

TREE STORE: A Mobile Application for Tree Selling

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

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DAFFODIL INTERNATIONAL UNIVERSITY

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APPROVAL

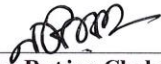
This Project titled “**TREE STORE: A mobile Application for tree Selling**”, submitted by Kazi Shahrukh Islam, ID No: 151-15-5423, Nazmul Huda Hridoy, ID No: 151-15-4941 to the Department of Computer Science and Engineering, Daffodil International University has been accepted as satisfactory for the partial fulfillment of the requirements for the degree of B.Sc. in Computer Science and Engineering and approved as to its style and contents. The presentation has been held on 11th December 2018.

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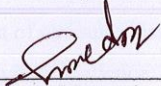
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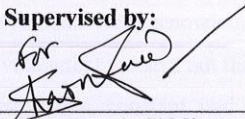
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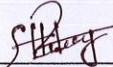
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ABSTRACT

This project is an “Android Based Application of Tree Store”. This is an Android based application which will help the users to gardening in their home, office etc. also it will help to know about many trees, plants and how to grow them and what are the uses. The aim of this application is to reduce the troubles and problems in regard gardening. Every user can access this system. But only admin controls the whole system. Admin can add details, update things. The users can log into the application and can check product, information’s and can place their order through the application. When a user installs the application in their mobile he/she can see available information in the application. A user only gets assigned, then he/she can find plants, he/she will get to know where this plant can be planted, how to grow it, what are the benefits of this plant .They can find nearby nursery and place order. Even the nursery owners can use it for business purpose. If the admin put the nursery’s information in the database what they have in their nursery it will help the nursery owners. With this application, both the users and the nursery owner’s will get benefits. So, I think it will help to increase the flexibility to all the users. After implementation of all features, the system is tested in different ways and it works successfully and perfectly.

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CHAPTER 1

INTRODUCTION

1.1 Introduction

This is an android application it gives opportunity to users to know about gardening anytime from anywhere. Here, users can view their expected details about gardening, which will save time & reduce troubles. And nursery owners can provide their service through it. And the most important feature is users will have idea which plant is suitable for the place, what the plant needs to grow up properly. User will also able to find the nearby nursery. In urban area sometime we can see that nurseries are far away people can place order through the application. This application can make the impact of pollution in urban area.

Tree store aimed to make change in urban area, reduce the pollution, and enhance the beauty for the betterment of mankind. The application can be accessed by anyone from anyplace. Hence all related information about gardening is available to users. And it will help the nursery owners to make available their services to their customers.

1.2 Motivation

The world is polluting day by day mostly the urban areas. This project is aimed to reduce the pollution and make an easiest way to garden. It is so much difficult to find a place to garden in urban area. Our application will reduce this difficulties and time cost.

In our country there is so much traffic that people have trouble going the nursery and carry their gardening tools in home. By using this application they don't have to go the nursery physically. This cost so much time and brings troubles to people and they lose their interest for gardening. In urban area people don't have much time for gardening.

In order solve all these difficulties, our application has been developed. It can be used for business purpose. Our application facilities are added for general uses to get information and buy products for gardening. Users have to buy products which are available.

1.3 Objectives

The main objectives of tree store application is, first of it will appear easy and more informative to grow plants and proper guidance. Help people to know about gardening and reduce the pollution. The climate around us polluting increasingly and forests getting extinct. Users or buyers can gather all kind of information particularly gardening and get benefit from it. It will be perfect application gathering all kind of gardening tools.

1.4 Expected Outcome

The project expected outcome is to develop an application which will make an easy way to gardening.

It is very difficult to maintain gardens. But using this application it will be very easy. It will be helpful for users. It will be helpful for users. User can easily confirm their item through this application.

People don't find much time for gardening in their busy life. This application will help them to find their expected plants, how to maintain them, what are the benefits of that plant which place is suitable growing this plant. So it will overcome all the challenges.

As we mentioned before, still this application can be managed by nursery owners if the admin put their information in to the database so we will be able to use it for business purpose. And we hope that everyone will love it. Because, it is a comprehensive solution users which helps to overcome the challenges in urban area for gardening.

1.5 Report Layout

We organize our report is as follows. Chapter 2 is all about background of this application, Related Works, Comparative Analysis and Scope of the Problem is described.

Chapter 3 is about Requirement Specification- Business Process Modeling, Requirement Collection and Analysis, Data Modeling and Description, Design Requirements. Chapter 4: Design Specification. Chapter 5: Implementation and Testing.

And finally Chapter 6 is having Conclusion and Future Scope.

CHAPTER 2

BACKGROUND

2.1 Background

Before starting the project we've to study a lot for make sure about the project, its necessity as well as the challenges for our project. As we've fixed our vision about the project and it is a kind of social work, we have to prepare ourselves that's why we needed to background studies. In this chapter we're going to describe our background studies and how we prepared for this project as well as everything we needed to do for making this project successful.

2.2 Related Works

For starting of our work we had to gather information. We had detailed research many application. We had to gone through the other processes also. We've to focus some issues like, do they reduce the troubles people having for gardening, how to consume difficulties, how to do it, is it works perfectly how. How reliable it is, can it make for all users. We always thought about perfection as it is related with. We had to keep that in mind that we have a set of data of every individual plants. So we studied a lot about this and worked a lot of time on this. We have checked every details and worked on different details of plants to complete this.

2.3 Comparative Studies

We have gone through many application and compared that with our project idea before starting. According to our studies Bangladesh is still in the top five of most polluted country. So we think that we can provide this service vastly which can help to reduce pollution. Some of application have different types services but our application services altogether. So, all users has different kinds of benefits. Our project interface is very simple. Which is very easy to operate and understand. In our project we have tried to do all this things. We have faced many problems and restrictions. And we've successfully cope with all the challenges to develop the system. We also have worked to user interface which is user friendly and easy to understand.

We have different feature:

Our feature include:

- Individual user can log in
- A wonderful slide show is integrated to this application which shows useful information for different kind of plants
- Search option
- Decoration idea
- Seasonal advice
- There are different types of users – admin, guest, registered, nursery owners which make this application more flexible.
- Add to cart
- Payment
- Users can search for nursery locations

2.4 Scope of the Problem

We have faced different problem while doing this. Problem that occurs in traditional gardening system is so many that we get a very large scope for making ourselves better. So traditionally system's limitation which is our scope of problem –First of all we think citizens of urban area don't have enough space & time for gardening. So to reach our goal we have to minimize the problems and that's initially creating a big scope.

There is nothing to hide people have lost their energy & interest for gardening that most of them finds various difficulties doing gardening, which is a big fact for now-a-days.

So we came up with a solution of this situation.

2.5 Challenges

The user of this application is general people and nursery owners. In this application will help to know managing system of garden planning perfectly. So they can use this application and get information. We faced challenges in many things. While working on the project we figure out some challenges. As we believed that without challenge and risk

we can't gain anything, so we took those challenges very seriously. These are some major challenges –

- Had to figure out problem and expected outcome.
- Categorizing problems and working process.
- Inserting data into firebase and retrieving from it we faced some problems.

CHAPTER 3

REQUIREMENT SPECIFICATION

3.1 Introduction

The requirement specification means the requirements of the system, how these requirements will be accomplished. This shows the problem people having and how the application is trying to solve. The result at the end of this is requirement document. It represents in a clear and precise fashion what will be the result. This analysis represents the whole system. The requirement document tries to find the problems people going through and this application will fulfil the goals and how it will implement the details.

The target of the application is to determine where the problem is, in an effort to solve the sufferings, evaluating project goals, come to a solution of problems .It is the next step where the requirements of users is find out about what services should be provided .Here the project goals a, functions, operation of the application is defined.

3.2 Requirement Collection and Analysis

Requirement collection and analysing them is the most important part for any project because the whole project is depends on it. Planning is needed in every project. Most of the projects failed because of without planning the project requirements or due to the wrong or insufficient requirement gathering. The project team should gather all the necessary requirements for the project, otherwise the project will be in risk. This may cause many problems also the result of the full project can be hampered. Requirement analysis determines those procedures to be used by analysts to extract application problems and solution requirements from the users. Requirement collection and analysis is very beneficial and difficult also. The Requirements, prompted from the set of different viewpoints will be documented and analysed in this process. After assembling all the requirements and analysing them, we have found the essential features that our application needs. Concerns are recognized through discussion with the principle needs for the application.

In the present time people have desire for gardening but not much patience. The problem is they find many difficulties for gardening such as they are running out of space, finding plants, nurseries, how to grow plants etc. We have to save our Mother Nature, time, money and we can make the atmosphere beautiful for all by using this application. The environment surrounding us is getting polluted day by day, it is better to planting trees to protect ourselves from disaster.

There are many process in requirement collection and analysis. The process may be different from each other depending on the condition. Here main factors is the application should be useful and user-friendly.

3.3 Use Case Modelling and Description

Use case diagrams are commonly referred to as behaviour diagrams that describes a how user use a system and how the system should perform set of actions. It is a modelling technique that determines the features to be implemented. Each and every use case offer some obvious and valuable result.

