

**A HUMAN HEALTHCARE SYSTEM  
BY**

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

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**DAFFODIL INTERNATIONAL UNIVERSITY  
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JANUARY 2022**

## **APPROVAL**

This Project titled “A HUMAN HEALTHCARE SYSTEM”, submitted by MUHAMMAD RABIUSSANY, ABU RAIHAN RONY and MD.TARIQUL ISLAM 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 4th January,2022.

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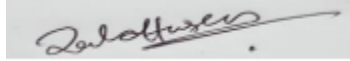
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## DECLARATION

We hereby declare that, this project has been done by us under the supervision of **MD ZAHID HASAN, Assistant Professor, 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.

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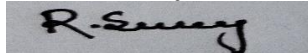
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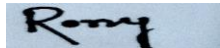
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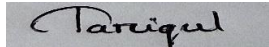
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Finally, we must acknowledge with due respect the constant support and patients of our parents.

## **ABSTRACT**

Bangladesh is one of those countries with a vast population, and it has been recognized as the human resource for the country. It has six sessions elaborated with 12 months with lots of beatification environment. Each session has owned their weather, sessional foods and as well as sessional disuses. Every year people have been suffering many sessional flues. To maintain the country's economic development and move forward next steps in life, people have to ensure a healthy life ecology. This project aims to ensure one's healthy life with the surrounding environment. Although conceptually attractive, it has been difficult to fully implement in the existing program-based healthcare system. A Human Healthcare System service has developed a healthy life eco-information system. This system is used as both platforms for information integration and as an analytical tool supporting comprehensive data analysis. With the system's assistance, the theory of the population health approach can be transformed into a practical step-by-step process that supports health programming and services. [1]

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# CHAPTER 1

## INTRODUCTION

### 1.1 Introduction

The man who is the best creation of the supreme creator has some basic needs to extend their lives on earth. Food and living places are a significant part of this system from the basic needs of living. Food maintains our body to a healthy life and our living place; Home leads that healthy life more secure with the sounding environment. In a word and this world at Bangladesh, we have all gradients to care for our healthy lifestyle, which we can understand more in this Covid-19 pandemic.

Regardless of a country's size, population, or economic standing, the package of the healthcare system is always a challenge. It is challenging to provide effective services and ensure that the people of a country are satisfied with healthcare services. However, like with any other service, such as healthcare, it can be upgraded to make it more efficient and effective. The healthcare system's resources can be put to better use. Bangladesh is a nation based on agriculture with six sessions. It is still Bangladesh's most vital area; 19.6% of overall national Output Comes from agriculture, and 63% of the population are directly involved [2].

Our application system is made of short with all Human Healthcare services in one place. We have six sessions with a unique sessional environment and as well as food. This food habit can give our peoples to attend antibody in our sessions. As concerned about the quality of sessional food, we also introduce a market place to have this all sessional food and information of all necessary tips to make one's and its environment Healthy.

### 1.2 Motivation

In today's world and Bangladesh, it is clear that people are suffering more from various physical diseases, mental health, and fitness errors. Their food habit complexes their life and fall into the trap of most common diseases like gastric. Also, they do not find to have

fresh food in the marketplace. Due to this pandemic, people are more conscious about their health as well as fitness. However, for the vast population, it was approx.—impossible things to implement a proper healthcare system physically. As we are Bangladeshi, we have some beautiful sessions for 12months. However, our upcoming generation does not know how the rainbow takes place in the sky on Hemonto. So, from that side of the part, we want to introduce our sessions' cultures, culture-based food habits, and availability for purchases with our application system. As a major initiative for digitalization of healthcare system, Directorate General of Health Services (DGHS)<sup>1</sup> under Ministry of Health and Family Welfare (MOHFW)<sup>2</sup> has taken several initiatives to digitalize the healthcare services, especially for the government services. We also want to walk with this initiative.

### **1.3 Objective**

We want to develop this app. This app will have these mentioned features-

- Introduce Bangla sessions Cultures with its environment in details.
- To provide all necessary information about Sessional foods and flues.
- Tips for fitness.
- To provide unique account of this app for each user.
- To keep feedback option to meet the purpose of user's need.

### **1.4 Expected Outcome**

This Care application system for our people, by our people, of our people. Using this system, our people can easily find all the necessary information regarding triple H. care systems such as Kid and Teenager are familiar with sessions dates and environment, know about sessional foods, know about sessional flues, and tips for having food circle and fitness, Organic food market. Besides, they can save their precious time by getting all the information they need without asking anyone else, which is comforting. Everyone now has a wish to make a healthy life. Nowadays, everyone has the internet and smartphones to make habits and information faster than searching many sources.

## **1.5 Report Layout**

### **Chapter 1: Introduction**

In this chapter, introduction, objectives, motivation and the expected outcome of our project will be discussed.

### **Chapter 2: Background Study**

Chapter 2 includes the works related with our app, comparative studies and the challenges we had to face to develop this app.

### **Chapter 3: Requirement Specification**

In chapter 3, requirement specification such as business process modeling, requirement analysis and modeling, logical data model and design requirement will be discussed.

### **Chapter 4: Design Specification**

The description of Front-end design, back-end design, interaction design and UX and implementation requirements are given in this section.

### **Chapter 5: Implementation and Testing**

The implementation of database, implementation of front-end design, implementation of interaction, testing implementation, test results and reports are discussed in this chapter.

### **Chapter 6: Conclusion and Future Scope**

Chapter 6 discusses about the conclusion and the future scope of our app.

## **CHAPTER 2**

### **BACKGROUND**

#### **2.1 Introduction**

Health care has been a hot topic among humans since the dawn of time. Our project will be a web and Android-based application system that can be used on a smartphone. Our primary objective is to guide our people about sessional organic food and flues and promote Bangladeshi sessional culture. Conclusion: there will be a marketplace to easily purchase from our shop and find some fitness tips and blogs. They may find themselves in a scenario where they cannot find small things to increase the big name of diseases. In such a circumstance, our application will be of assistance and will make an effort to lessen the severity of their condition.

