

**A THESIS PROJECT FOR ANDROID APPS CHASI**

**BY**

**SAYEDA SABETUNNAHAR**

**ID: 153-25-490**

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

Supervised By

**Dr. Sheak Rashed Haider Noori**  
Associate Professor and Associate Head  
Department of CSE  
Daffodil International University

Co-Supervised By

**Name**  
**Designation**  
Department of CSE  
Daffodil International University



**DAFFODIL INTERNATIONAL UNIVERSITY**

**DHAKA, BANGLADESH**

**NOVEMBER 2018**

## **APPROVAL**

This Project titled “**Chasi**”, submitted by Sayeda Sabetunnahar 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 M.Sc. in Computer Science and Engineering approved as to its style and contents. The presentation has been held on 28/11/2018.

## **BOARD OF EXAMINERS**

---

**Dr. Syed AkhterHossain**

**Designation**

**Professor and Head**

Department of Computer Science and Engineering

Faculty of Science & Information Technology

Daffodil International University

**Chairman**

---

**Dr. Sheak Rashed Haider Noori**

**Associate Professor & Associate Head**

Department of Computer Science and Engineering

Faculty of Science & Information Technology

Daffodil International University

**Internal Examiner**

---

**Dr. Mohammad Shorif Uddin**

**Professor**

Department of Computer Science and Engineering

Jahangirnagar University

**External Examiner**

## DECLARATION

We hereby declare that, this project has been done by us under the supervision of **Dr. Sheak Reshed Haider Noori, Associate Professor and Associate Head, Department of CSE** Daffodil International University. We also declare that neither this project nor any part of this project has been submitted elsewhere for award of any degree or diploma.  
[Font-12]

### Supervised by:

---

**Dr. Sheak Rashed haider Noori**  
Associate Professor and Associate Head  
Department of CSE  
Daffodil International University

### Submitted by:

---

**Sayed Sabetunnahar**  
ID: 153-25-490  
Department of CSE  
Daffodil International University

## ACKNOWLEDGEMENT

First we express our heartiest thanks and gratefulness to almighty God for His divine blessing makes us possible to complete the final year project/internship successfully.

We really grateful and wish our profound our indebtedness to **Supervisor Dr.Sheak Rashed Haider Noori, Associate Professor and Associate Head**, Department of CSE Daffodil International University, Dhaka. Deep Knowledge & keen interest of our supervisor in the field of “*Android Apps Development*” to carry out this project. His endless patience ,scholarly guidance ,continual encouragement , constant and energetic supervision, constructive criticism , valuable advice ,reading many inferior draft and correcting them at all stage have made it possible to complete this project.

We would like to express our heartiest gratitude to the Almighty Allah and Dr. Syed Akhter Hossain, Professor and Head, Department of CSE, for his kind help to finish our project and also to other faculty members and the staffs of CSE department of Daffodil International University.

Finally, we must acknowledge with due respect the constant support and patients of our parents.

## **ABSTRACT**

Bangladesh is an Agriculture based country. Most of our pupils dependent on farming. It is the largest employment sector in our country. Rice is our main food crops. Our farmers are not up-to-date with all the information that they should have to solve their problem. In this situation we need a easy to know about cultivation of rice. From my reaches farmer and wants who know about rice briefly will be benefited."Chasi" is a mobile app which language is Bangla.this app will help to know over all rice cultivation information in an easy way. These can also be used for the boasting business of farmer and shearing new inventions of rice. Fresh graduates whose are wanted to cultivate rice in a modern easy way can be used this app and gather knowledge about rice and cultivation."Chasi" is that kind of solution which can provide to all these problems.

## **TABLE OF CONTENTS**

<b>CONTENTS</b>	<b>PAGE</b>
Board of examiners	I
Declaration	II
Acknowledgements	III
Abstract	IV
<b>CHAPTER</b>	
<b>CHAPTER 1: Introduction</b>	<b>1-3</b>
1.1 Introduction	1
1.2 Motivation	2
1.3 Objectives	2
1.4 Expected Outcome	2
1.5 Report Layout	3
<b>CHAPTER 2: Background</b>	<b>4-6</b>
2.1 Introduction	4
2.2 Related Work	5
2.3 Comparative Studies	5
2.4 Scope of the Problem	6
2.5 Challenges	6
<b>CHAPTER 3: CULTIVATION SYSTEM</b>	<b>7-15</b>
3.1 Adoption of Rice Varieties	7-8

3.2 Seeds are life	9-10
3.3 Modern Cultivation System	11-13
3.4 Modern Machineries	14-15
<b>CHAPTER 4: REQUIREMENT SPECIFICATION</b>	<b>16-21</b>
4.1 System Modeling	16
4.2 Requirement Collection and Analysis	17
4.3 Use Case Modeling and Description	17-19
4.4 Class Diagram	20
4.5 Design Requirements	21
<b>CHAPTER 5: DESIGN SPECIFICATION</b>	<b>22-30</b>
5.1 Front-end Design	22-28
5.2 Back-end Design	29
5.3 Implementation Requirements	30
5.4 Resources Requirements	30
<b>CHAPTER 6: IMPLEMENTATION AND TESTING</b>	<b>31-33</b>
6.1 Test Approach	31
6.2 Test Schedule	31
6.3 Test Cases	31-32
6.4 Test Results and Reports	33
<b>CHAPTER 7: CONCLUSION</b>	<b>34-35</b>
7.1 Discussion and Conclusion	34
7.2 Scope for Future Development	34

7.3 Limitations	35
<b>APPENDIX</b>	<b>36</b>
<b>REFERENCES</b>	<b>36</b>

## **LIST OF FIGURES**

<b>FIGURES</b>	<b>PAGE NO</b>
Figure 3.2.2 : Quality/Non-quality Seeds	10
Figure 3.3.1 : Cultivation System	11
Figure 3.4.1: Modern Machineries	15
Figure 4.1.1 : Application System Modeling	16
Figure 4.3.1 : “Chasi” Use Case Diagram	18
Figure 4.4.1 : “Chasi” Farmer Class Diagram	20
Figure 5.1.1 : Home Screen	23
Figure 5.1.2 : 2 <sup>nd</sup> Screen	24
Figure 5.1.3 : Fertilizer Screen	25
Figure 5.1.4 : Insects Screen	26
Figure 5.1.5 : Diseases Screen	27
Figure 5.1.6 : Machineries Screen	28
Figure 5.2.1 Back-end Design	29



