

**ADVERTISEMENT AWARENESS & LEARNING OPPORTUNITY
(AALO)**

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This Report Presented in Partial Fulfillment of the Requirements for the Degree of
Bachelor of Science in Computer Science and Engineering

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APPROVAL

This Project titled “**ADVERTISEMENT AWARENESS & LEARNING OPPORTUNITY (AALO)**” Submitted by MD Easin Arafath, ID: 152-15-5511; Muzahidul Islam, ID: 152-15-5585; Mostarina Mithil, ID: 152-15-5693 to the Department of Computer Science and Engineering, Daffodil International University, has been accepted as satisfactory for the partial fulfillment of the requirements for the degree of B.Sc. in Computer Science and Engineering (BSc) and approved as to its style and contents. The presentation has been held on May 2, 2019.

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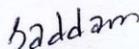
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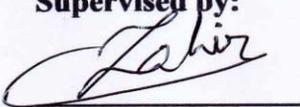
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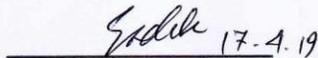
We hereby declare that this project is done by our group under the supervision of **Mr. Gazi Zahirul Islam, Assistant Professor of Department of Computer Science and Engineering, Daffodil International University**. We also declare that neither this project nor any part of this project has been submitted elsewhere for award or any degree or diploma.

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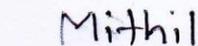
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ABSTRACT

Everyday 5 million working hours are wasting on street due to traffic jam in Dhaka city. The solution of traffic jam in Dhaka city is not so easy. We thought about this wasting time. We have people sitting on bus and they have no work to do. Then we thought about a plan to do something and we can gain something from this. We knew that marketing is one of the future big business. We have people who are sitting and we can introduce products to them as they are not going anywhere. So we can do this properly. Then we made a decision to make it happen in a unique way so we can cope up with the modern age and people. We built up a startup company named AALO supporting by Bangladesh Venture Capital Limited. Our services are promoting advertisement only in the sitting bus by an android based module with LCD monitor. We are not only promoting advertisements but also entertain people. We also promote educative, awareness videos for the betterment to increase the value of our platform. In our project we made an automated system with a large monitor that placed in the sitting bus. We made a platform where we are connected with reputed companies of Bangladesh. AALO is the first marketing platform where we provide these services on sitting bus. We are working for last 14 months in this project. Our aim is to build this project as the most profitable marketing company of our country. We are recycling the wasted time with proper way. We are determined to make AALO as a well worth company.

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CHAPTER 1

INTRODUCTION

1.1 Introduction

AALO is an Advertisement organization situated in Dhanmondi-32, Dhaka. This is an advertising media which will bring another phase without precedent for Bangladesh. AALO will offer vigorous promoting administrations to both corporate association and people. Our center administrations will spin around putting the notices from each brand who search for a quality stage to promote their items. We are giving that new stage which is running transport (sitting administration Bus). Our business objective is to wind up one of the main publicizing media in Bangladesh with prominent just as to take care of the referenced issues.

We are giving the best stage to our customer's organization to promote their items. We are best since we are simply drawing the consideration of our traveler's and we are giving the 100% group of onlookers to our customer for selling their items. Transport organizations will be encouraged by GPS and Digital application. Here, we will likewise make mindfulness by appearing and social ads or most limited movies.

1.2 Motivation

Now a days we see there are many promote framework in all over the place. They are giving ads of various brands. In any case couple of realities arise here like – people don't watch these ads remaining over street. It draws consideration with high light of travelers of transport just as of drivers. That outrageous light when draws the consideration of drivers particularly around evening time so there are possibilities to have accidents.

Also traffic jam is increasing day by day and it is a big issue. We squander our profitable time for traffic jam. We believed that we could complete two things at once. One is if we create such a platform not only people will utilize their time in sitting bus but also introduce different products by advertising. We realized that everyday new items are coming but for lack of marketing it can't achieve their goal. That's why we made a platform to make their goal successful.

1.3 Objective

Build up a standard and world class advertising media whose administrations and brand won't just be acknowledged in Bangladesh, yet additionally in different pieces of the world. We have an objective 300 sitting transport inside 2019 we will bring all the sitting administration transport under our reconnaissance.

- Unemployment issue understand: we realize that consistently 8 lakh instructed understudies increment joblessness, at present, thirteen peoples group work under our organization.
- Increasing awareness about street security;
- Increasing awareness about transport security;
- Give Art of Living exercises to conductors and drivers;

1.4 Expected Outcome

- Client's: We provide them fully guaranty of advertise promotion. For this we use an app which provides the client. Client can easily see the counted number, how many times their ads promoted.
- Viewer's: We are reusing passengers 5,000,000 working hours which is wasted by sitting idly in transports. So people are busy with watching something, they are eager to know in the mean time they are catching advertisements.
- Government's: As we are concern about people awareness, so we will show the constructive and formative works, messages of government towards people.
- Familiarity of products and increasing sales.
- Target Viewer: We want to ensure the highest viewer by using our platform.
- We have been able to critically examine the advertising agencies marketing space and we have analyzed our chances in the industry and we have been able to come up with the following sales forecast. The sales projection is based on information gathered on the field.

CHAPTER 2

BACKGROUND

2.1 Introduction

Android is presently the most ordinarily utilized versatile working framework. The majority of the general population are utilizing android working framework now. This application is completely android based and simple to utilize. Administrator and User app straightforwardly can make a connection between them. Also, the promoting platform is so keen and have different promoting framework on this application. The application will be utilized to publicize through the video. In any place, we can get to this application. By these framework. We help traveler not to get exhausted and use the wastage time.

2.2 Related works

This application totally unique and not duplicated from anyplace. To the extent our insight, this sort of service isn't available in Bangladesh. It is the principal promotion company. This is absolutely a one of a kind idea to actualize our organization. The plan and the usage is created by AALO Team. We cooperate hardware and programming. Programming and Hardware areas are joined by android module and automation framework, we likewise use GPS for areas. [8] We have utilized advance down power supply and embedded clock switch. Customers can get just his Ads videos which is accommodated promotion.

2.3 Why choose us

- We are Unique
- We are Cheaper than others
- Digital Marketing Small Invest
- Bigger benefit ensured 90% watcher

2.4 Our Guarantee

Guarantee of 90% watcher among 40 irregular individuals each time. Promotion won't be the reason of exhausting.