#### **2.2 Related Works**

There is already a plethora of mobile health applications available on the internet. In reality, according to [research2guidance.com](http://research2guidance.com), there are 325,000 mobile health apps available worldwide in 2017. There are 158,000 health apps in the Google Play Store, one of the world's largest. Most of them are designed for a specific purpose, such as physical exercise, medication reminders, food and nutrition and forth.

When we have a preliminary idea for this system, we look for similar types of android apps in the Google Play Store and websites. We looked at the functionalities of comparable sorts of applications and sought to figure out what makes ours stand out. We discovered that most of the application's features include disease and treatment information, but there is no means to learn about Bangladeshi sessions and their food or fuels. Only few system and application has been focused on organic food, but they are one limited edition. However, they are the fourth party to purchase food.

## **2.3 Comparative Studies**

In this project, we attempted to create an application that would meet most of the basic requirements for a Human environment-friendly healthcare system. The system will be available in both Bangla and English. We are not basing what significant disease is and its cure, and there are plenty of applications. We are trying to give our people to introduce with their culture. Culture is the essential thing that can maintain our health and surrounding environment. We will promote our culture what we have as we call for 'Country of six seasons'. With this promotion, we know that every disease causes by food habits. We have not limited areas to have organic food service. So, we will have this kind of unique feature that other healthcare system apps and websites barely provide, such as information about sessional foods, symptoms of sessional flues, cure from sessional foods, and food factories for organic and local foods.

Furthermore, most important, how to use the land to produce foods which are leading home agriculture. Apart from a few similarities, our app stands out in terms of features and other factors. For example, there are very few apps available that combine nutrition, exercise, and medication management. Quality Human, Health and Home Care for our comparative study.

## **2.4 Scope of the Problem**

We have one feature in our application where the user can purchase Organic and local foods. It is a real-time perching system. However, it is complicated to maintain from buyer to seller. Many sessional disorders, on the other hand, have very identical symptoms. Furthermore, many individuals are illiterate, and even educated people sometimes struggle to recognize the problem or symptoms. There are so many local foods and Bangladesh that we cannot possibly treat them all. Neither we know about the diseases and foods.



## 2.5 Challenges

**Data Scarcity:** Data collecting is one of the most perspiring duties in such a project. Medical Flues data and fruits foods are susceptible, and only a small percentage of information records are archived in our country. We had to rely on the internet in most cases due to the shortage of Flues medical data and fruit foods data despite spending most of the project time on it.

**Portraying flue medical words in Bangla:** We had trouble representing medical flues terms in Bangla, mainly quantitative data, because some medical phrases, such as blood sugar and pedometer, are more well-known in English than in Bangla. We will eventually solve this issue.

**Making the system proficient and easy to use simultaneously:** The user interface of most health care systems and application becomes complicated as sessional medical flues data, habits of food, agricultural data and fitness data is by definition complex and challenging to comprehend for the general public. We divided the entire program into various sections for each component to keep the user interface clean and straightforward in our app. We also used graphs and charts to make Human Health and Homecare information data could easier to understand. The application system usability is also much enhanced by the addition of Bangla language support.

## CHAPTER 3

### REQUIREMENT SPECIFICATION

#### 3.1 Business Process Modeling

Business process modeling or BPM is an engineering system and the mobility of the representing method of an enterprise so that the current process may be analyzed, improved and automated [3]. In our system, there are two entities, the user and the system itself. After release, the mobile app and website will be accessible to everyone from the app stores and browsers. After installing the app and entering our website, users have direct access to use the system. But if user willing to login, then user to signup first to use the system by giving some basic information such as username, password, email, gender etc. The user profile is entirely online. The user must keep it updated to ensure a better response from the app and the website. Some functionality like purchasing food, exercise calculation, etc. requires information from the user profile. Besides accessing all the features, users can change their user password and the system language from the settings option. Users can log out from the application, and different users can use a different account on the same device. While logging in, the user data and other information will be automatically synchronized. The system keeps most of the essential data online, so the risk of losing necessary data is minimized. The application uses several device components, such as internet connection, storage system, display etc.

