KETASCO ALUMNI CENTER ANNUAL REPORT, [2024]

EXECUTIVE SUMMARY

The 2024 Annual Report of the Alumni Center documents a year of remarkable progress and innovation, driven by a commitment to integrating Information and Communication Technology (ICT) into education. This report highlights key achievements and challenges, underscoring the center's pivotal role in enhancing educational outcomes and operational efficiencies.

Educational Impact and ICT Integration

The Alumni Center has significantly bolstered learning outcomes by incorporating ICT into the curriculum. Regular ICT classes and specialized sessions have equipped students with essential digital skills, fostering increased engagement and innovation. Tailored educational programs for departments like General Science, Visual Arts, and General Arts have promoted creativity and problem-solving abilities among students.

Operational Enhancements and Innovations

A major milestone this year was the transition of the Alumni Center Inventory Management System from Ovation Hall to Digital Ocean. This strategic move was driven by performance issues with the former system, and the shift to Digital Ocean has improved application performance, reliability, and cost-efficiency, ensuring minimal downtimes and better resource management.

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Technological Developments

The development of a new Inventory Management App, initially created with ASP.NET and later transitioned to Django, marked a significant advancement in the center's operational capabilities. This app provides real-time inventory tracking, automated restocking alerts, and detailed usage reports. The switch to an open-source framework has enhanced control over app development and deployment.

Resource Management and Connectivity Improvements

To address Internet connectivity issues caused by faulty RJ45 keystone jacks, the center procured 33 units of 802.11 USB Wireless 300Mbps WiFi adapters. This solution restored stable internet connectivity efficiently and cost-effectively, bypassing the need for extensive infrastructure repairs. The wireless adapters have enhanced the ICT lab's capabilities, ensuring continuous access to digital resources.

Administrative Challenges

The sudden transfer of the former headmaster, who played a crucial role in establishing the Alumni Center, posed significant challenges. This administrative change disrupted the lab's operational continuity and strategic planning briefly, highlighting the need for stable leadership to maintain the lab's innovative trajectory.

Learners Platform Initiative

The KETASCO Alumni of North America (KANA) introduced the Learners Platform to aid students in preparing for the West African Senior School Certificate Examination (WASSCE). Despite its potential, the platform experienced varying levels of engagement across departments, indicating a need for strategies to increase utilization and maximize educational benefits.

Termination of Vodafone Internet Service

The termination of Vodafone's internet service in the Keta Municipality significantly impacted the Alumni Center, disrupting its provision of internet services. This disruption was primarily caused by the theft of underground network cables by criminals operating within the Keta enclave. Vodafone's decision to halt services was a direct response to these recurrent thefts, which jeopardized the sustainability and security of their network infrastructure.

Future Directions

The report outlines several recommendations for the future:

- Enhance engagement with the Learners Platform through targeted strategies and curriculum integration.
- Continue to expand and upgrade ICT infrastructure.
- Foster stronger alumni involvement for resources, mentorship, and funding.
- Implement regular feedback and monitoring systems to improve ICT resources.
- Promote gender inclusivity in ICT programs.
- Leverage open-source solutions to reduce costs and increase flexibility.
- Plan for scalability to accommodate future growth and technological advancements.

Overall, the 2024 Annual Report reflects a year of strategic growth, resilience, and dedication to educational excellence through ICT integration. The Alumni Center's achievements set a high standard for future initiatives, inspiring continued innovation and support for the KETASCO community.

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INTRODUCTION

The 2024 Annual Report of the Alumni Center at Keta Senior High Technical School (KETASCO) encapsulates a year of significant progress and dynamic initiatives aimed at enhancing educational experiences through Information and Communication Technology (ICT). This report provides an in-depth look at the center's efforts to foster digital literacy and innovation within the KETASCO community. It highlights notable achievements such as the development and implementation of a inventory management application, successful migration of the Alumni Center Inventory Management System to Digital Ocean hosting framework, superintending over the successful rehabilitation of the washrooms attached to the center, renovation of the six form block and improvements in Internet connectivity through the procurement of wireless adapters.