2.5 Challenges & Overcome

Android module issue and arrangement. In the beginning time we attempted various android box as we make our system android base. We attempted X96, X96 littler than anticipated, Mi Box, TX2, TX3 downsized, MXq - 4K. In every device there are a comparable zone and play store issue. However, TX2 gives us the best execution. It supports Location with current data and play store. [1]

Sim issue and plan: Both customer and overseer applications need round data. The sim needs web. In our 43 transports first we use 43 sim of one sim association. Following 7 days our whole applications system tumble down. This sim don't give us incredible information. By then we take a common Sim (GP) association that has 50 million customer. In the wake of talking their sim we find 98% right accuracy.

In Our arrangement of activity, Bus driver made our structure hard. They were switching off the screen in the vehicle. Thusly, our client gives us cry about it. By then we took automated system. Here we utilized Arduino module that we read in the introduced course. We give some time in the Arduino that starts conventionally in 8 am to 8.30 pm. between this time there was a break time, 1 pm to 2 pm. Nevertheless, after 18 days our full system tumble down. The reason is transport reliably vibrate and the parts that we take an interest in the Arduino slacks and the present stream is hampered. [8] After that we ordered a 12 volt dc from china. We imported it and attempted on the vehicle. It gives our pleasure satisfaction. Latest 7 months that clock is running on our vehicle with no issue.

CHAPTER 3

REQUIREMENT SPECIFICATION

3.1 Business Process Modeling

Business Process Modeling in business process association and structures arranging is the advancement of tending to frameworks of an undertaking, with the target that the present method might be broke down, redesigned, and mechanized. BPM is customarily performed by business operators, who give limit in the appearing; by subject specialists, who have unequivocal information of the methods being appeared; considerably more routinely by a social affair including both. Then again, the system model can be gotten unmistakably from occasions' logs utilizing process mining instruments.

The business objective is a significant part of an opportunity to expand process speed or decrease process term; to make quality; or to reduce costs, for example, work, materials, scrap, or capital expenses. After a short time, an association choice to put resources into business process appearing from time to time pushed by the need to report fundamentals for a data headway experience. Change association programs are reliably required to join any improved business shapes. With advances in programming plan, the vision of BPM models winding up absolutely executable (and fit for preoccupations and round-trip organizing) is coming nearer to this present reality.

3.2 Requirement Collection and Analysis

Our structure is collected huge extent of information when any client takes on our platform. We examine information and consider the information that we collected from client, Admin can get to the information and watch out for the client that on the off chance that they do any undermining work they can without a considerable amount of a stretch. There are two sorts of need, one is valuable essential and the other is nonfunctional need.

3.2.1 Functional Requirement

Functional requirement are the activities that is the application programming can without a lot of a stretch to perform. In our undertaking there are such colossal quantities of down to earth

necessities like, a sing up section, a sing in fragment, a visit portion, a request work zone, an apply for business section, a post for occupation fragment, sign out portion, territory fragment

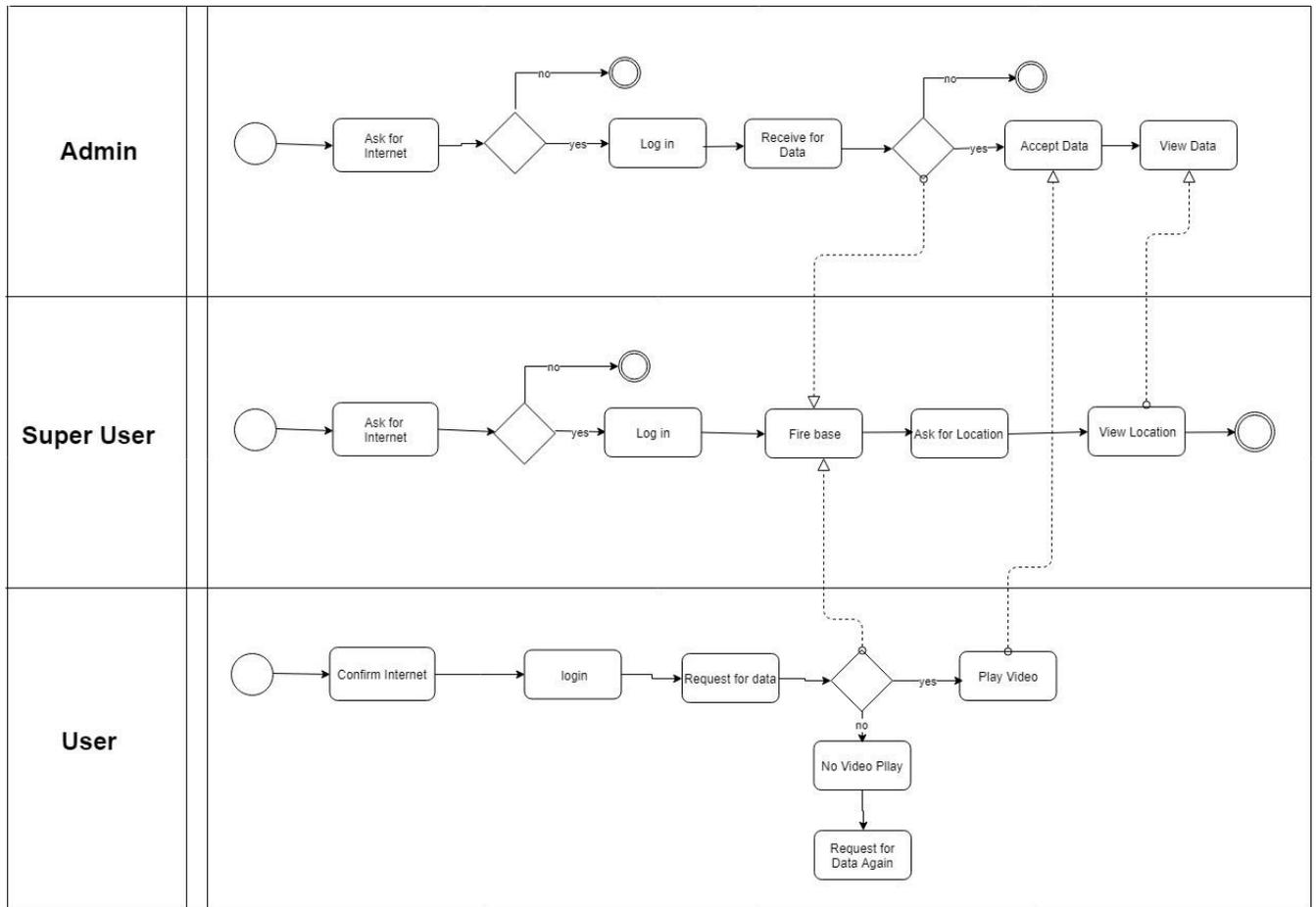


Fig 3.1: BPM diagram for total System

3.2.2 Non-functional Requirement

Non-functional fundamentals in our application are help to drive execution, memory eating up, being dynamically skilled, smoother development and weight on rapidly as conceivable to our application. Application's UI ought to be direct and stunning for astounding client experience.