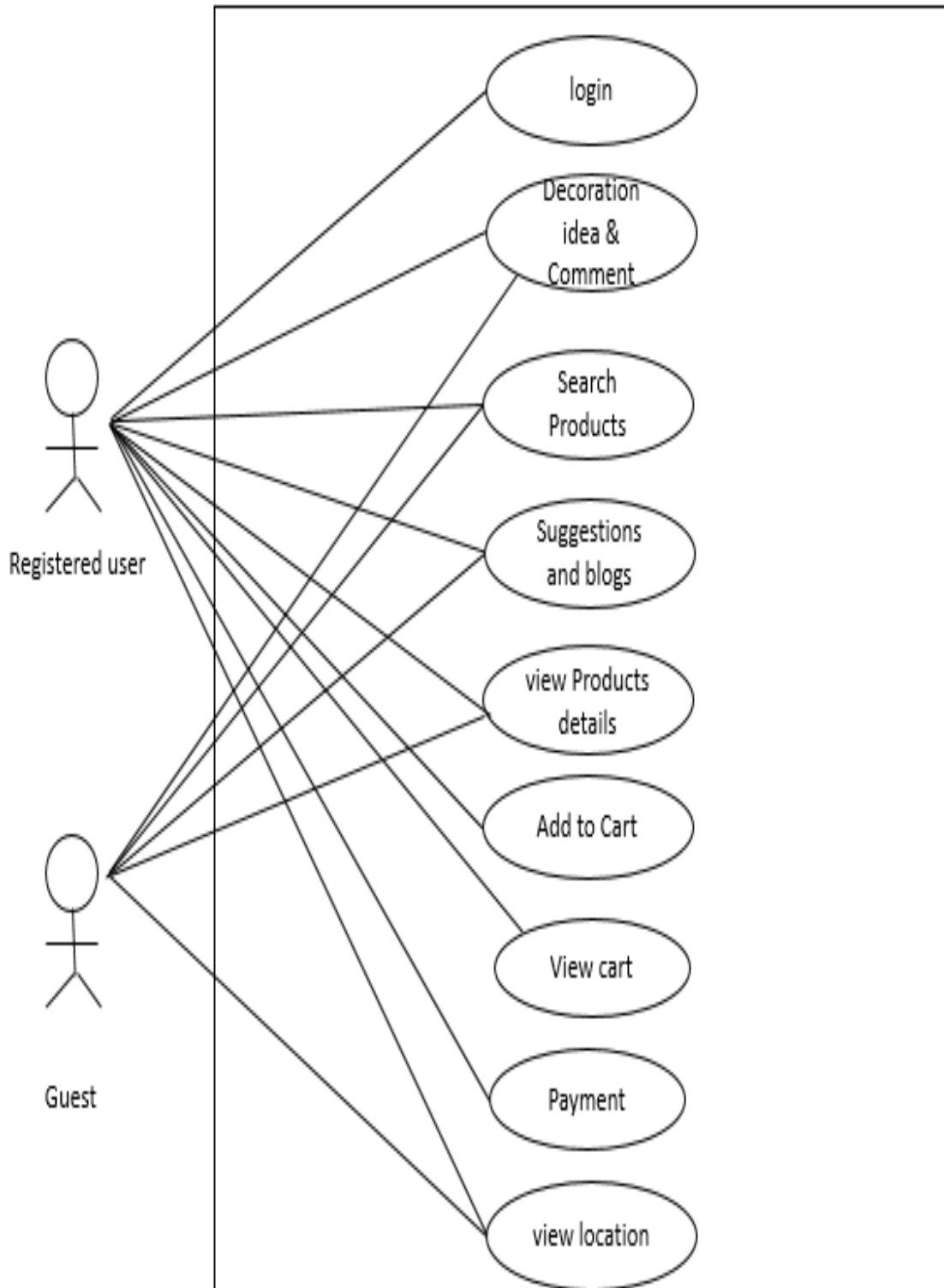


Figure 3.3.1: Use Case Model

User use case details

Table 3.3.1 Use Case of User Login/Sign up

Use Case #01	
Use Case Name: User Login/ Sign up	
Use case details	Login to and access all functionalities.
Precondition	Open application and browse login page.
Actor	User.
Normal flow	Enter Email. Enter Password.
Alternative flow	Redirect to homepage.

Table 3.3.2 Use Case of Guest User

Use Case #02	
Use Case name: Guest User	
Use case details	Can't access all functionalities.
Precondition	Open application and browse it.
Actor	Guest User.
Normal flow	Get all information Can't add to cart.
Alternative flow	Log in & get registered.

Table 3.3.3 Use Case of Search Products

Use Case #03	
Use Case name: Search Products	
Use case details	Search desirable product.
Precondition	Open application and type into search bar.
Actor	Both Registered & Guest User.
Normal flow	Enter Product Name. Select Product and add to cart.
Alternative flow	Redirect to homepage.

Table 3.3.4 Use Case of Decoration idea

Use Case #04	
Use Case name: Admin Login	
Use case details	Get decoration idea for gardening.
Precondition	Open application and get into decoration page.
Actor	Both Registered & Guest User.
Normal flow	Get decoration idea. Comment.
Alternative flow	Redirect to homepage.

Table 3.3.5 Use Case of Products

Use Case #05	
Use Case name: Products	
Use case details	Select products and get all the information.
Precondition	Open application and select products.
Actor	Both Registered & Guest User.
Normal flow	Select product. Know all information
Alternative flow	Redirect to homepage.

Table 3.3.6 Use Case of Add to Cart

Use Case #06	
Use Case name: Add to Cart	
Use case details	Login to the application and buy product.
Precondition	Open application and get registered in login page.
Actor	Registered User.
Normal flow	Select product. Add to cart.
Alternative flow	Redirect to homepage.

Table 3.3.7 Use Case of View Cart

Use Case #07	
Use Case name: View Cart	
Use case details	Select cart and see which products are added to cart.
Precondition	Login with email.
Actor	Registered User.
Normal flow	View Cart List. View Total Amount to pay.
Alternative flow	Redirect to homepage.

Table 3.3.8 Use Case of View Location

Use Case #08	
Use Case name: View Location	
Use case details	Select location and find location of nearby nursery.
Precondition	Turn on location on mobile.
Actor	Both Registered & Guest User.
Normal flow	Find nearby nursery Get the location
Alternative flow	Redirect to homepage.

Table 3.3.9 Use Case of Payment

Use Case #09	
Use Case name: Payment	
Use case details	Add to cart and pay 50% taka of the product to confirm order.
Precondition	Login with email.
Actor	Registered User.
Normal flow	Enter Transaction code, address, Phone Number. Place the order.
Alternative flow	Cancel And redirect to homepage.

3.4 Business Process Modelling

Business process modelling is the graphical notation of a business process. Often called process modelling is the logical representation or illustration of an organization's business processes.

It provides a graphical representation by which developers can easily understand the application and implement them.

The following figure 3.4 shows Business Process model:

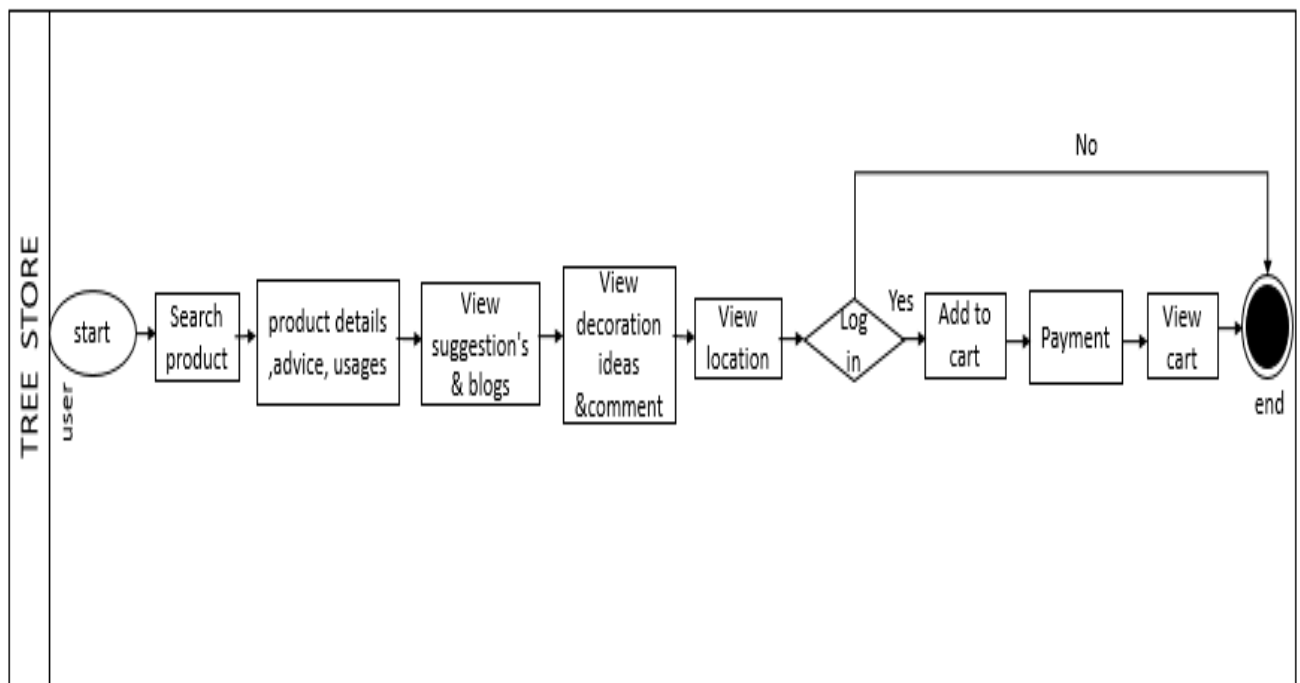


Figure 3.4.1: Business Process Model

3.5 Design Requirements

Design requirements process is the vital for designing in order to be successful. It makes an application more users friendly. To meet an application's goal forward and easy we must need Design requirement. The requirements for this project is given below.

Design requirements for User:

1. Login.
2. Search product.
3. Product details.
4. Plant advice.
5. Usages.
6. Decoration ideas.
7. Comment.
8. Suggestions & blogs.
9. Find location.
10. Buy products.
11. Payment.
12. View Cart.

Activity

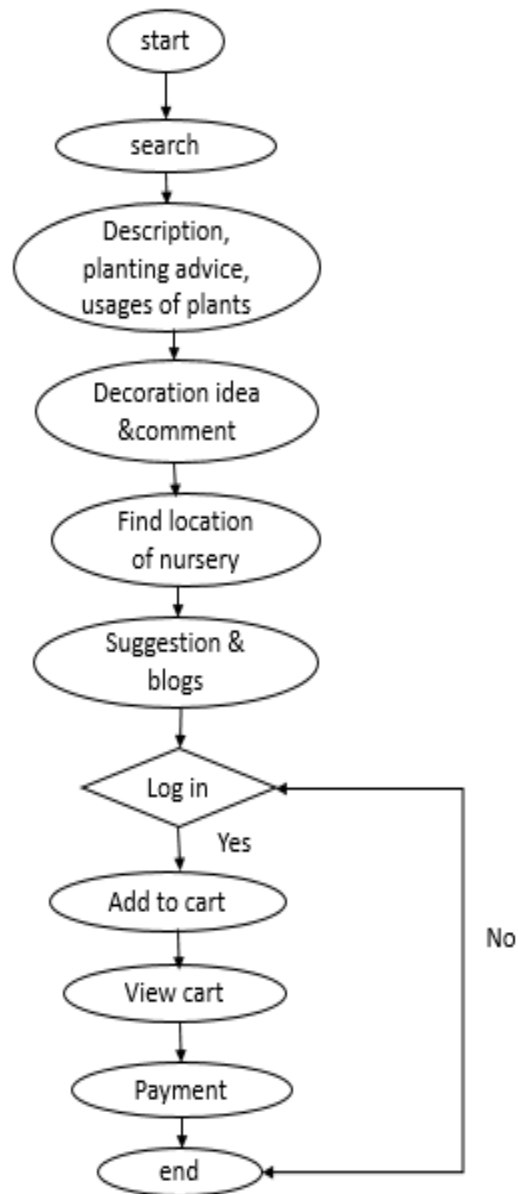


Figure 3.5.1: Activity Diagram

CHAPTER 4

DESIGN SPECIFICATION

The details of front end design and back end design is provided in this chapter.

4.1 Front-End Design

Here contents of front-end of our project will be included. After installation of the application this page will appear to user. Then the splash screen appears to user.