Throughout the past year, the Alumni Center has remained committed to its mission of integrating ICT into education and providing the platform for students to explore their potentials, thereby enriching the learning environment and equipping students with essential digital skills. This report also addresses the operational and administrative challenges faced, including the impact of leadership changes within the school. By detailing the outcomes of various projects and the strategic decisions taken, the report underscores the Alumni Center's pivotal role in driving educational excellence and operational efficiency at KETASCO.

ICT LAB USAGE AND DEMAND: OPERATIONAL OVERVIEW

1. Total hours of operation

- **Operating hours per day**: The school operates from 7 AM to 5 PM.
- **Hours of operation per day**: 7 AM - 5 PM = 10 hours per day.
- **Days of operation per week: Monday - Friday(5-day school week)**: 10 hours/day × 5 days/week = 50 hours per week.

2. Total number of classes

Given that there are 9 departments and each class in the department has an average of 70 students, estimate of total number of classes:

- 25 classes in form 1
- 23 classes in form 2
- 24 classes in form 3

Each class has one hour of Core ICT period per week, which gives us:

- Total Core ICT classes per week = 25 + 23 + 24 = 72 classes.

Total Core ICT class hours per week = 72 classes × 1 hour = 72 hours.

3. Distribution of usage among departments

- **Core ICT Classes**: Every class has one hour per week, accounting for 72 hours (as calculated)
- **Elective ICT Classes**: Offered to a subsection of students, distributed as follows:
    - **General Science**: 4 classes, 4 periods per week each = 4 classes × 4 periods = 16 hours/week
    - **Visual Arts**: 2 classes, 4 periods per week each = 2 classes × 4 periods = 8 hours/week
    - **General Arts**: 2 classes, 4 periods per week each = 2 classes × 4 periods = 8 hours/week

Total elective ICT hours per week = 16 (General Science) + 8 (Visual Arts) + 8 (General Arts) = 32 hours.

Overall usage:

- **Total Core ICT hours per week**: 72 hours
- **Total Elective ICT hours per week**: 32 hours

- **Grand Total ICT hours per week**: 72 (Core) + 32 (Elective) = 104 hours per week.

Thus, out of the 50 hours of lab availability per week, ICT uses 104 hours, indicating that there is a high demand for the lab, potentially necessitating more than one lab or overlapping sessions.

Implications

- The above data suggests that the lab is operational for 50 hours each week.
- A total of 72 classes (each class with 70 students on average) utilize the lab for Core ICT classes, contributing to 72 hours of usage.
- An additional 32 hours per week are dedicated to Elective ICT classes for certain departments.
- The above distribution suggests very intensive use of the lab facilities, possibly requiring careful scheduling or additional resources to accommodate all needs.
- Scheduling conflicts always arise due to the limited 50-hour operation per week, exacerbating issues such as overcrowding and unequal access to lab resources.
- Departments with high demand - General Science and General Arts - for lab time struggle to secure sufficient hours, impacting the quality of instruction and student learning outcomes.
- In addition to routine maintenance, the lab faces technical issues such as overheating of vital components such as RAM, Power Supply and the CPU in the system units which may eventually lead to system damage.

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EDUCATIONAL IMPACT OF THE ALUMNI CENTER ON ACADEMIC WORK

1. Enhancement of Learning Outcomes

- **Integration of ICT in Education**: The Alumni Center has provided the platform for regular ICT classes which ensures that students across all forms and departments gain basic to advanced computer literacy skills, which are critical in today's digital age.
- **Support for Elective Specialization**: Providing additional ICT hours for specific departments like General Science, Visual Arts, and General Arts allows students in these disciplines to delve deeper into software and applications specific to their fields, fostering a more tailored educational experience.

2. Increased Engagement and Innovation

- **Student Engagement**: The Lab also laid the foundation for active engagement in ICT which increase students' interest in their studies. Learning various applications and tools make learning more interactive and engaging.
- **Creativity and Problem-Solving**: For departments like Visual Arts and General Arts, advanced ICT skills provided at the Alumni Center enable students to explore creative software which enhances their artistic capabilities and problem-solving skills.

