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**ASS PROJECT REPORT**

**Software Requirement Specification**

– Ho Chi Minh, Sep 2023 –

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# Questions

Q1.[0.25p] (done)

* What information should the first page of this document have more?

This document should have the approved date, the author who responsible for the document. Moreover, the first page of this document needs to contain the version.

Q2. [0.25p] (done)

* Fulfill section III Glosary

Q3. [0.5p] (done)

* Complete use case diagram in section V-3 Use case diagram

Q4. [1.5p] (done)

* In the view of the user, fulfill section V-2 User stories

Q5. [1.5p] (done)

* Complete screen details in section VI-3 Screen Details

Q6. [1p] (done)

* Complete section IV Business rules

Q6. [0.5p] (done)

* What external interfaces can be in section VII-1

Q7. [1p] (done)

* What quality attributes are important for this system (section VII-2)? Write down their names, descriptions and explain why they need? Take 5 requirements at least.

Q8. [1.5p]

* Using swimlane diagram to describe the flow from getting invoice email until comparing e-invoices with downloaded sheet files from Tax Department website (Section VI-1 System functional overview)

Q9. [1p]

* Draw state diagram of the invoice

A diagram of a system

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Q10. [1p] (done)

* Draw context diagram in section II – Product overview

A diagram of a accounting system

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# Record of change

|  |  |  |  |
| --- | --- | --- | --- |
| **Date** | **A\* M, D** | **In charge** | **Change Description** |
| Oct 2, 2023 | M, D | BinhN | Update questions |
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# Introduction

This document serves as a comprehensive guide that outlines the requirements (functional and non-functional), and specifications of the ASS system. It provides valuable information for the development team, stakeholders, and other parties involved in the project.

## Scope

This SRS document aims to cover the functional and non-functional requirements of the ASS solution. It encompasses the system's core features, interfaces, performance expectations, security considerations, and other essential aspects necessary for its successful implementation.

## Audience

The primary audiences for this document include:

* Development Team: Designers, developers, and testers who will be involved in the development and testing of the ASS solution.
* Project Stakeholders: Supervisors, project sponsors, and decision-makers who require an understanding of the system's requirements, features, and constraints.
* Auditors and Businesses: End-users who will interact with the ASS solution and benefit from its functionalities.

# Product Overview

In the modern era, accountants often encounter the challenge of accessing various storage platforms such as Gmail, Drive, Zalo and others to collect and manage invoices. The traditional practice of storing invoices on personal computers poses risks of data loss and compromises the integrity of information. Moreover, accountants face the burden of processing a substantial volume of invoices, which can result from client delays or other factors at the end of each month. This manual process increases the likelihood of human errors, leading to incorrect data entry.

To address these pain points, we introduce the Accountant Support System (ASS) solution. Our primary objective is to develop a website that automates existing manual procedures and enables organizations and accountants to streamline their operations. The ASS solution aims to provide the following capabilities:

* Automatic Gathering of E-Invoices: The system will automatically retrieve e-invoices from organizations, eliminating the need for accountants to individually collect them from various sources.
* Comparison with Tax Department: The system will compare the data from the invoices with the data provided by the Department of Taxation Vietnam. This feature ensures compliance with tax regulations and identifies any discrepancies.
* Cloud Storage Integration: The ASS solution will integrate with cloud storage platforms, offering a predefined folder structure for efficiently organizing and storing e-invoices. This approach enhances data security, accessibility, and reduces the risk of information loss.
* Data Extraction and Saving: The system will extract relevant data from e-invoices and save it in cloud storage. This automation eliminates the manual effort required for data entry and minimizes the likelihood of errors.

Our ASS solution aims to alleviate the challenges faced by accountants and organizations in invoice management. By automating processes and ensuring data accuracy, we aim to improve efficiency, reduce errors, and enhance overall productivity in the accounting domain.

# Glossary

|  |  |
| --- | --- |
| **Term** | **Definition** |
| ASS | Accountant Support System |
| SRS | Software Requirement Specification |
| BR | Business Rule |
| E-Invoice | Electronic Invoice |
| XML | Extensible Markup Language |
| PDF | Portable Document Format |
| GTGT | Giá trị gia tăng |
| TNCN | Thu nhập cá nhân |

# Business rules

|  |  |
| --- | --- |
| **ID** | **Rule Definition** |
| BR-01 | The owner of the account can update their own profile |
| BR-02 | Members cannot register or update with an email or phone that has been used before. |
| BR-03 | Phone number must be 10 digits format |
| BR-04 | Name of the registered organization must be the same with the name registered with the Tax Department (both English & Vietnamese name) |
| BR-05 | Tax number must be 10-14 digits format |
| BR-06 | The log in account has status “Active” |
| BR-07 | The reset password account has status “Active” |
| BR-08 | Business Manager can only create account with “Staff” role |
| BR-09 | Admin can create accounts with all defined role |
| BR-10 | User cannot edit their email information & role |
| BR-11 | Business Manager can only view account with “Staff” and “Auditor” role |
| BR-12 | Admin can view account with all defined role |
| BR-13 | Invoice received email must be the email using for receiving e-invoices of that business |
| BR-14 | XML file must comply the structure of invoice xml file according to the law announced by the Tax Department |
| BR-15 | Name, English name, tax number, represent person name of business must be matched with the information they registered with the Government |
| BR-16 | Only auditor who is assigned to a business can view that business’s invoices |
| BR-17 | Only auditor who is assigned to a business can view that business’s mailbox |
| BR-18 | Only auditor who is assigned to a business can view that business’s invoice list |
| BR-19 | User must upload 2 file types: xml and pdf |
| BR-20 | Only invoice with status “Đã duyệt” can be exported |
| BR-21 | Only compare invoice with characteristic “Hóa đơn mới” |
| BR-22 | The mail system of ASS can only get forwarded mail of configured mail of business |
| BR-23 | Only auditor who is assigned to a business can view that business’s storage |
| BR-24 | A financial statement includes: Bảng cân đối kế toán (excel), Bảng lưu chuyển tiền tệ (excel), Bảng kết quả kinh doanh (excel), Bảng cân đối phát sinh tài khoản (excel), Sổ chi tiết (excel), Quyết toán thuế thu nhập cá nhân (pdf), quyết toán thuế thu nhập doanh nghiệp (pdf) |
| BR-25 | A tax declaration includes: income excel file, outcome excel file, tax return of GTGT (pdf), tax return of TNCN (pdf) |
|  |  |

# User Requirements

## Actors

This section includes the actors of the app. An actor is a person that interacts with the system to perform a use case (action). See *Table 1* for all actors.

|  |  |  |
| --- | --- | --- |
| **#** | **Actor** | **Description** |
| 1 | *Business Manager* | * Is a manager of a business * Can manage the tax declaration * Can feedback for accountant agency * Can manage staffs (create, update, delete accounts) * Can track the income/outcome of the company * Can access to the invoice storage and report storage |
| 2 | Business Staff | * Is a staff of a business * Can upload output invoice * Can create request accountant organization |
| 3 | Auditor | * Is an auditor having accounting knowledge * Can validate and check for the sufficiency of the invoices * Can review the tax declaration, financial statement * Can do tax returns, tax declaration... * Can manage E-invoices |
| 4 | Admin | * Is the admin of the ASS system * Can configure the system * Can manage auditors (create, view, update, ban accounts) * Can view reports and statistics of the system |
| 5 | Unauthenticated User | * Is the user that has not logged into the system * Can log in using valid credentials * Can sign up as a Business Manager |

*Table 1. Actors of the ASS solution*

## User stories

* Admin
  + User story 1: Managing Auditors   
    As an admin, I want to create new auditor accounts, so that I can add new auditors to the system.
  + User story 2: Updating Auditor Information  
    As an admin, I want to view and update auditor account details, so I can ensure the information is up-to-date and accurate.
  + User story 3: Banning Auditor Account   
    As an admin, I want to ban auditor accounts, so that I can restrict access for auditors who violate system policies, or the account has expired.
* Auditor
  + User story 1: Reviewing Tax Declaration and Financial Statement  
    As an auditor, I want to review tax declarations and financial statements submitted by clients so that I can ensure they meet tax regulations.
  + User story 2: Preparing Tax Returns  
    As an auditor, I want to prepare and submit tax returns on behalf of clients so I can ensure their tax returns meet with tax compliance.
  + User story 3: Managing E-invoices  
    As an auditor, I want to manage E-invoices for clients so that they are stored properly and meet regulatory requirements.
* Business Staff
  + User story 1: Uploading output invoices  
    As a business staff, I want to upload output invoices generated by our business to maintain an accurate record of financial transactions.
  + User story 2: Creating Request for Accountant Organization  
    As a business staff, I need to create requests for the accountant organization to process invoices and financial data efficiently.
* Business Manager
  + User story 1: Managing tax declaration

As a Business Manager, I want to manage tax declarations to ensure our business complies with tax regulations.

* + User story 2: Feedback for accountant agency

As a Business Manager, I want to providing feedback to the accountant agency so that the agency can improve the quality of their services.

