

# Software Requirements Specification

## Online Note Sharing System

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## **1.0 Introduction**

### ***1.1 Purpose***

The purpose of this document is to present a detailed description of the Online Note Sharing System. It will explain the features and purpose of the system, the interfaces and components of the system, what the system will do, and how the system will behave when presented with different external stimuli. This document is intended for both the developers of the system as well as stakeholders. It will be presented to another group in CSCE 361: Software Engineering for approval.

### ***1.2 Scope of Project***

The software of this system will be an Online Note Sharing System for the students of the University of Nebraska-Lincoln. It will be designed with collaborative focus in mind. The system design will allow a student to upload their classroom notes to share with others as well as download notes from other students. The student will also be able to rate the quality of notes shared by other students as well as write reviews. The system will also generate motivation for students to take better notes while in class as there will be a market where students can sell their notes for a profit. Precautions will also be set in place to prevent any type of exploitation of the system, namely cheating.

### ***1.3 Definitions***

<b>Term</b>	<b>Definition</b>
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User	A student. The person who will upload their notes to the system and download notes uploaded by other students
Notes	Documents to be uploaded to the system and downloaded by students. They are an overview of material presented in a class.
Verified User	A trusted student or professor that has access to all of the notes uploaded to the system.
Database	Collection of all information monitored by this system.
UNL	University of Nebraska-Lincoln.
Apache Tomcat	A free open source server for java applet development.
MySQL	An open source database management system.
JSP	Javaserver Pages

## ***1.4 References***

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

## ***1.5 Overview of Document***

The second section of this document, the Overall Description, gives a general overview of the functionality of the software. It defines the informal requirements and is used a base for the formal technical requirements in the following section.

The third section of this document, the Requirements Specification, gives the formal technical functionality of the software. This section is written mainly for the developers of the project and uses formal technical language.

Both the second and third section of this document describe the functionality of the software in its entirety. However, because they are intended for different groups of readers, they use different language.

## **2.0 Overall Description**

### ***2.1 System Environment***

The system has at least one active actor and one collaborating system. The student, after creating an account, will be able to access the Online Note Sharing System which contains their own notes and the notes of other students through the website. Student communication with the system is done through email. Verified users have access to all the notes entered into the system.

### ***2.2 Functional Requirements***

**2.2.1 Registration:** The user creates an account using a valid UNL email address.

**2.2.2 Login:** The user logs into their account in order to access their notes and other account features.

**2.2.3 Account Settings:** User can edit password and classification with administrator permission.

**2.3.4 Home Page:** The first page the user sees when they visit the website.

**2.2.5 Notes Page:** Displays all of the user's notes thus far.

**2.3.6 Text Editor:** Basic editor which allows a user to create new notes.

**2.3.7 MarketPlace:** Page where users will be able to buy and sell notes.

**2.3.8 Feedback System:** Users will be able to rate and review notes submitted by other users.

### ***2.3 User Characteristics***

The user must be a current student at the University of Nebraska-Lincoln. The verified user must be a current student or professor at the University of Nebraska-Lincoln. The user and verified user are both expected to be Internet literate.

### ***2.4 Non-Functional Requirements***

The Online Note Sharing System will be on a server with high speed Internet capability. Tools such as Apache Tomcat and MySQL will be used to connect the webpage server with the database of registered users. The speed of the users connection to the webpage will depend on their own hardware rather than the characteristics of this system.

## **3.0 Requirements Specification**

### ***3.1 External Interface Requirements***

No external devices will be needed to interact with the system.

### ***3.2 System Features***

#### **3.2.1 Phase I**

##### **3.2.1.1 Login Page**

- 3.2.1.1.1 Area to input username & password with a login button
- 3.2.1.1.2 Successful login will direct the user to the homepage
- 3.2.1.1.3 Unsuccessful login throws an error message
- 3.2.1.1.4 Register button redirects new users to the registration page

##### **3.2.1.2 Registration Page**

- 3.2.1.2.1 Area to input username, password, email, and student or teacher classification with a register button. Requires administrator confirmation if teacher option selected.

3.2.1.2.2 Successful registration will add the user to the database and redirect the user to the login page.

3.2.1.2.3 Unsuccessful registration throws an error message

### **3.2.1.3 Home Page**

3.2.1.1.1 Displays a preview of the notes the user was working on recently

3.2.1.1.2 Links to pages such as: home, notes, accounts settings and the marketplace

### **3.2.1.4 Accounts Settings Page**

3.2.1.1.1 Users can change their username, password and email address

3.2.1.1.2 Save button to verify any changes

3.2.1.1.3 Successful change/s will give a message saying “Changes have been made”

3.2.1.1.4 Unsuccessful change/s will give an error message

3.2.1.1.5 Contains links to pages such as: home, notes, accounts settings and the marketplace

### **3.2.1.5 Notes Page**

3.2.1.1.1 Display all the notes the user has created so far

3.2.1.1.2 Note creation button and a search bar

3.2.1.1.3 Note creation will have three inputs: Title, Class and Date. Upon creating a note, the user will have access to a notepad.