3. Skill Development

- **Future Preparedness**: The Alumni Center is equally equipping KETASCO students for the future. In an increasingly digital world, students equipped with ICT skills are better prepared for higher education and various career paths.

4. Resource Allocation and Management

- **Optimal Use of Resources**: In spite of the high demand for Lab time, scheduling is managed efficiently to ensure all students benefit equally from the technological resource that are available at the Alumni Center.

5. Equal Access and Inclusivity

- **Ensuring Access**: The scheduling and allocation of lab resources is handled in a way that all students, regardless of their department, have equal access to ICT education.

6. Educational Administration and Policy

- **Feedback for Improvement**: Monitoring which departments use the lab and how they benefit provides valuable feedback for improving the general management of the place.

Summary

The strategic use of the Alumni Center as described can significantly enhance educational outcomes by integrating technology into various aspects of learning. It supports skill development, engagement, and prepares students for future challenges. However, it also necessitates careful management and foresight in resource allocation and infrastructure development to maintain an effective learning environment.

IMPACT OF THE SUDDEN TRANSFER OF THE FORMER HEADMASTER

The abrupt removal of the former Headmaster(Mr Isaac Dzidzienyo) of the school has reverberated deeply, particularly affecting the initial trajectory of the Computer Lab, a flagship initiative he played a pivotal role in establishing with the support of the Alumni of North America. This egregious action has not only disrupted the operational continuity of the lab project but has also jeopardized its developmental and visionary endeavours.

The Computer Lab, a beacon of technological advancement and educational innovation, stood as a testament to the collaborative efforts between the school administration and its alumni diaspora. Under the guidance of the ousted headmaster, the lab flourished, becoming a hub for digital literacy and ICT proficiency among students, faculty and the members of the Keta Municipality alike. His leadership catalysed the lab's birth and growth fostering an environment conducive to learning and technological exploration.

However, the sudden transfer of this noble and discerning man has cast a shadow of uncertainty over the lab's future initially. His absence has left a leadership void, which hindered decision-making processes critical to the lab's development and operation. The vacuum created by his departure has disrupted the continuity of strategic planning, implementation of upgrades, and coordination with external stakeholders, including the Alumni of North America at the time.

Furthermore, the removal of the headmaster has fractured the trust and cohesion within the school community, impeding collaborative efforts necessary for the sustained growth and vision realization of the Computer Lab. Alumni support, once a cornerstone of the lab's success, now faces uncertainty and scepticism in the wake of this administrative turmoil.

Consequently, this impasse has precipitated a domino effect of setbacks, stifling the lab's potential for innovation and dimming its visionary aspirations. Albeit this transgression was managed one way or the other to allow the Lab to continue to function nonetheless.

ANALYSIS OF THE IMPACT AND UTILIZATION OF LEARNERS PLATFORM ONLINE LEARNING RESOURCE

In an innovative move to enhance educational outcomes, the KETASCO Alumni of North America (KANA), initiated the Learners Platform—an online educational resource aimed at supporting the final year students in their preparations for the 2023 West African Senior School Certificate Examination (WASSCE). This initiative represents a strategic approach to integrating technology with education, providing targeted learning support in the four core subjects: Core Mathematics, English Language, General Science, and Social Studies.

