

**DESIGN & IMPLEMENTATION OF UNIBEN STUDENTS
ENGAGEMENT/EXPRESSION PLATFORM**

BY

**OMOJATE MICHAEL OSAS
PSC2105385**

**DEPARTMENT OF COMPUTER SCIENCE,
FACULTY OF PHYSICAL SCIENCES,
UNIVERSITY OF BENIN,
BENIN CITY, EDO STATE, NIGERIA.**

NOVEMBER - 2025

CERTIFICATION

This is to certify that this project work was carried out by **OMOJATE MICHAEL OSAS** with matriculation number **PSC2105385** under my supervision. It is adequate and satisfactory, both in scope and content, for the award of Bachelor of Science (B.sc) Degree in Computer Science of the University of Benin.

Supervisor's Signature

Supervisor's Signature

Date

Date

APPROVAL

This project work is hereby approved in partial fulfilment of the requirements for the award of Bachelor of Science (B.Sc.) Degree in Computer Science from the University of Benin.

Dr. (Mrs) A.R. Usiobaifo

Head of Department

Date

ACKNOWLEDGEMENT

My utmost acknowledgement goes to God Almighty for giving me the strength, wisdom and direction throughout my academic journey. I am extremely thankful to my parents, **Mr and Mrs. Omojate** for their unconditional love and support during this period. My sincere appreciation also goes to my siblings, for the unwavering love and support. I would like to express my gratitude to my project supervisor, Mr. I.E. Obasohan, for his guidance towards ensuring the successful completion of this project.

I would also like to specially thank our Head of Department, Dr. (Mrs.) G.O Aziken, and other lecturers in the Department of Computer Science who I have been opportune to cross paths with, and have impacted me immensely these past few years: Prof. G.O. Ekuobase, Dr. F.O. Oliha, Prof. K.C. Ukaoha, Prof. A.A. Imiavan, Prof. (Mrs.) F. Egbokhare, Prof. (Mrs.) V.V.N. Akwukwuma, Prof. (Mrs.) A.O. Egwali, Prof. (Mrs.) S. Konyeha, Prof. (Mrs.) V.I. Osubor, Prof. F.I. Amadin, Dr. F.O. Chete, Dr. (Mrs) R.O. Osaseri, Dr. J.C. Obi, Mr. P. E.B. Imiefoh, Mr. S.O.P. Oliomogbe, Mr. K.O. Otokiti, Mr. I.E. obayagbonna, Mrs. R.I. Izevbizua, Mr. E.C. Igodan, Miss L.O.Usiosefe, Mr J. Okhuoya, Prof. F.A.U. Imouokhome, Mrs. J.I. Adun, Dr. E. Nweli and Mr. D.N. Idehen.

Finally, I would also like to thank my friends and coursemates for their support, words of encouragement, and consistent guidance throughout this project.

TABLE OF CONTENTS

Contents

CERTIFICATION	i
APPROVAL	ii
ACKNOWLEDGEMENT	iii
TABLE OF CONTENTS	iv
LIST OF FIGURES	vi
ABSTRACT	vii
CHAPTER 1	1
INTRODUCTION	1
1.0 BACKGROUND STUDY	1
1.1 RESEARCH MOTIVATION	3
1.3 GOAL AND OBJECTIVES	4
1.4 SCOPE OF RESEARCH	4
1.5 RESEARCH SIGNIFICANCE	5
CHAPTER 2	6
LITERATURE REVIEW	6
2.0 STUDENT ENGAGEMENT AND EXPRESSION: AN OVERVIEW	6
2.1 ADOPTION OF ENGAGEMENT/EXPRESSION MODELS: FROM INCEPTION TO PRESENT	7
2.1.2 EARLY ONLINE FORUMS AND MESSAGING PLATFORMS	7
2.1.3 RISE OF SOCIAL NETWORKING PLATFORMS	8
2.1.4 EMERGENCE OF INSTANT MESSAGING AND MOBILE PLATFORMS	8
2.2 ONLINE COMMUNITIES AND STUDENT PARTICIPATIONON	8
2.3 INFRASTRUCTURE BARRIERS TO ONLINE INTERACTION/LEARNING	10
2.4 SUMMARY OF RELATED WORKS	12
Table 2.1: Summary Table of Related Works	14
CHAPTER 3	16
SYSTEM ANALYSIS AND DESIGN	16
3.0 SYSTEM ANALYSIS	16
3.1 ANALYSIS AND PROBLEMS OF EXISTING SYSTEM	17
3.2 OVERVIEW OF PROPOSED SYSTEM	18

3.3 PROPOSED SYSTEM ARCHITECTURE AND INTERFACE	20
3.4 SYSTEM DESIGN	24
3.5 SYSTEM DESIGN TOOLS	25
CHAPTER 4	29
SYSTEM IMPLEMENTATION, TESTING AND EVALUATION	29
4.0 SYSTEM IMPLEMENTATION PLATFORM (TOOLS)	29
4.1 PROGRAMMING LANGUAGES USED	31
4.2 INTEGRATION AND OPTIMIZATION PLUGINS	33
4.3 DEPLOYED/LIVE WEBSITE	34
4.3.1 HOMEPAGE AND MENU	35
4.3.2 REGISTER/LOGIN	36
4.3.3 NOTIFICATIONS AND ALERTS	37
4.3.4 COMMUNITY FORUM	38
4.3.5 PARTICPANTS/MEMBERSHIP SECTION	41
4.3.6 BLOG SECTION	42
4.4 EVALUATION AND TESTING	43
CHAPTER 5	45
CONCLUSION AND CHALLENGES FACED	45
5.0 CONCLUSION	45
5.1 CHALLENGES FACED	46
REFERENCES	48

LIST OF FIGURES

- Figure 1: Client Side Layer Architecture**
- Figure 2: Server Side Layer Architecture**
- Figure 3: Integration Layer Architecture**
- Figure 4: Student Dashboard Layer Architecture**
- Figure 5: Admin Layer Architecture**
- Figure 6: Landing Page Design For Desktop**
- Figure 7: Simplified Login Workflow**
- Figure 8: Simplified Engagement Workflow**
- Figure 9: Harmonweb Domain/Hosting Dashboard**
- Figure 10: Desktop and Mobile View Of Live Website**
- Figure 11: Menu With Its Off-Canvas Contact Us Form**
- Figure 12: Register And Sign In Pages**
- Figure 13: System Notification and Gmail Alerts**
- Figure 14: Website Forum Section**
- Figure 15: Forum Post Draft and Quote Reply Sample**
- Figure 16: Recent Post Section**
- Figure 17: Forum Information Board**
- Figure 18: Member/User Profile**
- Figure 19: Platform Blog Section**
- Figure 20: Site Testing With Google's Pagespeedinsight**

ABSTRACT

The absence of a structured and secure channel for student expression at the University of Benin (UNIBEN) has left many important issues overlooked or unheard. Existing options, such as social media platforms, are often unsafe, unorganized, and unable to provide anonymity or encourage honest expression without fear of judgment or ridicule. This project (*Design and Implementation of UNIBEN Students Engagement/Expression Platform*) seeks to address these challenges by creating a dedicated, moderated, and student-centered platform that empowers the UNIBEN community to share experiences and highlight everyday student concerns.

The platform will be designed and developed using **Figma**, **WordPress**, and other **essential web tools** to ensure a responsive, user-friendly, and scalable interface. Core features will include anonymous story submissions, categorized topics such as academics, housing, finance, and safety, as well as interaction options like comments and feedback under strict moderation.

Security and visibility will remain top priorities through features such as anti-bot protection, content approval workflows, and privacy safeguards that encourage open participation. By providing a safe and structured space for expression, the project not only amplifies underrepresented student voices but also sets the foundation for future growth, including AI-driven content moderation, story highlights, and also more development for broader accessibility.

CHAPTER 1

INTRODUCTION

1.0 BACKGROUND STUDY

The ability of students to freely express themselves and interact with one another has always been an important part of university life. These interactions not only allow students to share experiences but also give them a chance to voice concerns and connect over common challenges. At the University of Benin (UNIBEN), this tradition has been consistent. Over the years, students have discussed issues ranging from academic stress and housing shortages to financial struggles and broader social matters that affect life on and off campus.

However, the methods students often use to communicate have been informal and unstructured, making it hard to share ideas effectively. Before the internet, students relied on in-person meetings, student union events, campus radio, and printed newsletters. While these methods created some level of engagement, they had limited reach. For example, students with busy schedules or those who lived off campus often missed important discussions and events. This lack of inclusiveness meant that many voices were left unheard. In addition, the informal nature of these interactions sometimes caused misunderstandings and miscommunication.

Notice boards across campus sometimes carried personal statements or petitions, but their impact depended on how many people passed through those areas. Word-of-mouth exchanges, though useful, were usually short-lived and easily forgotten. Without a more organized system, many important issues failed to gain the attention they needed. This left some students feeling isolated or ignored. It also highlighted the need for a structured and reliable way to amplify student voices, strengthen community spirit, and create lasting impact within the university.

The rise of the internet transformed communication worldwide and also changed how students expressed themselves. With the growth of social networking platforms in the early 2000s, students found new ways to share ideas and form communities beyond

physical spaces. Facebook, launched in 2004, quickly became popular among Nigerian students. By 2010, its “Groups” feature supported academic discussions as well as broader conversations on campus life and social issues. WhatsApp, which introduced group chats in 2011, also became an essential tool for sharing information and building community. These platforms made communication faster and allowed students to coordinate events, exchange resources, and support one another in real time.

Despite these benefits, social media was not designed for safe or structured student expression. Serious posts were often lost among entertainment content, making meaningful dialogue difficult. Sensitive topics could attract ridicule or misinterpretation, discouraging honest conversations. Anonymity, which could have protected students discussing personal issues, was often difficult to maintain.

According to a 2021 Statista report, more than 33 million Nigerians actively used Facebook. Yet, its open environment made it difficult to sustain serious discussions. Students trying to raise issues such as harassment, poor living conditions, or academic concerns often faced spam, cyberbullying, or backlash. The fear of such negative responses caused many to remain silent, leaving important matters unresolved.

The problem became clearer as social media platforms began prioritizing entertainment over personal stories, reducing the visibility of serious conversations. Lack of proper moderation and anonymity also left students vulnerable. At UNIBEN, these challenges are evident. With a large and diverse student body, many important stories go untold—from housing shortages in areas like Ekosodin to administrative irregularities and mental health struggles. Yet, these issues rarely reach decision-makers or lead to constructive action.

This project seeks to close these gaps by creating a dedicated UNIBEN Students Engagement and Expression Platform. The platform will include sections for academics, housing, finance, safety, and personal experiences. It will also feature anonymous posting, moderation tools, search engine optimization (SEO), and structured indexing. These features will make discussions more visible, safe, and meaningful. By providing a

secure and organized hub for expression, the project aims to amplify student voices, promote constructive dialogue, and help ensure that concerns lead to real improvements in university life.

1.1 RESEARCH MOTIVATION

The motivation for this project comes from the need to address the difficulties students face when trying to share their experiences and discuss issues at UNIBEN. Although platforms such as WhatsApp and Facebook provide means of communication, they are often disorganized, unsafe, and lack proper structure. Important conversations are easily buried under unrelated content, and many students avoid raising sensitive matters for fear of judgment or backlash. As a result, several voices go unheard because there is no dedicated space for meaningful dialogue. This project seeks to fill that gap by creating a safe and well-structured platform where students can share their stories, draw attention to important campus concerns, and take part in constructive discussions without the fear of negative reactions.