* + User story 3: Managing staff account

As a Business Manager, I want to manage staff accounts, including creating, updating, and deleting accounts so that …

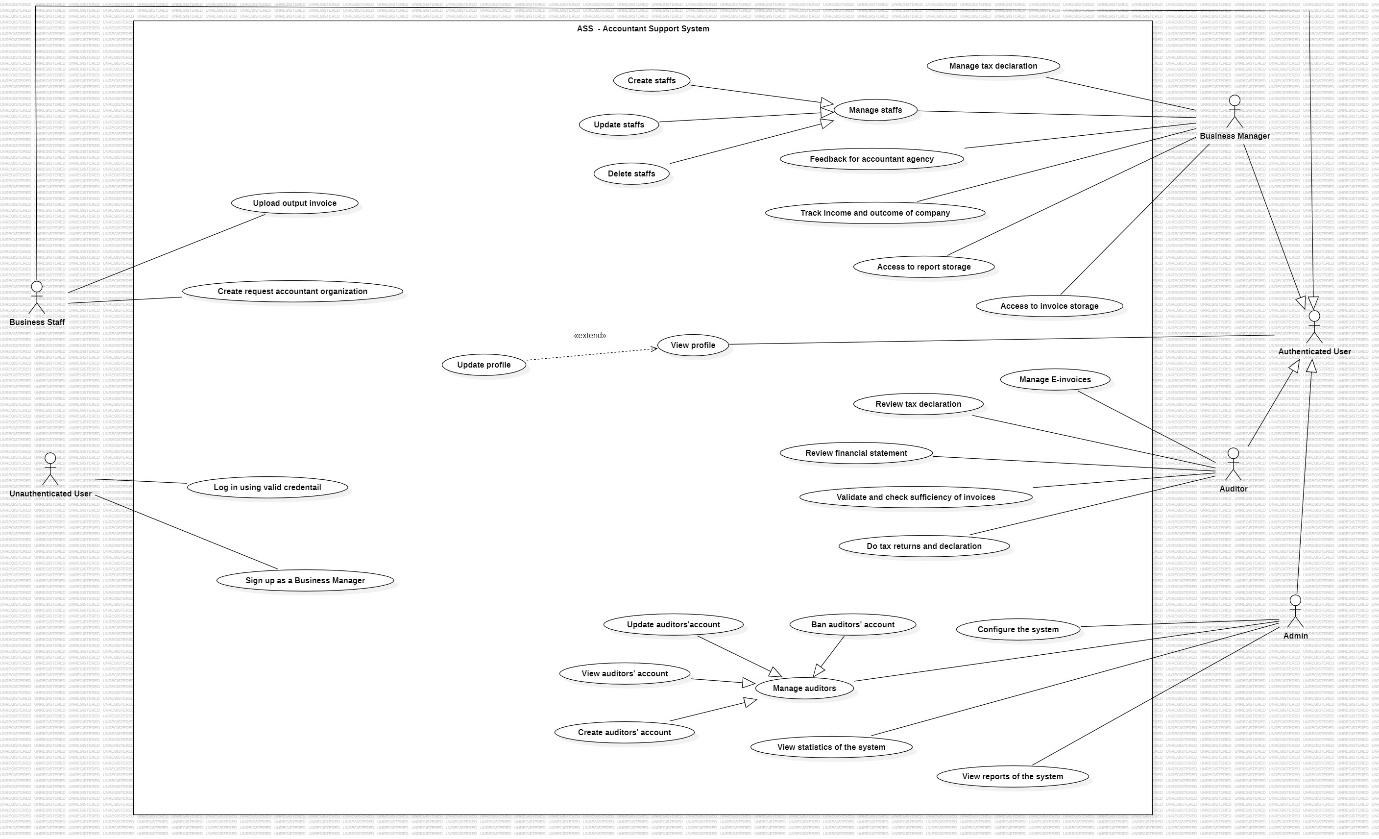
* + User story 4: Tracking Company's Income and Outcome

As a Business Manager, I want to track the financial performance of the company to make informed decisions.

* + User story 5: Accessing Invoice and Report Storage

As a Business Manager, I need access to the company's invoice and report storage for reference and auditing purposes.

## Use Cases Diagram



## Use Cases Details

|  |  |  |  |
| --- | --- | --- | --- |
| # | Use Case | Primary Actors | Secondary Actors |
|  | Sign In | Authenticated User |  |
|  | Sign Up | Business Manager |  |
|  | Sign Out | Authenticated User |  |
|  | Reset Password | Authenticated User |  |
|  | Create account | Business Manager |  |
|  | Edit account information | Authenticated User |  |
|  | View accounts list | Business Manager, Admin |  |
|  | Create business profile | Business Manager |  |
|  | View business profile | Authenticated User |  |
|  | Edit business profile | Business Manager |  |
|  | Read e-invoice data |  |  |
|  | Extract e-invoice data |  |  |
|  | Decompress file processing |  |  |
|  | Save e-invoice information |  |  |
|  | View e-invoices list | Authenticated user |  |
|  | View e-invoice detail | Authenticated user |  |
|  | Update an e-invoice status | Authenticated user |  |
|  | Upload e-invoice file in mailbox | Authenticated user |  |
|  | Import e-invoice files | Authenticated user |  |
|  | Export e-invoice XML file | Auditor |  |
|  | Search & filter invoices | Authenticated user |  |
|  | Compare e-invoices with downloaded sheet files from Tax Department website | Auditor |  |
|  | Trigger filter & read email content |  |  |
|  | Get & save forwarded email attachments |  |  |
|  | View assigned businesses list | Auditor |  |
|  | View business detail | Admin |  |
|  | View list of businesses | Admin |  |
|  | Assign auditor to a business | Admin |  |
|  | Upload tax declaration | Auditor |  |
|  | Update tax declaration | Auditor |  |
|  | Save history changes of tax declaration | Authenticated user |  |
|  | View history changes of tax declaration | Authenticated user |  |
|  | Upload financial statement | Auditor |  |
|  | Update financial statement | Auditor |  |
|  | View history changes of updated financial statement | Auditor |  |
|  | Save history changes of financial statement | Authenticated user |  |
|  | Create business provider | Business manager |  |
|  | Update business provider | Business manager |  |
|  | Delete business provider | Business manager |  |
|  | View business provider | Business manager |  |
|  | View system statistic for admin | Admin |  |
|  | View invoice statistic for business | Business manager |  |
|  | View business provider statistic for business | Business manager |  |

*Table 2 – Use cases list*

### Sign up

|  |  |  |  |
| --- | --- | --- | --- |
| **Name:** | **Sign up** | | |
| Created By: | TaiLA | Date Created: | 20/08/2023 |
| Primary Actor: | Business Manager |  |  |
| Description: | This feature allows Unauthenticated Users to sign up an account to ASS website. | | |
| Trigger: | Unauthenticated User indicates that he/she wants to sign up to the ASS website | | |
| Pre-conditions: | N/A | | |
| Post-conditions: | User logins to the ASS website with their role successfully and gets direct to the “Dashboard” screen. | | |
| Normal Flow: | **Sign up**   1. ASS website displays the Sign up screen. 2. Unauthenticated user fills these fields:    1. Personal email    2. Phone number    3. Organization name    4. Tax number    5. Address    6. Full name    7. Password.    8. Company email 3. Unauthenticated user clicks the “Đăng ký” button. 4. ASS website validates the inputted information and redirects to the business profile with his/her account already logged in. | | |
| Alternative Flows: | N/A | | |
| Exceptions: | **The personal email/company email is invalid**   * ASS website returns error message.   **The personal email field is empty.**   * ASS website shows error message.   **The password field is empty.**   * ASS website shows error message. | | |
| Priority: | High. | | |
| Frequency of Use: | High. | | |
| Business Rules: | * Phone number must be 10 digits format * Name of the registered organization must be the same with the name registered with the Tax Department (both English & Vietnamese name) * Tax number must be 10-14 digits format | | |
| Other Information: |  | | |

### Sign in

|  |  |  |  |
| --- | --- | --- | --- |
| **Name:** | **Sign in** | | |
| Created By: | TaiLA | Date Created: | 20/08/2023 |
| Primary Actor: | Authenticated User |  |  |
| Description: | This feature allows Unauthenticated Users to log into the ASS website. | | |
| Trigger: | Authenticated User indicates that he/she wants to log in to the ASS website | | |
| Pre-conditions: | * User has an account in ASS website * User account has “active” status. | | |
| Post-conditions: | User logins to the ASS website with their role successfully and gets direct to the home screen depended on their role | | |
| Normal Flow: | **Login**   * The ASS website displays the Login screen. * Authenticated user fills 2 fields:   + Email.   + Password. * Authenticated user clicks the “Đăng nhập” button. * ASS website validates the inputted information and redirects to the homepage with their account role. | | |
| Alternative Flows: | N/A | | |
| Exceptions: | **The email is invalid**   * ASS website returns error message.   **The email field is empty.**   * ASS website shows error message.   **The password field is empty.**   * ASS website shows error message.   **The email does not exist.**   * ASS website shows error message.   **The email is deactivated.**   * ASS website shows error message.   **The password is incorrect.**   * ASS website shows error message. | | |
| Priority: | High | | |
| Frequency of Use: | High | | |
| Business Rules: | The log in account has status “Active” | | |
| Other Information: |  | | |

### Sign Out

|  |  |  |  |
| --- | --- | --- | --- |
| **Name:** | **Sign out** | | |
| Created By: | TaiLA | Date Created: | 20/08/2023 |
| Primary Actor: | Authenticated User |  |  |
| Description: | This feature allows authenticated user to log out the ASS website. | | |
| Trigger: | Authenticated User indicates that he/she wants to log out to the ASS website | | |
| Pre-conditions: | User has logged in ASS website | | |
| Post-conditions: | User logout successfully and the system direct to sign in screen | | |
| Normal Flow: | **Logout**   * User click on the “Avatar icon” and choose “Đăng xuất” * The system will delete the current session and direct user to sign in screen | | |
| Alternative Flows: | N/A | | |
| Exceptions: |  | | |
| Priority: | Medium | | |
| Frequency of Use: | High | | |
| Business Rules: |  | | |
| Other Information: |  | | |