3.3 Use Case Modeling & Description

A use case is a system used in structure examination to recognize, illustrate, and form system essentials. The usage case is included a great deal of possible courses of action of co-tasks among structures and customers in a particular circumstance and related to a Particular goal. It involves a social event of segments (for example, classes and interfaces) that can be used together with the end goal that will have an effect greater than the entire of the distinctive segments consolidated. The utilization case should contain all system practices that have significance to the clients.

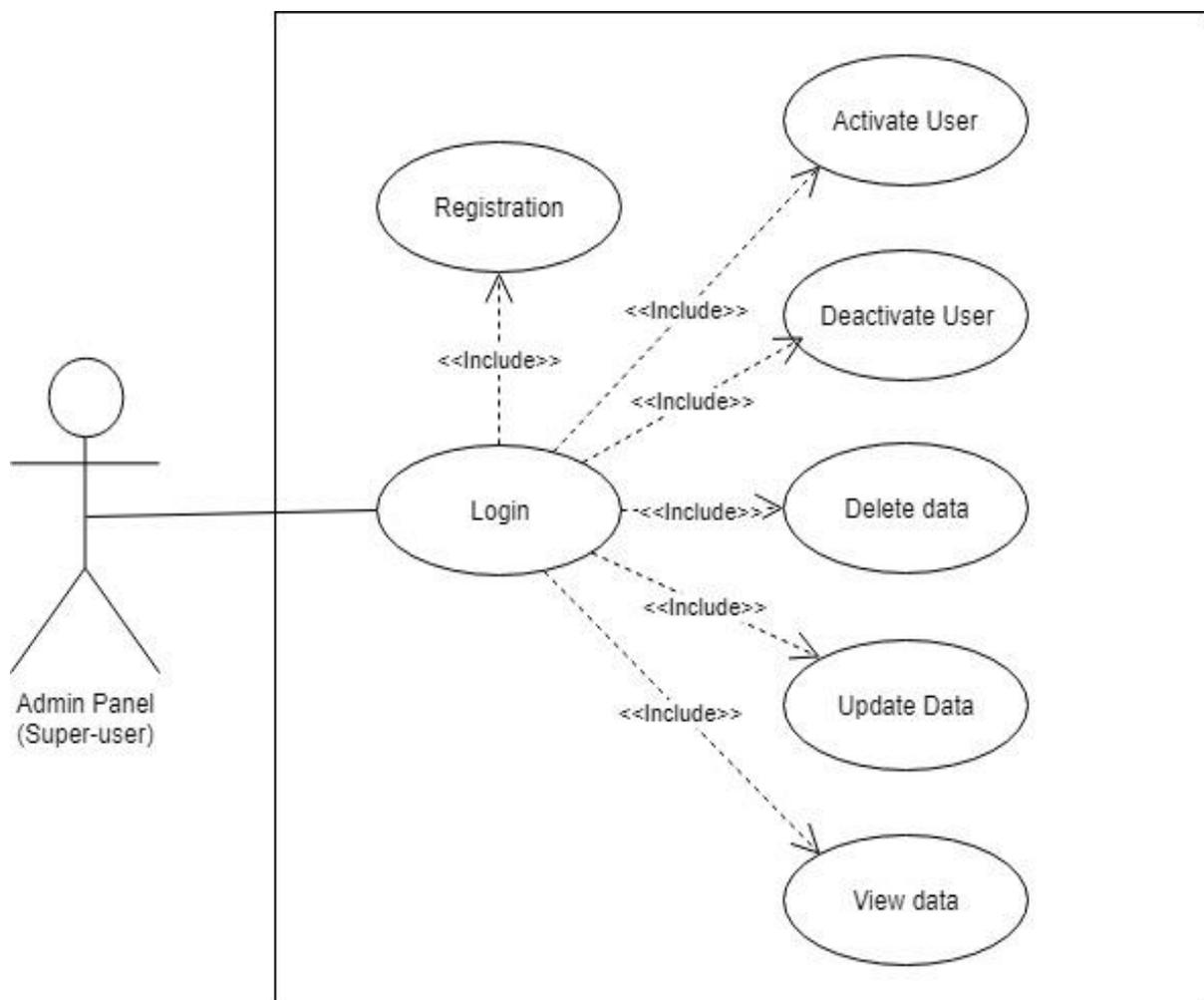


Fig 3.2: Use Case Modeling for Admin Panel (Super-User)

