SRS FOR DEFINING AND PREDICTING THE SUCCESS OF B2B SALES

Software Requirement Specification

For

Defining And Predicting the Success of B2B Sales

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Revision History

NAME	DATE	REASON FOR CHANGES	VERSION
Rishwanth Reddy Baddipadaga	09/29/2021	Initial copy	1

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SECTION-1

SYSTEM STRUCTURE:

```
                              HOME

        USER              SELLER              ADMIN

     REGISTER           REGISTER             LOGIN

      SEARCH             LOGIN               USER
                                            DETAILS
      LOGIN             UPLOAD
                                            SELLER
       VIEW             SEARCH              DETAILS

      ORDER                                 ORDER
                        LOGOUT              DETAILS

     LOGOUT                               ACCURACY

                                          LOGOUT
```
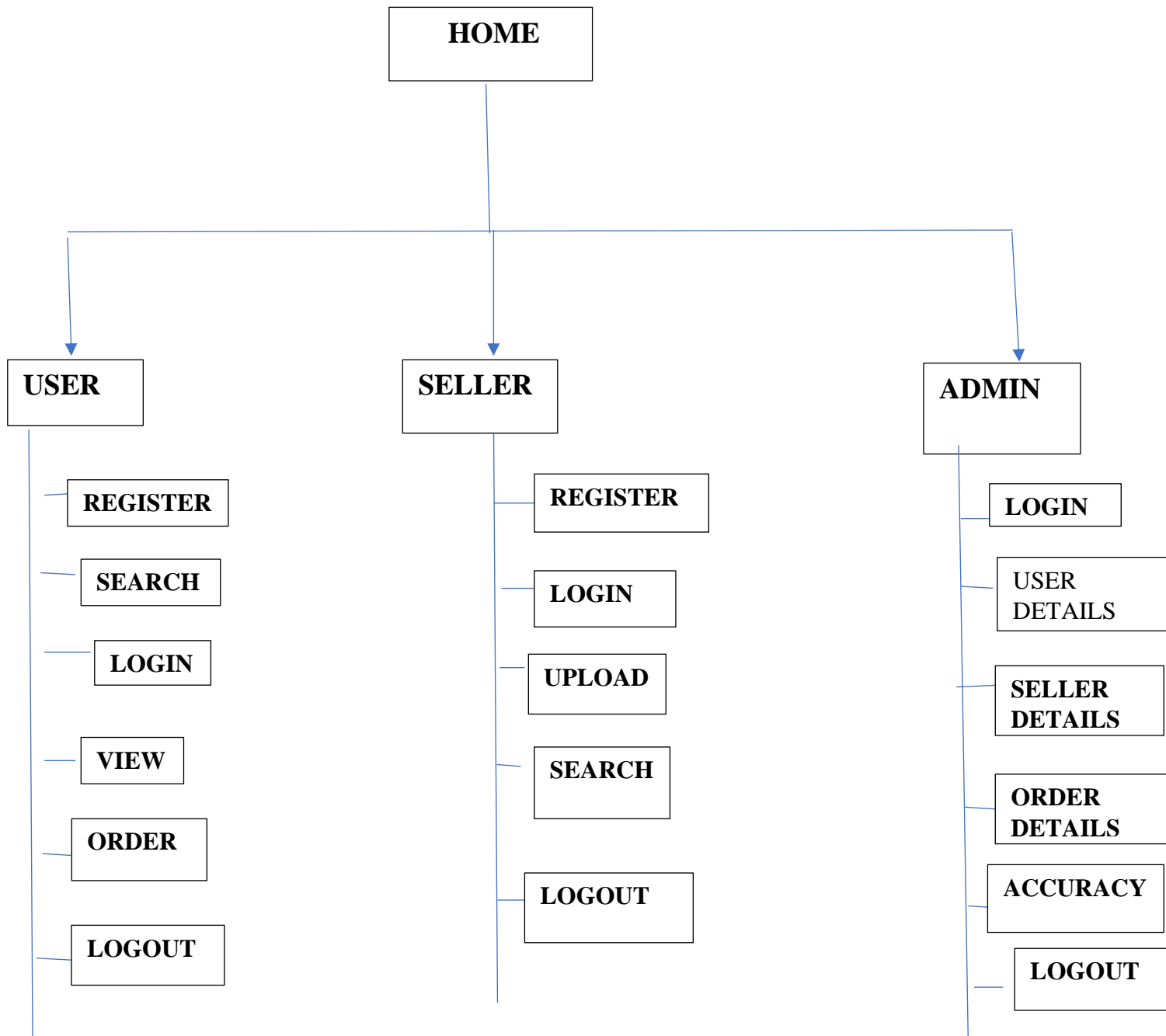
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Home page is the first page for this web application which directs to user , seller and admin login pages.