1.2 PROBLEM DEFINITION

Even with modern communication tools and the growth of social media, students at UNIBEN still struggle to express themselves and share personal or campus-related concerns. The major challenges include:

- **Cluttered Communication Channels:** Platforms like WhatsApp and Facebook, which began as spaces for academic or social interaction, are now filled with unrelated content. This makes it difficult for serious discussions to stand out or gain proper attention.
- **Fear of Judgment or Backlash:** Many students avoid sharing sensitive experiences because of the risk of embarrassment, ridicule, or social stigma.
- **Lack of Anonymity:** Most popular platforms do not support anonymous posting, limiting the freedom to discuss personal or controversial issues openly.

- **Low Visibility of Issues:** Important stories and grievances are often overshadowed by unrelated posts or forgotten quickly, stopping them from reaching a wider audience or prompting meaningful action.
- **No Structured Moderation:** Without a safe and organized system, there is no reliable way to guide discussions, check credibility, or ensure respectful participation.

1.3 GOAL AND OBJECTIVES

Goal: The main goal of this project is to create a secure, structured, and student-focused online platform that allows UNIBEN students to express themselves freely, share personal experiences, and engage in meaningful discussions, while also ensuring safety, anonymity, and constructive dialogue.

Objectives:

- Develop a centralized hub where students can share stories, opinions, and concerns in an organized and accessible manner.
- Ensure privacy and safety by providing anonymous posting, moderation tools, and clear content guidelines to protect students from harassment or backlash.
- Improve visibility and engagement by categorizing content, applying SEO optimization, and including interactive features such as comments and feedback under strict moderation.
- Empower student voices by preserving their stories and creating opportunities for these narratives to raise awareness, spark dialogue, and drive positive change within and beyond the campus.

1.4 SCOPE OF RESEARCH

This study will focus on creating an online platform that supports student engagement and expression at UNIBEN. It will cover key areas such as platform design, user interface and experience, content categorization, and security features that allow anonymity and proper moderation. The study will also examine how search engine optimization (SEO) can improve the visibility of student discussions, while addressing

the ethical issues involved in handling sensitive stories and maintaining a safe online environment. Overall, the research aims to provide practical insights into the development, implementation, and management of a secure and structured web-based platform that meets the communication needs of the campus community.

1.5 RESEARCH SIGNIFICANCE

This project is significant to the UNIBEN community because it addresses long-standing challenges students face in sharing experiences and raising awareness about important issues. By providing a structured, secure, and anonymous platform, it removes the fear of judgment, ensures that student voices are heard, and creates a respectful space for open dialogue. It also helps serious topics stay visible and accessible instead of being lost in unorganized communication channels.

Beyond serving UNIBEN, the platform can act as a model for other universities in Nigeria, showing how a well-managed, localized solution can meet the unique needs of a campus community. Its value also lies in its long-term impact, as it can continue to give students a voice and promote healthy engagement for years to come. Overall, the project demonstrates how technology, when applied with a community-centered approach, can empower individuals, strengthen connections, and drive meaningful change.

CHAPTER 2

LITERATURE REVIEW

2.0 STUDENT ENGAGEMENT AND EXPRESSION: AN OVERVIEW

According to several research papers, history books and documented articles, it has been shown, with proof, that universities and higher education many centuries ago had their focus only on teaching, research and producing educated people. Of course, that was what schools were meant for but very few people thought of the influence which life outside the classrooms and lecture halls had on students and their overall ability to keep up with learning. Issues about student life outside the classroom were not given much attention. Students had to manage their own challenges and find solutions by themselves, often without support. As time went on, it became clear that learning was not only about academics but also about creating an environment where students could interact, express themselves, and get help with daily challenges (Sabodogo, 2024).

Studies reveal that as universities expanded and the number of students grew, higher institutions gradually began to pay more attention to student life beyond the classroom. This shift marked the beginning of formal student affairs, where schools created chances and opportunities to better understand and address the needs of their students. In many universities, notice boards, bulletins, and newsletters became important tools for communication. They allowed students to stay updated on campus activities, voice concerns, and engage in discussions about academic and social matters. These physical methods, though simple, gave students their first sense of being part of a wider campus community (Ericksen, 2022).

Over time, the idea of managing student affairs became more recognized as an important part of university administration. In fact, history shows that student affairs as a distinct professional field began with regards to Anglo-Americans during the late 19th century, with roles such as “dean of women” and “dean of men.” In Europe, the field developed much later, beginning around the 1950s, but it grew quickly in the 1990s

through processes like the Bologna reform. This global development showed that universities could no longer focus only on teaching; they also had to support the personal and social needs of students.

Online tools for students began in the late 1990s with early learning systems like **Blackboard**, which launched in 1998. It was one of the first platforms to go beyond just course materials by letting students talk with each other and professors online. These systems eventually added more social and community features. Later, social media, especially after Facebook's debut in 2004, gave students new ways to connect and share. But these platforms were not designed for deep or serious discussions, and important topics could get lost among casual posts and fun content.

2.1 ADOPTION OF ENGAGEMENT/EXPRESSION MODELS: FROM INCEPTION TO PRESENT

The ways students communicate and express themselves have changed significantly over time, moving from physical methods like notice boards to digital spaces such as forums, social media, and dedicated platforms. Each stage of this evolution has introduced new opportunities for interaction while also presenting fresh challenges in terms of organization, safety, and inclusivity.

2.1.2 EARLY ONLINE FORUMS AND MESSAGING PLATFORMS

As stated earlier, before modern social media, students often relied on physical forums such as bulletins and notice boards to exchange information and express their concerns. There was also the option of physically meeting with top figures to discuss on pressing issues students face outside the schooling environment but only selected individuals were allowed to be in these meetings. With the rise of the internet in the late 1990s and early 2000s, these traditional methods began to evolve into online forums and messaging platforms. Students could now engage in discussions beyond physical spaces, connecting through web forums, email groups, and early chat rooms. These platforms gave students the ability to share ideas, ask for help, and engage in conversations that were not limited by time or location.

2.1.3 RISE OF SOCIAL NETWORKING PLATFORMS

After early online forums and webpages, social networking platforms such as MySpace (2003) and then Facebook (2004) emerged and quickly became popular among university students. In Nigeria, studies show that Facebook is widely used among undergraduates for both social interaction and academic communication, though its influence on academic performance is mixed. For instance, one study across three federal universities found that Facebook use did not significantly affect students' grades, but it could be used to support learning and education. Another study at Godfrey Okoye University in Enugu noted that students primarily used Facebook for socializing rather than academic purposes, which could negatively impact their studies.

2.1.4 EMERGENCE OF INSTANT MESSAGING AND MOBILE PLATFORMS

As social media evolved, messaging apps like WhatsApp began serving as essential tools for student interaction. Unlike social networking options (e.g. Facebook groups), students were now able to use instant messaging applications which focused on privacy, low bandwidth usage and fast communication. With it and other new age messaging platforms, students were able to leap far ahead from the constraints of communication through normal SMS. Platforms like these gave students the opportunity to communicate with multimedia sharing, voice/video messages at a low cost.

A study at the University of Abuja, revealed that WhatsApp groups foster collaborative learning among undergraduates, driven by how easy and useful students found the platform (Udenze S., Oshionebo, 2020). In North Central Nigeria, research showed that WhatsApp helps students stay engaged with course materials and receive timely reminders from lecturers. Though some reported it could also be a distracting tool that may often take students off the tracks of learning (Akuto et al., 2023).

2.2 ONLINE COMMUNITIES AND STUDENT PARTICIPATION

Online communities are digital spaces where students interact and learn together, and with the technological age we are in, these communities are to be considered very important for higher education. Research shows that when students participate in these

communities, their learning, motivation, and feeling of belonging all get much better. Studies also reveal that in these digital platforms, users aren't just consumers; they also create content. This kind of active involvement does more in terms of helping because it generally makes the community stronger and more sustainable (Malinen, 2015).

In another peer-reviewed study (Gao et al., 2024), participation in online communities takes many forms. While some students are **active contributors**, others are **lurkers** who prefer to observe, and some remain **outsiders**. This research along with several others shows that even passive observation is enough to be a benefit, as students can learn from watching how their peers solve problems and engage in discussions. At a broader level, creating a sense of community is linked to better student results. Learning communities foster a stronger sense of belonging, which in turn improves academic performance and student retention. This has been proven in recent real-world analysis, including a randomized-control trial at a public university that found a learning community for first-year students increased retention.

In Nigeria, the shift to online learning during the COVID-19 pandemic revealed both its strength and its limitations. A large study of university students across the country found that many had a positive view of online education, believing it helped them continue their studies. They saw it as a valuable tool for academic progress, despite the challenges they faced (Ogolodom, 2022). The “#EndSARS” protests are a great example of this. During this time, most students were not in schools due to the COVID shutdown and also the Academic Staff Union of Universities (ASUU) strike. Due to this, they were often victims of wrong profiling.

This sparked the rise of these students and young activists using social media and messaging apps like WhatsApp to document what was happening, share photos, videos and coordinate their efforts in voicing out, even when the government tried to restrict the internet and enforce curfews. The visual evidence and stories shared by grassroots photographers who were mostly students, became a powerful form of protest. Before mobile internet was so common, it would have been nearly impossible to organize or share this kind of information across different campuses or states.

This new digital engagement also supported other student-led efforts. For instance, students used platforms like WhatsApp and Twitter to create campaigns to raise awareness for ending issues that persisted outside the schooling environment and also provide **community support** during the pandemic. These events show how online tools gave students a voice, allowing them to share their collective concerns and reach a much wider audience than ever before. Till date, these past happenings prove that digital platforms are now a key part of student engagement, expression and general activism, showing how effective they are in creating social change.

But these positive feelings about online expression, education and interaction are frequently overshadowed by significant issues with infrastructure. Up to this moment, Nigerian lecturers from various regions have consistently reported major barriers to online education, including poor **internet connectivity**, a lack of **dependable electricity**, and limited institutional support. These problems are not random or rare because they are part of a larger, systemic issue that prevents students from regularly participating online. A lot of situations and unavoidable findings in Nigeria does not fail to highlight unreliable internet and a lack of consistent electricity as the main reasons online engagement/interaction is not fully effective for many.

2.3 INFRASTRUCTURE BARRIERS TO ONLINE INTERACTION/LEARNING

While online platforms provide new spaces for learning, collaboration, and student expression, the ability to take full advantage of these virtual spaces still depends on the availability of infrastructure. In Nigeria, one of the most concerning challenges is the unstable electricity supply. Students frequently experience long hours of blackout and this affects online classes, assignments and even community discussions. Although some students may have access to generators or solar panels, the cost of fuel and maintenance makes it not an affordable option for all. Due to this, it is very hard for students to be consistent with online participation, especially for those in areas where electricity supply is very poor.

Internet access also remains a major barrier. In most universities, students depend on mobile data as their primary source of internet. However, the networks are often

unstable, with frequent disruptions and slow connection speeds (usually around 300kb/s to 2mb/s). This makes it difficult and very frustrating for students to attend live online lectures, upload assignments or participate in group forums. Even when the network is available, the cost of data is extremely high compared to the average income of many Nigerian households. Because of this, students are forced to ration their internet use, carefully choosing when to go online. Some only join academic discussions while skipping other forms of online engagement that might have improved their overall learning experience. This kind of issue creates inequality in participation because it then creates a situation whereby some students are active in online spaces while others are left out simply because they cannot afford to stay connected.

According to a recently published study, lack of access to adequate devices is a key reason for low participation in online learning environments and the issue of availability of digital devices also plays a role in widening the gap. Many students do not have access to personal laptops or tablets. Instead, they rely on borrowed devices from friends or family, or they depend entirely on smartphones with limited storage and functionality. For instance, complex tasks such as creating presentations or working on group projects become almost impossible when students lack the proper tools. There is also the case of students using their hard-earned money or life savings to buy devices they believe to be powerful enough to carry out heavy tasks, just to be let down because they can only purchase second-hand versions of those devices which barely lasts and is likely to develop faults quickly (Olanrewaju, 2021).

Another problem connected to infrastructure is the lack of supportive learning environments. Many students live in crowded hostels or off-campus housing where privacy is limited. Noise, interruptions and lack of study space make it hard to concentrate on online classes or to participate in discussions that require focus. For example, a student might be attending a virtual class while sharing a single room with several roommates, making it difficult to speak freely or even keep up with the lecture. This problem is not so much a problem than electricity or internet challenges due to the fact that they can always find somewhere more quiet and manageable, but it still has a significant impact on how students express themselves online.

The combined effect of these challenges shows that online learning is not equally accessible to all students. Those who live in cities with more stable electricity and stronger internet connections are more likely to benefit, while those in rural or under-resourced areas continue to face limitations. This situation creates a clear digital divide in Nigerian universities, where opportunities for participation and self-expression are not evenly distributed.

For online engagement to truly support student expression, universities and policymakers need to address these infrastructure barriers directly. More investment in campus Wi-Fi, subsidized data plans for students, provision of computer labs with modern devices, and efforts to stabilize electricity can all make a difference. Without such interventions, online platforms will continue to reflect existing inequalities, leaving many students without a voice in academic and community discussions.

2.4 SUMMARY OF RELATED WORKS

A study by **Ericksen et al. (2022)** identifies eight key factors, other than academics, that influence whether students stay in college. These factors include financial struggles, lack of student engagement, not feeling a sense of belonging and not enough institutional support. The study suggests that universities could use digital platforms to improve communication and support, which might help more students stay enrolled.

In his recent research paper, **John Johnson Sabodogo (2024)** studied the impact of student affairs on student success and retention. He highlighted that support services such as counseling and mentorship improves academic performance and well-being, while also reducing dropout rates. By giving students a sense of belonging and personal growth, universities and higher institutions get to see positive results.

In their book, *How College Affects Students Life Outside: A Third Decade of Research*, Pascarella, E., & Terenzini, P. (2020) show how higher education influences more than just academics. They found that universities also play a key role in developing students' personal identity, social behaviours and also how they engage with other individuals in public.

A recent study by **Alamer et al. (2023)**, published in the *Journal of Computer Assisted Learning*, looked into how WhatsApp affects student learning. Their research, which used a self-determination theory framework, found that when WhatsApp is used in academic settings, it greatly increases students' motivation and success, while also lowering their anxiety about learning.

Another paper by **Olanrewaju et al. (2021)** looked at how a lack of digital access affected e-learning in rural Nigerian schools and communities during the COVID-19 pandemic. The research showed that issues like **poor internet access**, a **shortage of devices**, and **limited electricity** worsened educational inequality. This meant many students couldn't fully take part in online classes.

Malinen (2015) in her research and study, thoroughly reviewed various studies on user participation in online communities to understand how people engage in digital spaces. The review found that **motivation**, **trust**, **community identity**, and **usability** are key factors that encourage participation. Malinen's research shows that successful online communities depend on strong social structures that promote collaboration and knowledge sharing, not just technical design.

Gao et al. (2024) studied how social interaction affects online learning among middle school students. They found that strong social interaction in virtual classrooms helps students feel more connected which in one way or the other, leads to higher engagement and better learning outcomes. Gao and his fellow scholars were also able to come to the conclusion that virtual classrooms did not only enable students in bonding well with other students, it also helped teachers and lecturers get to know more about their students.

Bechmann et al. (2013) in his own research along with other scholars, looked at how different actors contribute to value creation in social media through user participation. They found that individuals, platforms, and communities all play a role in shaping online interactions. Their study show that user-generated content and engagement are very important when it comes to dealing with digital communities.

Table 2.1: Summary Table of Related Works

Author(s)	Year	Title of Research	Major Features
John Johnson Sabodogo.	2024	The Role of Student Affairs in Promoting Student Success and Retention	To investigate how student affairs (mentorship, counselling, extracurriculars) correlate with retention; recommends stronger student services.
Bechmann Anja; Lomborg Stine; Helles Rasmus.	2013	Mapping Actor Roles in Social Media: Different Perspectives on Value Creation in Theories of User Participation	Explores how users, platforms, and communities create value in social media; emphasizes collaboration, content creation, and community norms.
Kristina Ericksen	2022	8 Overlooked Factors Affecting Student Persistence and Retention	Identifies non-academic factors (finances, belonging, counselling support, institutional policies) that affect retention; argues for holistic engagement beyond academics.
Pascarella, E., Terenzini, P.	2020	How College Affects Students Life Outside: A Third Decade of Research	Synthesizes over 1,800 studies on how higher education influences student cognition, values, social growth, and outcomes beyond academics.
Akuto Grace, Bello Hassan, Blessing Ajao.	2023	Influence of Social Media Usage on Study Habits of Undergraduates in North Central Nigeria: Implications for Counselling	Surveys undergraduates; finds social media helps peer learning but also distracts; suggests balancing engagement with academic focus via counselling.

Gao, Fangfang; Lee, Jun; Kim, Sang-Woo	2024	Social Interaction and Online Learning: The Mediating Role of Social Presence and Learning Engagement	Shows that social interaction boosts learning efficiency; social presence and engagement mediate outcomes in online learning environments.
Alamer Zaryab Sheikh, Liu Yezheng, Tahir Islam, Zahid Hameed & Ikram Ullah Khan.	2023	Using WhatsApp Increases Language Students' Self-motivation and Achievement and Decreases Learning Anxiety: A Self-Determination Theory Approach	Studies how integrating WhatsApp in language education improves motivation, performance, and reduces anxiety among learners.
Olanrewaju Festus.	2021	Left Behind? The Effects of Digital Gaps on E-learning in Rural Schools and Remote Communities across Nigeria during the COVID-19 Pandemic	Examines how internet, electricity, and device lack deepen inequality in e-learning; suggests infrastructure investment and policy support.

CHAPTER 3

SYSTEM ANALYSIS AND DESIGN

3.0 SYSTEM ANALYSIS

System analysis is an important stage in the development of any platform. During this phase, we carefully examine the project's requirements, user objectives, and the intended system functionality before moving on to the design and implementation stages. For our specific project, the analysis focuses on understanding how students currently express themselves, how they interact with one another, and the difficulties they face when trying to share their opinions or engage in online campus spaces. By identifying these critical needs, we can ensure that the final platform is not only technically sound but also user-centric, practical, and truly responsive to the realities of student life.

The analysis also provides direction on how the system will handle complex issues such as anonymity, content moderation, data security, and structured feedback. Student engagement often involves open discussions, polls from administrators, and suggestions that can impact the entire school community, so the system must skillfully balance freedom of expression with the need for responsible communication. This is why a thorough system analysis is so crucial; it allows us to capture both the functional requirements, such as creating posts, joining discussions, as well as the non-functional requirements like speed, security, and overall ease of use.

To conduct this analysis effectively, we considered several development methodologies, including Prototype Development Methodology, Rapid Application Development (RAD), Dynamic Systems Development Methodology (DSDM), and Agile Development. Each method offers unique benefits, but for this project, **Prototype Development Methodology** and **Agile Development Methodology** emerged as the most suitable approaches. The Prototype Development Methodology is highly effective because it enables us to quickly create simplified versions of the platform that students

can test. For instance, an early prototype might consist of a basic discussion board or an anonymous feedback form. By allowing students and staff to interact with these preliminary models and offer suggestions, we can guide improvements in later versions. This process helps ensure that the final system meets the genuine expectations of its users and prevents us from wasting time developing unnecessary features.

The Agile Development Methodology perfectly complements this approach by dividing the project into small, manageable parts or modules. Each module, such as user registration, content posting, or forum management, is built and tested in short cycles. The feedback we gather from one cycle directly influences the development of the next, allowing the system to evolve in a way that aligns with student needs. Agile is particularly valuable for this project because student expression is dynamic; new needs and challenges may emerge as the platform grows, and the Agile approach ensures the system can adapt quickly to these changes.

3.1 ANALYSIS AND PROBLEMS OF EXISTING SYSTEM

Many Nigerian universities, including the University of Benin (UNIBEN), lack a formal, centralized system for student expression. Students primarily rely on informal channels like WhatsApp group chats, Facebook groups, and word-of-mouth to voice their opinions and concerns. While these methods are widely used, they were not designed to be a structured way for students to engage with university leadership. As a result, it is challenging for important issues to be properly tracked, consistently addressed, or brought to the attention of the appropriate authorities.

In addition to these informal channels, students also use broader social media platforms such as Twitter (X), Facebook, and Instagram to discuss campus matters. However, these platforms are often chaotic and lack moderation, causing student voices to be lost among a sea of irrelevant content. This makes it difficult for students to have a meaningful impact or ensure their issues are heard. Within the university, traditional methods like bulletin boards and circulars are also still used, but they offer little to no opportunity for two-way communication or feedback. These outdated systems simply fail to meet the modern needs of student engagement.

The following are some of the key problems that arise from these current systems of student engagement and expression at UNIBEN and similar universities:

- **Disorganization:** Student concerns are scattered across multiple WhatsApp groups, Facebook pages, or notice boards, making it hard to track conversations or sustain awareness on important issues.
- **No Structured Feedback Mechanism:** Even when concerns are raised, there is no reliable way to ensure these issues reach relevant stakeholders, nor is there a follow-up system to show whether action has been taken.
- **Overcrowding on Social Media:** Broader platforms like Twitter and Facebook are filled with general entertainment, gossip, or unrelated political discussions, so student-focused matters often get drowned out or ignored.
- **Exclusion from Dialogue:** Bulletin boards and circulars are one-way communication tools, meaning students can read announcements but cannot contribute their own voices, making them passive receivers rather than active participants.
- **Trust and Privacy Concerns:** Many students do not trust social media groups because of issues like fake accounts, lack of moderation, or leaks of private conversations, which discourages free and open expression.

3.2 OVERVIEW OF PROPOSED SYSTEM

This student expression and engagement platform is designed to be a structured, interactive, and community-driven system tailored specifically for students within the university. Unlike existing systems that rely on scattered WhatsApp groups, bulletin boards, or large-scale social media sites where student voices are easily lost, this platform prioritizes accessibility, inclusiveness, and meaningful interaction among the student body.

The main goal of the platform is to create a space that is easily accessible to any student with a smartphone or internet-enabled device. Signing up to participate will be a simple and quick process, requiring only a few steps to get started. Once registered, students

will be able to post freely, engage in discussions, share experiences, read updates, and interact with peers in a secure and student-focused environment.

What makes this platform stand out from the existing systems of student expression in UNIBEN includes:

- **Forum Section for Discussions:** A dedicated forum where students can create posts, reply to threads, and engage in open or structured debates about academic, social, and administrative matters. Unlike fragmented WhatsApp groups, this forum will be centralized and well-organized.
- **Highlight Section:** This feature will showcase trending discussions, urgent issues, and top contributions so that important topics do not get lost in the crowd. It ensures visibility for matters that need urgent attention from students or school authorities.
- **Blog Section:** A space for student writers and contributors to publish articles, reflections, and creative works. This not only encourages expression but also promotes talent discovery and peer learning.
- **Multimedia Sharing:** Students will be able to share not just text, but also photos, videos and audio clips, making the platform more dynamic and engaging compared to bulletin boards or circulars.
- **Notification and Alert System:** Students will receive email alerts about trending issues, official responses or upcoming campus events, ensuring they stay updated without having to check multiple platforms.
- **Moderation and Reporting Tools:** To prevent spam, harassment, or abuse, the system will include community moderation and admin oversight, unlike existing unregulated social media groups.
- **Campus-Focused Environment:** Unlike Twitter or Facebook, which cater to a broad audience, this platform is built specifically for UNIBEN students, ensuring that discussions remain relevant, localized, and impactful.

3.3 PROPOSED SYSTEM ARCHITECTURE AND INTERFACE

The architecture of the proposed student expression and engagement platform is designed with a layered structure to ensure clarity, scalability, and efficiency. Each layer focuses on a unique role within the system, making it possible to separate responsibilities while ensuring that all the components work together seamlessly. This architecture ensures that students, lecturers, and administrators enjoy a fluid and responsive user experience while the server handles all the complex processing in the background.

Layer 1: Client Side

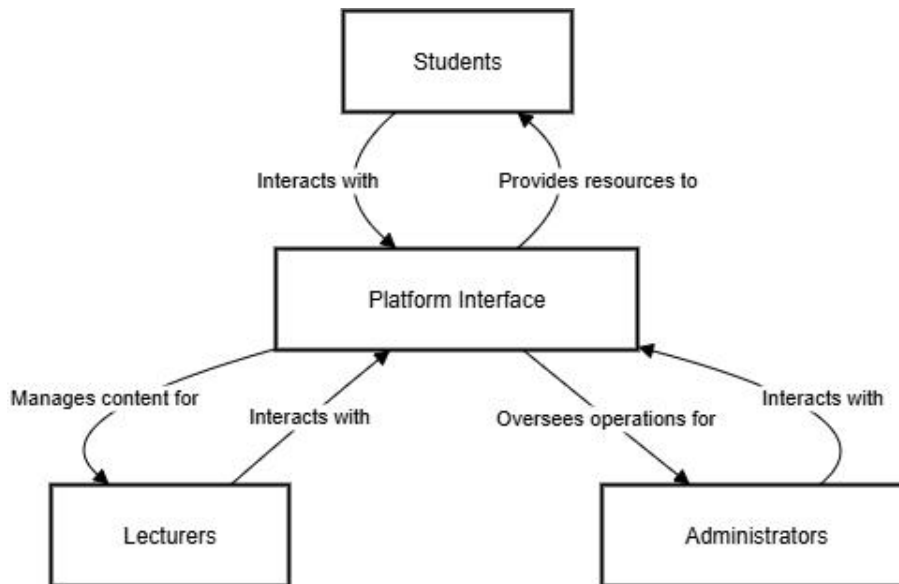


Figure 1: Client Side Layer Architecture

The client side is the part students, lecturers, and administrators see and interact with. Students access forums, blogs, highlights, and feeds, while lecturers can post resources or join discussions, and administrators use their interface for moderation and oversight. It is designed to be simple, responsive, and engaging across mobile and desktop devices so that users at all levels can participate without difficulty.

Layer 2: Server Side

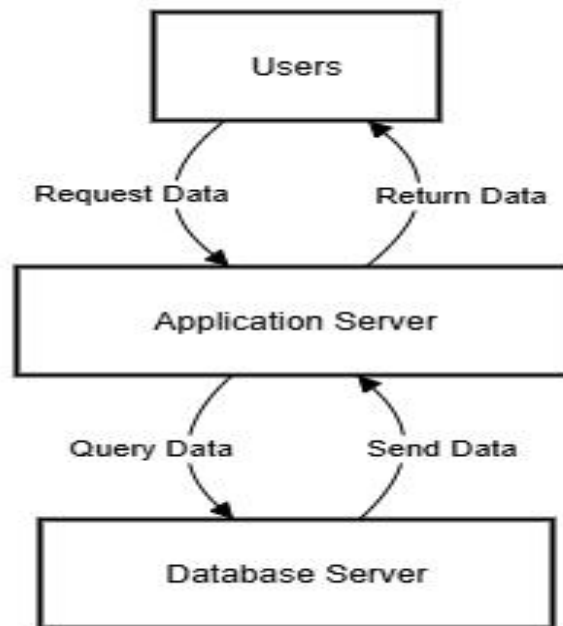


Figure 2: Server Side Layer Architecture

The server side handles the heavy work of the platform, processing user requests and storing important data. It includes the application server, which manages tasks such as authentication, posting, and communication, as well as the database server, which keeps profiles, posts and activity logs safe and retrievable. This ensures that the platform runs smoothly even with high student participation.

Layer 3: Integrations

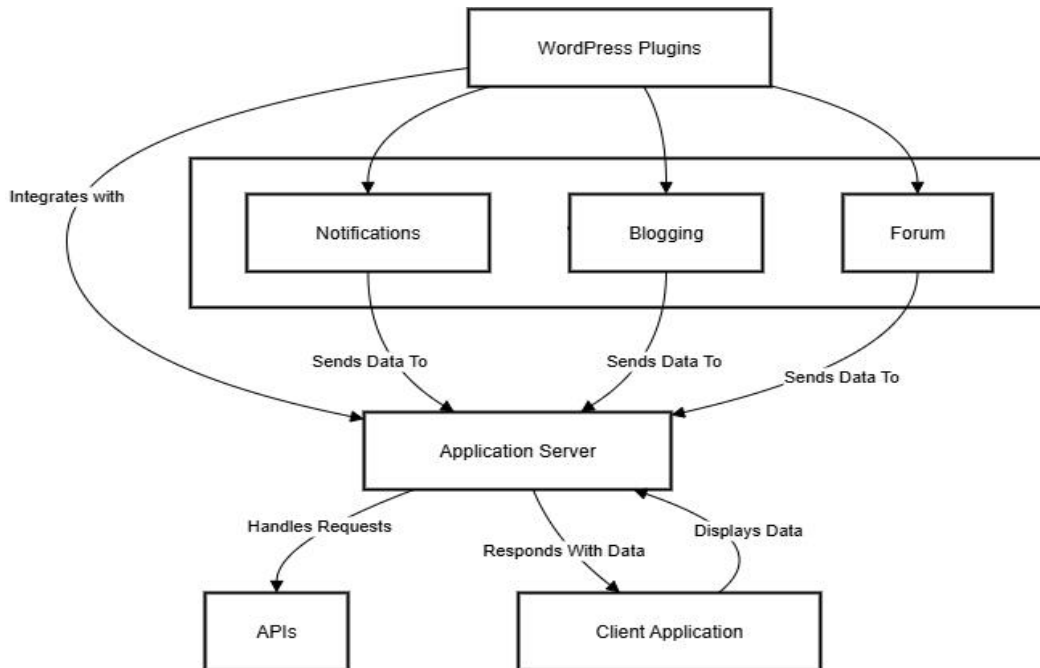


Figure 3: Integration Layer Architecture

This layer connects the system with external plugins and APIs that extend its functionality. For example, WordPress-based plugins can power notifications, or blogging tools, while APIs provide push notifications and real-time updates. The integration layer also leaves room for future features like linking to a university’s LMS or adding analytics services for deeper insights.

Layer 4: Student Dashboard

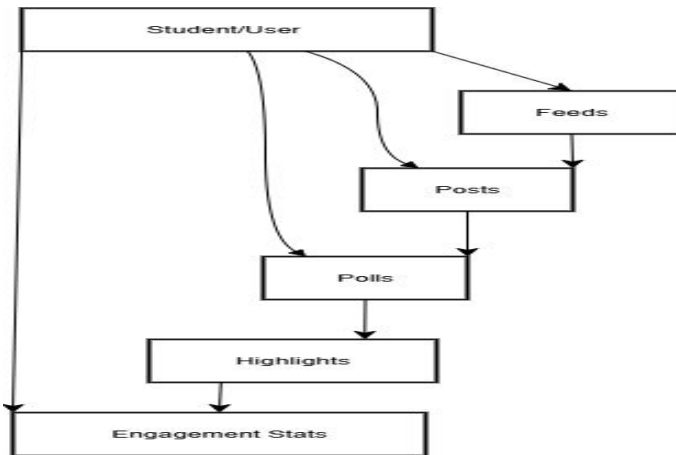


Figure 4: Student Dashboard Layer Architecture

The student dashboard is a personal hub where each student views and manages their activities. It displays feeds of recent posts, personal contributions, and suggested highlights or blogs. By offering features such as engagement stats and activity summaries, it motivates students to participate more actively in the online community.

Layer 5: Admin Dashboard

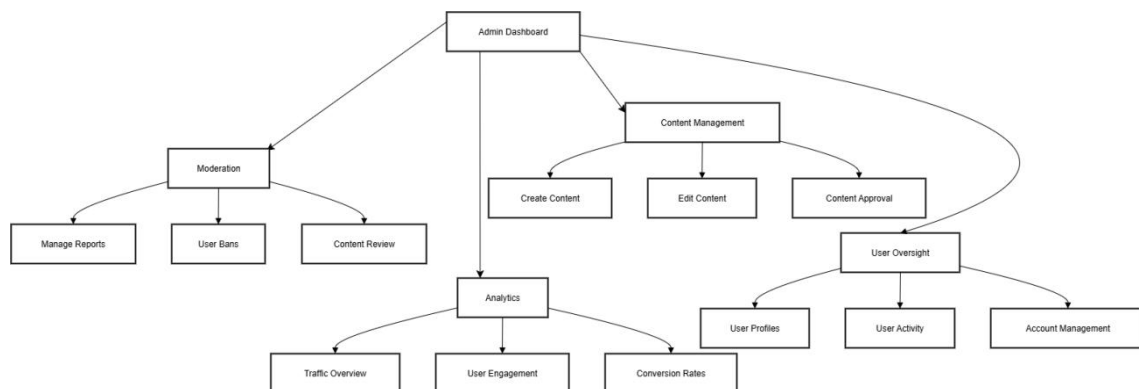


Figure 5: Admin Layer Architecture

The admin dashboard serves as the control center for moderation and oversight. Administrators can manage posts, monitor discussions, remove inappropriate content, and publish or highlight important updates. It also offers analytics to track user engagement and ensure that the environment remains safe, inclusive, and productive.

3.4 SYSTEM DESIGN

System design is an important stage in building the student engagement and expression platform, as it outlines how the different parts of the system work together to create a smooth and engaging experience. The aim is to develop a platform that is functional, user-friendly, and able to foster meaningful interaction among students, lecturers, and administrators. Key considerations include layout, navigation, user flow, and the integration of features that support active participation.

The platform design includes a forum where students can start and join discussions, a highlight section for trending posts and campus updates, and a blog section for longer writeups or announcements. Additional features include user authentication, dashboards for students and administrators, secure messaging, real-time notifications, and moderation tools to ensure safe and respectful engagement.

A layered approach is used in the design. The user interface (UI) focuses on simplicity and responsiveness, allowing students to easily browse forums, share posts, and access highlights across mobile and desktop devices. The business logic layer handles workflows such as content submission and engagement tracking, while the data layer ensures secure storage of posts, comments, and profiles. Together, these layers create a system that not only supports communication but also builds trust, encourages expression, and strengthens community ties.

3.5 SYSTEM DESIGN TOOLS

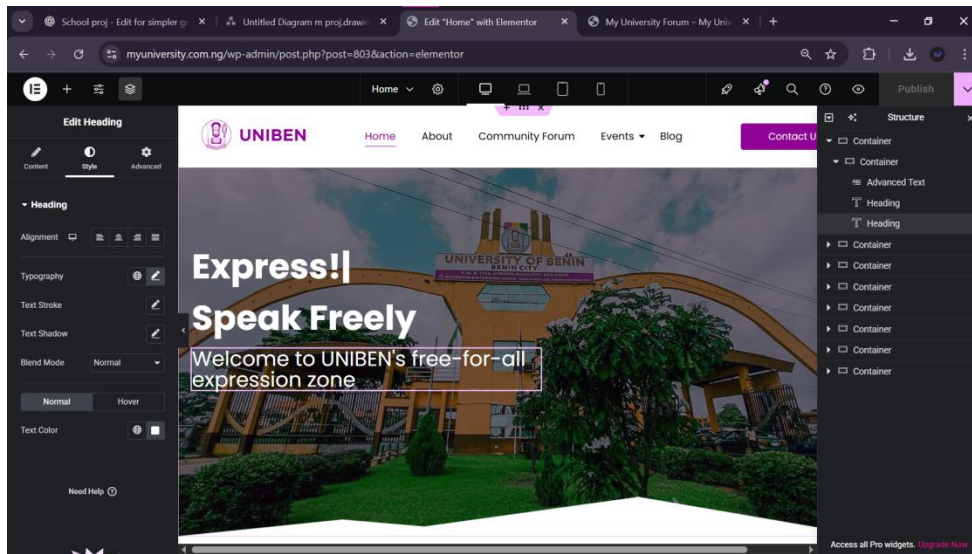


Figure 6: Landing Page Design For Desktop

To create an effective and user-friendly student engagement and expression platform, several design tools are used to develop wireframes, layouts, and prototypes. These tools ensure that the user experience (UX) and user interface (UI) are well-structured, visually appealing, and easy to navigate before the actual development phase begins.

1. Figma:

Figma is the main tool for designing and prototyping the platform. It allows the team to work together online in real time, creating wireframes, mockups, and clickable prototypes that show how the system will look and work. With features like reusable components and plugins, it helps keep the design consistent and makes it easy to test navigation flows before coding begins.

2. Framer:

Framer is used to design interactive parts of the system such as animated buttons, transitions, and dashboard effects. Unlike static designs, Framer makes the interface feel more real by adding motion and interaction. It also supports React components, making

it easier for developers to move designs into actual code while keeping the user experience smooth.

3. Google Stitch:

Google Stitch is an AI-powered design tool that generates UI/UX designs from text prompts or sketches. It quickly creates multiple design variations for a project, saving significant time. The tool also provides corresponding front-end code (HTML/CSS), which makes it easy to implement. Designs are exported back directly to Figma for further refinement.

4. Mockflow:

Mockflow is used at the early stage to create wireframes and plan the layout of the platform. It gives a simple visual blueprint of where features like forums, dashboards, and admin tools will be placed. By testing different layouts quickly, the team avoids confusion later and ensures the system's design is clear from the start.

5. Elementor:

Elementor is a WordPress page builder that makes it easy to create dashboards, forums, and engagement tools without heavy coding. Its drag-and-drop design means pages can be updated or redesigned quickly. Because it also works well with plugins and widgets, it supports extra features like form/survey building notifications for administrators.

6. Gutenberg Editor:

Gutenberg is the block editor in WordPress. It makes content management simple by using blocks for text, images, and feeds. While Elementor is for full page layouts, Gutenberg works better for adding and editing posts or smaller sections. Together, they keep the platform flexible, modern, and easy to maintain.

3.6 SUMMARIZED PLATFORM USAGE WORKFLOW

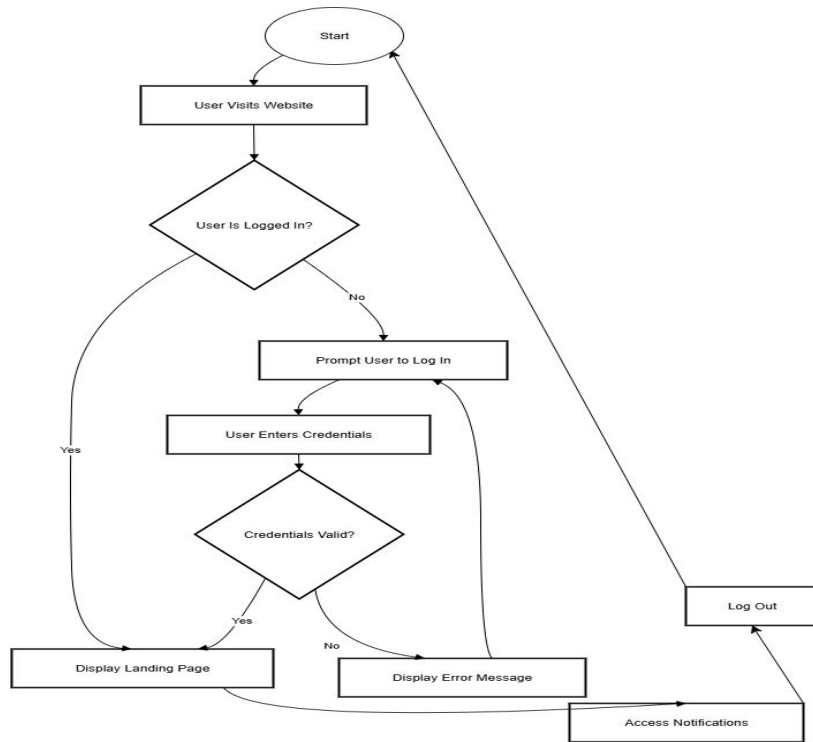


Figure 7: Simplified Login Workflow

The summarized workflow of the platform demonstrates how users interact with key features in a simple and structured manner. When a student visits the platform, the system first checks whether the user is logged in. If not, they are prompted to enter their credentials, which are verified against the database. Successful authentication grants access to the landing page, while invalid details generate an error message with the option to retry. Once logged in, users can access core features such as notifications, profile management, and forum discussions.

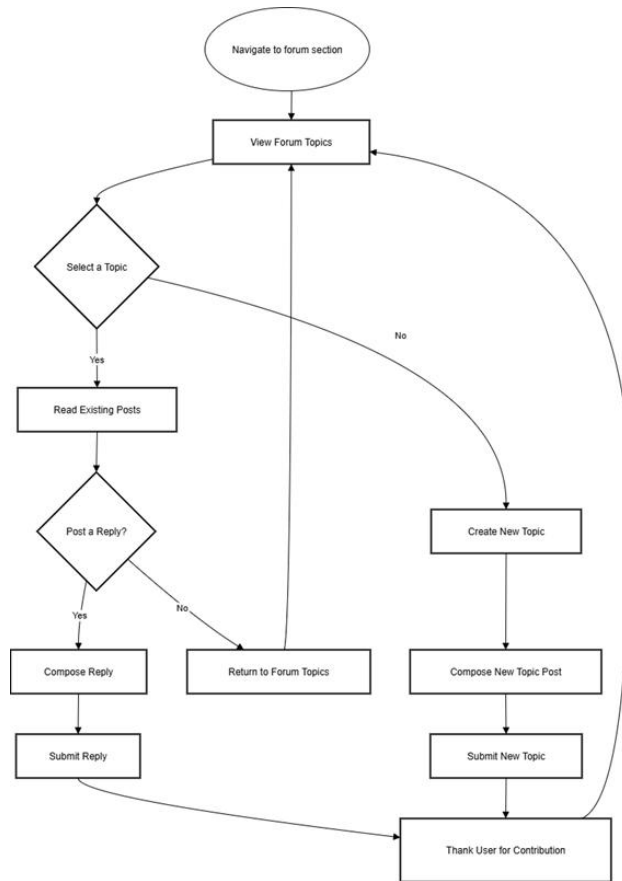


Figure 8: Simplified Engagement Workflow

The forum workflow illustrates the step-by-step process of user participation in discussions. Students can navigate to the forum section and view existing topics. From there, they either select an existing topic to read and possibly post a reply, or create a completely new topic. Replies and posts go through a simple process of composition and submission, after which the system acknowledges contributions. This streamlined design makes it easy for students to engage in meaningful conversations without unnecessary complexity.

CHAPTER 4

SYSTEM IMPLEMENTATION, TESTING AND EVALUATION

4.0 SYSTEM IMPLEMENTATION PLATFORM (TOOLS)

The student engagement and expression platform is implemented using **WordPress**, a widely adopted content management system (CMS) that provides flexibility, scalability, and ease of customization. WordPress was selected because it supports rapid development, smooth content management, and seamless integration of additional functionalities through plugins and themes. These qualities make it highly suitable for developing an interactive platform tailored to students, lecturers, and administrators within the university community.

A key goal of this platform is to remain **accessible, intuitive** and **responsive**, ensuring that students can easily create posts, participate in forums, engage in posts, and access updates without facing unnecessary technical barriers. WordPress provides a structured and reliable environment to achieve this.

To fully realize the design objectives and improve overall performance, several implementation tools and services are employed. These tools contribute to aspects such as design, hosting, content management, and interactive features. They include:

1. Web Domain Hosting (HarmonWeb):

Nameserver	IP Address
DNS1.HARMONWEB.NET	176.9.30.198
DNS2.HARMONWEB.NET	176.9.30.198

Quick Shortcuts

- Email Accounts
- Forwarders
- Autoresponders
- File Manager
- Backup
- Domains
- Cron Jobs
- MySQL® Databases

Managing myuniversity.com.ng

Portal Home » Client Area » My Domains » myuniversity.com.ng

Manage

- Overview
- Auto Renew
- Nameservers
- Registrar Lock
- Contact Information
- Private Nameservers
- DNS Management
- Get EPP Code

Overview

Domain: myuniversity.com.ng	First Payment Amount: N6,500.00NGN
Registration Date: Monday, September 22nd, 2025	Recurring Amount: N6,700.00NGN Every 1 Year/s
Next Due Date: Tuesday, September 22nd, 2026	Payment Method: Card / Bank Transfer / USSD / QR Code
Status: Active	SSL Status

Figure 9: Harmonweb Domain/Hosting Dashboard

The platform is hosted and managed through **HarmonWeb**, a reliable and affordable Nigerian hosting provider that also served as the source for the domain name. By using HarmonWeb, the project gains access to essential hosting services such as secure storage, efficient bandwidth management, and reliable uptime, ensuring that the platform remains stable and accessible to users at any time. One major benefit of HarmonWeb is the inclusion of **cPanel**, a powerful control panel that allows for easy configuration and management of the hosting environment. Through cPanel, tasks such as database creation, webmail management, SSL integration, file uploads, and backup scheduling can be efficiently handled.

2. Site Theme:

The site theme for this platform is built from the designs already made in Figma/Elementor during the UI/UX stage. This makes it easier to keep the design the same, ensure the site looks good on all devices, and create a smooth user experience without starting the layout from scratch. A child theme is also used so that updates to the main theme will not remove the custom changes made to the platform. To avoid errors when making edits, a staging site is created where updates and design changes can be tested first before putting them on the live platform.

3. Plugins:

Plugins are used to add extra features to the platform without needing to build everything from scratch. For example, discussion forums, blog sections, and highlight features are made possible through plugins. They also help with security, SEO, and performance improvements. Using the right plugins keeps the platform lightweight, while still giving students and admins the tools they need for engagement and expression.

4. Permalink Manager:

The permalink manager is used to control how links (URLs) on the platform look. This makes it easier for users to understand and remember page links, while also improving search engine optimization. This tool helps in several ways, some are as follows:

- It makes links shorter and easier for students and lecturers to remember.
- It improves search engine optimization (SEO), so the platform appears better in search results.
- It gives the site a cleaner and more professional look.
- It makes sharing links on social media or in class groups much simpler.

5. Widgets and Media Library:

Widgets are small tools placed on the site to display quick information such as recent posts, or highlights. They make the site more interactive and engaging for users. The media library, on the other hand, stores all the images, documents, and videos used on the platform. This makes it simple to upload, manage, and reuse media files whenever needed, while keeping everything organized in one place.

4.1 PROGRAMMING LANGUAGES USED

This student engagement and expression platform is developed using a combination of programming languages that form the foundation of modern web development. Since WordPress is a content management system (CMS), it integrates with several core web technologies to ensure seamless functionality, interactivity, and responsiveness. These languages work together to create a dynamic, well-structured, and fully functional online community space where students, lecturers, and administrators can connect, share, and interact effectively.

1. HTML (HyperText Markup Language)

HTML is the backbone of the platform, providing the basic structure for all web pages. It is used to create elements such as headings, paragraphs, links, buttons, and forms, which serve as the building blocks of the user interface. In this platform, HTML ensures

that forum posts, blogs, highlights, and dashboards are well-structured and accessible across devices. HTML also makes the site more compatible with search engines and accessible for assistive technologies like screen readers. Its other benefits are;

- Provides the structural foundation for all web pages.
- Defines headings, paragraphs, lists, links, images, and multimedia placement.
- Works as a container for other technologies like CSS and JavaScript.
- Ensures content is accessible across different browsers.

2. CSS (Cascading Style Sheets)

CSS is used to control the design and layout of the platform, ensuring that the interface is visually appealing and easy to use. With CSS, elements created with HTML are styled to look modern, clean, and responsive across mobile and desktop devices. It manages colors, fonts, spacing, and overall alignment of components like the student dashboard, forums, and admin sections.

3. PHP (Hypertext Preprocessor)

PHP is the core programming language behind WordPress, and it powers much of the platform's dynamic functionality. It handles the logic that connects the front-end user actions to the back-end database, making it possible for students to create accounts, post content, or participate in other online activities on the platform. PHP also integrates plugins, manages user sessions, and enables administrators to moderate discussions and track analytics.

4. JavaScript

JavaScript adds interactivity and enhances the user experience by making the platform more dynamic. Though only used in smaller portions compared to PHP, it supports features such as dropdown menus, modal pop-ups, live notifications, and asynchronous content loading without refreshing the entire page. JavaScript is also useful for improving student engagement tools like surveys and interactive forums.

4.2 INTEGRATION AND OPTIMIZATION PLUGINS

Plugins are essential for extending WordPress beyond its basic functions. Since the CMS does not include built-in e-commerce tools, additional plugins were integrated to handle key tasks such as security, communication, performance, and user engagement. The following plugins were used in building this platform:

1. Loginizer

Loginizer protects the site against brute-force attacks by limiting failed login attempts. It improves security by blocking suspicious IP addresses and providing administrators with detailed login logs to track unauthorized activities.

2. wpForo

wpForo adds a discussion forum to the site, creating a space where students and vendors can interact. It supports:

- User-friendly layouts for different forum styles.
- Member profiles and role management.
- Post moderation to keep discussions organized.

3. WP Mail SMTP

This plugin ensures that emails from the platform reach users' inboxes successfully. It helps with:

- Configuring secure SMTP connections.
- Preventing emails from being marked as spam.
- Improving communication reliability.

4. Jetpack

Jetpack strengthens performance and security by offering:

- Real-time backups and site monitoring.

- Spam protection and brute-force defense.
- Analytics and performance optimization tools.

5. WPCode Lite

WPCode Lite allows the addition of custom code snippets without editing theme files directly. It supports:

- Inserting PHP, HTML, CSS, or JavaScript snippets.
- Managing custom functionalities safely.
- Reducing dependency on extra plugins.

6. Akismet Anti-Spam

Akismet filters spam comments and form submissions. It enhances the site by:

- Automatically detecting spammy content.
- Keeping user interactions clean and relevant.
- Improving site credibility and user trust.

4.3 DEPLOYED/LIVE WEBSITE

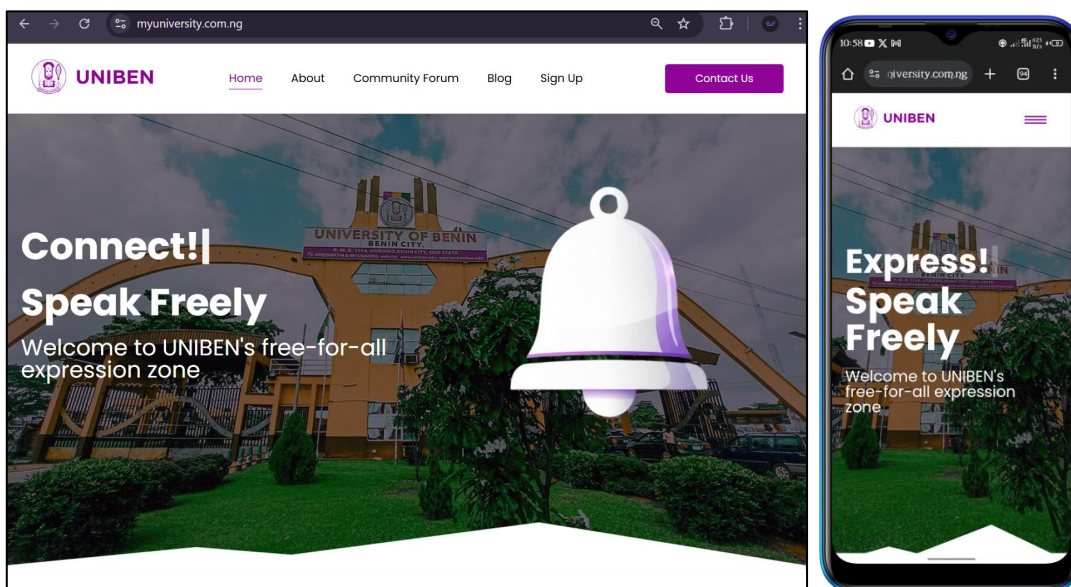


Figure 10: Desktop and Mobile View Of Live Website

This section presents the UNIBEN student expression and engagement platform as a fully developed, active, and publicly accessible website. After passing through the design and development stages, the platform has been successfully deployed online, making it available for students across the university community to use. With the site now live, students can freely register, share posts, engage in discussions, and interact with peers in a structured yet flexible digital environment.

The deployment ensures that the platform is not only functional but also reliable, with hosting and optimization measures in place to keep it fast, secure, and consistently available. This makes it possible for users to access the platform anytime, creating an always-on space for communication and collaboration.

The following subsections, along with accompanying images, highlight the different features, workflows, and user experiences that define the platform in real-time operation.

4.3.1 HOMEPAGE AND MENU

The homepage of the student expression and engagement platform serves as the entry point for all users, both logged in and visitors who have not yet registered. It features a UNIBEN-inspired background with bold hero text that reflects the theme of student interaction and expression. The header carries the UNIBEN logo, ensuring the platform feels tied to its academic community, while the hamburger-style menu provides a modern and simple navigation approach suitable for different devices.

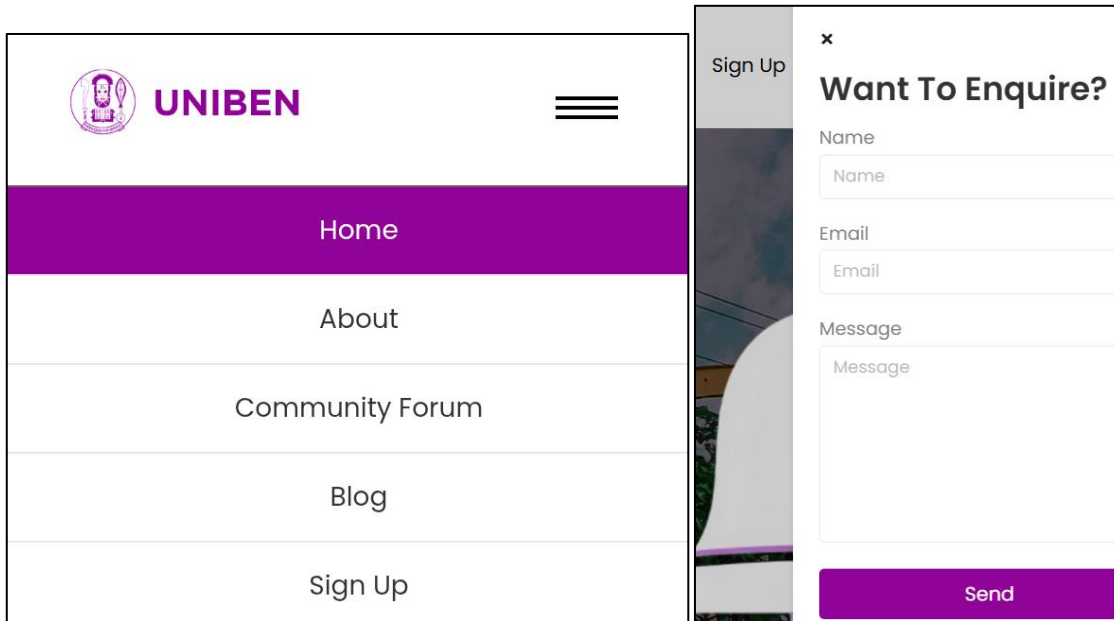


Figure 11: Menu With Its Off-Canvas Contact Us Form

Within the menu, four important items are presented: the **About Us** page, which highlights the vision behind the platform; the **Community Forum**, where students share ideas and engage in discussions; **the Blog**, which carries updates and posts tailored to students; and the **Signup/Register** tab, which allows new members to create accounts. Alongside these is a **Contact Us** section set in an off-canvas format, which expands into a simple form when clicked. This form enables users to reach administrators directly by submitting their name and email, making communication straightforward and accessible. By combining these options into a compact, slide-out menu, the platform ensures users can quickly navigate, register, explore content, or reach out for support without leaving the main flow of the homepage.

4.3.2 REGISTER/LOGIN

The register and login section is a dedicated part of the platform designed to give new users a straightforward way to join while making it easy for returning users to sign in. It sits as one of the first steps for active participation, ensuring that access to features like the forum and blog contributions remains secure and personalized.

The figure displays two side-by-side screenshots of the UNIBEN user interface. Both pages feature the UNIBEN logo and a hamburger menu icon in the top left corner.

Left Screenshot (Login Page):

- Fields: "Username or E-mail" and "Password".
- Checkbox: "Keep me signed in".
- Buttons: "Login" (purple) and "Register" (grey).
- Link: "Forgot your password?"

Right Screenshot (Registration Page):

- Fields: "Username", "Kofa ID" (with placeholder "Yor Kofa ID (B11....)"), "E-mail Address", and "Password".
- Button: "Upload School ID" (purple).
- Text: "Upload ID for verification" below the "Upload School ID" button.
- Button: "Register" (purple).

Figure 12: Register And Sign In Pages

For registration, visitors only need to provide a username and an email address. Once submitted, they are asked to tick a checkbox that confirms their consent to receive an email verification. This email immediately includes a link that allows them to set their password, effectively confirming their identity and securing their account in a single step. On the login side, users can sign in with their credentials, with helpful options like “Remember Me” for quicker access on personal devices and “Forgot Password” for easy recovery in case of login issues.

4.3.3 NOTIFICATIONS AND ALERTS

Notifications and alerts are built into the platform to keep users updated and engaged. Through the integration of the SMTP plugin with the cPanel webmail setup, users receive timely messages such as welcome notices upon registration and essential

recovery prompts like password reset links. This ensures communication between the platform and its members remains direct, reliable, and secure.

