SOFTWARE REQUIREMENT SPECIFICATION (SRS)

ONLINE SERVICE SYSTEM

Version 1.0

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Chapter 1

Introduction

Online Service System is a leading chain of multi-brand Electronics and Electrical Service workshops offering wide array of services. We focus on enhancing your uses experience by offering world-class Electronic Appliances maintenance service. Our sole mission is *"To provide Electronic Appliances care services to keep the devices fit and healthy as well keep the customers happy"*. With well-equipped electronic Appliances service centers and fully trained mechanics, we provide quality services with excellent packages that are designed to offer you great savings.

Overview   Through computer organization, IT Firms, universities and Business etc. can transact to their clients in a convenient way using advance technologies and specifically the Web Application, the Web Application is created for service center functions this *"Online Service System"*. Manager can lessen their error and efforts in every customer support processing and transaction and in making reports. This Web Application manages the activities of service center even a person can handle very easily, Web Interface is user friendly.

1.1   Document Purpose

The document describes the requirements and specifications of Online Service Management System.The introduction of the software Requirement Specification (SRS) provide an overview of entire SRS. A software requirements specification (SRS) is a document that describes what the software will do and how it will be expected to perform as well as the intention of the under development. The aim of this document is to gather and analyze and give in-depth insight of the complete OSMS website. The detail requirement of

the OSMS website is provided in this document.

1.2   Product Scope

The Online Service Management System is a web application which maintains all the daily work of service center of electronic items.Through website a customer can request for service of their electronic item along with the description of the defector problem in the item.The request is handled by admin which assigns technicians or workers for the services, OSMS also maintains the data of assets so that the items having warranty can easily be replaced.Customer can view their requests and the assigned engineers.

The main purpose of the development of OSMS is to provide a user friendly environment with quick response to the customer for the maintenance or replacement of their electronic items.

1.3   Intended Audience and Document Overview

The intended audience in OSMS project are the general people having issues regarding their electronic items.Also the administrators of the service centers for handling the maintenance requests. /paragraphThis document is plan for OSMS website in which we portray large depiction of product in which we depict the products point of view, its usefulness, users, and its limitation.It contain important features presented with detailed description, and requirement.Functional requirements are also provided in this report, it also specifies the non-functional requirement. /paragraph

- **Chapter 1** is just an introduction and discussion about purpose, scope, intended audience, definition, acronyms and abbreviations.

- **Chapter 2** provides an overview description of the software. It gives the proficiency level to be expected of the user, some general constraints, assumptions and dependencies that are presumed while making the software. It gives a basis to establish the technical requirements in the next chapter.

- **Chapter 3** contains most important features presented with detailed description, and requirements.It gives specific requirements which the software is expected to deliver.Functional requirements are given in this section along with the External Interface Requirements.A Use case

Diagram is also illustrated to give a clear idea of the software to be developed.

- **Chapter 4** specifies the Non-Functional requirements. Performance, safety and security requirements are mentioned over here.In addition, Software Quality Attributes have been discussed in detail.

1.4 Definitions, Acronyms and Abbreviations

- **OSMS:** Online Service Management system

- **ER:** Entity Relationship diagram

- **DFD:** Data Flow Diagram

- **User Interface:** User Interface

- **PHP:** PHP is a server scripting language, and a powerful tool for making dynamic and interactive Web pages.

- **HTML:**The HyperText Markup Language, or HTML is the standard markup language for documents designed to be displayed in a web browser.

- **CSS:**Stands for *"Cascading Style Sheet"* are used to format the layout of Web pages.

- **Latex:** A document formatting tool to prepare documents.

- **Xampp:**It is an open-source package which helps a local host or server to test its website and clients via computers and laptops before releasing it to the main server.

1.5 Document Conventions

The SRS has been prepared using the Latex software which is a document preparation system.When writing, the writer uses plain text as opposed to the formatted text found in *"What You See Is What You Get"* word processors like Microsoft Word, LibreOffice Writer and Apple Pages.

1.6 References and Acknowledgments

The following references are being used to developed the *"Online Service System"*:

- IEEE. IEEE Std 830-1998 IEEE Recommended Practice for Software Requirements Specifications. IEEE Computer Society, 1998.