##### 

### Reset password

|  |  |  |  |
| --- | --- | --- | --- |
| **Name:** | **Reset password** | | |
| Created By: | TaiLA | Date Created: | 20/08/2023 |
| Primary Actor: | Authenticated User |  |  |
| Description: | This feature allows authenticated users to reset their password | | |
| Trigger: | Authenticated User indicates that he/she forgot password to log in the ASS system | | |
| Pre-conditions: | * User has an account in ASS website * User account has “active” status. | | |
| Post-conditions: | User reset their password successfully and log in the ASS with the new password | | |
| Normal Flow: | **Reset password**   * User click on “Quên mật khẩu” button * User enter their registered email and click “Gửi lại mật khẩu” * The ASS system will send a mail attached with a reset password to the input email * User log in the ASS system with a new password * User login successfully and the system direct to the screen based on their role | | |
| Alternative Flows: | N/A | | |
| Exceptions: | **The email is invalid**   * ASS website returns error message.   **The email field is empty.**   * ASS website shows error message.   **The email does not exist in database.**   * ASS website shows error message.   **The email is deactivated.**   * ASS website shows error message. | | |
| Priority: | High | | |
| Frequency of Use: | Low | | |
| Business Rules: | The reset password account has status “Active” | | |
| Other Information: |  | | |

### Create account

|  |  |  |  |
| --- | --- | --- | --- |
| **Name:** | **Create account** | | |
| Created By: | TaiLA | Date Created: | 20/08/2023 |
| Primary Actor: | Business manager & Admin |  |  |
| Description: | This feature allows admin & business manager create a new account | | |
| Trigger: | Authenticated User indicates that he/she wants to create a new account | | |
| Pre-conditions: | * User has login as admin role or business manager role * User account has “active” status | | |
| Post-conditions: | User create new account successfully and the system will send an email to that registered email attached with password | | |
| Normal Flow: | **Create new account**  For business manager:   * User click on “Nhân viên” on the sidebar and choose “Thêm nhân viên’ * User fill all required fields and click “Tạo” * The system will create a new account and send an mail with random password to the registered mail   For admin:   * User click on “Người dùng” on sidebar * User fill all required fields and click “Tạo” * The system will create a new account and send an mail with random password to the registered mail | | |
| Alternative Flows: | N/A | | |
| Exceptions: | **The email is invalid**   * ASS website returns error message.   **The email field is empty.**   * ASS website shows error message.   **The full name field is empty.**   * ASS website shows error message.   **The email existed in database.**   * ASS website shows error message. | | |
| Priority: | High | | |
| Frequency of Use: | High | | |
| Business Rules: | * Business Manager can only create account with “Staff” role * Admin can create account with all defined role | | |
| Other Information: |  | | |

##### 

### Edit account information

##### 

|  |  |  |  |
| --- | --- | --- | --- |
| **Name:** | **Edit account information** | | |
| Created By: | TaiLA | Date Created: | 20/08/2023 |
| Primary Actor: | Authenticated user |  |  |
| Description: | This feature allows user to edit their account information | | |
| Trigger: | Authenticated User indicates that he/she wants to edit their account information | | |
| Pre-conditions: | * User has login to ASS system * User account has “active” status | | |
| Post-conditions: | User update their account information successfully | | |
| Normal Flow: | **Edit account information**   * User click on “Avatar icon” and choose “Cá nhân” * User edit their account information and click “Cập nhật” * The system will update the new information and show successful message | | |
| Alternative Flows: | N/A | | |
| Exceptions: |  | | |
| Priority: | High | | |
| Frequency of Use: | High | | |
| Business Rules: | * User cannot edit their email information & role | | |
| Other Information: |  | | |

### View accounts list

|  |  |  |  |
| --- | --- | --- | --- |
| **Name:** | **View account list** | | |
| Created By: | TaiLA | Date Created: | 20/08/2023 |
| Primary Actor: | Business manager & Admin |  |  |
| Description: | This feature allows admin & business manager view list of accounts | | |
| Trigger: | Authenticated User indicates that he/she wants to view list of accounts | | |
| Pre-conditions: | * User has login as admin role or business manager role * User account has “active” status | | |
| Post-conditions: | User view list of accounts successfully | | |
| Normal Flow: | **View list of account**  For business manager:   * User click on “Nhân viên” on the sidebar * The system will display list of accounts of that business both active and banned status * User can filter and search account by name, email or status   For admin:   * User click on “Người dùng” on sidebar * The system will display list of accounts of the system both active and banned status * User can filter and search account by name, email or status | | |
| Alternative Flows: | N/A | | |
| Exceptions: |  | | |
| Priority: | High | | |
| Frequency of Use: | High | | |
| Business Rules: | * Business Manager can only view account with “Staff” and “Auditor” role * Admin can view account with all defined role | | |
| Other Information: |  | | |

##### 

### Create business profile

|  |  |  |  |
| --- | --- | --- | --- |
| **Name:** | **Create business profile** | | |
| Created By: | TaiLA | Date Created: | 20/08/2023 |
| Primary Actor: | Business manager |  |  |
| Description: | This feature allows business manager create their business profile | | |
| Trigger: | * Business manager first time login the ASS system * Business manager have not created their business profile | | |
| Pre-conditions: | * User has login as business manager role * User account has “active” status | | |
| Post-conditions: | User create their business profile successfully | | |
| Normal Flow: | **Create business profile**   * User direct to create business profile screen * User enter all required fields and click “Tạo mới” * The system will create a new business profile and show successful message | | |
| Alternative Flows: | N/A | | |
| Exceptions: | **The email is invalid**   * ASS website returns error message.   **The tax number is invalid (must be 10-14 digits)**   * ASS website returns error message.   **The required field is empty**   * ASS website returns error message. | | |
| Priority: | High | | |
| Frequency of Use: | Medium | | |
| Business Rules: | * Invoice received email must be the email using for receiving e-Invoices of that business * Name, English name, tax number, represent person name of business must be matched with the information they registered with the Government | | |
| Other Information: |  | | |

##### 

### View business profile

|  |  |  |  |
| --- | --- | --- | --- |
| **Name:** | **View business profile** | | |
| Created By: | TaiLA | Date Created: | 20/08/2023 |
| Primary Actor: | Business manager |  |  |
| Description: | This feature allows business manager view their business profile | | |
| Trigger: | Business manager want to view their profile | | |
| Pre-conditions: | * User has login as business manager role * User account has “active” status | | |
| Post-conditions: | User view their business profile successfully | | |
| Normal Flow: | **View business profile**   * User click on “Avatar icon” and choose “Cá nhân” * The system display the business profile information | | |
| Alternative Flows: | N/A | | |
| Exceptions: |  | | |
| Priority: | High | | |
| Frequency of Use: | Medium | | |
| Business Rules: |  | | |
| Other Information: |  | | |

##### 

### Edit business profile

|  |  |  |  |
| --- | --- | --- | --- |
| **Name:** | **Edit business profile** | | |
| Created By: | TaiLA | Date Created: | 20/08/2023 |
| Primary Actor: | Business manager |  |  |
| Description: | This feature allows business manager edit their business profile | | |
| Trigger: | * Business manager first time login the ASS system * Business manager have not created their business profile | | |
| Pre-conditions: | * User has login as business manager role * User account has “active” status | | |
| Post-conditions: | User create their business profile successfully | | |
| Normal Flow: | **Edit business profile**   * User click on “Avatar” icon and choose “Cá nhân” * User click “Cập nhật” button and update business profile information * The system will update the edited information and show successful message | | |
| Alternative Flows: | N/A | | |
| Exceptions: | **The email is invalid**   * ASS website returns error message.   **The tax number is invalid (must be 10-14 digits)**   * ASS website returns error message.   **The required field is empty**   * ASS website returns error message. | | |
| Priority: | Low | | |
| Frequency of Use: | Low | | |
| Business Rules: | * Invoice received email must be the email using for receiving e-Invoices of that business * Name, English name, tax number, represent person name of business must be matched with the information they registered with the Government | | |
| Other Information: |  | | |

##### 

### Read e-invoice data

|  |  |  |  |
| --- | --- | --- | --- |
| **Name:** | **Read e-invoice information** | | |
| Created By: | TaiLA | Date Created: | 20/08/2023 |
| Primary Actor: | N/A |  |  |
| Description: | This feature allows ASS system to read e-invoice information | | |
| Trigger: | The system receive the new mail with xml file attachment | | |
| Pre-conditions: | * Incoming mail must have xml file attachment * Mail is filtered as e-invoice mail | | |
| Post-conditions: | Read e-invoice information successfully | | |
| Normal Flow: | **Read e-invoice data**   * The system receive new email with xml file attachment * The system get xml file and read data based on predefined structure * Read and get data successfully | | |
| Alternative Flows: | N/A | | |
| Exceptions: | **The xml file is not matched the predefined structure**   * ASS website will skip that xml file and record as no xml file attached | | |
| Priority: | High | | |
| Frequency of Use: | High | | |
| Business Rules: | * XML file must comply the structure of invoice xml file according to the law announced by the Tax Department | | |
| Other Information: |  | | |

##### 

### Extract e-invoice processing

|  |  |  |  |
| --- | --- | --- | --- |
| **Name:** | **Extract e-invoice processing** | | |
| Created By: | TaiLA | Date Created: | 20/08/2023 |
| Primary Actor: | N/A |  |  |
| Description: | This feature allows ASS system to extract required e-invoice information | | |
| Trigger: | The system has read the e-invoice xml file successfully | | |
| Pre-conditions: | XML file is matched with predefined structure | | |
| Post-conditions: | Extract e-invoice information successfully | | |
| Normal Flow: | **Extract e-invoice processing**   * The system has read xml file * The system extract required e-invoice data * The system match the data from e-invoice to database | | |
| Alternative Flows: | N/A | | |
| Exceptions: | **The xml file is not matched the predefined structure**   * ASS website will skip that xml file and record as no xml file attached | | |
| Priority: | High | | |
| Frequency of Use: | High | | |
| Business Rules: | * XML file must comply the structure of invoice xml file according to the law announced by the Tax Department | | |
| Other Information: |  | | |