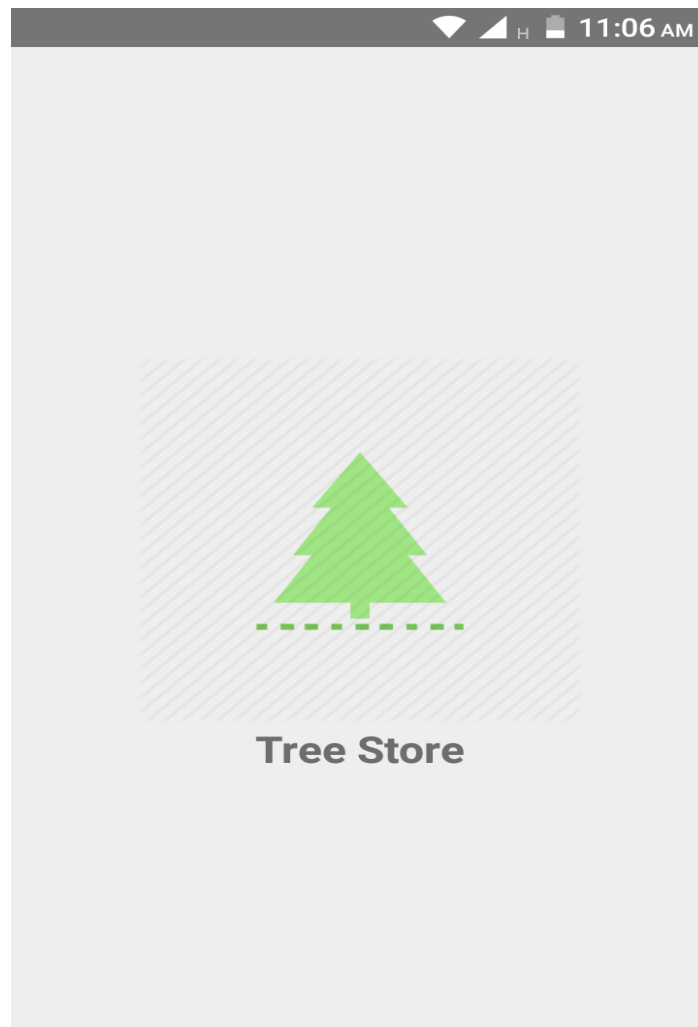


Figure 4.1.1: Splash screen

The following figure 4.1.2 is the layout of Home Page.



Figure 4.1.2: Homepage

Then user can log in or sign up to the Application. It requires mail and password of the user.

The following figure 4.1.3 is the layout of Sign up Page.

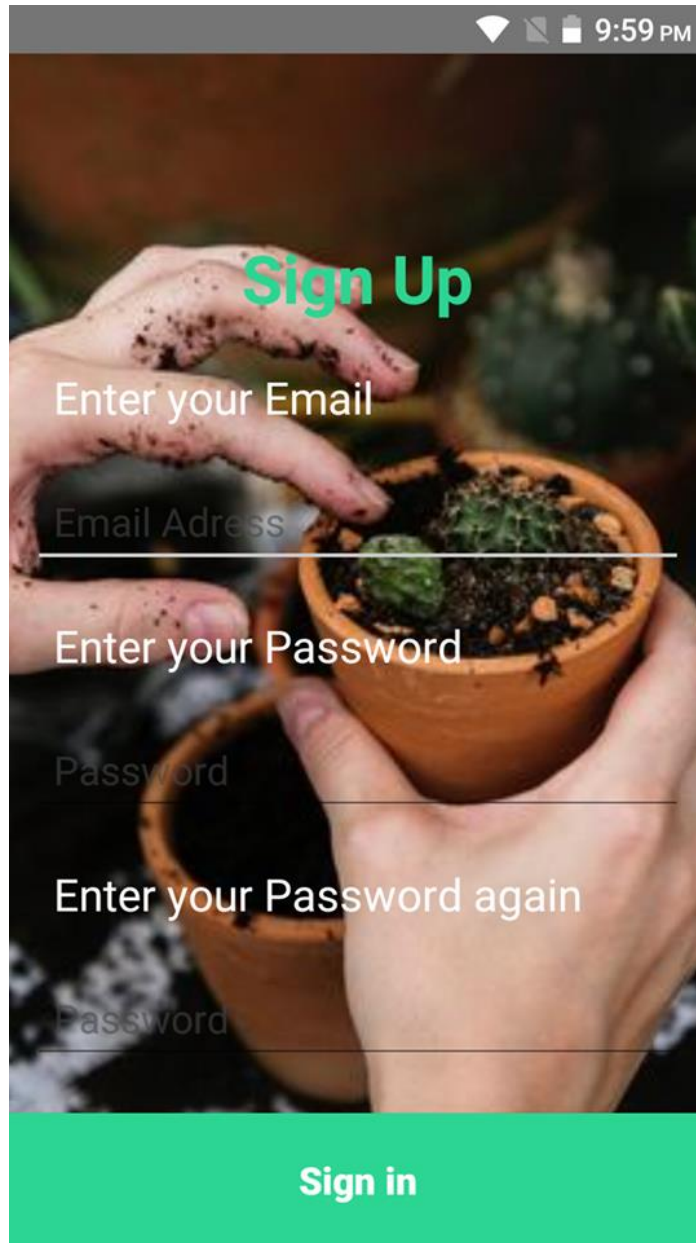


Figure 4.1.3: Sign up Page

User must Log in to buy any product.

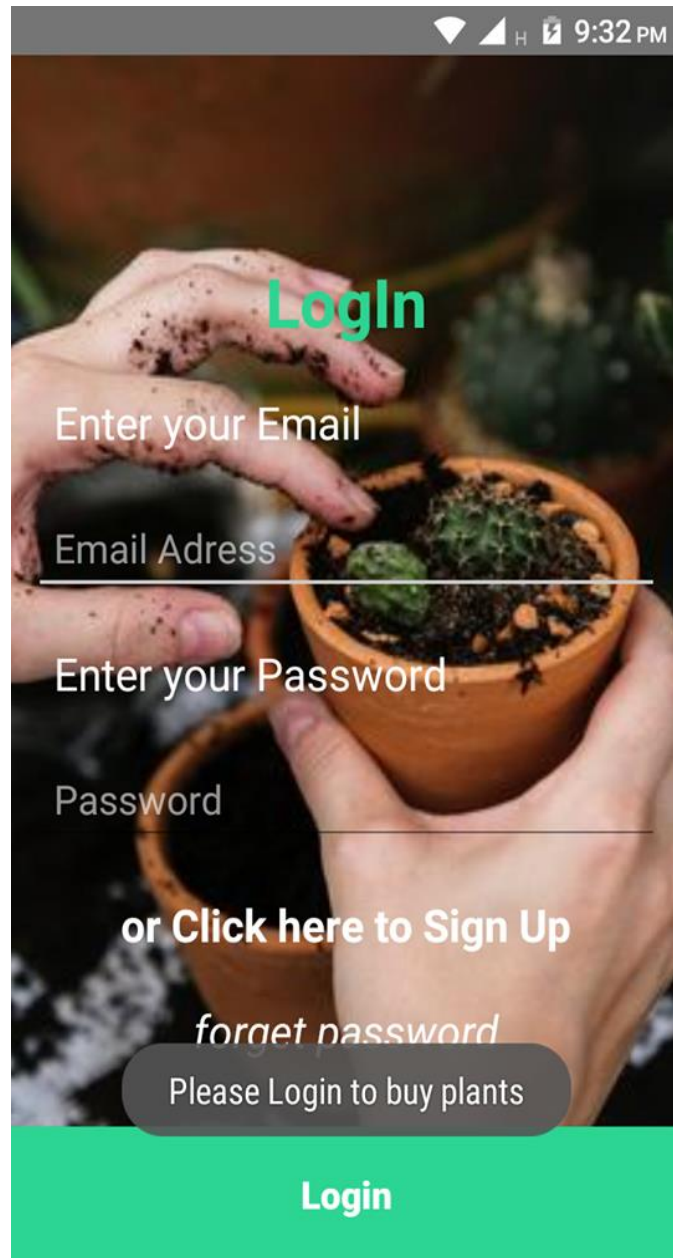


Figure 4.1.4: Login to buy product

This section displays how a user can search his/her desirable product.

The following figure 4.1.5 is the layout of Search Product.

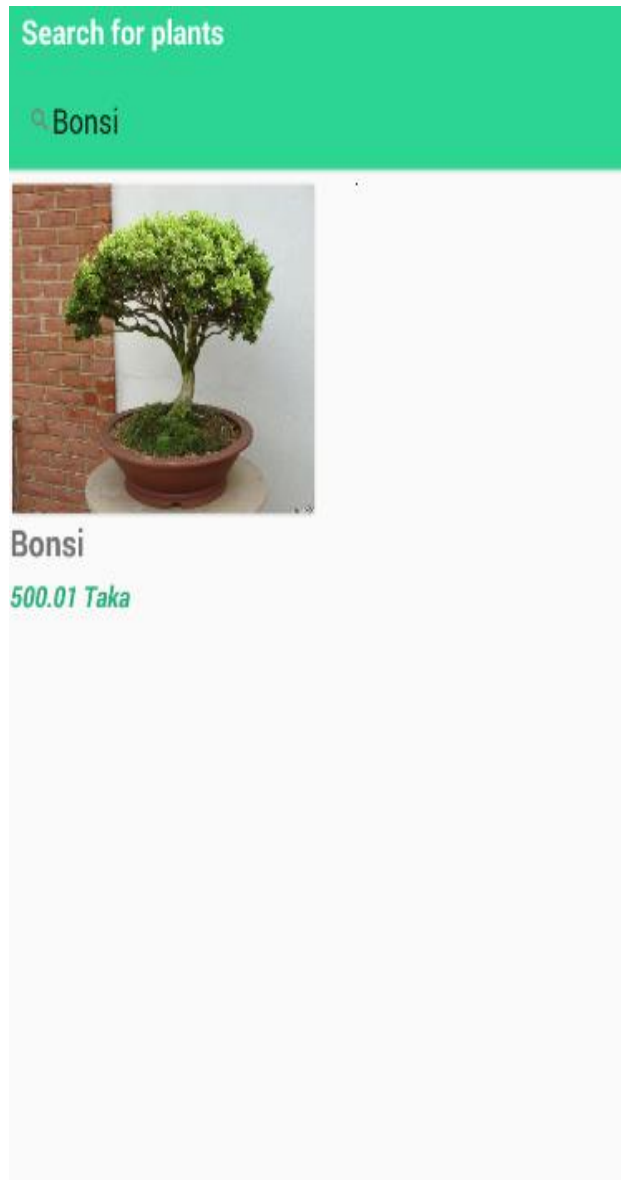


Figure 4.1.5: Search Product

After selecting a product user can would be able to see product description, planting advice, usages of that plan.

