# Software Requirements

**Specification**

**for**

# <BUP E-Wallet>

## Version 1.0 approved

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**Revision History**

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| --- | --- | --- | --- |
| **Version** | **Date** | **Changes** | **Author** |
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**1. Introduction**

**1.1 Purpose**

The purpose of this document is to present a detailed description of the BUP E-Wallet system. It will explain the purpose and features of the system, the interfaces of the system, what the system will do, and the constraints under which it must operate. This document is intended for both the stakeholders and the developers of the system.

**1.2 Document Conventions**

The document on Software Requirement and Specification (SRS) has been created following the IEEE format. The document has been created with the Times New Roman font and the font size was 14 for titles while the rest of the document is having a font size of 12. The document has justified alignment and single line spacing.

**1.3 Intended Audience, Definitions, and Abbreviation**

**1.3.1**

**Any suggested changes to the requirements listed on this document should be included in the last version of it. So, it can be a reference to developing and validating teams.**

|  |  |
| --- | --- |
| 1.3.2 Definitions and Abbreviations | Meaning |
| E-Wallet | The software component handles the payment and associated data and provides the user with options to make payments and recharge the account. |
| User | Refers to the students at BUP. More specifically, any person who has a BUP E-Wallet account is identified by a unique student ID number provided by the campus. |
| Vendor | The person who receives the payment from the students when a purchase is made by them. |
| Account | Refers to the unique account maintained for each registered student which comprises a security pin, balance amounts, unique name, and id. |
| Recharge | Recharge here is used to refer to the transfer/translation of money e-Wallet cash, which the student can use at the Vista Cafeteria. |
| Laravel | PHP framework for web-based application |
| Django | High-Level Python web framework. |
| SQL | Structured Query Language, used for database |
| IEEE | Institute of Electrical & Electronic Engineers |

**1.4 Product Scope**

BUP E-Wallet system is updating the manual cafeteria management system into an internet-based application. This system will be specifically designed for the use of the students of BUP. The main objective is to provide the vendors at BUP with simple software that will enable easy, secure payment at the Vista cafeteria.

Recently, some of the issues brought out by the students include the fact that they have to wait for a long time in queue twice to get a card in exchange for money and to buy food, especially during the lunch hour. The E-Wallet system has the potential to solve all issues if implemented across campus.

Currently, the system is designed for usage only by the students of BUP. Further additions could be made to the system to make this facility available to any faculty members, on-campus residents, officers, staff members, etc.

**1.5 References**

[1] “Proj Req 3 0 - E-wallet Management System Report - Project Requirements Specification Version 1. - StuDocu.” https://www.studocu.com/in/document/delhi-technological-university/computer-science/proj-req-3-0-e-wallet-management-system-report/9822039?fbclid=IwAR1jGrc95q9ySFD8YPN5tysPs7PYRdTvq\_53KiFWPJo95-EB9MBtMcusneQ (accessed Aug. 19, 2022).

[2] “IEEE Std 830-1998 : IEEE Recommended Practice for Software Requirements Specifications.,” 1998.

**2. Overall Description**

**2.1 Product Perspective**

BUP E-Wallet System is a replacement for the cash-based payment system which depends on the card exchange manual process.

**2.2 Product Functions:**

The E-Wallet will primarily handle the payment system of the canteen’s food purchases. Hence the functions will be:

* User or Vendor Registration.
* Credit/Debit System
* Search Option
* Categories View
* Control Panel

**2.2.1 Vendors:**

* Vendor should be able to modify lists of the items of food.
* Can provide a loan service to the user for up to 50 taka.
* Can access the user’s basic information.
* Can provide the basic food availability list according to the menu and cash amount a customer is willing to pay.

**2.2.2 Bank Authority:**

* Can insert or delete the amount of cash if a product is purchased by the user.
* Bank authority should be able to insert, modify, access, and delete a student’s basic information.
* Bank authority will regulate and verify all transactional operations aligning with the terms provided by Central Bank Payment Regulations (CBPR)

**2.2.3 Normal User (Student):**

* The user should be provided with updated information about the food availability and items.
* Users are given access to check their account information and change it.
* Can be provided with a loan of up to 50 taka food services in case their account is empty.
* Can insert case through opening an account using their student ID which is provided.
* The user can give reviews of the service that they are provided with.
  1. **Operating Environment**

The E-Wallet is a website and shall operate in all browsers, for a model we are talking Microsoft Internet Explorer, Google Chrome, and Mozilla Firefox.

