NAME: OSCAR DEB

ID: 20-42888-1

SECTION: G

COURSE NAME: SOFTWARE ENGINEERING

COURSE TEACHER: Raihan Uddin Ahmed

ASSIGNMENT: SRS

Project Information

SERVICE BOX 1.0

A product and service selling Platform

Document Version 1.0

Prepared by OSCAR DEB

HELLO Ltd

November 21, 2021

Table of Contents

Revision History & Intermediate Sign-offs

Author	**Date**	**Reasons for changes**	**Version**	**Signatory** **[Name, Designation and Signature with date]**
Oscar deb	November 21, 2021	First Draft	0.1	

1. Sign-offs [version 1.0]

I acknowledge that all the information provided here in this document are accurate and correctly represent the employee personal datasheet application we are trying to build for our business. I also acknowledge that any requirements not discussed in this document are beyond the scope of the project being undertaken and may incur additional charges/time/resources if those new requirements/features become necessary to implement.

#	Name	Designation	Company	Signature with date	Document Version
1	**Oscar deb**	**developer**	**Hello ltd**	**oscar**	**1.0**
2					
3					
4					
5					

2 Introduction

2.1. Purpose of the Document

This SRS document provides details of both functional and non-functional requirements for the Service Box- A product and service selling Platform.

This document intended to create a clear understanding among all stakeholders (both from client side and the service provider) regarding the system. It will also build a common platform for communication among the stakeholders.

ServiceBox will be a web application/portal that will allow entering/viewing/modifying personal details of organization employees. The portal will be multilingual supporting both English and Bangla.

2.2 Document Conventions

The following conventions are used throughout the document -

1. All technical terms are italicised
2. All abbreviations are written with bold-faced type.
3. All figure descriptions are italicised
4. The terms System, portal and application are all used interchangeably throughout the document.

2.3 Glossary

List of terms and abbreviations

Term/Abbreviations	**Definition/Full form**
Buyer	Any person can join as a buyer and can buy services or products
Seller	Any person can join as a seller and can sell services or products
Database	Collection of all the information monitored by this system.
System	The web portal/application being developed
Intranet	A network connecting only devices (computers) within an organization, not visible to the outside world.
Stakeholder	Any person with an interest in the project who is not a developer.
Browser	A software that is used to view web pages and collect web pages from distant servers.

Availability	Availability of any system to the users for doing their tasks.
Scalability	Ability of a system to support the growing number of users.
DBMS	Database Management System - The software used to manage (store, update, delete, search) data.
RDBMS	Relational Database Management System - The software used to manage (store, update, delete, search) data in a structured way and in separate tables with columns representing attributes of an object and each representing specific object. Tables are usually linked together to form a complete set of data.
SRS	Software Requirement Specification - a document specifying different aspects and functionalities of a software system
SSL	Secure Socket Layer - Technology specifications (protocol) that defines how secure connection can be established between communicating computers using a network, especially the internet.
ER	Entity relation - a relational database term that denote the relations among objects/entities

2.4 Intended Audience

The intended users of this document are all stakeholders of the project. The implementing team will use this document to drive the development process. The client will use this document to verify if the concerned system is built according to their need.

2.5 Project Information

ServiceBox **1.0** is a digital web based system which is developed giving priority to the local clients and developers and they will be introduced to the international clients and developers.

The system will be called Service Box- A product and service selling Platform.

It will be a *responsive* web application so that it is usable from devices of all sizes - desktops, mobiles, tabs and laptops.

The application will have easy to use and intuitive user interfaces so that anyone can use it with minimal training.

2.6 Supporting Documents

1. Detail Use case document 1.0

2.7 Information for Readers

The rest of the document describes the product (ServiceBox 1.0) in concern. Section 3 and 4 details out the product's features and associated use cases.

Section 5 describes the data that the product has to deal with.

Section 6 deals with the external requirements of the system.

Section 7 describes the other non-functional requirements of the system.

In section 8, testing plan is discussed.

In section 9, deployment related information is briefly discussed.

3 Overall Description

3.1 Product Perspective

ServiceBox **1.0** is a new web based system that The system will give priority to the local clients and developers of developing countries like Bangladesh, India and Pakistan as well as international countries. The system will be hosted at server specified and maintained by the client. Figure 1 is a pictorial representation of the system (context diagram) that shows the system from a bird's eye view. It shows its interactions with external entities. Different types of users will use the system. There detail descriptions will be discussed in the "User Classes and Characteristics" section.

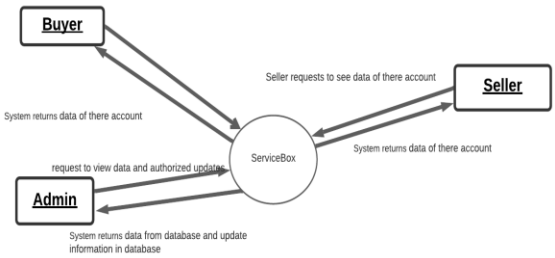


Figure 1 *Context Diagram for* ServiceBox **1.0**

Figure 2 shows the internal architecture of the system and how it will be deployed.

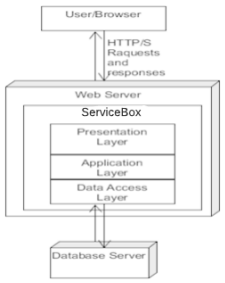


Figure 2 *Deployment and internal architecture*

The system will be deployed in a web server and will use a database server for data storage. Internally, the system will be composed of three layers - the presentation layer which will be responsible for displaying/collecting information from users, the application layer will implement all the business logic as dictated by current business practices of the client and the data access layer will be responsible for dealing with the relational data store.