USER:

user should register for the account before logging in by providing user details.

Now, user can login using user name and password.

user can search , view and buy the products.

SELLER:

seller should register for the account before logging in by providing seller details.

Now, seller can login using user name and password.

seller can upload the product by adding product details and also can search for the products.

ADMIN:

Admin can login in to their account by providing username and password.

admin can view user and seller details . Admin can also ordered details that are ordered in particular duration.

Admin can view the accuracy of the sales of each product.

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SECTION-2(SRS)

1. Introduction

1.1. Purpose:

Our goal is to develop a web application that defines & predicts the success of business-to-business sales. In this platform, the user will purchase the products which are added by the seller where admin have access to the user, seller information and the prediction.

1.2. Document Conventions

Whole document is written in times new roman with sizes**:**
Size of title: 14
Size of other heading: 12
Size of content: 12

1.3 Intended Audience and Reading Suggestions

This document is for the entire team participating in the project's development from beginning to end. Introduction, Overall Description, System Features, External Interface Requirements, Nonfunctional Requirements, and Other Requirements are the six sections. Each section is broken down further into subsections. This document will be used for future reference in the event that the project is enhanced or modified. From the development phase until the deployment phase, this document contains all the requirement's information.

1.4 Project Scope

By developing an online web application, we are looking to help business firms to predict the sales success of a product. Our application allows clients such as sellers, users, and admin to perform various functions such as uploading products, manipulating product info, browsing products, ordering products, and the accuracy of the product's sales.

- Seller has the privilege to upload the products, alter the product info such as the pricing, product details, and miscellaneous information related to the products.
- User can browse the desired products, view the price, view the details of a product, and order products. Admin has complete access to the web application.
- Admin can view the details of sellers & users, activate sellers & users, view the ordered products, and also the accuracy of the sales of a product. The accuracy depicts the factor that whether a product is selling successfully or not.

1.5 References

https://unt.instructure.com/courses/53288/files/13644332?module_item_id=3552108/

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2. Overall Description

2.1. Product Perspective

The project is about defining the success of business-to-business sales. Our main goal is to provide a platform that allows sellers to upload products and manipulate the product info; Users can register and order products. Admin can view the details of the sellers and users. Admin can also view the accuracy of the products, i.e., the sales success of a product. This can be achieved by the predictive machine learning algorithm. This feature helps us to learn whether a product is selling successfully or not.
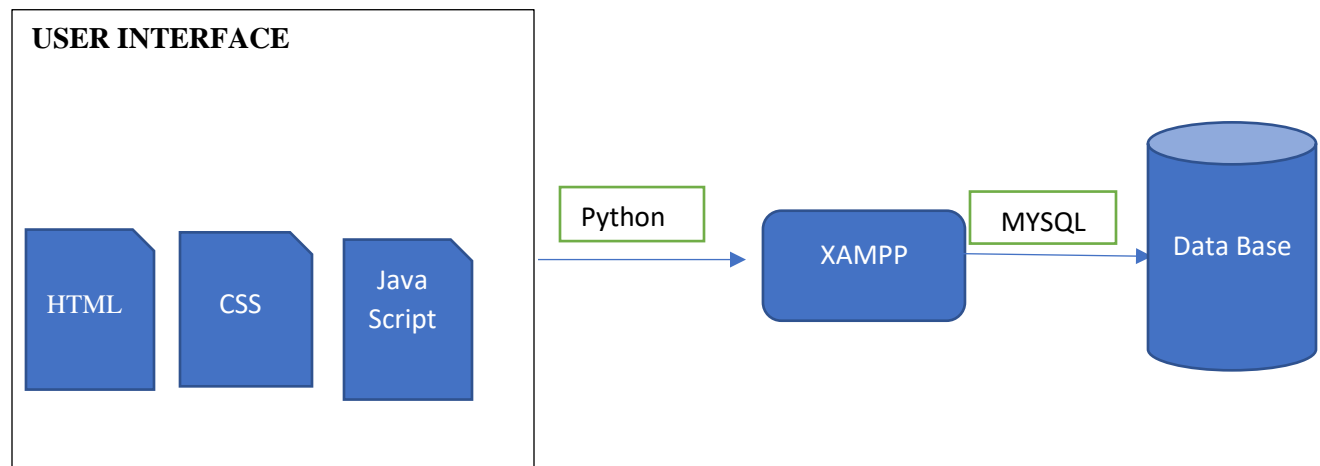
We are using HTML, CSS, and JavaScript to develop the user interface. We are also using Python with a Predictive Machine Learning algorithm while we are integrating MySQL database using XAMPP.

