

ANNADATA: WEB APPLICATION

Project Report Submitted in Partial Fulfilment of the Requirements for the Degree of

Bachelor of Engineering *in* Computer Science and Engineering

Submitted by

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Under the Mentorship of & Under the Guidance of

Dr. Shrawan Ram
Assistant Professor

Dr. NC Barwar
Head Of Department



Department of Computer Science and Engineering
MBM University, Jodhpur
July, 2022

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Annadata: Web
Application

Department of Computer Science & Engineering



MBM University
Jodhpur, Rajasthan, India -342011

CERTIFICATE

This is to certify that the work contained in this report entitled "**Annadata: Web Application**" is submitted by the group members Mr. Himanshu Agrawal (Roll. No: 19UCSE4006) and Mr. Hitesh Bhatewada, (Roll. No: 19UCSE4007) to the Department of Computer Science & Engineering, MBM University, Jodhpur, for the partial fulfillment of the requirements for the degree of **Bachelor of Engineering in Computer Science & Engineering**.

They have carried out their work under my guidance. This work has not been submitted elsewhere for any other degree or diploma award.

The project work in our opinion has reached the standard fulfilling the requirements for the degree of Bachelor of Engineering in Computer Science in accordance with the regulations of the Institute.

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Annadata: Web
Application

Dedicated to the farmers of India

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Abstract

“Annadata” is a website for all farming solutions. It is a non-profit website and contains various features like the current prices of various commodities, a crop cart, weather updates through personalized messages, helpline numbers, pandemic alerts, a farming-related news section, etc. Our primary aim is to make a single platform for all suppliers farmers and buyers and to remove any kind of middle agents so that their benefits can be maximized.

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Chapter 1: Introduction

1.1 Overview

Farmers are the backbone of a country. It is because of them that we have food on our plates. India is called the land of farmers, as most of the people of the country are directly or indirectly involved in the agriculture sector [1]. The condition of most farmers is terrible. About 80% of farmers in India are marginal (less than 1 hectare) or small farmers (1–2 hectare) category. Agriculture supports about 60% of employment but contributes only 17% to GDP. There are reports of Indian farmer suicides from different parts of the country every day [2] [1]. According to the Central Government, despite a multi-pronged endeavour to increase farmers' income and economic security, over 12,000 suicides have been recorded in the agriculture industry every year since 2013. Farmers commit approximately 10% of all suicides in India [3]. Farmers have a complicated and challenging life, yet they do not receive their genuinely deserved privileges. Farmers are at the whims of intermediaries who occupy the whole area between the produce and the eventual selling of the food because they lack a direct relationship with the customers. As a result, mediators have a lot of authority, and farmers, although the producers, often find themselves at a disadvantage. Although there are some websites related to farmers in the market, none of them resolves all the issues the farmers face. Through this website, we are trying to provide a single platform for suppliers, farmers, and buyers to remove the role of middleman, provide weather updates and farming-related news and articles, a small approach to bring everything related to farming to one place [4].

Even though digital literacy remains a hurdle in rural India, the number of internet users in rural regions has increased by 13% over the last year. According to the report, Biswapiya Bhattacharjee, executive vice president of Kantar Research's Insights Division, by 2025, the number of web users in rural India will outnumber those in urban India, and the digital ecosystem will need to adapt and change to address the different needs of this emerging demography [5].

1.1 Problem Addressed

Among all the problems faced by Indian farmers the most crucial is the unawareness and inadequate use of available resources. When we compare India and China, we can see that they are both enormous countries with similar populations and similar food consumption patterns. China cultivates lesser areas, uses fewer fertilizers, and still produces more than

India. As a result, we can see how critical it is to develop our agriculture sector [6].

Even though the primary sector is a significant component of our economy and employs more than half of the country's workforce [7], it still lacks digital literacy. In a speech on September 19, 2021, India's Vice President, Mr Muppavarapu Venkaiah Naidu, urged to develop an integrated strategy for the rural economy to assure farmers' financial stability. "Building on our past experiences, we must continuously reinvent and evaluate our rural and agricultural development policies, as well as adopt new technologies, as part of our effort to establish a self-sufficient India," he said [8].

1.2 Our Approach

1.2.1 Problems with existing solutions

There are a few existing websites related to farming in India like "Agricoop.nic.in", "Farmer.gov.in", "Agriwatch.com", "Kisanmandi.com" etc. [9] that provide important information for farmers. But based on our observation majority of these websites do not have a user-friendly interface, are charging manufacturers and suppliers for membership, have no support available regarding the accessibility of the website and do not provide all solutions in one place.

1.2.2 Our Solution

We want to be a one-stop shop for all farming solutions. It features weather updates through SMS, a Cropcart, where a seller may offer any sort of farming-related tool and their crops to a buyer, recent news articles, where farmers can obtain any farming-related news, farming consulting services through ChatBot, with daily updates on all sorts of crop prices. It is a non-profit website with a richer user experience and user interface that offers all functions for free.

In the following chapters, we will describe the approaches implemented, the requirements to access the website, the website's workflow, and the final results to better understand the website and its features.

Chapter 2: Analysis, Methodologies, and Requirements

2.1 Introduction

As previously stated, this website aims to bring farming solutions together in one place, so before we go into the technical aspects, let us have a look at the features accessible. We will discuss each one in detail in upcoming chapters.