#### Application Flow Diagram

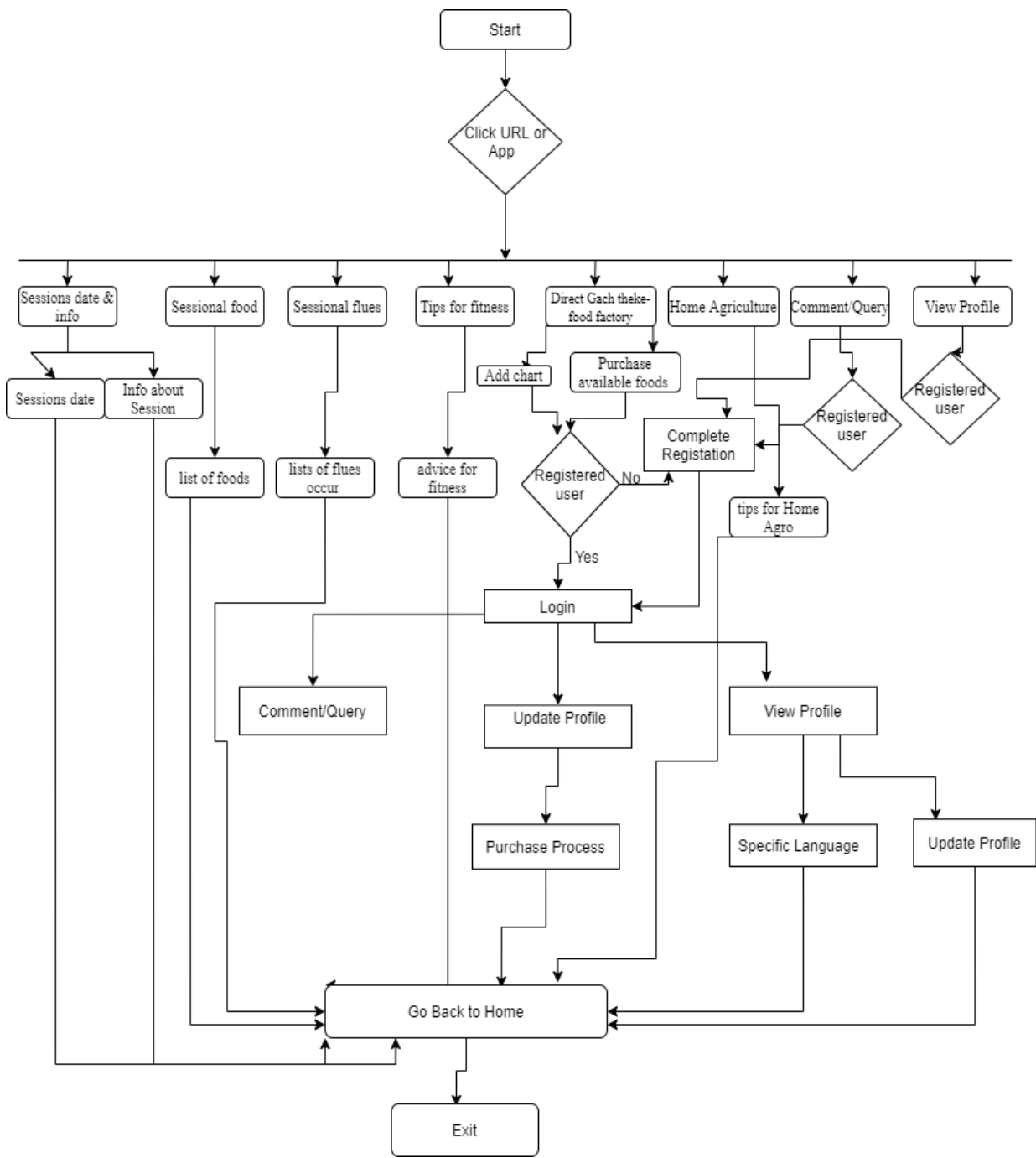


Figure 3.1: Application Flow Diagram

## **3.2 Requirement Collection and Analysis**

The basic functionalities of the application “Human Health and Home care (triple H)” are given below.

### **3.2.1 Maintain user profile**

- The application shall allow users have direct access to use the system.
- The application shall ask to a user to create their profile and update it.
- The application shall allow a user to view and edit his/her profile.

### **3.2.2 Scenario of Sessional dates and info**

- The user shall know about Bangla months and dates. The user shall know about the Bangla Sessional culture approach.
- The user should know about Bangla environmental conditions.
- The user shall know about the Bangladeshi festival’s history.

### **3.2.3 Knowing of Sessional foods**

The application shall show the user his/her which sessional foods appeared.

The application shall allow a user to know about foods health bifacial information.

The application shall provide a user with reminders for his/her food habit should be on that session.

### **3.2.4 Scenario of sessional flues**

- The application shall allow a user to know about the weather condition of that session

- The application shall provide a user with reminders of how they cure flues by using sessional food.

### **3.2.5 Scenario of an organic life style.**

- The application shall show the user list of sessional food that appears on sessions.
- The application shall provide a user with detailed information for purchasing foods.
- The application shall allow a user to have contact with the framer on some conditions.
- The application shall give payment by online mobile banking.

### **3.2.6 Health Tips and News**

- The application shall provide a user with helpful health tips that will be helpful to a user maintaining a good, healthy lifestyle.
- The application shall provide users with health-related news from various organizations such as the government, hospitals and other health service providers, as well as the care system

### **3.2.6 Sessional and Regular Agriculture**

- The application shall provide a user with helpful homily agriculture tips that will be helpful to a user maintaining his/her home green and healthy.
- The application shall provide a user with homily agriculture news from various organizations
- such as the government, the Ministry of Agriculture and other agriculture service providers, and the home care system.

### **3.2.8 Notification and Notes**

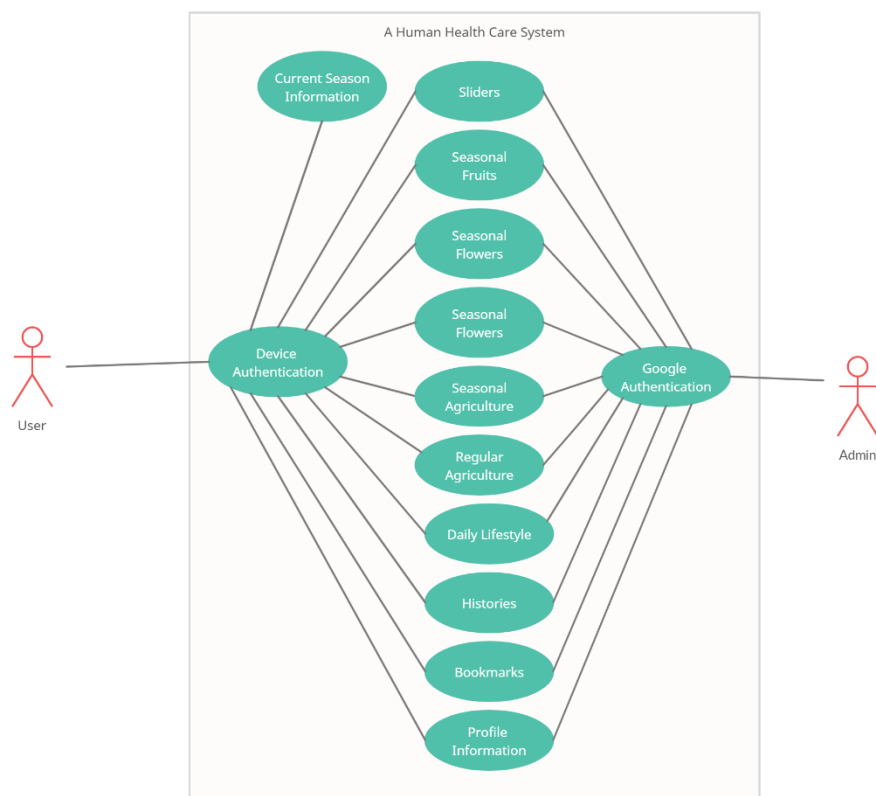
- The application shall allow a user to make and manage necessary health notes or reminders such as upcoming sessions, sessional foods, flues etc.
- The application shall provide a user with a notification for previously set reminders.

