**MINI PROJECT – II**

**(2019-20)**

**Online Fruit Store**

**S.R.S. Report**



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**1. Introduction**

**1.1 Purpose**

The purpose of this document is to build a web application ( online fruit ordering system for providing services world wide ).The online fruit ordering system can be defined as a simple and convenient way for customers to purchase fruit online and they can also check the freshness of different fruits. There is a special corner provided in our web application where customers can find the information of the desired fruit that is beneficial for them based on their health symptoms. The system for online fruit ordering system is completely safe , easy and secure.

**1.2 Scope**

Nowadays people do not have time to go outside for food, rather they prefer online ordering. It easily allows the customers to order fruits with just one click .It allows the customers to pay cash on receiving the fruits at their door step.

The web application will provide different fruits and customers can also check the freshness of different fruits that weather the fruit is fresh or not .In our website we are going to provide a special corner where customers can find the information of the desired fruit that is beneficial for them based on their health symptoms.

**1.3 Future Prospects**

This project will result in a web application which will reduce the manual work for classifying the fruits as fresh or rotten in factories where fruits are in bulk, managing the item category ,customers, delivery addresses and also helps to keep the customers healthy and happy.. The system also allows to quickly and easily manage an online menu which customers can browse and use to place orders with just a clicks

**1.4 Intended Outcome:**

An online fruit ordering web application .

**1.5 Hardware Requirements:**

* Personal Computer with minimum 2 GB RAM.

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**1.6 Software Requirements:**

* Brackets
* Web browser-internet explorer, Google chrome etc.
* Hyper text mark-up language (HTML) , cascading style sheets (CSS)
* Python

**1.7 Issues and Challenges**

* The biggest issue is to find the dataset that is needed for our project .
* Choosing the appropriate algorithm is a tough task as we need to look at different loss functions the different algorithm have and based on that we have to select an appropriate algorithm for our project.
* As we are going to classify the fruits as fresh and rotten through image processing , while doing the image processing if there present an uneven distribution of light on arch surface then it will effect our process and the algorithm may produce the wrong classification , this is another challenge that we can face while processing the images.

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**2. General Description**

This section will give an overview of the whole system. The system will be explained in its context to show how the system interacts with other systems and introduce the basic functionality of it. It will also describe what type of stakeholders that will use the system and what functionality is available for each type. At last, the constraints and assumptions for the system will be presented.

**2.1 Product Perspective**

This system will consist of three parts: fruit buying section, nutrition and dietician section and fresh or rotten fruits prediction section.

The fruit buying section will communicate with a database whenever a user buy some fruit or add the fruits to their cart. The database will contain the corresponding information of the user and accordingly will do the operations.

Nutrition and Dietician section will also communicate with a database whenever the user enter their health condition the database will match the entered data with its information and display the result correspondingly.

Fresh or rotten fruits section will be based on a system developed through machine learning. The System will use image processing to scan the image entered by the user and match the image with the images in its dataset and classify the fruit as fresh or rotten.

**2.2 Product Functions**

* **Fruit Buying Section:** User can buy fruits according to his/her choice. The fruits can be bought on the basis of quantity, price and quality.
* **Nutrition and Dietician Section:** In this section user can buy fruits according to his/her health requirements. The application will suggest the user with correct diet information i.e. which fruit to be bought on the basis of health condition entered by the user.
* **Fresh or rotten fruits prediction Section:** The user can use the web app to check whether the fruits bought by him/her are fresh or rotten.

**2.3 User Characteristics**

There are two types of users that interact with the system: users of the web application and administrators. Each of these two types of users has different use of the system so each of them has their own requirements.

The web application user can only use the web application for buying fruits, taking nutrition advice and predicting freshness and rottenness of fruits.

The administrator will handle the backend i.e. will manage the information contained in databases and modify or update them accordingly.

**2.4 General Constraints**

The Internet connection is a constraint for the application. Since the application fetches data from the database over the Internet, it is crucial that there is an Internet connection for the application to function.

Since the application is also using image processing through CNN so that will be also a constraint that the user should give correct images to predict the freshness.