- One place for all farming solutions.
- A non-profit website and all the features are available for free.
- The website contains some the features like Current prices of various commodities
- Weather update through a personalized message
- Crop cart
- Helplines
- Pandemic alert
- Farming-related news section

A methodology must be defined before any project begins. The process and justification underlying the usage of tools are referred to as methodology. It is an essential component of a project because it serves as a link between theory and implementation. The upcoming section explains the methodologies used in this project.

2.2 Methodology

2.2.1 Agile Methodology

The Agile approach is a style of project management that divides a project into stages. Agile seeks to empower teams to produce in manageable increments to give improved responses to market business demands. Collaboration, adaptability, constant progress, and high-quality outputs are all emphasized. The process is divided into several stages that form a sequence: Discussion, Analysis, Strategy, Execution, QA and Testing. Figure 2.1 shows the core values of agile methodology.

1. Design- Start with an objective and define the requirements and key scenarios to meet

those re- requirements

2. Develop- Work on the code, test and deploy to the cloud
 3. Review- Reviews the results, match with requirements, repeat and redefine if required
-



Fig 2.2.1

2.3 Tools and Technologies

2.3.1 HTML

HyperText Markup Language, more popularly known as HTML, is a programming language used to create web pages and applications. "Text within Text" is what HyperText is all about. Any hypertext is just text that has a link. HyperText is connecting two or more web pages (HTML documents). Using HTML, we create static web pages. The HTML5 specification pays homage to the past by supporting classic HTML and XHTML syntax and introducing a slew of new features. HTML5 attempts to bring order to the chaos by codifying industry standards, embracing what is already in browsers, and describing how user agents (browsers or other applications that consume Web pages) should deal with our faulty syntax. Although HTML5 is a step forward from HTML 4, it is also a retreat and an admission that trying to convince every Web developer on the Internet to create good markup is a hopeless endeavour, especially given how few are fully trained in the technology. HTML5's ambitions are lofty. The specification is lengthy and frequently misinterpreted [10] [11] [12].

2.3.2 CSS

In the past, markup elements provided most of the graphical structuring of Web pages, combining the notions of physical and logical markup into a jumble, which is classic HTML. Strict variations of HTML deprecated presentation-focused elements and attributes,

establishing a clear difference between markup's structure and the look imposed by a style sheet defined in the CSS (Cascading Style Sheets) syntax. The clear distinction between style and markup can provide significant production, management, and even performance advantages, making it a far preferable display alternative to markup [13] [14].

2.3.3 Javascript

Brendan Eich invented JavaScript in ten days in May 1995. Brenden worked at Netscape, developing JavaScript for the Netscape Navigator web browser. According to the plan, the major interactive aspects of the client-side website were to be built in Java. JavaScript was designed to function as a glue language between such elements and make HTML more interactive. JavaScript had to appear like Java since it was supposed to help Java hence the existing options like Python, TCL, Pearl, and others were ruled out. The name of JavaScript was changed several times :

- At the very first code name of JS was Mocha.
- In September 1995, during the Netscape Navigator 2.0 betas, it was named LiveScript.
- It got its final name as JavaScript in December 1995 during Netscape Navigator 2.0 beta 3 [15].

2.3.4 React.js

React.js is a component-based JavaScript UI toolkit that is simple to use and rich in features. Re-act is actively used to create both minor and extensive, complicated applications. React.js provides an essential and reliable feature set for launching a web application. The React community complements the React framework by supplying a vast range of ready-to-use components for swiftly developing web applications. On top of the React library, the React community additionally provides advanced concepts such as state management, routing, and so on [16] [17].

2.3.4.1 Features

React.js is a feature-rich library some of the features of React.js library are mentioned below

- Declarative UI library
- Extensible architecture
- Solid base architecture
- JSX-based design architecture
- Component-based library

2.3.4.2 Benefits and Applications

The following are a few advantages of using the React library.

- Availability of a large number of ready-made component
- Easier to learn
- A faster way to code a functionality
- Large and active community
- Easy to adept in modern as well as legacy application

Popular media platforms such as Facebook, Instagram, and Netflix are designed using React [17]. In conclusion, one can easily see that react is a compelling yet straightforward library that has revolutionized web development [16].

2.3.5 MongoDB

MongoDB is a document-oriented database with no SQL. The concept of documents in MongoDB replaces the concept of rows in traditional relational data models. MongoDB allows developers to work with changing data models with ease. It permits embedded documents, and arrays and depicts complex hierarchical relationships with a single record because it is document-based. It is also schema-free, which means the document's keys are not set in stone. As a result, large-scale data migration is no longer an option. In MongoDB, a database is a physical storage location for data, and the term "collection" refers to a group of MongoDB documents while a document consists of a collection of key-value pairs. Documents in the same database collection do not have to have the same set of structure or fields, and standard fields in a collection's documents can contain different types of data [18].

2.3.5.1 Advantages of MongoDB over RDBMS

A typical schema design for a relational database (RDBMS) displays the number of tables and their relationships. MongoDB has no concept of relationships [19].

