code

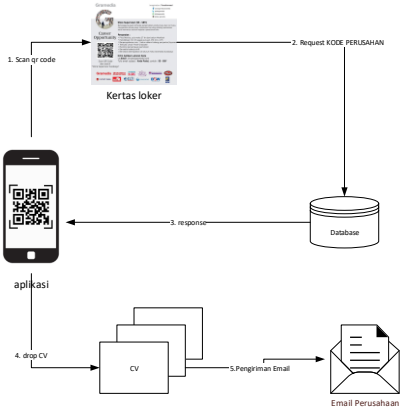


Figure 11 Architectural Analysis Of Drop A CV Using The QR Code

The following is an explanation of the image:

a. the application scans the barcode to the paper lockers provided.
b. Applications do request the company code to the database.*Database* merespon dan menampilkan informasi perusahaan yang dipilih.
c. U sers do drop a CV in the company match.
d. C V Data emailed to selected companies.

2.10. Analysis Of Architecture Of Locating The Company's Booth

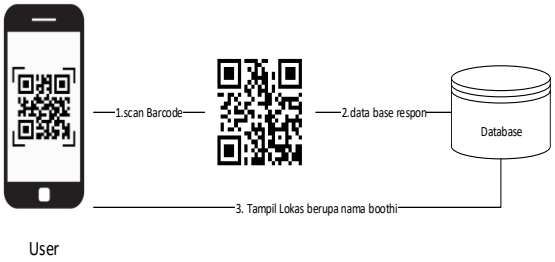


Figure 12 Analysis Of Architecture Of Locating The Company's Booth

The following is an explanation of the image:

a. the User scans the barcode to apply.
b. Applications do request location data to the database via the QR Code.
c. Database responds to request location data from a database and display the location of the booth of the company to the application.

2.11. Analisis Arsitektur Call Id QR Code

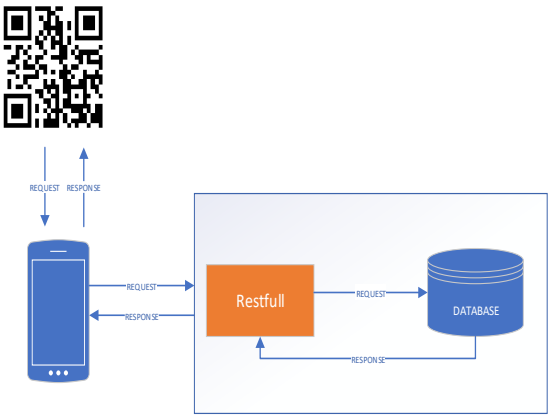


Figure 13 Arisitektur Id QR code

a. user id scan qr code.
b. Applications do request the requested id data to the Restfull Api.
c. Retsfull Api request id do the qr code to the database.
d. Databases respond id qr code requested to restfull api.
e. Restfull Api meresponse request and display the requested information to the application.

2.12. Analisis Arsitektur *Restfull API* Untuk Media Pertukaran Data di Aplikasi

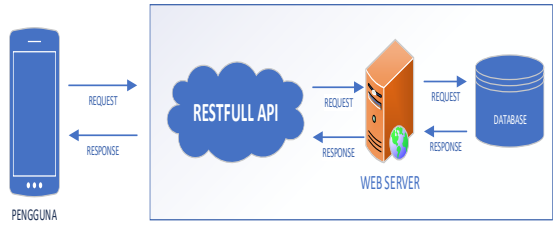


Figure 14 Restfull API For Architecture Analysis Media Data Exchange in the application

a. bold request Application data to a restfull api.
b. Retsfull of fire did Request data to the web server.
c. Web servers do the request data to the database.
d. Database meresponse data requested by the web server.
e. Web server meresponse data requested by Restfull api.
f. Restfull Api perform Parsiing and meresponse Data in the requested user.

2.7 Designing Interfaces

Interface design aims to describe the application that will be created. Here is the design of the interface.