## **LIST OF TABLES**

<b>TABLES</b>	<b>PAGE NO</b>
Table 3.1.1 : Cultivation Time of Rice	7
Table 3.1.2 : Popular Varieties in Selected Districts in Different Season	8
Table 3.2.1 : Characteristics of Good Seeds	9
Table 3.3.2 : Results after Using Drum Cider in 2004 to 2005	12
Table 3.3.3 : Age of New Born Plant	13
Table 3.3.4 : Modern Machineries	14
Table 4.3.2 : Use Case for Farmer/User	19
Table 4.3.3 :Use Case for Admin	19
Table 6.2.1 : Test Schedule	31
Table 6.3.1 : Test Case for Home Menu	32
Table 6.3.2 : Test Case for Use Application	32

# CHAPTER 1

## Introduction

### 1.1 Introduction:

Created a deferent assignment to develop our rural economy and to help our farmer. Price of rice is increased day by day and our large population needed it every day. It is the largest employment sector not only our country but also many other countries. By working in Agricultural sector we can remove employment problem, poverty alleviation and develop human resources. Most of our farmers are very poor, by this project they influenced to grow more rice. Also can easily know about rice from this apps. Our country is walked on digital way so most of our people uses android mobile at low cost not only urban area but also rural area people can use that type of mobile phone. It will be easy for all to install in mobile and easy to use. It will help nation inspire alternative resources of employment. For this research everyone especially farmer will get different type of rice information together.

## **1.2 Motivation:**

At Ancient time people started Agriculture and Agribusiness. Day by day it is grown all over the world. Now cultivation has been easy going because of ICT developing. Couple of hundred year's prior started cultivation practice. We recommend that agribusiness is experiencing a fourth transformation activated by the exponentially utilization of data and correspondence innovation (ICT) in horticulture. That all are above reason we turn out with such a stage by which those individuals who related with agribusiness can gather knowledge all in one about rice through app. we can promoted our cultivation of rice together.

## **1.3 Objectives:**

The main target of this research to help farmer for cultivating difference types of rice of Bangladesh by using modern technology. Remote access to this frame work will be given through the mobile app.

## **1.4 Expected Outcome:**

Once who are as of now include by agribusiness or rice cultivation, they can get data and learn more things about many kinds of rice from this project. Farmer can know much suggestion about their products, seeds, fertilizer from here.

This report specifically presents information about:

1. Rice varieties by seasons and by districts.
2. Sources of seeds their yield performance and quality of seeds.
3. System of irrigation and use of fertilizer.

Above that information will help farmer or new agribusiness man.

## **1.5 Report Layout:**

There are six chapters in this thesis. In the report layout section is summarized of the entire chapter. Given the summarized below:

**Chapter 1:** Introduction about our projects and its motivation .We also discuss our projects objectives and expected outcome.

**Chapter 2:** It will provide background related work of the projects and discussion of the problem and challenges of the system.

**Chapter 3:** Cultivation system and which place rice are grown, seeds quality and old VS smart system of technology are given this section.

**Chapter 4:** Gives an over view of the system architecture and all features of our project.

**Chapter 5:** This chapter is about the front-end, back-end, implementation requirements.

**Chapter 6:** In this chapter we highlight the test approach, test schedule and test results and reports.

**Chapter 7:** Discussed about the conclusion and future scope or possible development of our project work.

## CHAPTER 2

### Background

#### 2.1 Introduction:

One of the objectives of “Chasi” was to build up a small scale model pilot framework to show the key highlights of the rice cultivating use case. For creating this mobile application, two programming language such as XML and JavaScript are used inside this application. Here, all details are written inside this is string types. Cultivation is the historical occupation of human life. **Allah** creates people as the most intelligent living species on this earth. So there, brilliances depend incites them to change and to enhance. The hidden idea for “Chasi”is to inspire young generation to cultivate rice and decrease employment problem. Before cultivate rice they should have enough knowledge about the system of cultivation and difference types of paddy. Brilliant cultivating innovation can assist accomplish higher generation yields with less expenses in consistence with rural natural models.

## **2.2 Related Work:**

About 135 million people of Bangladesh, rice are the staple food. It takes steps nearly 48% of rural employment, about two-third of total calorie supply and about one-half of the total protein intakes of an average person in the country. In the present time 25.0 million tons rice is producing for 135 million people. This production has been increased by using modern technology. The population of Bangladesh is growing by two million every year and may increase by another 30 millions over the next 20 years. So, our country will require about 27.6 million tons of rice for the year 2020. From this Research people will learn about varieties rice and modern cultivation system in easy way.

Some related work is essential for this project successful.

The related work such as-

1. Collecting data about difference types of rice crop in difference area.
2. Analysis the quality of seeds.
3. Do some research about the season of rice
4. Need internal program for make the app.

## **2.3 Comparative studies:**

There is much application to help farmer in online. Most of their work about agriculture has much description and large in size [1]. Another they try to modify the farming. There are many projects which try to the smart Agri Farming Project is funded in the scope of the future [2]. But we try to something new in bangla that we help the farmer in Bangladesh. We try all types of rice, modern cultivation process, quality seeds, fertilizer system all inside in one app.

#### **2.4 Scope of the problem:**

Basically our thesis is for farmer. But those who cultivate their land and face many problems for their old cultivation system, unknown diseases, they can know new method of cultivation. There have many question answer here by that farmer can get help.

#### **2.5 Challenges:**

Farmers are not familiar with this app. So, it becomes a challenge to learn and use them about this application. We get some people who are involved in agriculture from research table to firm land. So, it's a challenge for us to man this application together. The main challenge of staple food sector is to meet the increasing rice demand and lack of rice cultivation area.

## CHAPTER 3

### Cultivation System

#### 3.1 Adoption of Rice Varieties:

Rice is cultivated in Bangladesh throughout the year. There are many types of rice in our country. The main rice crops are Aush, Amon and Boro. Almost 90% of the population of Bangladesh, Myanmar, Srilanka, Vietnam and Kampuchea are rice eaters.