2.2 Product Features

User Registration:
   User needs to register and create a profile. Once the registration is completed, the user details will be stored in a database.

User Login:
Users can log in with their credentials once the registration is approved. When any user attempts to log in the data is matched and verified from the table. Once the login is successful, they can view and order products.

Seller Registration:
   Seller needs to register and create a profile. Once the registration is completed, the seller details will be stored in the database.

Seller Login:
Seller can log in with their credentials once the registration is approved. When any seller attempts to log in the data is matched and verified from the table. Once the login is successful, they can upload, delete and manipulate product info.

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Admin:
Admin can view the details of sellers and users. Admin has the privilege to activate users and sellers and also view the accuracy of the product sales, i.e., whether a product's sales are successful or not.

2.3 User Classes and Characteristics

This web application can be accessed by Admin, Users, and Sellers. Everyone has a separate role and functionalities.

1. Admin:

Admin has access to every feature over the application and can also make any modifications that are required. Admin can also activate users & sellers and also view the accuracy of the product's sales

2. Seller:

Seller can upload products by providing all the details of a product. They can also update the product info whenever they wish.

3. User:

User can browse for desired products, order products, and view the order details.

2.4 Operating Environment

2.4.1 Hardware Requirements:

- Hard Disk   :   40 GB.
- Floppy Drive   :   1.44 Mb.
- Processor   :   Intel i3
- Ram   :   4 GB.

2.4.2 Software Requirements:

- Operating system   :   Windows 10.
- Coding Language   :   Python.
- Front-End   :   Python.
- Designing   :   HTML, CSS, JavaScript.
- Data Base   :   MySQL.

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2.5 Design and Implementation Constraints

The web application upon launch will have a home page and a navigation menu for users, sellers, and admin. They all have individual functionalities and access over the application such as users can register, browse products, and order products. Sellers can upload products and while admin can access pretty much everything on the application.

- Device and browser compatibilities are a big concern in the design phase. The user interface designed may not be user-friendly on every system as it is on the developed system.
- The features developed in the application may not work well in every browser, particularly in the older versions.
- When a feature is developed, it may not work according to the expectations.

2.6 User Documentation

The user documentation will be available under the "Need Help?" which will be available on the homepage. Users may check the details of the website and learn how to use the website.

2.7 Assumptions and Dependencies

We assume that the web application would function successfully under the Xampp server. If there are any unexpected occurences, the SRS will be modified accordingly. We are expecting that the User Interface to be user friendly and work well with latest browsers & widely used devices.

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3. System Features

3.1 Admin:

- Admin have the access to view users and sellers information.
- Admin can view the order details.
- Admin can activate authorized seller and user

3.2 User:

- User can view all the products which are available for the sale.
- User can browse for the desired product .
- Can order the product by mentioning the details asked.

3.3 Seller:

- Seller can add & delete the products.
- They can also update the information of a product.

3.4 Homepage:

- As web application got launched , the first page that gets opens is the Home page.
- On the homepage, we have a navigation menu where users, sellers, and admin can be redirected to their respective pages.

3.5 User Registration:

- When clicked on user navigation menu , we will get navigated to user login page.
- If user is already registered, then user can login directly. If not, user can register by clicking on register navigation bar.
- User is asked for user name, login id, password , email and contact number. After mentioning all the information asked, click on register button. Now the user can login.
- The details mentioned while registration will get stored in database.