- The structure of a single object is clear.
- Deep query-ability: The deep query in MongoDB is nearly as strong as SQL to allow dynamic queries on documents as it uses a document-based query language.
- Schema less database: MongoDB is a document database that stores several documents in a single collection. The number of fields, content, and size of a document might vary from one to the next.

- No complex joins.
- Conversion/mapping of application objects to database objects is not needed.
- Tuning.
- Ease of scale-out: MongoDB is easy to scale.
- Uses internal memory for storing the (windowed) working set, enabling faster access to data [2].

2.3.5.2 Why and where to use MongoDB?

MongoDB uses document-oriented storage i.e. the data is stored in the form of JSON format documents. It provides

- Rich queries
- Fast in-place updates
- Indexing on any attribute
- Auto-sharding
- High availability and replication
- Professional support by MongoDB

MongoDB is used in Big Data, mobile and social infrastructure, Content Management and delivery, a data hub, user data management, etc [18] [2].

2.3.6 Node.js

Node.js is a framework that quickly develops fast and scalable network applications based on Chrome's JavaScript engine. Node.js is a combination of a runtime environment and a JavaScript library. Node.js is lightweight and efficient because of its event-driven, non-blocking I/O approach, which is ideal for data-intensive real-world applications that operate across multiple devices [20].

2.3.6.1 Features of Node.js

Some of the key characteristics that make Node.js the top choice of software architects are listed below. [21].

- **Swift Execution:** Node.js library is very fast in code execution as it is built on Google Chrome's V8 JavaScript Engine.
- **Event Driven and Asynchronous:** In the Node.js library, all APIs are asynchronous, that is, non-blocking, which means that a Node-based server never waits for data to return from an API. The server automatically moves to the following API after calling one API and uses a notification mechanism of Events of Node.js that helps the server to get a response from the previous API call.
- **No Buffering:** The data is produced in chunks by Node.js apps. These applications never buffer any data.
- **Single Threaded but Highly Scalable:** Node.js employs an event looping paradigm with a single-threaded model. Compared to conventional servers like Apache HTTP Server, Node.js uses a single-threaded application that can handle a considerably higher number of requests. In contrast to typical servers, which establish restricted threads to process requests, the event mechanism allows the server to reply in a non-blocking manner and makes it more scalable.

2.3.6.2 Uses of Node.js?

The domains where Node.js is proven to be an excellent technological partner are as follows [17].

- JSON APIs based Applications.
- DIRT (Data Intensive Real-time Applications).
- Input/Output (I/O) bound Applications.
- Single Page Applications.
- Applications with Data Streaming. [17].

Many companies are using Node.js in today's world. The list companies includes Wikipins, eBay, GoDaddy, Microsoft, General Electric, PayPal, Uber, Yahoo!, Yammer, and many more [22].

2.3.7 Express.js

Express(Express.js) is a web framework built on Node.js' core Connects components and HTTP module. Middlewares are the term for these connected components. They are at the heart of the frame- work's philosophy, prioritizing configuration above convention. In other terms, developers have com- plete freedom to choose whichever libraries they want for a

given project, with a high level of flexibility and customization. Suppose one develops significant projects using only the basic Node.js modules. In that case, one will almost certainly end up wasting their efforts in rewriting the same piece code for analogous tasks over and over again, such as:

- Express helps in organizing the routes that contain a chain of if conditions based on HTTP methods of the requests and URL paths
- Parsing of the HTTP request bodies
- Managing sessions
- Managing and parsing of cookies
- Choosing the right response headers depending on the data types

Express.js enables developing Node.js web applications quick and easy to build and customize. It allows us to design application routes based on HTTP protocols and URLs and contains several middleware modules that we may employ to do extra request and response activities [23].

2.3.8 Redux

Redux is used as a state container or a predictable state container for JavaScript apps. It enables us to create apps that act consistently across platforms (server, native, and client) and are simple to test. Moreover, it offers a great developer experience and provides users with a time-traveling debugger and live code editing. Redux is mainly used with react but can be used with any view library [24].

2.3.9 Twilio

Twilio is a single platform that provides users with flexible APIs for any built-in intelligence, channel, and global infrastructure to support the user at scale.

2.3.10 Material-UI

Material UI is a popular react framework that provides simple and customized modular react components. It's a library for creating React apps that are smoother, more attractive, and more accessible. It also allows users to create their own design systems and apps. It also allows users to create their own design systems and apps.

2.3.11 Styled-components

Styled components allow users to write CSS code to style react components using tagged

template literals (a great addition to JavaScript) and the power of CSS. It also eliminates the mapping between components and styles, making components more accessible as a low-level stylistic construct. Styled components automatically maintain track of which elements are rendered on a page and inject just their styles. When combined with code splitting, your users will load the least amount of code possible. For each of your styles, it produces a unique class name. There's no need to be concerned about duplication, overlap, or misspellings [25].

2.4 System Requirements

Following are the system requirements for running the application:

1. Dependencies- npm -latest version
2. Browser - Chrome, Mozilla, Safari, etc.
3. OS - Linux, Windows, MacOS, etc
4. Screens - Desktop, Mobile, Tablet etc.

The website is compatible with all types of devices due to its responsiveness. It also eliminates the problem of multiple operating systems because it is a website. In the next chapters, we will discuss the requested work, as well as the features that have been implemented and the final outcomes.