Overview of the usage

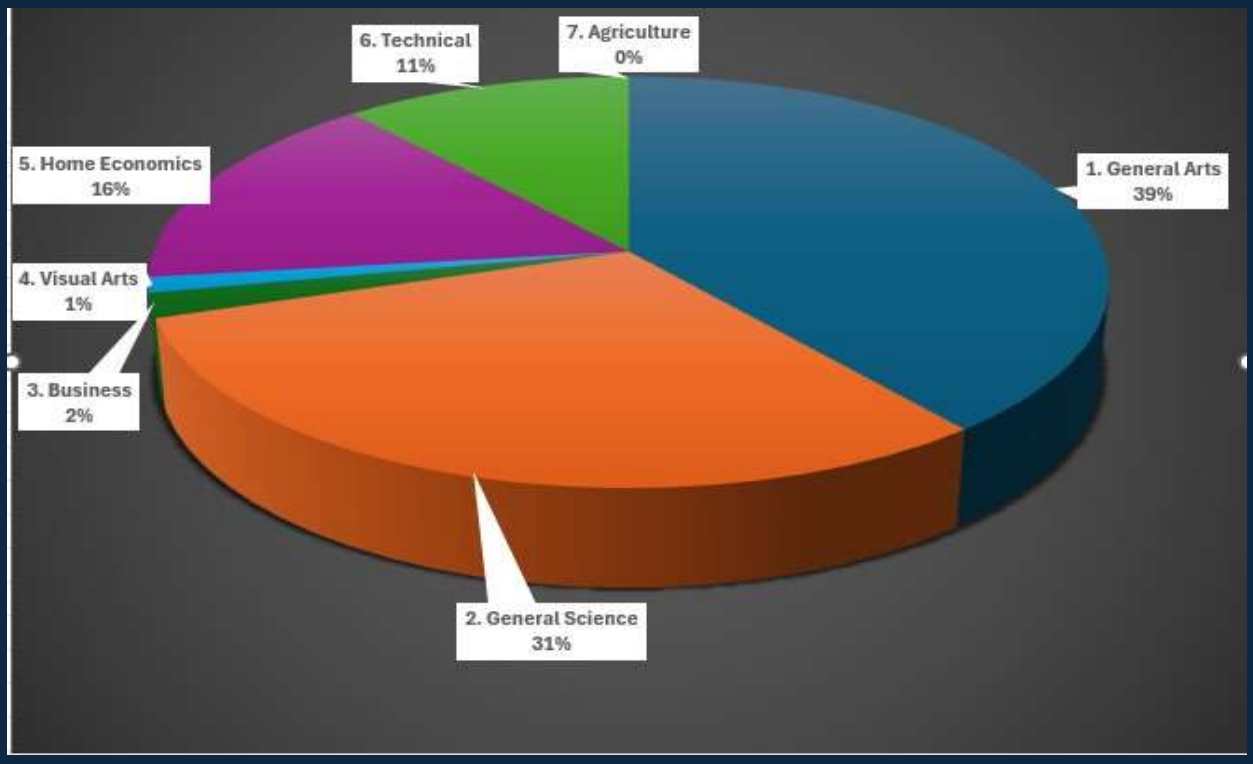
The Learners Platform resource was installed in the Alumni Lab, enabling students to access a rich repository of educational content tailored to the curricula of the aforementioned core subjects. The

platform was designed to provide interactive learning experiences, practice tests, and study materials to improve the students' understanding and performance in these crucial areas.

Student Engagement Across Departments

The platform was made available to students from various departments, each with differing academic focuses and needs. Here's a breakdown of the engagement data:

1. **General Arts**: Out of 326 students, only 32 utilized the resource.
2. **General Science**: With 254 students, 38 accessed the platform.
3. **Business**: From 118 students, 16 engaged with the online resource.
4. **Visual Arts**: Of the 98 students, 10 showed interest by logging into the system.
5. **Home Economics**: This department saw 31 out of 131 students using the resource.
6. **Technical**: 16 out of 93 students explored the platform.
7. **Agriculture**: No engagement was recorded from this department.



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Analysis of Utilization Rates

The utilization rates across the departments indicate a low overall engagement with the Learners Platform online resource. The highest usage was seen in the Home Economics department with about 23.7% of students engaging with the platform, while the General Arts and General Science departments showed relatively moderate engagement levels of approximately 9.8% and 15% respectively.

Below is the full schedule for accessing the Learners Platform package for the various departments on class basis.