**Table 3.1.1 Cultivation Time of Rice**

Types of Rice	Planting Time	Harvesting Time	Area/Region	Hybrid Rice
Aush	April-May	July-August	Comilla, Eastern region	BR20,21,24,26, BRR127, 42, 43,48,55,65,82,83,85.
Amon	April-May	Nov-Dec	Dhaka, Chittagong, Jessore	BR4(Brishyl),5(Dulavogh), 10(Progoti),11,22,23,25, BRR130,31,32,33,34,37,38,39 ,40,41,44,46,49,51,52,53,54,5 6,57,62,66,70,71,72,73, BRR1 Hybrid Rice 4 , BRI75,76,77,78,79,80,87, BRI Hybrid Rice 6.
Boro	Dec-Feb	April-May	Faridpur, Sunamgonj, Satkhira, Kurigram	BR3,14,16,17,18,19,35, BRR128,29,36,45,47,50,55,58 ,59,60,61,63,64,67,68,69,74,8 1,84,86,B88,89, BRR1 Hybrid1, 2, 3, 5.



**Table 3.1.2 Popular Varieties in Selected Districts in Difference Season**

<b>Region/District</b>	<b>Amon Season</b>		<b>Boro Season</b>	
Rajshahi (Drought)	Swarna 47%	BR 11 18%	BRRi 29 19.4%	BRRi 28 45%
Dinajpur (Highland)	Swarna 46%	BR 11 28%	BRRi 28 25.3%	Purbache 15.8%
Kurigram (Flood)	BR 11 65%	Swarna 9.7%	Brrr 29 49%	BRRi 28 24.5%
Faridpur (Flood)	BR 11 44%	Shisumoti 13%	BRRi 29 68%	BRRi 28 7.7%
Sunamgonj (Haor)	BR 11 40%	Pajam 6.8%	BRRi 29 50%	BR 19 15.7%
Barisal (Non-Saline Coast)	Mota 18%	Vasihara 9.4%	Bhajan 43.7%	BRRi 29 24.1%
Satkhira (Saline Coast)	BR 10 29%	BRRi 30 23.4%	BRRi 28 59.2%	Jamaibaba 16%
Jessore (Diverse)	Swarna 39%	BR 11 18%	BRRi 28 32%	Ratan 26%
Joypurhat (Favorable)	BR 11 50%	Swarna 36%	BRRi 28 45%	BRRi 29 36%
Comilla (Diverse)	BR 22 25%	BR 11 23%	BRRi 29 38.5%	BR 16 18.9%

### 3.2 Seeds are Life:

Rice seeds used by the farmers can be broadly classified into four groups:

1. Modern Varieties (MV) of Bangladesh origin.
2. MVs of Indian Origin.
3. Hybrid varieties
4. Landraces or traditional varieties (TV).

The Bangladesh Agricultural Development Corporation (BADC) is the main government Organization in charge of producing and marketing quality seed. Seeds are life. From good seeds we will get much rice.

**Table 3.2.1 Characteristics of good seeds**

	<b>Characteristics</b>
<b>Good Seeds</b>	<ol style="list-style-type: none"><li>1. Seeds will be plump</li><li>2. Bright color</li><li>3. 80% grown ability</li><li>4. Ability to grow up together</li><li>5. Not mixer seeds</li><li>6. Not any stain</li><li>7. Straight seeds</li></ol>

If using quality seeds, the rice increases by 10-15 %.By using good seeds, poor farmers will get good yield. On the other hand waste of seed will be reduced. Because the bad seeds have to feed more. This way waste of seed can be prevented.



Good Seed (a)

Bad Seed (b)



Seed of fungal attack (c)

Mixed Seed (d)

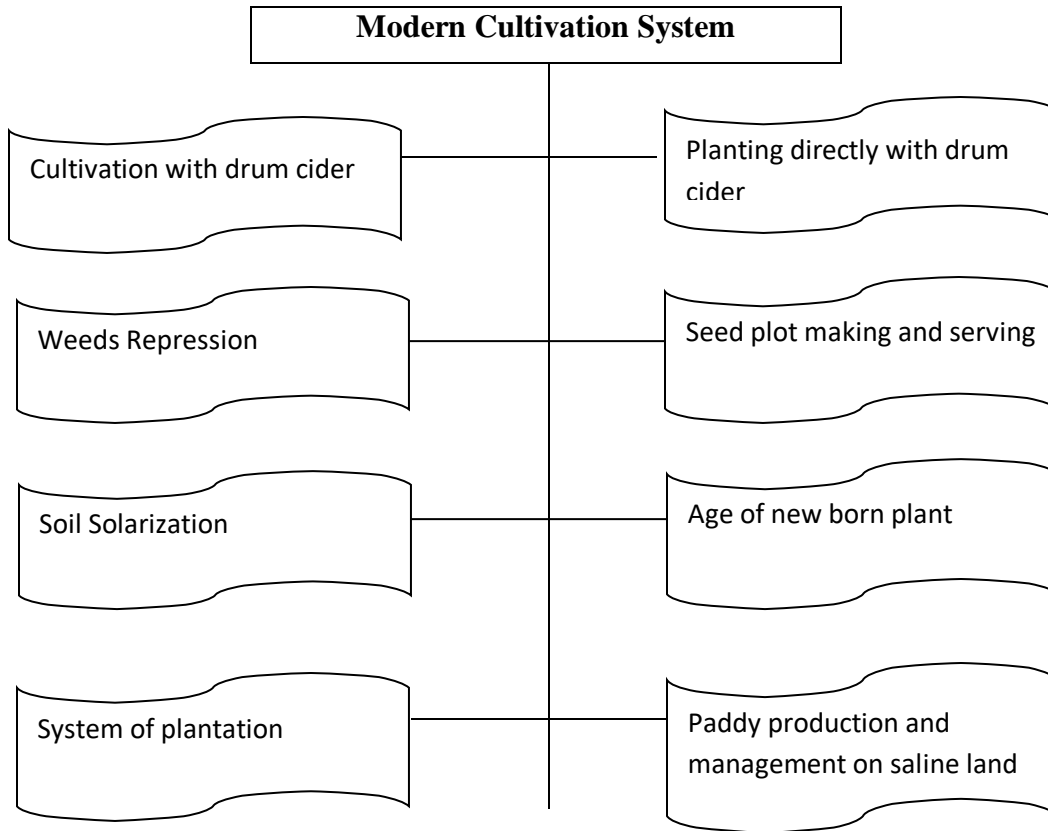
**Figure 3.2.2 Quality/non-quality seeds.**

**(a)Good Seed,(b)Bad Seed,(c)Seed of fungal attack,(d)Mixed Seed.**

Our farmers are producing 85% of seeds by own hand.

### 3.3 Modern Cultivation System:

Using modern technology, we can increase the yield of paddy more than before. Rice is now cultivated in different ways.