Chapter 3: Proposed Work

3.1 Website Flow

Figure 3.1 shows the workflow of the complete website. Firstly we have home page. Home page consist of Crop cart, Weather, Daily commodity prices, Helpline Numbers, Login/Signup, and News section.

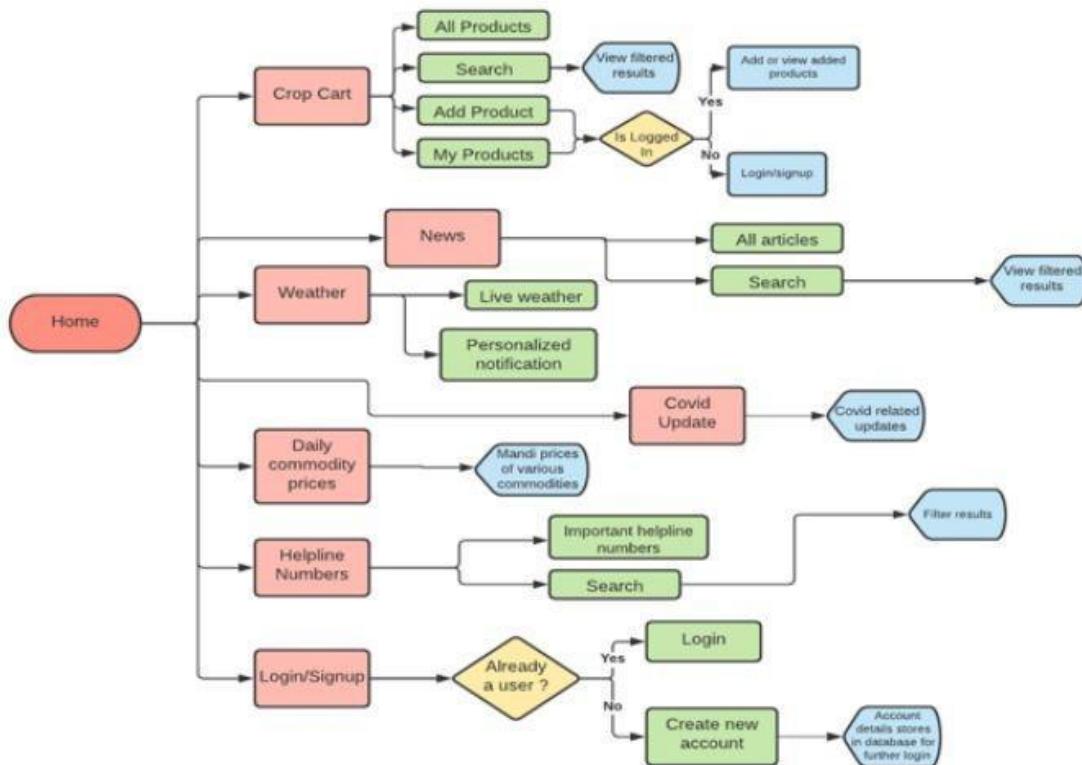


Fig 3.1 Website Flow

Crop Cart has an all products feature that shows what products are available for sale, and it also consists of a search button that facilitates the user to search for a particular product. A feature to add a product for sale is also available. If a user wants to sell something, then he can directly add a product if he/she already has an account. If the user does not have one, an account can be easily created. Users with existing accounts can add or delete products at their convenience. The news section has all news related to farmers, but if the user wants to search for other things, he/she can apply a filter or search for a new term in the search bar. The weather feature shows a live weather update of a particular area and sends a personalized message about the weather update to a user. Chatbot feature is also available if user not able

to find anything then he can write on chatbot and get the required information. If the chatbot cannot understand what the user wants to ask, then the chatbot gives a link of feedback. Daily commodity prices feature displays the mandi prices of various commodities. Helpline Numbers contain important contacts, and the Login/Signup page is for user authentication.

3.1.1 Login flow

A login/signup page is required for authentication on any website, and it must be secure and dependable because a user account may retain personal information about the user. Figure 3.1.1 displays about the flow of login portal in the website.

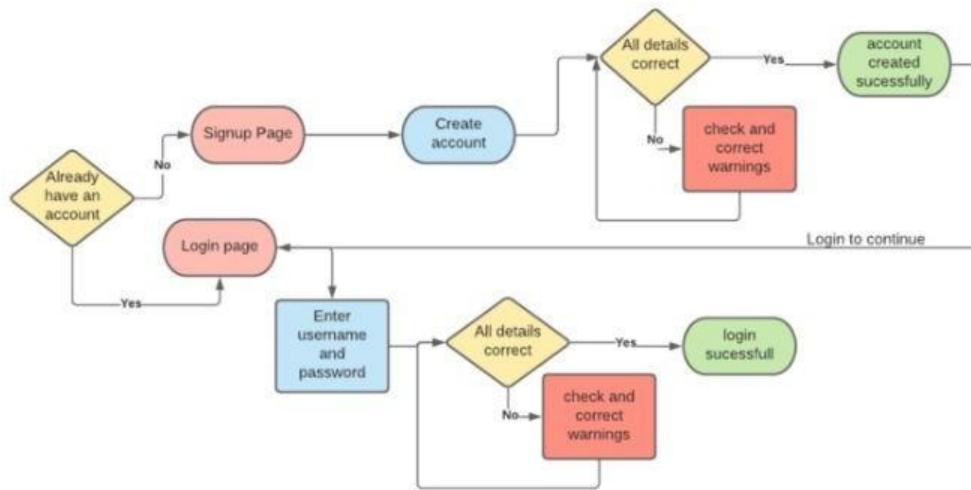


Figure 3.1.1 Flow diagram for login and signup page

The login /signup page handles edge cases like: Signup Page:

1. Username already exists
2. Password and confirm password do not match
3. Email format is invalid
4. Phone number format

is invalid Login Page:

1. Username does not exist
2. Password is incorrect

The login portal allows users to access the "My Products" section. The password entered during login and signup is hashed to prevent privacy breaches.