### 3.2.9 User Specified Language

- The application shall provide a user with both English and Bangla language support.
- The application shall allow a user to switch between languages as per requirements.

### 3.3 Use Case Modeling & Description

Use case model of the user is given below in figure 3.3.1



**Figure 3.3.1 Use Case Model for User**

#### Use Case Description for User

In software and systems engineering, a use case is a list of actions or event steps typically defining the interactions between a role (known in the Unified Modeling Language as an actor) and a system to achieve a goal. The actor can be a human or other external system.

### **Use Case 01: Sessions Date and info**

Primary Actor: User.

Precondition: Internet Connection

Secondary Actor: Null

Main Success Scenario: On the top, user can see the regular Bangladeshi sessional months, dates and information. Click on this scenario, it will take user to details information about sessions culture environment and history of that session.

Exception Scenario: No data found because of internet connection.

### **Use Case 02: Sessional food**

Primary Actor: User

Precondition: Internet Connection.

Secondary Actor: Null

Main Success Scenario: Click the sessional food button and there will be a list of healthy sessional foods.

Exception Scenario: No data found because of internet connection.

### **Use Case 03: Sessional flues**

Primary Actor: User

Precondition: Internet Connection

Secondary Actor: Null

Main Success Scenario: Click the sessional flues button and search your desired flues from the sessional flues list. There is also available a list of sessional flues to showcase.

Exception Scenario: No data found because of specific sessional flues is not in the database.

#### **Use Case 04: Tips for fitness**

Primary Actor: User

Precondition: Internet Connection

Secondary Actor: Null

Main Success Scenario: Click the tips for fitness button and we will provide you some fitness advice.

Exception Scenario: No data found because of internet connection.

#### **Use Case 05: Life Style**

Primary Actor: User

Precondition: Internet Connection

Secondary Actor: Null

Main Success Scenario: Click the life-style button and the user will be seeing a list of organic sessional foods. They have option to see information about foods and purchase procedure information. To purchase foods, you will need to sign up using your email after that you can purchase foods from our food factory.

Exception Scenario: No data found because of specific food is not in the database.

#### **Use Case 06: Sessional and Regular Agriculture**

Primary Actor: User

Precondition: Internet Connection

Secondary Actor: Null

Main Success Scenario: Click the home agriculture button and we will provide you some blog module of how to implanted and decorate home agriculture.



Exception Scenario: No data found because internet connection.

### **Use Case 06: Comment/Enquiry**

Primary Actor: User

Precondition: Internet Connection

Secondary Actor: Null

Main Success Scenario: Click the ask question button then you will need to sign up using your email after that you can comment or enquiry about your curiosity. After that an admin will answer about your concern.

Exception Scenario: No data found because internet connection.

### **3.4 Logical Data Flow**

The relationships between entity sets recorded in a database are depicted in an entity-relationship diagram (ERD). In this case, an entity is a data component. ER diagrams, in other words, depict the logical structure of databases [8]. The entity-relationship diagram depicts the relationship between the database's entity sets (ERD). The ER diagram can be used to depict the logical structure of a database. It delves as deeply as possible into the database and describes the data model. The graphic depicts all of the entities and their relationships. All of the entities' attributes and the main key [9] and foreign key [10] are defined here. The application's ER diagram is shown in the following figure.

## A Human Health care System

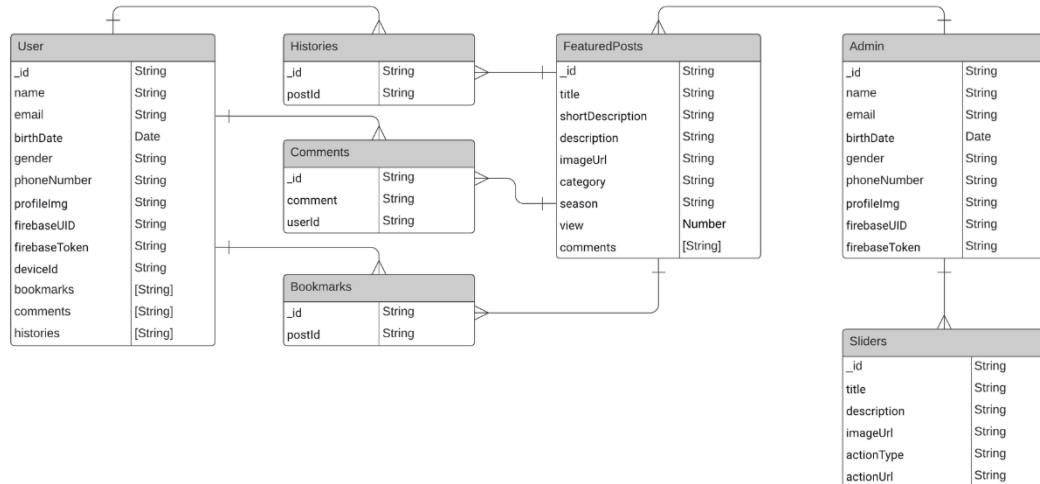


Figure 3.3 ER Diagram

### 3.5 Design Requirements

Designing a system from the front end and back end is critical since they are accountable for keeping the system running well and attracting users to use it. We have adhered to the points listed below for Android:

**User Friendly:** The user interface of the application must be intuitive. It should guide users through all of the functions and should not be unclear at any point.

**Easy to understand:** We employed the most up-to-date graphical user interface design tools and techniques to ensure that users are comfortable and interested, as well as goods picture and information to portray vital facts in an easy-to-understand manner.

**Compatible to various Android Version:** There are a lot of android SDK (Software Development Kit) version. Alfa to now Lollipop is running in the market. Studying the market, we decided the minimum SDK version to be 21 or Lollipop.

