Smart Agricorping Chatbot

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Dissertation Outline

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1 Introduction

This document illustrates the scope of a B2C solution for an Agri crop venture which aims to connect business with fresh crop produce and by-products. The document also provides a clear understanding of what all technologies and problems are focused on and especially what all steps and methods are taken into consideration for the problem to be solved. The main focus of the project is showing the differentiation between organic and non-organic where we show the user both the product and let them conclude which product to be taken based on their health consideration so that we can provide them with the seller details.

1.1 Background and Context

The eCommerce Market is a leading producer of fresh organic products aiming for the health-centric food needs of the future. In the current state of business, the consumer is unable to determine whether the produce is organic or chemicalized. There are several setbacks in the business due to adulterer produce and this eCommerce website should essentially help the Project to authenticate the produce and synthesize fresh and pure organic produce at a competitive price and predictive market demand for business continuity and expansion.

The main aim of the project is to serve where consumers can directly have contact with farmers who sell their products and also provide a feature to directly purchase fruits & vegetables from farmers. The main of the Project is to provide more information & organic facts about Fruits & vegetables in line with a healthy perspective and also provide the right information about the prod of what they are looking for should be accurate & genuine, which can't be manipulated by wrong sources, Farmers to get value to their efforts through their Product. The comparison charts and information side by side what buyers looking for and what farmers producing. In this project, the use of Virtual assistant will be used to support consumers with instant information about Fruits & vegetables.

In summary, the problem is that Evaluate the organic VS normal fruits & vegetables. Reach out to customers directly to Farmers for buying Fruits & Vegetables. Get information on which location is available the most through insights & visualization charts. The value that Projects gets out of this e-commerce website is that in one place information & direct access to buying from the firm farmer.

1.2 Problem analysis

COVID-19 epidemic, demand for safe and healthy food is now on the rise, making it an ideal time to seize a win-win scenario for farmers, buyers, and the environment. Consider developing a buying or selling organic food e-commerce marketplace for farmers and suppliers to enable local producers to interact directly with customers (B2C agriculture marketplace).

During the epidemic, many farmers chose to go digital to overcome challenges and improve their businesses using online platforms through social media (WhatsApp/Facebook/Twitter etc) But not at the level of data source availability & value-driven information to customers. Understanding the market vacuum, social enterprises are looking into how they may use the internet's power and the growing availability of mobile phones to establish direct market connections between farmers and Consumers.

Through my solution, the availability of information &sources of product availability will help to drive people towards better choices of healthy food consumption &. Also supports sustainability Goal No 3. Good health & Well-being, Goal No 12 Responsible Consumption & Production, Goal No 13. Climate Action. Also supports Goal No 9 Industries Innovation & Infrastructure.

1.3 Scope and Objectives

Objective:

Responsive website: The key concentration was on building an intuitive interface & Eye-catching responsive design website while placing a wide range of products in a manner that visitors find shopping a hassle-free experience.

Scope :

Chabot: Consumers can get information on the availability of Fruits & vegetables along with Framer & locations.

Visual charts: Through Visual charts which location has more demanding fruits & vegetables and what kind of soil & climate conditions are available.

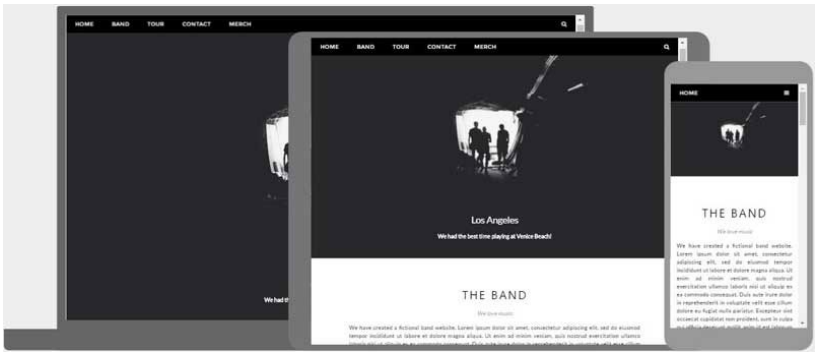
For the Project, 20 use cases will be prepared for testing and the prototype will be evaluated using each use case. The prototype will be adjusted based on the results of these tests and the tests will be performed again if any major components fail to pass them. If all use cases pass, then the prototype will be considered fully functional, and it will be presented to the Project. After presenting the prototype, the Project will be able to provide feedback on it and adjustments will be made based on their feedback on the prototype. After all the adjustments are made the final application will be delivered to the Project. The final product should meet the expectations of the Project by satisfying their business needs. The Project will be asked to provide feedback on the final prototype to be able to assess their satisfaction.