INFORMATION AND COMMUNICATION TECHNOLOGY DEPARTMENT

ONLINE LEARNING RESOURCE PACKAGE FOR SHS 3

WEBSITE: **http://learnersplatform.com/login**

DAY	TIME/CLASS						
MONDAY		3:00 – 4:00 PM 3 SCIENCE C	4:00 – 5:00 PM TECH A			SUPER	5:30 – 6:30 PM 3 SCIENCE D
TUESDAY		3:00 – 4:00 PM 3 G.ART E	4:00 – 5:00 PM 3 V. ART A				5:30 – 6:30 PM 3 G. ART D
WEDNESDAY	6:00 – 7:00 AM 3 BUSINESS A	3:00 – 4:00 PM 3 SCIENCE B	4:00 – 5:00 PM 3 G.ART C1				5:30 – 6:30 PM 3 H. ECONS B
THURSDAY		1:00 – 2:00 PM 3 G.ART A	2:00 – 3:00 PM 3 AGRIC	3:00 – 4:00 PM 3 SCIENCE A	4:00 – 5:00 PM 3 G.ART B		5:30 – 6:30 PM 3 H. ECONS A
FRIDAY	6:00 – 7:00 AM 3 TECH B	3:00 – 4:00 PM 3 BUSINESS B	4:00 – 5:00 PM 3 V. ART B				5:30 – 6:30 PM 3 G.ART C2

Factors Influencing Utilization

Several factors could be influencing the low utilization rates of the Learners Platform:

- **Awareness and Accessibility**: It is possible that not all students were fully aware of the availability of this resource or how to access it effectively.
- **Relevance of Content**: Students may have perceived the content as being more aligned with some departments than others, particularly since the resource initially focused on core subjects that are mandatory across all departments.

- **Technical Challenges**: Issues such as lack of proper orientation on using the platform could have hindered wider usage.
- **Cultural and Motivational Factors**: The novelty of online learning platforms and varying levels of self-motivation among students could also play significant roles in adoption rates.

Recommendations for Improved Engagement

To enhance the effectiveness of the Learners Platform and increase its utilization, the following strategies are recommended:

- **Enhanced Orientation and Training**: Organize regular workshops and orientation sessions to familiarize students and teachers with the benefits and usage of the platform.
- **Expand Content Range**: Broaden the content to include department-specific resources, especially for departments like Agriculture, which showed no engagement.
- **Regular Feedback and Updates**: Implement a feedback mechanism to collect student inputs on the platform's functionality and content, facilitating continuous improvement and customization.

In all, the Learners Platform presents a promising tool for improving educational outcomes at KETASCO. However, its potential is yet to be fully realized. By addressing the challenges related to its adoption and tailoring the platform to meet the diverse needs of all departments, it can significantly contribute to better academic performances among the students.

MAINTENANCE AND REPAIR WORKS

As part of our ongoing commitment to ensure the optimal functioning and operational efficiency of the facilities at the Alumni Lab, series of maintenance and repair works over the recent period has been carried out. These activities are critical for providing a conducive environment for research and learning. Below is a detailed account of the maintenance and repairs undertaken on the air conditioning units, sliding doors, computer hardware, projector, and fans.

1. Air Conditioning Units

The Alumni Lab is equipped with four LG air conditioning units that are essential for maintaining a comfortable environment for users. Recently, these units underwent significant maintenance, primarily involving the refilling of refrigerant gases. This process is vital for efficient cooling performance and was necessitated by reduced cooling efficiency observed in the units. In addition to the gas refills, routine checks were conducted on the compressors and evaporators to ensure there are no leaks or damages and cleaning of the vents. These repairs and maintenance ensure that the air conditioning systems operate efficiently and sustainably.

2. Sliding Door at Entrances

The sliding door at the entrance of the Alumni Lab has seen frequent repairs, primarily due to its heavy usage which often results in mechanical wear and tear. The repair works involved replacing worn-out rollers and realigning the track system to ensure smooth operation. These repairs have significantly improved the usability and security of the entrance, making it more reliable for daily operations.

3. Computer Hardware Upgrades and Repairs

During the year under review, routine maintenance and repair works included the replacement of CMOS batteries in almost all the computers. CMOS (Complementary Metal-Oxide-Semiconductor) batteries are crucial for maintaining the system clock and BIOS settings when the computer is powered off. Over time, these batteries deplete and need replacement to ensure the smooth functioning of the system. By replacing the CMOS batteries, we have preemptively addressed potential system startup issues, BIOS errors, and date/time inaccuracies, thereby ensuring that all computers remain reliable and efficient for daily operations.

