
User Manual For NWU STUDENT MARKET

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1. Introduction

1.1 Purpose of the Manual

This guide is a guide to all users of the NWU Student Market platform. It directs students of NWU on how to register, create and manage listings, search products and services and communicate safely with other users. It also contains guidelines of how administrators moderate their work and how the platform works.

1.2 System Overview

The NWU Student market is a secure and web-based application that is specific to the North-West University community. It has a reliable marketplace where students may purchase, sell and trade commodities, including used textbooks, and provide or seek services like tutoring, baking or design work.

The system is NWU credentials (OAuth) based, and it authenticates all users, providing a safe, convenient, and cost-effective alternative to open marketplaces, such as Facebook or WhatsApp.

1.3 Target Audience

The following manual will be directed to all users of the NWU Student Market network that includes:

- NWU Students (Buyers and Sellers): Students interested in the purchase, selling, or trading of textbooks and services with fellow trustworthy students.
- NWU Administrators: Personnel that will moderate content and handle user reports, as well as keep the platform safe.

1.4 Prerequisites

To use the platform, the user needs to have:

- The internet should have a steady connection.
- A modern web browser (e.g. Chrome, Firefox, Safari, Edge).
- An authentic North-West University (NWU) email address and password to verify the authentic user.

2. Installation Guide

This part will be targeted at technical personnel who will need to deploy the backend infrastructure of the platform. There is no installation required by end-users (students) they just need a web browser.

2.1 System Requirements:

Minimum requirements of the backend server infrastructure are as follows:

Operating System:

Any modern server OS capable of running Node.js (e.g., Linux, Windows Server).

Processor:

2 vCPUs

RAM:

8gig's minimum

Disk Space:

0.3 TB Solid-State Drive (SSD)

Other Dependencies:

Express.js framework on Node.js.

PostgreSQL or MySQL database.

Cloud hosting system

Cloud storage of media files.

Integration with NWU Oauth / Single Sign-On (SSO).

2.2 Installation Steps:

Backend:

This document provides step-by-step instructions for setting up the backend environment of the NWU Student Market project on a local machine.

Step 1: Install Required Software

1.1 Install Node.js:

1. Navigate to <https://nodejs.org/>.
2. Download and install the LTS (Long-Term Support) version.
3. During installation:
 - Select "Add to PATH".
 - (Optional) Select "Automatically install necessary tools".

1.2 Install Git

1. Download and install Git from <https://git-scm.com/downloads>
2. Verify the installation using the following command in your terminal or command prompt:
 - git -- version.

Step 2: Obtain the Project Files

If the project is already present locally, this step may be skipped. Otherwise, clone the repository using the following command:

```
-git clone https://github.com/MrNiffler/nwu-student-market
```

After cloning, navigate to the backend directory:(Right click in project folder, open in terminal)

```
- cd nwu-student-market/BACKEND
```

Step 3: Configure the Environment File

1. In the BACKEND directory, create a file named .env.
2. Use .env.example (if provided) as a template.
3. Fill in your Supabase and Cloudinary credentials as follows:

These credentials can be found inside your Supabase project dashboard (under Database settings) and Cloudinary console.

Step 4: Verify Supabase Database Connection

1. Ensure your Supabase project is active and your credentials match exactly.

2. Test the connection by running:
- npm run dev
3. If everything is correct, you'll see:
Database connected successfully
Database connected successfully at: [time stamp]
Database connected successfully
Server running on port 5000
4. You can now close the PowerShell prompt.

Step 5: Install Dependencies

From the BACKEND directory, install the required Node.js dependencies: (Right click in BACKEND folder, open in terminal)

-npm install

This command installs all packages listed in the package.json file.

Step 6: Start the Backend Server

1. Ensure your Supabase project is active and your credentials match exactly.
2. Test the connection by running:
- npm run dev

If everything is correct, you'll see:

Database connected successfully

Database connected successfully at: [time stamp]

Database connected successfully

Server running on port 5000

Step 7: Verify Cloudinary Setup

Images are uploaded via Cloudinary, configured in config/cloudinaryConfig.js.

Ensure:

1. .env Cloudinary credentials are correct.
2. (Optional) You've created a folder named nwu-market in Cloudinary.
3. Uploads from Postman successfully appear in your Media Library.

Step 8: Confirmation

Upon successful completion of the above steps:

1. Server running on http://localhost:5000
2. Supabase database connected
3. JWT authentication working
4. Cloudinary uploads successful

The backend environment is now ready for further development and integration.

Frontend:

1. Download the installation package.
2. Run the setup file.
3. Follow the on-screen instructions.
4. Launch the application once installed.

2.3 Database Setup

This part explains the setting of the primary application database, which is where all the structured data of the NWU Student Market are stored.

The backend system is based on a relational database which manages all the persistent data, such as user profile, listing, transactions and messages.

Key Setup Requirements:

- Database System: The first and most recommended database system that would be used in this project is the PostgreSQL . MySQL can also be used with this system.
- Hosting: The database should be implemented as a cloud-based solution (i.e. PostgreSQL on Azure) in accordance with the performance and scalability needs.
- Schema: The database is to be properly configured with reference to the official Database Schema Overview document .In this document, all the necessary tables, fields, and relations will be detailed of:
 - Users (Students, Admins)
 - Listings (Products & Services)
 - Bookings
 - Ratings & Reviews
 - Chat Messages
 - Transaction Records
 - Moderation Logs

- Backups: You should also have a database backup schedule that will ensure that the data is persistent and that there is integrity.

3. Getting Started

3.1 Launching the Application:

NWU Student Market is an online market. Students do not need to download and install any software. It is available on any internet connected device.

1. Find a current web browser (i.e. Chrome, Firefox, Safari, or Edge) on your desktop, laptop, or smartphone.
2. Go to the address of the official platform.
3. The platform is mobile friendly and will fit your screen size.

3.2 Login and Authentication:

Only the verified staff and students of NWU have access to the platform.

1. The homepage has a button titled "Login" or "Sign Up" button.
2. This will redirect you to the official NWU Single Sign-On (SSO) / OAuth portal (a portal you use when accessing services such as eFundi).
3. Please provide your official NWU student/staff information (your NWU email address and password).
4. When you successfully log in, you will safely be redirected back to the NWU Student Market.

- First-Time Login: Your initial login will automatically become your basic profile using the verified information about NWU. Once you have logged in you can edit or add more information on your profile.

3.3 User Roles and Permissions:

User Role	Description	Key Permissions
-----------	-------------	-----------------

Student	This is the standard role for all users. Students can be both Buyers and Sellers.	Log into the platform.Create, edit, and delete their own listings.Browse, search, and filter all listings.Send and receive secure messages with other users.Manage their own user profile.
Administrator	A user (typically NWU staff) responsible for platform safety and management.	All permissions of the Student role.Access the Administrative Dashboard.Moderate, flag, or remove inappropriate listings.Manage user reports.an or suspend users who violate platform rules

4. User Interface Guide

The following screenshots will describe the following:

Sign in & Sign in validation:

The image displays two screenshots of the NWU Marketplace Sign In page. The top screenshot shows the standard sign-in form with fields for Email and Password, a 'Sign In' button, and a 'Forgot password?' link. The bottom screenshot shows the same form after a failed login attempt, with a red error message 'Invalid credentials' displayed above the email field.

SignIn Page: This is the primary log in page of the NWU marketplace. It is meant to enable the current users to log into their accounts using their registered email address and password safely.

SignIn Validation: This screen shot displays the very same login screen though in an error state. It shows what transpires when a consumer mis-keyes his or her email or password; a red message of invalid credentials appears to notify him or her that the log-in process has failed.

Sign up email domain validation:

This screenshot depicts the page with the creation account in an error mode. It is meant to explain to the user how the system authenticates him or her on signing up. To be more precise, it shows a red error message, You must use your my.nwu.ac.za email to sign up, that the user is putting an email address of a different and not valid domain in the form of @nwu.ac.za rather than my.nwu.ac.za). This imposes a condition that the students with the right email format are the only ones who can register.

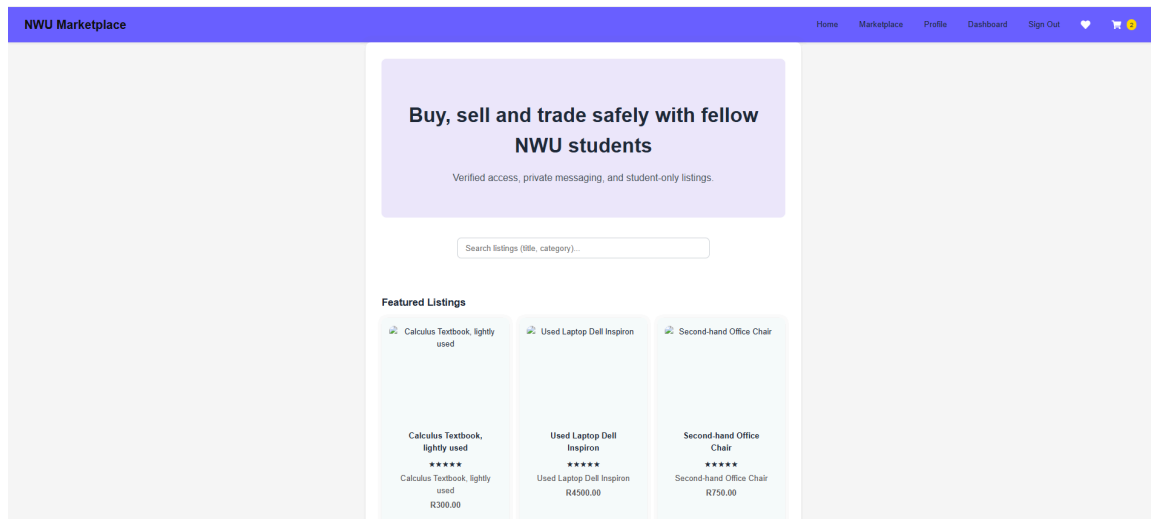
Welcome Page:

This screen shot reveals the user personal dashboard which is their home profile and user navigation space. It greets the user by his name and has three major sections:

1. Profile Info: Shows the email address of the user, student number, and current position.
2. Actions: Has quick-access buttons of "Go to Cart," "Go to Wishlist," and Create New Listing.

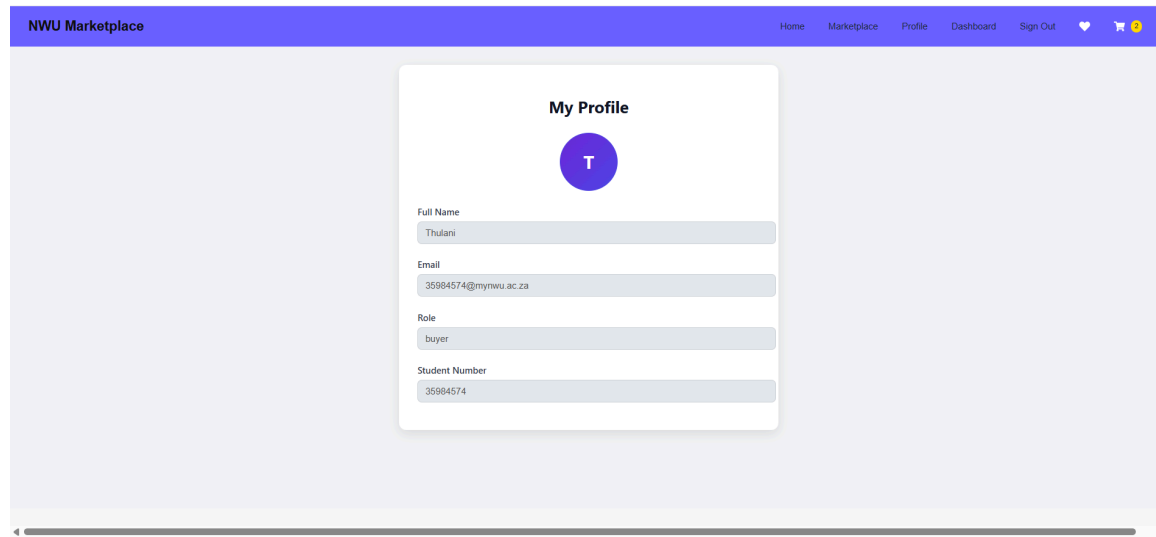
3. My Listings: Everything the user has personally listed on their page as something he is selling (in this instance, it is blank, with the text No listings yet).

Home page:



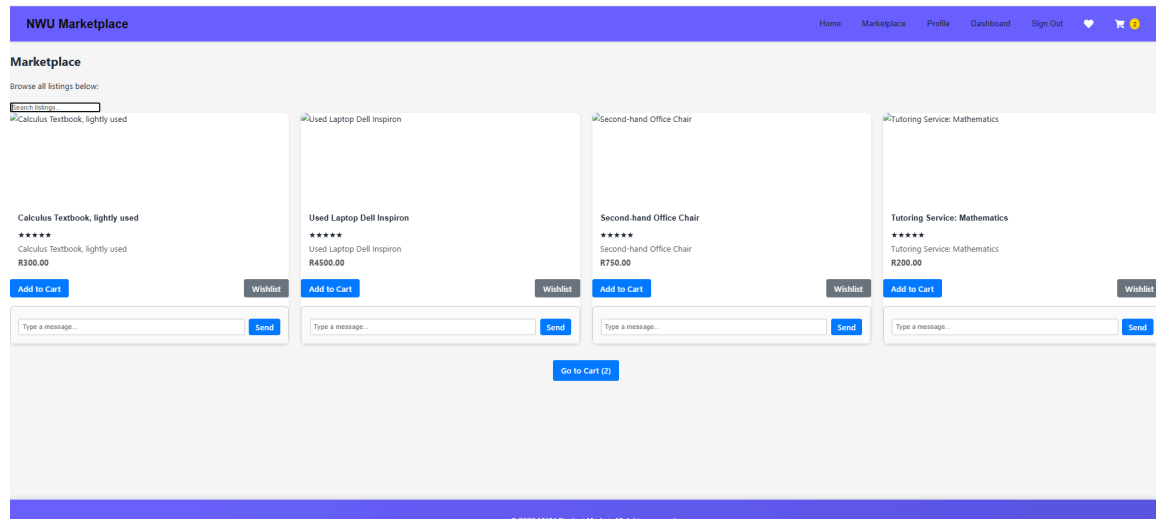
This is a screen shot of the NWU Marketplace “Home Page” The home page is the primary entry point of the site. It has a large banner stating the value of the platform: Buy, sell and trade safely with other NWU students, which focuses on verified access and personalized messaging. Under the banner, one can find a search bar that assists the users in locating listings. In the lower section of the page, there is a section called Featured Listings, which displays such items as a textbook, laptop, and office chair so that a visitor can have a brief view of what is on offer.

Profile page:



This is a screen shot of my profile page. It is used to show a user the personal account information, i.e. his/her Full Name, Email, Role (e.g., buyer), and Student Number are shown in read-only mode, which verifies that the information provided is related to his/her account.

Marketplace:



This is a screenshot of the main page of the Marketplace which is the hub in which the user can hold all the listings available. A grid of items and services is displayed. In every listing, there is an image, title, rating, description, and price. The user is able to engage with products either by clicking the button of Add to Cart, adding to their Wishlist or quickly sending a message to the seller. On the top, there is a search bar where one can find a particular listing.

New Listing:

The screenshot shows the 'Create New Listing' form on the NWU Marketplace website. The form is centered on a light blue background. It includes a title 'Create New Listing' and several input fields: a text area for 'Description' with the placeholder 'Describe your item or service', a text field for 'Price (R)' with the placeholder 'Price in R', a dropdown menu for 'Category (optional)' with 'Select category' as the selected option, a dropdown menu for 'Type' with 'Select type' as the selected option, and an 'Upload image (optional)' section with a 'Choose File' button and the text 'No file chosen'. A blue 'Create Listing' button is at the bottom of the form. The website's navigation bar at the top includes 'NWU Marketplace' and links for 'Home', 'Marketplace', 'Profile', 'Dashboard', 'Sign Out', a heart icon, a shopping cart icon, and a help icon.

This is a screenshot of the create new listing page. This is the form that is filled to sell a product or provide a service. It has a description field, a price (R) field, a category (drop-down menu) field, and a type (drop-down menu) field. It also offers a choice of an option of uploading an image on the listing. After filling in the form, the user will press the button of creating a listing and post it to the marketplace.

Cart page :

The screenshot shows the 'Your Cart' page on the NWU Marketplace website. The page has a light blue background. At the top, there is a title 'Your Cart' with a shopping cart icon. Below the title, there are two items listed. The first item has a price of 'R4500.00' and a 'Remove' button. The second item has a price of 'R300.00' and a 'Remove' button. At the bottom of the list, there is a blue 'Checkout' button. The website's navigation bar at the top includes 'NWU Marketplace' and links for 'Home', 'Marketplace', 'Profile', 'Dashboard', 'Sign Out', a heart icon, a shopping cart icon, and a help icon.

This is a screenshot of the Your Cart page. This page is designed to have all the items that the user has added in the process of navigating through the marketplace. It shows the cost of every item and has an option of a remove button to remove an item out of the cart. After the user is ready to purchase, they are able to press the button called Checkout.

Admin :

The screenshot shows the 'Admin Users' dashboard. At the top, there's a navigation bar with 'NWU Marketplace' and links to Home, Marketplace, Profile, Dashboard, and Sign Out. Below this is the 'Admin Dashboard' section with tabs for Analytics, Listings, Orders, and Users (selected). Three summary cards show 'Total Users: 18', 'Total Listings: 4', and 'Total Transactions: 2'. Below these is the 'Admin Users' section with a search bar and a table of users.

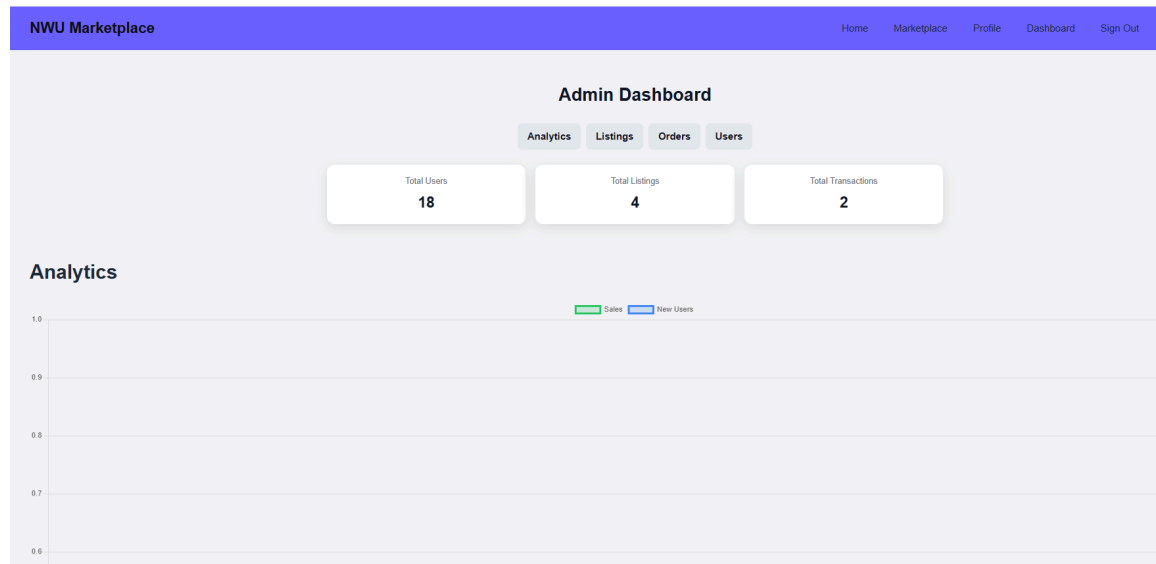
#	NAME	EMAIL	STATUS	ACTIONS
1	Alice Smith	alice@example.com	active	Approve Reject Remove
2	Bob Johnson	bob@example.com	active	Approve Reject Remove
3	Carol Lee	carol@example.com	active	Approve Reject Remove
4	Dave Brown	dave@example.com	active	Approve Reject Remove
5	Admin User	admin@example.com	active	Approve Reject Remove
6	Siyabonga	35064710@mynwu.ac.za	active	Approve Reject Remove

Admin Users Display: This is the home page of admin users. At the top, it presents a summary of the analytics of the platform (Total Users, Listings, Transactions). It also shows a full list of all the users with their name, email, and status below. The admins are allowed to approve, reject, or remove the account of each user with the help of these buttons: Approve, Reject, and Remove.

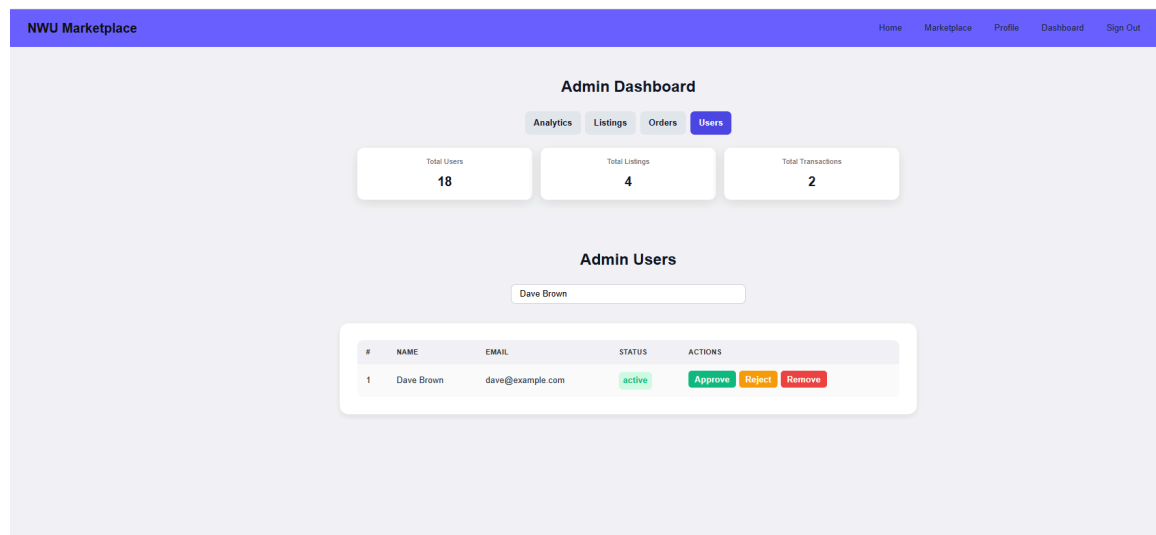
The screenshot shows the 'Admin Orders' dashboard. It has the same top navigation bar. The 'Admin Dashboard' section has tabs for Analytics, Listings, Orders (selected), and Users. Two summary cards show 'Total Orders: 2' and 'Total Revenue: R NaN'. Below these is the 'Admin Orders' section with tabs for Listings, Orders (selected), Users, and Analytics. An 'Orders List' table is displayed below.

ID	Buyer	Listing	Amount	Status	Actions
1			R	paid	Delete
2			R	pending	Approve Reject Delete

Admin Orders Display: This is the "Admin Orders" page, which deals with the platform transactions. It displays analytics that are order-related (Total Orders and Total Revenue). It gives an "Orders List" below including the information about the status of every transaction (e.g., paid, pending) and offers admins options to approve, reject, or delete orders.



Admin Dashboard Listings: This is the moderation page of the site known as Admin Listings. It shows all the products and services that are posted on the marketplace in the form of cards. This interface enables the admins to access the content and ensure the safety of the platform by clicking the buttons to reject or delete any listing.



Admin Filter User: This is the search option of a user in the Admin Dashboard. The admin has entered the search query of Dave Brown in the search bar and the user list has been narrowed down to show the particular user only. This enables admins to locate and control people within a short period of time.

5. System Features and Functions

Feature	Description
User Authentication	Enables a user to register and log-in with their official NWU email addresses (OAuth). Only authentic students and staff are allowed to get into the platform.
Profile Management	Allows students to create their profile and update it such as contact details and brief bio.
Listing Management	Enables the students (sellers) to add, update and remove their own listing of products or services..
Search & Filter	The buyer (customers) is also able to search and filter through all the listings available in their search by putting in keywords, category, prices or type of service.
Secure Messaging	Gives buyers and sellers a chance to communicate and negotiate privately and without sharing personal contact information through an in-app messaging system.
Transaction Workflow	Assists users to maintain the status of a transaction (e.g. by changing a listing to Reserved or Sold).
Admin Moderation	An administrator dashboard to go through flagged listing and remove inappropriate content or control user access to ensure the platform is safe.
Ratings & Reviews	The feature will enable users to rate and submit reviews on buyers and sellers in order to establish trust and responsibility in the community.

6. Data Entry and Navigation

1.INPUT (Create New Data)

This includes adding new data to the system, such as creating a new listing. Users can input information through forms, where they provide details like the product title, description, price, campus, and an optional image.

2.UPDATE (Edit Data)

Updating data allows users to modify existing information, such as editing a previously created listing. The update process typically involves pre-filling forms with the current data, enabling users to make changes to fields like the title, description, price, or images. Validation rules similar to those used during data entry apply to ensure all modifications are accurate and complete. Additionally, authorization checks are implemented to confirm that only the original creator or authorized users can perform updates, maintaining the integrity and security of the data within the system.

3.DELETE (Remove data)

Deleting data enables users to remove existing records from the system, such as deleting a listing that is no longer available. To prevent accidental deletions, the system typically prompts users with a confirmation message before proceeding. Authorization checks ensure that only the owner or authorized users can delete the data, safeguarding against unauthorized removals. Once confirmed, the data is permanently removed or, in some cases, soft-deleted to allow for recovery, maintaining both data integrity and user control over their content.

4.VIEW(View Data)

Viewing data allows users to access and browse existing information within the system, such as exploring available listings or viewing user profiles. The platform provides features like search, filtering, and pagination to enhance the user experience and facilitate easy navigation through large datasets. Access controls ensure that sensitive information is protected and only visible to authorized users when appropriate. This functionality enables users to efficiently find and review relevant data while maintaining privacy and security standards.

7. Error Handling and Troubleshooting

ISSUES	POSSIBLE CAUSES	SOLUTIONS
Image file upload failure	User attempts to upload an image larger than 2mb	Display a message stating that the user should upload a picture that is at least 2mb in size.
Email validation error	The system only allows users to use their student emails for safety reasons	Display a message to advise the user to use their student email.
Form Validation	The user is required to complete all fields in the form	Use a validation library to enforce all required fields before submission
Incorrect Password or Authentication Failure	The provided password is incorrect for the specified email or username	User-Friendly error message specifying whether the email or password is incorrect

8. Frequently Asked Questions (FAQ)

Questions	Answers
-----------	---------

Who are the users of the NWU Student Market?	Only users with valid NWU student/staff email addresses can gain access. This is implemented by a compulsory OAuth authentication
Is the platform free to use?	Yes, the site is free to all the NWU students to post listings, search and make contacts.
What about the payment of an item I sell?	The platform offers secure messaging to you in order to meet with the buyer to discuss the terms of the transaction. Users (e.g. cash, bank transfer, PayFast, etc.) are processed directly between the users (you and the buyer) as you and the buyer agree.
Can it be safe to send a message to a seller or buyer?	Yes. The in-built messaging platform is safe and confidential. In order to prevent violations of privacy, we suggest that you do not provide personal contact information, such as your phone number or home address. The entire communication is safe to be managed within the platform.
What do I sell on the site?	The site is mostly dedicated to textbooks and student provided services such as tutoring, baking, designing work, or other "side-hustles."
What will I do in case I encounter an inappropriate post or in case of a scam?	You can use the report or flag button of listing. This will issue an alert to the system administrators who will scan the listing and act suitably.

9. Technical Support and Contact Information

For any technical issues, questions, or to report a problem, please contact the support team:

Phillip Nel	34263306@mynwu.ac.za
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Bruce Mohlake	41881532@mynwu.ac.za
Tm Mohutsioa	49462873@mynwu.ac.za
Buddyj Mokori	46613072@mynwu.ac.za
R Motake	38300222@mynwu.ac.za
Siyabonga Mzolo	35864710@mynwu.ac.za

10. Appendix.

10.1 Glossary

Term	Definition
Listing	An advertisement for a product or service offered for sale or trade on the NWU Student Market platform.
OAuth	An open standard for access delegation, commonly used as a way for Internet users to grant websites or applications access to their information on other websites without giving them the passwords.
SSO (Single Sign-On)	An authentication scheme that allows a user to log in with a single ID and password to any of

Term	Definition
	several related, yet independent, software systems.
Backend	The part of a computer program or a website that performs behind-the-scenes functions not directly seen by the user.
Frontend	The part of a computer program or a website that the user interacts with directly; the user interface.
Supabase	An open-source Firebase alternative providing a PostgreSQL database, Authentication, instant APIs, Edge Functions, Realtime subscriptions, and Storage.
Cloudinary	A cloud-based image and video management solution that provides an end-to-end management solution for all your media assets.
Node.js	An open-source, cross-platform, JavaScript runtime environment that executes JavaScript code outside a web browser.
Express.js	A fast, unopinionated, minimalist web framework for Node.js.
PostgreSQL	A powerful, open-source object-relational database system that uses and extends the SQL language combined with many features that safely store and scale the most complicated data workloads.
MySQL	An open-source relational database management system (RDBMS) that uses Structured Query Language (SQL).

10.2 Version History

The full version history of this document is available in the "Document History" section on page 3.

10.3 Sample Listings

Below are examples of how typical product and service listings appear on the NWU Student Market platform:

Sample Product Listing:

- **Title:** Used "Introduction to Psychology" Textbook
- **Description:** Good condition, minor highlighting. Required for PSYC101.
- **Price:** R350
- **Category:** Textbooks
- **Type:** Product
- **Image:** (Placeholder for an image of the textbook)

Sample Service Listing:

- **Title:** Mathematics Tutoring (First Year)
- **Description:** Experienced tutor offering one-on-one sessions for Calculus and Algebra. Flexible hours.
- **Price:** R150/hour
- **Category:** Tutoring
- **Type:** Service
- **Image:** (Placeholder for a professional headshot or relevant image)