2 State-of-The-Art

2.1 Responsive Web design

In the project, we are focusing on making the website responsive. Responsive web design is a widely accepted and familiar concept in website design. This concept not only enriches the user experience but also eliminates the turnaround time to build native applications in various devices and environments. Responsive web design is all about creating web pages that share similar user experiences on all devices!

Responsive Web Design shall be developed using HTML and CSS to automatically resize, hide, shrink, or enlarge the website and enforce similarity on all devices (desktops, tablets, and phones)



2.1.2 Setting The Viewport

On this website, we are prioritizing adding various elements like text and images. The viewport in web designing dynamically adjusts the text and images based on the type of device or environment used. So, to view the information on compact or smaller devices, the content should be auto-fit with a scrollable option. The Viewport will enhance that user experience in the responsive web page which illustrates the browser instructions on how to control the page's dimensions and scaling.

```
<meta name="viewport" content="width=device-width, initial-scale=1.0">
```

2.1.3 Responsive Images

Also, in this project, we will focus on adding responsive images which will allow dynamically scale to fit any browser size and widely used MAC, Windows, IOS, and Android operating environments. Only images with. web, .png and. jpeg formats will be used with predetermined pixel sizes and formats. The image size will be limited to 2 MB for the best responsiveness and clarity.

If the CSS width property is set to 100%, the image will be responsive and scale up and down

```
<img src="img_girl.jpg" style="width:100%;">
```

If the max-width property is set to 100%, the image will scale down if it has to, but never scale up to be larger than its original size:

```
<img src="img_girl.jpg" style="max-width:100%;height:auto;">
```

The HTML <picture> element allows you to define different images for different browser window sizes.

Resize the browser window to see how the image below changes depending on the width:

```
<picture>
  <source srcset="img_smallflower.jpg" media="(max-width: 600px)">
  <source srcset="img_flowers.jpg" media="(max-width: 1500px)">
  <source srcset="flowers.jpg">
  <img src="img_smallflower.jpg" alt="Flowers">
</picture>
```

2.1.4 Responsive Text size

While creating the website text format also comes into consideration. The text comes in various fonts, sizes in formats, and in this response, text size can be set with a "VW" unit, which means the "viewport width". That will autofit the text for all widely accepted environments. The "Calibri" font will be used in the entire website design to maintain the uniformity of the users reading experience which will dynamically fit the size and length of the environment used.

2.1.5 Media Queries

A media query is composed of an optional *media type* and any number of *media feature* expressions, which may optionally be combined in various ways using *logical operators*. In addition, to resizing text and images, it is also common to use media queries in responsive web pages. Media query is widely used in CSS for enriching the user experience.

With media queries, you can define completely different styles for different browser sizes and features like hover, color, and dynamic visual experience.

Example: resize the browser window to see that the three div elements below will display horizontally on large screens and stack vertically on small screens:

2.2 HTML

For this project, we are creating the front end using HTML 5 technology. The Hyper Text Markup Language or HTML and UI5 are widely used programming languages to design vivid and enriching responsive websites. HTML is the standard markup language for documents designed to be displayed in a web browser. It can be assisted by technologies such as Cascading Style Sheets and scripting languages such as JavaScript. Web browsers receive HTML documents from a web server or local storage and render the documents into multimedia web pages. HTML describes the structure of a web page semantically and originally included cues for the appearance of the document.

