

**BD KISHAN: Development of Web Application**

By  
**SOMIT KUMAR GAIN**

**ID: 151-15-4776**

**ROMAN AHMED**

**ID: 151-15-4784**

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

Supervised By

**ANUP MAJUMDER**

Lecturer

Department of CSE

Daffodil International University

Co-Supervised By

**MD. JUEAL MIA**

Lecturer

Department of CSE

Daffodil International University



**DAFFODIL INTERNATIONAL UNIVERSITY**

**DHAKA, BANGLADESH**

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## **APPROVAL**

This project titled “**BD KISHAN: Development of Web Application**”, submitted by **SOMIT KUMAR GAIN, ID:151-15-4776** and **ROMAN AHMED, ID:151-15-4784** 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 content. The presentation has been held on 10<sup>th</sup> December, 2018.

## **BOARD OF EXAMINERS**


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**Professor and Head**

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Faculty of Science & Information Technology  
Daffodil International University

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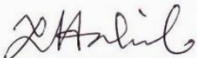


**Narayan Ranjan Chakraborty**  
**Assistant Professor**

**Internal Examiner**

Department of Computer Science and Engineering  
Faculty of Science & Information Technology  
Daffodil International University

---




**Md. Tarek Habib**  
**Assistant Professor**

**Internal Examiner**

Department of Computer Science and Engineering  
Faculty of Science & Information Technology  
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**Dr. Mohammad Sharif Uddin**  
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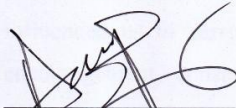
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Department of Computer Science and Engineering  
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## DECLARATION

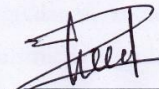
We hereby declare that, this project has been done by us under the supervision of **ANUP MAJUMDER**, Lecturer, Department of CSE, and Daffodil International University. We also declare that neither this project nor any part of this project has been submitted elsewhere for award of any degree or diploma.

**Supervised by:**



**Anup Majumder**  
Lecturer  
Department of CSE  
Daffodil International University

**Co-supervised by:**

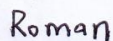


**Md. Jueal Mia**  
Lecturer  
Department of CSE  
Daffodil International University

**Submitted by:**



**Somit Kumar Gain**  
ID: 151-15-4776  
Department of CSE  
Daffodil International University



**Roman Ahmed**  
ID: 151-15-4784  
Department of CSE  
Daffodil International University

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

## **ABSTRACT**

This project is on “BD KISHAN: Development of Web Application”. In this project, we have built up web based e-learning platform with different types of necessary features and unique feature for the farmer. The main purpose of the “BD KISHAN”, is to make a better solution for learning and easily solve the problem. This application is beneficiary for the farmer and solve to handle the critical problems. User can know easily their cultivation process and they can call directly help center and user can comment their complain in this application. User can post any problems and admin will able to comment their problem and ultimately will get a solution. This application will also help users to find their topics to learn new things. We have used PHP, HTML5, CSS3, JavaScript, for front-end design and MySQL for back-end for web based platform. In the wake of finishing all task, the application testes in various stages and was discovered working effectively. Learning is no longer limited to books. Internet is a very popular platforms for learning. In the future it will be the most popular platform and that’s why we are like to farmer helpful web based project.

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# CHAPTER 1

## INTRODUCTION

### 1.1 Introduction

This web site will help farmers by providing relevant information to them quickly. It provides complete information on Crops Production, Crops Protection and all relevant agriculture services in bangle language. Two parts: User and Admin.

### 1.2 Motivation

Agriculture is the largest employment sector in Bangladesh. As of 2018, it employs 63% of the total labor force and comprises 16% of the country's GDP. But this sector is the most neglected to all. In the time of digitalization our country we are far away from the development of our agriculture. So it is time to take a proper steps to our farmers for develop our agriculture. We have seen that, most of our farmers uses the traditional ways for production a crops. They don't know about new technologies. By this application, they will know about new technologies of crops production and protection and obviously in BANGLA language.

### 1.3 Objective

Our application gives all of the basic features of –

- Crops short introduction
- Cultivation method
- Diseases
- Remedies
- Pesticides list (best quality)

As a user, farmer could choose an individual crops like seed or vegetable and its different varieties. Then our apps show a short intro on that's crop. After a short intro, our apps will show an ideal cultivation method of this crops. And will give him a list of

all the diseases with an individual picture the list user can choose a diseases and then apps will show the remedies and suggest a pesticides list. Our site will provide a help desk service, that users can ask any question [1] on agricultural problem.

#### **1.4 Expected Outcome**

We believe that, through our apps our farmers will gather all of information about crops, that could help them to produce more crops and it will reduce the cost of production and protection of their crops.

And we also believe that with the help of our government we can spread out this application to our farmers all over our country.

## **CHAPTER 2**

### **BACKGROUND**

#### **2.1 Introduction**

BD KISHAN basically online based e-learning system. For developing this system, we choose PHP. It is a server-side language for web developing but also used as a general-purpose programming language. For front-end designing, we are using JavaScript, Html5, CSS3 and back-end development is handled by MySQL. MySQL is the world's second most widely used relational database management system (RDBMS) and most widely used open-source RDBMS. Right now PHP is very popular framework for development & its uses growing faster day by day. Hopefully users can easily use this system without facing any kind of obstacles.

#### **2.2 Related Works**

Now a day, here many organization and government those are working on the field farmer site. The aim is to support farmer to gain knowledge in different sector in a right way. There are many web sites in our country. Here we have listed a few high indexed websites those we have found after searching.

1. Krishi Bangla
2. Ajker krishi

So those learning sites are very popular in this time. They provide video tutorials, help center, different solution of any problem. If anyone search in online to know about some information like our project then they get many website like us but they cannot find the solution. Because there are many website available in online but this website not give the correct information. Some developer did not complete their project and some other did not update their site regularly. This website is not helpful for user. But government and some other institution made helpful project for farmers. Now, we will discuss about

those learning website that are really helpful for farmers and they regularly update their website.

### 2.2.1 Krishi Bangla

This is the most successful and large online farmer learning site in Bangladesh. All kind of subject are gather here for leaner.



Figure 2.2.1: Krishi Bangla

For farmer they getting know many thing this site and many video tutorial help there. They provide video tutorials, help center, different solution of any problem. If anyone search in online to know about some information like our project [2] then they get many website like us but they can not find the solution. Because there are many website available in online but this website not give the correct information.

### 2.2.2 Ajker krishi

Here is another site. Farmers of our country are farming for us through various problems and adversities. Their agricultural crops are interrupted due to lack of appropriate information and suggestions in the right time. Due to various diseases, crops are damaged, but all the farmers of all levels are being deprived of the right price of their produce due to the influence of middlemen. Therefore, the initiative of this "Today's Agriculture" is to give all the information needed at the right time by utilizing IT based on this demand of the times [3].

কৃষি তথ্য কৃষি উদ্যোক্তা নিরাপদ খাদ্য কৃষি প্রযুক্তি চাষাবাদ পদ্ধতি ছাদ কৃষি প্রানিসম্পদ মৎস্যসম্পদ পোকামাকড় ও রোগবালাই

কৃষি পণ্য কিনুন



Figure 2.2.2: Ajker krishi

### **2.3 Comparative Studies**

When we are searching for learning website then first we search the related work. There are some websites like, Krishi Bangla, Ajker krishi, Krishi Tattoo where user can get many information. There are lots of learning platforms like PHP w3school, MySQL tutorial, tutorial, Google, YouTube etc. But we tried to make an application which is attaching all the features which are effective for the user. Where user can get all kind of information about cultivation easily staying at home.

