Software Requirements Specification

for

Knowtify

Version 1.0 approved

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1. Introduction

1.1 Purpose

Knowtify caters to the consumers of the current generation and the local businesses developing around everywhere. It brings convenience to the extent that one can get to know what local businesses are around him/her as he/she walks by, their products, offers and availability of each such product. Knowtify provides the platform for customer satisfaction and convenience in day to day activities. Not only customers but it will help in promoting local businesses that require customer attention and publicity. It will help improve their overall sales along with ease of transactions.

1.2 Document Conventions

This document follows standard documentation rules and format. Bold-faced text has been used to emphasize section and sub-section headings. Highlighting is to point out words in the glossary and italicized text is used to label and recognize diagrams.

1.3 Intended Audience and Reading Suggestions

This document is majorly meant for the application users that include the customers, local business owners and vendors. It is meant for other clients who might be interested in collaborating and enhancing the application based on their specific needs. Customer review forms an integral part of this product, hence, outsourcing this product for feedback and suggestions in the initial stages will be important. It is also for other developers who would help debug the application and make it flawless for smooth usage.

1.4 Product Scope

As described above, the scope of this project would be vast as it caters to everyone's needs and is a convenient platform for business to consumer development. Beginning with local colleges, this product would further expand to residential areas and business hubs to facilitate better network of local businesses and would be a great medium for transactions. Collaboration with different vendors would increase our reach and would help us expand our customer base. It will form a great source of revenue as local businesses would benefit a lot from it.

1.5 References

Used Google for reference and in general some content has been taken from sites like stackoverflow. Most of the technical doubts have been cleared from w3schools and codecademy.

2. Overall Description

2.1 Product Perspective

'Knowtify' is a product which connects the customers and the owners of local businesses as stated above. This idea originated while standing in a line outside a shop for purchasing an item, and after our turn came, we came to know that the item was out of stock. This gave us an idea as to how about connecting the stores and the customers through their mobile phones and thus showing information about the availability of products, the various discounts and the general information about those stores. This is new product based on an idea.

2.2 Product Functions

The functions the product performs are :

- Recognize the stores in a proximity of 2 kms of the user.
- Provide details about the stores (product availability, contact, general information, etc).
- Connect with Google Maps to obtain location of the user.
- Help the user book an item for purchase or bookings in a restaurant.
- Online payment.

2.3 User Classes and Characteristics

- This product is open for almost all the age groups and anyone who knows how to operate a smartphone and as easy as booking a cab using an app.
- Knowtify can be of daily use to homemakers, grocery store owners, general stores, supermarkets. On another note, it can be used by stores during festivals/discount seasons to show several offers on the platform.
- Use during discount period will be more compared to normal times.
- Each user will have to register to start either selling or purchasing.
- Payment will be done using Payment Gateway and thus security issues will be handled.

Sellers: Will have to update the stock (add new items or delete some items), GPS is not really required for sellers.

Customers: GPS should be efficient enough to locate the proper position of the user and thus show the shops nearby.

2.4 Operating Environment

The software being developed will be running on devices having internet connection and require in-app permission for using device current location. There will be another interface operating on the vendor's end where he will be updating the products, various offers and product availability.

2.5 Design and Implementation Constraints

- **Hardware limitations :** Platform requires stable internet connection and device GPS must be efficient enough to locate device accurately and even if device is used indoors.
- **In-app Permission** : Platform requires permission for accessing device current location.
- **Synchronization :** Synchronization between users and vendors, keeping data in consistent state.
- **API Linking:** Compatibility issue between the platform and google API and payment API.

2.6 User Documentation

A user guide will be provided which will include the instructions for a new user to refer to and get accustomed to the software. It will contain the basic installation instructions and how to get accustomed to the software to start trading.Online helpline service will also be provided to solve the queries of customers.

2.7 Assumptions and Dependencies

It is assumed that the platform designed will work correctly with the other third-party operating system. Because the device acquires database updates through internet, the customer must have a device with a working internet connection.

3. External Interface Requirements

3.1 User Interfaces

The front end User Interface will be designed fully using HTML, CSS and Javascript. The User Interface will consist of :

Login Page : Whenever the user opens the platform, he will have to enter his username and password to log into his account. The credentials will be validated by the system and access will then be allowed.