1. login page, register and forgot password application

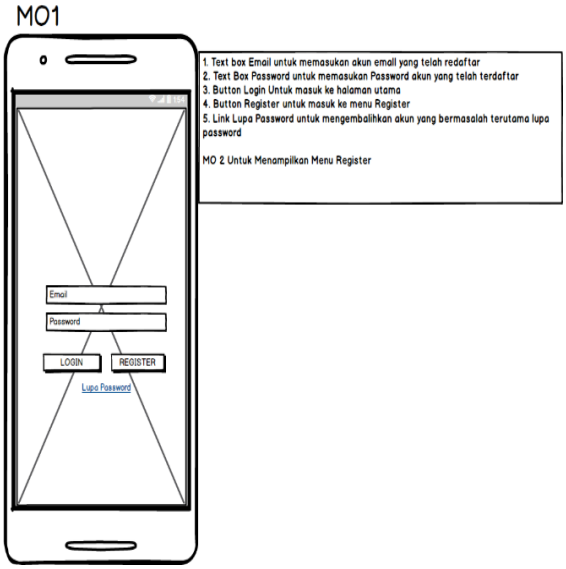


Figure 15 Login page, register and forgot password application

2. Menu Registrasi Akun

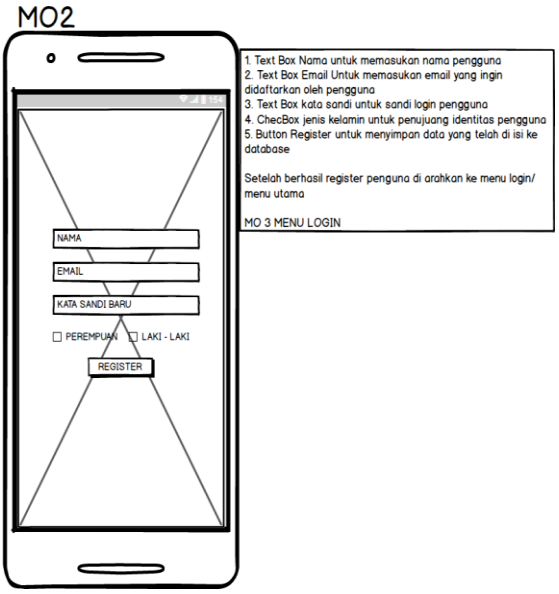


Figure 16 Account Registration Menu

3. Menu Login

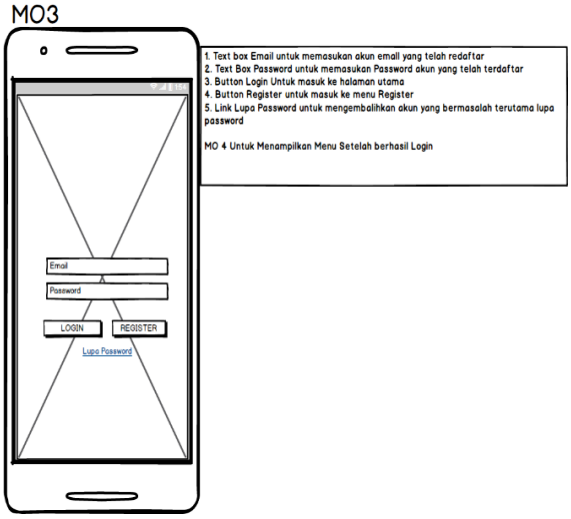


Figure 17 Menu Login

4. Main Menu After Login Successfully

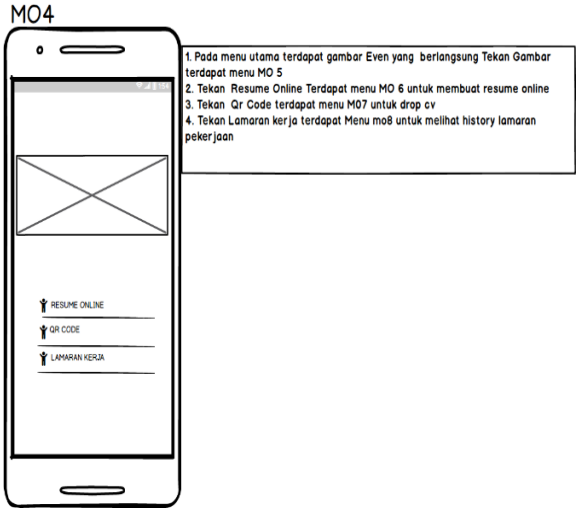


Figure 18 Main Menu After Login Successfully

5. Ongoing Event Menu

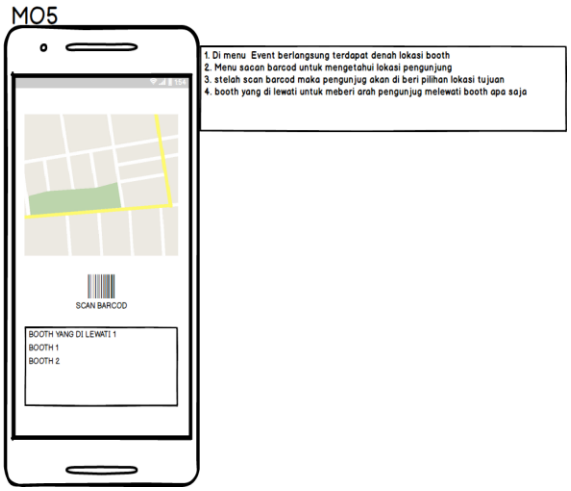


Figure 19 Ongoing Event Menu

6. Menu Upload Cv And Supporting Data Users

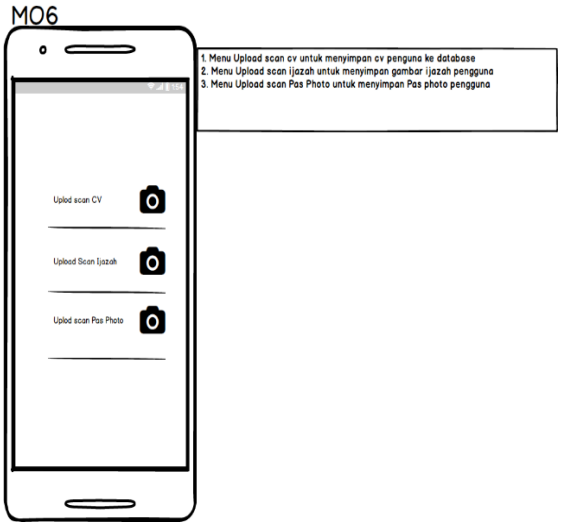


Figure 20 Menu Upload Cv And Supporting Data Users

Menu To Droop CV

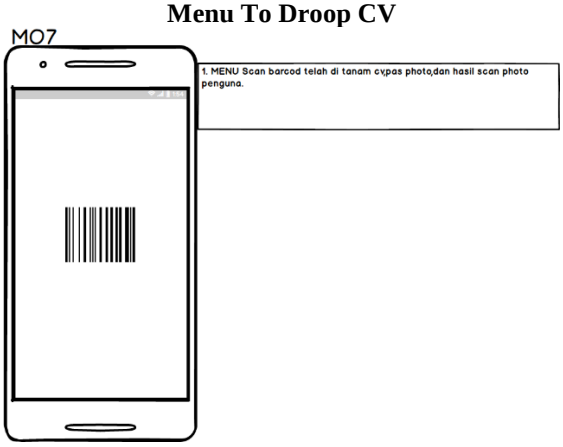


Figure 21 Menu To Droop CV

7. Job Application History Menu

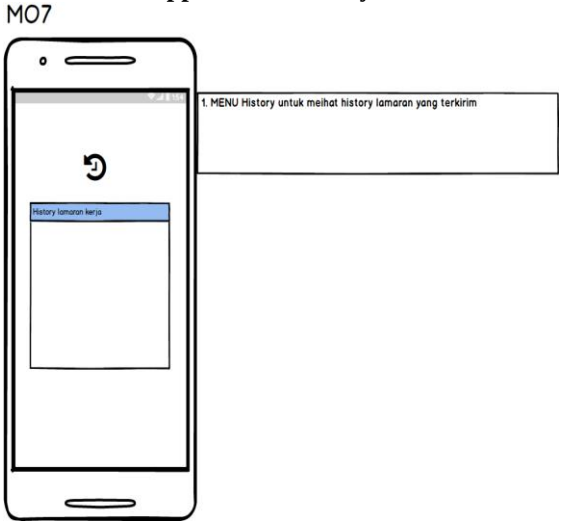


Figure 22 The history Menu Application Jobs

2.13. Jaringan Semantik

Semantic network is the description of the graphic that shows knowledge of the relationships between objects (circle) and lines that describe the formation betwee nthose objects.

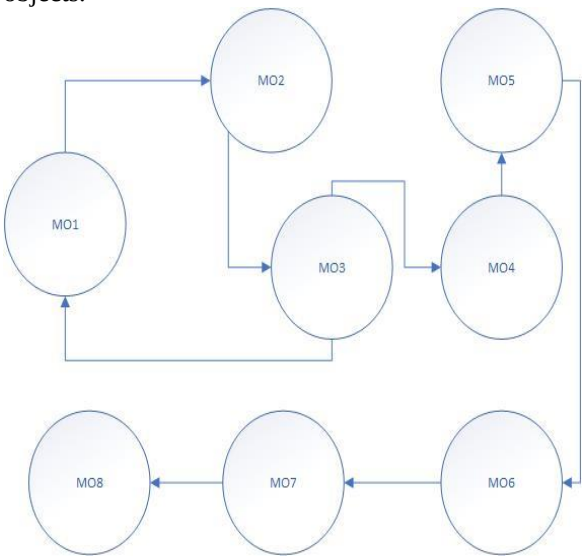


Figure 23 Semantic Network

Table 1 Code View

NO	CODE VIEW	Deskripsi
1	MO1	List Menu
2	MO2	The Login Menu
3	MO3	The Main Menu
4	MO4	Online Resume Menu
5	MO5	Drop Your Cv
6	MO6	Cover History Menu
7	MO7	Ongoing Event Menu
8	MO8	Menu Locate The Company

2.14. Conclusion Alpha testing

Based on the results of the testing that has been done then the obtained conclusions that all existing processes on the application Maxi Job runs as expected.

2.15. The conclusion of the Beta test

Based on the results obtained by the conclusion that beta test:

a. Visitors agree if the application makes it easy to conduct job Maxi drop a cv.
b. Visitors agree if the application makes it easy to find Job Maxi Location Booth company.
c. Visitors agree that the application easy to use job Maxi
d. Visitors agreed that the application deep easy to find suitable Job Maxi information.

3. PENUTUP

3.1. Conclusions

Based on the test results and discussion has been made then it can be concluded that:

a. Application pinjamin can make visitors Joob Fair in drop a cv.
b. Application pinjamin can make in finding a route to the optima boot company that is in want.
c. Application Maxi Job help visitors know more event information.

3.2. Any suggestions

Advice that can be given to the development of applications for this job are:

a. Add a direct interview notification

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