3.6 User Login:

- User can login by giving credential i.e, user name and password.
- The given username and password entered will get verified with the details mentioned while registering which are present in database.

3.7 Seller Registration:

- When clicked on seller navigation menu , we will get navigated to seller login page.
- If seller is already registered, then seller can login directly. If not, seller can register by clicking on register navigation bar.

- Seller is asked for seller name, login id, password , email and contact number. After mentioning all the information asked, click on register button. Now the seller can login.

3.8 Seller Login:

- Seller can login by giving credential i.e, user name and password.

3.9 Admin Login:

- Admin can login by giving credential i.e, user name and password.
- Admin page consists of seller details, user details, ordered products, accuracy, search and logout options.

4. User Interfaces

1. The initial page that appears when a web application is activated is the Home page.

2. In home page, we have 3 navigation links ,those are user ,seller and admin.

3. a. When clicked on user navigation link, we get navigated to user login page.If the user is already registered , then we have to enter valid user name and password to login. If not the user can get registered by clicking on register link.

   b. In registration page, user is asked for user name, login id, password , email and contact number. After mentioning all the information asked, click on register button. Now the user can login.

   c. After user gets logged in into his profile, he can browse for the products available and buy them.

4.a.When clicked on seller navigation link, we get navigated to seller login page.If the seller is already registered , then we have to enter valid seller name and password to login. If not the seller can get registered by clicking on register link.

   b. In registration page, seller is asked for seller name, login id, password , email and contact number. After mentioning all the information asked, click on register button. Now the seller can login.

   c. After seller gets logged in into his profile, seller can add the products which is ready for sale by giving all the details of the product i.e, owner name , product name, product vendor name, product colour, product price, product description, product image. Product image can be uploaded from the system.

   d. Seller can view uploaded products which are added by him.

e. Now, seller can logout from his profile by clicking on the logout navigation link.

5.a. Admin can get logged in to his profile with entering his credentials i.e admin name and password.

b. Now, admin can have access to all the user and seller details.Also admin can activate any user or seller with his wish.

c. admin can search and view for the orders which are ordered by the user in a particular duration mentioning to date and from date.

d. Admin can view accuracy of the sales of a product. The accuracy depicts the factor that whether a product is selling successfully or not.

e. Now, admin can logout from his profile by clicking on the logout navigation link.

4.2 Hardware Interfaces

Monitor: 14' Color Monitor.

Processor: Intel i3 or AMD.

RAM: 4gb

Hard disk:40gb

4.3 Software Interface

Web Server:

Apache Web Server (XAMPP).

Database Server:

MySQL Database.

Development Languages:

HTML, CSS, JavaScript, Windows OS.

4.4 Communications Interfaces

The system employs HTTP / HTTPS for internet connectivity and uses TCP / IP protocols for intranet correspondence.

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5. Other Nonfunctional Requirements

The non-functional requirements are basically our expectations on how the system should work after the deployment in real-time. Some of these include the following:

5.1 Performance Requirements:

HIPAA compliance is an obvious need, however it may not be communicated to the developers clearly. HIPAA compliance may even contradict with some of the project's quality or other needs asserted by stakeholders. To create an acceptable product, developers must specify the aims, restrictions, and other critical variables in the requirements.

- Create analysis models which allows user requirements, which also includes structural, interface requirements.

5.2 Safety requirements:

Lowering the risk of accidental harm to important assets to an acceptance level to legitimate buyers. Requirements in the model includes:

- Safety Events are eliminated to mitigate
- Hazards are eliminated
- Goals, Policies: Detailed goals and policies are defined between the user and buyers.

5.3 Security Requirements:

- The model B2B with all the products in the application follows the security aspects such as:
- A) Hash Function: Every product id in the database is equipped with the hash function with a unique hash value
- B) Multifactor Authentication is the user identification used for seller and the user i.e. two way user authentication is performed

Concerns for Security:

SQL Injection: This is one major concern for the model, Spoofers may use SQL commands to a spoof website and tries to manipulate the tables and data. Sensitive data such as the buyer's credentials and user's passwords can be manipulated.