- The complete refrence PHP

- https://www.tutorialspoint.com/

- https://www.google.co.in./

Chapter 2

Overall Description

2.1 Product Perspective

The software product is a Web application. The application will be made up of two parts, one administrator who has all the rights and the other user who has limited rights to handle the application. The two users of the system, namely the Service Manager (Admin) and Customers (User) interact with the system in different ways.
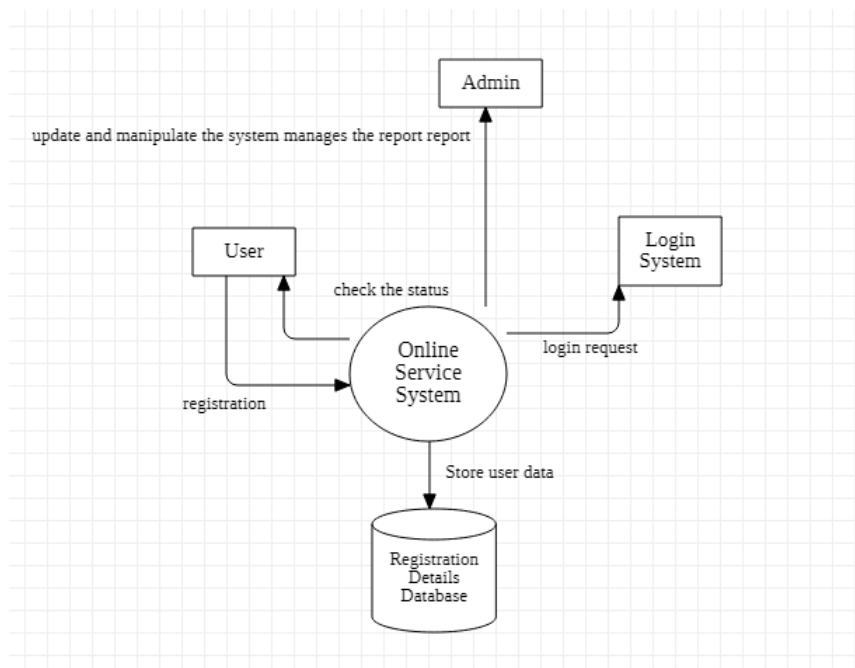

Figure 2.1: Context Diagram

2.2   Product Functionality

The main functions which can be done by using Online Service System Website are listed below. The system provides following functions:

- **Authentication:** First of all it will authenticate the user whether he is Admin or User the unauthorized person can't get access to the application.

- **Online Registration Facility:** System provides online registration process to their customer.

- **Data manipulation:** Admin will be able to Add, Delete, and Modify technician details. He can be add, remove, edit and sell assets. He can also Add, Delete and Modify service request made by customers. He can also check the reports of selling.

- **Assignments:** Admin can use this application to check all reports related to product sell, and assign work order as well as he can manipulate the data of repair request.

- **Check status:** The User has some less function compare to Admin. He will be able to Submit Service Requests, Update Own Profile etc. He can check request status.

Data Flow diagram of OSMS is given below:
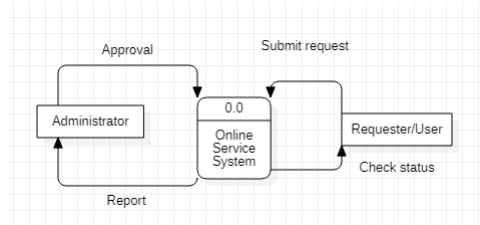
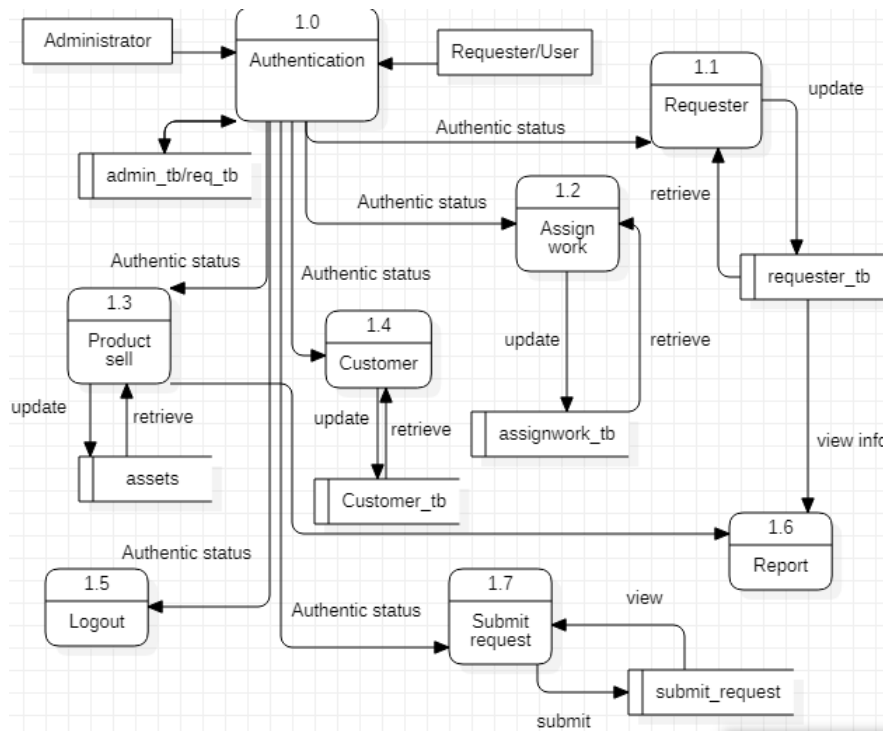## Data Flow Diagrams