Additionally, eight of the computers experienced significant issues including overheating, damaged RAM, and faulty power supplies. These problems were identified, and some have been rectified as

part of the maintenance process. Overheating usually leads to thermal throttling or permanent damage to internal components, thus necessitating immediate attention to cooling systems and airflow improvements. Damaged RAM sometimes cause frequent system crashes, data corruption, and reduced performance. Faulty power supplies also lead to unexpected shutdowns and hardware failure. By addressing these issues, we have enhanced the stability and longevity of the affected computers, ensuring they meet the necessary performance standards and continue to be operational efficiently.

4. Lab Fans

The Alumni Center saw the installation and configuration of 10 ceiling fans, which had been fixed in place without regulators and power since the center's establishment. The project involved running electrical wiring from the main power supply to each fan, ensuring that all connections were secure and met safety standards. Each fan was then outfitted with modern, efficient regulators to control speed settings. The successful activation of these ceiling fans not only improved air circulation within the Alumni Center but also marked a significant upgrade to the facility's amenities, reflecting ongoing efforts to enhance the environment for teaching and learning.

5. Replacement of NEC Projector Lamp

The efficient functioning of audio-visual equipment is crucial in educational settings like the Alumni Center, where a significant amount of teaching and learning relies on multimedia presentations. Among these, the NEC projector at the Alumni Center plays a pivotal role due to its advanced features and reliability. However, like all technology, they are susceptible to wear and tear, particularly the projector lamps, which are integral for operation but have a limited lifespan.

The default lamp that came with the projector had to be replaced with a spare one for reaching the end of its lifespan. This incident could have led to disruptions in scheduled classes and presentations, impacting the learning process. However, thanks to the proactive approach of **KANA** providing spare lamps, the issue was swiftly resolved.

The NEC projector lamp typically has a life expectancy of about 2,000 to 4,000 hours, depending on usage intensity and mode settings. The lamps dim over time and eventually burn out, necessitating timely replacement to ensure continuous functionality and optimal brightness.

The replacement process was carried out efficiently due to the availability of two spare lamps that had been included as part of the original procurement plan for the projectors. This foresight in supply management ensured that there was no significant downtime in teaching activities.

Thanks to the immediate availability of the spare lamps and the efficient procedure followed, the replacement was completed swiftly, and normal activities at the Alumni Center resumed without significant delay. This incident underscores the importance of regular maintenance checks and having a contingency plan for key components in educational technology setups. By investing in spare parts and regular upkeep, institutions can avoid disruptions and ensure a seamless educational experience for both instructors and students.

RENOVATION OF ALUMNI CENTER WASHROOMS

The washrooms at the Alumni Center underwent significant renovations to enhance the facilities. The renovation targeted the major components, crucial for improving the daily experiences of staff and students alike. Located on both the ground and the first floors, these washrooms were meticulously upgraded to meet modern standards and ensure compliance with hygiene and comfort.

Project Overview

The project involved four washrooms distributed over two floors, with each floor hosting six washrooms. Each washroom comprises two separate apartments, and each apartment contains three cubicles, totalling six cubicles per floor. This design is intended to accommodate gender parity typically expected in a school environment, ensuring that facilities are adequate for males and females.

Scope of Renovations

The renovation covered several essential upgrades and replacements to both the functionality and aesthetics of the washrooms:

1. **Water Closet Units:** All old water closets were replaced with new, more efficient models. These units were selected for their robust performance and water-saving features, aligning with environmental sustainability goals.
2. **Hand Washing Basins:** New hand washing basins were installed to replace outdated ones. The new basins are designed to be more user-friendly and include modern faucets that reduce water wastage.
3. **Installation of Hand Sanitizers:** In response to increasing health and hygiene standards, hand sanitizer dispensers were installed in strategic locations within each washroom. This addition is part of an ongoing effort to promote health and prevent the spread of germs in the wake of the COVID-19 pandemic.
4. **Water Pumps:** To improve water pressure and ensure a consistent water supply, new water pump was installed. This pump is crucial for the effective operation of water closets and basins, especially in upper floor locations.
5. **Toilet Roll Holders:** New toilet roll holders were also installed in each cubicle, ensuring that they are robust and user-friendly. This seemingly small detail significantly impacts the user experience by providing convenience and functionality.
6. **Door Lock Replacement:** All the washroom door locks were replaced with new, high-quality locks to ensure that they are functional and secure.
7. **Painting:** The final touch to the renovation was a fresh coat of paint on all washroom walls. The colour scheme was chosen to reflect the traditional colours of the school, which is key in educational settings.

