

*System Requirements Specifications of*

# **VAT ENSURING**

# **SYSTEM**

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## Revision History

Name	Date	Reason For Changes	Version

## 5 Introduction

The introduction of the Software Requirements Specification (SRS) provides an overview of the entire SRS with purpose, scope, definitions, acronyms, abbreviations, references and overview of the SRS. The aim of this document is to gather and analyze and give an in-depth insight of the complete **Vat Ensuring System** by defining the problem statement in detail. Nevertheless, it also concentrates on the capabilities required by stakeholders and their needs while defining high-level product features. The detailed requirements of the **Vat Ensuring System** are provided in this document.

### 5.4 Purpose

The purpose of the document is to collect and analyze all the data of sells and estimated the vat for a year and collect the vat more conveniently and accurately so that have come up to define the system, its requirements with respect to shop-owners and the Super Shop. Also, we shall predict and sort out how we hope this system will be used in order to gain a better understanding of the project, outline concepts that may be developed later, and document ideas that are being considered, but may be discarded as the system develops.

In short, the purpose of this SRS document is to provide a detailed overview of our software product, its parameters and goals. This document describes the system and its associate's members and its user interface, hardware and software requirements. It defines how admin, shop owners' and super shop can see the system and its functionality. Nonetheless, it helps any designer and developer to assist in software delivery lifecycle (SDLC) processes.

### 5.5 Project Scope

Primarily, the scope pertains to the data of vat collection features for making Vat Ensuring System. It focuses on the programs, the stakeholders and applications, which allow general shop-owners and the general super shop to be connected with the Govt. in an online platform and keep updated and clear relationship between them.

This SRS is also aimed at specifying requirements of software to be developed but it can also be applied to assist in the selection relation between the users. The standard can be used to create software requirements specifications directly or can be used as a model for defining the system requirements.

### 5.6 Glossary

This subsection contains definitions of all the terms, acronyms, and abbreviations used in the document. Terms and concepts from the application domain are defined.

- 5.6.1** DIU – Daffodil International University
- 5.6.2** SRS – System Requirement Specification
- 5.6.3** SDLC – Software Development Life Cycle
- 5.6.4** UI – User Interface.

### 5.7 References

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

### *5.8 Overview*

This system is designed to be a facility for maintaining the maximize vat and minimize the rate of vat between the Government, general Shop Owners and Super Shop in Bangladesh such as building online shop, Update the sells and history of sells, notice for lower vat limit is available to any member as well as command and control systems. The rest of the SRS examines the specifications of the Vat Ensuring System in detail. Section 2 of the SRS presents the general factors that affect the Vat Ensuring system user role such as user class and characteristics and section 3 of this SRS presents the overall design and implementation techniques of this system.

## 6 User Classes and Characteristics

There are three types of users in this system. The first two are, executive member, and general member, the only distinction between them is that executive member are allowed to see the preference and exclusion sets of other users. It is the third type of user, the administrator, who is able to initially setup the system, add new users, and set their authorization level.

**Shop Owners:** Most members of this system will be of the general shop owners. These members are able update and build their store with products name & numbers, see selling information, see the selling history and pay the vat at the end of the year without any hassle. They also can see all the exclusive shop owner's list who has given incentive for given the most vat in the year to this system and be one of them by upgrading their sells. They also can get the exclusive vat cut card facilitates which will include a lot of offers which will reduce the taxation rate.

**Corporation:** The next most common type of user is the authorized Corporation who has a selective amount of super shops across the country. These users have the same permissions as the general shopkeepers with the additionalability to view other member's preference and exclusion set of offers. They are allowed to sell the product without building an initial online shop like the general shop owners do. Also they have the permission to scan the product without updating the products info at the first place.

**Admin Panel:** Finally, the system administrators are users who are able to setup the system from the initial installation and maintain the systems member accounts. They automatically have the functionality of authorized users within the normal operation of the system; however have additional menu options which allow them to maintain the system. They can also fix any software and taxation issue after been checked by the authority.



## **7 Design and Implementation Constraints**

Design and implementation constraints are those that we have used to implement this project make successful. It also describes tool that enables developers and testers to view and interact with the user interface (UI) elements of this application.

### ***7.4 User Interface Technology***

User interface (UI) is everything designed into a system view that which person's associates with this system may like the interface of this system.