The following figure 4.1.6 is the layout of product Description.

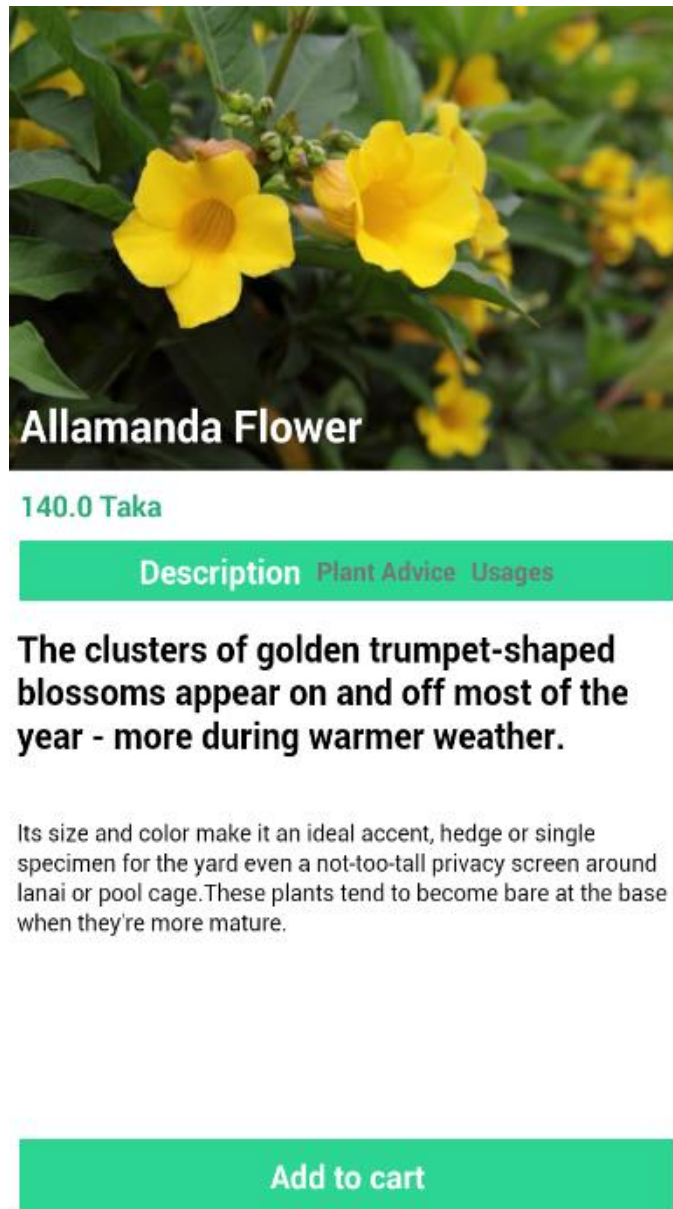


Figure 4.1.6: Product Description

The following figure 4.1.7 is the layout of Planting Advice.



amalaki hybride

230.0 Taka


Description	Plant Advice	Usages
-------------	--------------	--------

Amla tree is tough and resistant to exploits of climate. It is sensitive to prolonged freezing temperatures and grows best when it is not exposed to frost. Spacing.Prune it back to keep in shape and control each year in December or January in tropics and spring in subtropics. If the tree starts to produce less fruit, cut it back to about five feet in the spring to rejuvenate it.Since you are growing it for yourself, our recommendation is to use only natural fertilizers.In diseases, it can be infected by rust..Growing amla tree from seed takes around five years to produce fruits. Fruits are hard and glossy, of dull green color and generally appear from January to March in tropics.

Add to cart

Figure 4.1.7: Planting Advice

The following figure 4.1.8 is the layout of Usages.



Corn Plant

780.0 Taka

Description Plant Advice Usages

Corn is most often thought of as a food or food additive, or as ethanol in the oil and gas industry. However, recent years have seen this dinner staple's uses greatly expand. In fact, the bulk of corn produced today is not used for food production. You're probably using corn in ways that you don't even realize as you go about your daily business. You can use it for decoration it also brings balance in eco system.

Add to cart

Figure 4.1.8: Usages

After selecting a product registered user can add to cart his/her preferred product.

The following figure 4.1.9 is the layout of Add to Cart.

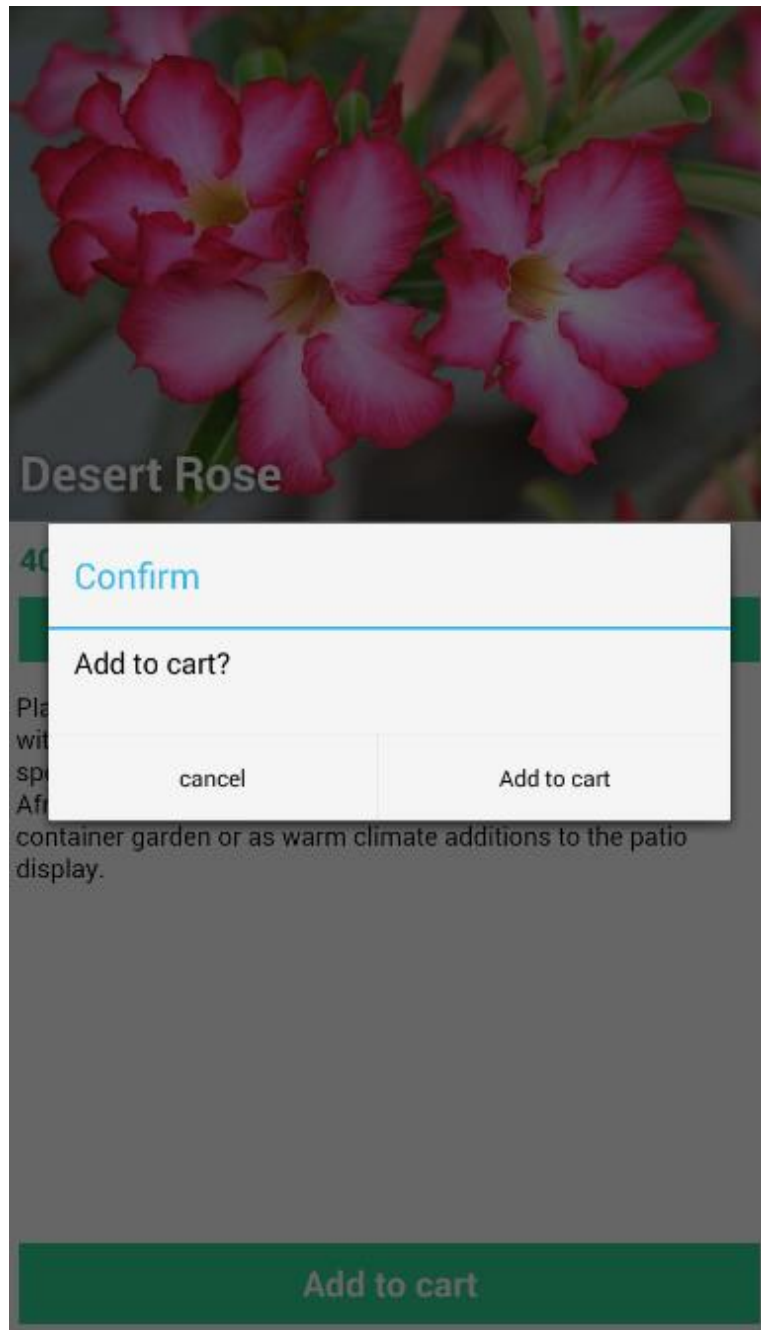


Figure 4.1.9: Add to Cart

As the user added product to the cart they have to pay 50% of the product to confirm the order.

The following figure 4.1.10 is the layout of Payment.

cancel

Gondhoraj

App will wait here for payment, but if u don't want to buy press cancel

Pay 50% of amount through
Bkash to this number
01965296906 to confirm order

Bkash code

Your address

Your number

Enter

Figure 4.1.10: Payment

As the user added product to the cart they can see their cart list.

The following figure 4.1.11 is the layout of View Cart.

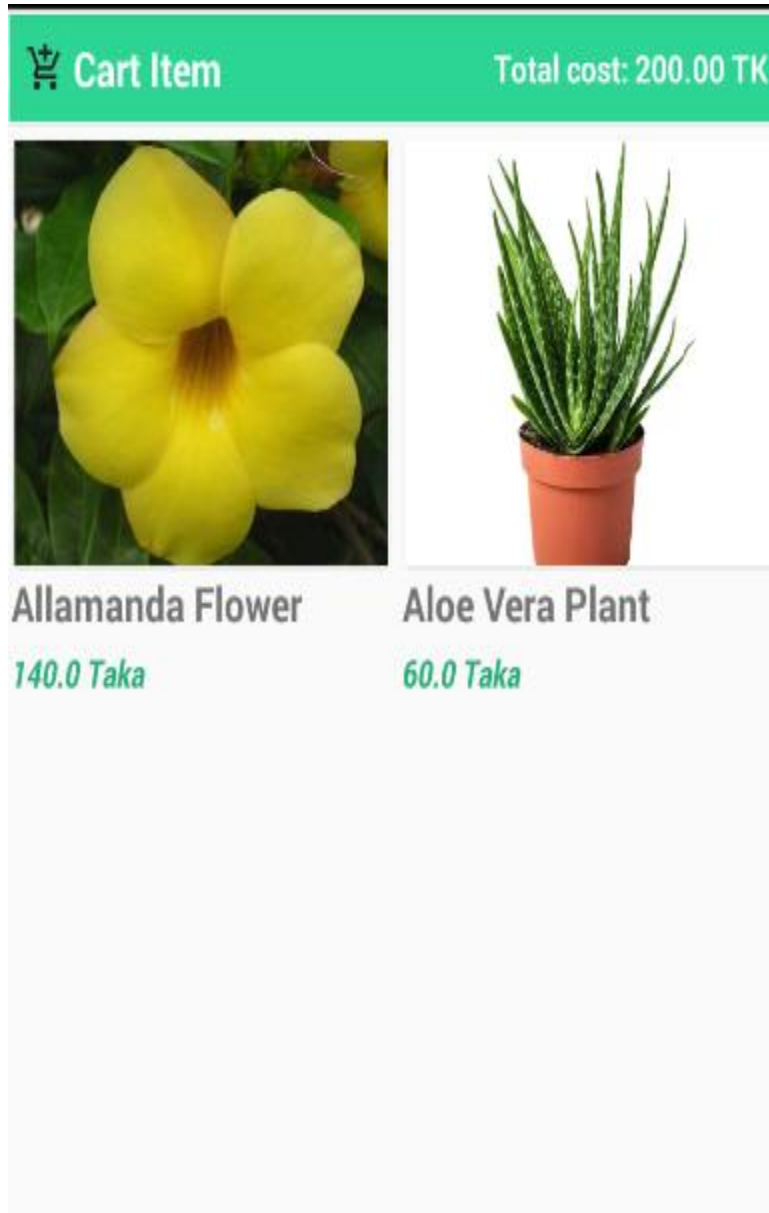


Figure 4.1.11: View Cart

Here user can get suggestion & read blogs regard gardening. The following figure 4.1.12 is the layout of Suggestion & Blogs.