The renovation of the Alumni Center washrooms at the Six Form Block represents a commitment to facility improvement and maintenance culture that has been the hallmark of the KETASCO Alumni of North America. These updates not only enhance the functionality and aesthetics of the washrooms but also contribute to a safer and more conducive environment for all students and faculty. With these

improvements, the washrooms now offer increased durability, better hygiene, and enhanced user experience, reflecting well on the school's dedication to maintaining high standards across its facilities.

PROCUREMENT OF 802.11 USB WIRELESS ADAPTERS

There was an acquisition of thirty-three (33) units of **802.11 USB Wireless 300Mbps WiFi adapters**. This purchase, amounting to a total of GH₵ 1,914 (fifty-eight Ghanaian Cedi per unit), was initiated to address the connectivity issues caused by the malfunctioning of RJ45 keystone jacks in the Lab.

Background

The Alumni Center Lab has experienced significant connectivity challenges due to faulty RJ45 keystone jacks, which are integral to the wired network infrastructure. The persistent issues have disrupted activities and access to digital resources, crucial for the fulfillment of educational plans and the implementation of the **Learners Platform** programs. The lab, serving a considerable number of faculty and current students for various digital literacy projects, requires a stable and reliable internet connection.

Product Overview

The 802.11 USB Wireless 300Mbps WiFi adapters are compact devices that enable desktop and laptop computers to connect to a wireless network at a transmission speed of up to 300Mbps. These adapters support the IEEE 802.11n wireless standard, also compatible with 802.11g and 802.11b standards, making them versatile for various network environments.

Technical Specifications

- **Standard Compatibility:** IEEE 802.11n (backwards compatible with 802.11b/g)
- **Speed:** Up to 300Mbps
- **Security Protocols:** Supports WEP, WPA/WPA2, and WPA-PSK/WPA2-PSK encryptions
- **Frequency Band:** 2.4 GHz
- **Interface:** USB 2.0
- **Antenna Type:** Internal Omni-directional Antenna

Implementation

The WiFi adapters were deployed across various computer workstations in the Alumni Lab. This solution allowed for immediate restoration of internet connectivity and bypasses the need for extensive and disruptive infrastructure repairs. The plug-and-play nature of these adapters ensures easy installation and minimal configuration, thereby reducing setup times and technical challenges.

Cost Efficiency

The cost of repairing the existing wired infrastructure was evaluated, and it was found to be significantly higher and more disruptive compared to the procurement of WiFi adapters. At a total cost of GH₵ 1,914 for the adapters, this solution presents a cost-effective and efficient method to restore connectivity to the lab. This approach improves the lab's capability to accommodate more users.

INTERNET CONNECTIVITY DISRUPTION

The decision by Vodafone Ghana to terminate its internet services to the Keta and its enclave has a rippling effect on internet service at the Alumni Center. This drastic measure was taken in response to recurrent thefts of underground network cables, which have not only endangered the sustainability of providing internet services but have also posed significant security challenges. The implications of

this decision are multifaceted, affecting various stakeholders that rely on the services of VODAFONE to run the business.

First and foremost, the center heavily relies on the internet for facilitating faculty projects and research that require constant online oversight and collaboration. Without reliable internet access, the effectiveness of key educational operations is significantly compromised.

Moreover, the educational programs and resources that the Alumni Center provides have been adversely affected. Many of these programs depend on online resources to function. The current lack of connectivity not only impacts the learning process but also limits the center's capability to offer continuous education and professional development opportunities to both learners and teacher.