##### 

### Decompress file processing

|  |  |  |  |
| --- | --- | --- | --- |
| **Name:** | **Decompress file processing** | | |
| Created By: | TaiLA | Date Created: | 20/08/2023 |
| Primary Actor: | N/A |  |  |
| Description: | This feature allows ASS system to decompress file attachments in mail | | |
| Trigger: | When the incoming mail has a zip attached file | | |
| Pre-conditions: | Zip file has no password  Zip file must include xml file matched with the format | | |
| Post-conditions: | Decompress and extract invoice data successfully | | |
| Normal Flow: | **Decompress file processing**   * The system detect a zip file * The system decompress zip file and get xml file * The system read xml file * The system extract required e-invoice data * The system match the data from e-invoice to database | | |
| Alternative Flows: | N/A | | |
| Exceptions: | **The xml file is not matched the predefined structure**   * ASS website will skip that xml file and record as no xml file attached   **The zip file has password**   * ASS website will skip that zip file and record as no xml file attached   **The zip file has no xml file**   * ASS website will record as no xml file attached | | |
| Priority: | High | | |
| Frequency of Use: | High | | |
| Business Rules: | * XML file must comply the structure of invoice xml file according to the law announced by the Tax Department | | |
| Other Information: |  | | |

##### 

### Save invoice information

|  |  |  |  |
| --- | --- | --- | --- |
| **Name:** | **Save invoice information** | | |
| Created By: | TaiLA | Date Created: | 20/08/2023 |
| Primary Actor: | N/A |  |  |
| Description: | This feature allows ASS system to save invoice information to database | | |
| Trigger: | Extract invoice data successfully | | |
| Pre-conditions: | Extract and get required invoice data successfully | | |
| Post-conditions: | Save invoice data to database successfully | | |
| Normal Flow: | **Save invoice information**   * The system validate the extract data from invoice xml file * The system save validated data to database | | |
| Alternative Flows: | N/A | | |
| Exceptions: | **The invoice data has existed in database**   * ASS website show error message | | |
| Priority: | High | | |
| Frequency of Use: | High | | |
| Business Rules: | * XML file must comply the structure of invoice xml file according to the law announced by the Tax Department | | |
| Other Information: |  | | |

##### 

### View e-invoice list

|  |  |  |  |
| --- | --- | --- | --- |
| **Name:** | **View e-invoice list** | | |
| Created By: | TaiLA | Date Created: | 20/08/2023 |
| Primary Actor: | Business manager, staff, auditor |  |  |
| Description: | This feature allows user to view list of invoices | | |
| Trigger: | User want to view their invoices | | |
| Pre-conditions: | * User has login as business manager, staff, auditor role * User account has “active” status | | |
| Post-conditions: | User view their list of invoices successfully | | |
| Normal Flow: | **View list of invoices**   * User click on “Hóa đơn” in sidebar * User choose “Hóa đơn đầu ra” or “Hóa đơn đầu vào” * The system display list of invoices | | |
| Alternative Flows: | N/A | | |
| Exceptions: |  | | |
| Priority: | High | | |
| Frequency of Use: | High | | |
| Business Rules: | Only auditor who is assigned to a business can view that business’s invoices | | |
| Other Information: |  | | |

##### 

### View e-invoice detail

|  |  |  |  |
| --- | --- | --- | --- |
| **Name:** | **View e-invoice detail** | | |
| Created By: | TaiLA | Date Created: | 20/08/2023 |
| Primary Actor: | Business manager, staff, auditor |  |  |
| Description: | This feature allows user to view detail of invoice | | |
| Trigger: | User want to view detail of an invoice | | |
| Pre-conditions: | * User has login as business manager, staff, auditor role * User account has “active” status | | |
| Post-conditions: | User view the detail of chosen invoice successfully | | |
| Normal Flow: | **View detail of invoice**   * User click on “Hóa đơn” in sidebar * User choose “Hóa đơn đầu ra” or “Hóa đơn đầu vào” * The system display list of invoices * User choose an invoice to view detail * The system display the detail information of that invoice | | |
| Alternative Flows: | * User click on “Xem hóa đơn” button in mailbox * The system display the detail information of that invoice | | |
| Exceptions: |  | | |
| Priority: | High | | |
| Frequency of Use: | High | | |
| Business Rules: | Only auditor who is assigned to a business can view that business’s invoices | | |
| Other Information: |  | | |

##### 

### Update an e-invoice status

|  |  |  |  |
| --- | --- | --- | --- |
| **Name:** | **Update an e-invoice status** | | |
| Created By: | TaiLA | Date Created: | 20/08/2023 |
| Primary Actor: | Business manager, staff, auditor |  |  |
| Description: | This feature allows user to update invoice status | | |
| Trigger: | User want to update status of invoice | | |
| Pre-conditions: | * User has login as business manager, staff, auditor role * User account has “active” status | | |
| Post-conditions: | User update status of invoice successfully | | |
| Normal Flow: | **Update status of invoice**   * User click on “Hóa đơn” in sidebar * User choose “Hóa đơn đầu ra” or “Hóa đơn đầu vào” * The system display list of invoices * User choose an invoice to view detail * The system display the detail information of that invoice * User click on “Duyệt” button * The system update the invoice status and show successful message | | |
| Alternative Flows: |  | | |
| Exceptions: |  | | |
| Priority: | High | | |
| Frequency of Use: | High | | |
| Business Rules: | Only auditor who is assigned to a business can view that business’s invoices | | |
| Other Information: |  | | |

### Upload e-invoice file in mailbox

|  |  |  |  |
| --- | --- | --- | --- |
| **Name:** | **Upload e-invoice file in mailbox** | | |
| Created By: | TaiLA | Date Created: | 20/08/2023 |
| Primary Actor: | Business manager, staff, auditor |  |  |
| Description: | This feature allows user to upload e-invoice file to add on mail that lacks of required file | | |
| Trigger: | Incoming mail that lacks of xml file or pdf file or both file | | |
| Pre-conditions: | * User has login as business manager, staff, auditor role * User account has “active” status * Mail with missing xml file or pdf file or both | | |
| Post-conditions: | User upload missing file and save to storage successfully | | |
| Normal Flow: | **Upload e-invoice file in mailbox**   * User click on “Mail” in sidebar * User click on mail which is displayed “Cần bổ sung file” * User click on “Bổ sung” button and choose file to upload * The system will validate file type and return successful message * The system display “Xem hóa đơn” message and remove “Cần bổ sung file” text | | |
| Alternative Flows: |  | | |
| Exceptions: | **Upload the wrong file type**   * ASS website show error message   **Upload the wrong xml invoice format file**   * ASS website show error message | | |
| Priority: | High | | |
| Frequency of Use: | High | | |
| Business Rules: | Only auditor who is assigned to a business can view that business’s mailbox | | |
| Other Information: |  | | |

### Import e-invoice files

|  |  |  |  |
| --- | --- | --- | --- |
| **Name:** | **Import e-invoice files** | | |
| Created By: | TaiLA | Date Created: | 20/08/2023 |
| Primary Actor: | Business manager, staff, auditor |  |  |
| Description: | This feature allows user to upload e-invoice files that not coming from mail | | |
| Trigger: | User want to upload invoice files that they have | | |
| Pre-conditions: | * User has login as business manager, staff, auditor role * User account has “active” status | | |
| Post-conditions: | User upload invoice files and save to database successfully | | |
| Normal Flow: | **Import e-invoice files**   * User click on “Hóa đơn” in sidebar * User choose “Hóa đơn đầu ra” or “Hóa đơn đầu vào” * The system display list of invoices * User click on “Tải lên” button * User choose 2 files xml and pdf of the invoice that they want to upload * The system validate and save to database | | |
| Alternative Flows: |  | | |
| Exceptions: | **Upload the wrong file type**   * ASS website show error message   **Upload the wrong xml invoice format file**   * ASS website show error message | | |
| Priority: | Low | | |
| Frequency of Use: | Low | | |
| Business Rules: | * Only auditor who is assigned to a business can view that business’s invoice list * User must upload 2 file types: xml and pdf | | |
| Other Information: |  | | |

### Export e-invoice xml files

|  |  |  |  |
| --- | --- | --- | --- |
| **Name:** | **Export e-invoice xml files** | | |
| Created By: | TaiLA | Date Created: | 20/08/2023 |
| Primary Actor: | Auditor |  |  |
| Description: | This feature allows user to export selected invoice xml files | | |
| Trigger: | User want to export invoice xml files for importing to third party app | | |
| Pre-conditions: | * User has login as Auditor role * User account has “active” status * Only invoices with status “Đã duyệt” can be exported | | |
| Post-conditions: | User download files with selected invoice xml files. | | |
| Normal Flow: | **Export e-invoice files filter by date range**   * User click on “Hóa đơn” in sidebar * User choose “Hóa đơn đầu ra” or “Hóa đơn đầu vào” * The system display list of invoices * User click on “Xuất file” button * User choose date range to export invoice xml files * The system select invoice xml files in that date range and download them for user | | |
| Alternative Flows: | **Export e-invoice files by selecting invoices**   * User click on “Hóa đơn” in sidebar * User choose “Hóa đơn đầu ra” or “Hóa đơn đầu vào” * The system display list of invoices * User click to choose which invoices need to export * User click on “Xuất file” button * The system select invoice xml files being chosen and download them for user | | |
| Exceptions: |  | | |
| Priority: | High | | |
| Frequency of Use: | Medium | | |
| Business Rules: | * Only auditor who is assigned to a business can view that business’s invoice list * Only invoice with status “Đã duyệt” can be exported | | |
| Other Information: |  | | |