3.2 Features

Features in the website includes:

1. **Crop Cart:** For selling and buying farming related goods without the role of any middleman. A registered user can add and manage a product he/she wants to sell, while a non registered user can view already uploaded products and a buyer can contact the seller directly. Available products can be further filtered using the search functionality as per needs.
2. **Consulting:** To make the website more accessible to users and to help them with any problems they may encounter. Users can communicate with an automated chatbot that assists them in reaching sections of the website that they may be unable to access, and if the chatbot is unable to answer their questions, the user is sent to a feedback form.
3. **News:** This section provides latest news articles related to farmers, these articles can be further filtered through search option provided.
4. **Weather:** Weather alerts and on-demand live weather are available by text messaging. By putting the city's name into the search box, the user may get real-time weather information for any city. A user can also choose to get frequent weather updates in his or her city by text message every morning.
5. **Pandemic Updates:** latest updates about COVID -19 pandemic
6. **User Interface:** Simple, responsive and easy to use user interface
7. **Daily Commodity Prices:** daily "mandi" prices of various commodities
8. **Helpline Numbers :** All key helpline numbers in one spot, including search functionality for additional filtering.
9. **Login Portal :** login / sign up portal to increase security of uploaded products by users as the administration of products that have been added.

3.3 Data Schema

The structure and contents of your data are defined by a schema, which is a JSON object. All write operations (updates, deletes, and inserts) on a MongoDB collection are validated against the collection schema by MongoDB Realm. It verifies that all attributes comply to the schema and that no incorrect modifications have occurred before and after each request [26].

3.3.1 User Schema

The below code was used to describe the data schema for a user. It specifies the type of variable accepted for a particular entry and the required fields.

```
const mongoose =
require("mongoose"); const Schema
= mongoose.Schema;

let userSchema = new Schema (
{
  name: {
    required:
    true, type:
    String,
  },
  mobile: {
    type: String,
  },
  email: {
    required:
    true, type:
    String,
  },
  password: {
    type:
    String,
    required: true,
  },
},
{
  timestamps: true,
  collection:
  "users",
}
);
module.exports = mongoose.model("User", userSchema)
```

3.3.2 Product Schema

The below code was used to describe the data schema for a product that is added for sale .

It specifies the type of variable accepted for a particular entry ,and the required fields.Image files are stored as base-64 codes. The creator id in this scheme is the unique id of the user that has created the product.

```
const mongoose =
require("mongoose");

const Schema = mongoose.Schema;

let productSchema = new Schema (
{
  name: {
    required:
    true, type:
    String,
  },
  description:
  { type:
    String,
  },
  price: {
    type: String,
    required:
    true,
  },
  image: {
    type: String,
  },
  contact: {
    type:
    Number,
    required: true,
  },
  creator: {
    type:
    String,
  },
},
le.exports = mongoose.model("Product", productSchema);
```

3.3.3 Data Flow

To get any entry from the database, we must first comprehend how it operates. The database is where all of the data is saved. The data is stored in the database in the form of models, which contain schemas and sub schemas as shown in figure 3.3.1. These schemas and sub schemas establish a framework for the data to be stored, which is used to store individual entries with unique ids. Figure 3.3.2 demonstrates the data model and a sample database for the same.