Suggestion and Blog



Figure 4.1.12: Suggestion & Blogs

In this section the aim is to helping users to have some decoration ideas how the can plant trees in different places

The following figure 4.1.13 is the layout of Decoration Ideas.



Decorating With House Plants

It's fair to say, there's been a botanical boom. Plants are now just as important to any room as wall art, lighting and furniture. If you love the idea of a leafy haven but feel like you'd manage to murder potpourri, or you've got plants but want some new ideas on how to style them, read on and get growing.

Get hanging.

Hanging plants are not only the perfect solution when you have limited space, but they also add interest and dimension. Choose a draping plant such as an ivy or fern in a hanging planter for beautiful cascading foliage, or if succulents are more your vibe, hanging terrariums are low maintenance and look beautiful grouped together.



write comment

COMMENT

Figure 4.1.13: Decoration Ideas

The most important thing is find nearest plant store .Here user can find the location of where the plant store or nursery is.

The following figure 4.1.14 is the layout of View Location.

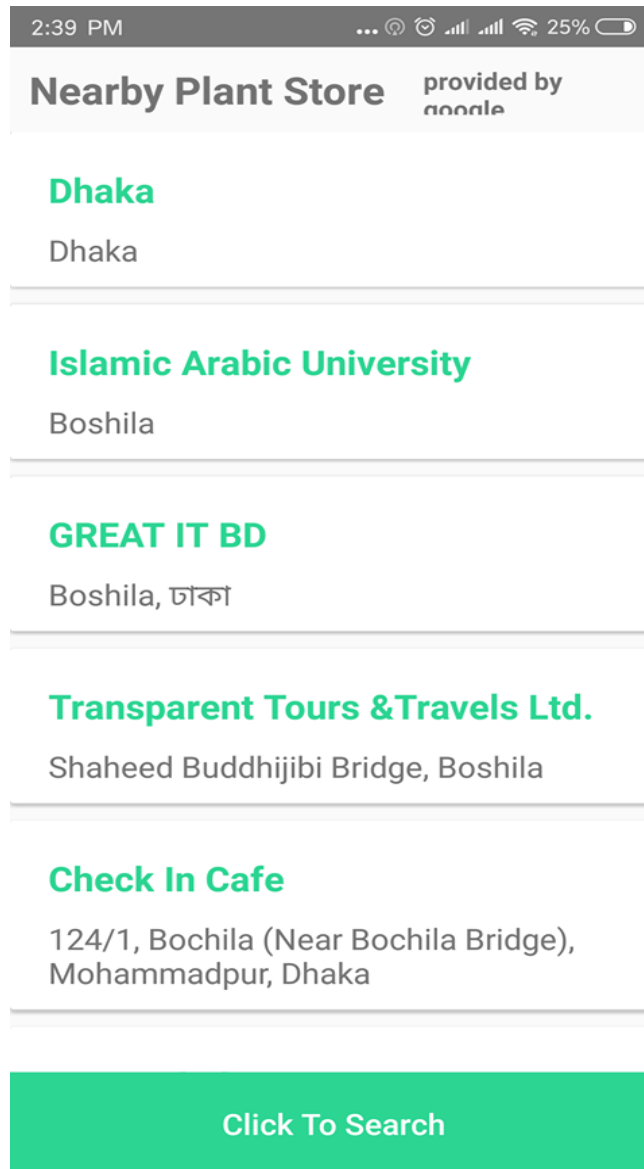


Figure 4.1.14: View Location

4.2 Implementation Requirements

Implementation is the functioning, completing, or repetition of a strategy, a process, or any design, idea, model, specification, standard or policy for doing something.

For an implementation process to be effective, many tasks between different sectors need to be accomplished.

This application requires android operation based device and Software requirement is minimum Ice cream Sandwich (4.0.2).

The followings things are required to implement this application.

4.3 Back-end Design

This application has been developed on Android Studio with the help of Java, Firebase, and API.

4.3.1 Java

Java is an independent platform and it is object oriented programming language. Which is much secure than others.

4.3.2 Database

We used firebase to manage data we used in the application. Firebase is an online database management system which helps developers store data and retrieve the data information.

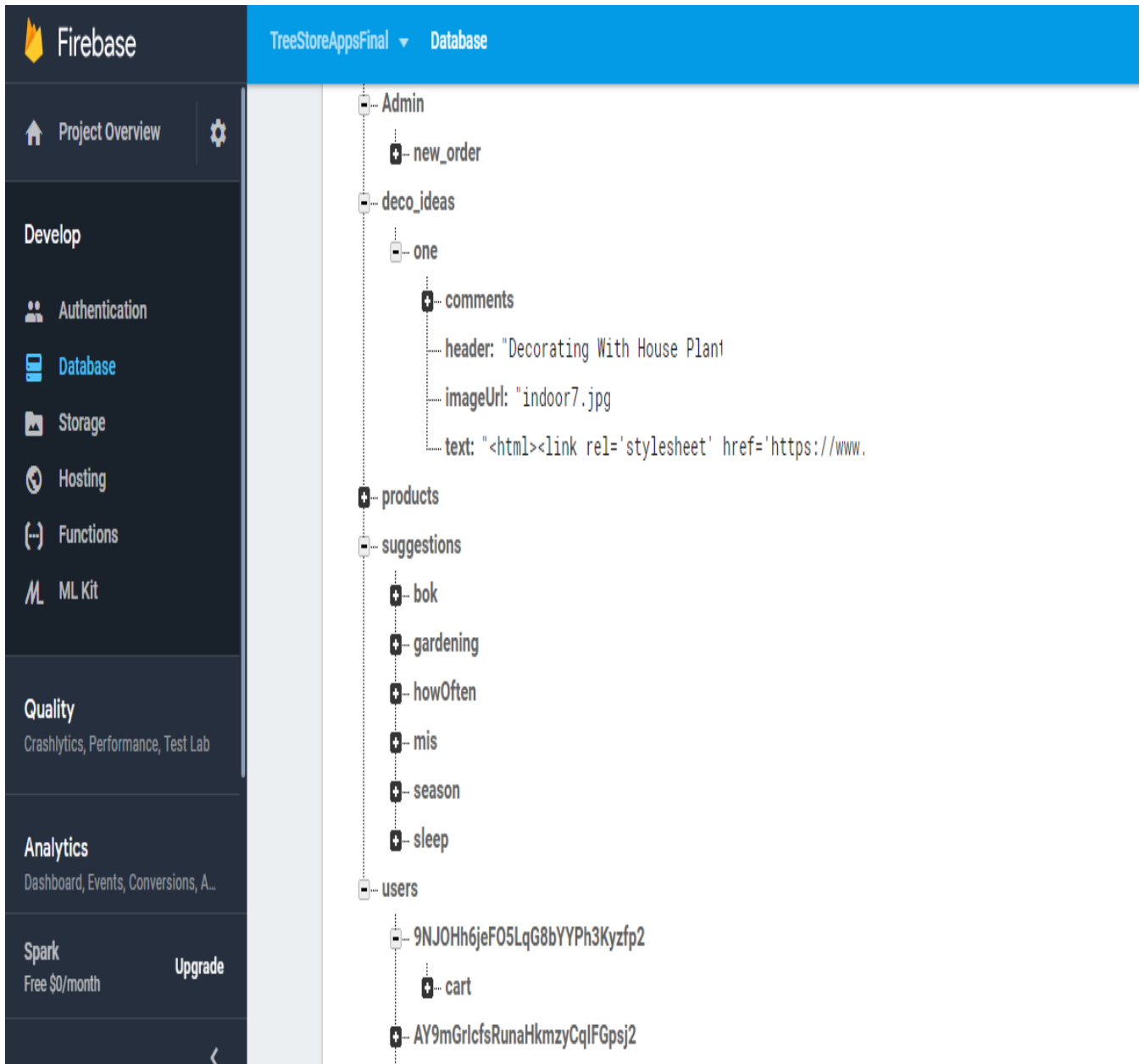


Figure 4.3.2.1: Screenshot of Database

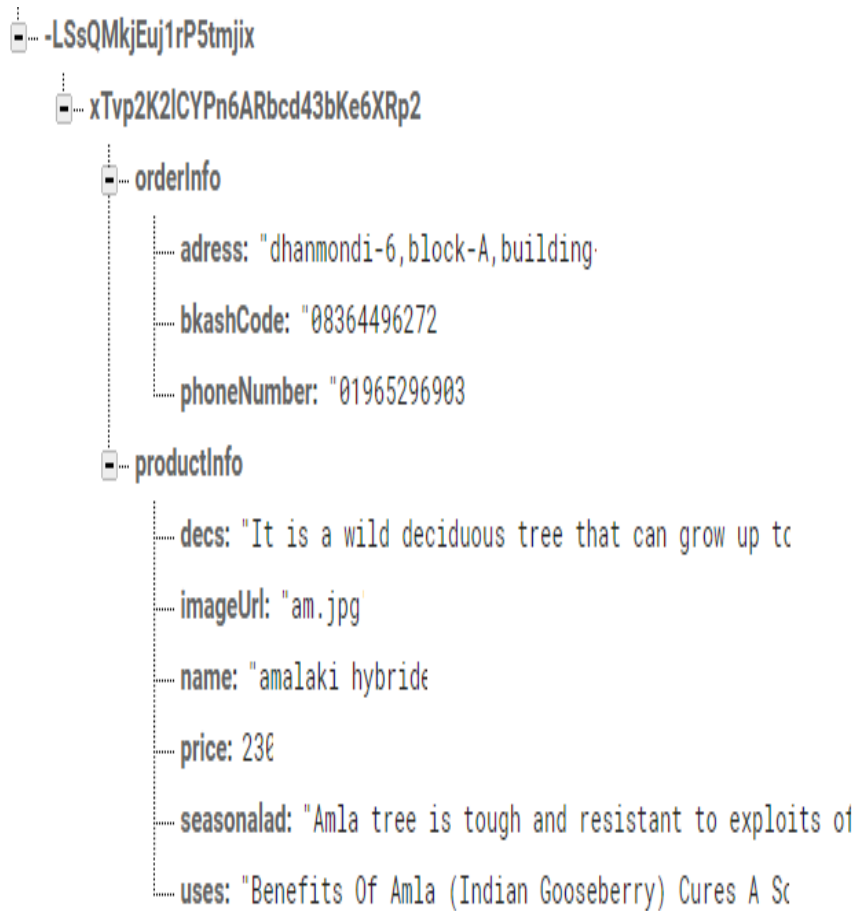


Figure 4.3.2.2: Users orders in Database

4.3.3 API

API is arbitrator which permits two server or application to communicate each other and combined properly as medium interface. In this application Google Maps API has been used to co-operate software component.