### **2.4 Scope of the Problem**

Scope of the Problems in my project was based on the time scheduling. Perfect time schedule applying in so much hard. Compilation PHP code and maintain database on relational table is so difficult. Our project is so easy to use for farmer and user can easily post and comment their opinion. Anyone can find users as their knowledge skills.

### **2.5 Challenges**

- Accurate data collection is the hard task for us.
- Give correct feedback to user.
- Most tuff task for us is to introduce our application to user.
- Time scheduling
- Skills for the project

# CHAPTER 3

## Requirement Specification

### 3.1 Business Process Modeling

Business process modeling (BPM) is a modern process and methodology. Which represented the activity of an enterprise of a systems engineering to improve or analysts the current process. In this process one can easily represent their workflow of a system [5].

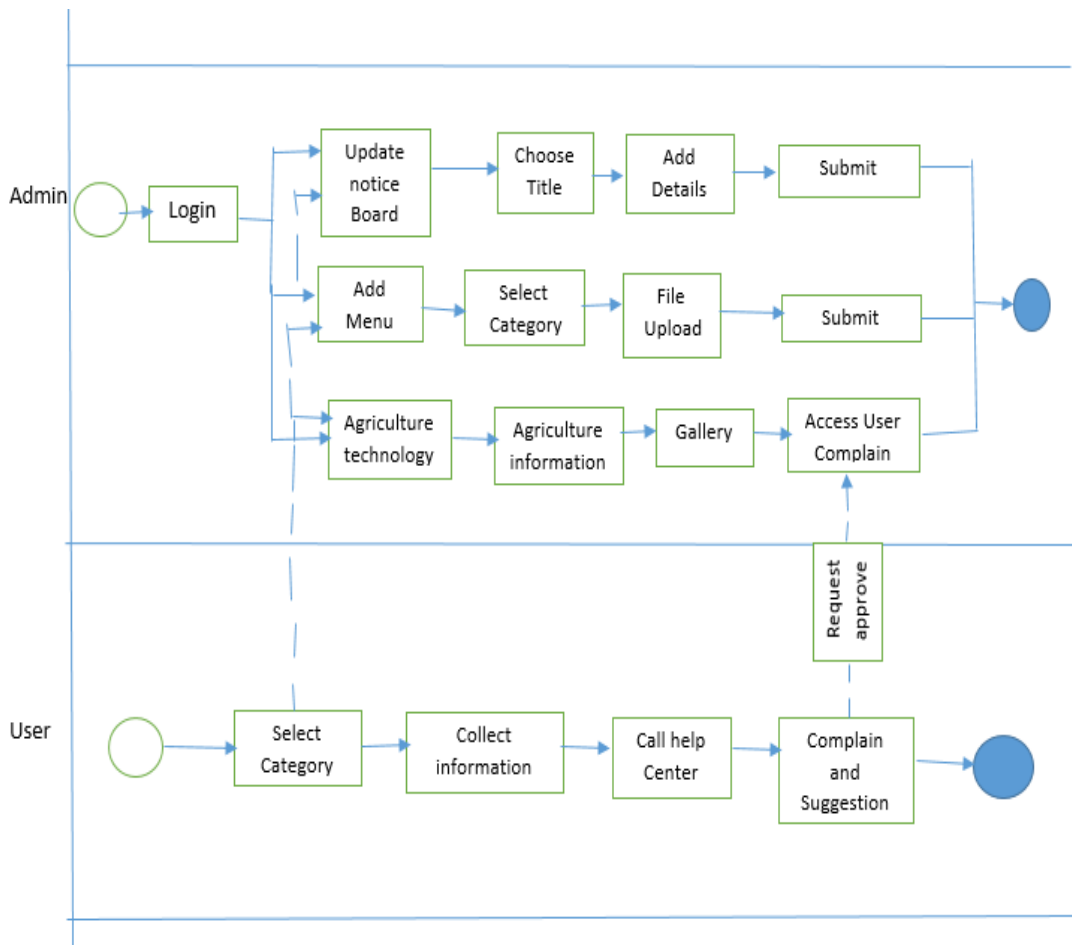


Figure 3.1: Business Processing Model



## **3.2 Requirement Collection & Analysis**

The first steps of application development process is requirement collection and analysis. Developing site, there are two types of requirements, one is the functional requirement and the other is nonfunctional requirement.

### **3.2.1 Functional Requirement**

An internal activities that's the application software can perform it's called functional requirements. Functional requirements like, an Admin section, a login section where only admin can access, a dashboard for maintaining admin profile. Dashboard also contains more other portion like, comment on a question, admin reply on a question, notice board, call center, livestock, and fish resources part. When user access in our application on a mobile phone then users can directly call government help center.

### **3.2.2 Non-functional Requirement**

On the other hand, Nonfunctional requirement define the behavior of an application. It defines performance issue of the application and how much the application is efficient.

Non-functional are help to being more efficient; load on quickly as possible to our web application, smoother operation. Application should be excellent for user experience.

### **3.2.3 Feasibility Study**

Feasibility is the most important part before development. We study many several things and we get the best solution. The study helps us to get the exact requirements for developing our application. We also get the exact idea that our application is how much different, helpful in current competitive market for farmers.

In developing stage the system requires for all tool and platform describe to advance the new system like server and text editor. We confident to develop a new system, which stands the needs of the farmer's problems. Then we realize that there is a great need to develop a new system. We decided to develop our web application in PHP and coding as

a programming language and MySQL to storage our project data. We developed our project based on the requirement of XAMPP local server, Bracket.

### 3.3 Use case modeling and Description

#### 3.3.1 Registration Module

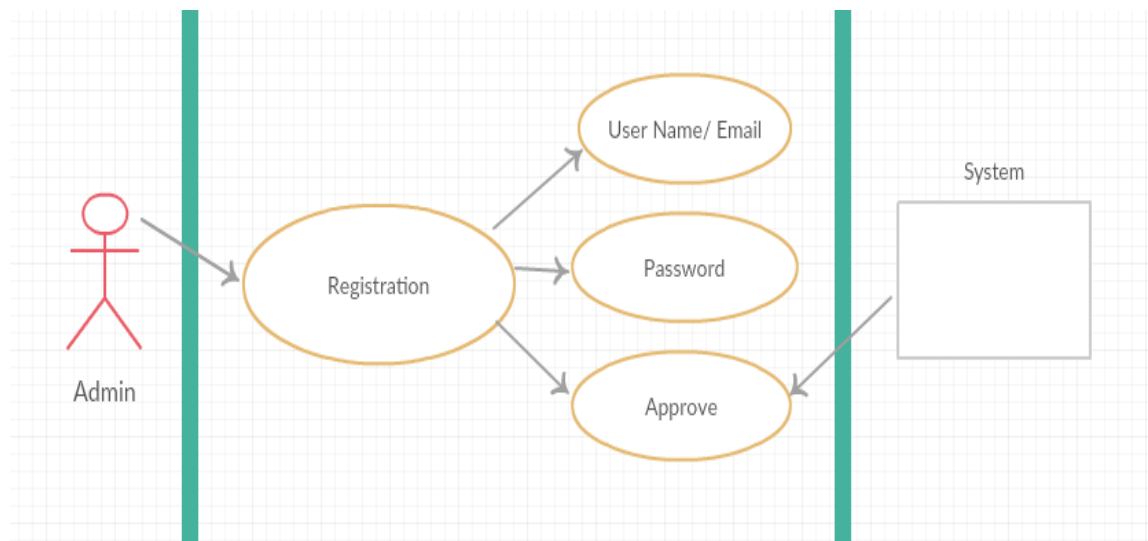


Figure 3.3.1: Use case of Admin Registration

A registered user is a user of a website, program, or other system who has previously registered. Users normally provide some sort of credentials (such as a username or e-mail address, and a password) to the system in order to prove their identity: this is known as logging in. Systems intended for use by the general public often allow any user to register simply by selecting a registered or sign up function and providing these credentials for the first time. Registered users may be granted privileges beyond those granted to unregistered users.