**Figure 3.3.1 Cultivation systems**

Drum cider is a modern machine which made of plastic in 2003. With the help of the machine, seeds are sown directly in mud. It is an alternative technology to rice cultivation and improved system.

In this system seeds are sown at row. In our country cultivator land is decreasing .That why to increase yield per hector on limited land. Cultivation with drum cider, rice life time is 10-20 days less than older system and 10-20% production is increased. It is a healthy system for farmers.

**Table 3.3.2 Results after using drum cider in 2004 to 2005**

Types	Production (ton/hector)		%Increase Production	Life time(Day)		Reclusion of land
	Planting	Implementation		Planting	Implantation	
<b>Amon</b>						
BRR130	5.35	3.76	42	132	148	16
BRR131	3.70	3.25	13	118	137	19
BRR141	5.50	4.40	25	129	139	10
<b>Boro</b>						
BRR128	6:00	5:02	20	130	141	11
BRR129	7:14	6:03	18	152	162	10
BRR136	6:51	5:46	19	128	141	13

In lower marsh land in November when water is gone then remove weeds and planting seeds directly by ladder without cultivation. At first, 2/3 part of drum is to be fulfilled by seeds. Before seeds are taken inside drum, dry them at least 2 hour. In this machine 6 drum is fulfilled and sow seeds in 12 rows together.

There are two types of weeds repression.

1. Indirect method
2. Direct method

In indirect method, is to use clean seeds and direct method is to use BRRI weeder for removing weeds.

Seeds are sown 80 to 100 gm in per square meter. Seeds are needed 3 to 4 kg for every 33 hundredth of land. Before planting seeds, moist soil is covered with small polythene and keep below the sunlight is known as soil solarization. It is a healthy process for making seed land. The month of September-October when sunlight is more it can be done.

**Table 3.3.3 Age of new born plant**

Season	Seeds age
Aush	20 to 25 days
Amon	30 to 35 days
Boro	40 to 45 days

Difference between two rows is to be 20-25 cm. If the land soil is fertile then difference between plants is to be 25×20cm and for non fertile land it is to be 20×15 cm any land has 4 Ds/m salt or more than it, is called saline land. 800,000 hector land in 13 districts in Bangladesh has amount of salt. Generally paddy is grown in medium saline land.

### 3.4 Modern Machineries:

**Table 3.4.1 Modern Machineries**

<b>Name</b>	<b>Working Power</b>	<b>Engine Type</b>	<b>Efficacy</b>	<b>Effective Life Time</b>	<b>Price</b>
BRRRI Power tiller	12-16 horse power	Diesel	Per hour 1 bigha	8 year	Tk120,000- Tk140,000
BRRRI Weedier	Man labor	Man Labor	Per day 50 hundredth of land	5 year	Tk500
BRRRI Rice cutting Machine	8-10 horse power	Diesel	1-1.5 bigha per hour	5 year	Tk160,000
BRRRI Drum thresher	4 horse power	Diesel	350 kg per hour	5 year	Tk25,000
BRRRI Harvesting Machine	12 horse power	Diesel	500-600 kg per hour	5 year	Tk55,000
Jharia Machine	½ horse power	Motor	850-500 kg per hour	8 year	Tk20,000
Drier Machine	330w	Blower	100-250kg per 8-10 hour	5 year	Tk15,000



Power Tiller (a)



Rice Cutter (b)



Rice Drier (c)



Harvesting Machine (d)



Jharai(e)



Ricer Thresher(f)



Weedier (g)

**Figure 3.4.1 Modern Machineries.**

**(a)Power Tiller,(b)Rice Cutter,(c)Rice Drier,(d)HarvestingMachine,(e)Jharai,(f)Ricer Thresher.**



# CHAPTER 4

## Requirement Specification

### 4.1 Application System Modeling:

An Application system model is an arrangement of all input data inside this system. To complete this system have been to complete many steps. It is easy and smart for every user. In the first page has four buttons and inside every button has many details about rice cultivation related.