#### ***3.1.1 Programming Language***

For developing this system we will use PHP as a programming language. PHP (recursive acronym for *PHP: Hypertext Pre-processor*) is a widely-used open source general-purpose scripting language that is especially suited for web development and can be embedded into HTML. PHP is a server scripting language, and a powerful tool for making dynamic and interactive Web pages.

#### ***3.1.2 JavaScript and jQuery Library***

The most common use of JavaScript is to add client-side behavior to HTML pages, also known as Dynamic HTML (DHTML). Scripts are embedded in or included from HTML pages and interact with the Document Object Model (DOM) of the page.

jQuery is a JavaScript library. jQuery greatly simplifies JavaScript programming. jQuery UI is a curated set of user interface interactions, effects, widgets, and themes built on top of the jQuery JavaScript Library. Whether you're building highly interactive web applications or you just need to add a date picker to a form control, jQuery UI is the perfect

choice. jQuery UI is built for designers and developers alike. We've designed all of our plug-ins to get you up and running quickly while being flexible enough to evolve with your needs.

### 3.1.3 CSS Framework

CSS is a language that describes the style of an HTML document. CSS describes how HTML elements should be displayed. Build responsive, mobile-first projects on the web with the world's most popular front-end component library.

Bootstrap is an open source toolkit for developing with HTML, CSS, and JS. Quickly prototype your ideas or build your entire app with our Sass variables and mixins, responsive grid system, extensive prebuilt components, and powerful plug-ins built on jQuery.

The bootstrap code is included minified, which means that white spaces are removed to make the file size smaller and therefore make the load time faster for the file which improves the load time for the whole page. The main design that bootstraps adds without specifically adding design to elements is that when hovering over a link. This is fixed with some simple CSS- code added to the CSS-file, unless the bootstrap CSS-file is included after the original, then bootstrap will override the custom ones and the changes will not be seen. Having some basic knowledge about how Bootstrap works before starting to use it would increase the efficiency and speed one might achieve the goal one has in mind for including bootstrap into the project.

## 3.2 Implemented Tools and Platform

Every business plan, campaign, or project comes down to Tactics, Tools, and Strategies. To conceive, develop, and implement a sound social media marketing strategic plan that will be successful needs to have those three critical components.

### 3.2.1 *Web Server*

A Web server is a program that uses HTTP (Hypertext Transfer Protocol) to serve the files that form Web pages to users, in response to their requests, which are forwarded by their computers' HTTP clients. Dedicated computers and appliances may be referred to as Web servers as well. We will use the Apache HTTP server to implement this project

### 3.2.2 *Database Server*

We will use MySQL database server to store all of the information of this system. The reasons behind to choose the database server are given below:

- Security
- Reporting and Data Mining
- Replication
- Fault tolerance
- Performance diagnostics