**Efficiency:** We reduced internet connectivity to a minimum to make the app work faster and more efficiently, while also using fewer mobile data and battery power.

## CHAPTER 4

### DESIGN SPECIFICATION

A design specification is a detailed document providing information about the born of a project to set criteria the developers will need to meet [4]. Its use is called for where a structure or product has to be specially made to meet a need.

A design specification is a statement that describes how a design for a system will be created. We'll exhibit the front-end and back-end design of our mobile application, website and admin panel in the Design Specification section. We'll also go over the many tools and platforms that we employed in this project.

#### 4.1 Front-End Design

For android, the XML and Kotlin code that makes up a user interface is called front-end design [5]. For our website, the front end usually designed by two parts, the web design and front-end web development. In present time, it has been cleared that there is a designed by HTML, CSS design and. It has become more significant when people start working with React.JS. In our program, there are two parts to the front-end design: one for the user.

We'll talk about our front-end design here:

**4.1.1 Welcome Motivator Slider:** At first the user can open the app and website receive some our motive Quotes

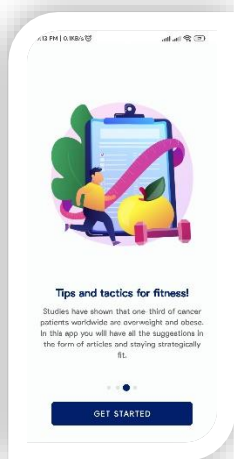


Figure 4.1.1: Welcome Motivator Slider

## 4.1.2 Home Screen

After click on URL or app, the application shows user the home screen. From the home screen user can access all the basic features of the application such as sessional foods, sessional flues and food factory, home Agriculture, tips for fitness, comment

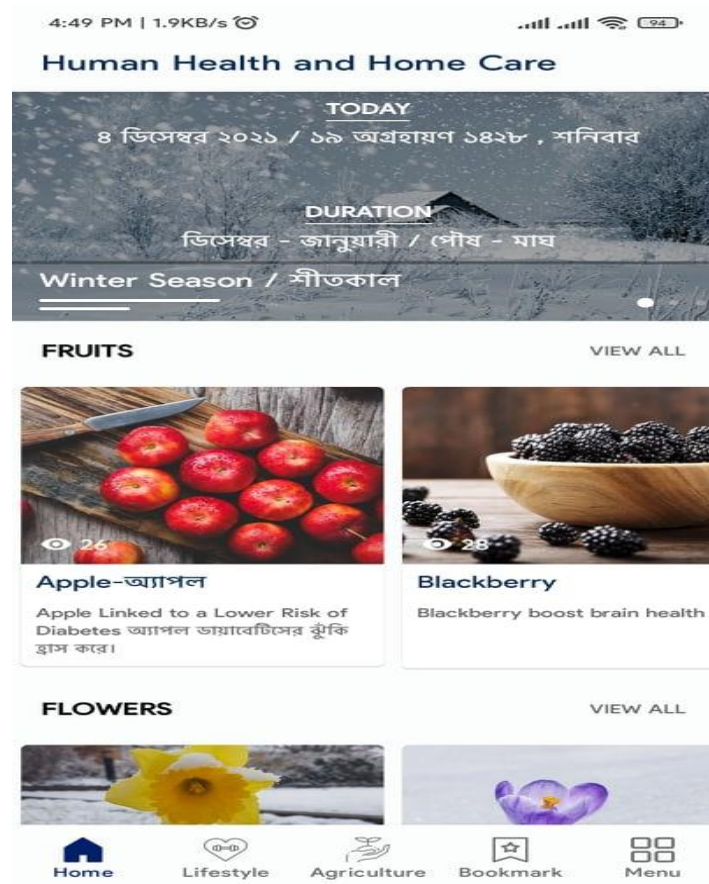


Figure 4.1.2 Home Screen

### 4.1.3 Sessional Foods

User can see the all sessional foods here.

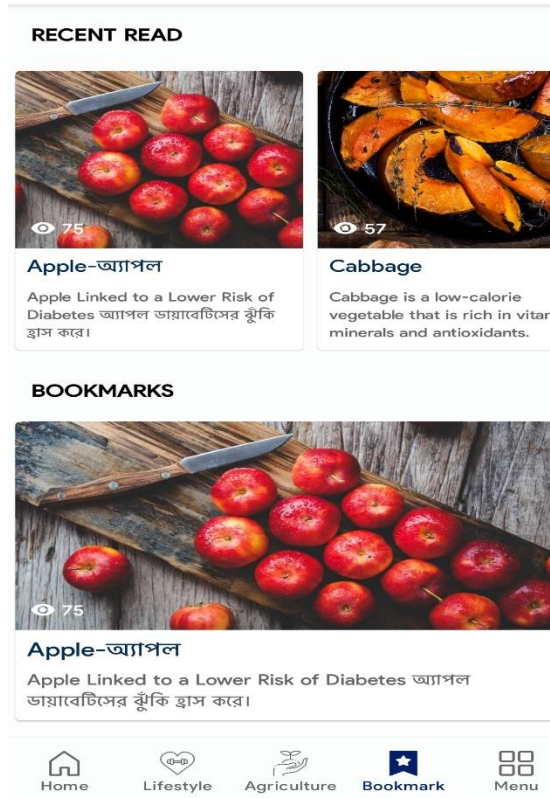


Figure 4.1.3 Sessional Foods

#### 4.1.4 Sessional Information

User can see the session beautification with that section.



**Figure 4.1.4 Sessional Information**

### 4.1.5 Seasonal flues

All types of seasonal flues of Bangladesh environment will display on this section.



**Figure 4.1.4 Home Screen (English)**



## 4.1.6 Flower

All kind Bangladeshi Flowers will display there in session by session.