3.2.1.1.4 Search bar adds the ability for an user to search for his notes according to their title, class or date.

### **3.2.1.6 Notepad**

3.2.1.1.1 A text editor with a basic text-editing features that allow the user to create their documents.

3.2.1.1.2 Save button will save the texts in the text editor

3.2.1.1.3 Export button will download the note to file of their choosing: pdf, txt, word, etc.

## **3.2.2 Phase II**



### **3.2.2.1 Account Settings 2.0**

- 3.2.2.1.1 Option for a user to become a seller
- 3.2.2.1.2 User can add their contact information, this will be a required if a user chooses to become a seller.

### **3.2.2.2 MarketPlace**

- 3.2.2.2.1 Amazon style marketplace that displays the notes title, class and the owner's name with the price
- 3.2.2.2.2 Search bar: so the users to search for notes according to the seller's name, class and title
- 3.2.2.2.3 View details and add to cart buttons will be underneath each notes
- 3.2.2.2.4 View details button will redirect the user to the View details page
- 3.2.2.2.5 Upload button that allows sellers to upload their notes in any format.
- 3.2.2.2.6 Each note will have a title, class, and date
  - 3.2.2.2.6.1 Edit label that will allow the seller to edit any of the note's variables such as: title, class, date and price.
- 3.2.2.2.7 Delete button if the seller chooses to delete their note/s
- 3.2.2.2.8 Each uploaded note will have their unique price that the seller inputs via a input field.
- 3.2.2.2.9 Each uploaded note will have checkbox labeled "add to market"; if checked, will post the note on the market

### **3.2.2.3 View Details Page**

- 3.2.2.3.1 Shows the notes title, class, date, owner's contact information
- 3.2.2.3.2 A link to redirect the user back to the marketplace

### **3.2.2.4 Shopping Cart Page**

- 3.2.2.4.1 Shows all the notes the user wants to purchase with their price

- 3.2.2.4.2 The subtotal will be displayed
- 3.2.2.4.3 Each note will have a remove button on the side, upon clicked will remove the note. Subtotal will also be changed.
- 3.2.2.4.4 When the user is ready to purchase, he/she can click on the confirmation button. This will redirect the user to the transaction page

#### **3.2.2.5 Transaction Page**

- 3.2.2.5.1 User can input their credit card information
- 3.2.2.5.2 Contains submit and cancel button
- 3.2.2.5.3 Clicking the cancel button will redirect the user back to the shopping cart page
- 3.2.2.5.4 Clicking the submit button will have two effect, if the credit card information is valid, then user is redirected to the Confirmation page. If the credit card information is not valid, error message will pop up.

#### **3.2.2.6 Confirmation page**

- 3.2.2.4.1 Thanks the user for purchasing the products
- 3.2.2.4.2 Displays what the user bought and the total price
- 3.2.2.4.3 User is given access to products via database

### **3.2.3 Future Phases**

#### **3.2.3.1 Collaboration**

- 3.2.3.1.1 Allows team collaboration on a note
- 3.2.3.1.2 Owner of the note can add or remove users

#### **3.2.3.2 Verified User**

- 3.2.3.2.1 A user with a good rating (see 3.2.3.3.1) will be upgraded to a verified user.
- 3.2.3.2.2 Verified user will have access to all the notes and can preview them for free.
- 3.2.3.2.3 If a note is up to the standards of the verified user, then he/she can mark it as verified. If the note is not up to the standard, then it can be removed. These do not have to be notes created by a verified user.