Home page : Home page will display map showing all the registered sellers in 2 km radius around the customer.

Shop Description : This page displays shop name, description, offers, shop opening and closing times. This page will enable customers to create orders or make bookings.

Seller Dashboard : Admin panel for sellers where they can track the sales, new orders, update and add stocks and items or add new offers or edit existing ones.

Customer profile : This page shows the personal details, previous orders, password retrieval, updating personal information.

Customer cart : Shows selected items and orders and redirect customers to the payment page.

Payment Gateway : Payment gateway to enable customer to pay for the orders and generate invoice for the payment.

3.2 Hardware Interfaces

Minimum Requirements:
Processor: 800 MHz Intel Pentium III or equivalent
Memory: 512 MB
Disk space: 750 MB of free disk space
Working internet connection
GPS

Recommended Requirements:
Processor: 2.6 GHz Intel Pentium IV or equivalent
Memory: 2 GB
Disk space: 1 GB of free disk space
Working internet connection
GPS

3.3 Software Interfaces

- **Admin Portal :** The data will be sent from the admin portal to the user application showing availability of the products and offers.
- **User Portal :** User will select the store on the map and notify the vendor of the products that he/she is interested in and data will be sent to admin portal.
- **Database :** Information will be continuously stored and retrieved from the database in the back end which will have information regarding the users that have registered, the vendors and the details of each local business that have registered for our product.

3.4 Communications Interfaces

Client (customer) will be using HTTP/HTTPS protocol for accessing internet. Client (system user) will be using HTTP/HTTPS protocol for accessing internet. API will be using internet to fetch live data.

4. System Features

4.1 Secure Login to Interface

4.1.1 Description and Priority

This page is responsible for authentication of users and restricts unauthorised access. Login handles all possible inputs, to prevent any improper logging in, which might cause unexpected errors, and therefore limiting the system's capabilities.

4.1.2 Stimulus/Response Sequences

It will consist of two basic fields, Username and Password. There are two buttons: Login and Lost or register. Login will submit the entered data for approval followed by access, and the register will direct the user to a user registration page.

4.1.3 Functional Requirements

The most important function is to only grant access to users that are listed in the database. To implement the security, the platform must check the database to see if the Username and Password are valid. If they are not, the user will receive an "Invalid login. Please try again." response.

4.2 Home Page

4.2.1 Description and Priority

This is the main page where the user can see the shops nearby and make selections for the product accordingly. Priority of this page is high. If this page is inactive due to some reason, then the whole process might be hindered.

4.2.2 Stimulus/Response Sequences

This is the page where the user lands after logging into the account. Here the shops nearby will be displayed and the general details about them when we hover over the icons. After the user selects a shop, he will enter into the shop description where he can make purchases and then lead to payment.

4.2.3 Functional Requirements

Google maps will be needed and the main part of this page to show the nearby shops and the user's present location. The users' credentials will be important so as to not open any other user's account.

4.3 Shop Description

4.3.1 Description and Priority

Here the details about all the products and discounts available in the shop are visible. The user can select and add the items in the cart. Also here he can select whether he wants to book an item or purchase it.

4.3.2 Stimulus/Response Sequences

The user enters here when he clicks on a particular shop after he makes a search for

the shops near him. Here selection for different products needs to be made. After the user is done adding items to the cart, he is lead to the payment gateway.

4.3.3 Functional Requirements

Fetch list of items in that particular shop from the database and display it onto the page. Maintaining a separate table in the database for the cart.

4.4 Payment Gateway

4.4.1 Description and Priority

This is the final step after the user has selected the items he wants to purchase. The gateway is such that he has to enter his bank details and the recipient account details to make the final payment.

4.4.2 Stimulus/Response Sequences

User lands here after he clicks on the 'PAY' button after he is done selecting the items he wants to shop and adds them in the cart. After this, the user gets a receipt for the purchased goods.

4.4.3 Functional Requirements

User account details to make the payment. A secure connection is to be established while the payment is done so as to avoid any kind of risks of hacking into accounts while transferring money.