This site Admin can fill-up username or email address and password. After completing registration admin can login this system. When admin failed to complete the registration successfully then he cannot enter the system. If admin want to enter the system, then

admin have to register successfully using correct user name or email address and password [6]

### 3.3 Use Case Description

TABLE 3.3.1: Use case description of registration

Use Case	Registration
Primary Actor	Admin
Scenario	Enter username Enter email address Enter password
Post-condition	Registration successfully Edit system Update system

A use case is a written description of how users will perform tasks on your website. It outlines, from a user's point of view, a system's behavior as it responds to a request. Each use case is represented as a sequence of simple steps, beginning with a user's goal and ending when that goal is fulfilled. In this use case diagram there discuss about registration module. The use case description is a written account of the sequence of steps performed by an analyst to accomplish a complete business transaction.

Actually our application has two types of user, on the admin and another is user. After completing registration and login into our application, only admin can edit and update our system. If unauthorized someone want to login our application but they do not know user name, email and password, they cannot access our application. Only real admin can registered and they can edit system or update system.

### 3.3.2 Login Module

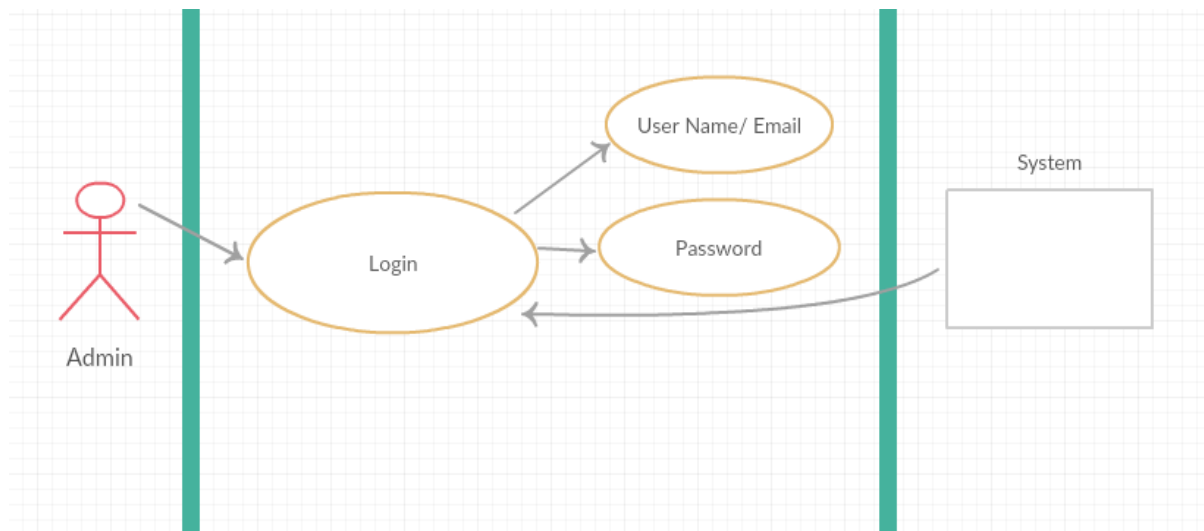


Figure 3.3.2: Use case of Admin login

When registration completed then admin can login using user name and password. After login admin can control the system [6].

TABLE 3.3.2: Use case description of login

Use Case	Login
Primary Actor	Admin
Pre-condition	Registration
Scenario	Enter username Enter password
Post-condition	Login successfully or failed Edit system Update system Search already registered Admin

### 3.3.3 Menu Module

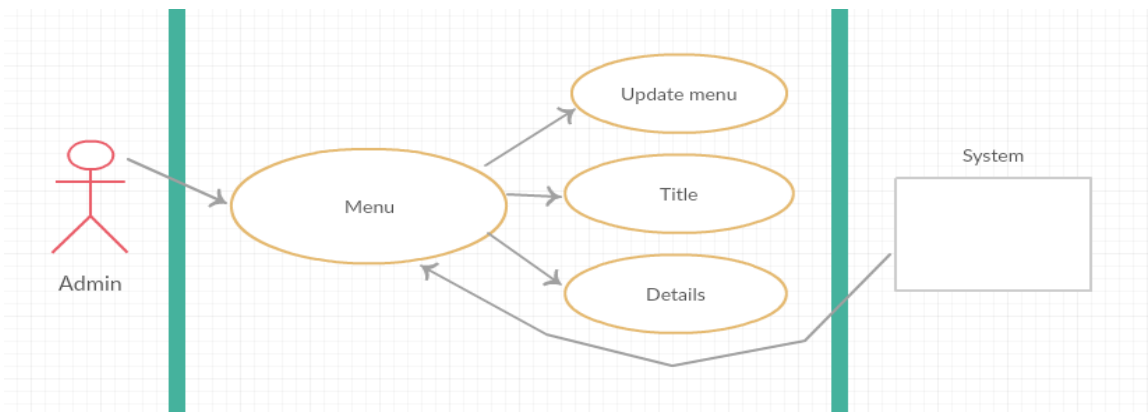


Figure 3.3.3: Use case of Add Menu Module

After admin registration successfully admin can control the system. In this system admin can create, update and delete menu. Without registration anyone can not control the system. After adding menu, titles, details or any update that will be visible to the user [6].

TABLE 3.3.3: Use case description of system

Use Case	System
Primary Actor	Admin
Secondary Actor	Null
Pre-condition	Login
Scenario	Add Title Add Details upload file
Post-condition	Update successfully or Failed View Menu

In this system admin have to add menu, titles, detail and upload file then the system will be successful. Without fill-up any filed the system will be unsuccessful or failed.

### 3.3.4 Notice Board Module

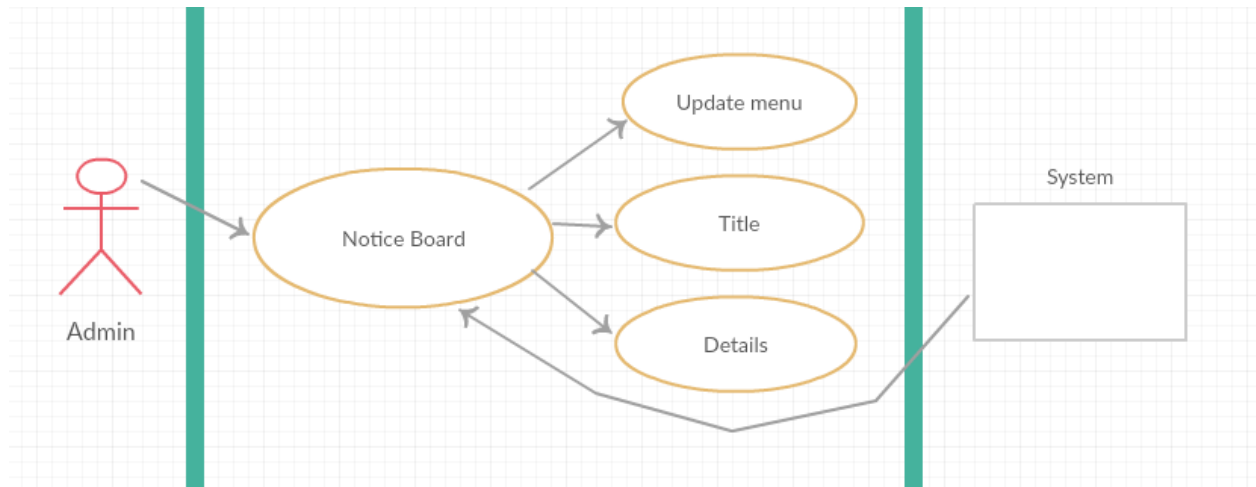


Figure 3.3.4: Use case of Notice Board Module

In our system only admin can change or update the notice board [6].