Figure 2.2: Data Flow Diagram level 0

Figure 2.3: Data Flow Diagram level 1

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2.3   Users and Characteristics

2.3.1   Admin

The administrator is the person or people who will have all privileges over website.They will be able to emend website.They will be responsible for updating on website on timely basis.

2.3.2   Service Customers

Service customer are those people who needed services. They would visit website for the need of the technician. They would view all details on website regarding the services provided by the OSMS. They would also be able to choose a technician of their choice.

2.4   Operating Environment

OSMS will support all browsers. It will be able to work anywhere There will be no restriction on user being able to visit website anywhere anytime.User can visit website from any device like PC, laptop, android or iPhone. Continuous service is priory, minor service interruptions can be tolerated.

2.5   Design and Implementation Constraints

2.5.1   Hardware Constraint

Hardware limitation of website can be unavailability of laptop, pc, mobile or tap.If these devices are not available the end-users cannot use website.

2.5.2   Browser Constraint

Browser must be installed for working of OSMS.User cannot use website without any browser.The user must install browser such as google chrome, Mozilla Firefox,Microsoft edge.

2.5.3   Internet Constraint

OSMS requires the availability of internet access all the time. The website is unreachable without internet the connection.

2.5.4 Input Device Constraint

Input devices like touch pad, mouse, keyboard are necessary to interact with the application.

2.5.5 Visual Studio Code

It must be installed in system. It allows developers to create java program that can be executed.

2.5.6 Xampp

Xampp must be installed on your PC because Xampp is the most popular PHP development environment for Windows, OS X, and Linux platforms.It is a software distribution server which makes developer's work easier for testing and deploying by creating a local web server.

2.5.7 MySQL Database

It must be install in system. It is a relational database management system based on SQL-structured Query Language. It will be used for storing all data of website.

2.6 User Documentation

No knowledge is required to run this system as it is a basic website so just basic browser knowledge is enough such as user know how to open the website and how to register and login. The GUI is very attractive for users and user-friendly.

2.7 Assumptions and Dependencies

2.7.1 Assumptions

Major Assumptions are :

- Laptop, Pc, Mobile, Tablet must have a web browser.

- The website is for general public so user must know the process of opening the browser and can run the website.

- If the OSMS is being used on a PC then a stable power must be supplied.

2.7.2   Dependencies

The website is highly dependent on availability of internet connection in order to access the website

Chapter 3

Specific Requirements

3.1 External Interface Requirements

3.1.1 User Interfaces

Home:

When the user click on this button it will display the other modules and pages of the website such as services,Registration,Login,Contact and Admin login. this module will be used to display the brief introduction of the project and will show the title of the project as well as the name of the developer.

Services:

This module describes which services company provides to its customers.

Registration:

This is the most important module of the Online Service Management System which provides a registration form where user/requesters can register themselves and submit service requests.

Contact:

This module contains a contact us form which can be used to send feedback or to communicate with the service provider.

Login:

This is user login form. When an user clicks on this link a user login form will be appear where user can enter their email id and password for logging in to the user panel.