### Search & filter invoices

|  |  |  |  |
| --- | --- | --- | --- |
| **Name:** | **Search & filter invoices** | | |
| Created By: | TaiLA | Date Created: | 20/08/2023 |
| Primary Actor: | Business manager, staff, auditor |  |  |
| Description: | This feature allows user to search and filter invoices | | |
| Trigger: | User want to search or filter invoices | | |
| Pre-conditions: | * User has login as Business Manager, Staff, Auditor role * User account has “active” status | | |
| Post-conditions: | User download files with selected invoice xml files. | | |
| Normal Flow: | **Search invoices**   * User click on “Hóa đơn” in sidebar * User choose “Hóa đơn đầu ra” or “Hóa đơn đầu vào” * The system display list of invoices * User can search invoices based on serial code or no.invoice | | |
| Alternative Flows: | **Filter invoices**   * User click on “Hóa đơn” in sidebar * User choose “Hóa đơn đầu ra” or “Hóa đơn đầu vào” * The system display list of invoices * User can filter based on status, invoice characteristic | | |
| Exceptions: |  | | |
| Priority: | Medium | | |
| Frequency of Use: | Medium | | |
| Business Rules: | * Only auditor who is assigned to a business can view that business’s invoice list | | |
| Other Information: |  | | |

### Compare e-invoice with downloaded sheet files from Tax Department website

|  |  |  |  |
| --- | --- | --- | --- |
| **Name:** | **Compare e-invoice with downloaded sheet files from Tax Department website** | | |
| Created By: | TaiLA | Date Created: | 20/08/2023 |
| Primary Actor: | Auditor |  |  |
| Description: | This feature allows user to compare and validate invoices with data from Tax Dept website | | |
| Trigger: | User want to search or filter invoices | | |
| Pre-conditions: | * User has login as Auditor role * User account has “active” status | | |
| Post-conditions: | Invoices update status based on the result of comparison | | |
| Normal Flow: | **Compare and validate invoices**   * User click on “Hóa đơn” in sidebar * User choose “Hóa đơn đầu ra” or “Hóa đơn đầu vào” * The system display list of invoices * User click “Xác thực” button * User upload 2 excel files downloaded from Tax Dept Website * The system compare and validate then return result | | |
| Alternative Flows: |  | | |
| Exceptions: | Upload the wrong file type   * ASS website show error message   Upload the wrong excel format file   * ASS website show error message | | |
| Priority: | High | | |
| Frequency of Use: | High | | |
| Business Rules: | * Only auditor who is assigned to a business can view that business’s invoice list * Only compare invoice with characteristic “Hóa đơn mới” | | |
| Other Information: |  | | |

### Read email content & get mail attachments

|  |  |  |  |
| --- | --- | --- | --- |
| **Name:** | **Read email content & get mail attachments** | | |
| Created By: | TaiLA | Date Created: | 20/08/2023 |
| Primary Actor: |  |  |  |
| Description: | This feature allows system to auto collect and read forwarded email | | |
| Trigger: | When there is incoming mail that have invoice related data | | |
| Pre-conditions: | The received invoice mail has been configured for auto-forwarding new mail  The forwarding mail has been filtered as invoice related mail | | |
| Post-conditions: | Read email content successfully and save attachments successfully | | |
| Normal Flow: | **Read email content & get mail attachments**   * New email forward to mail system * The system will read mail content and get attachments within that mail * The system save both mail content and attachments to cloud storage | | |
| Alternative Flows: |  | | |
| Exceptions: |  | | |
| Priority: | High | | |
| Frequency of Use: | High | | |
| Business Rules: | The mail system of ASS can only get forwarded mail of configured mail of business | | |
| Other Information: |  | | |

### View assigned business list

|  |  |  |  |
| --- | --- | --- | --- |
| **Name:** | **View assigned business list** | | |
| Created By: | TaiLA | Date Created: | 20/08/2023 |
| Primary Actor: | Auditor |  |  |
| Description: | This feature allows auditor to view their assigned businesses | | |
| Trigger: | When auditor want to access business storage | | |
| Pre-conditions: | * User has login as Auditor role * User account has “active” status * Auditor has been assigned to at least 1 business * The assigned time is not expired | | |
| Post-conditions: | Access business storage successfully | | |
| Normal Flow: | **View assigned business list**   * User login to the system with Auditor role * The system display assigned business list of that auditor * User choose a business to access to their storage * The system display storage of that business | | |
| Alternative Flows: | **Switch between businesses**   * User click to a combo box on the navigation bar * The system display assigned business list of that auditor * User choose a business to access to their storage * The system display storage of that business | | |
| Exceptions: |  | | |
| Priority: | High | | |
| Frequency of Use: | High | | |
| Business Rules: | * Only auditor who is assigned to a business can view that business’s storage | | |

### View business detail

|  |  |  |  |
| --- | --- | --- | --- |
| **Name:** | **View business detail** | | |
| Created By: | TaiLA | Date Created: | 20/08/2023 |
| Primary Actor: | Admin |  |  |
| Description: | This feature allows user to view business detail | | |
| Trigger: | User want to view business detail information | | |
| Pre-conditions: | * User has login successfully * User account has “active” status | | |
| Post-conditions: | View business detail information successfully | | |
| Normal Flow: | **View business detail**   * User click on “Doanh nghiệp” button * The system display list of businesses * User choose a business to view detail information * The system display detail information of chosen business | | |
| Alternative Flows: |  | | |
| Exceptions: |  | | |
| Priority: | High | | |
| Frequency of Use: | Medium | | |
| Business Rules: |  | | |

### View businesses list

|  |  |  |  |
| --- | --- | --- | --- |
| **Name:** | **View business list** | | |
| Created By: | TaiLA | Date Created: | 20/08/2023 |
| Primary Actor: | Admin |  |  |
| Description: | This feature allows user to view business list | | |
| Trigger: | User want to view business list | | |
| Pre-conditions: | * User has login successfully * User account has “active” status | | |
| Post-conditions: | View business list successfully | | |
| Normal Flow: | **View business list**   * User click on “Doanh nghiệp” button * The system display list of businesses * User can filter and search business by name, tax code number | | |
| Alternative Flows: |  | | |
| Exceptions: |  | | |
| Priority: | High | | |
| Frequency of Use: | Medium | | |

### Upload tax declaration

|  |  |  |  |
| --- | --- | --- | --- |
| **Name:** | **Upload tax declaration** | | |
| Created By: | TaiLA | Date Created: | 20/08/2023 |
| Primary Actor: | Auditor |  |  |
| Description: | This feature allows user to upload tax declaration | | |
| Trigger: | User want to upload tax declaration | | |
| Pre-conditions: | * User has login successfully * User account has “active” status | | |
| Post-conditions: | Upload tax declaration successfully | | |
| Normal Flow: | **Upload tax declaration**   * User click on “Báo cáo thuế” on sidebar * The system display tax declaration structured by quarter * User can choose a quarter to upload tax declaration * User upload all required files * The system save documents to cloud storage and show successful message | | |
| Alternative Flows: |  | | |
| Exceptions: | Upload the wrong file type   * ASS website show error message   Upload insufficient files   * ASS website show error message | | |
| Priority: | High | | |
| Frequency of Use: | Medium | | |
| Business Rule | * A tax declaration includes: income excel file, outcome excel file, tax return of GTGT (pdf), tax return of TNCN (pdf) | | |

### Update tax declaration

|  |  |  |  |
| --- | --- | --- | --- |
| **Name:** | **Update tax declaration** | | |
| Created By: | TaiLA | Date Created: | 20/08/2023 |
| Primary Actor: | Auditor |  |  |
| Description: | This feature allows user to update tax declaration | | |
| Trigger: | User want to update tax declaration | | |
| Pre-conditions: | * User has login successfully * User account has “active” status * Tax declaration of chosen quarter has been upload | | |
| Post-conditions: | Update tax declaration successfully | | |
| Normal Flow: | **Update tax declaration**   * User click on “Báo cáo thuế” on sidebar * The system display tax declaration structured by quarter * User can choose a quarter to update tax declaration * User upload files * The system save documents to cloud storage and show successful message | | |
| Alternative Flows: |  | | |
| Exceptions: | Upload the wrong file type   * ASS website show error message | | |
| Priority: | High | | |
| Frequency of Use: | Medium | | |
| Business Rule | * A tax declaration includes: income excel file, outcome excel file, tax return of GTGT (pdf), tax return of TNCN (pdf) | | |

### Save history changes of tax declaration

|  |  |  |  |
| --- | --- | --- | --- |
| **Name:** | **Save history changes of tax declaration** | | |
| Created By: | TaiLA | Date Created: | 20/08/2023 |
| Primary Actor: |  |  |  |
| Description: | This feature allows system to save history changes of tax declaration | | |
| Trigger: | When user update a new version of tax declaration | | |
| Pre-conditions: | Tax declaration of uploaded quarter has an update | | |
| Post-conditions: | Save changes successfully | | |
| Normal Flow: | **Save history changes**   * User click on “Báo cáo thuế” on sidebar * The system display tax declaration structured by quarter * User can choose a quarter to update tax declaration * User upload files * The system save history changes * The system save uploaded documents to cloud storage and show successful message | | |
| Alternative Flows: |  | | |
| Exceptions: | Upload the wrong file type   * ASS website show error message | | |
| Priority: | High | | |
| Frequency of Use: | Medium | | |
| Business Rule | * A tax declaration includes: income excel file, outcome excel file, tax return of GTGT (pdf), tax return of TNCN (pdf) | | |