TABLE 3.3.4: Use case description of Notice board

Use Case	System
Primary Actor	Admin
Pre-condition	Login
Scenario	Add Title Add Details
Post-condition	Update notice board successfully or Failed View Notice Board

In this system admin have to add titles, detail of notice board and upload file then the system will be successful. Without fill-up any filed the system will be unsuccessful or failed.

### 3.3.5 Complain and Suggestion Module

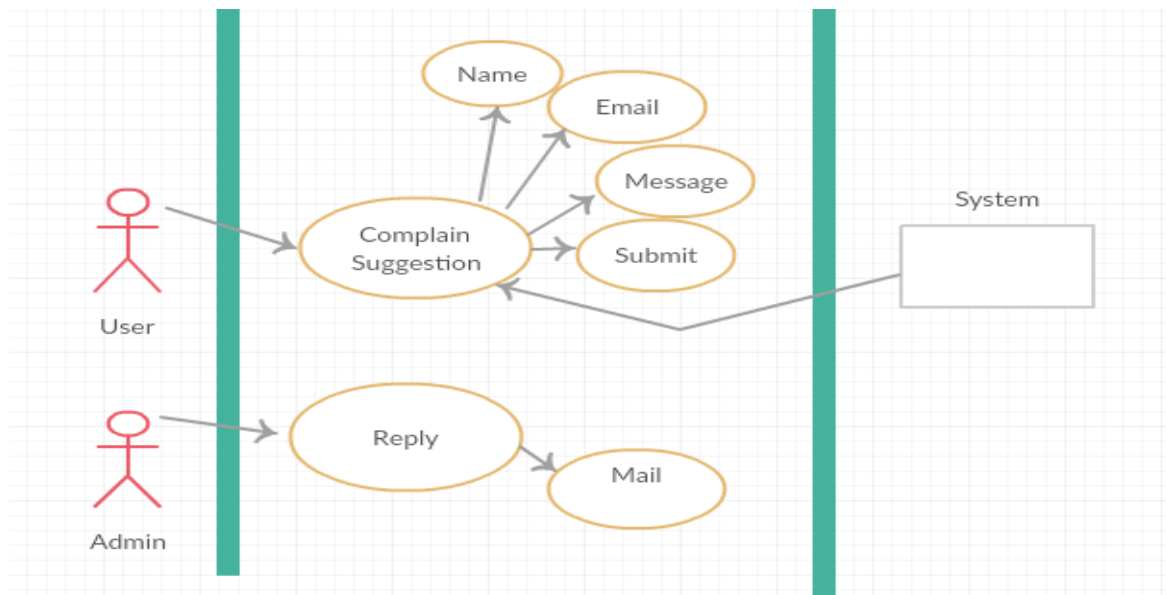


Figure: 3.3.5 Complain and Suggestion Module

In our system user can complain or suggestion and admin can solve their problem and reply their mail [6].

TABLE 3.3.5 Use case description of Complain and Suggestion

Use Case	System
Primary Actor	User
Secondary Actor	Admin
Scenario	Name of the user Email post message/complain
Post-condition	Post successfully or failed

### 3.4 Logical data Model

Logical data model is a process used to define an analysis requirement needed to support the business processing model. It describes the data in as much details as possible, without regard to how it will be physical implemented in the database. Logical data model is also called the Entity –Relationship diagram, it include the entity, attributes and relationship. An entity relationship diagram show the relationship of entity set the database [7].

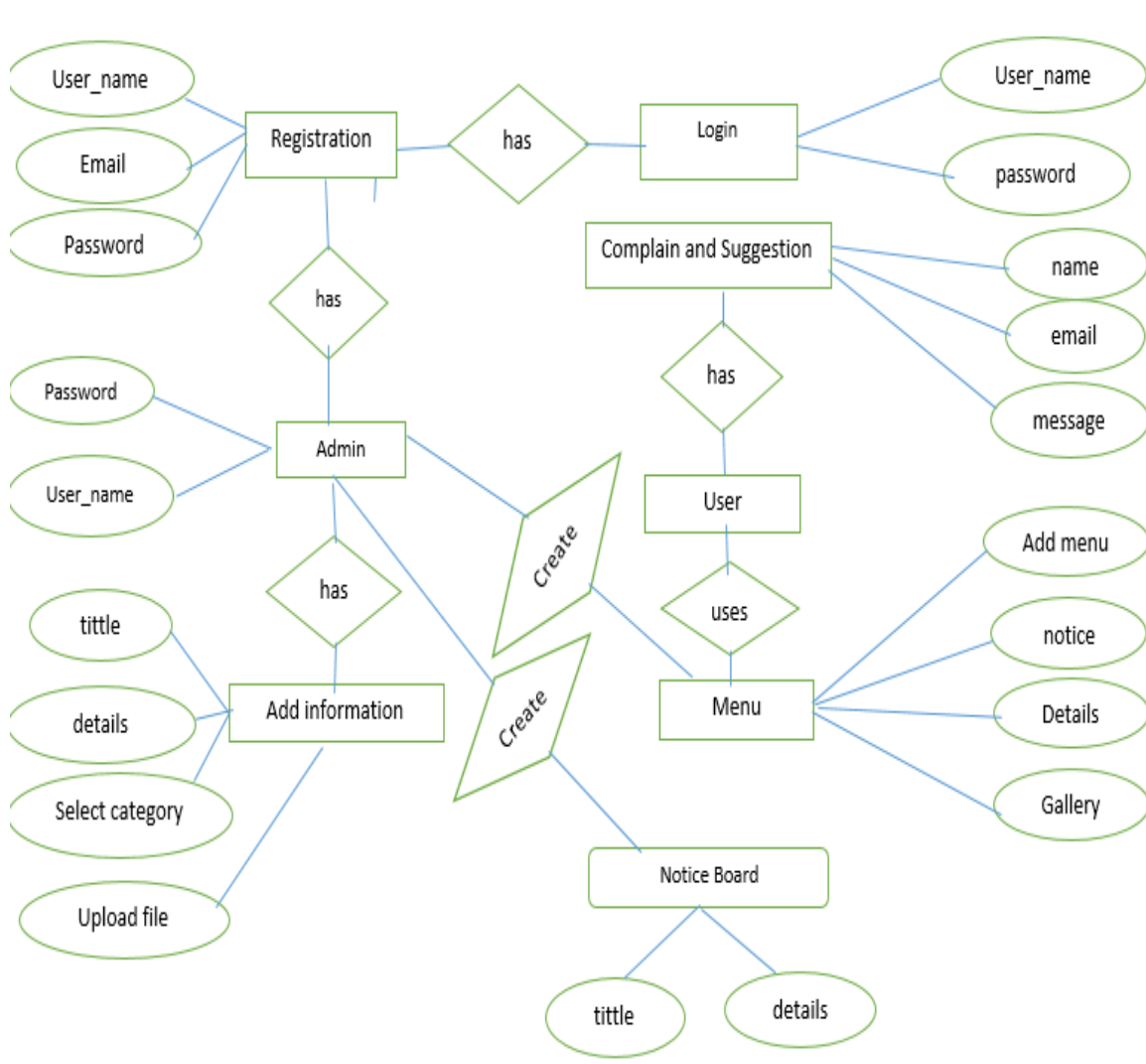


Figure 3.4.1: Entity Relationship Diagram (ERD)



### 3.5 Design Requirements

- In our application, we have an authentication for our admin. So we have a login system design.
- In our system, there are two types of user like Admin and other person is user. Only Admin can get registered this system. But the other user can only viewer our application and post complain or suggestion.
- After login Admin can add, update menu and also notice board.
- User can call directly help center when user access our application on the mobile phone.
- User can post also complain and suggestion..
- Admin can allow users post and also can solve their problem

## **CHAPTER 4**

### **DESIGN SPECIFICATION**

Design specification is a statement of how a design is developed. In this section of design specification we try to show the front-end and back-end design of our web site. We also discussed about many tools and platforms, which we use to develop our application.