User Panel:

Profile   User can see their register email id and name as well as if they wish to change the name, they can update new name. The Registered email id is read only so it can't be altered.

Submit Request   Using this module user can submit service request. After submitting form user will get an receipt which he can print out.

Service status   User can check their service request status by filling up service request id.

Change Password   User can change his/her login password.

Logout   This logout and exit the application.

Admin Login:

This is Admin login form. Admin can enter email ID and password for logging in to the admin panel.

Admin Panel:

Dashboard   This screen displays overview of work and other stuff like number of technicians and list of requester.

Work Order   This page contains all the assigned request made by users. Admin can view or delete the assigned work as per their need.

Requests   This is the most important module of an admin panel where admin can assign the work/request made by user/requester. if there is any invalid request admin can delete that request without assigning them.

Assets The main work to accomplish in this module is to add,modify or remove any assets of the service center. This contains few sub modules through which works are performed. These are follows:

- **New:** This is used to add new product part in the service center. There is a plus+ sign button which is actually new button.

- **Edit:** This sub-module is used to modify the existing details of the product if anything goes change in their record. There is a pencil button which is actually edit button.

- **Remove:** This is used to remove any product from the service center. There is a Trash button which is remove button.

- **Sell:** This is used when going to sell a product. Admin can also print-out a bill for customer.

Technician The main work to accomplish in this module is to add,modify or remove technician of the service center. This contains few sub modules through which works are performed . These are as follows:

- **New:** This is used to add new technician details in the service center. There is a plus+ sign button which is actually new button.

- **Edit:** This sub-module is used to modify the existing details of the technician if anything goes change in their record. There is a pencil button which is actually edit button.

- **Remove:** This is used to remove Technician from the service center. There is a Trash button which is remove button.

Requester The main work to accomplish in this module is to add,modify or remove Requester/users of the service center. This contains few sub modules through which works are performed . These are as follows:

- **New:** This is used to add new Requester details in the service center database . There is a plus+ sign button which is actually new button.

- **Edit:** This sub-module is used to modify the existing details of the Requester if anything goes change in their record. There is a pencil button which is actually edit button.

- **Remove:** This is used to remove Requester from the service center. There is a Trash button which is remove button.

Sell Report:

This module is used to view and print sell report.

Work Report:

This module is used to view and print work report.

Change Password:

User can change his/her login password.
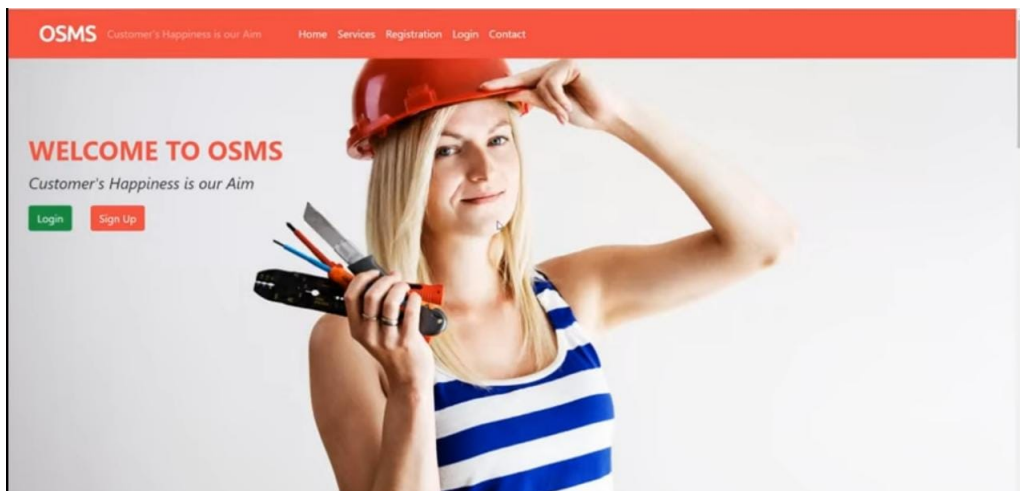
Logout

This Logout and exit the application.

Figure 3.1: Home page

Figure 3.2: Helpline

Figure 3.3: Registration

3.1.2 Hardware Interfaces

There are no hardware interfaces in our system as online service management system is an online web application and doesn't require the usage of any hardware component but for the execution of this system we require following hardware:

- Processor: A 1.6GHz or faster processor.