Prevention: Few defensive measures against them:
a) More usage of prepared statements
b) Stored procedures usage'
c) Avoiding the input supplied by the user

5.4 Software quality attributes:

- The attributes that would facilitate the performance of the software in terms of testing, maintenance, reliability, and correctness for B2B sales.
- Attributes that are important for **customers** are product, quality, and prize of the product.

- Attributes that are important for **developers** are predicting the aspect of customers and determine the B2B sales based on the aspect.
- Reliability: The quality of the product is verified or judged by Admin and then he will distribute to 3rd party to sell. This way correctness is also taken care and security is intact. If Admin detects any fraudulence, then he might remove the seller and look for other seller.

The relative preferences for various attributes: Ease of use over ease of learning?

- To avoid the conflict between the use and learning, we need to specify the environment to be used so that this application works.
    - For example, windows/iOS platform, Chrome/IE browser which works from the specified version and above.
    - User must be able to tap and find the result within 3 seconds of accessing the interface and aim to optimize ease of use while offering maximum functionality and respecting business limitations.
    - To pitch in the B2B sales, need to focus on number of items sold and algorithm recognizes the pattern of sales and takes one aspect as an input for next outcome prediction.

6. **Other Requirements:**
   As of now, we do not have any other requirements that are specified for our project. All the requirements are covered above.
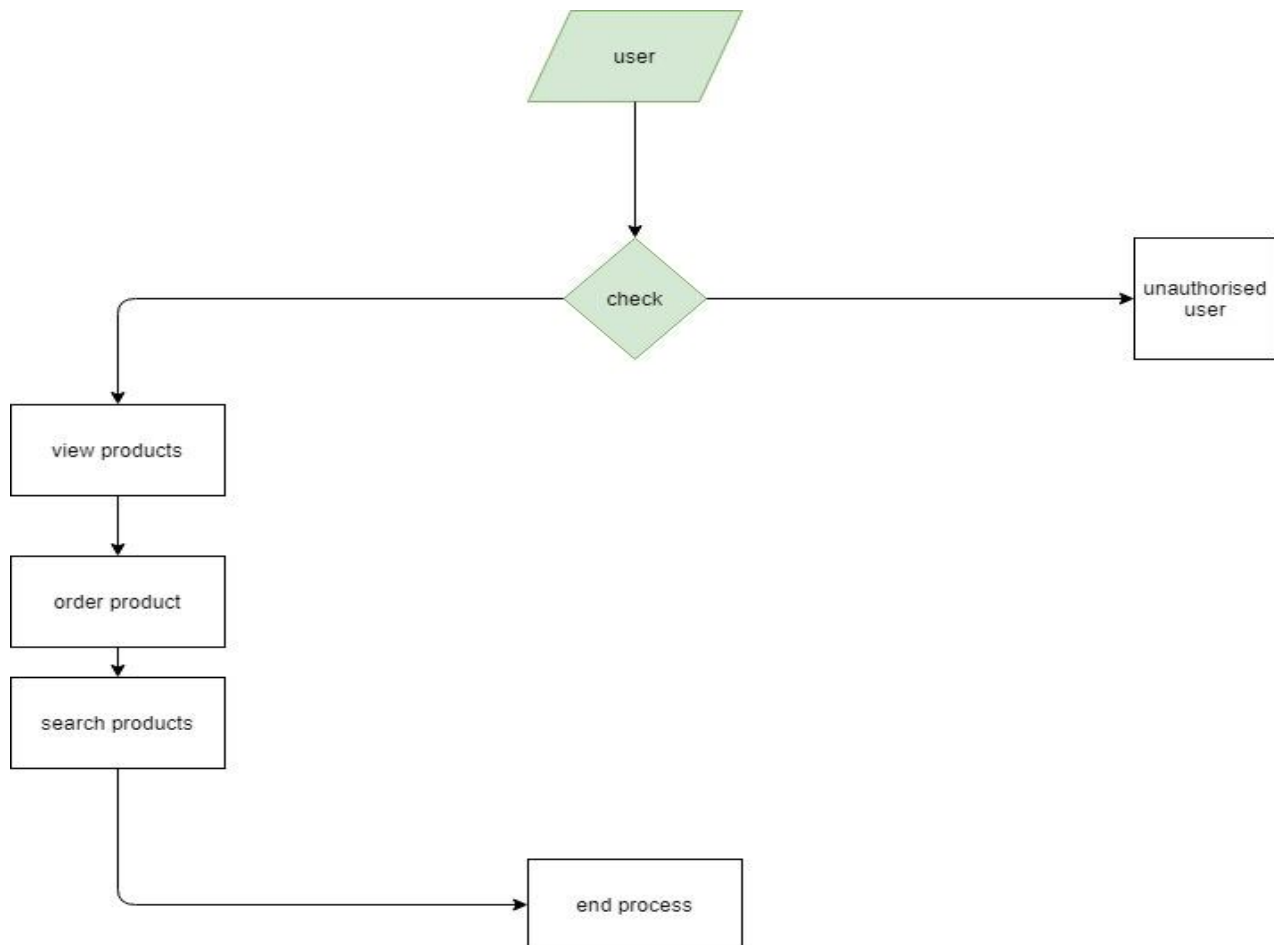
   Appendix A: Glossary
   i.)   **User:** An individual who can log on to the web application and use the specified resources upon registration.
   ii.)   **Seller:** An individual/firm who can complete registration and use the web application as a platform to market his products.
   iii.)   **Admin:** An individual/firm who can monitor sales success using the web application.
   iv)   **Accuracy:** It is a feature in our web application that explains sales success.
   iv.)   **Assumption**s: It defines the features of the web application that are expected to be true in the development phase.