#### **4.1 Front-end Design**

Front-end design is the view part of software. This the way by which the user interacts with the server. Front-end design is known as a client-side development. It is very important to develop a simple and easily understanding front-end of the application. So we tried to keep our design as good as possible and easily accessible for the user, but the development work was not easy.

The basic elements of front-end design are the HTML5, CSS3, JavaScript, jQuery and Bootstrap that control total front-end design. Coding patterns are about establishing a set of relationships between elements. By codifying these relationships as a set of principles instead of a single, stand-alone template.

Combination of HTML, CSS, Bootstrap and JavaScript is decorating our page being controlled by our computer browser.

##### **4.1.1 HTML5**

Our project almost every user interface is express by Hyper Text Mark-up language. At first we assign hypertext to represent my website that what a user need to see. That means whatever text you the texts in our websites that have made up with HTML5 [8].

##### **4.1.2 CSS3**

CSS3 is the core part of the presentation a website. Every style and every design depend on CSS related HTML tag. We use CSS3 to define style for my web application,

including the design, layout and variations in display for different devices and screen and sizes. Through the CSS3 we can add lot of designs, colors, text-alignment, text-style and everything that would make our web application more attractive [8].

### 4.1.3 Java-Script

Basically the primary thing JavaScript is it can process clicking design and value of a user. JavaScript is to also can change HTML5 content. JavaScript has a biggest healthy library, but we just use small amount of JavaScript which we need to design our project [9].

### 4.1.4 jQuery

jQuery design master of a webpage. It prove expert design and specially animation a website. jQuery is a lightweight. jQuery takes a lot of common tasks that require many lines of JavaScript code to accomplish and wraps them into methods that you can call with a single line of code. We attach our application front-end design in below [10].

### 4.1.5 Home page

In the home page there are menu bar, call center, notice board, internal e-service, central e-service, important web site link, agricultural at time, agricultural technology, agricultural information. We also added complain and suggestion box. When user post their complain or suggestion admin can solve their problem and Admin can update menu, notice board.

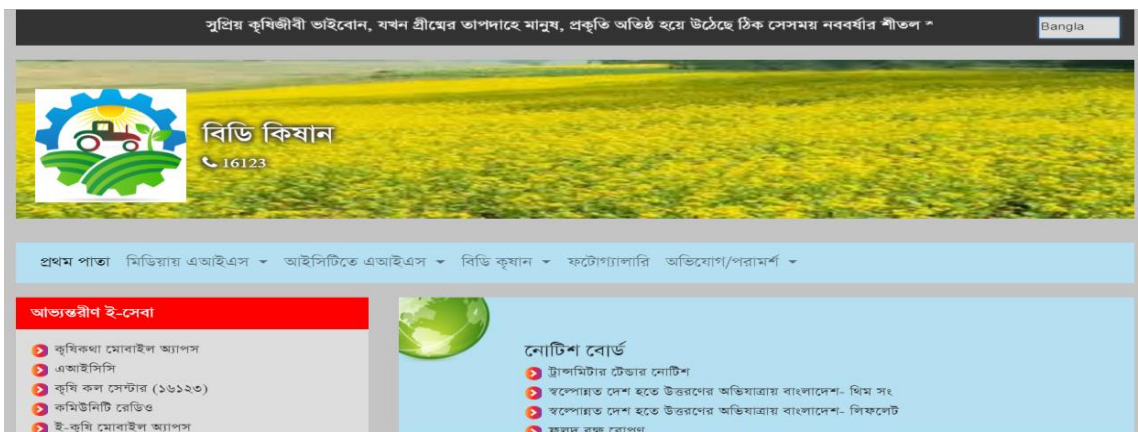




Figure 4.1.5: BD KISHAN home page

#### 4.1.6 Login Activity

**Log In**

Ⓐ

🔒

Login

Figure 4.1.6: Login activity

Admin can login to system by their username or email id and password. After login admin can add new menu, update notice board and reply user post and complain.

#### 4.1.7 Main Menu

বিডি কৃষান ▾ ফটোগ্যালারি অভিযোগ/পরামর্শ ▾	
<b>ফসল</b>	<b>মৎস্য/প্রাণিসম্পদ</b>
দানাদার ফসল	মৎস্য সম্পদ
সবজি ফসল	প্রাণিসম্পদ
তেল জাতীয় ফসল	
মসলা জাতীয় ফসল	
কন্দাল জাতীয় ফসল	
ডাল জাতীয় ফসল	
অর্থকরী ফসল	
ফল চাষ	
ফুল চাষ	
অন্যান্য ফসল/প্রযুক্তি	

Here we include two types of cultivations like as crops item and livestock and fish resources. In crops itmes we included grainy crops, vegetables crops, oil crops, flowers farming, fruit culivation, pulse crops and another crops cultivation methods,market place and description of disease pests. Another part are fish resources and livestock where we include the whole details of process of cultivations. So we introduce our new application to everyone where we include how to cultivation in proper way, how to select a good soli to cultivation, how to use fertilizer like mays things. We think that kinds of information would be more useful for farmers to produce more crops. Because there are many website available in online but this website not give the correct information. Some developer did not complete their project and some other did not update their site regularly. This website is not helpful for user. But government and some other institution made helpful project for farmers.





গম
ধানের জাত
ধানের পোকামাকড়

**সর্বশেষ প্রকাশিত**



Read : 1

**ধানের জাত**

ভেজজগুনঃ ব্যবহারঃ ছোট দানা বিশিষ্ট শস্যটি এ দেশে গরীবদের খাদ্য হিসেবে বিবেচিত হয়। উপযুক্ত জমি ও মাটিঃ প্রায় সব ধরনের মাটিতে কাউনের চাষ করা যায়। তবে পানি দাঁড়ায় না এমন বেলে দৌঁআশ মা

**বিস্তারিত**



**ধানের পোকামাকড়**

ভেজজগুনঃ ব্যবহারঃ ছোট দানা বিশিষ্ট শস্যটি এ দেশে গরীবদের খাদ্য হিসেবে বিবেচিত হয়। উপযুক্ত জমি ও মাটিঃ প্রায় সব ধরনের মাটিতে কাউনের চাষ করা যায়। তবে পানি দাঁড়ায় না এমন বেলে দৌঁআশ মা

As a user, farmer could choose an individual crops like seed or vegetable and its different varieties. Then our apps show a short intro on that's crop. After a short intro, our apps will show an ideal cultivation method of this crops. And will give him a list of all the diseases with an individual picture the list user can choose a diseases and then apps will show the remedies and suggest a pesticides list. Our site will provide a help desk service, that users can ask any question on agricultural problems. Here we include main accurate information of crops thus farmers can easily get any information. Firstly we include only popular and main Crops short introduction, Cultivation method, Diseases and Remedies.