- RAM: 1.5 GB RAM

- Disk Space: 4GB of available hard disk.

- Graphic : DirectX 9-Capable video card.

3.1.3 Software Interfaces

- Our web-page will run on every operating system and mobile device if they have any web browser.

- For database server we have used Apache and MySQL.

- For UI designing we have used HTML,CSS,JavaScript,Bootstrap languages and font-awesome and Google Font libraries with Visual Studio Code as an IDE.

- For back-end PHP is used as it is an open source language and its all components are free to use and distribute.

- StarUML and yED Graph Editor are used as drawing tools. StarUML is an open source project to develop fast, flexible extensible and featured diagrams. yED graph Editor is a powerful free desktop application that can be used to quickly and effectively generate high-quality diagrams.

3.1.4 Communications Interfaces

OSMS is an online web application so the user needs a web browser and thus internet access is required for availing the service and for communication over the network .

3.2 Functional Requirements

Authentication

User Requirement: User/admin enter email and password on login page.
System requirement: Website will redirect admin to admin pages and user to the user pages provided correct email and password entered,otherwise user/admin is not authenticated.

Online Registration Facility:

User Requirement: User will enter some basic information required for registration in registration page.
System Requirement: Website will register the user with basic information entered by user,and save the information in database.

Request Generation:

User Requirement: User will enter the information related to the electronic item and the description about fault or defect and generate the request for maintenance or replacement.
System Requirement: The request information is saved in database and visible to both user and admin through website.

Data manipulation by admin:

User Requirement: Admin will update delete and modify the product details,technicians details and service request made by customer.
System Requirements: Changes made by admin are reflected in database also visible to the admin through website.

Assignment of work:

User Requirement: Admin will assign work to the technicians according to requests made by customers.
System Requirement: The assigned technicians are visible to the admin and customers also.Customer can see the assigned technician for his/her request.

Check status:

User Requirement: User can view the request status.
System Requirement: When admin assign the technician the request status is updated.

Report Generation

User Requirement: Admin will click on report generation for services provided or assets sold.
System requirement: A PDF is generated summarizing the assets sold and the services provided.

3.3 Behavior Requirements

3.3.1 Use Case View

ACTORS: There are 2 actors in our website;

- **Admin:** These are the people that govern and maintain the website.

- **Requester/user:**These are the people who are registered in our website and requests for maintenance or replacement of electronic item.

USE CASES: There are 18 use cases;

- **Registration** User request for the registration.

- **login** This provide authentication of login for the admin and registered customers.

- **Assign Work** Admin assign work to the technician while accepting the requests from the customer.

- **Add Asset** Admin can add assets.

- **Edit Asset** Admin may edit assets.

- **Remove Asset** Admin can remove any asset.

- **Sell Asset** Admin sell out asset for make it available for the requester.

- **Add Technician** Admin can add the technician for the service.

- **Edit Technician** Admin can also edit the technician profile.

- **Remove Technician** Admin may remove any technician.

- **Add Requester** Admin add the user requesting for the service.

- **Edit Requester** Admin can edit the requester information.

- **Remove Requester** Admin can remove any requester.

- **Change Password** Admin and the registered customer can change their passwords.

- **Report** Admin assess the details of all the functions of OSMS.

- **Submit Request** User submit the request so that admin can assign work to the technician for the respective requester.

- **Check Status** User check the status of availability of technician.