Appendix B: Analysis Models

Below are the data flow diagrams related to our web application.

USER:

SELLER:
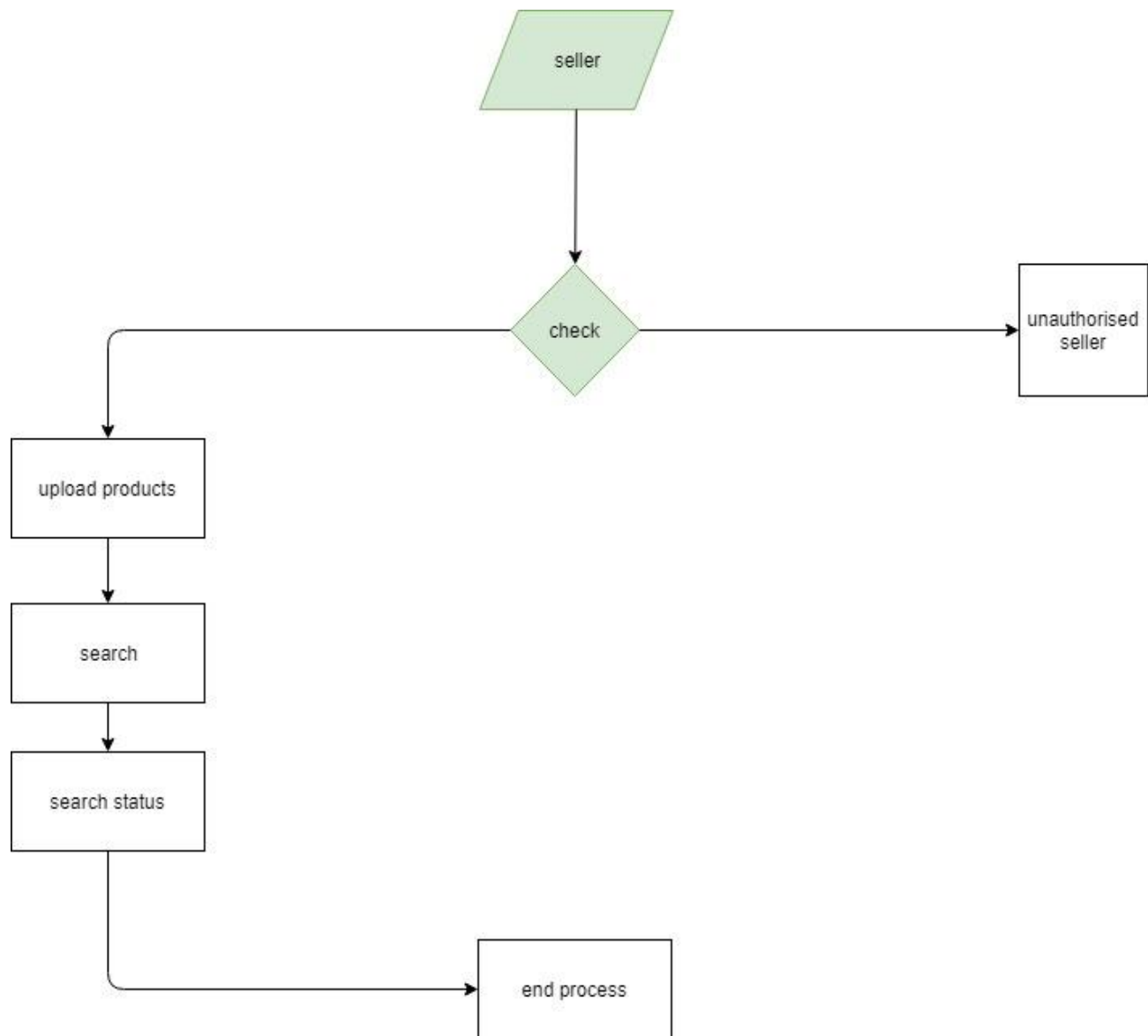
```
                              ┌──────────┐
                             /  seller   /
                            └──────────┘
                                  │
                                  ▼
                               ◇ check ◇ ───────────────────►  ┌──────────────┐
        ┌────────────────────────┘                            │ unauthorised │
        │                                                     │   seller     │
        ▼                                                     └──────────────┘
  ┌──────────────┐
  │ upload products │
  └──────────────┘
        │
        ▼
  ┌──────────────┐
  │   search     │
  └──────────────┘
        │
        ▼
  ┌──────────────┐
  │ search status │
  └──────────────┘
        │
        └────────────────────►  ┌──────────────┐
                                │ end process  │
                                └──────────────┘
```

ADMIN:
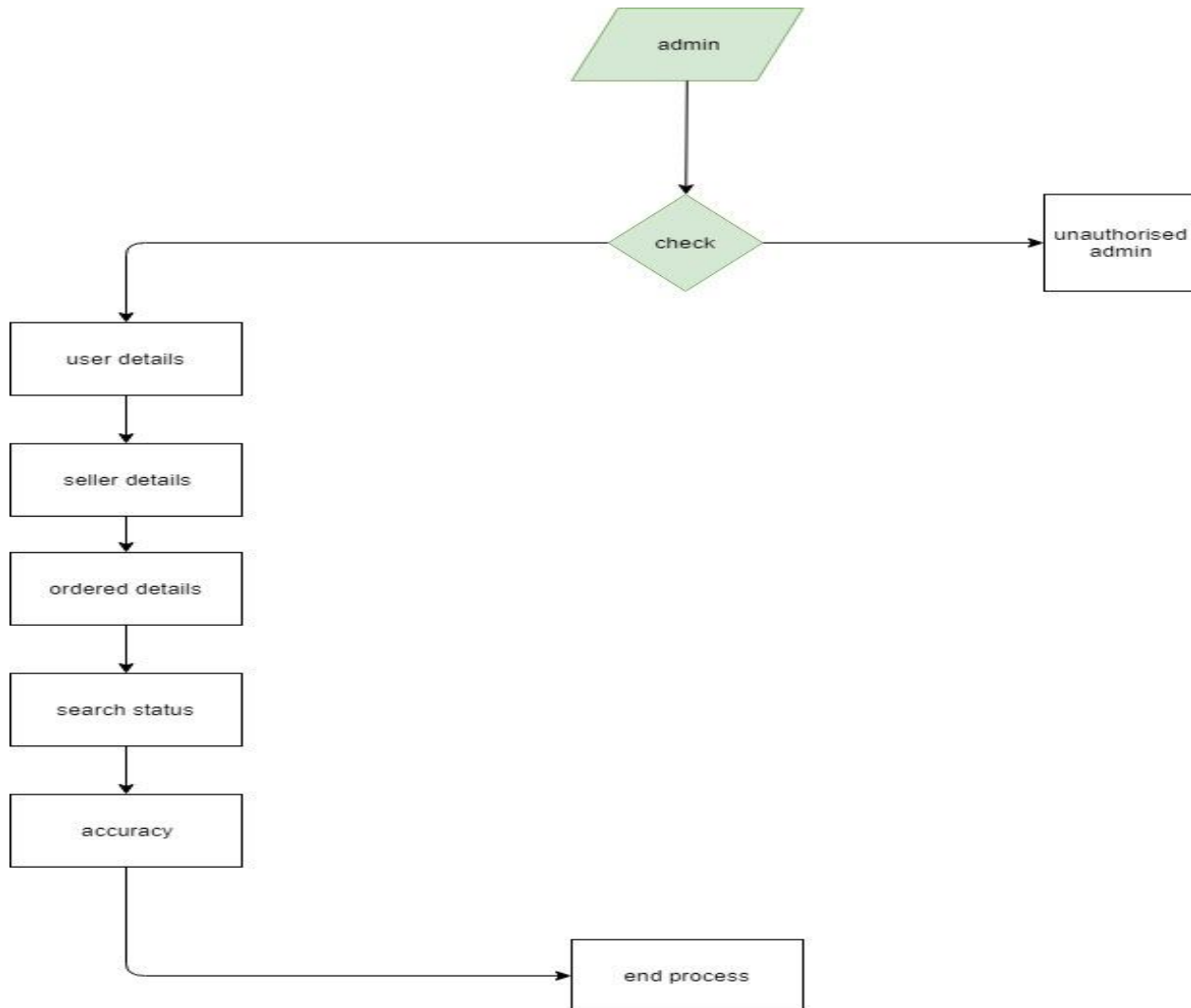
Appendix C: Issues List

As of now, we do not have any issues other than assumed feature performance in the end product.

To be determined:

i.) User Documentation

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SECTION-3

The plan for implementing the project through three development phases:

Development Phase 1:

UI - HOME PAGE

UI-USER REGISTRATION

UI-SELLER REGISTRATION

UI – USER LOGIN

UI-SELLER LOGIN

UI-ADMIN

DATA MODEL CREATION

REQUIREMENTS:

- Home page will have 3 navigation links i.e., user, seller and admin.
- Login page will have a form with 2 text field to provide username, password and one button for login. Also, this page have register navigation link so that user can redirect to registration page if he is new user. These provided username and password is verified with usernames and passwords inserted in the database while registration and get verified.
- Registration page have a form with five text fields to provide name, id, password, email, contact details and one button for register. These provided details are inserted into the database in user table as the register button is clicked.

Development Phase 2:

DATABASE SELLER DATA LINKING

DATABASE SELLER ORDERS, PRODUCT INFORMATION AND AVAILABILITY UPDATION IN THE BACKEND