### View changes of tax declaration

|  |  |  |  |
| --- | --- | --- | --- |
| **Name:** | **View history changes of tax declaration** | | |
| Created By: | TaiLA | Date Created: | 20/08/2023 |
| Primary Actor: | Business manager, staff, auditor |  |  |
| Description: | This feature allows system to view history changes of tax declaration | | |
| Trigger: | User want to view changes of tax declaration | | |
| Pre-conditions: | Tax declaration of uploaded quarter has an update | | |
| Post-conditions: | View change successfully | | |
| Normal Flow: | **View history changes**   * User click on “Báo cáo thuế” on sidebar * The system display tax declaration structured by quarter * User can choose a quarter to view history of changes * The system display history changes | | |
| Alternative Flows: |  | | |
| Exceptions: |  | | |
| Priority: | High | | |
| Frequency of Use: | Medium | | |
| Business Rule | * A tax declaration includes: income excel file, outcome excel file, tax return of GTGT (pdf), tax return of TNCN (pdf) | | |

### Upload financial statement

|  |  |  |  |
| --- | --- | --- | --- |
| **Name:** | **Update tax declaration** | | |
| Created By: | TaiLA | Date Created: | 20/08/2023 |
| Primary Actor: | Auditor |  |  |
| Description: | This feature allows user to upload financial statement | | |
| Trigger: | User want to upload financial statement | | |
| Pre-conditions: | * User has login successfully * User account has “active” status | | |
| Post-conditions: | Upload tax declaration successfully | | |
| Normal Flow: | **Upload tax declaration**   * User click on “Báo cáo tài chính” on sidebar * The system display financial statement structured by year * User can choose a year to upload financial statement * User upload all required files * The system save documents to cloud storage and show successful message | | |
| Alternative Flows: |  | | |
| Exceptions: | **Upload the wrong file type**   * ASS website show error message   **Upload insufficient files**   * ASS website show error message | | |
| Priority: | High | | |
| Frequency of Use: | Medium | | |
| Business Rule | * A financial statement includes: Bảng cân đối kế toán (excel), Bảng lưu chuyển tiền tệ (excel), Bảng kết quả kinh doanh (excel), Bảng cân đối phát sinh tài khoản (excel), Sổ chi tiết (excel), Quyết toán thuế thu nhập cá nhân (pdf), quyết toán thuế thu nhập doanh nghiệp (pdf) | | |

### Update financial statement

|  |  |  |  |
| --- | --- | --- | --- |
| **Name:** | **Update tax declaration** | | |
| Created By: | TaiLA | Date Created: | 20/08/2023 |
| Primary Actor: | Auditor |  |  |
| Description: | This feature allows user to update financial statement | | |
| Trigger: | User want to update financial statement | | |
| Pre-conditions: | * User has login successfully * User account has “active” status * Financial statement of chosen year has been uploaded | | |
| Post-conditions: | Update financial statement successfully | | |
| Normal Flow: | **Update tax declaration**   * User click on “Báo cáo tài chính” on sidebar * The system display financial statement structured by year * User can choose a year to update financial statement * User upload files * The system save documents to cloud storage and show successful message | | |
| Alternative Flows: |  | | |
| Exceptions: | Upload the wrong file type   * ASS website show error message | | |
| Priority: | High | | |
| Frequency of Use: | Medium | | |
| Business Rule | * A financial statement includes: Bảng cân đối kế toán (excel), Bảng lưu chuyển tiền tệ (excel), Bảng kết quả kinh doanh (excel), Bảng cân đối phát sinh tài khoản (excel), Sổ chi tiết (excel), Quyết toán thuế thu nhập cá nhân (pdf), quyết toán thuế thu nhập doanh nghiệp (pdf) | | |

### Save history changes of financial statement

|  |  |  |  |
| --- | --- | --- | --- |
| **Name:** | **Save history changes of tax declaration** | | |
| Created By: | TaiLA | Date Created: | 20/08/2023 |
| Primary Actor: |  |  |  |
| Description: | This feature allows system to save history changes of financial statement | | |
| Trigger: | When user update a new version of financial statement | | |
| Pre-conditions: | Financial statement of uploaded year has an update | | |
| Post-conditions: | Save changes successfully | | |
| Normal Flow: | **Save history changes**   * User click on “Báo cáo tài chính” on sidebar * The system display financial statement structured by year * User can choose a year to update financial statement * User upload files * The system save history changes * The system save uploaded documents to cloud storage and show successful message | | |
| Alternative Flows: |  | | |
| Exceptions: | Upload the wrong file type   * ASS website show error message | | |
| Priority: | High | | |
| Frequency of Use: | Medium | | |
| Business Rule | * A financial statement includes: Bảng cân đối kế toán (excel), Bảng lưu chuyển tiền tệ (excel), Bảng kết quả kinh doanh (excel), Bảng cân đối phát sinh tài khoản (excel), Sổ chi tiết (excel), Quyết toán thuế thu nhập cá nhân (pdf), quyết toán thuế thu nhập doanh nghiệp (pdf) | | |

### View history changes of financial statement

|  |  |  |  |
| --- | --- | --- | --- |
| **Name:** | **View history changes of financial statement** | | |
| Created By: | TaiLA | Date Created: | 20/08/2023 |
| Primary Actor: | Business manager, staff, auditor |  |  |
| Description: | This feature allows user to view history changes of financial statement | | |
| Trigger: | User want to view changes of financial statement | | |
| Pre-conditions: | Financial statement of uploaded year has an update | | |
| Post-conditions: | View change successfully | | |
| Normal Flow: | **View history changes**   * User click on “Báo cáo tài chính” on sidebar * The system display financial statement structured by year * User can choose a year to view history of changes * The system display history changes | | |
| Alternative Flows: |  | | |
| Exceptions: |  | | |
| Priority: | High | | |
| Frequency of Use: | Medium | | |
| Business Rule | * A financial statement includes: Bảng cân đối kế toán (excel), Bảng lưu chuyển tiền tệ (excel), Bảng kết quả kinh doanh (excel), Bảng cân đối phát sinh tài khoản (excel), Sổ chi tiết (excel), Quyết toán thuế thu nhập cá nhân (pdf), quyết toán thuế thu nhập doanh nghiệp (pdf) | | |

### Create business provider

|  |  |  |  |
| --- | --- | --- | --- |
| **Name:** | **Create business provider** | | |
| Created By: | TaiLA | Date Created: | 20/08/2023 |
| Primary Actor: | Business manager |  |  |
| Description: | This feature allows user to create business provider | | |
| Trigger: | User want to create business provider | | |
| Pre-conditions: | * User has login successfully * User account has “active” status | | |
| Post-conditions: | Create business provider successfully | | |
| Normal Flow: | **Create new business provider**   * User click on “Doanh nghiệp cung cấp” on sidebar * The system display list of business provider * User click on “Tạo mới” and input required fields * The system save and show successful message | | |
| Alternative Flows: |  | | |
| Exceptions: |  | | |
| Priority: | Low | | |
| Frequency of Use: | Low | | |
| Business Rule |  | | |

### Update business provider

|  |  |  |  |
| --- | --- | --- | --- |
| **Name:** | **Update business provider** | | |
| Created By: | TaiLA | Date Created: | 20/08/2023 |
| Primary Actor: | Business manager |  |  |
| Description: | This feature allows user to update business provider | | |
| Trigger: | User want to update business provider | | |
| Pre-conditions: | * User has login successfully * User account has “active” status | | |
| Post-conditions: | Create business provider successfully | | |
| Normal Flow: | **Update business provider**   * User click on “Doanh nghiệp cung cấp” on sidebar * The system display list of business provider * User click on “Edit” icon and input updated fields * The system save and show successful message | | |
| Alternative Flows: |  | | |
| Exceptions: |  | | |
| Priority: | Low | | |
| Frequency of Use: | Low | | |
| Business Rule |  | | |

### Delete business provider

|  |  |  |  |
| --- | --- | --- | --- |
| **Name:** | **Delete business provider** | | |
| Created By: | TaiLA | Date Created: | 20/08/2023 |
| Primary Actor: | Business manager |  |  |
| Description: | This feature allows user to remove business provider | | |
| Trigger: | User want to remove business provider | | |
| Pre-conditions: | * User has login successfully * User account has “active” status | | |
| Post-conditions: | Remove business provider successfully | | |
| Normal Flow: | **View list business provider**   * User click on “Doanh nghiệp cung cấp” on sidebar * The system display list of business provider * User choose “Remove” icon on the business provider they want to remove * The system remove business provider and show successful message | | |
| Alternative Flows: |  | | |
| Exceptions: |  | | |
| Priority: | Low | | |
| Frequency of Use: | Low | | |
| Business Rule |  | | |

### View list business provider

|  |  |  |  |
| --- | --- | --- | --- |
| **Name:** | **View list business provider** | | |
| Created By: | TaiLA | Date Created: | 20/08/2023 |
| Primary Actor: | Business manager |  |  |
| Description: | This feature allows user to view list business provider | | |
| Trigger: | User want to view list business provider | | |
| Pre-conditions: | * User has login successfully * User account has “active” status | | |
| Post-conditions: | View list business provider successfully | | |
| Normal Flow: | **View list business provider**   * User click on “Doanh nghiệp cung cấp” on sidebar * The system display list of business provider | | |
| Alternative Flows: |  | | |
| Exceptions: |  | | |
| Priority: | Low | | |
| Frequency of Use: | Low | | |
| Business Rule |  | | |