**Figure 4.1.6 Flower**

## 4.1.7 Daily Life

User can see all type of daily life activities in these section

1:30 AM | 0.3KB/s

← Details



স্বাস্থ্য এবং রূপচর্চায় মধুর উপকারিতা ও ব্যবহার

মধুর উপকারিতা ও ব্যবহার (Benefits And Uses Of Honey)

স্বাস্থ্যের উপকারিতা (Health Benefits)

রক্তচাপ নিয়ন্ত্রণ

রক্তচাপ নিয়ন্ত্রণ:-

উচ্চ রক্তচাপের কারণে শরীর আরও অনেক রোগে আক্রান্ত হয়। তাই রক্তচাপ ঠিক রাখা খুব জরুরি। যাদের উচ্চ রক্তচাপের সমস্যা রয়েছে, তারা মধু সেবন করতে পারেন। মধুর ভিতরে অ্যান্টিঅক্সিডেন্ট যৌগগুলি পাওয়া যায়, যা রক্তচাপ সংশোধন করতে কাজ করে।

ট্রাইগ্লিসেরাইডের মাত্রা সঠিক রাখাঃ

আপনার শরীরে ট্রাইগ্লিসেরাইডের মাত্রা সঠিক না থাকলে ডায়াবেটিস -২ হওয়ার ঝুঁকি থাকে। অতএব, এটি অত্যন্ত গুরুত্বপূর্ণ তার স্তরটি ঠিক রাখা। তাই এই স্তরটি শরীরে সঠিক মাত্রায় বজায় রাখতে হলে চিনির পরিবর্তে মধু খাওয়া শুরু করতে হবে।

কোলেস্টেরলের মাত্রা সঠিক রাখা

কোলেস্টেরলের মাত্রা সঠিক রাখাঃ

কোলেস্টেরলের মাত্রা বেশি থাকায় এটি সরাসরি হার্টকে

Figure 4.1.7 Daily Life

#### 4.1.8 Periodical Life-Style

User can access all kind of periodical life-style and view all kind of information.



**Figure 4.1. 8 Periodical Life-Style**

#### 4.1.9 Health Food Tips

User can access all kind of health foods Tips and view all kind of information.



**Figure 4.1.9 Health Food Tips**

#### 4.1.10 Exercise

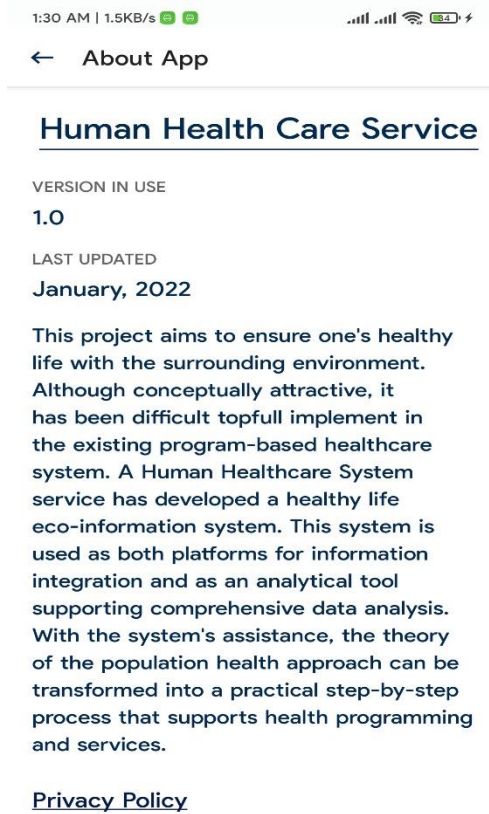
User can access all kind of exercise and view all kind of information.



Figure 4.1.10 Exercise

### 4.1.11 About App

User can see the information about app.



**Figure 4.1.11 Exercise**

## 4.1.12 Bookmark

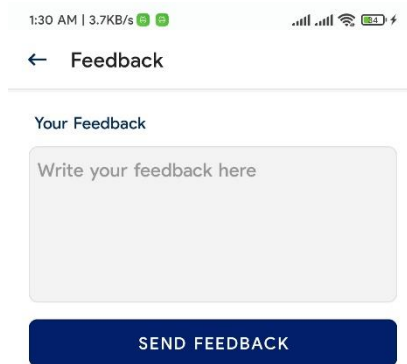
User can access recent readout pages.



Figure 4.1.12 Bookmark

### 4.1.13 Feedback

User can send us Feedback.



A mobile application interface for providing feedback. At the top, the status bar shows the time as 1:30 AM, a data speed of 3.7KB/s, and various connectivity icons. Below the status bar is a navigation bar with a back arrow and the title "Feedback". The main content area is titled "Your Feedback" and contains a large, light gray text input field with the placeholder text "Write your feedback here". Below the input field is a dark blue button with the text "SEND FEEDBACK" in white capital letters.

**Figure 4.1.13 Feedback**





## 4.2 Back-End Design

The back-end of an application is usually the logical element of the application. It is the most significant aspect of our application because it is the foundation of our entire system. The back-end is made up of a variety of elements that vary depending on the platform. We used to create our application. In addition, we establish a database in our website's back-end system to store data that the server receives from users. For the building of our website, we primarily used Node.JS, Mongo DB.

In the back-end various different tasks are performed for example data handling, third party system integration etc. The process of showing data is performed from the back-end. In the back-end data is stored as Jason. After user connects with the real-time database the user receives updates with new data instantly since it is a real time database in our back-end we got all data of user and sessional information. The information about comment are also going to be stored here.

In figure 4.2.1 we are going to show authentication using email.