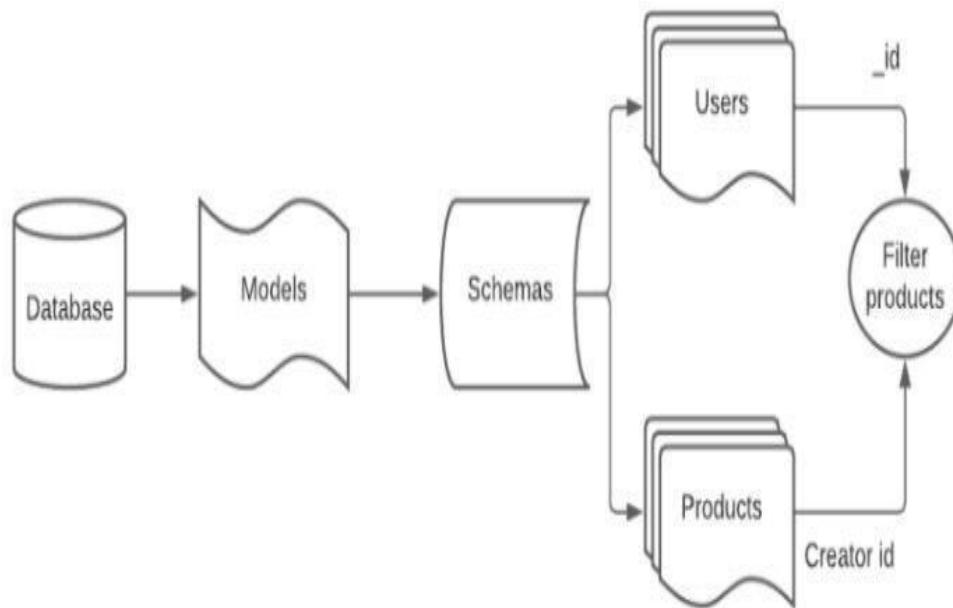


Figure 3.3.1 Data flow model for user and product data

In this website we developed two models respectively for users and products, then connected them together by assigning the user's unique id to the product as the creator id, allowing us to filter our results and provides better visibility.

Chapter 4: Results

4.1 Home Page

Figure 4.1.1 is the home page/main page of **Annadata** which is made using react and also helps us to redirect to other features of crop cart, weather information, covid update and many more.

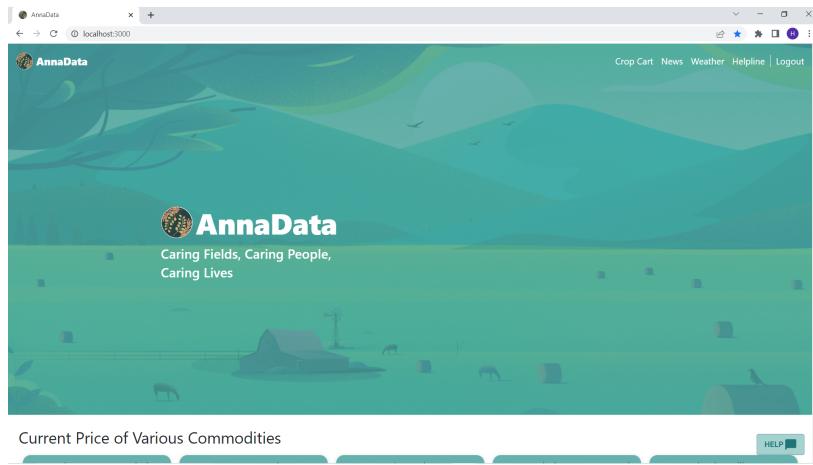


fig: 4.1.1

4.2 Commodity Prices

Figure 4.2.1 shows some examples of commodity pricing and how they differ from one state to the next. It is updated via an government API, and hence the results are authentic and reliable and relevant information, after which the user may use the site. An current user can login in to the website without having to create a new account. To upload items for sale or to browse uploaded products, you must first log in or create an account.

Bengal Gram(Gram)(Whole)	Castor Seed	Cummin Seed(Jeera)	Guar Seed(Cluster Beans Seed)	Isabgul (Psyllium)
Max-Price:Rs.4300 Min-Price:Rs.4000 Modal-Price:Rs.4150	Max-Price:Rs.6800 Min-Price:Rs.6300 Modal-Price:Rs.6550	Max-Price:Rs.21500 Min-Price:Rs.16300 Modal-Price:Rs.18900	Max-Price:Rs.4750 Min-Price:Rs.4300 Modal-Price:Rs.4630	Max-Price:Rs.14500 Min-Price:Rs.14000 Modal-Price:Rs.14250
Rajasthan 07/07/2022 Jodhpur Jodhpur (Grain) (Mandor)	Rajasthan 07/07/2022 Jodhpur Jodhpur (Grain) (Mandor)	Rajasthan 07/07/2022 Jodhpur Jodhpur (Grain) (Mandor)	Rajasthan 07/07/2022 Jodhpur Jodhpur (Grain) (Mandor)	Rajasthan 07/07/2022 Jodhpur Jodhpur (Grain) (Mandor)
Methi Seeds	Mustard	Taramira	Apple	Garlic
Max-Price:Rs.5120 Min-Price:Rs.4800 Modal-Price:Rs.5000	Max-Price:Rs.6000 Min-Price:Rs.5700 Modal-Price:Rs.5850	Max-Price:Rs.5000 Min-Price:Rs.4600 Modal-Price:Rs.4900	Max-Price:Rs.10000 Min-Price:Rs.6000 Modal-Price:Rs.8000	Max-Price:Rs.2000 Min-Price:Rs.1800 Modal-Price:Rs.1500
Rajasthan 07/07/2022 Jodhpur Jodhpur (Grain) (Mandor)	Rajasthan 07/07/2022 Jodhpur Jodhpur (Grain) (Mandor)	Rajasthan 07/07/2022 Jodhpur Jodhpur (Grain) (Mandor)	Rajasthan 07/07/2022 Jodhpur Jodhpur(F&V) (Bhadawas)	Rajasthan 07/07/2022 Jodhpur Jodhpur(F&V) (Bhadawas)
Mango	Mousambi(Sweet Lime)	Onion	Papaya	Pear(Marasebu)
Max-Price:Rs.4000 Min-Price:Rs.1000	Max-Price:Rs.3000 Min-Price:Rs.2000	Max-Price:Rs.1800 Min-Price:Rs.500	Max-Price:Rs.1600 Min-Price:Rs.800	Max-Price:Rs.2000 Min-Price:Rs.1500

fig 4.2.1

4.3 Crop Cart

Figure 4.3.1 displays the products that people have advertised for sale. It also allows you to add things for sale, browse or delete products that have been uploaded, and filter the results. By selecting the contact seller button, a buyer can contact a seller directly, which copies the seller's telephone number

to the clipboard. The "my products" data is fetched by the Mongoddb server using the user id for the logged in user, and the UI for this portion was developed using material UI.