- **Available** Technician may available by the admin asset's selling to the requester.
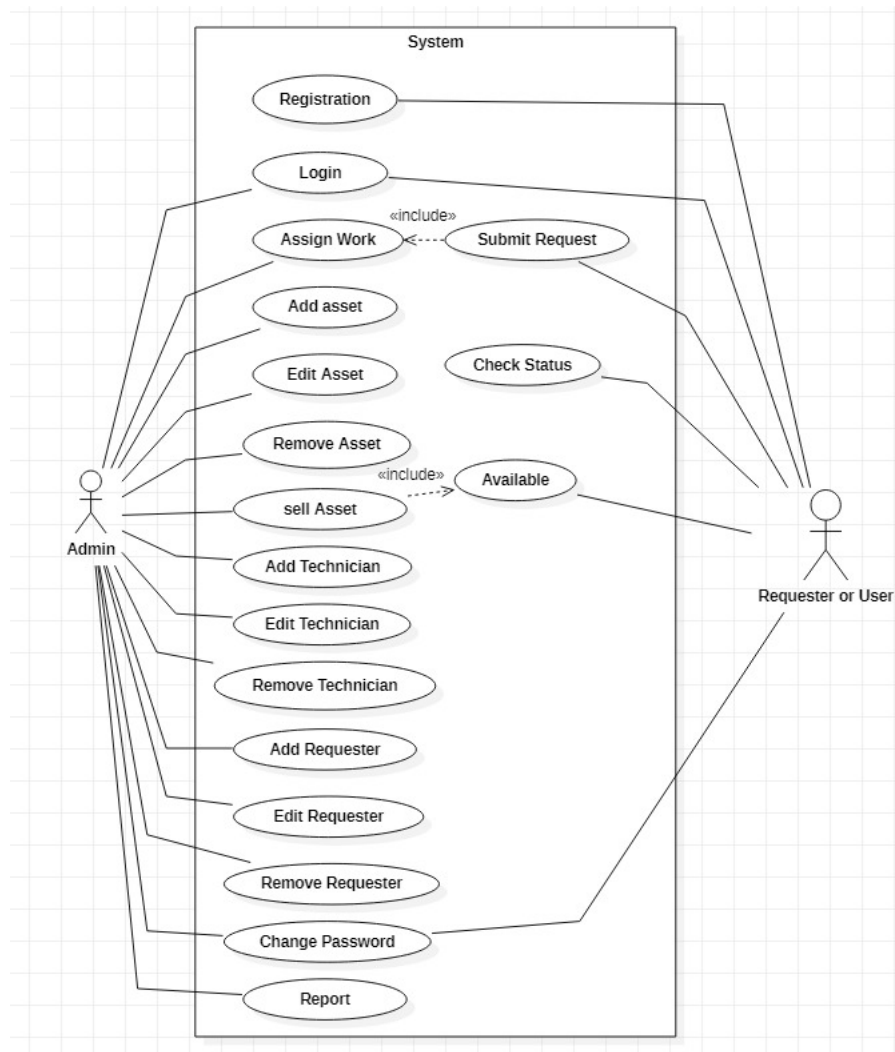
Figure 3.4: Use Case Diagram

Chapter 4

Other Non-Functional Requirements

4.1 Performance Requirements

Since *Online Service System* is an interactive website, therefore the major performance requirement is low response time.

4.1.1 Load Time

Load time for interface screen of this website should not exceed 20 seconds.

4.1.2 Generation of Registration Form

After entering all the necessary information the generation of registration form will take 20-30 seconds maximum.

4.1.3 Updates

Website updates in case of addition or removal of information, the update view should be visible instantaneously.

4.1.4 SignIn/SignUp Time

It takes maximum 15 seconds to open the respective account after entering credentials.

4.1.5 Opening of Windows

In every action-response of the system, there are no immediate delays. In case of opening windows sessions the delay is much below 5 seconds.

4.2 Safety and Security Requirements

4.2.1 Safety

There is no safety requirements for this tool other than the normal hazards of a computer system like:

- End-user should not use website while driving or in any other situation in which end-user's focus is imperative.

- Using the website for a long time may cause neck and shoulder pains, headache and eyestrain.

- It should be properly handle likely human errors, systematic errors, hardware failures and operational stress.

4.2.2 Security

Most of us rely heavily on the internet to enjoy social media, online education, remote work, and all sorts of entertainment. But widespread use does not equal widespread understanding.

There are security requirements for the website:

- **Keep confidential data offline:** Confidential data should never go online. However, when you still have to share it, be sure to send it as an email attachment and encrypt the file before sending.

- **Use a strong password:** Using strong, unique passwords offers good online protection. Strong passwords should contain at least 12 symbols and feature a mixture of letters (upper and lower case), numbers, and special characters.

- **Keep your computer updated:** It's important you use the latest versions of your operating systems and apps. Developers are constantly working to make products safe, monitoring the latest threats and rolling out security patches in case of vulnerabilities. So, accept their work, update your software regularly, and do your bit to keep yourself secure.

- **Secure your internet connection:** Makes your internet connection private by changing your IP address. It also hides the sensitive data you send over and other private information that can be compromised.