## 8 Use Case Diagram

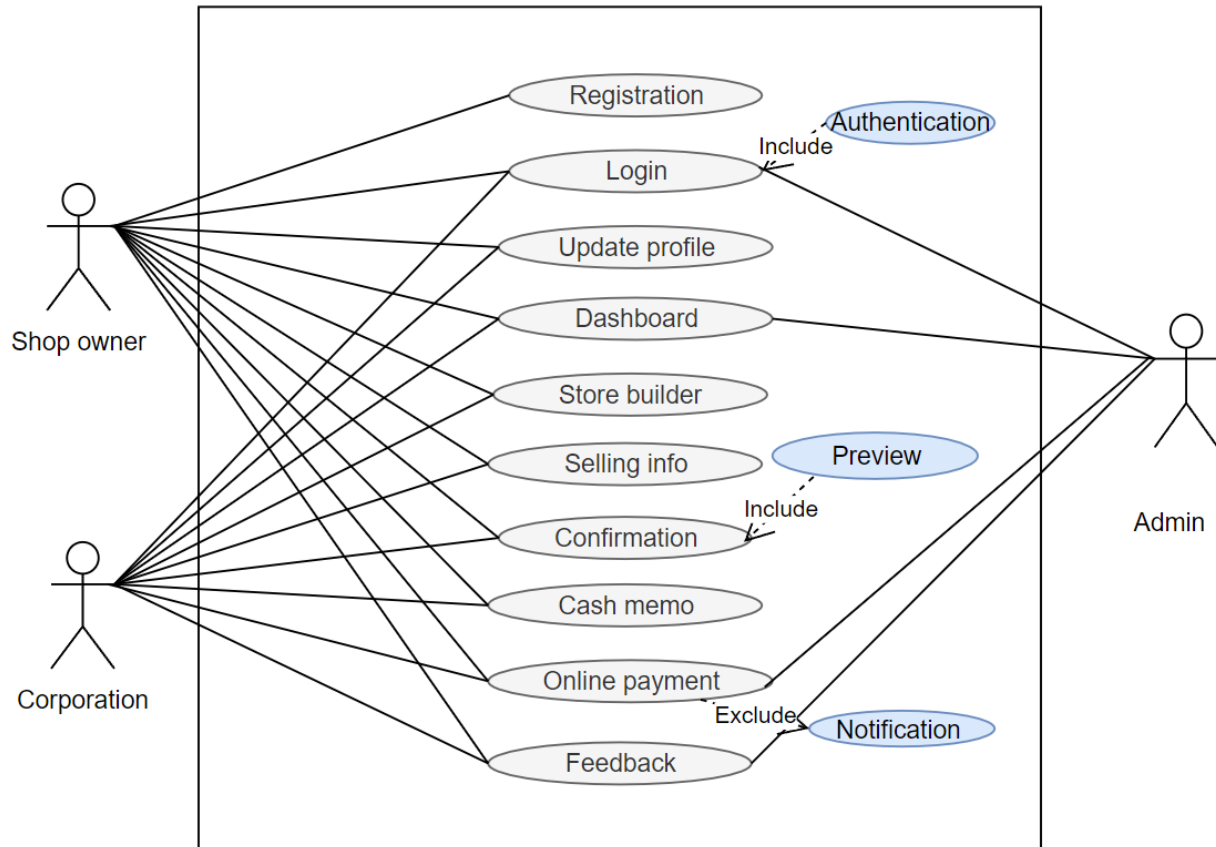


Figure 8.1: Use Case Diagram of 'VAT ENSURING SYSTEM'

## 5 Requirement Specification

The complete requirement specification based on the elicitation process is described in this section.

### 5.1 Functional Requirements

The Functional Requirements Specification is designed to be read by a general audience. Readers should understand the system, but no particular technical knowledge should be required to understand the document.

<b>FR 01</b>	<b>Registration</b>
<b>Description</b>	By using a TIN number every shop owner will be able to complete their registration.
<b>Stakeholder</b>	Shop owner

<b>FR 02</b>	<b>Authentication and Login</b>
<b>Description</b>	After registration, users can login in the system. Authentication is required when a user first logs into this system (e.g. OTP) and is not required during the next login. Admin and corporations are also able to see who has logged into the system.
<b>Stakeholder</b>	Shop owner, Corporation , Admin

<b>FR 03</b>	<b>Dashboard</b>
<b>Description</b>	This module helps the shop owner to know total revenue, History, Estimated vat. Corporations are able to see this also. Admin can see this dashboard but can't change anything.
<b>Stakeholder</b>	Shop owner, Corporation , Admin

<b>FR 04</b>	<b>Store Builder</b>
<b>Description</b>	In these modules, the shop owner will input the goods name and their quantity.
<b>Stakeholder</b>	Shop owner, Corporation

<b>FR 05</b>	<b>Selling info</b>
<b>Description</b>	To sell a product, the owner has to select the products, then select the quantity of this product as well. As a result, in the selling info module, it will be seen how many types of goods the buyer has taken, how much the price and how much his total bill will come.
<b>Stakeholder</b>	Shop owner, Corporation

<b>FR 06</b>	<b>Preview</b>
<b>Description</b>	Before confirming a bill, the owner must preview the bill. If it does not match the transaction, he may also edit the bill.
<b>Stakeholder</b>	Shop owner, Corporation

<b>FR 07</b>	<b>Confirmation</b>
<b>Description</b>	To avoid erroneous calculation, owners can confirm the bill by previewing. This information will be updated on the dashboard as soon as the bill is confirmed.
<b>Stakeholder</b>	Shop owner, Corporation

<b>FR 08</b>	<b>Cash Memo/Bill</b>
<b>Description</b>	When a bill is already confirmed this system automatically provides a cash memo which is also saved in this application.
<b>Stakeholder</b>	Shop owner, Corporation

<b>FR 09</b>	<b>Online payment</b>
<b>Description</b>	At the end of the year, total estimated VAT will show on the dashboard which can be paid through any online banking payment system. Online banking will include Bkash, Rocket, Visa, Nagad etc. which will give the customer 10% cashback. Admin can track this transaction.
<b>Stakeholder</b>	Shop owner, Corporation, Admin