5. Other Nonfunctional Requirements

5.1 Performance Requirements

The system must be interactive and the delays involved must be less .So in every action-response of the system, there are no immediate delays. In case of opening windows forms, of popping success/error messages and saving the settings or sessions there is delay much below 2 seconds, in case of opening databases, fetching item prices, quantities, and redirecting to payment gateway there are no delays.

5.2 Safety Requirements

The username and password of the user must be encrypted and used. The database should be safe enough to prevent hacking. The personal details and payment details of the customer are encrypted too and transactions are done using a safe platform.

5.3 Security Requirements

Information transmission should be securely transmitted to server without any changes in information. The bank and payment details of the user must be kept secured in the database. Hackers shouldn't be able to hack into the database of the product and thus keeping personal details secure.

5.4 Software Quality Attributes

Availability: The platform shall be available to users 99.9% of the time

Robustness: If the connection between the user and the system is broken prior to an order being either confirmed or canceled, the platform shall enable the user to recover an incomplete order.

5.5 Business Rules

The product is developed by our team comprising of the four of us. Suggestions and recommendations will be made by all four of us but it could be implemented or changed only on the consent of all four of us. No change could be done without the consent of all the four members.

6. Other Requirements

A database is to be used to maintain the:

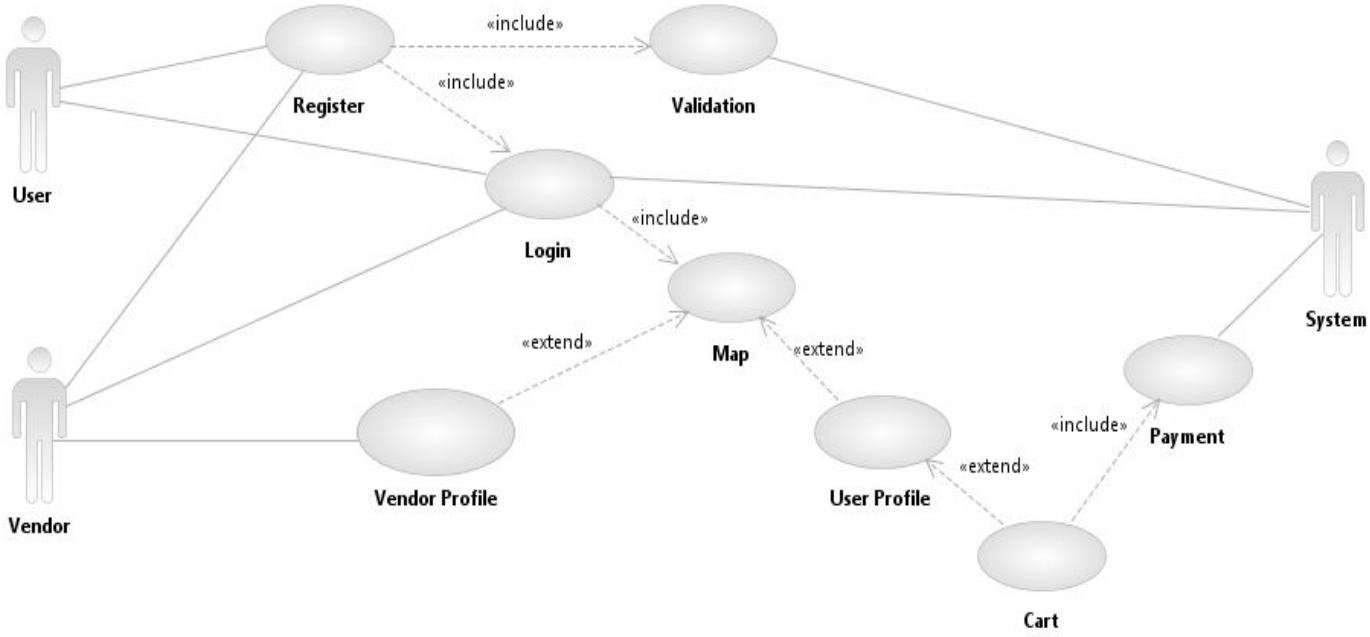
- Login credentials of the users for the validation during login.
- Used to maintain and update the current item prices and stocks.
- Add new orders and payment details upon successful completion orders