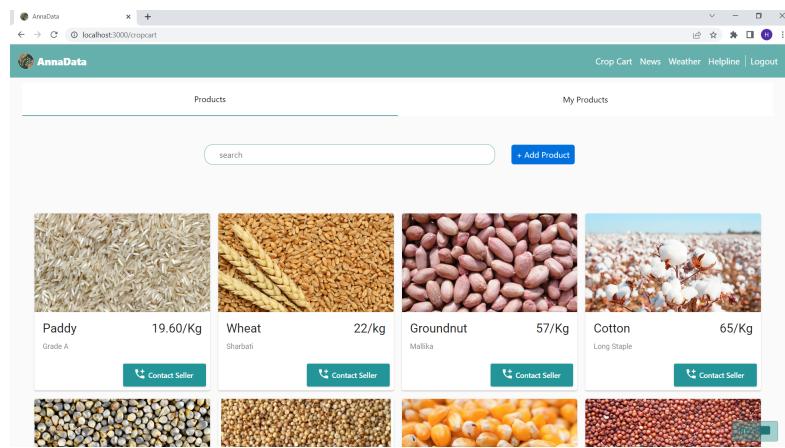


fig 4.3.1

4.4 Weather

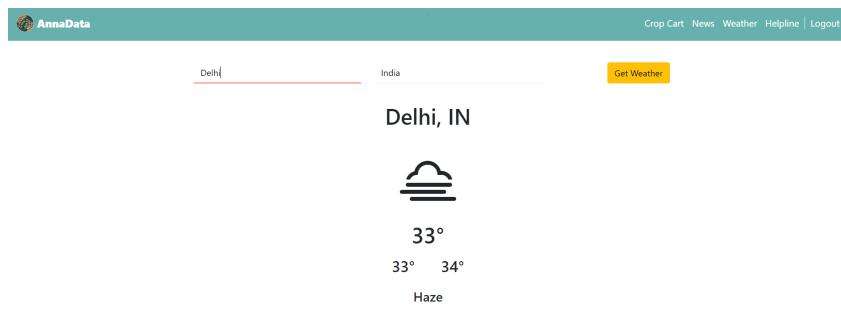


fig 4.4.1

As shown in figure 4.5.1, this section provides live weather for every state or city in India. A user may also subscribe to daily weather notifications to receive information on a regular basis.

4.5 News Articles

News articles offer farming-related news items to keep users informed about the latest news and innovations in their area. A user may view the detailed article and the news source by clicking on any article. The results can be further refined, or you can use the search bar to look for anything else. Figure shows an snapshot of this section and how it works.

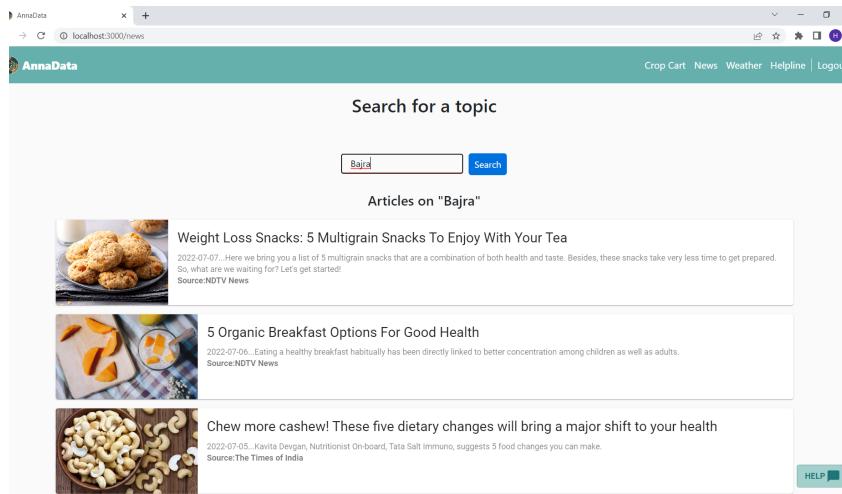


fig 4.5.1

4.6 Chat Bot

Figure 4.7.1 shows Chat Bot. This app was made with the react app and react-chatbot-kit installed. We have incorporated three major aspects to make the chatbot operate. The first is config, which has a property called initialMessages. The MessageParser class implements the parse function. Finally, the ActionProvider implements the action that we want to take based on the parser.

A feedback form is also included in our chatbot. If a user has an issue with our website, he or she can contact us. If the user has a recommendation, they can also contact us. We receive all answers through email.