### View system statistic for admin

|  |  |  |  |
| --- | --- | --- | --- |
| **Name:** | **View system statistic** | | |
| Created By: | TaiLA | Date Created: | 20/08/2023 |
| Primary Actor: | Admin |  |  |
| Description: | This feature allows user to view statistic of the system | | |
| Trigger: | User want to view system statistic | | |
| Pre-conditions: | * User has login successfully * User account has “active” status | | |
| Post-conditions: | View system statistic successfully | | |
| Normal Flow: | **View system statistic**   * User click on “Tổng quan” on sidebar * The system display system statistic | | |
| Alternative Flows: |  | | |
| Exceptions: |  | | |
| Priority: | Low | | |
| Frequency of Use: | Low | | |
| Business Rule |  | | |

### View invoice statistic for business

|  |  |  |  |
| --- | --- | --- | --- |
| **Name:** | **View invoice statistic** | | |
| Created By: | TaiLA | Date Created: | 20/08/2023 |
| Primary Actor: | Business manager |  |  |
| Description: | This feature allows user to view statistic of invoices | | |
| Trigger: | User want to view invoices statistic | | |
| Pre-conditions: | * User has login successfully * User account has “active” status | | |
| Post-conditions: | View invoice statistic successfully | | |
| Normal Flow: | **View invoice statistic**   * User click on “Tổng quan” on sidebar * The system display invoice statistic | | |
| Alternative Flows: |  | | |
| Exceptions: |  | | |
| Priority: | Low | | |
| Frequency of Use: | Low | | |
| Business Rule |  | | |

### View business provider statistic for business

|  |  |  |  |
| --- | --- | --- | --- |
| **Name:** | **View business provider statistic** | | |
| Created By: | TaiLA | Date Created: | 20/08/2023 |
| Primary Actor: | Business manager |  |  |
| Description: | This feature allows user to view statistic of business provider | | |
| Trigger: | User want to view business provider statistic | | |
| Pre-conditions: | * User has login successfully * User account has “active” status | | |
| Post-conditions: | View business provider statistic successfully | | |
| Normal Flow: | **View business provider statistic**   * User click on “Tổng quan” on sidebar * The system display business provider statistic | | |
| Alternative Flows: |  | | |
| Exceptions: |  | | |
| Priority: | Low | | |
| Frequency of Use: | Low | | |
| Business Rule |  | | |

# Functional Requirements

## System Functional Overview

## Screen flow

*A diagram of a flowchart

Description automatically generated*

## Screen details

|  |  |
| --- | --- |
| Feature’s name | Sign up |
| Actor | Business Manager |
| Description | This feature allows unauthenticated users to sign up an account to ASS website |
| Screens | * + - 1. Sign up screen. * Description: The initial screen where users provide their information to create accounts * Elements: Personal email, phone number, organization name, tax number, address, full name, password, company email, “Đăng ký” button   + - 1. Dashboard * Description: User logins to the system with their role successfully gets to this screen * Elements: Business’s profile of the logged user   + - 1. Error messages * Description: Screens that display error messages in case of validation errors * Elements: Error message notification |
| Main flow | 1. ASS website displays the sign up screen. 2. Unauthenticated user fills these fields:    1. Personal email    2. Phone number    3. Organization name    4. Tax number    5. Address    6. Full name    7. Password.    8. Company email 3. An unauthenticated user clicks the “Đăng ký” button.   ASS website validates the inputted information and redirects to the business profile with his/her account already logged in. |
| Alternative flow | N/A |

|  |  |
| --- | --- |
| Feature’s name | Sign in |
| Actor | Authenticated user |
| Description | This feature allows unauthenticated users to log in into the ASS website |
| Screens | * + - 1. Sign in screen * Description: The initial screen where users provide their login credentials * Elements: Email, password, “Đăng nhập” button   + - 1. Homepage * Description: After logged in successfully, the user will get direct to this screen * Elements: Account role   + - 1. Error messages * Description: Screens that display error messages in case of validation errors * Elements: Error message notification |
| Main flow | * The ASS website displays the Login screen. * Authenticated user fills 2 fields:   + Email.   + Password. * Authenticated user clicks the “Đăng nhập” button. * ASS website validates the inputted information and redirects to the homepage with their account role. |
| Alternative flow | N/A |

|  |  |
| --- | --- |
| Feature’s name | Reset password |
| Actor | Authenticated User |
| Description | This feature allows authenticated users to reset their password |
| Screens | Reset password screen   * Description: This screen allows users to reset the password based on their email * Element: “Quên mật khẩu” button, Email   Error messages   * Description: Screens that display error messages in case of validation errors * Elements: Error message notification |
| Main flow | **Reset password**   * User click on “Quên mật khẩu” button * User enter their registered email and click “Gửi lại mật khẩu” * The ASS system will send a mail attached with a reset password to the input email * User log in the ASS system with a new password   User login successfully and the system direct to the screen based on their role |
| Alternative flow | N/A |

|  |  |
| --- | --- |
| Feature’s name | Create account |
| Actor | Business manager & Admin |
| Description | This feature allows admin & business manager to create a new account |
| Screens | Create account screen for business manager   * Description: This screen allows admin to create a new business staff * Element: “Nhân viên” on the sidebar, “Thêm nhân viên”, “Tạo”   Create account screen for admin   * Description: This screen allows business manager to create a new user * Elements: “Người dùng” on the sidebar, “Tạo”   Error messages   * Description: Screens that display error messages in case of validation errors * Elements: Error message notification |
| Main flow | **Create new account**  For business manager:   * User click on “Nhân viên” on the sidebar and choose “Thêm nhân viên’ * User fill all required fields and click “Tạo” * The system will create a new account and send an mail with random password to the registered mail   For admin:   * User click on “Người dùng” on sidebar * User fill all required fields and click “Tạo” * The system will create a new account and send an mail with random password to the registered mail |
| Alternative flow | N/A |

|  |  |
| --- | --- |
| Feature’s name | Edit account information |
| Actor | Authenticated User |
| Description | This feature allows user to edit their account information |
| Screens | 1. Edit account screen  * Description: This screen allows users to modify * Elements: “Avatar icon”, “Cá nhân”, “Cập nhật” button |
| Main flow | **Edit account information**   * User click on “Avatar icon” and choose “Cá nhân” * User edit their account information and click “Cập nhật” * The system will update the new information and show successful message |
| Alternative flow | N/A |

|  |  |
| --- | --- |
| Feature’s name | View accounts list |
| Actor | Business manager & Admin |
| Description | This feature allows admin & business manager view list of accounts |
| Screens | 1. View accounts screen for admin  * Description: This screen is used for admin to see the list of users * Elements: “Người dùng” on sidebar, filter to search accounts  1. View accounts screen for business manager  * Description: This screen is used for business manager to see the list of business staff * Elements: “Nhân viên” on sidebar, filter to search accounts |
| Main flow | **View list of account**  For business manager:   * User click on “Nhân viên” on the sidebar * The system will display list of accounts of that business both active and banned status * User can filter and search account by name, email or status   For admin:   * User click on “Người dùng” on sidebar * The system will display list of accounts of the system both active and banned status * User can filter and search account by name, email or status |
| Alternative flow | N/A |

|  |  |
| --- | --- |
| Feature’s name | Create business profile |
| Actor | Business Manager |
| Description | This feature allows business manager to create their business profile |
| Screens | 1. Create business profile screen  * Description: This screen is used for business managers to create their business profiles * Elements: Fields for user to input, “Tạo mới” button  1. Success & error messages  * Description: This screen is used for notifying success or error messages * Elements: System notifications |
| Main flow | **Create business profile**   * User direct to create business profile screen * User enter all required fields and click “Tạo mới” * The system will create a new business profile and show successful message |
| Alternative flow | N/A |

|  |  |
| --- | --- |
| Feature’s name | View business profile |
| Actor | Business Manager |
| Description | This feature allows business managers to view their business profile |
| Screens | * + - 1. View business profile screen * Description: This screen allows business managers to view their business profiles * Elements: “Avatar icon”, “Cá nhân” button |
| Main flow | **View business profile**   * User click on “Avatar icon” and choose “Cá nhân” * The system display the business profile information |
| Alternative flow | N/A |

|  |  |
| --- | --- |
| Feature’s name | View e-invoice |
| Actor | Business Manager, Staff, Auditor |
| Description | This feature allows authenticated users to view a list of e-invoices and detail information; can search & filter invoices |
| Screens | * + - 1. View screen * Description: The screen allows authenticated users to view the invoices * Elements: “Hoá đơn” in sidebar, “Hoá đơn đầu vào” or “Hoá đơn đầu ra” |
| Main flow | * Users click on “Hóa đơn” in sidebar * Users choose “Hóa đơn đầu ra” or “Hóa đơn đầu vào” * The system display list of invoices * Users choose an invoice to view detailed information * The system displays the detail information of that invoice * User can filter based on status, invoice characteristic |
| Alternative flow | N/A |

|  |  |
| --- | --- |
| Feature’s name | Update e-invoice status |
| Actor | Business Manager, Staff, Auditor |
| Description | This feature allows authenticated users to update the e-invoice’s status |
| Screens | 1. Update status screen  * Description: The screen allows authenticated users to update the invoice’s status * Elements: “Hoá đơn” in sidebar, “Hoá đơn đầu vào” or “Hoá đơn đầu ra” |
| Main flow | **Update status of invoice**  - Users click on “Hóa đơn” in sidebar  - Users choose “Hóa đơn đầu ra” or “Hóa đơn đầu vào”  - The system display list of invoices  - Users choose an invoice to view detail  - The system displays the detail information of that invoice  - Users click on “Duyệt” button  - The system update the invoice status and show successful message |
| Alternative flow | N/A |