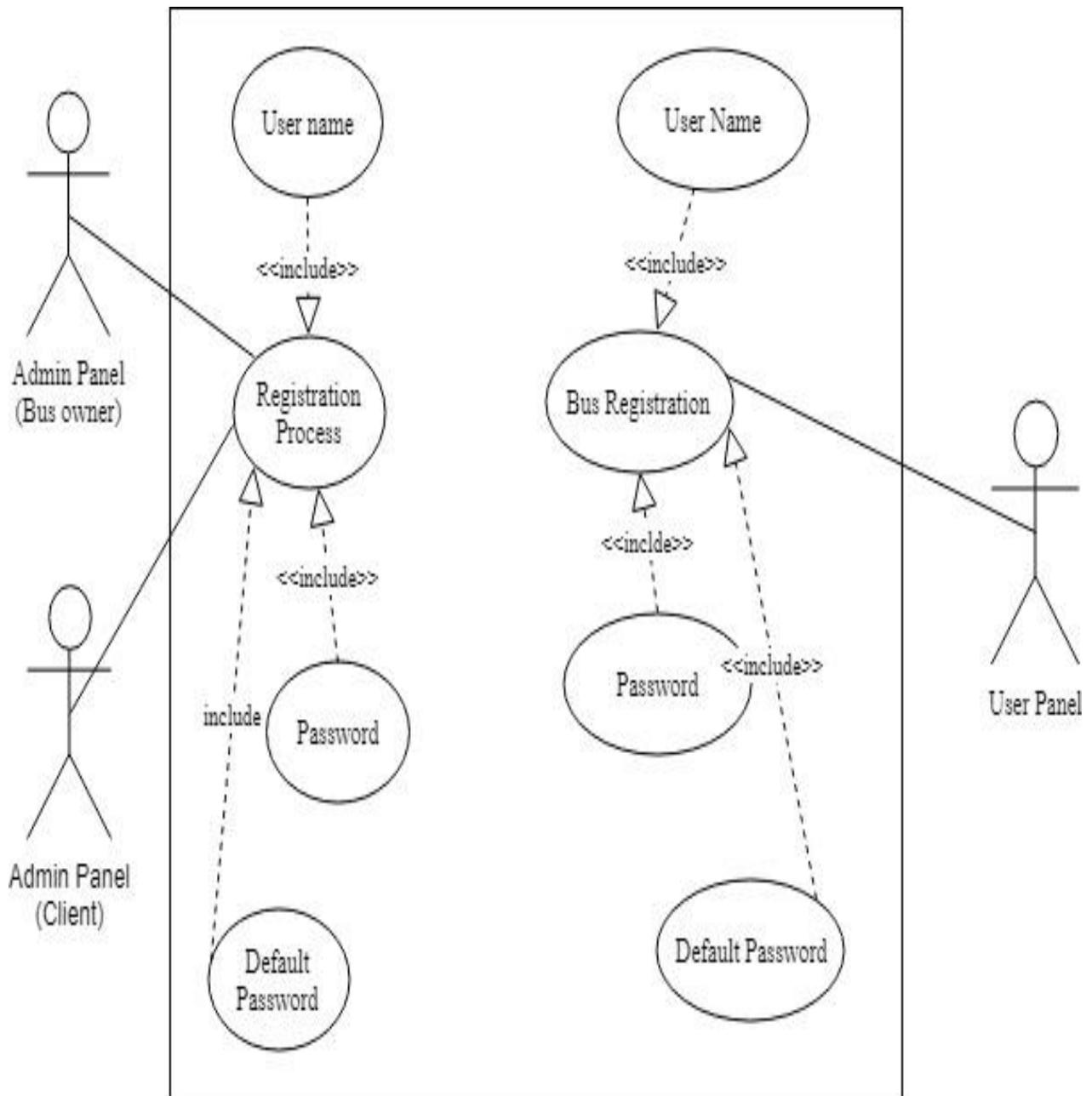


Fig 3.3: Use Case Modeling for Admin (Bus owner), Admin (Client) & User

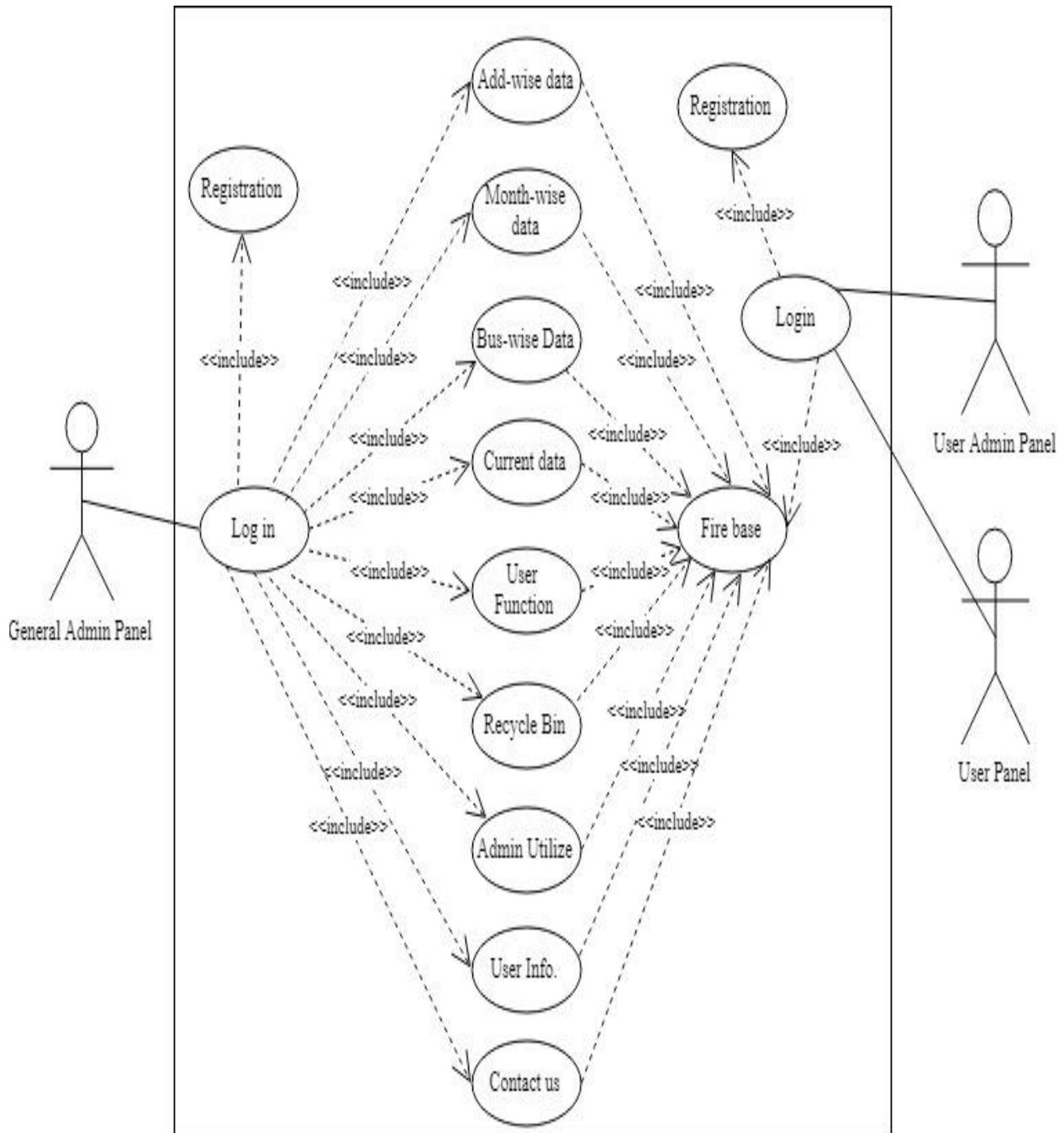


Fig 3.4: Use Case Modeling for General User in data-wise

Table 3.1: Use Case Modeling Table for Registration

Use Case ID	Registration button
Use Case Name	Registration
Precondition	Access URL Valid Email Address Valid Password
Post Condition	Registration Successfully
Actor	Admin, User
Normal Flow	<ol style="list-style-type: none">1. Enter Name2. Enter Valid Email3. Enter Valid Password4. Re-Enter Password5. Click Registration Button
Alternative Flow	<ol style="list-style-type: none">1. Invalid Email Address2. Invalid Password3. Password Not Matched

Table 3.2: Use Case Modeling Table for View Current Data

Use Case ID	Current data
Use Case Name	Current Data
Precondition	Registration
Post condition	Access Current Data
Actor	Admin User
Normal Flow	<ol style="list-style-type: none">1. Show Current Data2. Show the Advertise List
Alternative Flow	<ol style="list-style-type: none">1. Go Home.