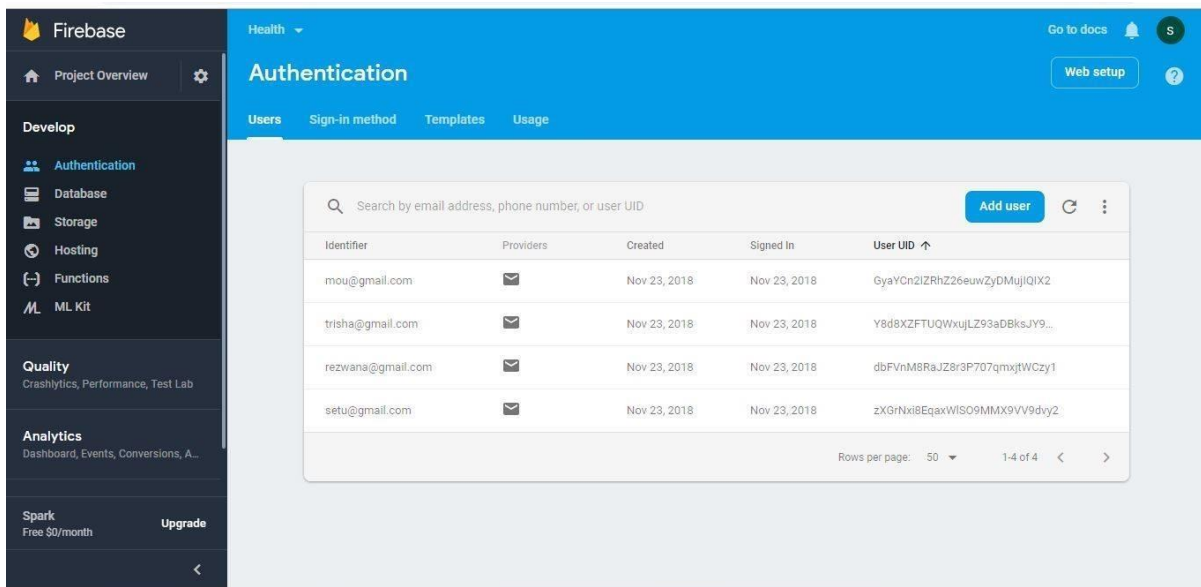


Figure 4.2.1: Authentication using email

## **4.3 Interaction Design and UX**

Interaction design, often abbreviated as IxD, is "the practice of designing interactive digital products, environments, systems, and services." While the digital side of this statement is true, interaction design is also useful when creating physical (non-digital) products, exploring how a user might interact with it [6]

Maintaining excellent and easy contact between the system and the user is critical for the project's success in any application. In particular, this type of app and website, "Human Health and Home Care," requires regular data updates from users to deliver improved service. In such instances, awkward user interaction can lose users' attention and be detrimental to the application's and website's features.

We can identify the user's problem and fix the problem they encountered while using the program by using the interaction design approach. The user's interaction with an application, on the other hand, determines how the user feels when using the app and website. The user interacts with the system.

We had numerous individuals test our application for UX. Most of them felt the application's user interface is welcoming and valuable, while some claimed it needs more diversity in marketing Bangladeshi sessions, Session cuisines, and flues.

### **4.3.1 Interaction Design and UX for Web Version**

User experience design, or UX design, is incomplete without interaction design. The way we communicate with our brand and our clients or users is called interacting design. We ensure how to benefit our users in this section.

**4.3.1.1 Usability:** Usability is more significant in the UX system; usability refers to how engaging and accessible our website is and how quickly we can go from one page to the next. In this stage, we must consider user interface design elements such as the navigation

bar, logo or icon placement, how familiar our website is, maintain consistency, and address any errors or defects.

**4.3.1.2 Accessibility:** The speed with which our site appears when searched on Google or another search engine is determined by accessibility. We must focus on SEO (Search Engine Optimization) in our industry so that when a user searches for our website, it is found much faster than other review websites.

## **4.4 Implementation Requirements**

We need Android Studio to implement the project because we are going to use Kotlin and XML coding. To design the UI/UX we used Adobe XD. Since our application need to store data that is why we have used an online server Node.JS and for authentication, we use firebase system. Internet connection must be needed while using the server.

In our website we are doing dynamic website, easy to use easily managed easy to purchase foods easier to interact easy to access that requirements have given us a good understanding of how user-friendly our site is and how simple it is to utilize all implementations.

## CHAPTER 5

### IMPLEMENTATION AND TESTING

#### 5.1 Implementation of Front-end Design

In terms of android application development, the program's front end is actually made up of numerous screens or activities. The design and functioning of these activities are vastly different.

The user interfaces were created using the Android Studio IDE and the XML design language. Extensible Markup Language, or XML, is the standard and official design language for developing Android apps. We had to use Adobe Photoshop and Illustrator to create the app's logo, icons, and background in other circumstances. In some of these scenarios, we also used the Android Studio IDE.