### ধানের জাত

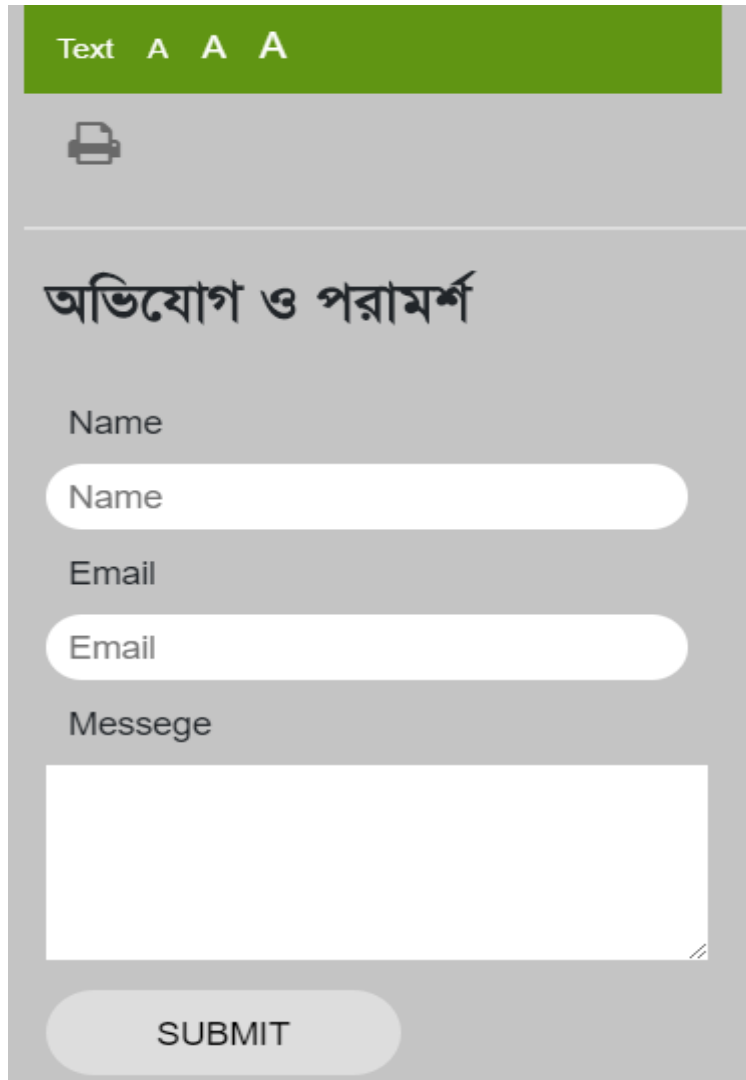
ভেজজঙ্ঘনঃ ব্যবহারঃ ছোট দানা বিশিষ্ট শস্যটি এ দেশে গরীবদের খাদ্য হিসেবে বিবেচিত হয়। উপযুক্ত জমি ও মাটিঃ প্রায় সব ধরনের মাটিতে কাউনের চাষ করা যায়। তবে পানি দাঁড়ায় না এমন বেলে দৌঁআশ মাটিতে এর ফলন ভাল হয়। জাত পরিচিতিঃ কাউনের স্থানীয় জাত ছাড়া বাংলাদেশ কৃষি গবেষণা কর্তৃক উদ্ভাবিত 'তিতাস' নামের একটি জাত আছে। কাউনের এ জাতটি শিবনগর নামে ১৯৮০ সালে কুমিল্লা জেলা থেকে সংগ্রহ করা হয় এবং দেশী বিদেশী জাতের সাথে তুলনামূলক মূল্যায়নের পর ১৯৮৯ সালে তিতাস নামে অনুমোদন করা হয়। তিতাস জাত উচ্চ ফলনশীল, আগাম রোগ ও পোকা প্রতিরোধ ক্ষমতা সম্পন্ন। তিতাস জাতের গাছ মাঝারি লম্বা, পাতা সবুজ, কান্ড শক্ত। গাছ সহজে নুয়ে পড়ে না। শীষ বেশ লম্বা, মোটা এবং রেশমী। বীজ মাঝারি আকারের এবং ঘিয়ে রংয়ের। হাজার বীজের ওজন ২.৩-২.৫ গ্রাম। স্থানীয় জাতের চেয়ে ফলন প্রায় ৩০-৩৫% বেশী। জাতটি রবি মৌসুমে ১০৫-১১৫ দিনে এবং খরিফ মৌসুমে ৮৫-৯৫ দিনে পাকে। তিতাস জাতটি গোড়া পচা রোগ প্রতিরোধ ক্ষমতা সম্পন্ন। রবি মৌসুমে তিতাসের ফলন হেক্টর প্রতি ২.০-২.৫ টন। খরিফ মৌসুমে এর ফলন একটু কম হয়। বপনের সময়ঃ দেশের উত্তরাঞ্চলে অগ্রহায়ণ থেকে মাঘ মাস (মধ্য নভেম্বর থেকে মধ্য ফেব্রুয়ারী) পর্যন্ত বীজ বোনা যায়। দেশের দক্ষিণাঞ্চলে সাধারণত অগ্রহায়ণ মাসে বীজ বোনা হয়। বীজের হারঃ কাউনের বীজ ছিটিয়ে ও সারিতে বোনা যায়। ছিটিয়ে বুনলে হেক্টর প্রতি ১০ কেজি এবং সারিতে বুনলে ৮ কেজি বীজের প্রয়োজন হয়। বীজ সারিতে বুনলে সারি থেকে সারির দূরত্ব ২৫-৩০ সেমি রাখতে হবে। চারা গজানোর পর ২-৩ সপ্তাহের মধ্যে সারিতে চারার দূরত্ব ৬-৮ সেমি রেখে বাকি চারা তুলে ফেলতে হবে। সার ব্যবস্থাপনাঃ কাউন চাষে সচরাচর রাসায়নিক সার প্রয়োগ করা হয় না। তবে অনূর্বর জমিতে হেক্টর প্রতি নিম্নরূপ সার প্রয়োগ করলে ফলন বেশী হয়। সারের নাম সারের পরিমাণ/ শতকে সারের পরিমাণ / হেক্টর ইউরিয়া ৩৮৫-৪২৫ গ্রাম ৯৫-১০৫ কেজি টি এসপি ২৮৩-৩০৪ গ্রাম ৭০-৭৫ কেজি এমওপি ১২১-১৬২ গ্রাম ৩০-৪০ কেজি সার প্রয়োগ পদ্ধতিঃ সেচ বিহীন চাষে সবটুকু সার শেষ চাষের সময় প্রয়োগ করতে হবে। সেচের ব্যবস্থা থাকলে শেষ চাষের সময় অর্ধেক ইউরিয়া এবং সবটুকু টিএসপি ও এমওপি সার প্রয়োগ করতে হবে। বাকি অর্ধেক ইউরিয়া বীজ বপনের ৩৫-৪০ দিন পর উপরি প্রয়োগ করতে হবে। সেচ ও আগাছা ব্যবস্থাপনাঃ কাউন একটি

Figure 4.1.7: Main Menu

Most of the farmers of our country are not educated. The soil of Bangladesh is very fertile. It seems strange to think why the agricultural output of this land is low. So the peasants and hardly procure two meals a day. They are ill-clad and ill-fed. They fall easy victims to disease and cannot give proper medical aid to themselves and their children. They are ignorant of the scientific methods of cultivation and farming. In view of the fact that agriculture is the backbone of our national economy, top-priority should be given for the development of our agriculture. So we introduce our new application to everyone where we include how to cultivation in proper way, how to select a good soli to

cultivation, how to use fertilizer like many things. We think that kinds of information would be more useful for farmers to produce more crops.