3.2 Features

Features are listed below. **High**, **Medium** and **Low** are used to indicate the importance of each feature.

Feature ID	**Description**	**Priority**	**Requester**
FE01	Web based and accessible from devices (with internet connection) such as desktop, laptop, mobile and tablet PCs.	High	
FE02	Accessible only to authenticated and authorized users	High	
FE03	Sellers and buyers data management for example: Sellers and buyers personal details, chatting history, purchase history and so on. It will also allow product search and viewing product and service list	High	
FE04	Sales or invoice Report generation based on user needs.	Medium	
FE05	User management and auditing user activities	High	

3.3 User Classes and Characteristics

Following user classes are identified but the list is subject to change

User Class	**Characteristics**
Buyer	Anyone employed by the organization whose data need to be maintained. This class of users can only view their own records and request updates of their

	information if necessary.
Seller	Users of this class will be solely responsible for entering/updating employee data. They can do entry/updates only after a higher authority authorizes them to do so.
Admin	Someone, probably from the management/IT department who can view records of all employees, can authorize data entry or updates.

3.4 Operating Environment

ID	**Description**
OE01	System will be web based and accessible from all types of browsers from any location and preferably at any time.
OE02	All data (employee, user data and so forth) must be kept in a secure relational database management system.
OE03	System must be available preferably at all times.

3.5 Constraints

ID	**Details**
CO01	MySQL ***RDBMS*** for data storage
CO02	***PHP*** for backend and ***Html, css, bootstrap and javascript*** for frontend or template part

CO03	Data Encryption (***SSL***) must be used
CO04	System response to user queries must be within 5 seconds of the initiation of the request, provided network and server

3.6 User Documentation

Documentation for users will be inline, available on each page of the system.

3.7 Assumptions and dependencies

ID	**Details**
DEP01	Client interface will depend on ***Html, css, bootstrap and javascript***
DEP02	***mPDF*** will be used for ***PDF*** generation.
AS01	Client browsers will be *javascript* enabled.
AS02	Both application server and database servers will be hosted in a secure and protected environment to encounter intruders and natural disasters.
AS03	Database hosting services will provide data backup facility.

4 Feature Details

The system will have mainly three components/modules - user management module, report module and employee management module. Figure 3 shows the components of the system. The features of each

module are discussed in detail in the subsequent sections.

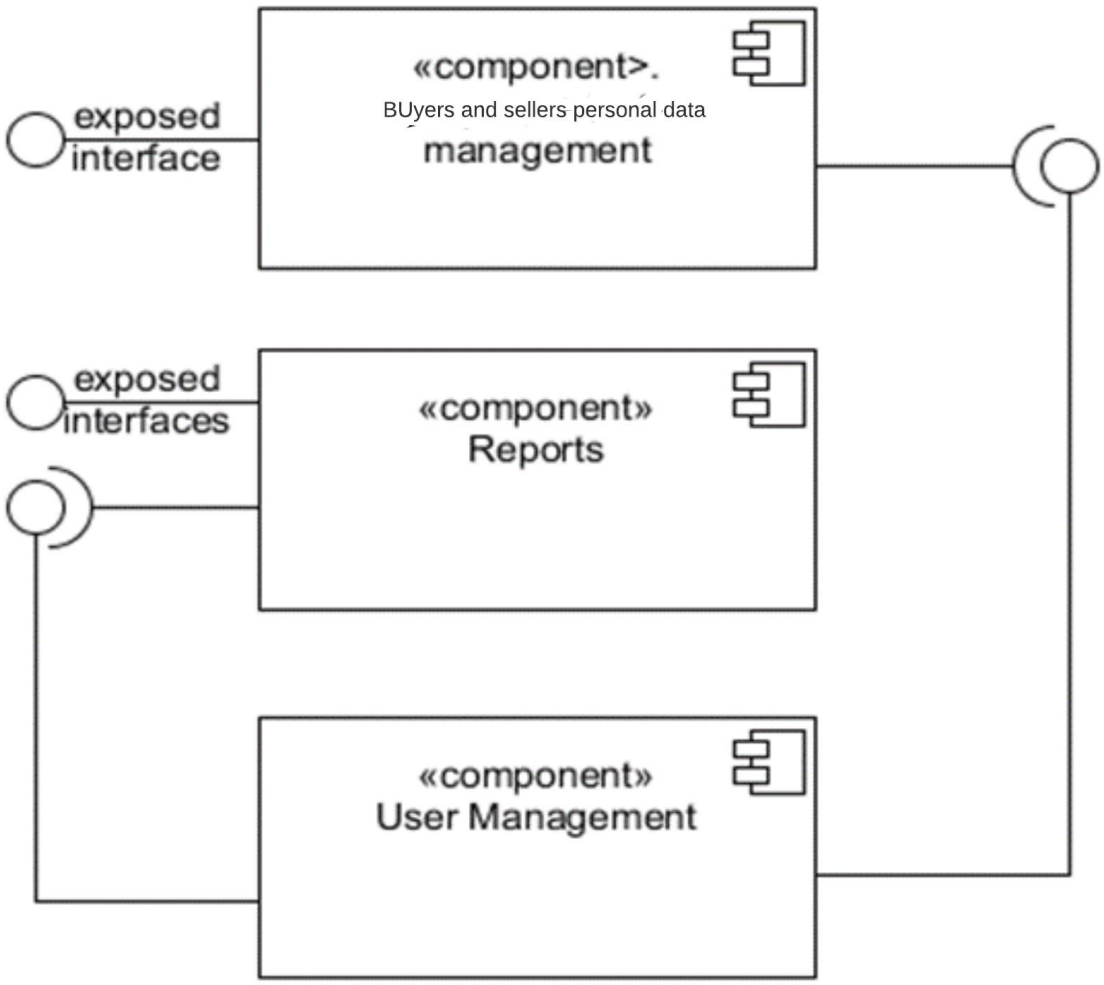


Figure 3 *Component diagram for* ServiceBox **1.0**

4.1 Web based and accessible from devices of all sizes[FE01]

4.1.1 Details

The system will be a *responsive* web portal, which will be accessible from devices (with internet connection) of all sizes such as desktop, laptop, mobile and tablet PCs.