CHAPTER 5

IMPLEMENTATION AND TESTING

5.1 Implementation of Database

For managing data we used Firebase database. We stored data in JSON format. Firebase is Real-time database, it is also NoSQL. Here Data is stored as Jason and synchronized in in real-time to clients. It can be used in cross-platform apps like iOS, Android and all clients can share one Real-time Database instance and automatically receive updates with the newest data.

5.2 Implementation of Front-End Design

In android application Front-End-Design is Activity. In each activity there is one xml file and there is also layout to design application. Design is the view of front-end-design.

Sample file for one design is given below:

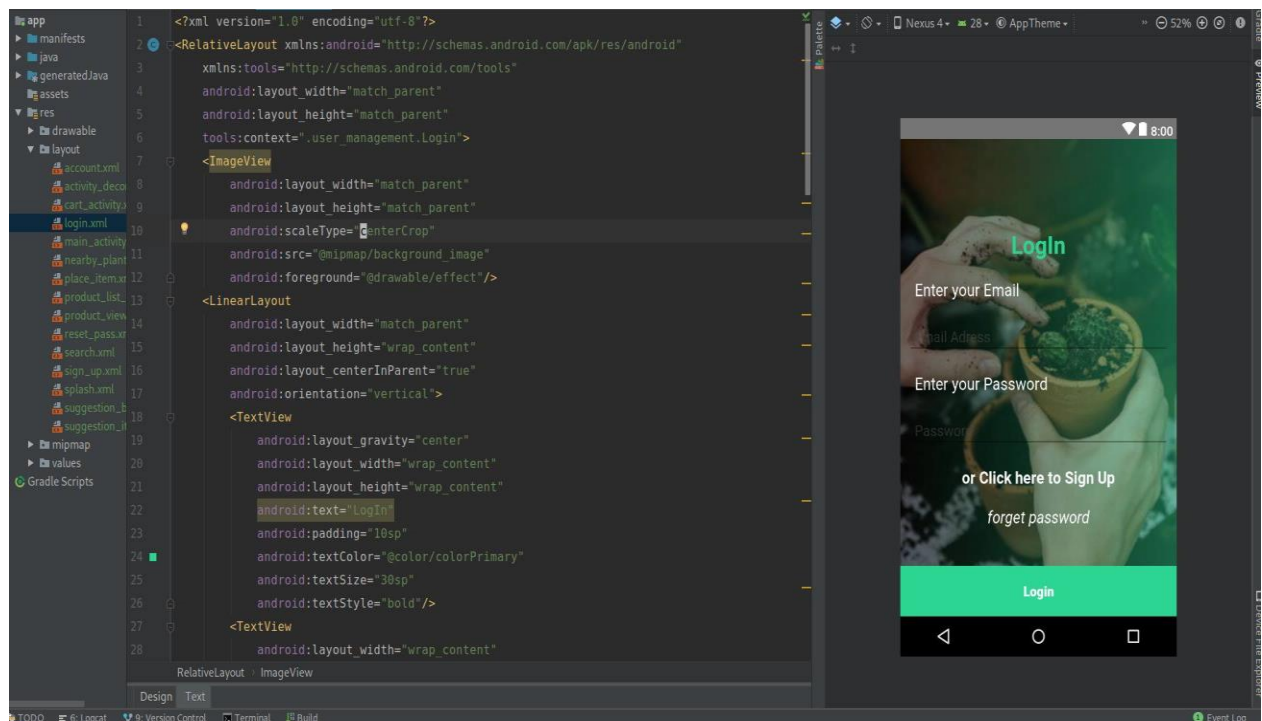


Figure 5.2.1: Screen shot of Code

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This project having different layers to implement the application. All layer have significant mechanism and in this application. . Interaction is done to make the application dynamic and attractive to user. It's very necessary to make an application interactive. We included some unique feature to interact our system. The design of our application is user friendly.

- View Layer: This is the interface for the user to show the screen.
- Database Layer: All the data have been stored here.
- Application Layer: Logic, API integration, library and java is done here.
- Map Layer: To get the exact direction and find out the nearest plant store or nursesey.

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In this process it describes the importance of test plan and how the application is to be tested and also provides process to be followed. Test data finds what is tested and expected outcome with actual input. In most software engineering projects test plan should be produced. Otherwise this the system implemented considered as low quality. The user don't accept this because it won't be satisfactory.

As soon as requirements have been identified test plan should be written. To see how the application behaves when extreme data is given or overloaded situation occurs it will be tested with sample data.

5.4.2 Test Level

Here the testing levels are described

- Unit testing
- Integration testing
- System testing
- Acceptance testing

Unit Testing

In unit testing all the smallest parts of the application is tested, all the units are individually tested for meet the goal. Here both positive and negative testing is performed. To make sure that the application performs properly, positive and negative testing involved in this testing.

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Integration Testing is a process where related programs is tested. Here two types of approaches involved bottom up and top down. This testing is performed to identify defects in the interfaces and interactions between integrated components. The database should be connected well with every form linked. Making sure no interruption is interrupting database updates.

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In system testing process the functionalities for the entire application is ensured so that the application can process and handle large number of data expertly. The test will be done with some sample user who will use the application under test in its actual environment.

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Acceptability of an application is tested in Acceptance testing level. The aim of this test is to estimate the applications compliance with the requirements and consider whether it is ready for delivery.

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Test report shows testing results, which is a chance to evaluate testing result. It represents the comparison with test results and objectives. In development or implementation process

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of application different types of error may occur such as code error, network failure error etc. This types of error is called bugs. By debugging and fixing code error bugs are removed.

In our project we faced many bugs. Some of them are given here:

- Error google map API”. When application cannot find the current location this type of error occurs. In that case, we fix the longitude and latitude to input in Maps and pin the location where we want and check. After fixing that it worked properly.
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Finally, the project responds correctly to all kinds of process, perform smoothly and the result is sufficiently usable.

CHAPTER 6

CONCLUSION AND FUTURE SCOPES

6.1 Discussion and Conclusion

Our aim was to reduce the troubles and difficulties people face in order to gardening and make our environment suitable for living beings. Also protect the nature from disaster. Every type of user can access the application. But only admin add, update, and delete data. This application will manage the whole gardening system for people by which users can garden easily. This project include all features for gardening.

There is a database which is maintained by the Admin in which all information is stored. When a user wants to use this system, he or she can use it but to buy a product user have to log in with email and password. After successful login, he or she can buy product a. Our system has reduced the sufferings and waste of time for gardening. It is very easy to use and it is time and effort consuming.

This system will provide all information about planting tress without any pressure.

6.2 Limitations

- Guest user's data will not be saved.
- All Pants are not available here.
- Guest users can't buy product.
- Nursery owners can't add in database.
- The payment system supports only bkaash.

6.3 Scope for Future Development

Though the system was developed as fine but the future work will include some more major changes.

- Our aim is to develop the current application advanced so that people don't face any problem regard gardening.
- Overcome all the limitations.
- We will make it more dynamic.
- A website can be developed for users.
- Real time communication media like chat, notification will be introduced.

APPENDICIES

Appendix A

The appendix is provided to give a reflection of project. However, this was a challenging project and also enjoyable to us. During development of this project we learned many things. We were developing along with refining one another's ideas. Our group meetings were very productive. We planned to make a project to help people gardening and reduce their sufferings and from our thought we make the "Tree Store" android based application. With the help of our honourable supervisor Ahmed Al Marouf sir we completed the project. We hope the experiences during the project we gathered will help us throughout our life.

The following table A1 represents the real life user experiences.

Table A1- Real Life User Experiences

Name	No. of user	Rating	Feedback
Tree Store	20	7.6	<ol style="list-style-type: none">1. This type of application should be introduced before.2. User friendly.3. Convenient application.4. Exceptional idea & effective.5. UI could be better.6. The location finding system could Have been better.

Appendix B: Related Diagrams

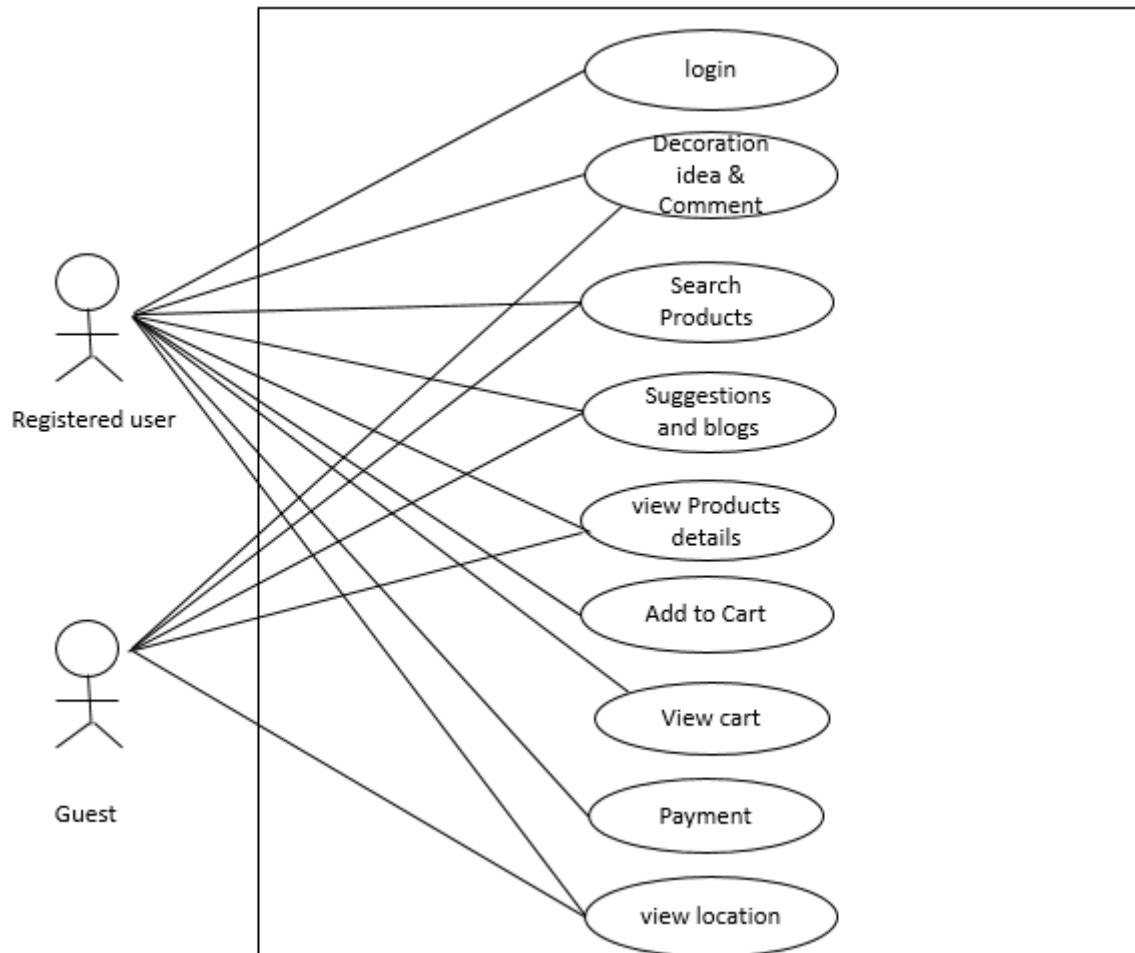


Figure 3.3.1: Use Case Model.