#### 4.1.8 User complain and suggestion



The image shows a mobile application interface for submitting a complaint or suggestion. At the top, there is a green header bar with the text 'Text' and three 'A' icons for font size adjustment. Below the header is a grey bar containing a printer icon. The main content area has a title in Bengali: 'অভিযোগ ও পরামর্শ'. Below the title are three input fields: 'Name', 'Email', and 'Message'. Each field has a corresponding label and a white input box with rounded corners. The 'Message' field is a larger text area. At the bottom of the form is a grey 'SUBMIT' button.

Figure 4.1.8: User complain and suggestion

When user visit this site and they can post any complain or suggestion. When user post anything then admin can solve and reply their problem [10].



## 4.2 Back-end Design

We know back-end design means the power behind the project. The user this unable to see the back-end of a project. The logical part of a software mainly happened in back-end. It is the most valuable part of a software. Usually back-end means server-side. Normally back-end design consists of language like PHP, and PHP.net etc.

In our application we use PHP, MySQL database and XAMPP as local server to develop and maintain the back-end section. We attach our application back-end design in bellow.

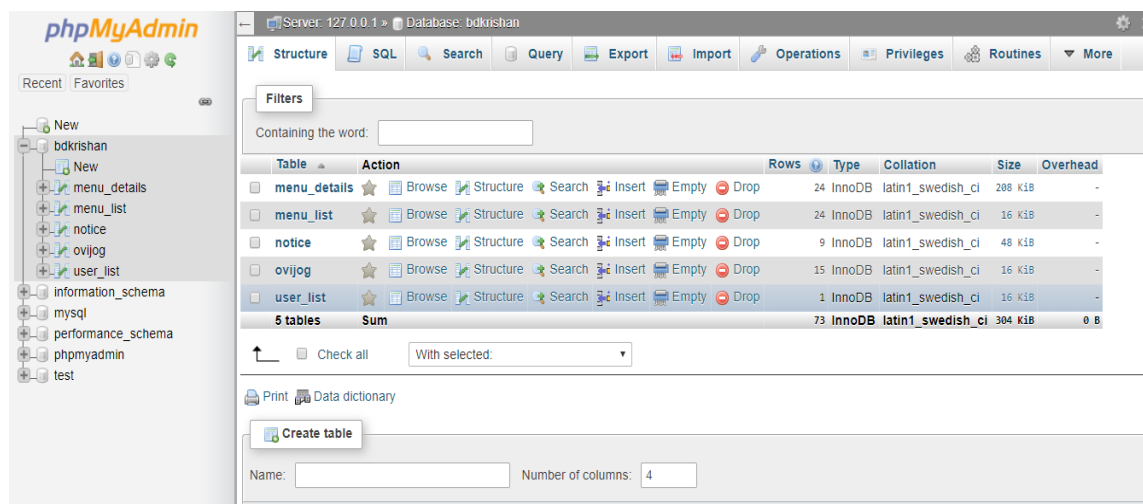


Figure 4.2.1: Database table

In this figure, we saw that the entire table is here. We can easily implement our project because all of those are manage separately with valuable name in the table. The logical part of a software mainly happened in back-end and the most valuable part of a software. Usually back-end means server-side. When admin update or edit or create a menu then all side are gathers to this field. Every process are variable to step by step this process. When admin create add menu then admin fill-up the titles and details field. Same process are menu details, notice board sites. If visitor complain or suggestion then admin can access to the point and checking this point are wrong and admin solve to the point and feedback their email or help to the call center point [12].

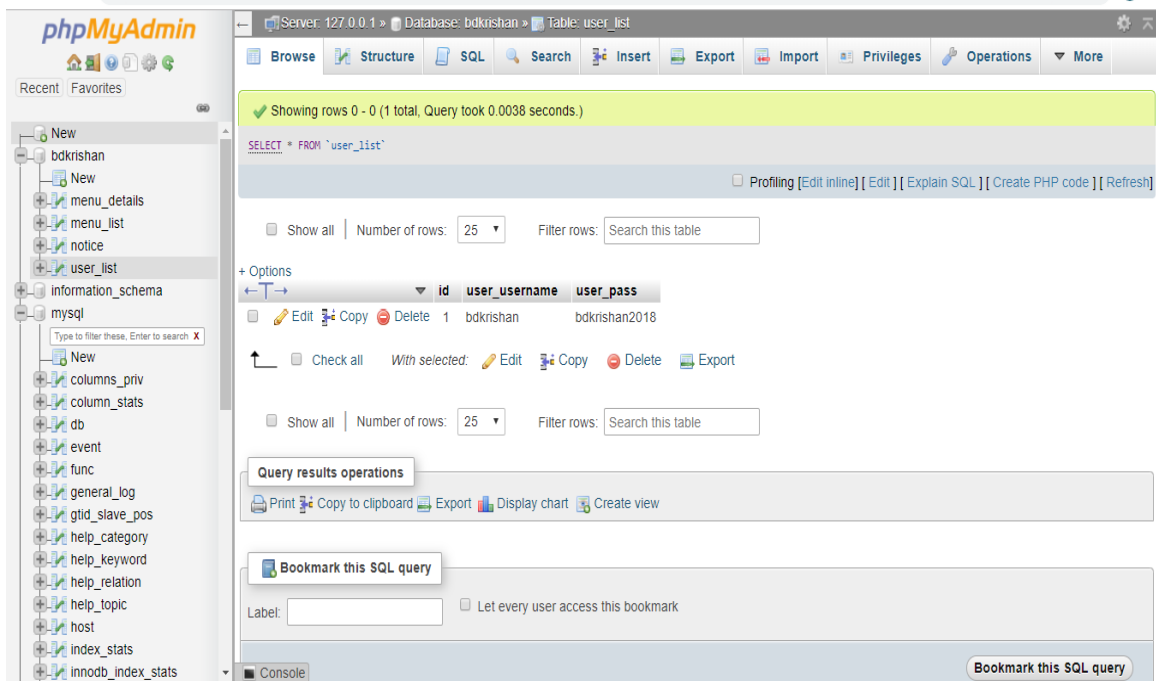


Figure 4.2.2: Admin registration table

So, in this figure we saw the admin registration user name and password.

### 4.3 Interaction Design and UX

Interaction design is a discipline that observes the interaction between a system and its user. Our application user find out the problem and post complain and admin feedback the valuable result. On the other hand user can see which cultivation method are use and which process they are used and that's result are better for every farmers. User also can know about their cultivation like, grainy crop, vegetable crops, Oil national crop, spice of the national crop, pulse national crops, cash crops, fruit cultivation, flower farming, livestock, fish resources etc. We worked so hard to decrease the data loading time on our application and that effort will be continued. Actually interaction design is the processes which understand the user problem domain.

## **4.4 Implementation of Requirements**

We used different types of tools, platforms and component those help us to developed our project successfully when we implement our project. In implementation requirement section we discussed about all those tools and platforms that we use to develop our project. To develop the front-end of the web application we use HTML5, CSS3 and bootstrap.

To develop the back-end we use PHP as a scripting language. We use XAMPP to build up a local server for our application. Preferred database is MySQL.

### **4.4.1 XAMPP**

XAMPP is a free and open source cross-platform web server solution stack package developed by Apache. The security settings are strict by default. It is portable tool.