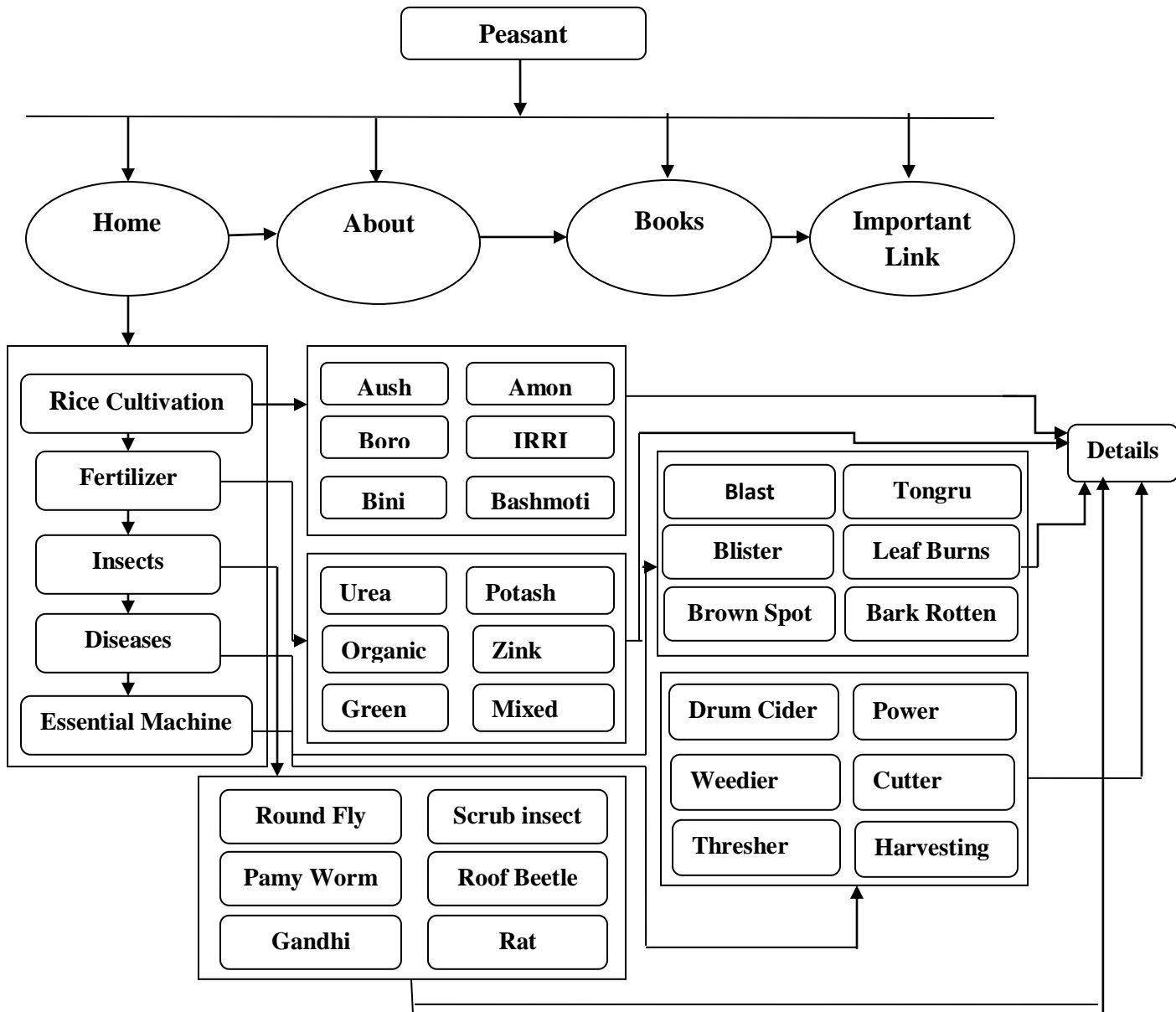


Figure 4.1.1 Application System Modeling

## **4.2 Requirement Collection and Analysis:**

A survey was designed to analysis and requirements of farmers in ICT for business, cultivation. Then, a digital rice information strategy was established with mobile applications and the development priorities were established.

### **4.2.1 Functional Requirements:**

- Add, edit and delete paddy category
- Add, edit and delete paddy details
- Add, edit and delete paddy diseases details
- Add, edit and delete fertilizer, insects details
- Update new machine when create
- Update suggestion from agriculture officer

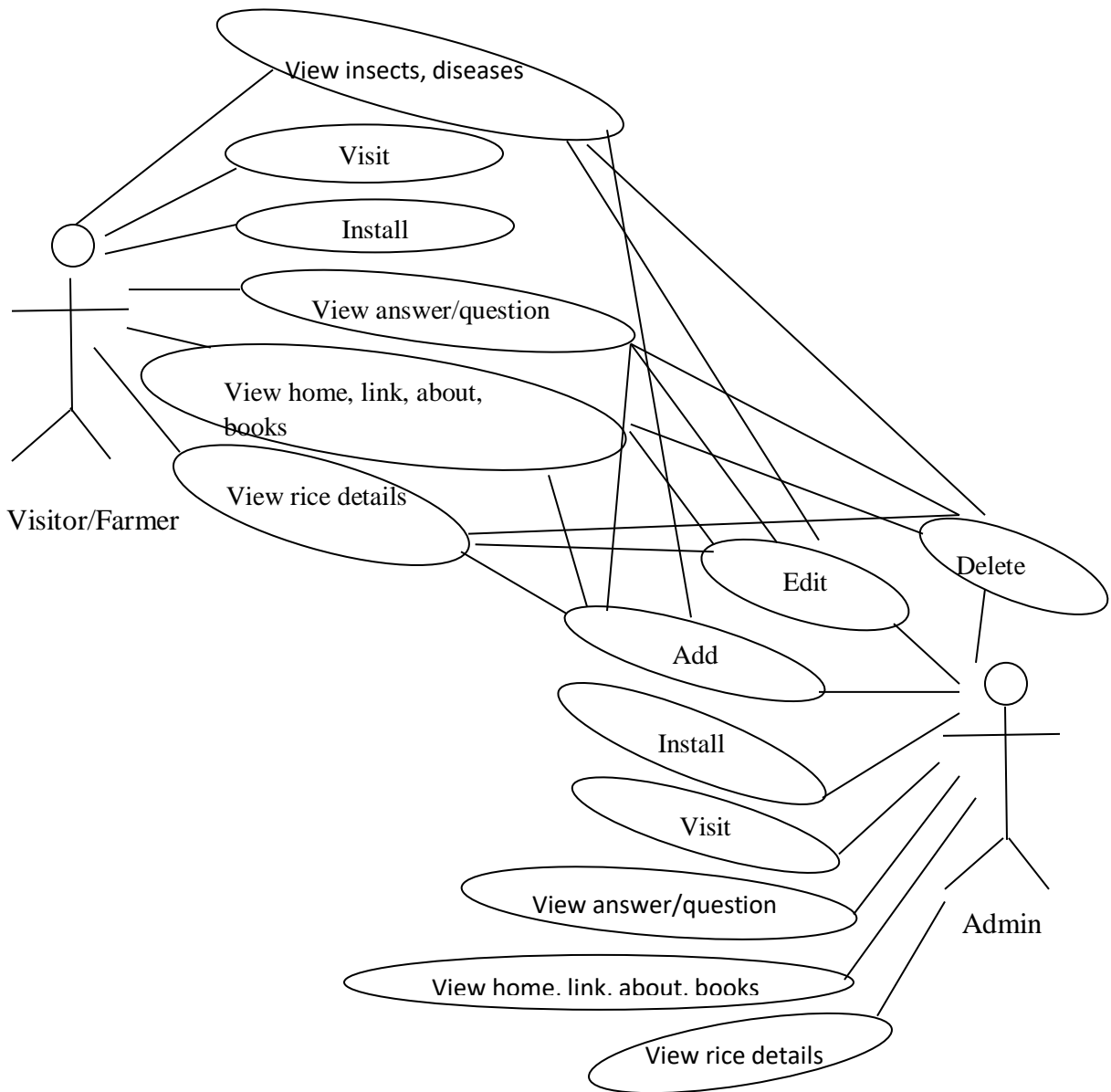
### **4.2.2 Non-Functional Requirements:**

- System must be easy to use and navigate
- System should have consistent interface
- System should have enough information
- System should have Bangla language

## **4.3 Use Case Modeling and Description:**

In our project there are two actor plays their role. Admin and farmer/visitor are the two actors. Admin and farmer/visitor are the two actors. Admin and farmer/visitor both are visit this application when it will be installed in their mobile and get information.

Farmer/visitor only gets information from this application. But admin can add, delete, edit this application function of all categories and develop this application if it is needed.