Table 3.3: Use Case Modeling Table for Firebase

Use Case Name	Firestore
Precondition	Registration
Post Condition	Access Firestore Database
Actor	Admin, User
Normal Flow	1.Request for Access Data 2.Send data for save 3.Store data in firestore
Alternative flow	None

Table 3.4: Use Case Modeling Table for Activate/Deactivate User

Use Case Name	Activate / Deactivate user
Precondition	None
Actor	Super user
Primary Path:	1. Super user mainly controls the system 2. If he wants to activate or Deactivate user He will do.
Exceptional Path	None

Table 3.5: Use Case Modeling Table for Recycle bin

Use Case Name	Recycle bin
Precondition	Registration
Actor	Admin panel, User panel
Primary Path	<ol style="list-style-type: none">1. Click log in2. If any client left from company, we delete his advertisement data3. After, it is possible to restore all data

CHAPTER 4

HARDWARE MANAGEMENT

4.1 Introduction

Hardware modules manages the whole system working with each section and runs activities on fully automated mechanism. Hardware has developed after a long testing period. Every device had to connect perfectly with each device so that they can work with perfect flow. Devices had developed with the best mechanism and modules.

4.2 Model and Design

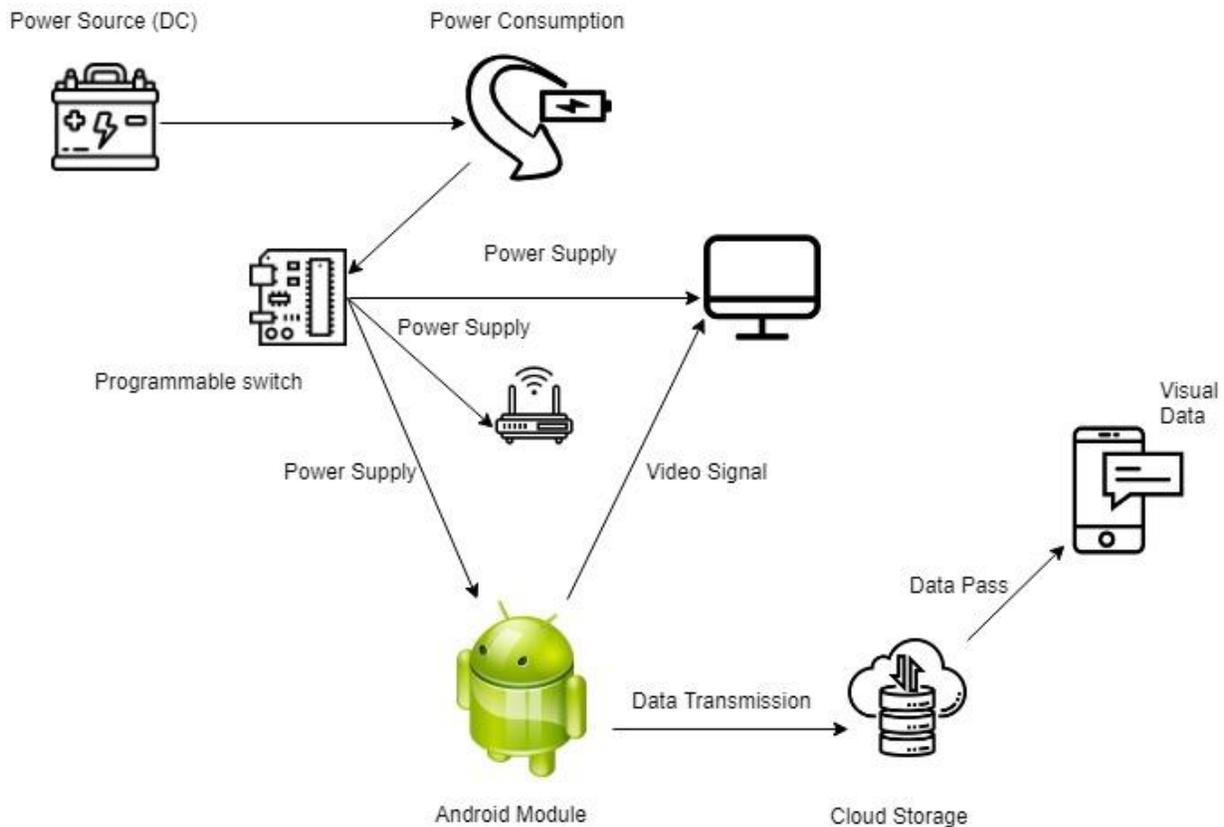


Fig 4.1: Hardware Mechanism

4.3 Implementation

Power Management

DC Power source has a stable voltage but the ampere can be changed and it is too much high for the android module and all other modules, so the power is reduced as well as the ampere to a tolerable state by power consumption circuit.

Programmable Switch

This module is designed by Embedded System using Arduino, Timer, Relay and many more. This module helps the system getting power supply. It supplies the power automatically as it programmed with Instruction code of scheduling. It supplies the power to whole device as instructed with time scheduling.

Wireless Network

The wireless network helps by transferring data from android module to cloud storage and the GPS location gives real time location update with tracking the wireless dongle. This wireless dongle has a great connectivity with android module and sends location with 98% accuracy.

Android Module

This android module is originally from google and has full android access with all android features. Any type of customized app can be used in this module. This android module has 64 bit operating system control. This module runs the app with draw over permission. It runs the app whenever the device powered on. It send the video signal with a HDMI cable for the monitor to display.

Monitor

A fully customized DC monitor is used to display the expected video like Ads, Entertainment, Awareness, Learnings etc. 22 Inch monitor is using already in bus and this size can be increased regarding the size of the bus so all passenger can get the message through monitor from anywhere in the bus.

Cloud Storage

A google based database managed to store all the data occurred on the android module as instructed. The data is sent to an app by sorting as reliable. [6] If anything wrong on this device happens cloud storage get a signal by the help of a developed algorithm that gives possible problems information.

CHAPTER 5

SOFTWARE MANAGEMENT

5.1 Introduction

AALO is working with three types of services for three types of user respectively using two android based app. One app sends all data like location, Ads information to the firebase server and linked with an admin app. Admin app gives information to three types of clients using user authentication.

5.2 Software Tools

5.2.1 Admin Functions

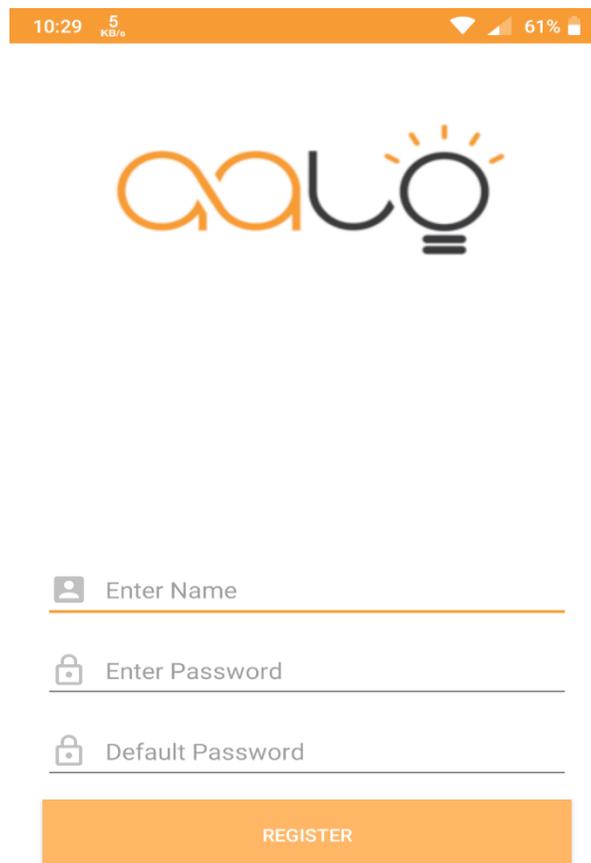


Fig 5.1: log in interface

Fig 5.2 describes the part of log in for three type's users with same types of data. "Enter Name" and "Enter Password" are for only users signing in. Default password is a unique password given by AALO Company for authentication. Without this password nobody can sign in though they the apps. A developer categorizes the signed in user category by approving as Super User, Guest or user.

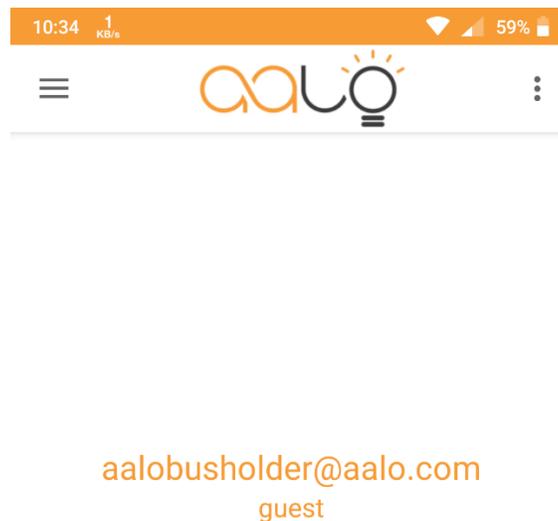


Fig 5.2: Users category as guest

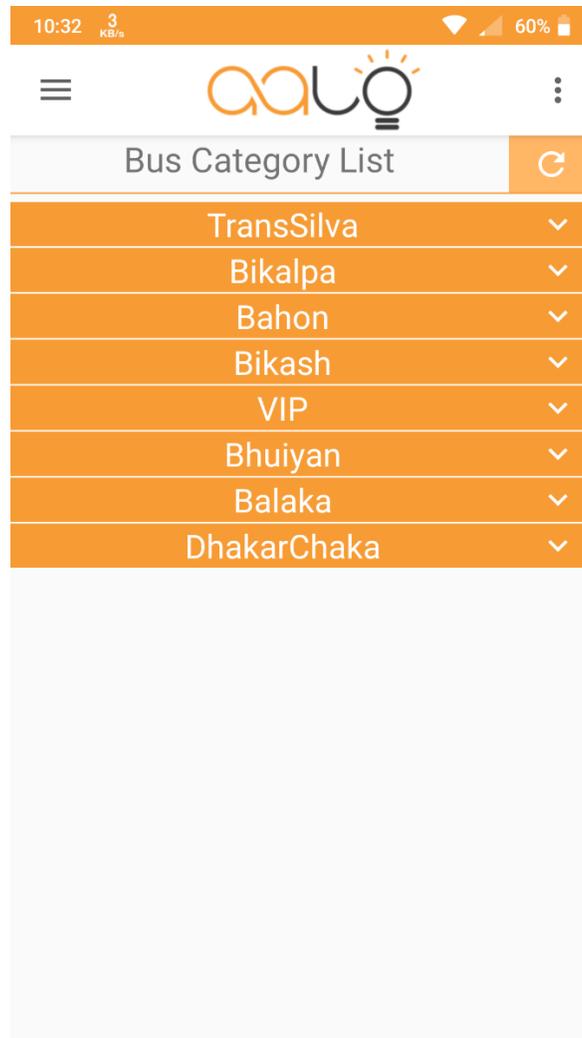


Fig 5.3 Only Information for Guest

Fig 5.2.1.2 shows it is a guest user and after the successful log in the user will get this view. This user type only creates for bus owner. The user can see his or her bus location, Ad data, which bus is active or not etc.



aaloadsholder@aalo.com
user

Fig 5.4: Category as user

All Advertisements			
aalo19	Off : 3841	On : 5947	= 9788
aalo18	Off : 3848	On : 5971	= 9819
aalo17	Off : 3848	On : 5946	= 9794
aalo16	Off : 3870	On : 5955	= 9825
aalo15	Off : 3848	On : 5952	= 9800
aalo14	Off : 3850	On : 5952	= 9802
aalo13	Off : 3845	On : 5957	= 9802
aalo12	Off : 3850	On : 5968	= 9818
aalo11	Off : 2566	On : 4061	= 6627
aalo10	Off : 3856	On : 5947	= 9803
aalo29	Off : 3839	On : 5923	= 9762
aalo28	Off : 3840	On : 5925	= 9765
aalo27	Off : 3843	On : 5942	= 9785
aalo26	Off : 3848	On : 5948	= 9796
aalo25	Off : 3834	On : 5933	= 9767
aalo24	Off : 3836	On : 5937	= 9773
aalo23	Off : 3837	On : 5942	= 9779
aalo22	Off : 3849	On : 5948	= 9797