The web application will also be constrained by the capacity of the database. Since the database used is of limited capacity it may be forced to queue incoming requests and therefore increase the time it takes to fetch data.

**2.5 Assumptions and Dependencies**

One assumption about the product is that it will always be used on computer browsers that have enough performance. If the system does not have enough hardware resources available for the application, for example the users might have allocated them with other applications, there may be scenarios where the application does not work as intended or even at all.

Another assumption is that the image processing component

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**3. Specific Requirements**

This will be the largest and most important section of the SRS. The customer requirements will be embodied within Section 2, but this section will give the D-requirements that are used to guide the project’s software design, implementation, and testing.

Each requirement in this section should be:

* *Correct*
* *Traceable (both forward and backward to prior/future artifacts)*
* *Unambiguous*
* *Verifiable (i.e., testable)*
* *Prioritized (with respect to importance and/or stability)*
* *Complete*
* *Consistent*
* *Uniquely identifiable (usually via numbering like 3.4.5.6)*

*Attention should be paid to the carefuly organize the requirements presented in this section so that they may easily accessed and understood. Furthermore, this SRS is not the software design document, therefore one should avoid the tendency to over-constrain (and therefore design) the software project within this SRS.*

**3.1 External Interface Requirements**

**3.1.1 User Interfaces**

**3.1.2 Hardware Interfaces**

**3.1.3 Software Interfaces**

**3.1.4 Communications Interfaces**

**3.2 Functional Requirements**

*This section describes specific features of the software project. If desired, some requirements may be specified in the use-case format and listed in the Use Cases Section.*

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**3.2.1 <Functional Requirement or Feature #1>**

3.2.1.1 Introduction

3.2.1.2 Inputs

3.2.1.3 Processing

3.2.1.4 Outputs

3.2.1.5 Error Handling

**3.2.2 <Functional Requirement or Feature #2>** …

**3.3 Use Cases**

**3.3.1 Use Case #1**

**3.3.2 Use Case #2**

…

**3.4 Classes / Objects**

**3.4.1 <Class / Object #1>**

3.4.1.1 Attributes

3.4.1.2 Functions

<Reference to functional requirements and/or use cases>

**3.4.2 <Class / Object #2>**

…

**3.5 Non-Functional Requirements**

*Non-functional requirements may exist for the following attributes. Often these requirements must be achieved at a system-wide level rather than at a unit level. State the requirements in the following sections in measurable terms (e.g., 95% of transaction shall be processed in less than a second, system downtime may not exceed 1 minute per day, > 30 day MTBF value, etc).*

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**3.5.1 Performance**

**3.5.2 Reliability**

**3.5.3 Availability**

**3.5.4 Security**

**3.5.5 Maintainability**

**3.5.6 Portability**

**3.6 Inverse Requirements**

*State any \*useful\* inverse requirements.*

**3.7 Design Constraints**

*Specify design constrains imposed by other standards, company policies, hardware limitation, etc. that will impact this software project.*

**3.8 Logical Database Requirements**

*Will a database be used? If so, what logical requirements exist for data formats, storage capabilities, data retention, data integrity, etc.*

**3.9 Other Requirements**

*Catch all section for any additional requirements.*

**4. Analysis Models**

*List all analysis models used in developing specific requirements previously given in this SRS. Each model should include an introduction and a narrative description. Furthermore, each model should be traceable the SRS’s requirements.*

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**4.1 Sequence Diagrams**

**4.2 Data Flow Diagrams (DFD)**

**4.3 Entity Relationship Diagrams (ERD)**

**5. Change Management Process**

*Identify and describe the process that will be used to update the SRS, as needed, when project scope or requirements change. Who can submit changes and by what means, and how will these changes be approved.*

**A. Appendices**

*Appendices may be used to provide additional (and hopefully helpful) information. If present, the SRS should explicitly state whether the information contained within an appendix is to be considered as a part of the SRS’s overall set of requirements.*

*Example Appendices could include (initial) conceptual documents for the software project, marketing materials, minutes of meetings with the customer(s), etc.*

**A.1 Appendix 1**

**A.2 Appendix 2**

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