- **Use cyber security software:** A reliable cyber security solution will provide you with an extra level of safety, covering your back. The real-time antivirus protection with anti-tracking features will protect you from spam, phishing and instantly alerted if your personal data goes public.

4.3   Software Quality Attributes

4.3.1   Adaptability

The system is adaptable when data is changed. When new data is inserted or data is manipulated, database is changed.

4.3.2   Availability

System is available it will execute tasks and not down more than few seconds. Its performance is feasible to avoid inconvenience of the client.

4.3.3   Correctness

The system processes accurately and executing a program with the intent of finding errors. It is aimed primarily at improving quality assurance, verifying and validating described functionality, or estimating reliability to the customers.

4.3.4   Flexibility

Our website is flexible. It can be modified with the changing of requirements.

4.3.5   Interoperability

The data is transferred to the database from the web server or vise versa.

4.3.6   Maintainability

Website can be maintain but take time for the repair.

4.3.7   Portability

It can easily be accessible from any devices through internet.

4.3.8   Reliability

In case of system failure the process will br rollback and registration would be terminated so that the database will be safe from any incorrect information.

4.3.9   Robustness

Constraints are applied on every input to ensure that valid data items are entered.

4.3.10   Testability

Response time is low and all functions are working perfectly.

4.3.11   Usability

Since system is for users of different age group its interface is quite simple.

4.3.12   Reusability

Current version can be used to develop future versions with more functionality added.

Chapter 5

Appendix A - Data Dictionary

Table 5.1: **Admin-login**

Attribute	Data Type	Description
a-login-id	int	Stores login id (Automatically Generated)
a-name	varchar(60)	Stores admin name
a-email	varchar(60)	Stores admin email
a-password	varchar(60)	Store admin password

Table 5.2: **Requester-login**

Attribute	Data Type	Description
r-login-id	int	Stores login id (Automatically Generated)
r-name	varchar(60)	Stores requester name
r-email	varchar(60)	Stores requester email
r-password	varchar(60)	Store requester password

Table 5.3: **Customer**

Attribute	Data Type	Description
cust-id	int	Stores customer id (Automatically Generated)
cust-name	varchar(60)	Stores customer name
cust-address	varchar(60)	Stores customer address
cp-name	varchar(60)	Stores product name
cp-quantity	int	Stores product quantity
cp-each	int	Stores each quantity price
cp-total	int	Stores total price
cp-date	date	Stores selling date

Table 5.4: **Assets**

Attribute	Data Type	Description
p-id	int	Stores product id (Automatically Generated)
p-name	varchar(60)	Stores product name
p-ava	int	Stores number of available products
p-total	int	Stores number of total products
p-original-cost	int	Stores product of original cost
p-selling-cost	int	Stores product selling price
p-date	date	Stores product date

Table 5.5: **Technician**

Attribute	Data Type	Description
emp-id	int	Stores employee id (Automatically Generated)
emp-name	varchar(60)	Stores Employee name
emp-email	varchar(60)	Stores Employee email ID
emp-city	varchar(60)	Store Employee city
emp-mobile	bigint	stores Employee mobile number

Table 5.6: **Submit-Request**

Attribute	Data Type	Description
request-id	int	Request id (Automatically Generated)
request-info	text	Request info
request-desc	text	Request Description
requester-name	varchar(60)	Requester name
requester-add1	text	Requester address line 1
requester-add2	text	Requester address line 2
requester-city	varchar(60)	Requester city
requester-state	varchar(60)	Requester state
requester-zip	int	Requester zip
requester-email	varchar(60)	Requester email
requester-mobile	bigint	Requester mobile
request-date	date	Request date

Table 5.7: **Assign-work**

Attribute	Data Type	Description
r-no	int	Request number (Automatically Generated)
request-id	int	Request ID
request-info	text	Request info
request-desc	text	Request Description
requester-name	varchar(60)	Requester name
requester-add1	text	Requester address line 1
requester-add2	text	Requester address line 2
requester-city	varchar(60)	Requester city
requester-state	varchar(60)	Requester state
requester-zip	int	Requester zip
requester-email	varchar(60)	Requester email
requester-mobile	bigint	Requester mobile
assign-tech	varchar(60)	Assign technician name
assign-date	date	Assigned date