**Figure 4.3.1 “Cashi” Use Case Diagram**

## Farmer/User Description

**Table 4.3.2 Use Case for Farmer/User**

<b>Objects</b>	<b>Details</b>
<b>Use Case</b>	UC1
<b>Actor</b>	Farmer/User
<b>Pre-requisite</b>	None
<b>Internal path</b>	1.Normal people visit website as farmer 2.Farmer/visitor can get information about rice details 3.User click on any item link in items for this paddy list
<b>Note:</b> User must have to install “Chasi”application on their android mobile.	

Farmers of Bangladesh are the main actor of this project. Here, he can view information. Normal feature, Bangla language use for them, it can help them for their cultivation.

## Admin Description

**Table 4.3.3 Use case for Admin**

<b>Objects</b>	<b>Details</b>
<b>Use Case</b>	UC2
<b>Actor</b>	Admin
<b>Pre-requisite</b>	None
<b>Internal Path</b>	1.Admin maintain the system 2.She can add,edit,delete,view all in”Chasi”
<b>Note:</b> N/A	

#### 4.4 Class Diagram:

The class diagram for the application consists of the interfaces, methods, variables and relationship between them. Figure 4.4.1 is the class diagram for admin which describes the major functionalities of the admin with the application install, view information,add,delete,edit.Both install and view information are the common classes for admin and farmer but the functionalities vary based on the attribute role.

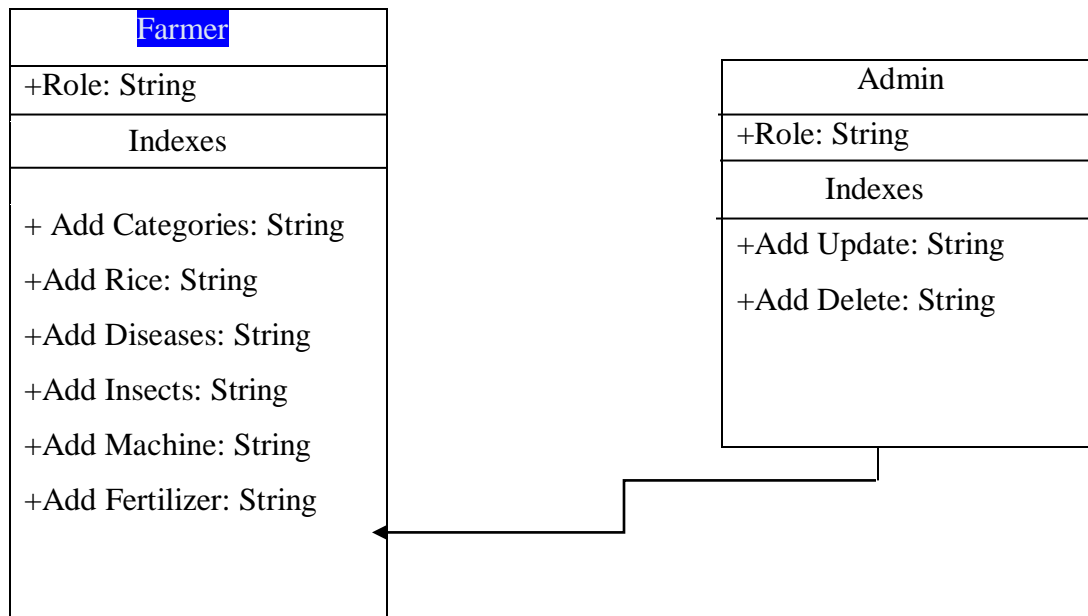


Figure 4.4.1 “Chasi” Farmer Class Diagram

## 4.5 Design Requirements

The system administration manages the conduct of the rancher and how it can be affected to achieve the information procedurtinations, imperative game plans for the administration and incorporate concessions to information accessibility, information quality, and access to information, information possession.

In future research it could likewise be significant to take a gander at this subject from a more extensive development point of view.

- User/Farmer can visit this application and get information.
- If user needs more information and service then he must click the link button.
- After clicking each farmer can get much information and communicate with agriculture officer about their cultivation from difference here, I attached.

## **CHAPTER 5**

### **Design Specification**

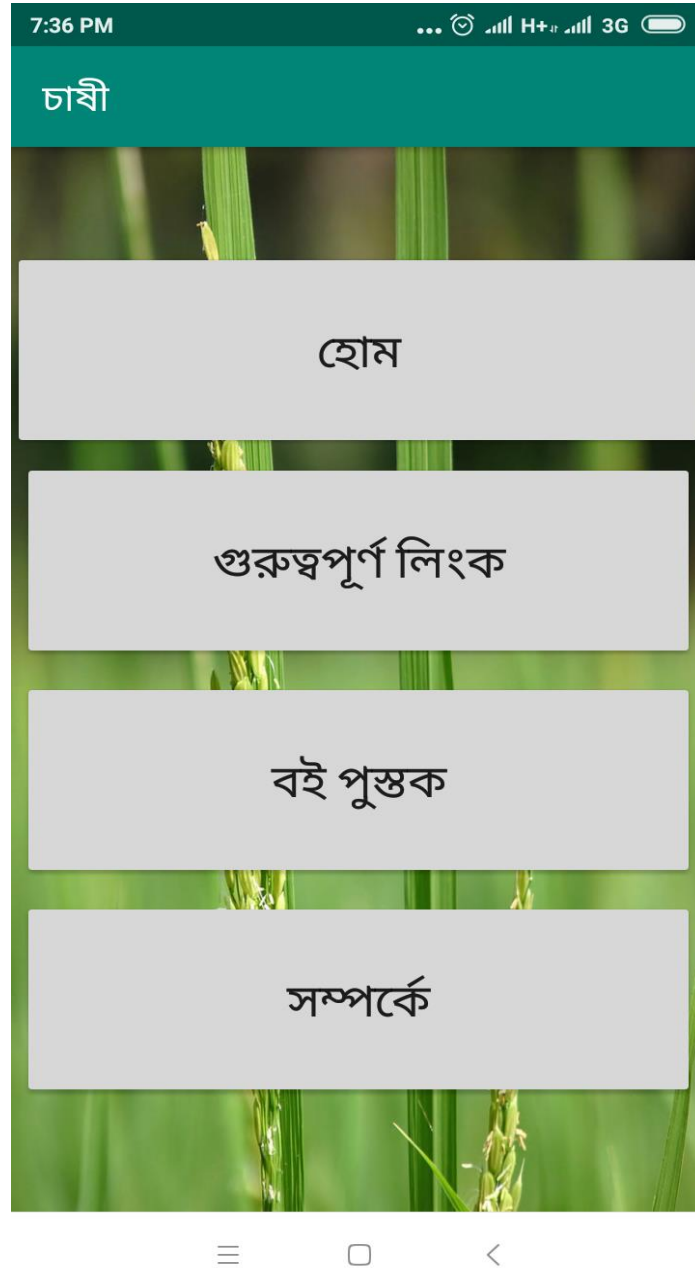
Design Specification is a statement of how design is developed. In this section, we try to front-end and back-end design of the mobile application. Here, also discuss many tools and platforms, which we used to develop this application.