|  |  |
| --- | --- |
| Feature’s name | Upload e-invoice file in mailbox |
| Actor | Business Manager, Staff, Auditor |
| Description | This feature allows authenticated users to upload more e-invoice files in the mailbox |
| Screens | * + - 1. Upload screen * Description: The screen allows authenticated users to upload files in mailbox * Elements: “Mail” in sidebar, “Bổ sung” button   + - 1. Error messages screen * Description: This screen is used for notifying system errors * Elements: System error messages |
| Main flow | Upload e-invoice file in mailbox  - User click on “Mail” in sidebar  - User click on mail which is displayed “Cần bổ sung file”  - User click on “Bổ sung” button and choose file to upload  - The system will validate file type and return successful message  - The system display “Xem hóa đơn” message and remove “Cần bổ sung file” text |
| Alternative flow | N/A |

|  |  |
| --- | --- |
| Feature’s name | Import e-invoice files |
| Actor | Business Manager, Staff, Auditor |
| Description | This feature allows authenticated users to import e-invoices |
| Screens | 1. Import screen  * Description: The screen allows authenticated users to import the invoices * Elements: “Hoá đơn”, “Hoá đơn đầu vào” or “Hoá đơn đầu ra”, “Tải lên” button  1. Error messages screen  * Description: This screen is used for notifying system errors * Elements: System error messages |
| Main flow | Import e-invoice files  - Users click on “Hóa đơn” in sidebar  - Users choose “Hóa đơn đầu ra” or “Hóa đơn đầu vào”  - The system display list of invoices  - Users click on “Tải lên” button  - Users choose 2 files xml and pdf of the invoice that they want to upload  - The system validates and save to database |
| Alternative flow | N/A |

|  |  |
| --- | --- |
| Feature’s name | Export e-invoice XML files |
| Actor | Business Manager, Staff, Auditor |
| Description | This feature allows authenticated users to manage e-invoice |
| Screens | * + - 1. Export screen * Description: The screen allows authenticated users to export the invoices * Elements: “Hoá đơn” in sidebar, “Hoá đơn đầu vào” or “Hoá đơn đầu ra”   + - 1. Error messages screen * Description: This screen is used for notifying system errors * Elements: System error messages |
| Main flow | Export e-invoice files filter by date range  - Users click on “Hóa đơn” in sidebar  - User choose “Hóa đơn đầu ra” or “Hóa đơn đầu vào”  - The system display list of invoices  - Users click on “Xuất file” button  - Users choose date range to export invoice xml files  - The system selects invoice xml files in that date range and download them for user |
| Alternative flow | Export e-invoice files by selecting invoices  - Users click on “Hóa đơn” in sidebar  - Users choose “Hóa đơn đầu ra” or “Hóa đơn đầu vào”  - The system display list of invoices  - Users click to choose which invoices need to export  - Users click on “Xuất file” button  - The system selects invoice xml files being chosen and download them for user |

|  |  |
| --- | --- |
| Feature’s name | Compare e-invoice with downloaded sheet files from Tax Department website |
| Actor | Business Manager, Staff, Auditor |
| Description | This feature allows authenticated users to compare with downloaded sheet files from Tax Department websites |
| Screens | 1. Compare screen  * Description: The screen allows authenticated users to compare the invoices with data from Tax Department website * Elements: “Hoá đơn” in sidebar, “Hoá đơn đầu vào” or “Hoá đơn đầu ra”, “Xác thực” button  1. Error messages screen  * Description: This screen is used for notifying system errors * Elements: System error messages |
| Main flow | Compare and validate invoices  - Users click on “Hóa đơn” in sidebar  - User choose “Hóa đơn đầu ra” or “Hóa đơn đầu vào”  - The system display list of invoices  - Users click “Xác thực” button  - User upload 2 excel files downloaded from Tax Dept Website  - The system compares and validate then return result |
| Alternative flow | N/A |

|  |  |
| --- | --- |
| Feature’s name | View assigned business list |
| Actor | Auditor |
| Description | This feature allows auditor to view their assigned businesses |
| Screens | 1. View assigned business list screen  * Description: Allowing users & auditors to see the list of assigned businesses * Elements: Combo box on the navigation bar (user) |
| Main flow | **View assigned business list**  - User login to the system with Auditor role  - The system display assigned business list of that auditor  - User choose a business to access to their storage  - The system display storage of that business |
| Alternative flow | **Switch between businesses**  - User click to a combo box on the navigation bar  - The system display assigned business list of that auditor  - User choose a business to access to their storage  - The system display storage of that business |

|  |  |
| --- | --- |
| Feature’s name | View businesses |
| Actor | Admin |
| Description | This feature allows admin to view business lists and the detail of them |
| Screens | 1. Businesses information screen  * Description: This screen will show the list of businesses for admin * Elements: “Doanh nghiệp” button |
| Main flow | - Users click on “Doanh nghiệp” button  - The system display list of businesses  - User can filter and search businesses by name, tax code number  - User can choose a business to view the detailed information |
| Alternative flow | **N/A** |

|  |  |
| --- | --- |
| Feature’s name | Tax declaration management |
| Actor | Auditor |
| Description | This feature allows auditors to manage tax declaration |
| Screens | 1. Tax declaration management screen  * Description: This screen is used for managing tax declarations * Elements: “Báo cáo thuế” on sidebar  1. Error message screen  * Description: The screen is used for notifying system errors * Elements: System error messages |
| Main flow | - User click on “Báo cáo thuế” on sidebar  - The system display tax declaration structured by quarter  - User can choose a quarter to upload tax declaration  - User upload all required files (for upload and update function)  - The system save documents to cloud storage and show successful message (for upload and update function) |
| Alternative flow | **N/A** |

|  |  |
| --- | --- |
| Feature’s name | Financial statement management |
| Actor | Auditor |
| Description | This feature allows user to upload, update, save and view history changes of financial statements |
| Screens | 1. Financial management screen  * Description: This screen is used for managing financial statement * Elements: “Báo cáo tài chính” on sidebar  1. Error screen  * Description: This screen is used for notifying system errors * Elements: System error messages |
| Main flow | - Users click on “Báo cáo tài chính” on sidebar  - The system displays financial statement structured by year  - User can choose a year to upload financial statement  - User upload all required files (for upload and update function)  - The system saves documents to cloud storage and show successful message (for upload and update function) |
| Alternative flow | **N/A** |

|  |  |
| --- | --- |
| Feature’s name | Business provider management |
| Actor | Business Manager |
| Description | This feature allows auditor to view their assigned businesses |
| Screens | 1. Business provider management screen  * Description: This screen allows business manager to manage provider’s accounts in the system * Elements: “Doanh nghiệp cung cấp” on sidebar, “Tạo mới”, “Edit”, “Remove” buttons |
| Main flow | 1. Users click on “Doanh nghiệp cung cấp” on sidebar 2. The system displays a list of business providers 3. Users can choose function buttons to perform data manipulation |
| Alternative flow | **N/A** |

|  |  |
| --- | --- |
| Feature’s name | View statistics |
| Actor | Admin |
| Description | This feature allows admin to view statistics of the system |
| Screens | 1. Statistics screen  * Description: The screen allows admin to view the statistics’ information of the system * Elements: “Tổng quan” on sidebar |
| Main flow | 1. Users click on “Tổng quan” on sidebar 2. The system displays statistics’ information about system, invoices and business providers |
| Alternative flow | **N/A** |

# Non-functional Requirements

## External Interfaces

In the system, we can use some provided services at third-party organizations. For cloud storage, here are some of the suggested services:

* Amazon Web Services (Amazon)
* Azure Cloud (Microsoft)
* Google Drive (Google)

For the retrieved data of the Department of Taxation Vietnam, we need to register to the department, and have the permission to access the API gateway to retrieving the data. When using these third-party services and resources, the system must follow the regulations of them.

## Quality Attributes

* Integrity: Integrity ensures the data within the system remains accurate and consistent
* In the context of the project, preserving data accuracy and consistency is crucial for tax compliance and the trustworthiness of financial records. Ensuring the data remains unchanged and accurate prevents costly errors and regulatory issues.
* Performance: The response time for the clients, or resource optimization to the system
* Accountants and organizations rely on timely access to data and fast processing to meet deadlines and stay productive. High-performance ensures that tasks like invoice retrieval and data processing are completed swiftly without causing delays.
* Reliability: Reliability guarantees that the system operates as expected and is available when needed
* Accounting tasks need to be returned the result quicky, and the data is used for many purposes, such as statistics, declare into the tax returns, etc. The system must be dependable, free from crashes, and unexpected failures to maintain the trust of users in this system, and financial procedures run smoothly.
* Robustness: Refers to the system’s ability to withstand and recover from exceptional conditions or errors
* In the accounting system, the data needs to be accurate and quick response, especially with performing calculations in taxes and financial statements. If the system occurs exceptions, it should recover from errors and minimize the impact of discrepancies or data anomalies, safeguarding the integrity of financial records under unforeseen situations.
* Security: Measuring protect sensitive information, ensure secure transmission, and implement access control
* Unauthorized access or data breaches can lead to serious legal and financial consequences. Moreover, the system integrates with cloud storage services, and retrieved the provided data from the Department of Taxation Vietnam, so the system must comply with the regulations of data security, handling exceptions of these organizations.