<b>FR 10</b>	<b>Notification</b>
<b>Description</b>	After making the online payment, the shop owner/corporation will receive a notification message. This will let you know if you paid properly. If there is any problem in the transaction, it will also be known through notification. Admin can also view this.
<b>Stakeholder</b>	Shop owner, corporation, Admin

<b>FR 11</b>	<b>Feedback</b>
<b>Description</b>	Shop owners will be able to report any problems related to this system through feedback, which can only be seen by the admin.
<b>Stakeholder</b>	Shop owner, corporation, Admin

## 5.2 Performance Requirements

A requirement that specifies a performance characteristic that a system or system or systemcomponent must possess; for example, speed, accuracy, frequency.

### 5.2.1 *Speed and Latency Requirements*

The system is required a fair amount of speed especially while browsing game lists to takebet on a posted game.

<b>PR-01</b>	The Landing page will response within a second
<b>Description</b>	While the user's browsing the system the landing page will show within a second. It also depends on user's internet connection.
<b>Stakeholders</b>	Admin, Shop-Owner, Corporation

### 5.2.2 *Precision and Accuracy Requirements*

There are no specific precision and accuracy requirements



### 5.2.3 Capacity Requirements

The system is able to manage all the information of passed out Shopkeeper and the corporation.

<b>PR-02</b>	Initially the system will store 1,00,000 Shop's information
<b>Description</b>	The information of Products will be stored in database.
<b>Stakeholders</b>	Admin, Shop-Owner, Corporation

## 5.3 Dependability Requirement

The flexibility of current frameworks encourage system architects to enable reconfiguration mechanisms that refocus the available, safe resources to support the most critical services rather than over-provisioning to build failure-proof system. Therefore, these requirements are essentials.

### 5.3.1 Reliability and Availability

In order to support global and smooth operations the system must be available around the clock. On the other hand most services in this system are not mission-critical. Even better the game posting can handle times of downtime as the users usually interact with high- availability from third party website. This system will be able to catch up with their data once it's up and running again.

<b>DR-01</b>	The system must be available 24x7
<b>Description</b>	<ul style="list-style-type: none"><li>• The system must be available 24 hours in a day</li><li>• The system must be updated regularly</li><li>• The system must publish the notice, events and job posting and update these regularly</li></ul>
<b>Stakeholders</b>	Admin, Shop-Owner, Corporation

### 5.3.2 Robustness and Fault Tolerance Requirements

The system will almost ensure 0% crash in any single minor error and don't give any wrong calculation.

<b>DR-02</b>	The system handles over access and system errors
<b>Description</b>	Sometimes multiple users can over access to this system. The system can handle multiple user access
<b>Stakeholders</b>	N/A

### 5.3.3 Safety Critical Requirements

There are no specific safety critical requirements.

## 5.4 Maintainability and Supportability

Supportability is the degree to which system design characteristics and planned logistics resources meet system requirements. Supportability is the capability of a total system design to support operations and readiness needs throughout the life-cycle of a system at an affordable cost.

### 5.4.1 Maintenance Requirements

<b>MS-01</b>	The system helps to update any information in any time
<b>Description</b>	The admin alumni see feedback and can enable to change or update any information in any situation
<b>Stakeholders</b>	Admin

### 5.4.2 Supportability Requirements

In order to understand the system's behavior' on a technical support required by the system operator. The reason for reading them might be

- System malfunction has occurred and the system operator has to find the exact point of time when this happened
- System produces wrong results and the developers must be able to reproduce the dataflow through the system
- Hacker tried to breach the system's security mechanisms and the system operator must understand what he did.

### 5.4.3 Adaptability Requirements

There are no specific adaptability requirements.

## 5.5 Security Requirements

There are no access requirements beside those that have been outlined in the below:

- The software must validate all user input to ensure it does not exceed the sizespecified for that type of input
- The server must authenticate every request accessing the restricted Web pages
- After authenticating the browser, the server must determine whether that browser isauthorized to access the requested restricted Web pages
- The system must have security controls to protect against denial-of-service attacks
- The system must encrypt sensitive data transmitted over the Internet between theserver and the browser.

To get access to this system or a specific module the system must provide a central authentication mechanism. In order to prevent anyone to exploit stolen all users password must be encrypted in hash process.