Fig 5.5: Advertise list interface by user

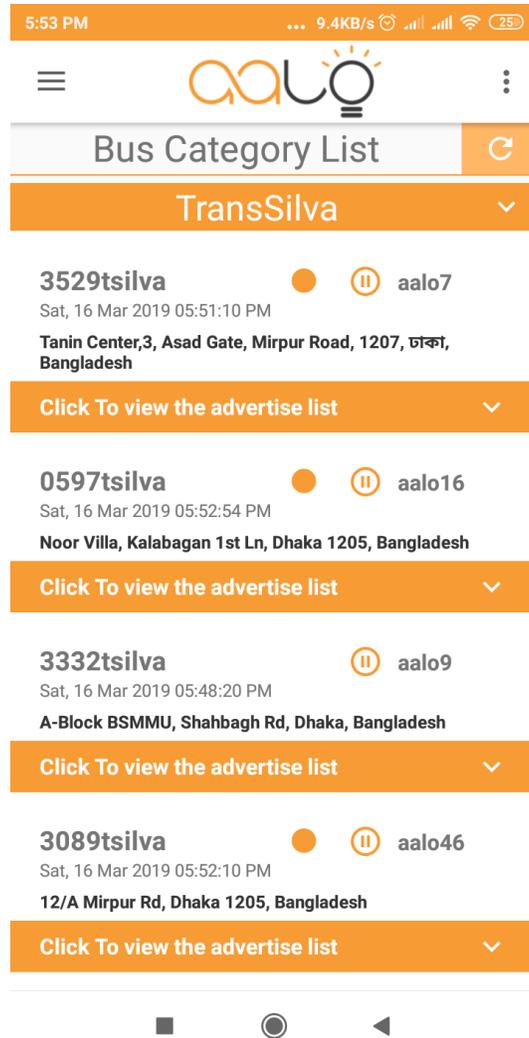


Fig 5.6: Device activation interface by user

Fig 5.2.1.4, Fig 5.2.1.5 & Fig 5.2.1.4 that shows after successful sign in user can see device activation list and advertise list.



arafathshohag@aalo.com
superuser

Fig 5.7: Category as super user

Fig 5.2.1.7 that shows it's a super user. The facilities of user and super user are as same. But there are some differences that is super user can modify the data where user can't do it. User only see activation but super user can see activation data and relevant data. When a super user modify or delete data then it goes from app not from firebase. Only developer can delete it from firebase. For further authorization we add this feature.

5.2.2 Relation between admin & user

5.2.2.1 Introduction

The both applications work with real time information. Real time information is such sorts of information as like that area information (GPS), indicating video actuation information. The User

application sends information and the administrator application demonstrates information from firebase. The information stores in firebase database.

5.2.2.1 Firebase

Firebase Analytics is a sans cost application estimation arrangement that gives understanding into application utilization and client commitment. [6] Previously known as Google Cloud Messaging (GCM), Firebase Cloud Messaging (FCM) is a cross-stage answer for messages and notices for Android, iOS, and web applications.

Firebase gives an ongoing database and backend as an administration. The administration gives application engineers an API that enables application information to be synchronized crosswise over customers and put away on Firebases cloud. [7]

At the point when the administrator application needs to be demonstrated the information, the administrator application sends a solicitation to demonstrate the information.

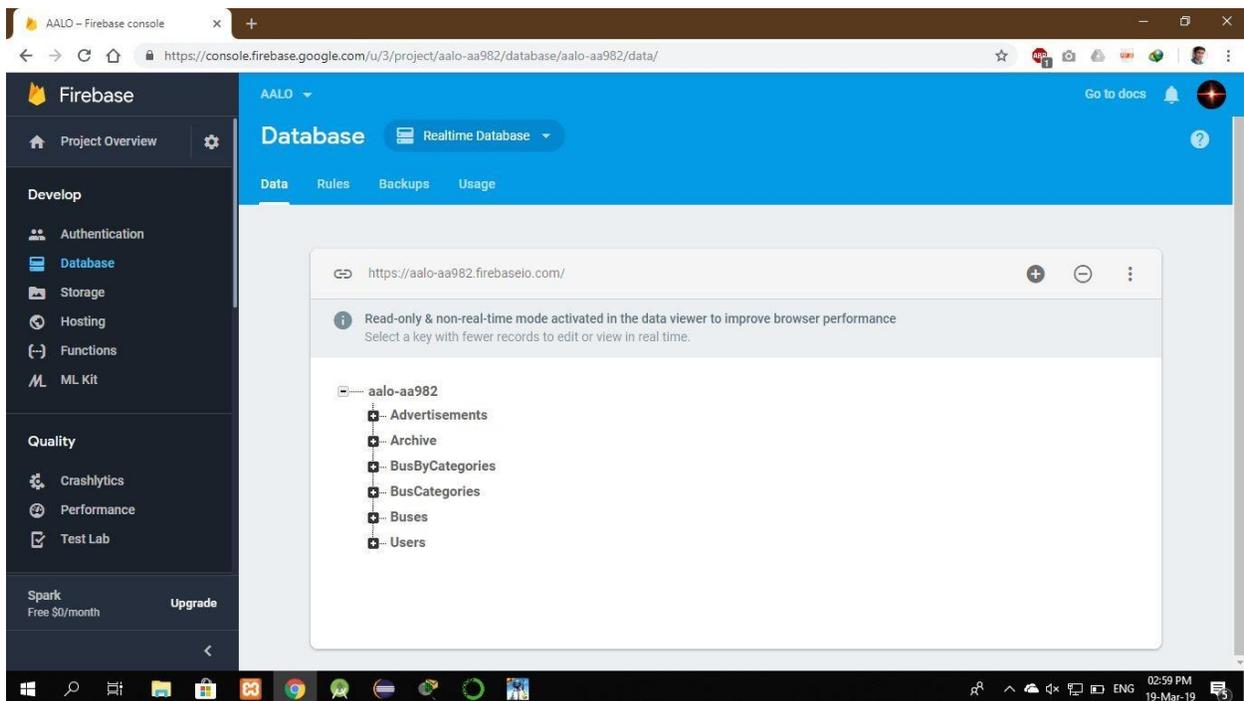


Fig 5.8: Connection of database using firebase

In this figure we can see server name is https://aalo-aa982.firebaseio.com. It generally view the real time information. aalo-aa982 contains Advertisements, Archive, Bus By Categories , Bus-Categories , Buses, Users.