2.3 JAVA Script

JavaScript is a scripting language that enables you to create dynamically updating content, control multimedia, animate images, and pretty much everything else. It is a Prominent and widely used technology for designing websites. Java scripting will bind various elements and allows the design of an enriching and responsive website. JavaScript aka JS is a computer language that works with HTML and CSS, this is one of the essential technologies of the World Wide Web. As of 2022, 98% of websites employ JavaScript on the Project side for webpage functionality, with third-party libraries frequently incorporated.
In this project, JavaScript helps us in making various functions to be used in front-end designing. Java Scripts work with the DOM and are linked in or integrated with HTML pages. All popular web browsers have a JavaScript engine that runs code on the user's device.

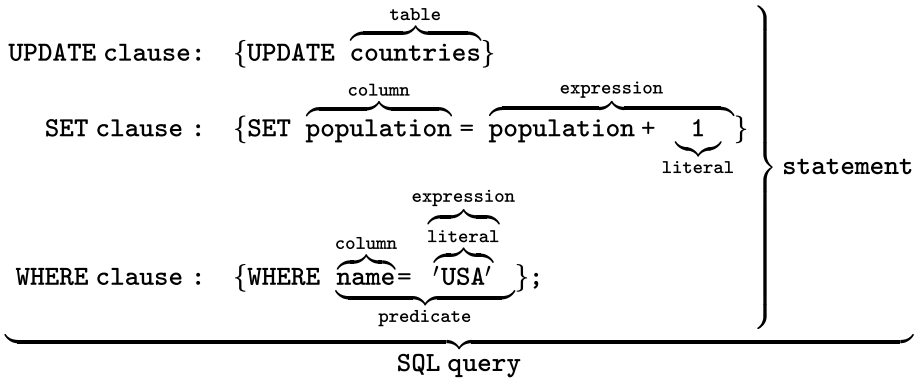
JAVA script was utilized in website design for better rendering and loading new web page content without refreshing the page, using Ajax or a WebSocket. Users of social media, for example, may send and receive messages without leaving the present website.

Web page animations, such as fading in and out of things, scaling, and moving them. Playing video games. Controlling the media playback. Creating pop-up advertisements or alert boxes. Validating the input values of a web form before sending the data to a server. Data regarding the user's behavior is logged and sent to a server. This data can be used by the website owner for analytics, ad tracking, and personalization. Taking a user to another page. Data storage and retrieval.

```
<html>
  <head>
    <div>
          <div>

              <form method="post" action="#" id="formvalue" onkeyup="
              drawChart()" />

              </form>
          </div>
    </div>


    <script type="text/javascript" src="https://www.google.com/jsapi"></
      script>
    <script type="text/javascript">

    var bid = 43;
    var ask = 21;


      google.load("visualization", "1", {packages:["corechart"]});
      google.setOnLoadCallback(drawChart);
      function drawChart() {
        var data = google.visualization.arrayToDataTable([
          ['Price', 'Quantity'],
          ['Value #1', bid],
          ['Value #2', ask],
        ]);
```

2.4 SQL Database

The database is a required component for a website where the data of the complete website shall be stored. For this project, an SQL database will be used. SQL is a domain-specific language used in programming and designed for managing data held in a relational database management system, or for stream processing in a relational data stream management system. SQL is a set-based, declarative programming language, not an imperative programming language like C or BASIC. However, extensions to Standard SQL add procedural programming language functionality, such as control-of-flow constructs.



2.5 .net

.Net is Microsoft's proprietary programming language and an open-source development platform for building many different types of applications. With .NET, you can use multiple languages, editors, and libraries to build for web, mobile, desktop, games, IoT, and more. .NET is a free, cross-platform,

This program is extensively used by websites for building web apps, microservices, and APIs. This programming language will be used for external party integrations and is essentially required to connect business to business which is one of the core objectives of this Website Design.

2.6 Artificial Intelligent (AI)

AI - Artificial Intelligence is a futuristic technology and Conversational AI is evolving concept that emphasizes the way people interact with technology. From speech-enabled interfaces to intelligent virtual assistants and chatbots, it is becoming increasingly popular that customers are looking for a more human-like experience.