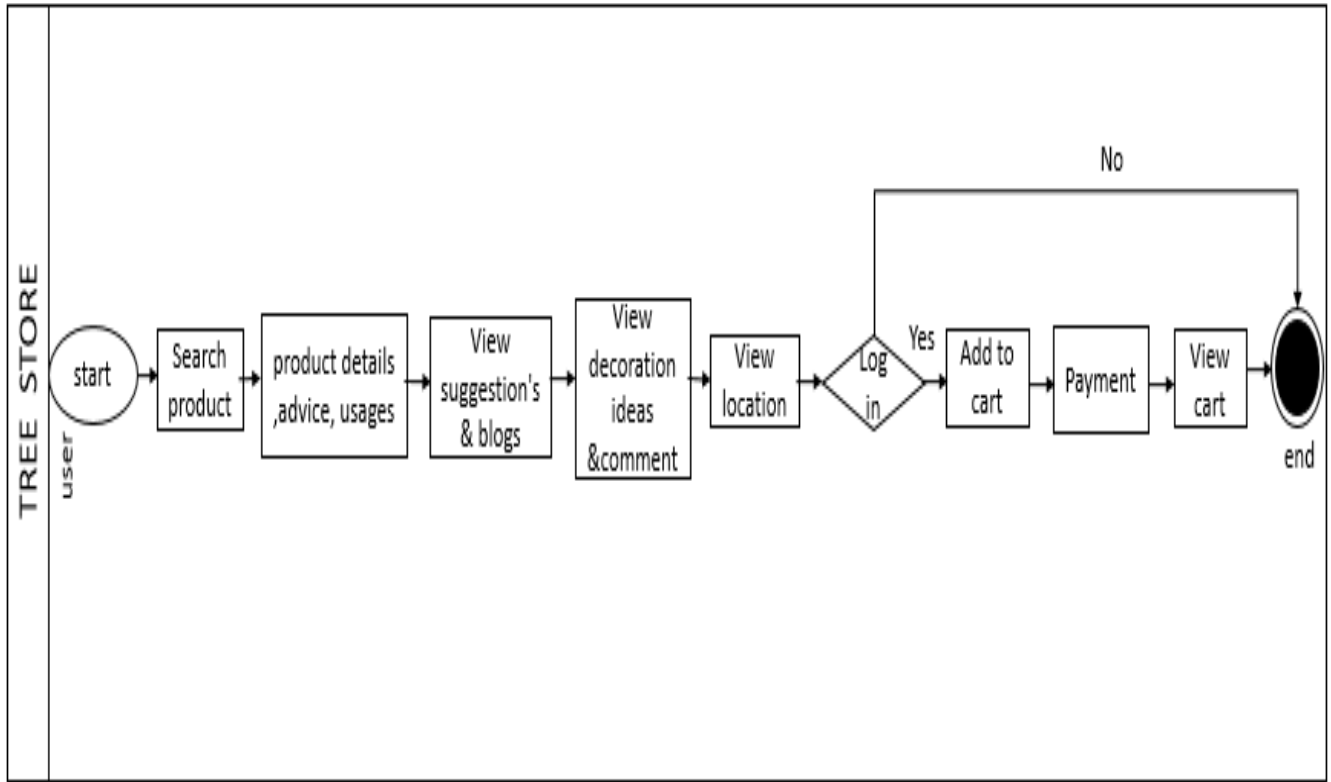


Figure 3.4.1: Business Process Model.

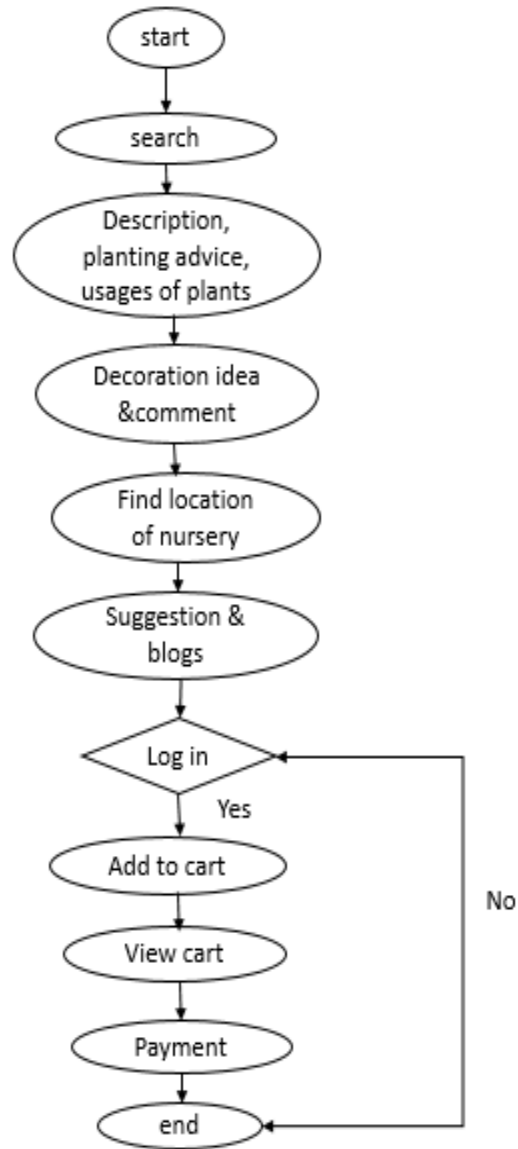


Figure 3.5.1: Activity Diagram.

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CHAPTER 1 INTRODUCTION 1.1 Introduction This is an android application it gives opportunity to users to know about gardening anytime from anywhere. Here, users can view their expected details about gardening, which will save time & reduce troubles. And nursery owners can provide their service through it. And the most important feature is users will have idea which plant is suitable for the place, what the plant needs to grow up properly. User will also able to find the nearby nursery. In urban area sometime we can see that nurseries are far away people can place order through the application. This application can make the impact of pollution in urban area. Tree store aimed to make change in urban area, reduce the pollution, and enhance the beauty for the betterment of mankind. The application can be accessed by anyone from anyplace. Hence all related information about gardening is to users. And it will help the nursery owners to make available their services to their customers. 1.2 Motivation The world is polluting day by day mostly the urban

areas. This project is aimed to reduce the pollution and make an easiest way to garden. It is so much difficult to find a place to garden in urban area. Our application will reduce this difficulties and time cost. In our country there is so much traffic that people have trouble going the nursery and carry their gardening tools in home. By using this application they don't have to go the nursery physically. This cost so much time and brings troubles to people and they lose their interest for gardening. In urban area people don't have much time for gardening. 1 In order solve all these difficulties, our application has been developed. It can be used for business purpose. Our application facilities are added for general uses to get information and buy products for gardening. Users have to buy products which are available. 1.3 Objectives The main objectives of tree store application is, first of it will appear easy and more informative to grow plants and proper guidance. Help people to know about gardening and reduce the pollution. The climate around us polluting increasingly and forests getting extinct. Users or buyers can gather all kind of information particularly gardening and get benefit from it. It will be perfect application gathering all kind of gardening tools. 1.4 Expected Outcome: The project expected outcome is to develop an application which will make an easy way to gardening. It is very difficult to maintain gardens. But using this application it will be very easy. It will be helpful for users. It will be helpful for users. User can easily confirm their item through this application. People don't find much time for gardening in their busy life. This application will help them to find their expected plants, how to maintain them, what tare the benefits of that plant which place is suitable growing this plant. So it will overcome all the challenges. As we mentioned before, still this application van be managed by nursery owners if the admin put their information in to the database so we will be able to use it for business purpose. And we hope that everyone will love it. Because, it is a comprehensive solution users which helps to overcome the challenges in unbar area for gardening. 2 1.5 Report Layout We organize our report is as follows. Chapter 2 is all about [background of this](#) application, [Related Works, Comparative](#) Analysis and [Scope of the Problem](#) is described. [Chapter 3](#) is about Requirement Specification- [Business Process Modeling, Requirement Collection and Analysis](#), Data [Modeling and](#) Description, [Design Requirements. Chapter 4:](#) Design Specification. Chapter 5: Implementation and Testing. And finally Chapter 6 is having Conclusion and Future Scope. 3 CHAPTER 2 BACKGROUND 2.1 Background Before starting the project we've to study a lot for make sure about the project, its necessity as well as the challenges for our project. As we've fixed our vision about the project and it is a kind of social work, we have to prepare ourselves that's why we needed to background studies. In this chapter we're going to describe our background studies and how we prepared for this project as well as everything we needed to do for making this project successful. 2.2 Related Works For starting of our work we had to gather information. We had detailed research many application. We had to gone through the other processes also. We've to focus some issues like, do they reduce the troubles people having for gardening, how to consume difficulties, how to do it, is it works perfectly how. How reliable it is, can it make for all users. We always thought about perfection as it is related with. We had to keep that in mind that we have a set of data of every individual plants. So we studied a lot about this and worked a lot of time on this. We have checked every details and worked on different details of plants to complete this. 2.3 Comparative Studies We have gone through many application and compared that with our project idea before starting. According to our studies Bangladesh is still in the top five of most polluted country. So we think that we can provide this service vastly which can help to reduce pollution. Some of application have different types services but our application services altogether. So, all users has different kinds of benefits.

Our project interface is very simple. Which is very easy to operate and understand. In our project we have tried to do 4 all this things. We have faced many problems and restrictions. And we've successfully cope with all the challenges to develop the system. We also have worked to user interface which is user friendly and easy to understand. We have different feature: Our feature include: ? Individual user can log in ? A wonderful slide show is integrated to this application which shows useful information for different kind of plants ? Search option ? Decoration idea ? Seasonal advice ? There are different types of users – admin, guest, registered, nursery owners which make this application more flexible. ? Add to cart ? Users can search for nursery locations

2.4 Scope of the Problem

We have faced different problem while doing this. Problem that occurs in traditional gardening system is so many that we get a very large scope for making ourselves better. So traditionally system's limitation which is our scope of problem –First of all we think citizens of urban area don't have enough space & time for gardening. So to reach our goal we have to minimize the problems and that's initially creating a big scope. There is nothing to hide people have lost their energy & interest for gardening that most of them finds various difficulties doing gardening, which is a big fact for now-a-days. So we came up with a solution of this situation.