Appendix A: Glossary

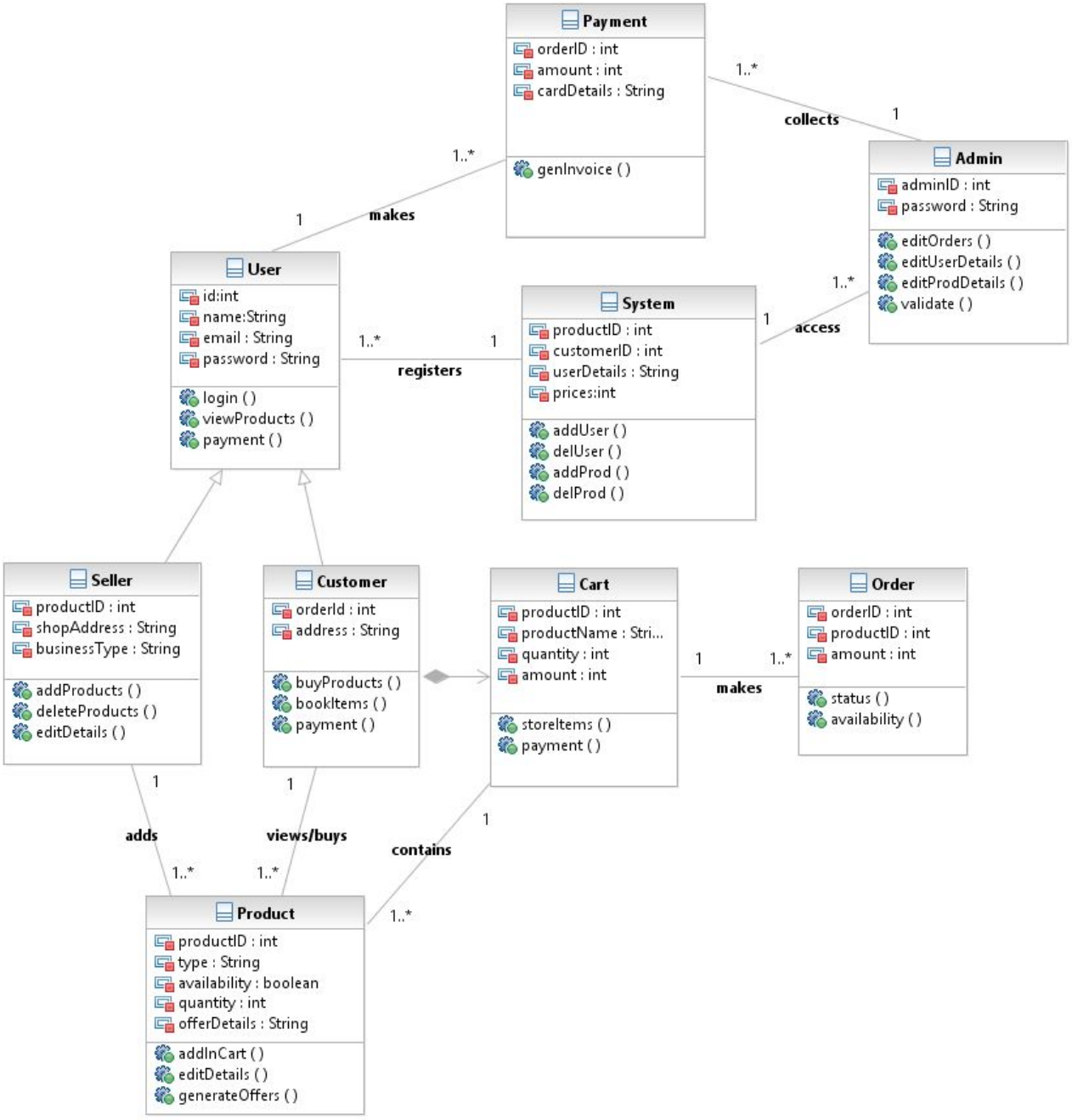
- SRS: Software Requirement Specification
- GUI: Graphic User Interface
- User: A general login ID assigned to each user
- Client: Intended users for the software
- HTTP : Hyper Text Transfer Protocol
- HTML : Hyper Text Markup Language
- CSS : Cascading Style Sheets

Appendix B: Design Models

Use Case Diagram:



Class Diagram:



Product Prototype: