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Design and Implementation of Web-Based Digital Campus Navigation and Orientation System for New Student

[1]Anusiuba, Overcomer Ifeanyi Alex, [2]Umeh, Mary Rose Ngozi, [3]Ezuruka, Evelyn Ogochukwu, [4]Adejumo, Samuel Olujimi

[1,2,3,4]Department of Computer Science, Faculty of Physical Sciences, Nnamdi Azikiwe University, Awka, Nigeria
E-mail: [1]oi.anusiuba@unizik.edu.ng, [2]nm.umeh@unizik.edu.ng, [3]eo.ezuruka@unizik.edu.ng, [4]so.adejumo@unizik.edu.ng

***Abstract* - This study aims to develop a digital student guide system for Nnamdi Azikiwe University (UNIZIK) to enhance the transition for new students by providing easy access to essential academic and campus information. The proposed web-based platform, built with HTML, CSS, JavaScript, and a database, will deliver real-time updates on class schedules, course codes, venues, credit loads, and integrate an interactive campus map and academic calendar. Unlike traditional printed materials, which are prone to becoming outdated, the platform ensures that students have access to the most current information, including event locations and campus services. Additionally, the system will feature a resource section containing guides on campus facilities, academic support, and student services. Designed to be responsive and optimized for low-bandwidth environments, this platform aims to improve student engagement by offering personalized features and streamlined access to critical resources. By centralizing and digitizing campus navigation, the system seeks to provide a more efficient and user-friendly solution, empowering new students to engage confidently with their academic and campus environment.**

Keywords: Digital Campus Navigation, Orientation System, New Student, Student guide system, Campus information.

I. BACKGROUND OF THE STUDY

The transition from secondary education to tertiary institutions represents a critical developmental phase, characterized by significant cognitive, social, and institutional adjustments (Anusiuba, 2024). At Nnamdi Azikiwe University, the existing orientation framework, predominantly reliant on conventional student guides, lacks the adaptability required to meet the evolving expectations of contemporary digital-native students.

With the increasing integration of digital technology into higher education, there is a compelling need for an interactive, data-driven student support system. A digital student guide, leveraging real-time information dissemination and personalized content delivery, can mitigate transitional challenges by providing tailored academic schedules, dynamic campus navigation tools, and integrated event management systems. Empirical studies indicate that access to timely and structured academic information enhances student engagement, cognitive load management, and overall academic performance (Jones et al., 2017). Additionally, research underscores the role of usability and human-computer interaction principles in optimizing digital learning environments, advocating for intuitive and accessible interface design (Clark & Mayer, 2016).

The proposed digital orientation system for Nnamdi Azikiwe University will incorporate algorithm-driven content personalization, ensuring that students receive context-specific academic and administrative support. This initiative aligns with global best practices in higher education, emphasizing student-centered pedagogical frameworks and retention-enhancing strategies. By leveraging advanced technological infrastructures, this study seeks to conceptualize, develop, and empirically validate a scalable digital orientation system, addressing the limitations of static traditional guides and enhancing institutional student success metrics.

1.1 Problem Statement

Despite the availability of conventional student guides, many first-year students continue to encounter substantial challenges in navigating their academic environment. These difficulties stem from the generalized nature of traditional guides, which fail to address the specific and evolving needs of individual students. The lack of personalized information on course schedules, class venues, and administrative processes often results in missed deadlines, disorientation, and reduced academic engagement. Furthermore, the static nature of these guides limits their effectiveness, as they do not offer interactive features or real-time updates.

Empirical studies underscore the importance of comprehensive student support systems in improving

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academic retention and performance. Anusiuba, Nweke and Egbo (2019) highlights that the first year is a decisive period for student success, with inadequate guidance contributing to higher dropout rates and academic underperformance. The insufficiencies of traditional student guides exacerbate this issue, leaving students feeling disconnected from their academic community and institutional resources.

This study identifies the urgent need for a dynamic, data-driven student support system capable of delivering real-time, personalized information. A digital student guide, integrating essential orientation tools such as academic schedules, campus navigation aids, and student service directories, can significantly enhance the freshman experience. By addressing the limitations of existing orientation frameworks, this research aims to develop a more effective, accessible, and student-centered guidance system that fosters academic success and institutional integration.

1.2 Aims and Objectives

The primary aim of this project is the design and implementation of a web-based digital campus navigation and orientation system for new students at Nnamdi Azikiwe University, Awka (UNIZIK). This system will efficiently support new students in navigating their academic and campus environment. The objectives of this work are:

1. To create a user-friendly and responsive web interface using HTML and CSS that is accessible across various devices and screen sizes to serve as new student digital campus guide.
2. To use JavaScript to add dynamic functionalities such as real-time updates on class schedules and personalized student information. This will enhance user engagement and allow the system to respond effectively to user inputs.
3. To develop and manage a database to handle and organize class schedules, venues, course codes, campus events, and other relevant data. This database will support the system's functionality by ensuring efficient data retrieval and updates.

II. REVIEW OF RELATED LITERATURE

Campus guide systems are increasingly essential tools that help new students navigate their academic and physical environments while accessing important services. With the rapid advancement in technology, these systems have evolved from traditional paper-based guides to dynamic, interactive digital platforms that offer real-time updates and personalized experiences. Key technologies driving the evolution of these systems include Location-Based Services (LBS), Geographic Information Systems (GIS), Human-Computer Interaction (HCI), mobile/web-based technologies, and robust data management and security.

In a recent study, Abiodun et al. (2022) introduced a mobile application for the Department of Computer and Communications Engineering at Abubakar Tafawa Balewa University. This Android-based student handbook addresses the limitations of traditional paper handbooks by providing students with easy offline access to curriculum details, departmental history, grading systems, and more, making it portable and accessible. Yim et al. (2014) contributed an Android application that integrates mobile augmented reality (AR) and LBS. By recognizing campus structures like buildings and statues through user photos, the app displays multimedia information, enhancing student interaction with their campus. This integration of AR and LBS is vital in creating smart campus environments and enhancing learning experiences.

Suleiman (2021) explored the use of mobile devices in campus navigation at TaiSolarin University of Education, integrating GPS, augmented reality, and other sensors. This system helps users effectively navigate the campus, showcasing how modern technology can improve educational environments by offering real-time navigation assistance. Feng et al. (2022) developed a dual-mode campus information system integrating both Android and web clients. By utilizing the Model-View-Controller (MVC) pattern, the system fosters real-time communication among students, faculty, and staff while providing essential campus information such as maps, announcements, and more, enhancing campus engagement.

Naik et al. (2023) introduced a Smart Campus Navigation System that integrates IoT technology to facilitate campus management and services. Their system uses outdoor location tracking through GPS and digital electronic maps, but also provides solutions for indoor navigation, especially benefiting first-time visitors and individuals with visual impairments through voice-guided features. The Nordin et al. (2021) study developed a web-based navigation system enhanced by mobile AR. This system allows users to view location-specific information via AR overlays, improving navigation within buildings such as lecture halls and laboratories, an area often underrepresented by traditional campus maps. Their evaluation indicates successful user interaction with the AR system, highlighting the effectiveness of AR in campus navigation.

Adsul et al. (2023) created a web-based campus map that serves to improve navigation for both students and visitors. This map offers detailed, interactive information on campus buildings and landmarks, addressing the issues of traditional static paper maps and offering a user-friendly digital format.

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The map also features user feedback mechanisms to optimize usability. Shelke et al. (2022) developed "Virtual Ally," a campus navigation system that uses Tableau to analyze map images and provide the shortest route to various campus facilities. This system enhances navigation for new students and visitors by providing efficient and user-friendly route planning.

Rajagopal et al. (2023) explored the use of augmented reality (AR) to address campus navigation challenges, particularly in complex environments with intricate indoor layouts. Their AR mobile application developed using Unity, offers intuitive and seamless navigation guidance, improving the student experience in navigating modern, sprawling campuses. In a similar vein, Tiwari and Verma (2021) created a mobile application for campus navigation that utilizes GPS, cameras, and sensors to help users find the shortest paths between two campus locations. The app also features voice-based information and map-based route selection, making navigation more accessible and efficient. Abbas Helmi et al. (2022) focused on enhancing indoor navigation with the "Find 4 Me" application, specifically aimed at helping new students at Management and Science University navigate classrooms and resources. This application features a variety of tools, including 360-degree directional views and live chat options, ensuring users have comprehensive navigation support.

Finally, Sparsh et al. (2023) investigated offline campus navigation systems, which allow users to navigate university campuses without relying on internet connectivity. This approach is particularly useful in areas with poor connectivity but presents challenges such as increased storage needs and a lack of real-time updates. The study emphasizes the ongoing need for improvements in offline navigation technologies.

III. METHODOLOGY ADOPTED

Technologies used in the project include:

- **HTML/CSS** for creating a responsive web interface.
- **JavaScript** for adding dynamic functionalities like real-time schedule updates and personalized student information.
- **MySQL** for managing the database, which stores class schedules, campus locations, and event data.

3.1 Analysis of the Existing System

New students at Nnamdi Azikiwe University (UNIZIK) currently rely on traditional methods such as printed guides, word-of-mouth, and physical notice boards to navigate the campus and access academic information. These methods, while long-standing, present significant limitations. Printed materials can become outdated quickly, word-of-mouth communication is often inaccurate, and overcrowded notice boards make it difficult for students to find relevant information efficiently. Additionally, new students often struggle to locate essential facilities and stay updated on changes or cancellations in their schedules. Research by Smith (2023) highlights the inefficiencies of manual systems in education, which can lead to outdated information and communication gaps. Johnson and Green (2022) emphasize that the absence of real-time updates negatively impacts student engagement and academic performance. With technology advancing rapidly, UNIZIK is in need of a more dynamic and efficient approach to campus navigation and information dissemination. Transitioning to digital platforms or mobile applications that provide real-time updates would enhance students' ability to stay informed, reduce confusion, and improve their overall university experience.

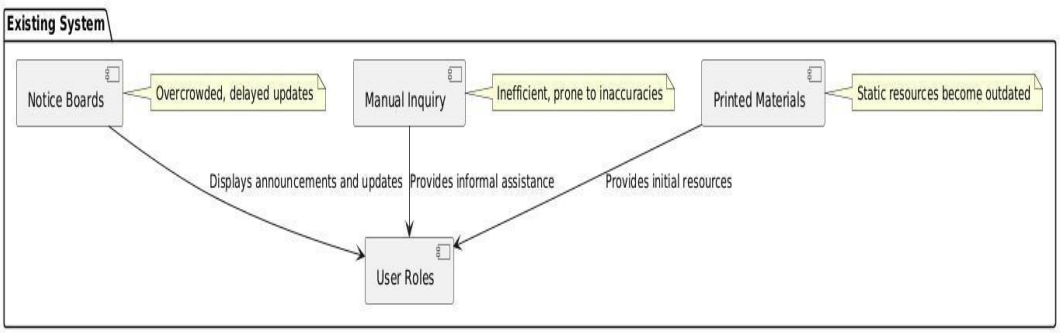

Figure 1: Architecture of the existing system

The existing system used to provide students with essential campus information such as printed materials, manual inquiries, and physical notice boards—pose significant challenges. Printed materials, such as orientation guides and class schedules, quickly become outdated, leading to inefficiencies in information dissemination (Davis, 2023). Manual inquiries, which involve students

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asking others for directions or updates, are also unreliable and can cause frustration, especially for new students who may feel intimidated or stressed (Jones, 2022). Additionally, notice boards, although providing updates, are often overcrowded, inconsistently updated, and not easily accessible to all students, further complicating the campus navigation process (Johnson, 2023). These traditional methods hinder students' ability to stay informed, causing confusion and delays as they adapt to their new academic and social environment.

3.2 Analysis of the Proposed System

The proposed web-based digital student guide system will significantly improve the efficiency and accessibility of information for new students at Nnamdi Azikiwe University. Unlike the current system, which depends on printed materials, physical notice boards, and word-of-mouth communication, the digital platform will offer real-time updates on academic schedules, campus locations, and event changes. Students will no longer face the issue of outdated guides or fragmented information sources, as the system will centralize all essential details into a single, easily accessible platform. This will enable students to navigate the complexities of university life more efficiently, reducing their dependence on outdated or scattered methods of information dissemination. According to Nuguoro (2022), integrating digital tools in educational settings enhances both the accessibility and accuracy of information, leading to a more cohesive and organized student experience.

In addition to providing real-time information, the platform will introduce interactive features, such as notifications and search functions, allowing students to quickly find what they need without confusion. By incorporating a user-friendly interface, the system will be intuitive even for those unfamiliar with the campus, offering a more supportive transition into university life. The centralization of academic schedules, event notifications, and campus resources will not only improve communication but also increase student engagement by ensuring they are consistently updated on relevant activities. Nuguoro (2022) notes that centralized digital systems foster better student engagement and reduce inefficiencies caused by outdated or incomplete information, further emphasizing the potential impact of this solution on student satisfaction and academic success.

3.3 High-Level Model of the Proposed System

The high-level model of the proposed system will include:

- **Front-End (UI/UX):** A responsive user interface built using HTML and CSS, ensuring compatibility with multiple devices and screen sizes.
- **Backend Logic:** JavaScript will be used to handle dynamic functionalities like real-time updates and personalized data retrieval.
- **Database:** A robust database will be developed to manage and organize class schedules, venues, course codes, and campus events. This database will be integrated into the system using server-side scripts to ensure efficient data management.
- **User Roles:** There will be different levels of access—students will view personalized schedules, while administrators can update class information and manage campus events.

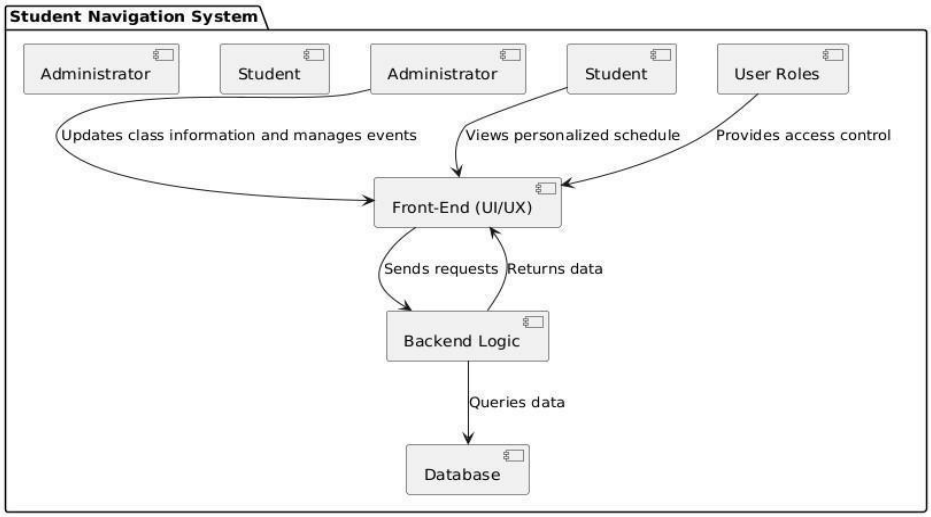

Figure 2: Diagrams for the Proposed System

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3.4 Data Flow Diagram (DFD)

This diagram will represent the flow of data from input (student requests) to the database and back to the user interface with personalized information.

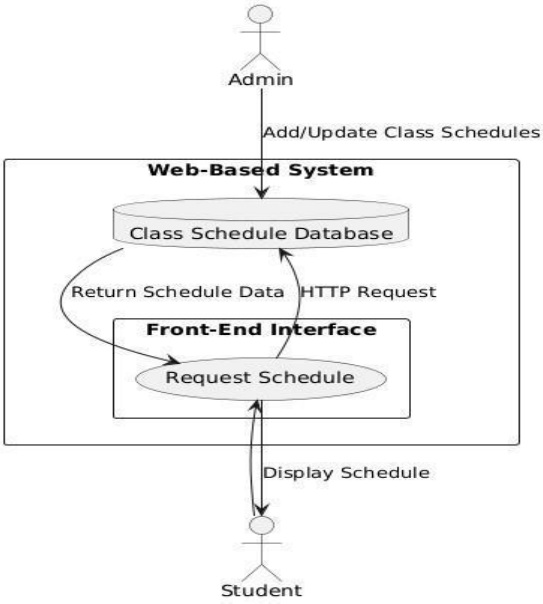

Figure 3: Data Flow Diagram of the proposed system

3.5 Use Case Diagram

This will demonstrate the various interactions between students and administrators with the system. The two primary user groups interacting with the system are the administrators and the students. Administrators will be responsible for managing and updating critical information within the system, such as class schedules, campus events, course details, and venue locations. They will have access to administrative functionalities, including the ability to add, modify, or remove data, as well as generate reports or notifications for students. On the other hand, students, as general users, will interact with the system to access the information provided by the administrators. They will be able to view class schedules, campus maps, and event updates, and receive real-time notifications about any changes. Students can also personalize their experience by selecting specific courses or events that are relevant to them. This interaction between the two user groups will ensure that the system operates smoothly, with administrators providing accurate data and students accessing it in a user-friendly and efficient manner.

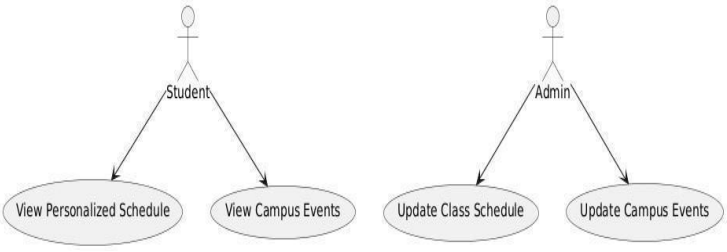

Figure 4: Use Case Diagram of the proposed system

3.6 Sequence Diagram

The sequence diagram illustrates the process of how a student's request for class schedule information is handled in real-time within the web-based digital student guide system. It begins when the student submits a request through the web application, prompting the application to query the database for the relevant class schedule details. The database then retrieves and sends back the requested information, including class times and locations, which the web application formats and displays to the student. Following this, the web application checks for any updates to the schedule, ensuring that the student receives the most current

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information. If any updates are available, the system promptly notifies the student of these changes, enhancing their access to timely and accurate academic information and improving their overall experience.

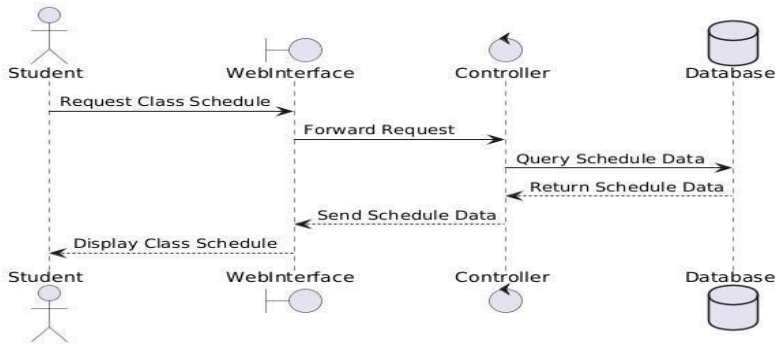

Figure 5 Sequence Diagram of the proposed system

IV. OBJECTIVES OF THE DESIGN

The primary objectives of the system design focused on developing a user-friendly interface that facilitated seamless navigation for students seeking various resources. This design aimed to significantly enhance the overall user experience by ensuring that all features were not only functional but also intuitive, enabling users to access information efficiently and effectively. Emphasis was placed on improving accessibility for all students, including those with disabilities, by incorporating best practices in web design. Furthermore, the system was envisioned to be scalable, allowing for future enhancements and adaptations in response to evolving user needs and technological advancements. This scalability ensured that the system remained relevant and continued to provide valuable resources as the user base grew and changed over time, ultimately supporting a dynamic learning environment.

4.1 Control Centre/Main Menu

The Control Centre/Main Menu serves as the primary hub for navigating the student guide system. From this central interface, users, particularly new students, can access various essential services. Key functions include viewing directions to different campus locations, accessing course registration options, checking academic results, and exploring important resources like lecture materials and bus routes. The Control Centre also links to specialized sections, such as the student registration section and screening map, enabling users to seamlessly interact with vital academic and administrative information. This menu ensures an organized and efficient student experience.

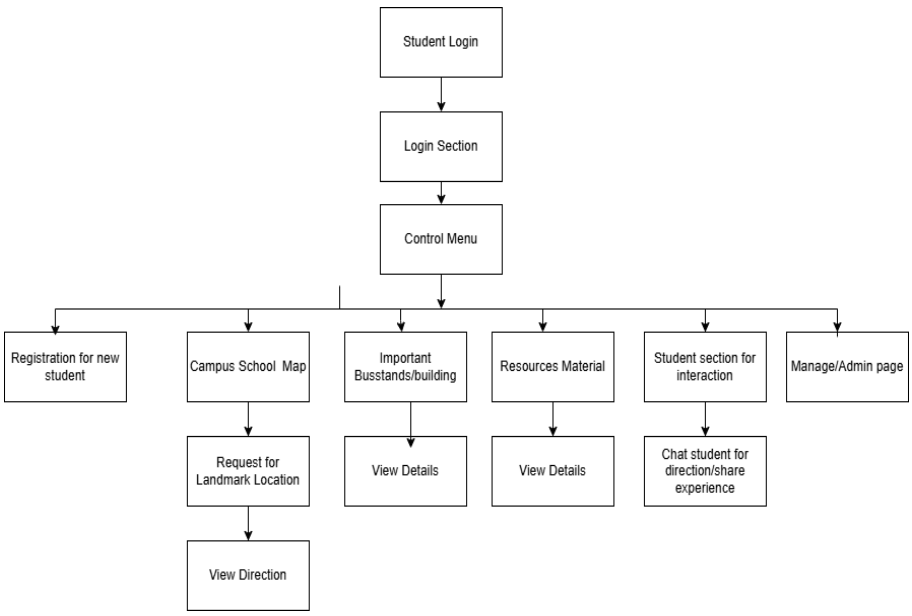

Figure 6: Control Centre/Main Menu

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4.2 Database Development Tool

For this project, we utilized MongoDB, a NoSQL database, which allows for flexible data storage beyond traditional relational models. Unlike relational databases that use structured tables, MongoDB stores data in JSON-like documents, enabling efficient organization and retrieval. Each document contains key-value pairs, where values can be strings, numbers, Booleans, arrays, or nested objects, facilitating the nesting of related data within fewer collections.

4.3 System Implementation

The Student Information System was developed with a HP laptop having a Windows 10 operating system installed. Python version 3.10.0 was downloaded and installed on the system to write the script and build the server environment for the application. HTML, CSS, BOOTSTRAP, and JAVASCRIPT was used for the user interface design of the system.

A text editor called Visual Studio Code was used as the Integrated Development Environment to write the source code of the system. The IDE comes with powerful built-in tools and features that allows the developer to write robust, efficient, and maintainable codes. Apparently, it has an intelligent tool that detects real-time syntax errors on program statements as the developer is coding. It has an embedded Command Line Interface (CLI) and a Git support to ease the implementation process for the developer. Additionally, it provides a base for downloading and installing plugins into the text editor to ease the developer experience during coding. Python package manager 'PIP' was used to install the myriad of packages used throughout the coding phase. In addition, Python Flask framework was used as the web application framework for the system. Web Application framework represents a collection of libraries and modules that enables a web application developer to write applications without having to worry about low-level details such as protocols, thread management, etc. Flask is a micro framework based on the Werkzeug Web Server Gateway Interface (WSGI) toolkit and Jinja2 template engine. Web Server Gateway Interface (WSGI) is a standard web application development adopted as a specification for a universal interface between the web server and the web applications. Werkzeug is a WSGI toolkit, which implements requests, response objects, and other utility functions to enable building a web framework on it. Jinja2 is a popular templating engine for Python used to combine a template with a certain data source to render dynamic web pages. However, Flask framework aims to keep the core of an application simple yet extensible, and it has support for extensions that adds some functionalities such as database handling, form validation, object-relational mappers, upload handling and various open authentication technologies to the application.

The application has three front-ends; one for the lecturers, one for the students, and the other for the admin (system manager). The goal of this project is to develop an online student information system for efficient management of students' data. The final version of the UI is illustrated below:

A. Homepage for the Navigation system

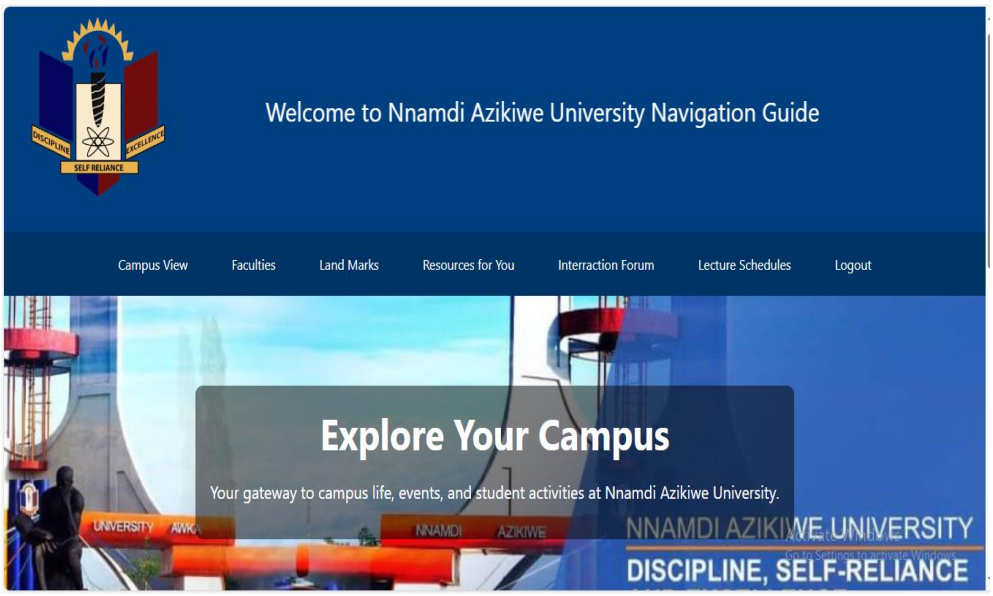

Figure 7: Home Page of the Navigating system

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Note that the illustrated in the screenshot (figure 7) above, is the landing page of the web application. This is the first page a user will land when the user visits the website.

B. Student Signup Page

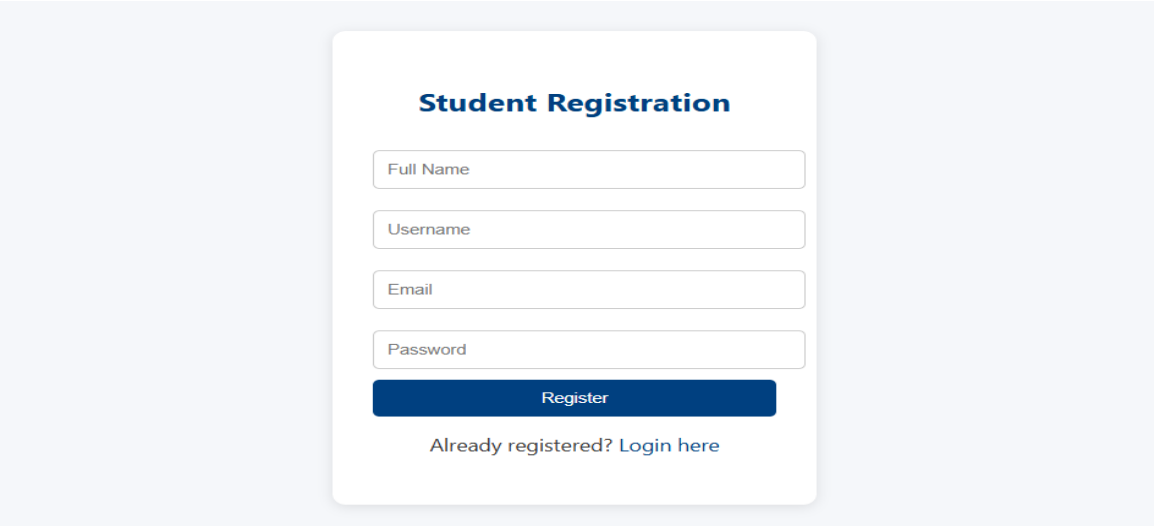

Figure 8: Student Registration Page

The screenshot above (figure 8) illustrates the Signup page. This page allows the user to create an account with the system in order to use the system. The page contains a form which captures students' data like username and password into the system and stores it in the database. This will allow the user to be able to use the system the next time they visits the system.

C. Student Login Page

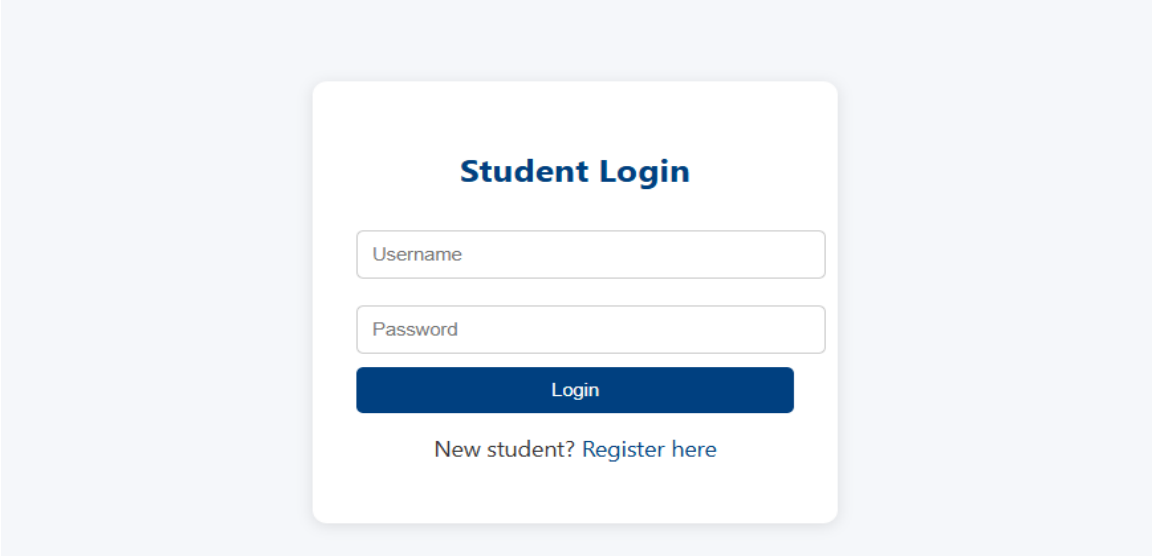

Figure 9: Student Login Page

The screenshot above (figure 9) illustrates the login page of the system. The login page contains username and the password fields. These fields collect the user's information in order to authenticate whether the user exists in the database or not. If the user exists, the system will allow the user entry into the system. However, if the user does not exist, the system will throw an error to the user, requesting they create an account with the system before using the system.

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D. Admin Dashboard

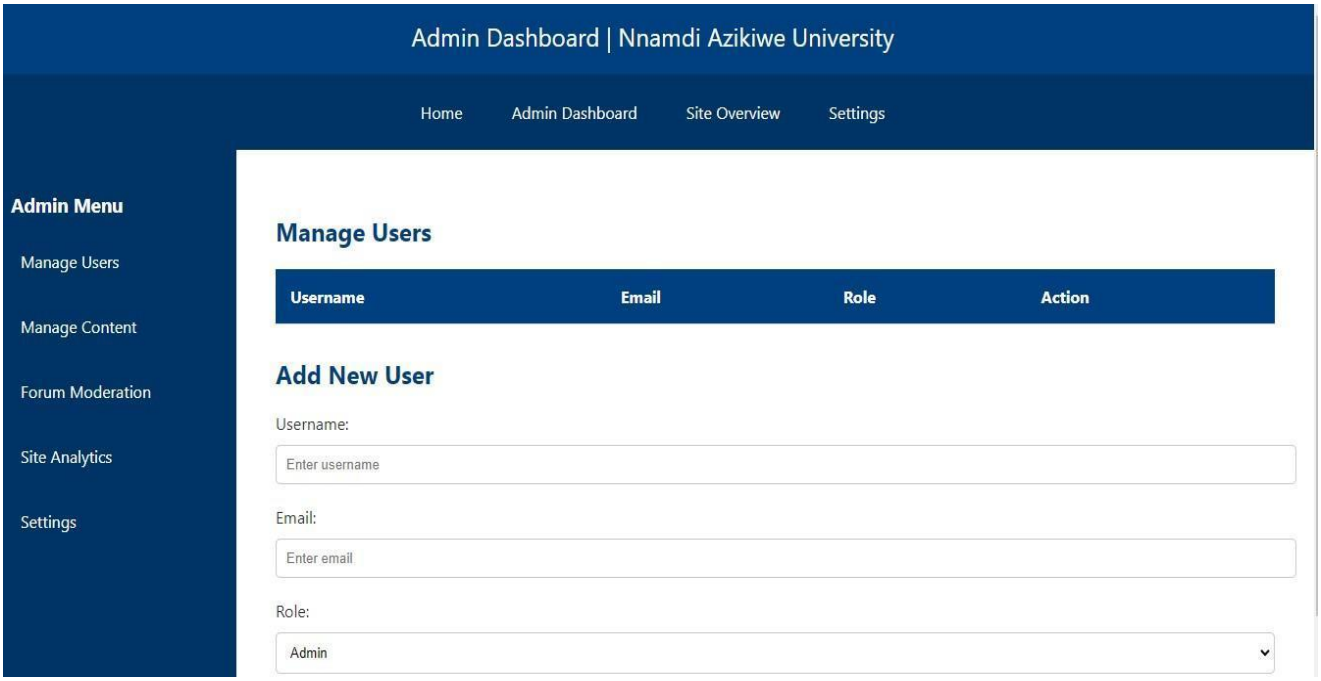

Figure 10: Admin Dashboard Screenshot

This figure 10, presents the Admin Dashboard for Nnamdi Azikiwe University, designed to facilitate efficient user management and administrative tasks. The dashboard features a prominent header that clearly identifies the application as the "Admin Dashboard," ensuring that users can quickly recognize the purpose of the interface.

The navigation menu, located directly beneath the header, provides easy access to key functionalities, including links to the home page, the admin dashboard, site overview, and settings. This organized layout enhances usability by allowing administrators to navigate seamlessly between different sections of the application. On the left side, the sidebar displays an Admin Menu with options to manage users, content, forum moderation, and site analytics. This sidebar is critical for administrators, enabling them to perform essential tasks such as adding or deleting users, monitoring site content, and analyzing site usage statistics.

In the main content area, users can view and manage the list of registered users. This section includes a table that displays user details such as username, email, role, and actions, with buttons to delete users. Additionally, there is a user-friendly form that allows administrators to add new users by entering their username, email, and role. Overall, the dashboard is designed for intuitive interaction, ensuring that administrative tasks can be performed efficiently, thereby enhancing the overall functionality of the university's online management system.

4.4 Minimum Hardware and Software Requirements

Apparently, for this project to be realistic, the following hardware and software components were used:

A. Hardware Requirements

For an effective and efficient operation of the system, the software needed the following hardware includes Intel Computer System, at least 4GB RAM, at least 100GB hard disk, Colored monitor, and an uninterruptible power supply (UPS) unit.

B. Software Requirements

The software requirements include; A windows 7 or higher version for faster processing, MongoDB Atlas or MySQL Database, Python Programming Language, Visual Studio Code or other text editors, A recent web browser (Google Chrome Preferably) and Postman (For testing HTTP Get and Post Methods).

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V. SUMMARY

The project focused on developing a student navigation website designed to help students easily access resources and find their way around campus. The website includes a variety of features, such as an interactive campus map for navigation, a repository of learning materials, and a forum where students can connect and engage with one another. The system was designed to enhance user experience, providing an intuitive interface that allows students to navigate the platform effortlessly. MongoDB was used for storing user data, ensuring scalability and flexibility in managing large amounts of information. The platform successfully meets the needs of students by providing essential tools for both academic and social engagement.

5.1 Conclusion

The student navigation website achieved its primary objectives by offering a user-friendly platform that simplifies navigation and access to resources for students. The inclusion of a campus map, learning materials, and a student forum ensures that users have a comprehensive tool to assist with both academic and social needs. The use of MongoDB for database management allowed for efficient handling of data, ensuring that the platform can grow alongside its user base. Overall, the project successfully provided an effective solution to help students manage their academic lives and connect with peers.

5.2 Application Areas

This student navigation website can be applied across educational institutions to assist new students in adapting to campus life. It is especially useful for universities and colleges looking to improve student engagement and provide easy access to academic resources. The platform can also be adapted for use in other settings, such as employee on boarding in corporate environments or community engagement within large organizations.

5.3 Suggestion for Further Research

Further research could explore the integration of real-time navigation with GPS functionality for better campus way finding. Additionally, incorporating AI-based recommendation systems to suggest relevant study materials or peer groups based on user behavior could enhance personalization. Mobile app development would further increase accessibility for students on the go. Further exploration into adding advanced features, such as event notifications or integration with university portals for academic updates, would also make the platform more versatile.

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APPENDIX - A

```
<!DOCTYPE html>
<htmllang="en">
<head>
 <metacharset="UTF-8">
 <metaname="viewport"content="width=device-width, initial-scale=1.0">
 <title>Resources</title>
 <style>
  body, html {
   margin: 0;
   padding: 0;
   font-family: 'Arial', sans-serif;
   background-color: #f7f8fc;
   color: #333;
  }
  header {
   background-color: #003366;
   color: white;
   padding: 20px;
   text-align: center;
   font-size: 36px;
  }
  .content {
```


International Research Journal of Innovations in Engineering and Technology (IRJIET)
ISSN (online): 2581-3048
Volume 9, Issue 2, pp 41-57, February-2025
https://doi.org/10.47001/IRJIET/2025.902007

```
  padding: 40px;
  text-align: center;
}
.content h2 {
  color: #003366;
  font-size: 32px;
  margin-bottom: 20px;
}
.content p {
  font-size: 18px;
  margin-bottom: 30px;
}
.resources-section {
  display: flex;
  justify-content: space-around;
  flex-wrap: wrap;
  margin-bottom: 50px; /* Ensure bottom margin for better visibility */
}
.resource {
  background-color: #fff;
  padding: 20px;
  margin: 20px;
  width: 28%; /* Reduced width for better alignment */
  border-radius: 8px;
  box-shadow: 0 5px 10px rgba(0, 0, 0, 0.1);
  transition: all 0.3s ease; /* Added smooth transition for hover effect */
}
.resource:hover {
  transform: scale(1.05); /* Slight zoom effect on hover */
}
.resource h3 {
  color: #003366;
  font-size: 24px;
}
.resource-details {
  display: none;
  text-align: left;
  padding-top: 10px;
}
.resource-details ul {
  list-style-type: none;
```


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ISSN (online): 2581-3048
Volume 9, Issue 2, pp 41-57, February-2025
https://doi.org/10.47001/IRJIET/2025.902007

```
    padding: 0;
   }
   .resource-details ul li {
    margin: 8px 0;
   }
   .toggle-resource-btn {
    background-color: #003366;
    color: white;
    padding: 10px 20px;
    border: none;
    border-radius: 5px;
    cursor: pointer;
    margin-top: 10px;
    transition: background-color 0.3s;
   }
   .toggle-resource-btn:hover {
    background-color: #002244;
   }
   footer {
    background-color: #003366;
    color: white;
    padding: 20px;
    text-align: center;
    position: fixed;
    bottom: 0;
    width: 100%;
   }

   /* Ensure that on smaller screens, the resources stack vertically */
   @media (max-width: 768px) {
    .resource {
     width: 100%; /* Full width on smaller screens */
    }
   }
  </style>
</head>
<body>

 <!-- Header -->
 <header>
  Student Resources
```


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ISSN (online): 2581-3048
Volume 9, Issue 2, pp 41-57, February-2025
https://doi.org/10.47001/IRJIET/2025.902007

```
</header>

<!-- Resources Section -->
<divclass="content">
 <h2>Find Helpful Resources</h2>
 <p>Explore academic materials, tools, and more to assist you in your academic journey.</p>
</div>

<divclass="resources-section">

 <!-- Library Resources -->
 <divclass="resource">
  <h3>Library Resources</h3>
  <p>Access books, journals, and research papers.</p>
  <buttonclass="toggle-resource-btn">View More</button>
  <divclass="resource-details">
   <ul>
    <li><ahref="#"target="_blank">Digital Library Access</a></li>
    <li><ahref="#"target="_blank">Research Databases</a></li>
    <li><ahref="#"target="_blank">E-Journals</a></li>
   </ul>
  </div>
 </div>

 <!-- Academic Tools -->
 <divclass="resource">
  <h3>Academic Tools</h3>
  <p>Enhance your learning with these essential academic tools.</p>
  <buttonclass="toggle-resource-btn">View More</button>
  <divclass="resource-details">
   <ul>
    <li><ahref="calculator.html"target="_blank">Online Calculator</a></li>
    <li><ahref="cgpa.html">CGPA Calculator</a></li>
    <li><ahref="#"target="_blank">Citation Generator</a></li>
   </ul>
  </div>
 </div>

 <!-- Career Resources -->
 <divclass="resource">
  <h3>Career Resources</h3>
```

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ISSN (online): 2581-3048
Volume 9, Issue 2, pp 41-57, February-2025
https://doi.org/10.47001/IRJIET/2025.902007

```
    <p>Prepare for your career with these job search and skill development resources.</p>
    <buttonclass="toggle-resource-btn">View More</button>
    <divclass="resource-details">
      <ul>
        <li><ahref="#"target="_blank">Job Board</a></li>
        <li><ahref="#"target="_blank">Resume Builder</a></li>
        <li><ahref="#"target="_blank">Skill Development Courses</a></li>
      </ul>
    </div>
  </div>

</div>

<!-- Footer -->
<footer>
  &copy; 2024 Nnamdi Azikiwe University | Student Resources
</footer>

<!-- JavaScript to toggle resource details -->
<script>
  document.querySelectorAll('.toggle-resource-btn').forEach(button=> {
    button.addEventListener('click', () => {
      constdetails = button.nextElementSibling;
      if (details.style.display === 'block') {
        details.style.display = 'none';
        button.textContent = 'View More';
      } else {
        details.style.display = 'block';
        button.textContent = 'View Less';
      }
    });
  });
</script>

</body>
</html>
```

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Volume 9, Issue 2, pp 41-57, February-2025

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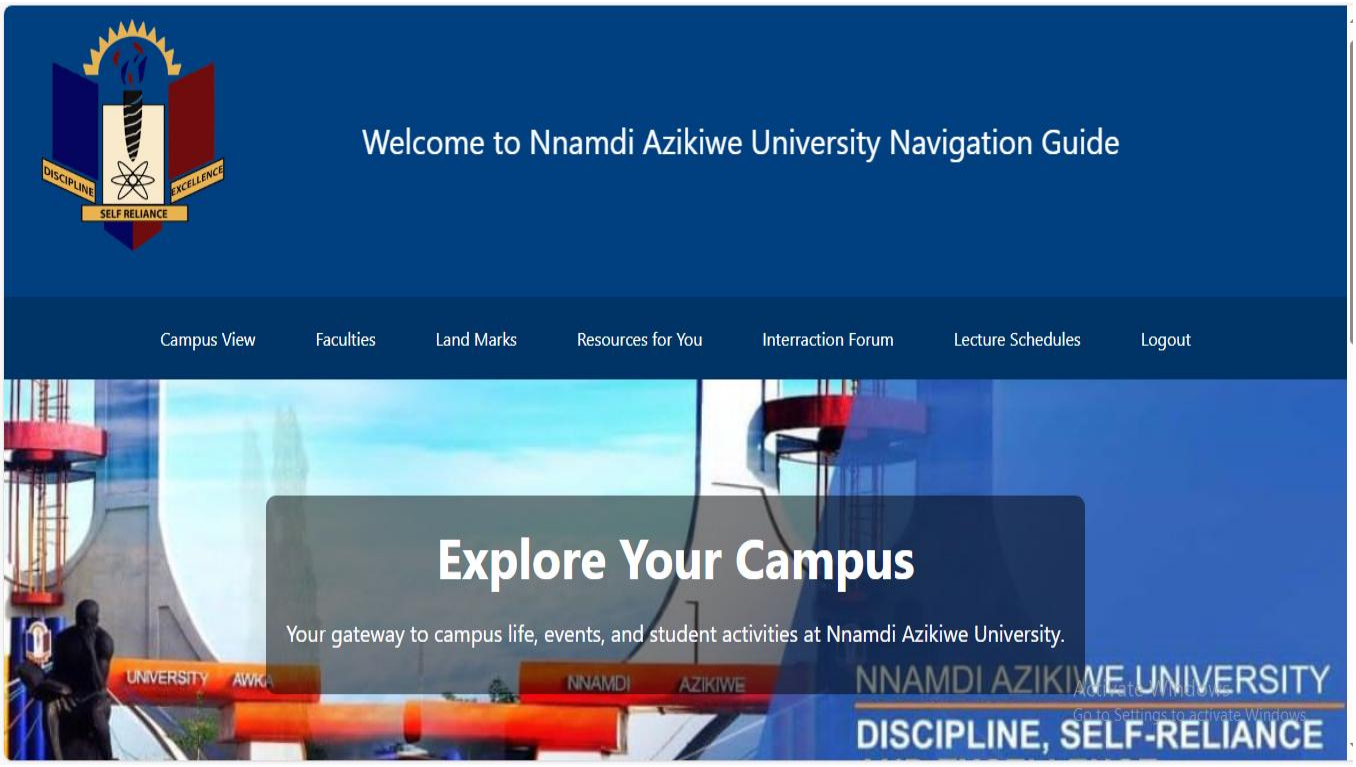
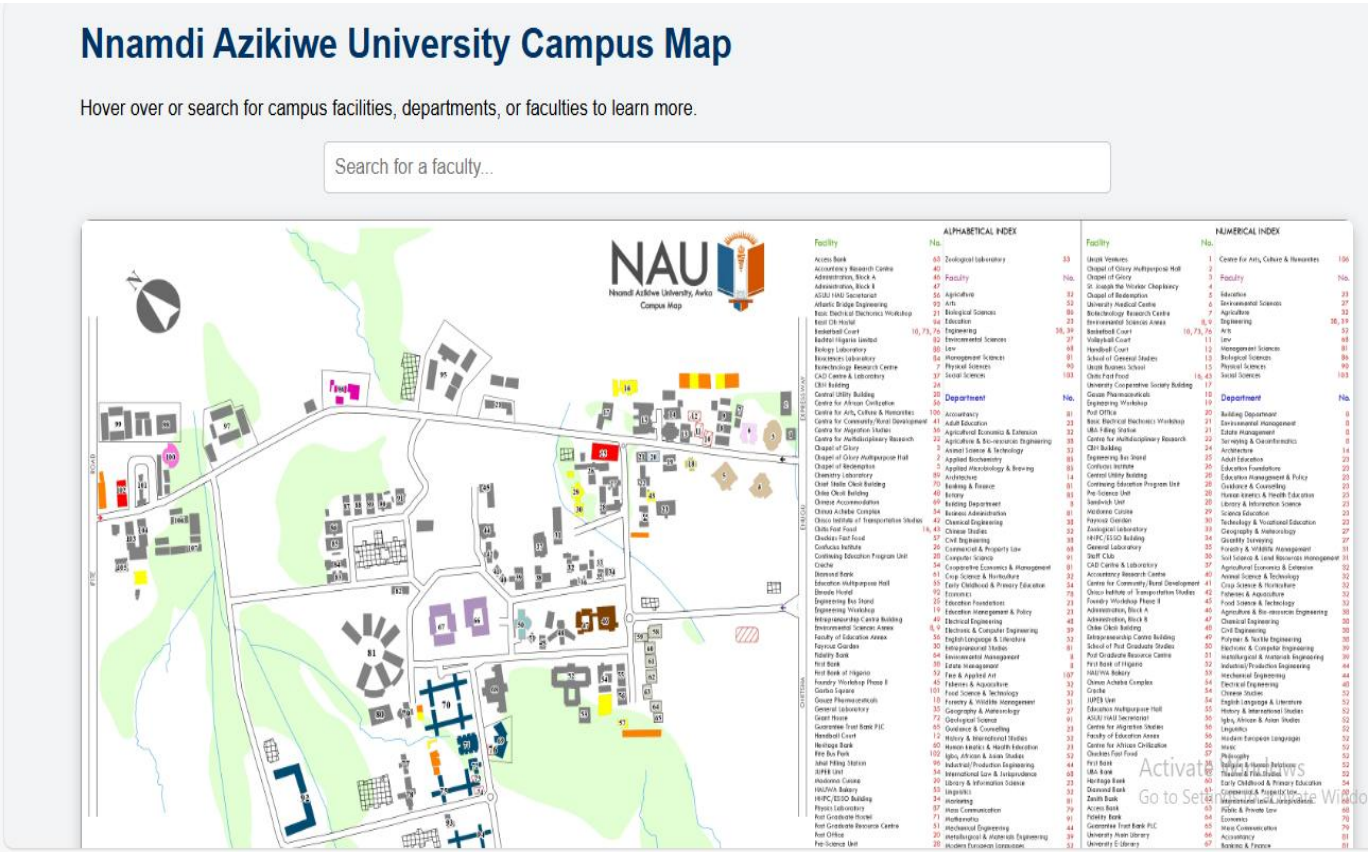
APPENDIX - B





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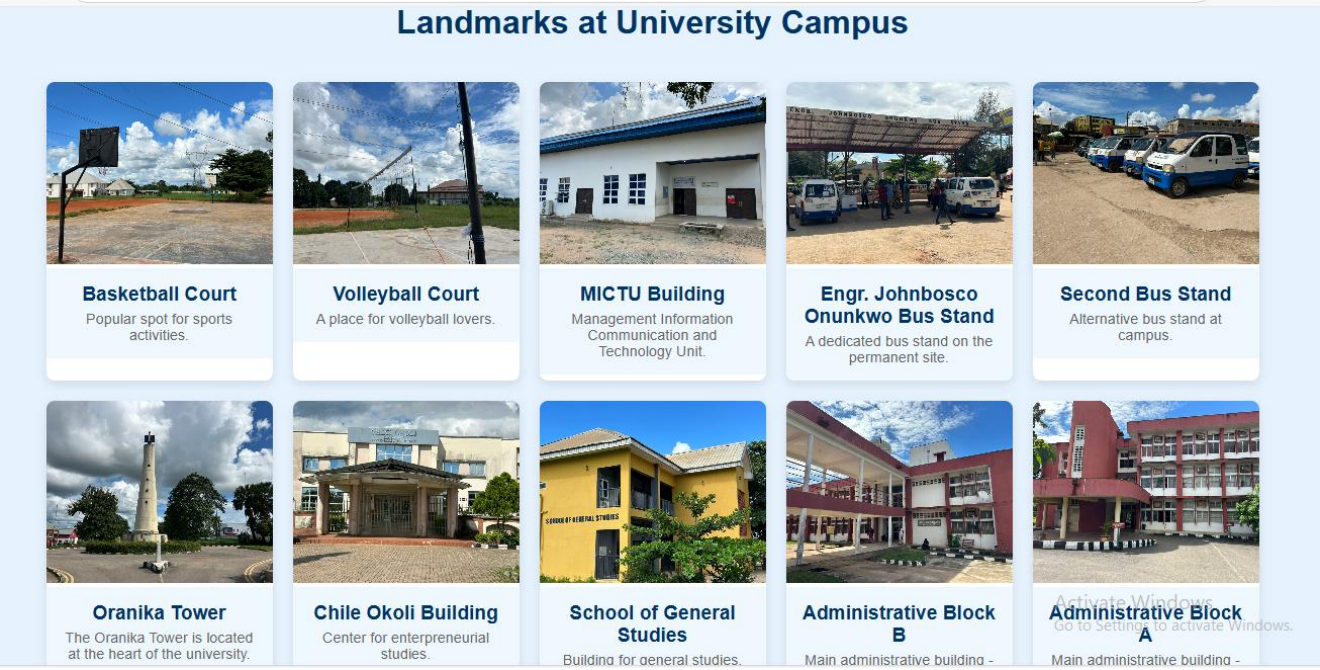

****