2.5 Challenges

The user of this application is general people and nursery owners. In this application will help to know managing system of garden planning perfectly. So they can use this application and get information. We faced challenges in many things. While working on the project we figure out some challenges. As we believed that without challenge and risk we can't gain anything, so we took those challenges very seriously. These are some major challenges – ? Making the whole project user-friendly. ? Had to figure out problem and expected outcome ? Categorizing problems and working process

CHAPTER 3 REQUIREMENT SPECIFICATION

3.1 Introduction

The requirement specification means the requirements of the system, how these requirements will be accomplished. This shows the problem people having and how the application is trying to solve. The result at the end of this is requirement document. It represents in a clear and precise fashion what will be the result. This analysis represents the whole system. The requirement document tries to find the problems people going through and this application will fulfil the goals and how it will implement the details. The target of the application is to determine where the problem is, in an effort to solve the sufferings, evaluating project goals, come to a solution of problems .It is the next step where the requirements of users is find out about what services should be provided .Here the project goals a, functions, operation of the application is defined.

3.2 Requirement Collection and Analysis: Requirement collection and analysis

is the most important part for any project because the whole project is depends on it. Planning is needed in every project. Most of the projects failed because of without planning the project requirements or due to the wrong or insufficient requirement gathering. The project team should gather all the necessary requirements for the project, otherwise the project will be in risk. This may cause many problems also the result of the full project can be hampered. Requirement analysis determines those procedures to be used by analysts to extract application problems and solution requirements from the users. Requirement collection and analysis is very beneficial and difficult also. The Requirements, prompted from the set of different viewpoints will be documented and analysed in this process. After assembling all the 7 requirements and analysing them, we have found the essential features that our application needs. Concerns are recognized through discussion with the principle needs for the application. In the present time people have desire for gardening but not much patience. The problem is they find many difficulties for gardening such as they are running out of space, finding plants, nurseries,

how to grow plants etc. We have to save our Mother Nature, time, money and we can make the atmosphere beautiful for all by using this application. The environment surrounding us is getting polluted day by day, it is better to planting trees to protect ourselves from disaster. There are many process in requirement collection and analysis. The process may be different from each other depending on the condition. Here main factors is the application should be useful and user-friendly.

3.3 Use Case Modelling and Description: Use case diagrams are commonly referred to as behaviour diagrams that describes a how user use a system and how the system should perform set of actions. It is a modelling technique that determines the features to be implemented. Each and every use case offer some obvious and valuable result.

8 Figure 3.1: Use Case Model.

9 User use case details: [Table 3.2.](#) 1- [Use Case](#) of [User Login](#) **Use Case name:** User Login **Use case** details Login to and access all functionalities. Precondition Open application and browse login page. Actor User. Normal flow 1. Enter Email. 2. Enter Password. Alternative flow Invalid Email & Password. [Table 3.2.](#) 2- [Use Case](#) of [Guest User](#) **Use Case name:** Guest User **Use case** details Can't access all functionalities. Precondition Open application and browse it. Actor Guest User. Normal flow 1. Get all information 2. Can't add to cart. Alternative flow Log in & get registered.

10 Table 3.2.3- Use Case of Search Products **Use Case name:** Search Products **Use case** details Search desirable product. Precondition Open application and type into search bar. Actor Both Registered & Guest User. Normal flow 1. Enter Product Name. 2. Select Product and add to cart. Alternative flow Redirect to homepage.

Table 3.2.4- Use Case of Decoration idea **Use Case name:** Admin Login **Use case** details Get decoration idea for gardening. Precondition Open application and get into decoration page. Actor Both Registered & Guest User. Normal flow 1. Get decoration idea. 2. Comment. Alternative flow Redirect to homepage.

11 Table 3.2.5- Use Case of Products **Use Case name:** Products **Use case** details Select products and get all the information. Precondition Open application and select products. Actor Both Registered & Guest User. Normal flow 1. Select product. 2. Know all information Alternative flow Redirect to homepage.

Table 3.2.6- Use Case of Add to Cart **Use Case name:** Add to Cart **Use case** details Login to the application and buy product. Precondition Open application and get registered in login page. Actor Registered User. Normal flow 1. Select product. 2. Add to cart. Alternative flow Redirect to homepage.

12 Table 3.2.7- Use Case of View Location **Use Case name:** View Location **Use case** details Select location and find location of nearby nursery. Precondition Turn on location on mobile. Actor Both Registered & Guest User. Normal flow 1. Find nearby nursery 2. Get the location Alternative flow Redirect to homepage.

Table 3.2.8- Use Case of View Cart **Use Case name:** View Cart **Use case** details Select cart and see which products are added to cart. Precondition Login with email. Actor Registered User. Normal flow 1. View Cart list. Alternative flow Redirect to homepage.

13

3.4 Business Process Modelling Business process modelling is the graphical notation of a business process. Often called process modelling is the logical representation or illustration of an organization's business processes. It provides a graphical representation by which developers can easily understand the application and implement them. The following figure 3.3 shows Business Process model: **Figure 3.3: Business Process Model.**

14

3.5 Design Requirements Design requirements process is the vital for designing in order to be successful. It makes an application more users friendly. To meet an application's goal forward and easy we must need Design requirement. The requirements for this project is given below. Design requirements for User: 1. Login. 2. Search product. 3. Product details. 4. Plant advice. 5. Usages. 6. Decoration ideas. 7. Comment. 8. Suggestions & blogs. 9. Find location. 10. Buy products. 11. View Cart.

15 Figure 3.4: Activity Diagram.

16

CHAPTER 4 DESIGN SPECIFICATION The details of front end design and back

end design is provided in this chapter.

4.1 Front-End Design

Here contents of front-end of our project will be included. After installation of the application this page will appear to user. Then the splash screen appears to user. Figure 4.1.1- Splash screen 17 The following figure 4.1.2 is the layout of Home Page. Figure 4.1.2- Homepage. Then user can log in or sign up to the Application. Sign up id for the new user. It requires mail and password of the user. 18 The following figure 4.1.3 is the layout of Login Page. Figure 4.1.3- Login Page 19 User must Log in to buy any product. Figure 4.1.4- Login to buy product 20 This section displays how a user can search his/her desirable product. The following figure 4.1.5 is the layout of Search Product. Figure 4.1.5- Search Product. 21 After selecting a product user can would be able to see product description, planting advice, usages of that plan. The following figure 4.1.6 is the layout of product Description. Figure 4.1.6- product Description. 22 The following figure 4.1.7 is the layout of Planting Advice. Figure 4.1.7- Planting Advice. 23 The following figure 4.1.8 is the layout of Usages. Figure 4.1.8- Usages 24 After selecting a product registered user can add to cart his/her preferred product. The following figure 4.1.9 is the layout of Add to Cart. Figure 4.1.9- Add to Cart. 25 As the user added product to the cart they can see their cart list. The following figure 4.1.10 is the layout of View Cart. Figure 4.1.10- View Cart. 26 Here user can get suggestion & read blogs regard gardening. The following figure 4.1.11 is the layout of Suggestion & Blogs. Figure 4.1.11- Suggestion & Blogs. 27 In this section the aim is to helping users to have some decoration ideas how the can plant trees in different places The following figure 4.1.12 is the layout of Decoration Ideas. Figure 4.1.12- Decoration Ideas. 28 The most important thing is find nearest plant store .Here user can find the location of where the plant store or nursery is. The following figure 4.1.13 is the layout of View Location. Figure 4.1.13- View Location. 29

4.2 Implementation Requirements:

Implementation is the functioning, completing, or repetition [of a strategy, a process, or any design, idea, model, specification, standard or policy for doing something. For an implementation process to be effective, many tasks between different sectors need to be accomplished.](#) This application requires android operation based device and Software requirement is minimum Ice cream Sandwich (4.0.2). The followings things are required to implement this application.

4.3 Back-end Design:

This application has been developed on Android Studio with the help of Java OOP, Firebase, and API.

4.3.1 Java OOP

Java is an independent platform and it is object oriented programming language. Which is much secure than others.

4.3.2 Firebase

Firebase is an online database management system which helps developers store data and retrieve the data information.

4.3.3 API

API is arbitrator which permits two server or application to communicate each other and combined properly as medium interface. In this application Google Maps API has been used to co-operate software component. . 30

CHAPTER 5 IMPLEMENTATION AND TESTING

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6.1 Discussion and Conclusion:

Our aim was to reduce the troubles and difficulties people face in order to gardening and make our environment suitable for living beings. Also protect the nature from disaster. Every type of user can access the application. But only admin add, update, and delete data. This application will manage the whole gardening system for people by which users can garden easily. This project include all features for gardening. There is a database which is maintained by

the Admin in which all information is stored. When a user wants to use this system, he or she can use it but to buy a product user have to log in with email and password. After successful login, he or she can buy product a. Our system has reduced the sufferings and waste of time for gardening. It is very easy to use and it is time and effort consuming. This system will provide all information about planting trees without any pressure. 6.3 Scope for Future Development Though the system was developed as fine but the future work will include some more major changes. 1. Our aim is to develop the current application advanced people don't face any problem regard gardening. 2. Overcome all the limitations. User Interface can be updated 1. A website can be developed for users. 2. This application can be used for business purposes. 3. Real time communication media like chat, notification will be introduced. 4. Some more features will be added. 6.2 Limitations • Guest user's data will not be saved. REFERENCES 1. Firebase- https://console.firebase.google.com/u/0/project/treestoreappsfinal/database/treestoreappsfinal/data?fbclid=IwAR2vwDWAb2xAIWc6aRQL00YM9sSQtcVwsdp_mBzHnYydhIpzwKzieAZeodk&pli=1 2. <https://balconygardenweb.com/growing-aml-tree-how-to-grow-indian-gooseberry/> 3. <https://homeguides.sfgate.com/uses-lucky-bamboo-66288.html> 4. <https://www.gardeningknowhow.com/houseplants/golden-trumpet/allamandaindoors.htm> 5. <https://www.google.com/amp/s/scialert.net/fulltext/amp.php?doi=rjes.2015.178.185> 6. <https://www.almanac.com/blog/gardening/garden-journal/how-grow-luckybamboo> 7. [https://books.google.com.bd/books?id=WUu6PwAACAAJ&dq=inauthor:"Harry+Tomlinson"&hl=en&sa=X&ved=0ahUKEwiju87HmrXeAhVMvI8KHfAVD0YQ6AEIJDAA](https://books.google.com.bd/books?id=WUu6PwAACAAJ&dq=inauthor:) 8. <https://www.almanac.com/plant/morning-glories> 8. https://play.google.com/store/apps/details?id=com.do_apps.catalog_155 34 35 36 37 38