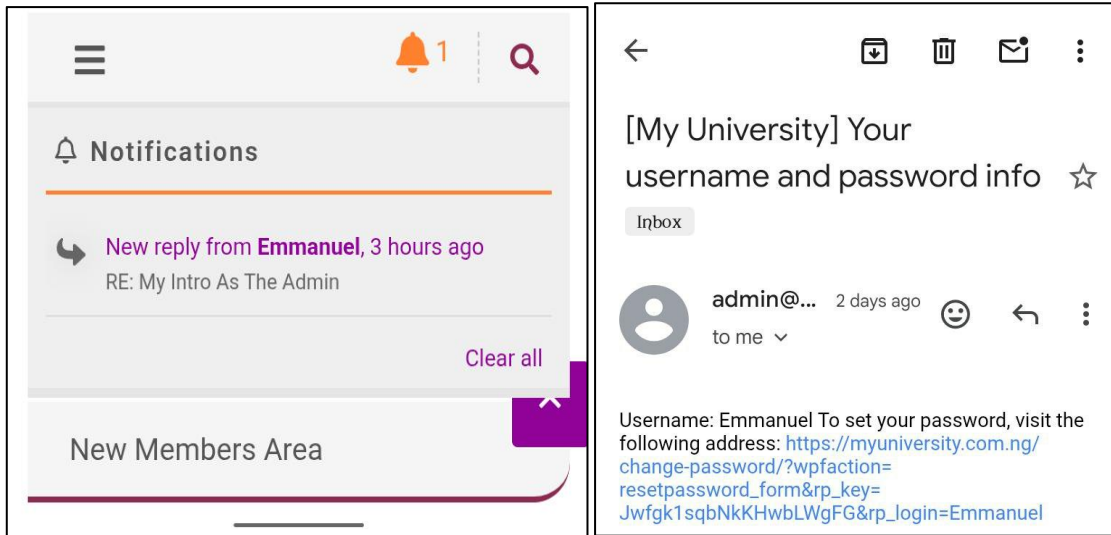


Figure 13: System Notification and Gmail Alerts

Beyond account-related updates, the forum system enhances interactivity with its own notification features. Users can receive alerts and emails whenever they subscribe to topics, gain new followers, or when someone replies, quotes, or starts a new discussion thread. These real-time updates encourage participation, helping students stay active in conversations and aware of activities happening across the community.

4.3.4 COMMUNITY FORUM

The forum stands as the central space for engagement on the platform, serving as the primary field where students, lecturers and other members of the community can freely express their thoughts, opinions, or concerns. Unlike static sections such as the homepage or blog, the forum is dynamic, filled with ongoing conversations that reflect the voices of its users. Here, members are not just passive consumers of content but active participants in discussions, debates, and collective problem-solving, making it the true hub of expression and interaction.

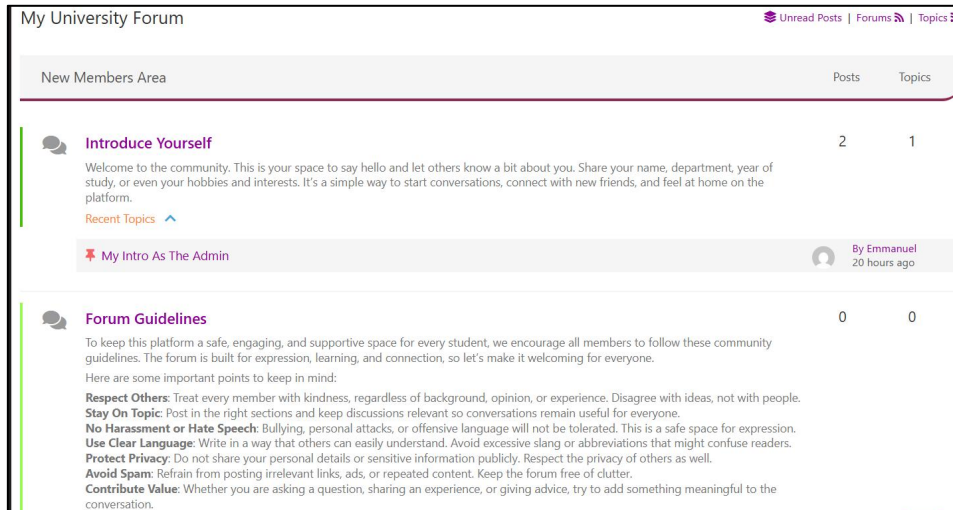


Figure 14: Website Forum Section

Within the forum, several subsections organize conversations into manageable areas. One of the notable subsection is the **New Members** area, where users can introduce themselves, read through community guidelines, and find FAQs to better understand how the platform operates. Other subsections are designed for general discussions, specific student issues, or thematic areas such as academics, campus life, and creative expression.

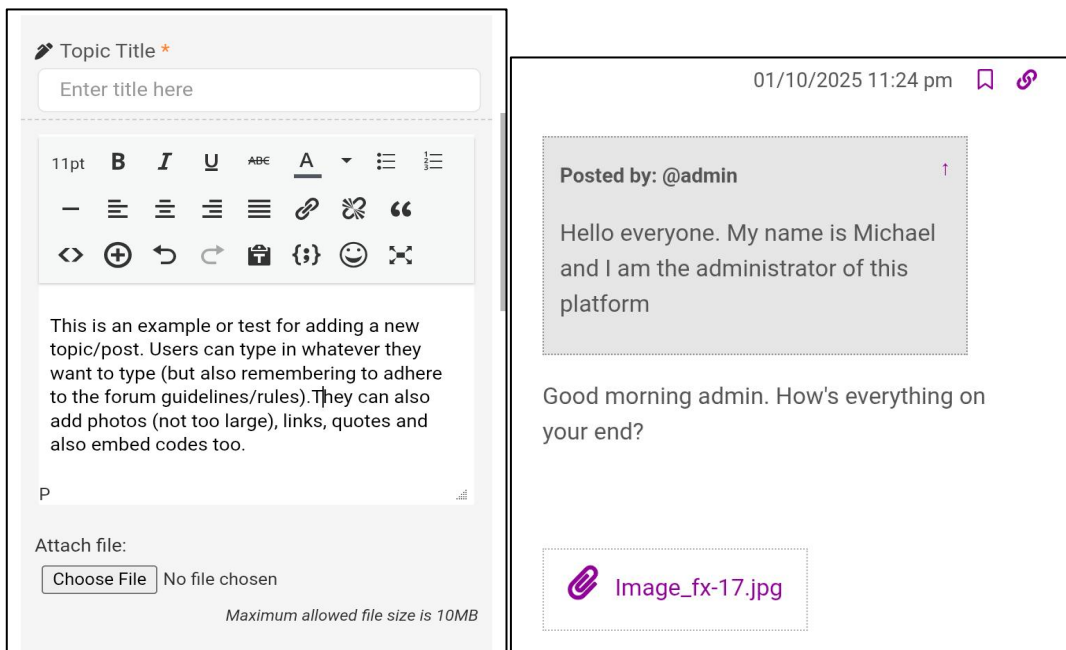


Figure 15: Forum Post Draft and Quote Reply Sample

To contribute, users are provided with a dialog box styled similarly to the classic WordPress editor, offering an intuitive and familiar interface for writing posts and replies. Members can format their content, attach links for verification by administrators, and even upload images (with a limit of 10MB to maintain performance). The forum also supports privacy settings that allow users to make private posts if they wish to limit visibility. An additional interaction feature is the *quote* function, which lets users highlight and respond to specific replies—much like the quoting system on social media platforms such as X (formerly Twitter).

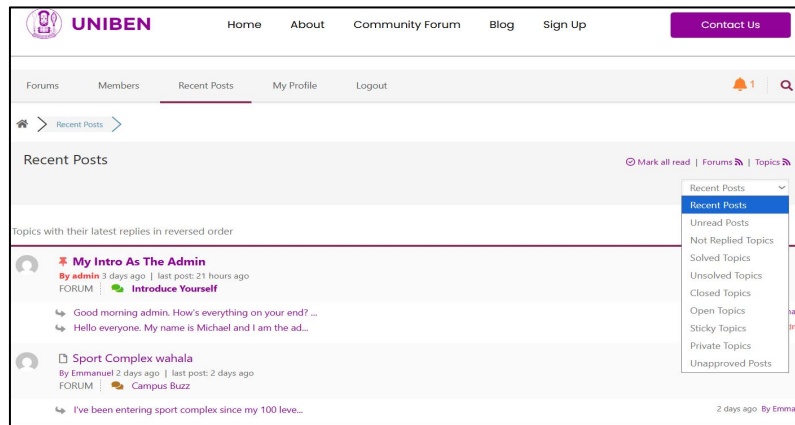


Figure 16: Recent Post Section

Another important feature is the **Recent Posts** section, which showcases the latest contributions from users as well as announcements from administrators. Each entry in this section is clearly marked with the subforum it belongs to, alongside details such as the author, time of posting, and whether the post is pinned by moderators for prominence. This setup ensures that new activity is always visible, helping members remain engaged with ongoing discussions and updates without needing to browse each subsection individually.

At the bottom of the forum lies the **Forum Information** section, which acts as a live snapshot of the platform's activity. It provides real-time updates on the number of active forums, topics, and posts, alongside statistics such as users currently online, total

registered members, and the latest individuals to join. It also highlights the newest posts and includes a taxonomy board or icon key that explains the visual symbols used throughout the forum. Together, these elements create transparency and keep users informed about the vibrancy of the community.

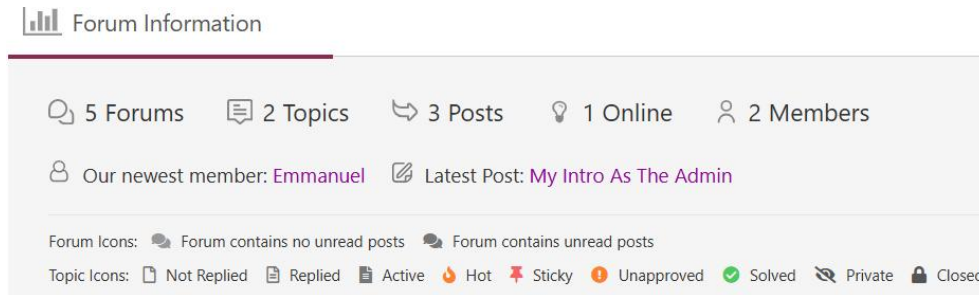


Figure 17: Forum Information Board

4.3.5 PARTICPANTS/MEMBERSHIP SECTION

The membership section of the platform serves as the social layer that ties user interaction together. It allows users to not only participate in discussions but also build recognizable identities within the community. Members can search for other users and view their profiles, making it easier to connect with people who share similar interests or are active in related discussions.

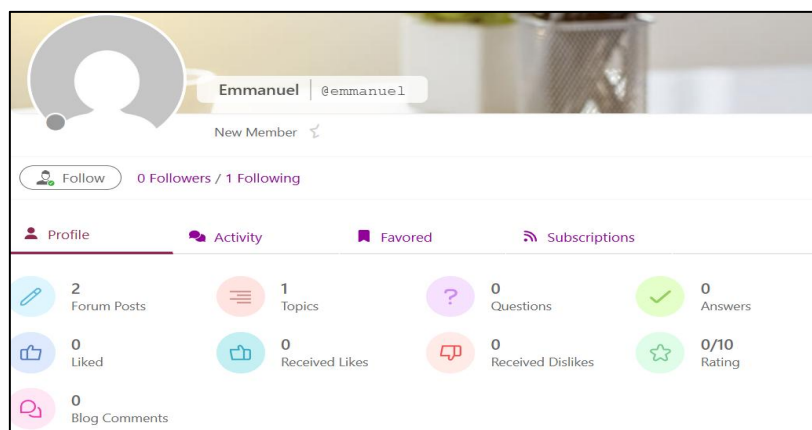


Figure 18: Member/User Profile

Each profile holds detailed information about a user’s activities on the platform. It displays metrics such as the number of posts made, topics created, answers given, and subscriptions followed. Profiles also highlight personal engagement, including favorite tags or posts, received likes and dislikes, and ratings earned through interactions.