#### **5.1 Front-end Design:**

Front-end is the most attractive part of a project. It is worked on presentation layer and user can directly interact with this part of application. It is very essential to develop a simple and easily understanding front-end for the user of the application .So, we tried to keep our pages as simple as possible and easily accessible for the farmer/user.

## Home Screen

The screen will have a well-designed background image that will affect the user and will have three buttons on it.



**Figure 5.1.1 Home Screen**

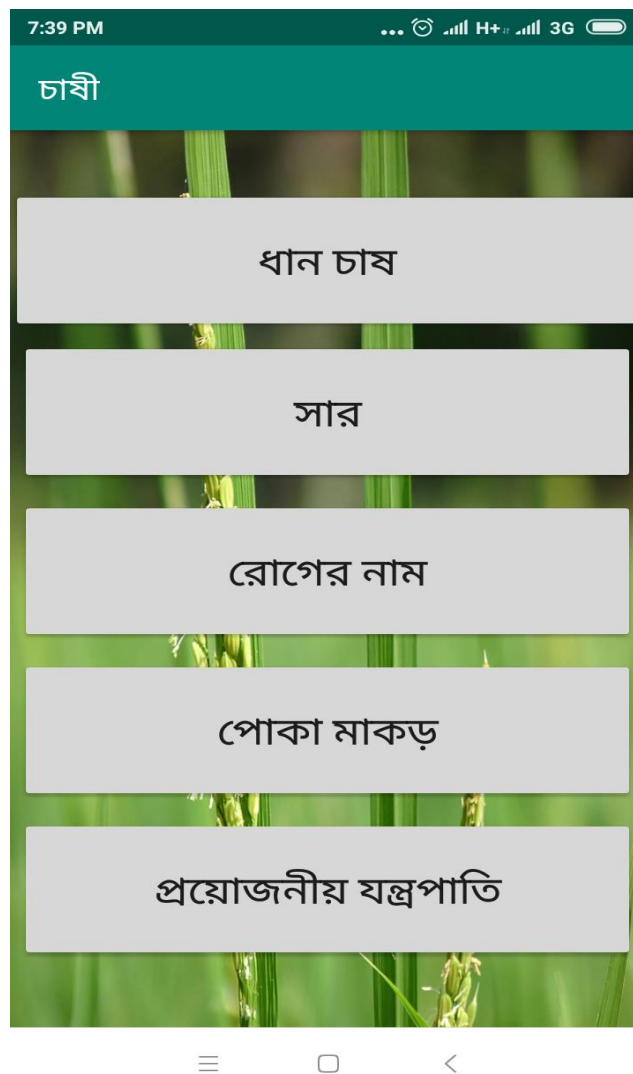
All users can visit this application. If user needs more information and service then he/she must be click link button.



There have books button. After clicking this button user can know many books about agriculture for further information. Also, have about button to know about this application.

## 2<sup>nd</sup> Screen

After clicking Home button user can view 2<sup>nd</sup> screen, which there are also five buttons and the most important button is Rice Cultivation. Inside this button one can see difference kinds of rice.



**Figure 5.1.2 2<sup>nd</sup> Screen**

By clicking fertilizer button, user can see difference types of fertilizers, which are used for cultivating rice.



**Figure 5.1.3 Fertilizer Screen**

User will get suggestion about various categories of insects, their harmful effects on plants and protection from these types of insects.



Figure 5.1.4 Insects Screen

User will gain knowledge about rice plants diseases from the diseases screen.



**Figure 5.1.5 Diseases Screen**

Besides, User can view many categories of cultivate machineries, which are used in rice cultivation.



Figure 5.1.6 Machineries Screen

## 5.2 Back-end Design:

Back-end design means that is working behind the projects, but the user is unable of or can't allow seeing this. Back-end technology usually consists of programming languages. As here, Java Script, XML are used. Actually, back-end design is only way to interact with the user but user can't watch and never imagined how the system is working. Back-end does everything that happens on the screen on behind the application.