4.1.2 User actions and system responses

Not applicable

4.1.3 Use cases

Not applicable.

4.2 Accessible only to authenticated and authorized users [FE02]

4.2.1 Details

The system will use role-based access to valid users of the system. Login will be used to provide access and then user class/role will be used to allow access to specific resources on the portal.

4.2.2 User actions and system responses

User Action	**System Response**
User requests access to the system by opening the login page (first to be loaded automatically if user is not logged in already)	The system checks user credentials and provides access to predefined resources based on user class.

4.2.3 Use cases

ID	**Use Case**	**Details**

FE02_UC01	User authentication	The system will ask user credentials (username and password) and allow access based on credential validity

4.3 Employee data management [FE03]

4.3.1 Details

The system will allow authorized users to perform buying and selling related tasks such as addition, updates and search. Invoice sheet will includes - personal details, Buying history, product purchase history, and many information (site, expeirity and so on).

4.3.2 User actions and system responses

User Action	**System Response**
Authorized logged in User requests to add new products or services or personal information.	The system responds with record entry form to collect data
Authorized user asks for a list of all products or services	The system looks up from database and shows a paged products or services list.
Authorized or logged in user requests to edit existing personal information's	The system looks up selected records and presents it to the user for edition in a form.
Authorized user wants to search for specific products or services	The system shows a search form that allows user to search for a product based on name and other criteria.

4.3.3 Use cases

ID	Use Case	Details
FE03_UC01	Upload product	The system opens up to add new products with options to save all sorts of records – product information, date and so on. It then validates and saves entered record and notifies user of success/failure
FE03_UC02	View product list	The system shows a list of products in paged format with configurable number of records per page.
FE03_UC02	View service list	The system shows a list of services in paged format with configurable number of records per page.
FE03_UC03	Edit personal record	The system retrieves record from database of intended personal data and presents it in a form for user to update. It then validates and saves entered record and notifies user of success/failure

4.4 Report generation [FE04]

4.4.1 Details

The system will allow authorized users to generate reports of various types.

4.4.2 User actions and system responses

User Action	System Response
Authorized User wants to generate invoice or report.	The system responds with a report form to specify criteria for report generation. It then generates a report with retrieves data.
Authorized user wants to print report	The system responds with a report form to specify criteria for report generation. It then generates a report allowing user to print.

4.4.3 Use cases

ID	Use Case	Details
FE04_UC01	Generate report or invoice	The system displays a report form to specify criteria for report generation. It then generates a report with retrieves data and presents it to the user.
FE04_UC02	Print report	The system displays a report form to specify criteria for report generation. It then generates a report with retrieves data that has option for printing. When the user selects printing option, a pdf is generated and downloaded to user's device.

4.5 Auditing and logging user activities [FE05]

4.5.1 Details

The system will allow authorized user with appropriate level of clearance to manage other users, such as allowing/disallowing access, monitoring user activities for security and maintaining confidentiality.

4.5.2 User actions and system responses

User Action	System Response
Authorized User wants to change personal data	The system responds with a form filled with previous information
Authorized user or buyer want to view list of	The system presents a list of products

products	
Authorized user(seller) want to upload product details	The system presents a form to fill the information
Authorized admin wants to monitor user activities	The system generates a report of user activities of the selected user.

4.5.3 Use cases

ID	Use Case	Details
FE05_UC01	Update personal information	The system displays form to enter users information. It then saves the user. It then notifies user of success/failure.
FE05_UC02	List users	The system shows a list of existing users.
FE05_UC03	Deactivate user	From user list, the user selects the user to deactivate. The system deactivate the user and notifies results.
FE05_UC04	Activity report	The system shows the activities of the selected user retrieving them from the system log. The list will be sortable by date/activities and will be filterable.

5 Data

Figure 4 depicts the ER Diagram of the system based on relational model.