4.3.6 BLOG SECTION

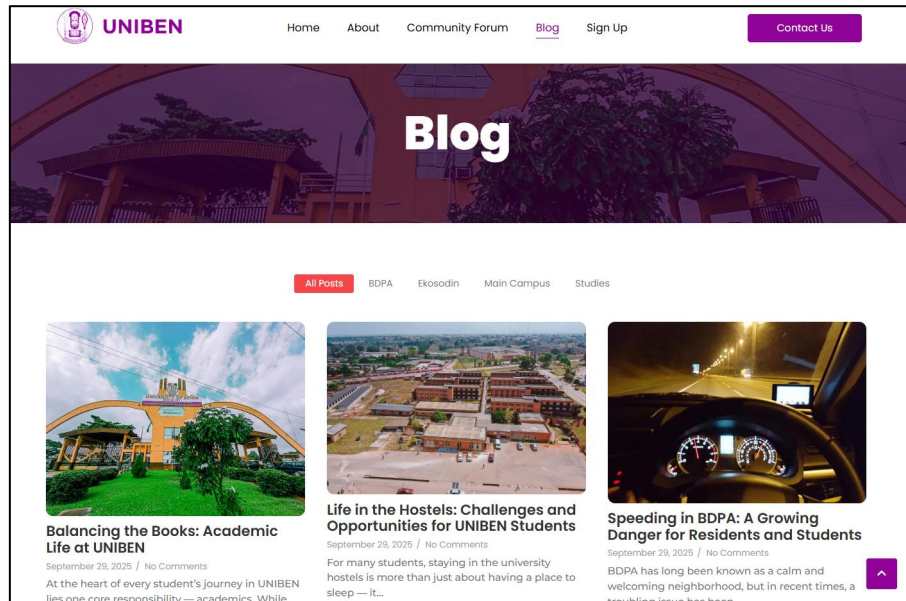


Figure 19: Platform Blog Section

The blog section of the platform functions as a space for publishing informative and engaging content created by administrators and volunteer contributors. Articles can be written across different categories, providing users with helpful resources and discussions that go beyond forum posts. Each blog entry supports interaction, as forum members can quote the articles directly in discussions or comment within the blog itself, creating a bridge between structured content and open conversation. The comment section allows users to share their opinions, while administrators and automated systems monitor activity to ensure respectful and constructive engagement.

4.4 EVALUATION AND TESTING

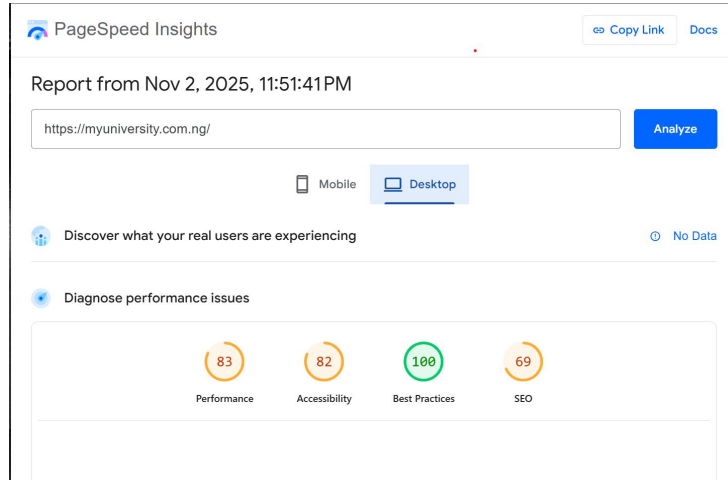


Figure 20: Site Testing With Google’s Pagespeedinsight

Evaluation and testing is really important in ensuring that the student engagement and expression platform performs at its best and provides a smooth user experience. Since swiftness and responsiveness are of high priority, Google PageSpeed Insights is employed to analyze and optimize the platform’s performance on both desktop and mobile devices. In addition, Google Analytics is used to track user interactions, measure engagement levels, and identify patterns in how users navigate the platform. These insights allow administrators to make informed improvements and enhance usability for all visitors.

Other tools are also utilized to strengthen the evaluation process and ensure the platform meets quality standards. For instance, GTmetrix provides detailed reports on loading speed and performance metrics, while Pingdom helps track uptime and monitor the site’s reliability across different regions. Google Search Console is also employed to monitor search visibility, index status, and potential issues that could affect the platform’s discoverability.

Tool	Purpose	Result	Notes
Google PageSpeed	Analyze speed and responsiveness (Desktop)	Desktop: 92%, Mobile:	Good performance, minor mobile

Insights	& Mobile)	85%	optimizations needed
Google Analytics	Track user behavior and engagement	Avg. session: 3.5 mins	Users engage most with forum discussions
GTmetrix	Measure loading speed and performance	Grade A, 1.8s load time	Excellent speed, images optimized
Pingdom	Monitor uptime and reliability	99.7% uptime	Slight downtime due to server updates
Google Search Console	Track indexing and search visibility	120 pages indexed	No major issues, minor keyword adjustments

CHAPTER 5

CONCLUSION AND CHALLENGES FACED

5.0 CONCLUSION

This UNIBEN Student Engagement and Expression Platform was developed to create a safe and interactive online space for students to share ideas, voice their concerns, and access helpful information related to campus life. It bridges the communication gap that often exists among students, providing a structured system for discussion, blogging, and community interaction within the university. Unlike traditional WhatsApp or Telegram groups that often become disorganized and difficult to manage, this platform introduces a centralized environment that encourages meaningful dialogue, peer support, and collaboration.

Throughout the development process, several tools and technologies were combined to bring the idea to life. WordPress served as the core framework, with plugins like **wpForo**, **Loginizer**, and **WP Mail SMTP** integrated to handle user discussions, security, and notifications. The design was built using **Elementor**, ensuring that the layout was visually appealing and responsive, while **Figma** was used during the UI/UX phase to plan the platform's structure and user flow. The system also utilizes **Google Analytics** and **Search Console** to monitor engagement, performance, and visibility across the web.

While the platform has achieved its primary objectives, there are still opportunities for improvement and further growth. Future updates could include:

- A possible integration with UNIBEN's Kofa platform.
- A verified student identity API to improve account authenticity while preserving user privacy.
- A mobile app version for improved accessibility and notifications.
- Integration of gamification features such as points and badges for engagement.

- AI-based moderation tools to identify spam, toxic behavior, or off-topic posts automatically.
- An inbuilt anonymous posting feature to encourage freer discussions without compromising verification.

With continued optimization and student feedback, the platform can evolve into a fully integrated community hub that promotes expression, collaboration, and awareness for students within and beyond the University of Benin.

5.1 CHALLENGES FACED

During the design, development, and testing of the platform, several challenges were encountered. These ranged from technical limitations to user-related constraints that affected both the performance and structure of the site:

- **Domain Propagation Delays:** When hosting was set up on Harmonweb, domain propagation took longer than expected, causing delays in live testing and SSL setup.
- **Design Conversion Issues:** The Figma-to-Elementor design process was not completely smooth, as spacing, responsiveness, and certain design components had to be manually adjusted.
- **Limited Access to Paid Plugins:** Building advanced functionalities such as user-created polls, surveys, and advanced UI elements was restricted due to lack of access to premium versions of **Elementor Pro**, **wpForo Add-ons**, and other paid plugins.
- **Forum Optimization Problems:** Due to multiple forum categories and active widgets, page load time increased until caching and lazy loading optimizations were added.
- **Security and Spam Control:** Despite using anti-spam plugins like **Akismet** and **Loginizer**, bot registrations and spam comments occasionally appeared and required regular moderation.

- **Email Delivery Problems:** Some automated emails, such as registration confirmations or password resets, initially landed in spam folders before proper **SMTP** configuration was implemented.
- **Cross-Browser and Mobile Display Errors:** Certain UI components appeared differently across browsers or mobile devices, requiring CSS adjustments for consistency.
- **Testing Difficulties:** Without professional test environments or staging servers, every update had to be manually reviewed, which slowed progress during peak development periods.

Despite all the challenges faced during development, the project successfully establishes a space where students can voice their thoughts, share ideas and engage in meaningful discussions that matter to them. It stands as both a digital innovation and a social bridge, as it encourages freedom of expression while maintaining respect, safety and authenticity among users. With further refinement, support and continued involvement, the platform holds great potential to become a lasting hub for student engagement and dialogue.

REFERENCES

- Elom, C. O., Ayerakwa, H. M., Ibrahim-Olesin, S., Deffor, E. W., Uwaleke, C. C., & Onyeneke, R. U. (2025, April 16). Determinants of WhatsApp and Telegram usage for learning support in Nigerian universities: A quantitative study. *Frontiers in Education*. <https://doi.org/10.3389/feduc.2025.1581514>
- Gao, F. (2024). Social Interaction and Online Learning Efficiency for Middle School Students: The Mediating Role of Social Presence and Learning Engagement. *Frontiers / PMC*. <https://pmc.ncbi.nlm.nih.gov/articles/PMC11505076/>
- Sabodogo, A., & Collaborators. (2024). The Role of Student Affairs in Promoting Student Success and Retention. ResearchGate / Journal preprint. https://www.researchgate.net/publication/383249768_The_Role_of_Student_Affairs_in_Promoting_Student_Success_and_Retention
- Malinen, S. (2015). Understanding user participation in online communities: A systematic literature review of empirical studies. *Computers in Human Behavior / ScienceDirect*. <https://www.sciencedirect.com/science/article/pii/S0747563215000163>
- Alamer, A., Al Khateeb, A., & Jenou, L. M. (2023). Using WhatsApp increases language students' self-motivation and achievement and decreases learning anxiety: A self-determination theory approach. *Journal of Computer Assisted Learning*. <https://doi.org/10.1111/jcal.12753>
- Olanrewaju, G. S., Adebayo, S. B., Omotosho, A. Y., & Olajide, C. F. (2021). Left behind? The effects of digital gaps on e-learning in rural secondary schools and remote communities across Nigeria during the COVID-19 pandemic. *International Journal of Educational Research Open*. <https://areai4africa.org/wp-content/uploads/2022/08/Olanrewaju-et-al.-2021-Left-behind-The-effects-of-digital-gaps-on-e-lear.pdf>
- Ericksen, K. (2022, August 23). 8 overlooked factors affecting student persistence and retention. *Collegis Education*. <https://collegiseducation.com/insights/student-persistence-and-retention/>
- Pascarella, E., & Terenzini, P. (2005). *How College Affects Students: A Third Decade of Research* (2nd ed.). Jossey-Bass. <https://www.amazon.com/How-College-Affects-Students-Research/dp/0787910449>
- Bechmann, A., Lomborg, S., & Others. (2013). Mapping actor roles in social media: Different perspectives on value creation in theories of user participation. *New Media & Society*. <https://journals.sagepub.com/doi/10.1177/1461444812462853>

- Akuto, G., et al. (2023). Influence of Social Media Usage on Study Habits of Undergraduates in North Central Nigeria: Implications for Counselling. *International Journal of Research and Innovation in Social Science (IJRISS)*. <https://rsisinternational.org/journals/ijriss/articles/influence-of-social-media-usage-on-study-habits-of-undergraduates-in-north-central-nigeria-implications-for-counselling/>
- Nikolaieva, A. (2025, August 11). 10 Best Software Development Methodologies. Uptech. <https://www.uptech.team/blog/software-development-methodologies>