### **3.2.3.3 Feedback System**

3.2.3.3.1 Allows buyers to rate seller through a star rating system

3.2.3.3.2 Buyers can also leave a comment on each note and the seller

3.2.3.3.3 Seller can reply to those comments, but won't be able to delete them

### **3.2.3.4 Security System**

3.2.3.4.1 Using API such as paypal to add more secure option for customers to purchase notes.

### **3.2.3.5 Login 2.0**

3.2.3.5.1 Users can log in through facebook, gmail... accounts via redirection pages to appropriate services

## ***3.3 Performance Requirements***

**3.3.1** The system should be able to handle as many access points as the database can.

**3.3.2** The saving and uploading should take less than one second per action.

**3.3.3** The downloading process will take variable time as the file size changes.

## ***3.4 Logical Database Requirements***

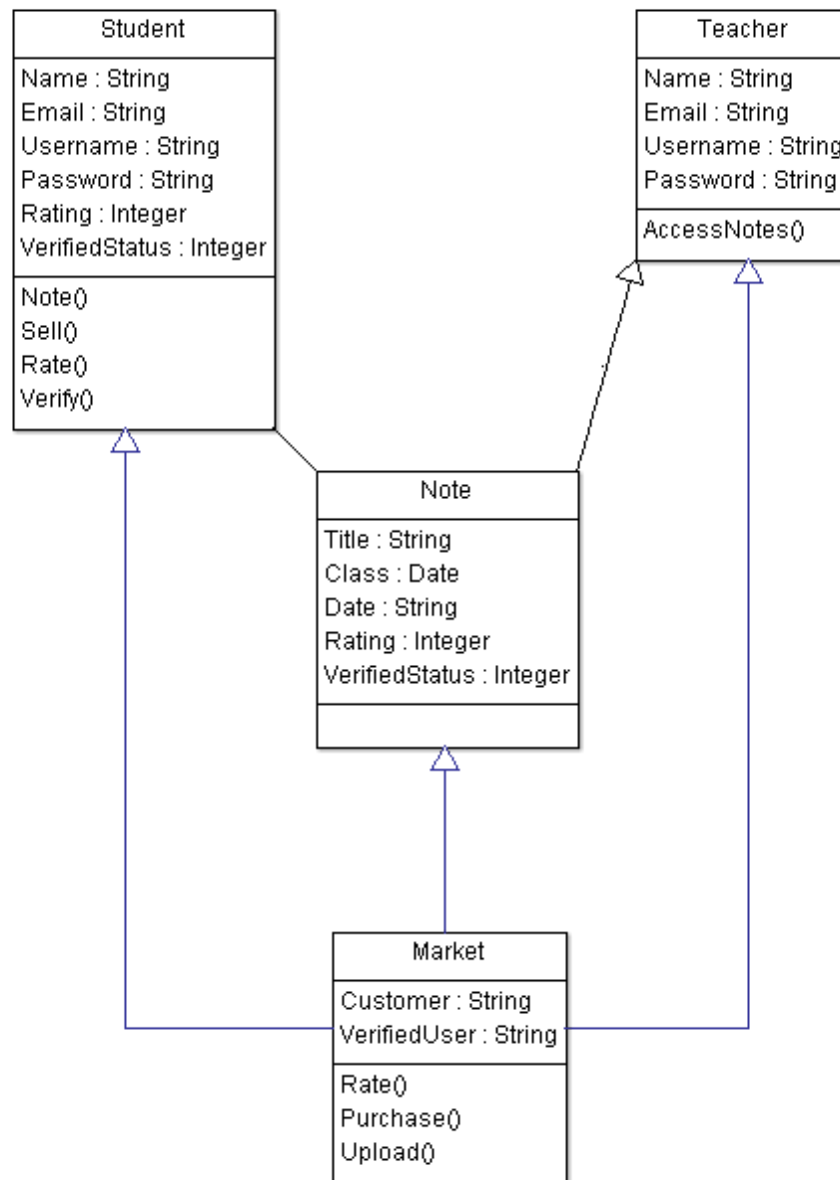


Figure 1: UML Diagram for Note System

### 3.5 Design Constraints

As we are using the JSP framework for our project, we will be limited as to how the system all comes together. We will also be using the MySQL database system to implement our

data sharing, and so we are limited then with space requirements and access will become limited to those who can access the database. For us, that means that we will make the first iteration of the system accessible to only CSE students at UNL, and would later on alter the accessibility to include all students at the college.

### **3.5.1 Standards Compliance**

We will be complying with the web standards of the World Wide Web Consortium (W3C), and using their guidelines to help format and construct our system.

## ***3.6 Software System Attributes***

### **3.6.1 Reliability**

The system needs to remain reliable at all times in case a student is in desperate need of notes, and to give users selling notes the best chance to sell as many copies as possible.

### **3.6.2 Availability**

Since the system is running on the internet it should remain available at all times.

### **3.6.3 Security**

Some user data will have to be stored on the database, because of this there must be a number of security measures in place. Passwords will need to be hashed and any payment information will have to be saved securely by a 3rd party or encrypted.

### **3.6.4 Maintainability**

New changes will be tested on a separate build before being incorporated with the public build. If necessary the database can be fixed and modified manually.

### **3.6.5 Portability**

The system should be able to run on a number of major up to date web browsers. This should make the system available to almost everybody.