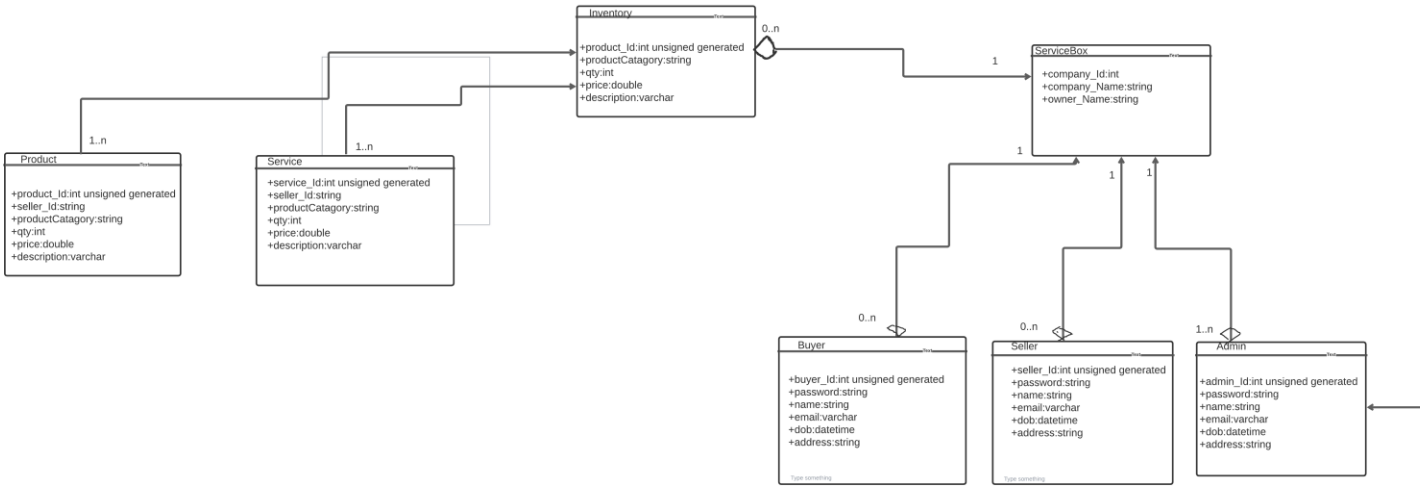


Figure 4 *ServiceBox ER Diagram*

5.1 Entities

Note: * denotes more than 1

Entities	**Quantity**	**Related entities**	**Attributes[type][required or not]**	**Comments**
Buyer	**1 - ***	**ServiceBox**	**Id** [generated serial][mandatory] **name** [string][required] **Password** [string][required] **Usertype** [varchar][required] Address[string] [required]	
seller	**1 - ***	**Product, service**		
product	**1 - ***			
service	**1 - ***			
admin	**1 - 1**			

5.2 Storage requirements

- MySQL database server will be used for data storage and retrieval.
- Considering the worst case scenario, each user's record may take 7KB of data. Initially 500MB disk space may be required for 1000 employees. It will increase based on the number of users.
- The above disk space requirement does not include the database system software space requirements or space requirements of Operating System or other needed software to run the server smoothly.
- Archival data should be stored on machines other than the production machine.

5.3 Data retention policies

Data retention period will be decided based on government requirements.

5.4 Data Backup

- Data backup must provided at the database host level.
- Application level data backup may be provided if required by the client at additional cost.

5.5 Data Security

- Data must be secured so that hackers cannot access them
- Data must be user id and password protected (database user credential required to access besides the application level user access protocol)
- Application's communication with data store must be secured, preferably over an intranet/private connection
- All user passwords must be kept in the database in encrypted format.
- SQLInjection attack must be in consideration when accepting user input to be used in database access.

5.6 Data transfer requirements

6 External Interface Requirements

This section defines the system's interfaces with hardware, software, data storage entities (***RDBMS***) and so on.

6.1 User interface requirements

User interfaces have to be intuitive requiring very little training for users. The following are some of the requirements -

- Each page must have a **Help** button that will invoke inline help system to show help page for the current screen.
- Once logged in, all pages must at all times show all the menu items available for the current user.
- Color scheme must not strain the eyes of the users.
- All buttons must be big enough for users to easily click on them.
- All links must be easily visible and follow link-specific standards such as underlined text.
- All screens must be responsive to be usable from devices of all sizes.
- Non-standard HTML tags must not be used.
- Each screen should have appropriate titles.
- The pages must be supported by all major browsers
- User interface will use internationalization to support Bangla and Englsih both.
- W3C guidelines for accessibility will be followed as much as possible.

6.2 Hardware Interfaces

The system is a web application requiring internet connection. So all hardware related to internet connectivity are included under this category. It will be hosted in server. So server hardware are also in the list of hardware interfaces for the system.

6.3 Software Interfaces

Not applicable at this time.

6.4 Communications Requirements

The system is a web application. It will need the internet/intranet to communicate. It will use HTTP/S protocol for communication with clients (browsers).l

6.5 Licensing Requirements

Not Applicable

7 Other Non-functional Requirements

7.1 Performance Requirements

- The system has to provide responses within an acceptable amount of time, 5 seconds to be exact.
- As the number of users grows, the system must be able to scale to handle increasing load.
- As the data grows, the system must able to handle quick entries, updates or searches for the data store.

7.2 Security Requirements

- SSL for data security and safety
- Passwords must be kept encrypted inside user table.
- Application Server and Database server must be in a secure environment.
- Users must be forced to change passwords every 6 months.
- Strong passwords must be enforced by the system.

7.3 Safety Requirements

Application Server and Database server must be in a safe environment to guard them against any physical damage either caused by human factors or natural disasters**.**

Standards for developing web applications.

7.4 Quality Attributes

7.4.1 Applicable Standards

The system will be built based on current and feasible standards for building web application.

7.4.2 Structural Robustness

- The system must be developed using MVC architecture for future maintenance.
- Relations must be normalized to an acceptable level.

7.4.3 Usability

Usability of the software will be determined from conversation and interviews with user base. Furthermore, testing will be done to ensure fulfillment of usability criteria.

7.5 Availability

System must have 99% uptime. Any downtime should be due maintenance or emergency situation arising from natural or man-made disasters.

8 Testing Related Information

- The software must be tested at all levels of development.
- Unit testing will be used through PHPUnit
- Pages will be tested using Selenium IDE for broken links, data validation logic and so on.
- JMeter will be used for load testing and stress testing.
- Integration testing will be performed as needed.
- UI testing will be one ensure usability of each page

9 Deployment Information

9.1 Hosting requirements

The system should be hosted in a server that will be capable of handling simultaneous connections from clients. It should be able to handle increasing number of users.

9.2 SSL requirements

SSL certificate must be installed for the domain that application can be reached at.. It will ensure data security through encryption.

Appendix A: Use Case Diagram

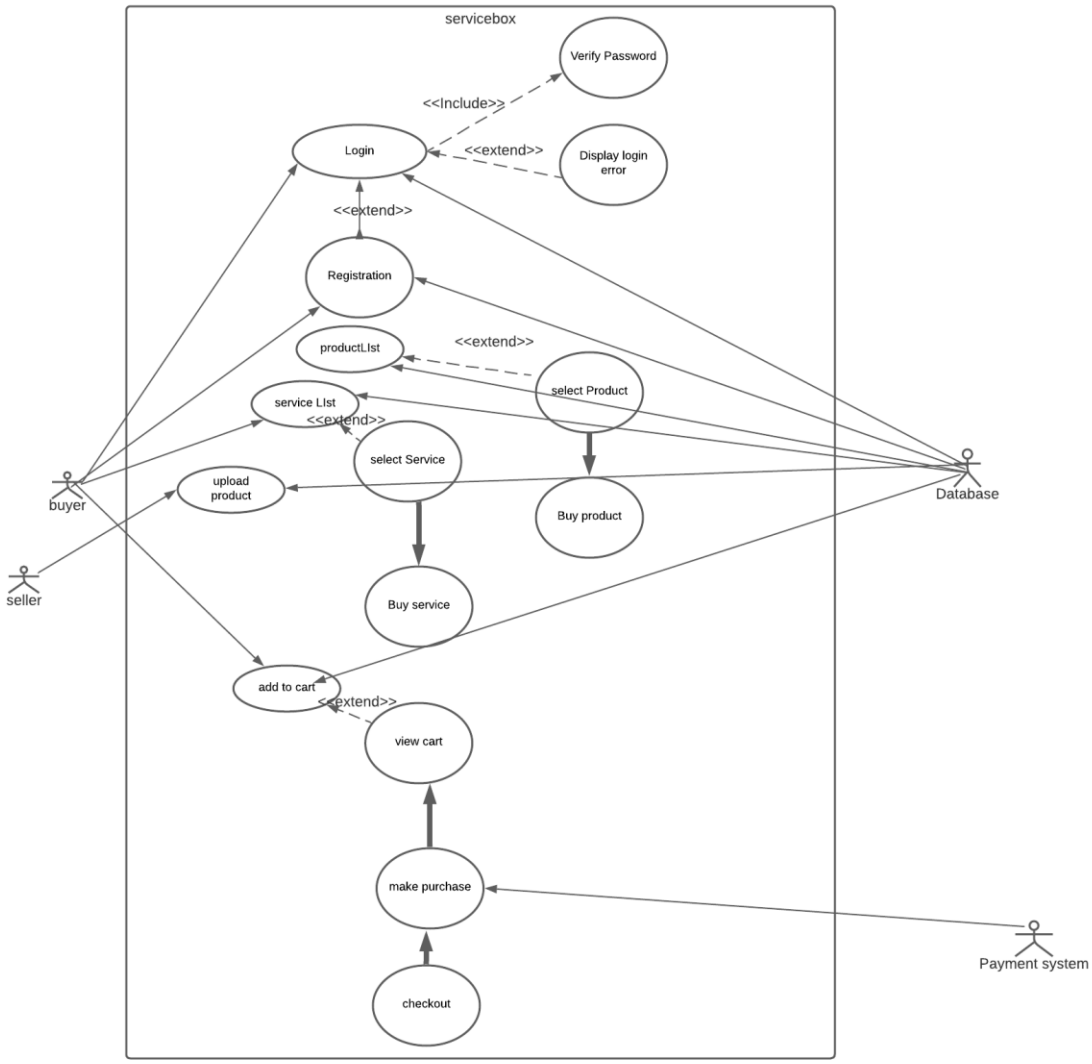
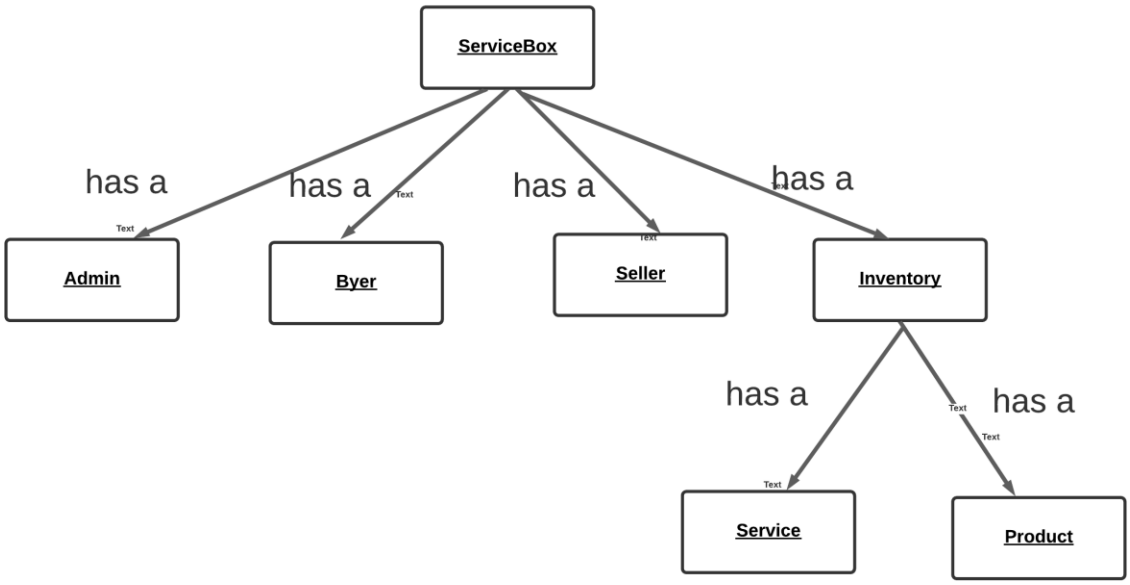


Figure *Use Case Diagram*

Appendix B: Class Diagram



In details classes

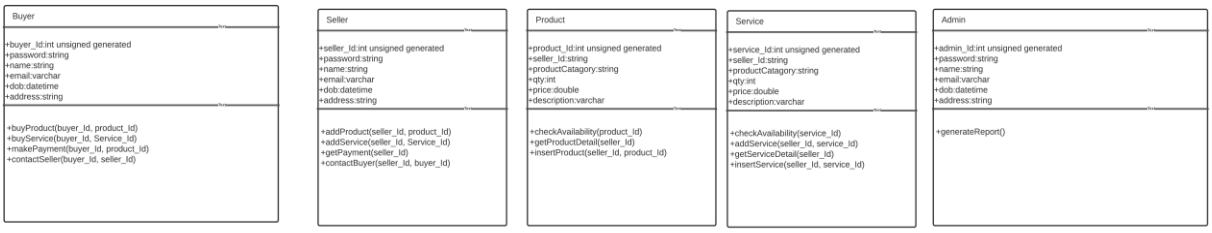


***Figure** class Diagram*

Appendix C: Statechart Diagrams

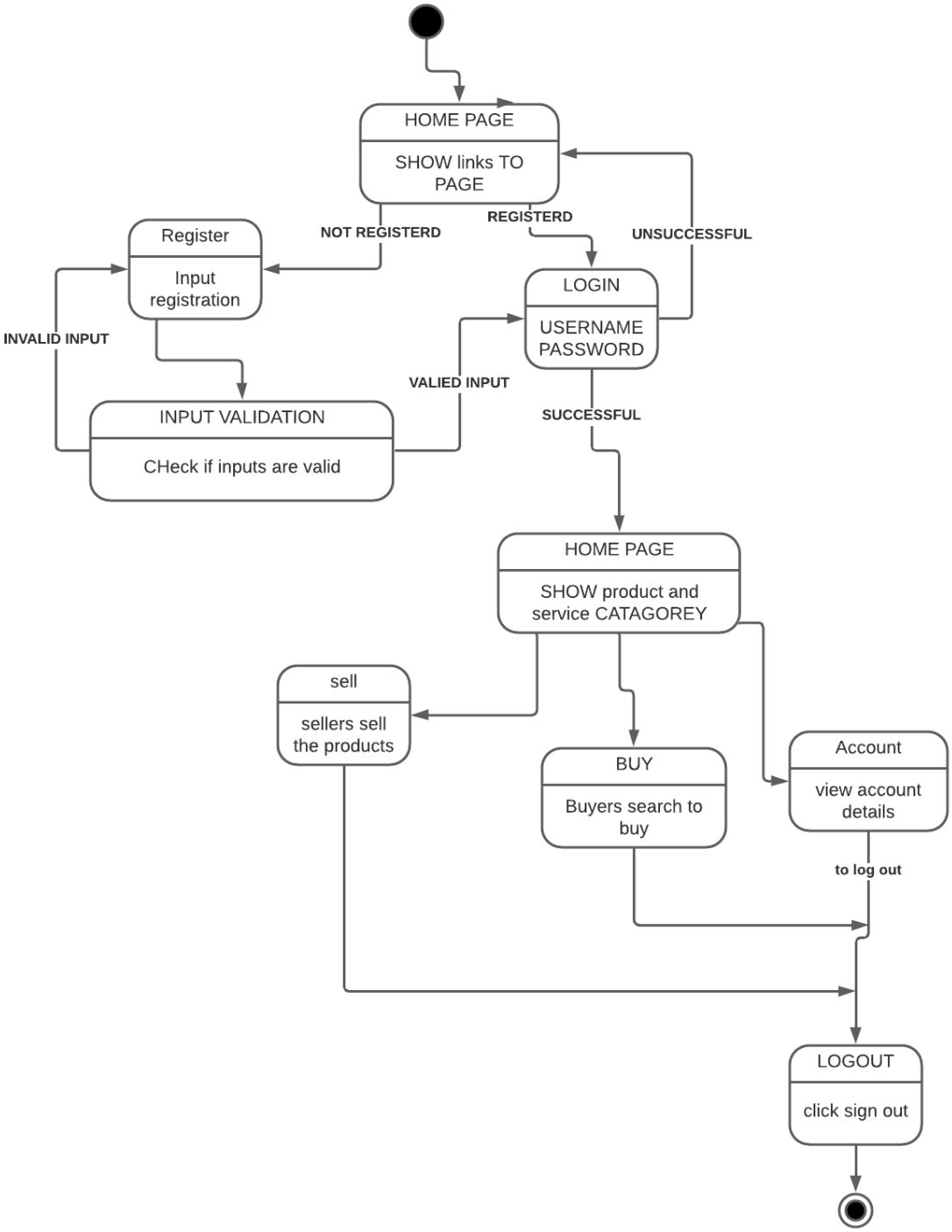

HOME PAGE
SHOW links TO PAGE
NOT REGISTERD
REGISTERD
UNSUCCESSFUL
Register
Input registration
LOGIN
USERNAME PASSWORD
INVALID INPUT
VALIED INPUT
INPUT VALIDATION
CHeck if inputs are valid
SUCCESSFUL
HOME PAGE
SHOW product and service CATAGOREY
sell
sellers sell the products
BUY
Buyers search to buy
Account
view account details
to log out
LOGOUT
click sign out

Figure *activity diagram*

Appendix C: Activity Diagrams

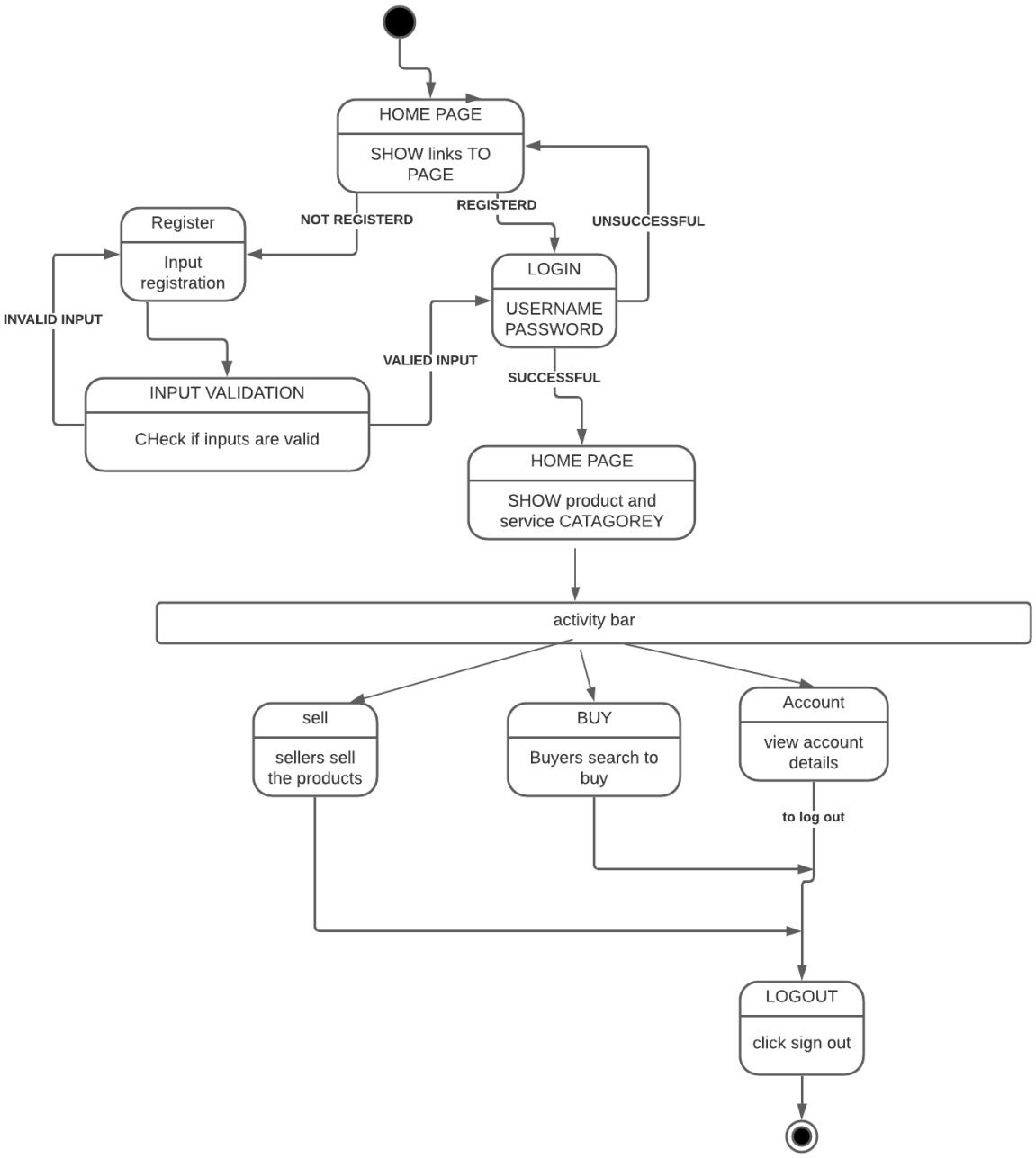
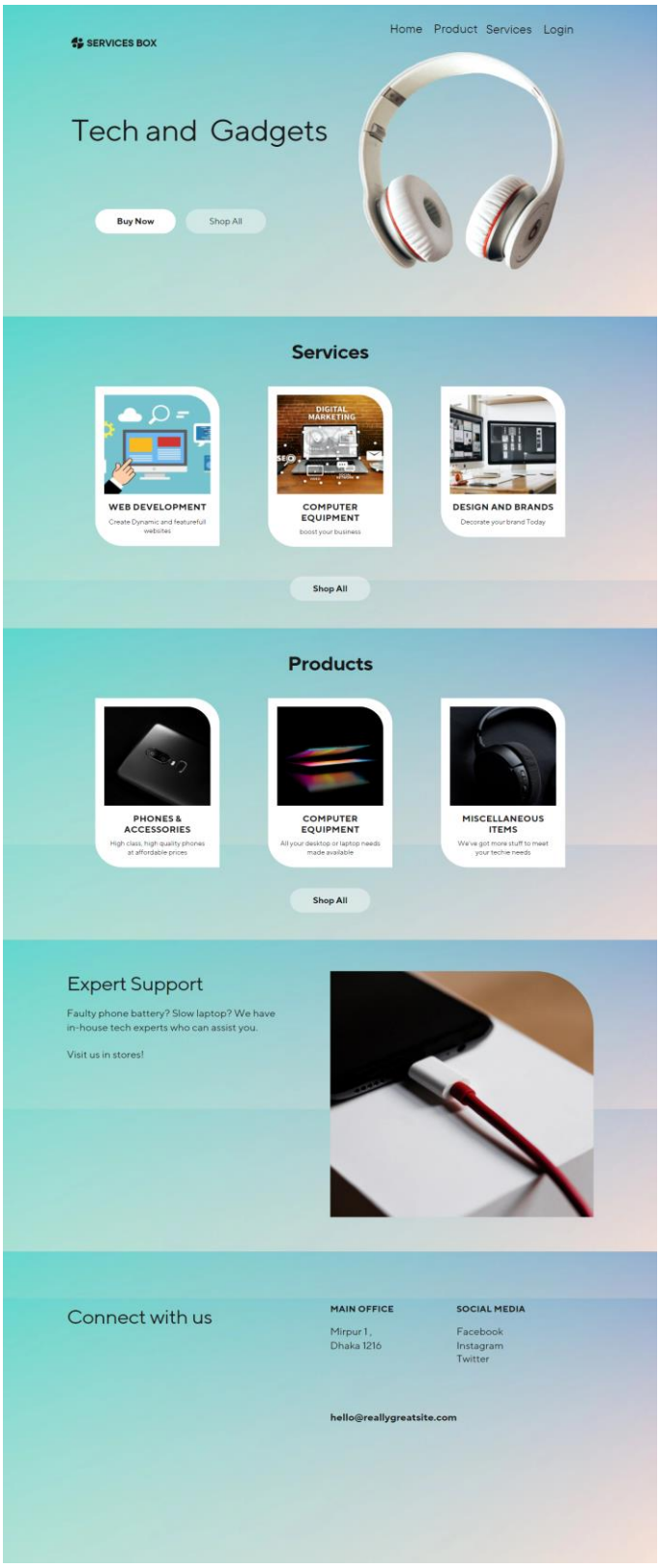
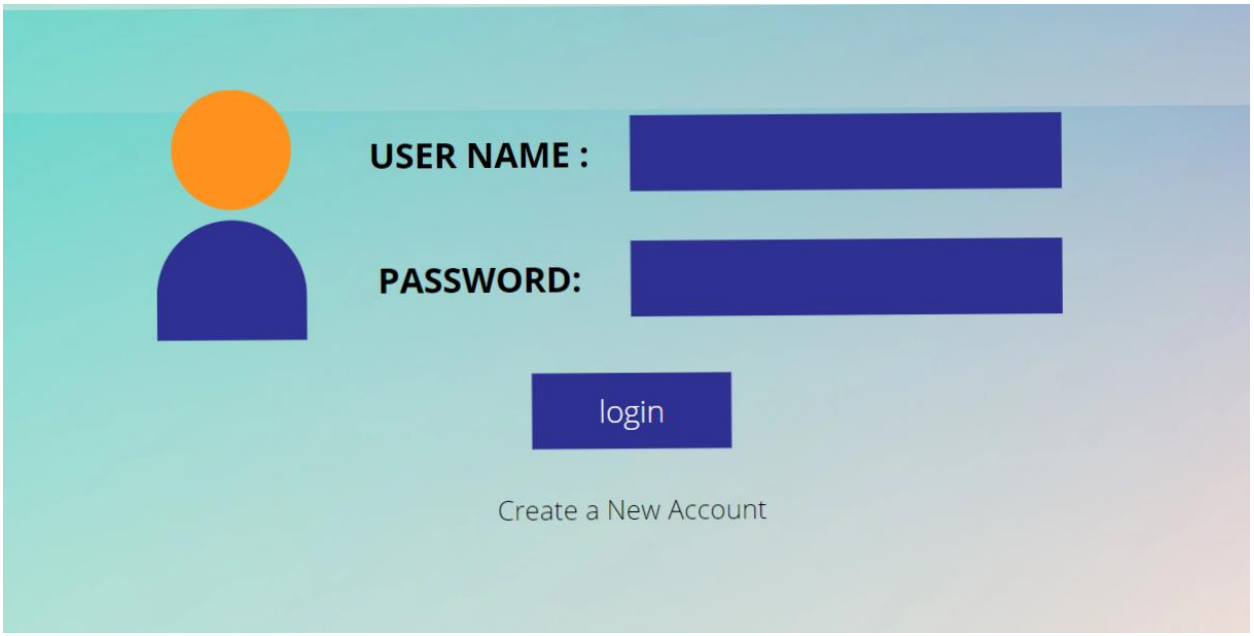


figure: *activity diagram*

home page


SERVICES BOX
Home Product Services Login
Tech and Gadgets
Buy Now
Shop All
Services
WEB DEVELOPMENT
Create Dynamic and featurefull websites
DIGITAL MARKETING
COMPUTER EQUIPMENT
boost your business
DESIGN AND BRANDS
Decorate your brand Today
Shop All
Products
PHONES & ACCESSORIES
High class, high quality phones at affordable prices
COMPUTER EQUIPMENT
All your desktop or laptop needs made available
MISCELLANEOUS ITEMS
We've got more stuff to meet your techie needs
Shop All
Expert Support
Faulty phone battery? Slow laptop? We have in-house tech experts who can assist you.
Visit us in stores!
Connect with us
MAIN OFFICE
Mirpur 1 ,
Dhaka 1216
SOCIAL MEDIA
Facebook
Instagram
Twitter
hello@reallygreatsite.com

Login page



end