#### Implementation of Front-End Design

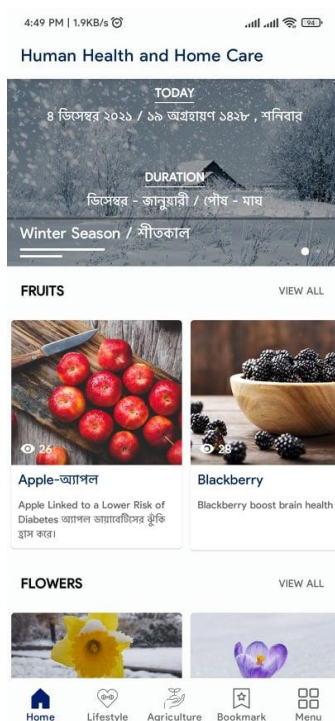


Figure 5.1.1 Home page of the application

## Implementation of Back-End Design

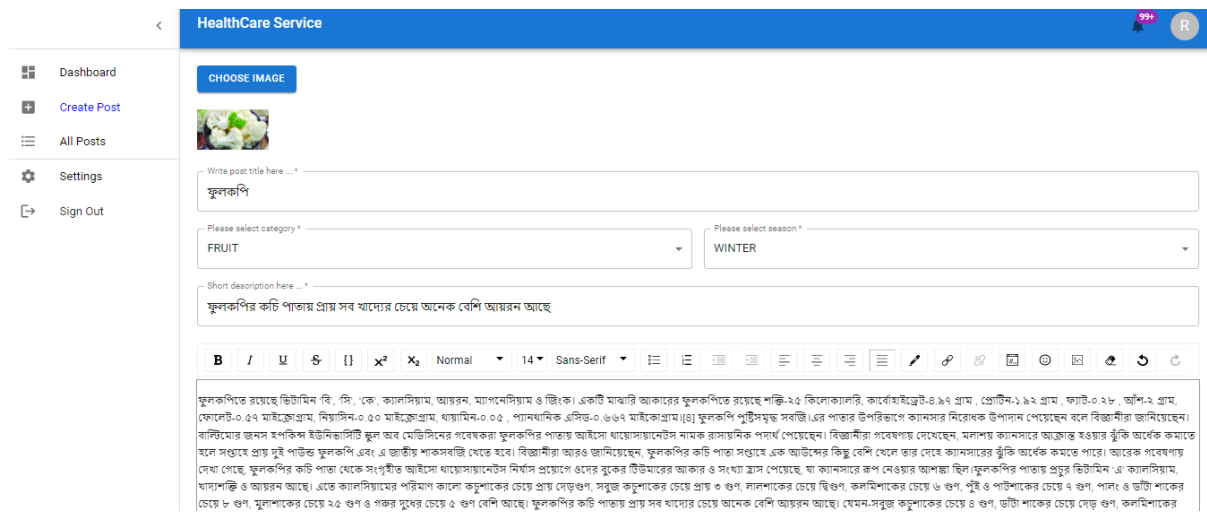


Figure 5.1.2 Home page of the application

## 5.2 Implementation of Database

We have used four different types of database in this project to increase the efficiency and the speed.

- **Shared Preference:** Shared preference is androids internal data storage system. It is used to store small amount of data that are required during the runtime of the application. Small data such as, login status, username, password and some other numeric values are stored in this storage. Data stored in shared preference are only accessible to the application itself; user does not have direct access to any data stored in shared preference.
- **Room Database:** This is offline database management system for android to access phone memory or SD cards. Data stored in Room database can be accessed from the app as well as other applications installed in the device. We used Room to store and access data for offline use.
- **Firestore authentication:** Firestore is a dedicated to android database management and storage system developed and provided by Google. In terms of storing and

managing big number of users online Firebase is much faster and easy to implement than typical another authentication system. Our application uses Firebase to verify users.

- **MongoDB Database:** For all sessional user info and advice the application relies on MongoDB Database. We kept those web pages on the MongoDB Database and user can access or view them from the app and website.

### 5.3 Implementation of Interactions

**Android Version:** We used a responsive and user-friendly UI to make it easier for users to utilize. We've included an icon and a button so that the user may quickly grasp how our software works. Our program has been designed in such a way that it is simple to use.

**Web Version:** People's pains are increasing for many types of sites at this time. It was created to help them make a decision more quickly and easily. It should be done in a way that attracts customers. Clients who are on a given page but need to complete other things on a different action are always running.

### 5.4 Testing Implementation

System testing is a technique for evaluating the interaction of a complete and integrated system with the defined user criteria. This is significant because testing allows the tester to assess the system's limitations and potential for development.

## 5.5 Test Results and Reports

Here in table 5.5.1 we are going to show the test we have performed on the application and their result –

Test Case	Test Input	Expected Outcome	Obtained Outcome	Pass/Fail	Tested On
1.Interface testing	Testing in various android devices and browsers	Perfectly tested in various devices and browsers	App is supported in all devices and websites run smoothly	Pass	08-08-2021
2. ANR (Application is not responding)	Testing in various devices	Very rare not responding	Problem rate is very rare	Pass	05-10-2021
3. Data Load	Data loading in the application and website	Data loaded successfully	Loaded successfully	Pass	08-10-2021
4. Session dates and info	View of Bangla months, dates and Sessional environment info	Dates and Sessional environment info founded successfully	Dates and Sessional environment info founded successfully	Pass	15-09-2021
5.Sessional Foods	List of sessional foods	List of sessional foods founded successfully	List of sessional foods founded successfully	Pass	17-09-2021
6. Sessional flues	List of sessional flues	List of sessional flues founded successfully	List of sessional flues founded successfully	Pass	19-09-2021



7. Tips for fitness	Blog. advice, tips for maintain fitness	Blog. advice, tips founded successfully	Blog. advice, tips founded successfully	Pass	21-09-2021
8. Direct Gach theke-food factory	Lists of food of sessions, purchasing process	Lists of food of sessions, purchasing founded successfully	Lists of food of sessions, purchasing founded successfully	Pass	25-09-2021
9.Home Agriculture	Blog. tutorial for decorate Home Agriculture	Decorate information founded successfully	Decorate information founded successfully	Pass	29-09-2021
10. Login	Login by various browser and device	Login Successfully	Login Successfully	Pass	10-10-2021
11.Comment/Query	Comment/query	Comment/query did Successfully	Comment/query did Successfully	Pass	12-10-2021
12. Internet access permission	Connect through application and browser	Connected	Connected	Pass	20-10-2021
13.SDK testing	Checking in 21-30 SDK of version	Support in all version	Support in all version	Pass	27-10-2021
14. Database	Database connection	Support in all version	Support in all version	Pass	25-10-2021

## CHAPTER 6

### CONCLUSION & FUTURE SCOPE

#### 6.1 Discussion and conclusion

We have gathered requirements based on Bangladesh six sessions and implemented them using android and web Platforms. Our main goal was to make an interactive web and android based application system that would help all ages of our country. This application will help them introduce Bangladeshi culture, sessional food and flues, home agricultural, organic and local food factory and fitness tips. We hope it will help our teenagers to be familiar with our county sessional environment culture. In youth age, people will make food habit and aware of sessional flues. Women and older ages person will maintain their house as a greenhouse with production Argo. Moreover, anyone can buy and sell local and organic food throughout this Human, health, and home care system.

#### 6.2 Limitations

- Making use of our vast population
- Some sessional flues have same types of symptoms.
- We have to broaden our database.
- Need more functionality.

#### 6.3 Scope for Future Developments

- Our goal is to make our application available in iOS
- We also want increase the data of our application.
- AI can be included for the user.
- We will also think about more additional features which will be beneficial for the users

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