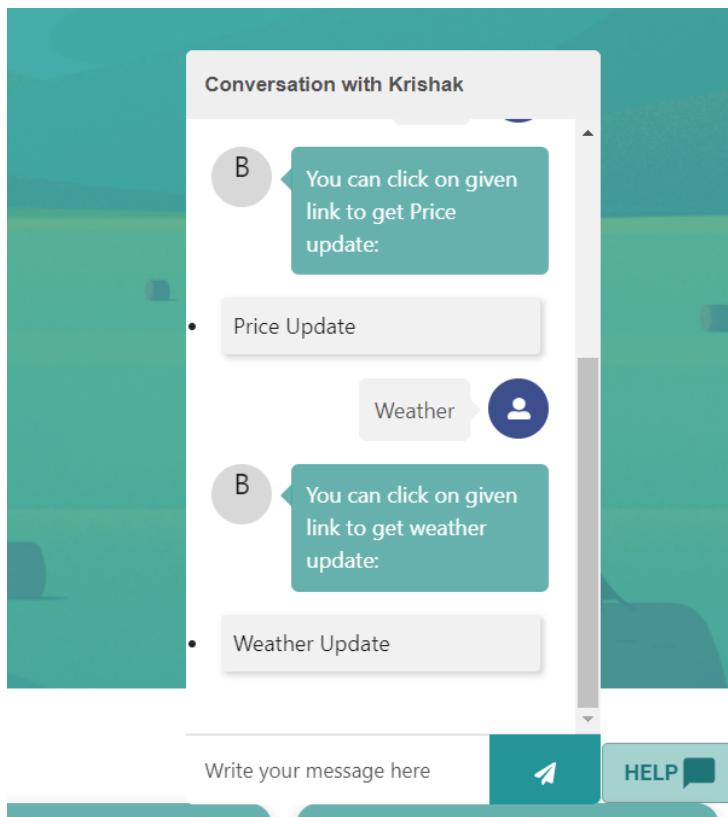


fig 4.6.1

4.7 Helpline Numbers

This section was created to include all necessary helpline numbers in one place, as seen in the figure. The goal was to have all of these critical numbers in one location in case of an emergency. These results can be further refined to make them simpler to find.

National Emergency Number	
National Emergency Number	t_112
Police	t_100
Fire	t_101
Ambulance	t_102
Disaster Management Services	t_108

fig 4.7.1

4.8 Covid Updates

This section has been developed to provide information about confirmed, current, recovered, and deceased cases in India. Also, include information about vaccinations. It also provides state-specific information. It tells you how many people were tested today and what percentage of them were positive. We utilised javascript, react.js, and api, as well as the Jason library, to develop this functionality.

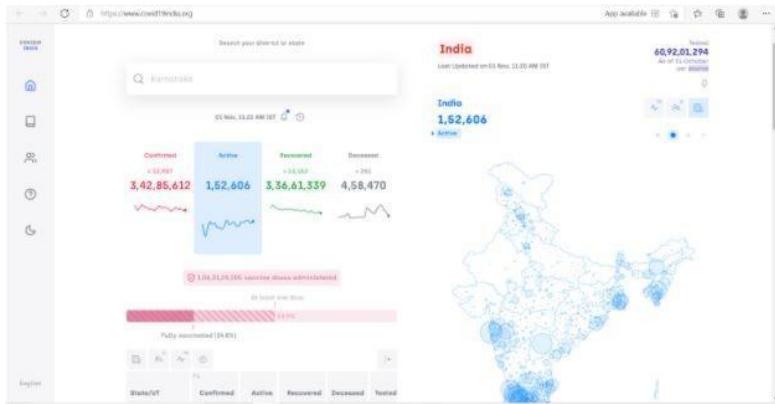


Fig 4.8.1

4.9 Responsiveness

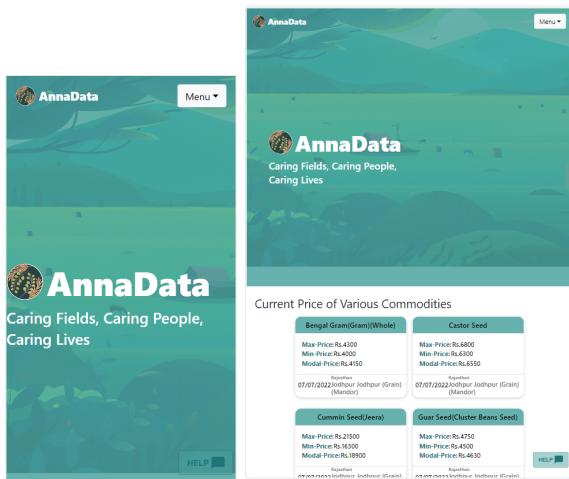


Fig 4.9.1

Chapter 5: Conclusions and Future Work

Agriculture has been the backbone of our country for decades. Agriculture provides a living for more than 60 percent of our indigenous people [7]. Agriculture is the primary occupation of millions of our people. As the world is adopting cutting edge technologies, internet has become ever popular, farmers are still lagging behind. Regardless of the fact though much has been done to enhance cultivation, Indian agriculture still relies on ancient agricultural practices, natural water irrigation, and development approaches. [27]. This is a small approach towards making farmers aware of latest technologies , current market prices and to remove any kind of middle agents so as their benefits can be maximised. Our aim is to make this website as user friendly as possible so that everyone can use it without hassle.

5.1 Scope of further work

Annadata has many features, but there is always room for development. For example, the website might be made multilingual using paid APIs. Payed servers can be added, allowing a considerable number of farmers to access the website simultaneously.

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