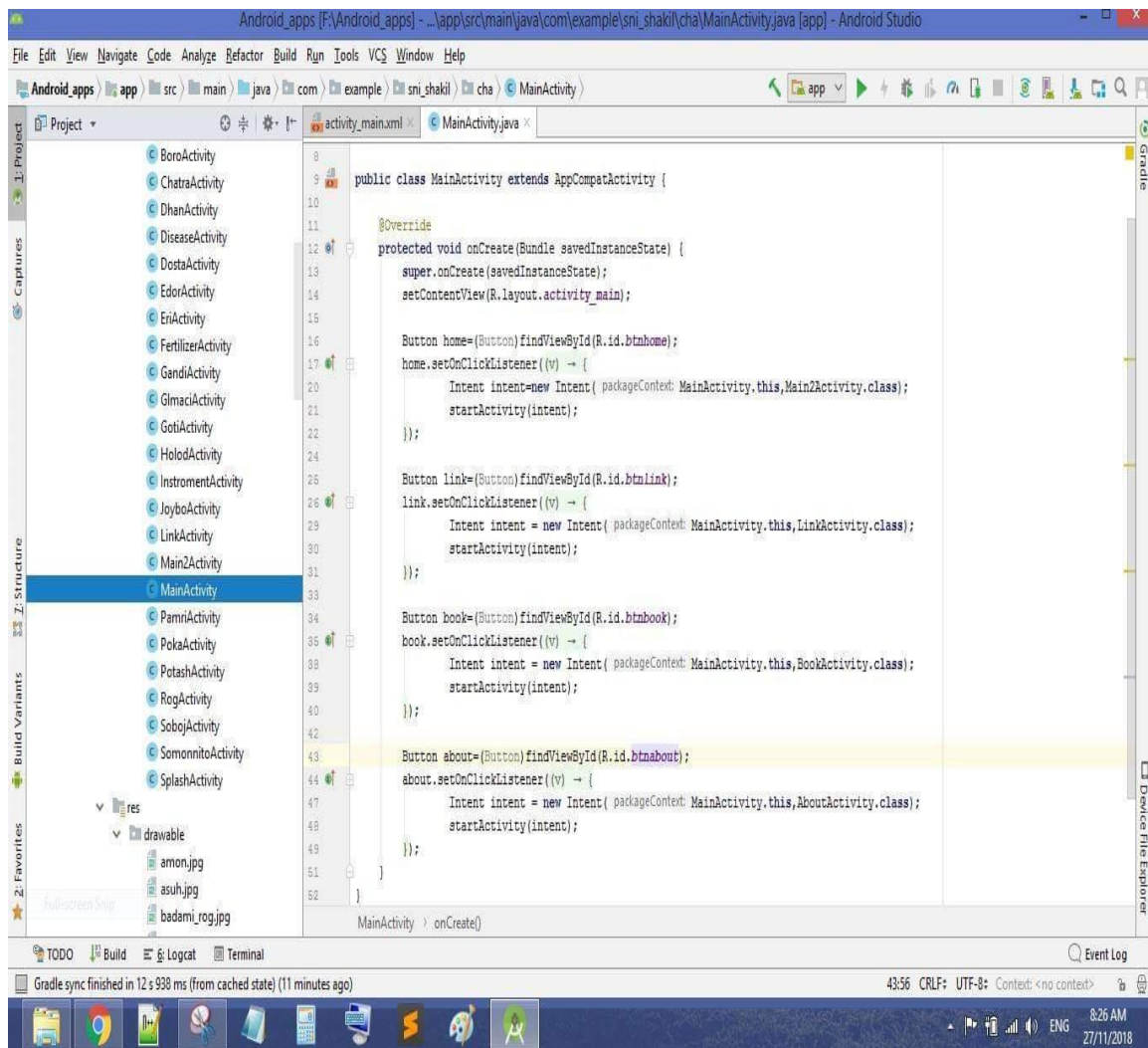


Figure 5.2.1 Back-end Design

### **5.3 Implementation Requirements:**

To develop this project, we used different types of tools, component and platforms. In Implementation Requirement section discussed about all those tools and platforms that we use to develop this application.

### **5.4 Resource Requirements:**

For the execution of this project some hardware and software is required and they are-

- ❖ Software
  - Android Studio
  - Genymotion (Virtual Device)
- ❖ System Requirements
  - Windows
  - Android Mobile
- ❖ Human
- ❖ Tester for usability testing

## CHAPTER 6

### Implementation and Testing

#### 6.1 Test Approach:

There are some different test in test approach .Main aim of these test is to certify that “Chasi”is an error free mobile application. Tester will test the mechanics and pages of application to confirm there are zero errors in the application .Testers will also test the usefulness and give a report on the experience they have with “Chasi”and will give the team feedback on how to improve the application.

#### 6.2 Test Schedule:

The table below provides information on the start and finish dates of test levels.

**Table 6.2.1 Test Schedule**

<b>Test Approaches</b>	<b>Start Date</b>	<b>Finish Date</b>
Module testing	Sep 26,2018	Sep 28,2018
Integration testing	October 26,2018	October 29,2018
System testing	November 17,2018	November 20,2018

#### 6.3 Test Cases

In this section, the use cases to be tested during functional testing are listed and testing steps and expected results are explained in detail.



### Home Menu:

**Table 6.3.1 Test case for Home Menu**

<b>Objects</b>	<b>Results</b>
Use case ID	1
Precondition	None
Flow	1. User wants to visit 2. User runs application 3. Home Menu containing about, books, link.
<b>Post Condition:</b> Home page is displayed.	

### Use Application:

**Table 6.3.2 Test case for Use Application**

<b>Objects</b>	<b>Results</b>
Use case ID	2
Flow	1. User wants to use application. 2. A common user page is displayed for all. 3. User chooses “option “from Home item. 4. User enters to the all screen 5. Use application.
<b>Post Condition:</b> User enters to the new screen.	

## **6.4 Test Results and Reports:**

Test results are essentials because it gives an opportunity to estimate testing result quickly. It is a document that records data obtained from an evolution experiment in an organized manner describes the environmental or operating conditions and shows the comparison of test results with test objects.

Test report is very important and that the system is ready/not ready for importation? Data obtained from an evolution experiment is recorded by this document. We need to run through many types of testing.

There are many types of testing:

- Functionality
- Performance
- Usability
- System interoperability
- Installation

## **CHAPTER 7**

### **Conclusion**

#### **7.1 Discussion and Conclusion:**

In this research paper a literature review on Applications in “Chasi” was conducted, it was conducted that currently there are not many references in evolution of scientific journals. Therefore, a qualitative analysis was not possible. Besides, and findings from ancient literature may lack scientific intensity as can be expected from peer-reviewed journal articles. As such, we consider that the knowledge base was enriched by articles from ancient literature. Much effort was put into developing a framework for analysis that can be used for future reviews with a more qualitative and probable approach.

#### **7.2 Scope for Future Development:**

This Application can be improved in the future by adding the following functionalities:

- Useful data collection many new crops adding, and automated farming techniques, there are clearly many advantages a network farm has to offer.
- To make the future farm, possible, where we can predict and prevent diseases; where you can view data on soil and crop condition in near real-time.
- In the future there have a service button to communicate with agriculture officer when user/farmer need to more information.
- Develop a website on the basis of this mobile Application.
- Provide better quality of update information for better decision making.

### **7.3 Limitations:**

There have some limitations of this project. Main target of this Application is farmer. Those who cultivate their land and face many problems for their old cultivation process and some unknown data, diseases, machineries, harmful insects, they can know new method of cultivation, update information.

Our specific limitation is given below:

- Basically, most of our farmers are not familiar with smart phone.
- May be, farmer can't install and download process of the Application.
- There have no service system to communicate with admin or agriculture officer .

**Reference:**

[1] Grandall, B. W., G. A. Klein and R. R. Hoffman (2006). Working minds. A Practitioner's guide to cognitive task analysis. Cambridge, Mass., MIT Press

[2] Pesonen, L., H. Koskinen and A. Rydberg (2008). Info XT - User-centric mobile Information management in automated plant production, Nordic Innovation Centre (NICE): p. 99.

[3].S. Sonka Big Data: from hype to agricultural tool, Farm Policy Journal, 12 (2015) pp. 1-9