**2.4 Operating Environment**

BUP E-Wallet System is application software and should operate with the following web browsers: Microsoft Internet Explorer and Google Chrome.

**2.5 Design and Implementation Constraints**

* The system will run 24/7.
* Microsoft SQL Server will be used as an SQL engine and database.
* Design and implementation constraints for the System and the interface design requirements are stated in the Nonfunctional Requirements section of the document.
* Users will be able to access from any computer that has an internet connection.
* Administrators will have access to many more features than normal users.

**2.6 Assumptions and Dependencies**

The application will need some third-party products to run in the future track.

* Microsoft SQL Server will be used as an SQL engine and database.
* Laravel and Django have been used to develop the product.
* This project is a stand-alone project so it will not affect the system where it will be embedded.
* This project is a web-based project the staff was addicted to using traditional methods of data storage and retrieval so they will be trained a bit to jump to it.
* This system will not depend on any other module. It will be web-based software so everyone will be an independent user of it.
* The university specified banks will feel free to adopt it because it will not be so much expensive to make or to use but security must be ensured.
* As this project contains valuable and new features so it will probably remove the previous process embedded to make purchases manually.
* If the transactional integrity isn’t assured, then the system may fail totally or in some parts.
* The system may need continuous upgradation, according to the stakeholders’ desires.

**3. External Interfaces Requirements**

**3.1 User Interfaces**

**Login Interface:**

In case the user is not registered yet, he can enter the details (Student Id, Email, and password) and register. If the user is registered, he must type his username (student Id and password). If the user typed either his username or password incorrectly, then an error message occurs.

**Search:**

Students can search for the available menu including their prices by entering the food name. They will be able to find any new meal added to the menu list.

**Categories View:**

The category’s view shows the food menu (Snacks, Lunch, Tea, Ice Cream, etc.) with the ability of the manager to add/edit or delete a category from the list.

**Control Panel:**

This control panel will allow administrators/ managers to add, confirm, or remove users; add, edit, or remove a medium; and manage lending options.

**3.2 Hardware Interfaces**

Only the recommended configuration (basic requirements of a computer). No other specific hardware is required to run the software. The software is developed for Windows 32-bit or 64-bit.

**3.3 Software Interfaces**

* Browser to load and view the web pages
* Operating Systems

The software is developed for android, iOS, and windows 10. This website uses third-party plugins.

**3.4 Communication Interfaces**

Communication standards and Network server communications protocols are HTTP, HTTPS, or FTP. There is an electronic HTML form to get feedback and data from the user. In this E-Wallet, we will be able to sign up by using our student Id Gmail details.

**4. Functional Requirements:**

**4.1 Vendor:**

**Providing Loan service:**

The vendor in case the account of the user has no cash left can provide goods to the user up to 100 taka debit. Which will issue as a loan taken from the vendor.

**4.2 Bank authority:**

**Register User Account:**

When a new user wants to open an account. The bank provides a basic form to fill up basic information. The account must be registered at the unique Id that BUP has provided.

**Insert Cash:**

The bank will insert the credit that the user has submitted.

**Remove cash:**

After the transaction of the vendor, the bank shall cut that amount of debit from the user account and put it in the university’s cafeteria account.

**4.3 Customer (Students of BUP):**

**Registration:**

When new users enter for the first time then he/she must open an accessible account of /her own. Fill up the basic registration formats provided.

**Insert cash:**

The user must provide a certain amount of credit to open an E-wallet and have the account running.

**Ask for a loan:**

The user in case of emergency can ask for goods issued as a loan up to the limit of 100 takas. Which shall act as a loan taken from the university’s cafeteria account.

**4.4 Common functions:**

**Login:**

Both vendor and customer must be logged in to the site before they modify any information or make a purchase.

**Show basic information:**

Both vendor and student get to know the primary account information of a consumer except the student’s personal information like password.

**5.Non-functional Requirements:**

**5.1 Error handling:**

The E-wallet system shall handle expected and non-expected errors in ways that prevent loss of information and a low downtime period.

**5.2 Performance Requirements:**

The system will accommodate a high number of users (in total the number of students currently taking any course at BUP).

**5.3 Safety Requirements:**

The system will provide a high level of safety as this will only be used for money transactions between students and banks. All users should have access constraints, but view will be different

**5.4 Security Requirements**

* The system must use a secured database.
* Normal users can just access the general information, but they cannot edit or modify anything except their personal information or contact information.
* System will have records of who used it as the system will have access to be viewed by students, vendors, and bank authorities.