DATABASE USER DATA LINKING

REQUIREMENTS:

- A database containing SELLER table populated with mock-up data.
- A database containing USER table populated with mock-up data.

Development phase 3:

DATABASE SELLER ORDERS, PRODUCT INFORMATION

TESTING

BUG FIXING-RISK MANAGEMENT

RE-EVALUATION

REQUIREMENTS:

- **Estimation Plan**, which includes the products cost and their Count or Number of sales per year
- **Training Plan**, which includes the schedule plans for training. For successful system maintenance. (Developed by, the development team)
- There are other objectives to be achieved in this phase, such as Implementation, Bug fixing - risks, and Re-evaluation- support

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SECTION-4

TEAM MEMBER ROLES & CONTRIBUTION:

Member name	Contribution description	Overall Contribution (%)	Note (if applicable)
RISHWANTH REDDY BADDIPADAGA	Backend Developer, Presentation	12.5%	
MEGHANA THIMMAPURAM	Backend Developer, UI Developer	12.5%	
PREETHI MUDIREDDY	UI Developer, Documentation	12.5%	
DIVYA KUMBHAM	UI Developer, Database	12.5%	
NEHA GEEREDDY	Backend Developer, Testing	12.5%	
SRI HARSHA SWARAJ NADENDLA	Backend Developer, Documentation	12.5%	
ROJA KAMBLE	Backend Developer, Testing	12.5%	
SAI NIKHIL CHITTURI.	UI-Developer, Presentation	12.5%	