### 5.5.1 Access Requirements

To get access to the system, the system provides authorization/authentication way. This system uses various modules.

<b>SR-01</b>	The system provides security strategies.
<b>Description</b>	The system is designed in way that allows all modules to access a mechanism that provides security services.
<b>Stakeholders</b>	Admin, Shop-Owner, Corporation

### 5.5.2 Integrity Requirements

To protect credentials of user from being stolen, all passwords are stored in encrypted form. The Requirements significantly reduces the value of stolen user credentials, it's not easy to decrypt the password.

### 5.5.3 Privacy Requirements

The system provides a protection of the database in the server. However, the system will have to increment this level of protection because of the personal data mode available on the system & the larger share of people that will be having access to it through the system's registration. The user's privacy will be granted by the limited access that the log in process is going to give to the database.

<b>SR-02</b>	All data will be protected
<b>Description</b>	The main requirement in the context is the generation of shopkeeper's and corporation's data for analysis.
<b>Stakeholders</b>	Shop-Owner, Corporation

## 5.6 Usability and Human Integrity Requirements

These Requirements define how to meet the physical and cognitive needs of the intended users of your website or application.

### 5.6.1 Ease of Use Requirements

The system is easy to use and can easily be understandable.

<b>UH-01</b>	The system must be usable for shopkeepers with all associate stakeholders.
<b>Description</b>	The system indicates the several possibilities that the shopkeeper has to go on in using the system. The admin panel are allowed to undo any of the operation.
<b>Stakeholders</b>	Admin, Shop-Owner, Corporation

### 5.6.2 Understand-ability and Politeness Requirements

This section describes more requirements of Vat Ensuring system to add more features in future

<b>UH-02</b>	The features of Vat Ensuring system
<b>Description</b>	The system is more efficiently ease of use more added features. The system is understand-ability for both user. The system will not use any term that is not specified in this system.
<b>Stakeholders</b>	Admin

### 5.6.3 Accessibility Requirements

There are no access requirements beside those that have been outlined in

the below: AR-1: Log in as an Admin.

AR-2: Log in as a Shopkeeper.

AR-3: Log in as a corporation.

AR-4: Log out as a Admin.

AR-5: Log out as a Shopkeeper

.Alumni AR-6: Log out as a

corporation.

To get access to this system or a specific module the system must provide a central authentication mechanism. In order to prevent anyone to exploit stolen all users password must be encrypted in hash process.

### 5.6.4 User Documentation

<b>UH-03</b>	The system developer documentation
<b>Description</b>	To develop this project we have specified requirement of user documentation. The teams are involved to this project documentation.
<b>Stakeholders</b>	Vat Ensuring system

## 5.7 Look and Feel Requirements

The look and feel requirements describe the intended spirit, the mood, or the style of the product's appearance. These requirements specify the intention of the appearance, and are not a detailed design of an interface.

### 5.7.1 Appearance Requirements

It should be clear to the admin and shopkeeper, corporation which fields need to be filled and which can be leftblank in this system.

<b>LF-01</b>	Labels of mandatory fields must be bold
<b>Description</b>	Labels of mandatory fields must be bold to identify them as being of mandatory.
<b>Stakeholders</b>	Admin, Corporation

### 5.7.2 Style Requirements

We will provide a web based user interface. This requirement does not only define the necessity to use a CSS but although the requirements regarding the CSS's content as well as CSS framework like bootstrap.

<b>LF-02</b>	The look and feel must be controllable using style sheet.
<b>Description</b>	The styling of the elements of the web based user interface will be Defined using CSS, JS and bootstrap.
<b>Stakeholders</b>	Admin, Corporation

## 5.8 Operational and Environmental Requirements

This requirements focus on how the users will operate the system, including interfaces and interoperability with other systems. The requirements establish how well and under what conditions the system must perform.

### 5.8.1 Expected Physical Requirements

There are no specific expected physical requirements

### 5.8.2 Requirement for Interfacing with Adjacent System

There is no specific interfacing with adjacent system requirements.

### *5.8.3 Release Requirements*

There are no specific release requirements but in the project schedule section it was described briefly.

## **5.9 Legal Requirements**

These requirements consider any violence of rules and regulation and which rules should be followed to maintain this system

### *5.9.1 Compliance Requirements*

There are no specific compliance requirements

### *5.9.2 Standard Requirements*

There are no specific standard requirements.