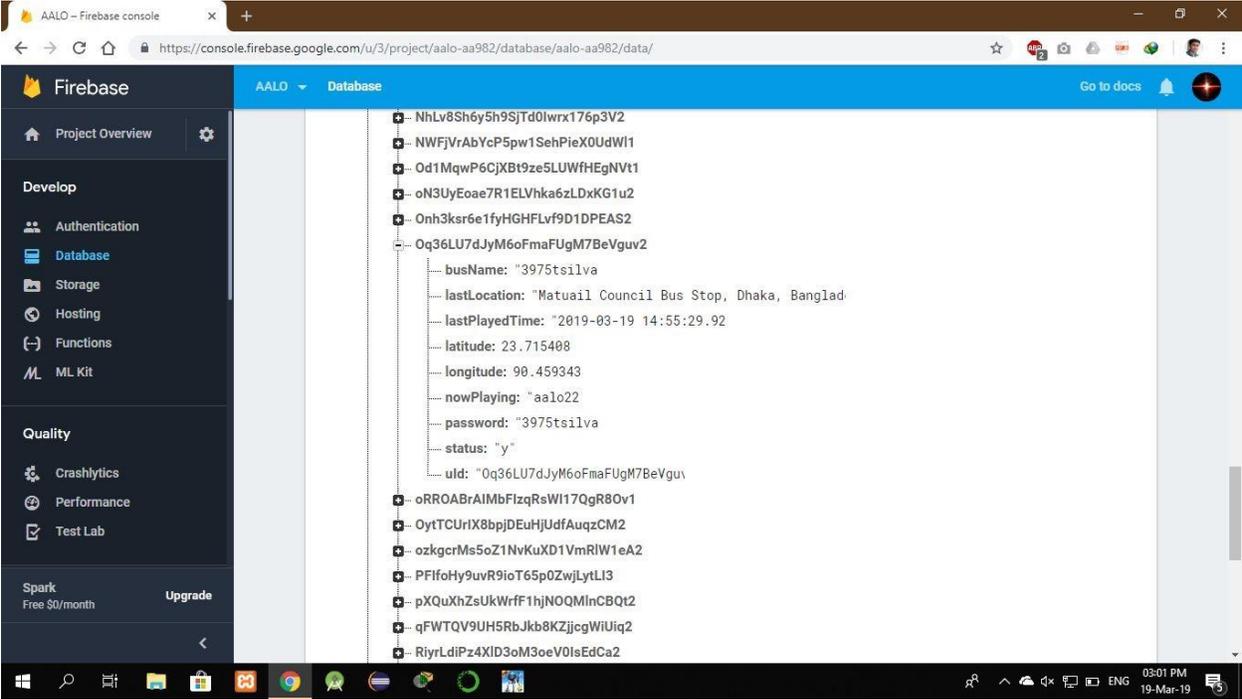


Fig 5.9: shows a user id of firebase

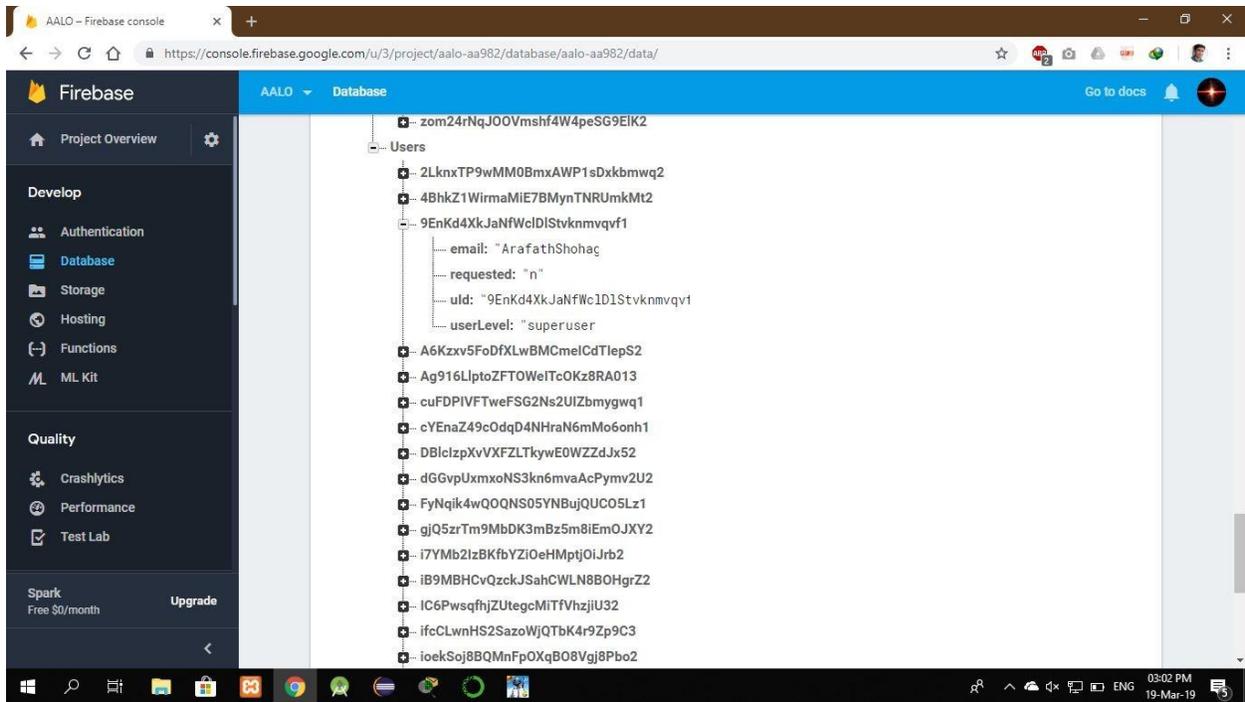


Fig 5.10: shows a super user id

CHAPTER 6

CONCLUSION & FUTURE SCOPE

6.1 Discussion and Conclusion

Our vision is to set up a standard and world class promoting media whose administrations and brand won't just be acknowledged in Bangladesh, yet additionally in different pieces of the world. We have an objective 300 sitting transport in the present year, 2018 and till 2019 we will bring all the sitting administration transport under our reconnaissance.

6.2 Limitation

We find that there are no sitting transportation in other region. So it is difficult to spread our business around Bangladesh. Every moment internet is required and it is obligatory because it continuously pass data to database. In the event that our server is smashed, we will loss the information. Administrator application will not get information, if client application is incapacitate.

6.3 Scope for Future Development

We have numerous open doors with AALO. We can utilize the idle time of people. We realize that AALO will be the one of the best marketing organization in Bangladesh,

We make our future model.

- 500 screen inside 2019
- Full Dhaka under the AALO reconnaissance inside 2020.
- Train, Waiting Place.
- Live communicate utilizing information.
- Live sports, Alert and breaking news stream.
- Control full framework structure office.
- Highly verified framework.
- Will add AI for view tallying.
- Company's very own office floor.
- Will make AALO worldwide.
- A well worth organization.
- All kinds of customer with class under conditions and terms.

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