The chatbot design for this eCommerce website will allow instant response in both chats as well as a voice-based experience for the Business partners. For any business response time is very crucial to generate leads and Business opportunities. The AI Based chatbots will substitute human interaction with possible 99% uptime. This can essentially optimize business reliability and opportunity generation.

2.7 Machine Learning (ML)

Machine Learning helps the Project to analyze and visualize data to find unseen patterns. Machine learning uses an algorithm for defining patterns from the data received from various sources and provides predictive analytics for future business forecasting.

The eCommerce site will use Machine Learning for the statistics and collaboration with the website to understand potential business foresight and authenticate the Organic crops. This will allow sustainability planning for business continuity and future forecasting.

3 Evaluation plan

The website will be evaluated on its usability, security, processing time, and cost to use.

The website prototype will be evaluated using 4 use cases which will be tailored to the details of the specific application type provided by the Project. The use cases will be created according to the template below:

Users – These are the individuals that are using the website. It must be specified for each type of user the level of access they have to the website. For the use case to be successful it must be verified that each type of user has the appropriate levels of access, and they are only able to execute actions on the website allowed by their level of access.

Registered Supplier / Registered Consumer/ Anonymous user /Administrator

User motivations – The reason that each type of user is participating. This is used to gain greater insight into each type of user to be able to use applications relevant to them through all channels.

Preconditions – These are the conditions that must be true before the service can use. It must be verified for the use case to be successful that if any of the conditions are false then the service cannot trigger and if they are all true then it does trigger.

Trigger – The event that will start the service. It must be verified for the use case to be successful that no other event can cause the service t to process and that the specified trigger does cause it to process.

Expected Outcome – The expected result of the website after the processing is complete. For the use case to be successful the result after executing the prototype all the services from the website should match the expected outcome.

The final e-commerce website will have to meet the expectations and the business needs of the Project. To verify that the final website is satisfactory the following actions will be executed:

- The final website will be demonstrated to the Project. The demonstration will include 4 use cases that will demonstrate the operation of the website for key scenarios. The Project will be able to provide feedback and request additional demonstrations of the application's functionality.
- This action will be successful if no major functions are missing or operating poorly from the Project's perspective . This project will be able to assess the functionality of the product and provide their evaluation of the application. This action is successful if no major issues are reported about the product after their careful evaluation.

4 Project Plan

A table may be helpful to present the plan for your remaining work. You can adapt the template below, but be sure to tailor the plan to your specific project – a plan as generic as the template will get low marks. Choose suitable tasks for your project and estimate the likely time you will take to complete those tasks.

Week	Project Task	Deliverables
Autumn: 7 - 8	Understanding of Project requirements & study & validate available resources with Project finalize Scope & Prepare Project plan	Scope of the work
Autumn: 9 - 10	Prepare Prerequisites for hardware & software for Project & submit use cases collected & get approval from Project	Finalize scope & get access to test Systems requirement provided to Project
Autumn: 11 - 12	Prepare Prototype & showcasing the basic prototype using the use case scenarios.	Test system (non-interactive website)
Autumn: 13 - 15	No project work - exams	

Week	Project Task	Deliverables
Pre-Spring	Continue developing prototypes and testing. Deploy the navigation and the profile menu on the website.	
Spring: 1-2	prepare and present navigation and profile section on the website. Test website response using the use case Scenario created.	Technical Implementation
Spring: 3-4	Creation and linking of Database to the Website for data storing.	Database integration
Spring: 5-6	Testing of the DB connectivity and verify data storing commands. Creation and integration of chatbot on the website. Testing the chatbot using the use case Scenario created.	Verification of Information storage. Testing the chatbot Interactivity.
Spring: 7-8	Final test of the Project with verification of all the functionalities .	Complete final Website testing for release.
Spring: 9-10	Prepare and deliver presentation to Supervisor (Mrs Preetha VK) and also creation of Draft of the Project.	Presentation and Dissertation: technical development of the website
Spring: 11	Draft evaluation and conclusions of the Project. Submit draft to Supervisor (Mrs Preetha VK) for feedback	Complete dissertation draft
Spring: 12 - 13	Revise draft, submit dissertation. Final code demo to be presented to the supervisor (Mrs Preetha VK).	Dissertation and Final application

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