### **4.4.2 MySQL**

MySQL is a relational database management system based on SQL. The application is used for a wide range of purpose, including data warehousing, e-commerce, and logging application. The most common use of MySQL however is for the purpose of a web database. It is compatible with scripting language like PHP [12].

## CHAPTER 5

### IMPLEMENTATION AND TESTING

#### 5.1 Implementation of Database

Database design is the process of producing a detailed data model of a database. This data model contains all the needed logical and physical design choices. A data definition language is a the physical storage parameters needed to generate a design, which can then be used to create a database. A database is usually a fundamental component of the information system, especially in business modeling system. A fully attribute data model contains detailed attributes for each entity. Thus database design is the part of system development. A good database design starts with a list of the data that everyone want to include in all database and what they want to be able to do with the database later on. Without any SQL this can all be written in their language. To design and store data to be needed forms database tables are prepared.

A database contain two essential setting and there are:

**Primary key:** - This field is unique for all the application documents record. And another one is

**Foreign key:** - This site used to a set of relationship between table parts.

There are four types of table in our database which are

**Admin tables:** - This table has admin user name, password information are stored.

**Menu Table:** - This table has main cultivation, fish resource, livestock each and every main part are stored.

**Notice Board table:** - This table update to all notice board part are saved.

**User complain table:** - This table are store to every user can post their complain or suggestion part.

The controller controls all the data parsing. After that model pass the data to the MySQL database.

## **5.2 Implementation of Front-end Design**

A user impressed when a front-end design is good. The impression is the last impression. So we have work hard our best to make the front-end design simple, attractive and user friendly. But he most challenging portion is to make out application, device independent, because there are many type of devices like tablets, mobile phone, desktop, laptop etc. Another problem is each of them come in different size. We make our web application responsive so that users visiting from different device will face no difficulties to see our application and have a good user experience. We make better interface relative and standard with the help of HTML5, CSS3, JavaScript and jQuery technologies.

There are some parts of implementation of the front-end design are given below

- Our system has two types of users like Admin and User.
- Only Admin can be registered by filling up all the requirements.
- Admin can login only using user name and password access our application.
- Admin can update, delete and store all menu and notice board.
- User when access visiting their phone our application they will be call directly.
- User also can post their suggestion and complain.
- Admin also can solve user complain and reply it.

## **5.3 Implementation of Interactions**

Interaction is the key to make a system dynamic and attractive to users. It's very necessary to make a system interactive and also we try to complete it. Basically the architecture of a software system defines that system in terms of components and

interactions among those component. In real world, interaction can have found almost everywhere. Our application is successfully implemented and the interaction of our application with the users is quite impress.

#### 5.4 Testing Implementation

TABLE 5.4.1: Test case for design and development of information system for BD KISHAN.

Test Case	Test Input	Expected outcome	Obtained outcome	Result	Tested on
1.Registration	Registration in to the admin dashboard	Successfully registered	Successfully registered	Passed	6-10-2018
2.Login	Login in to the admin dashboard	Successfully login	Successfully login	Passed	6-10-2018
4.User post complain or suggestion	Complain the user	To see the user post and control it	Showed the user complain	Passed	6-10-2018
5.Admin solve complain or suggestion	Admin can dashboard access	Admin can resolve and help the user complain.	Admin can show it	Passed	6-10-2018
5.Admin update menu, notice board	Admin can dashboard access	Admin can up to date menu.	Admin can show all update notice board	Passed	6-10-2018

## 5.5 Test Result and Report

Test result are most important for represent testing report, which gives an opportunity to estimate testing results firstly. This document show up the record data which is obtained from an evaluation experiment, describes an operating condition and show the comparison of test result with this test object.

An implementation test report is most important to know this system ready or not. It is a document that records data obtained from an evaluation experiment.

There are many types of testing:-

- Security
- Usability
- Better performance
- Functionality
- System update

After completing all types of testing it's finally ready to launch. So at the time of end we can carry out the results as the benefits of useable testing.

- System is easier to use
- Easy to use for new users for this system
- Better UI for interaction
- Better quality of our application

## **CHAPTER 6**

### **CONCLUSION AND FUTURE SCOPE**

#### **6.1 Discussion and Conclusion**

The purpose and objective of “BD KISHAN” project is achieved. By providing high graphical user interface, web page designing is quite easy and in an aesthetic form. Flexibility in designing makes user explore their imagination and thus, even a novice user can dream and accomplish their wish of web page. After the long travel of thinking, discussion, designing, implementation, we are in the last session and we point that instead of completion. The web application system provides the capability to minimize the gap between farmers and modern cultivation. It will help the farmers. Sometimes we face some difficulties like in developing use case diagram the first technical challenge we encountered was that the selection of technical indicators and the regression model. The Regression model involves accumulation and processing of large amount of data. Though we found the task of handling and consolidating large statistical data to be challenging at the incipient stages of the project, we manage to implement the model successfully with a holistic understanding of the model. We also face some difficulties trying to integrate all the code written by each team member and main difficulties was the collection of data. We could overcome this cross communication between different languages by pure hard work, team work and perseverance. The objectives of our project has been of great help to us in term of developing knowledge of languages like UML and strengthened our knowledge about web service and its interface. It has also taught us to work on a project as a team and to coordinate with team members.

#### **6.2 Limitation**

Our application can only login Admin. Only user can call to the help center. We can't entry all data right now in our application.

#### **6.3 Scope for Future Development**



We developed our web project successfully. There is a limitation in our application. In future we will entry all the data as soon as possible.

## Appendices

### Appendix A: Project Reflection

The purpose of this appendix is to provide an introduction to Project reflection. This project was very challenging for us.

We enjoyed developed it. We understand many things during the developing period. We were constantly developing and refining one another's ideas. It was fascinating just how productive our group meetings were. The time seemed to fly and yet we always got a lot done and managed to help another along the way towards the endpoint of having a substantive policy.

TABLE A1: Comparison of feedback and usability

SL NO	Name	Feedback
1	Krishi Bangla	-Thanks for this application. -Very useful.
2	Ajker krishi	-Thanks for this application. -Very Useful and essential.
3	BD KISHAN	- User friendly. - Easy to use. .

## REFERENCES

- [1] “Bangladesh krishi tattoo institute” Available at: <http://www.bari.gov.bd/> [last accessed: 10 November, 2017]
- [2] “Krishi Bangla” Available at: <http://www.krishibangla.com/> [last accessed: 12 October, 2018].
- [3] “Ajker krishi” Available at: <http://www.ajkerkrishi.com/> [last accessed: 13 October, 2018].
- [4] “Krishi tattoo” Available at: <http://www.ais.gov.bd/> [last accessed: 14 April, 2018].
- [5] “Business Processing Model” Available at: <https://www.stakemap.com/bpm/example-bpm-business-process-models.html> [last accessed: 13 June, 2018].
- [6] “Use case model” Available at: <https://www.youtube.com/watch?v=tLJXJLCM&list=PLDEA8D68> [last accessed: 12 August, 2018].
- [7] “ER Diagram” Available at: <https://crately.com/diagram-examples> [last accessed: 13, September, 2018].
- [8] “HTML5, CSS3” Available at: <https://www.w3schools.com/> [last accessed: 5 September, 2018].
- [9] “Java-Script” Available at: <https://www.w3schools.com/js/> [last accessed: 6 April, 2018].
- [10] “jQuery” Available at: <https://www.w3schools.com/jquery/> [last accessed: 7 April, 2018].
- [11] “PHP” Available at: <https://www.w3schools.com/php/> [last accessed: 8 June, 2018].
- [12] “MySQL” Available at: <https://www.tutorialspoint.com/mysql/> [last accessed: 22 May, 2018].