Additionally, the abrupt termination of internet services by Vodafone due to cable theft indicates a larger, more systemic issue of infrastructure security that needs addressing. The recurring thefts suggest a vulnerability in the physical security measures currently in place, and they highlight the necessity for improved protective strategies not only by the service provider but also possibly by the school authorities because once the source of the attraction of these criminals have been curtailed they are likely to turn their attention to the next available source of survival.

In conclusion, the discontinuation of Vodafone internet services in Keta, prompted by cable theft, poses serious challenges to the Alumni center's operations, educational initiatives, and overall connectivity. To mitigate these challenges, it is imperative for the center to explore alternative internet service providers or consider technological solutions such as satellite internet services that might be less susceptible to local theft.

In line with the above, the center is currently evaluating several prominent internet service providers to reestablish internet access and to ensure the center remains a hub of connectivity.

APPOINTMENT AS HEAD OF DEPARTMENT OF ICT

Effective January 23rd of this year, I was appointed as the Head of ICT Department. This appointment follows a rigorous application, vetting, and interview process, culminating in my selection to succeed Madam Gertrude Ayim, the former Head of Department.

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Background

After the position of Head of Department of ICT was advertised by the school's management, signalling an opportunity for qualified candidates to step into a leadership role within the department, .and recognizing this as a chance to contribute my expertise and leadership skills, decided to apply for the position.

Application and Vetting Process

I embarked on a thorough application process, showcasing my qualifications, experiences, and vision for the department's future. The application was subjected to meticulous vetting, where my credentials, competencies, and suitability for the role were carefully assessed.

Interview and Selection

Following the vetting process, I participated in a comprehensive interview conducted by a panel of experts. During this interview, I demonstrated my deep understanding of ICT education, strategic planning abilities, and commitment to fostering innovation within the department. I believe my performance during the interview phase solidified my candidacy for the position.

Support from Key Personalities

Throughout the application and selection process, I received invaluable guidance, support, and blessings from key figures within and outside the Keta Senior High Technical School community. Professor John Dogbey, representing the KETASCO Alumni of North America (KANA), provided mentorship and advocacy for my candidacy. Additionally, the former headmaster of the school, Mr. Isaac K. Dzidzienyo, offered his support, recognizing my potential to lead the ICT Department effectively.

My appointment as the Head of Department of ICT signifies a new chapter in the department's evolution. With my proven leadership abilities, dedication to excellence, and the support of influential stakeholders, I am poised to steer the ICT Department towards greater heights of success and innovation. My tenure promises to be characterized by collaboration, growth, and a relentless pursuit of excellence in ICT education.

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SIX FORMERS BLOCK RENOVATION PROJECT

In the 2023/2024 academic year, the KETASCO Alumni of North America embarked on a project to renovate the Six Former block, a crucial facility for the students. This initiative was generously sponsored by the KETASCO Alumni, under the leadership of Dr. Gadagbui and Prof. Dogbey, who both exemplified their commitment to giving back to their alma mater by steering this significant project.

The renovation contract was awarded to Mr. Raymond Gbeku and his esteemed construction firm, known for their expertise in managing and executing educational infrastructure projects. The project kicked off as scheduled, following comprehensive feasibility studies that ensured a clear roadmap and objectives were in place.

The renovation work encompassed several essential upgrades and repairs aimed at improving the functionality and aesthetics of the structure. Despite the project's smooth initiation, it encountered a few challenges along the way. These included the installation of a new water pump, which was critical to address the building's longstanding water supply issues. The project also required the replacement of louver blades and mosquito nets to enhance ventilation and prevent malaria as a result of mosquito bites, a concern in the school.

Additionally, there were issues with the quality of the painting work initially done, which did not meet the standards expected for such a notable project. Another significant aspect of the renovation was the replacement of outdated and malfunctioning door locks, which was crucial for ensuring the security of the students and the facility.

When these setbacks were noticed, they were promptly brought to the attention of the headmaster of the school. Recognizing the importance of addressing these concerns swiftly to avoid any impact on the academic activities, the project consultant, Mr. Gbeku, was called back. His responsiveness and the proactive approach of the consulting team helped in quickly rectifying the issues, thus minimizing any disruption to the daily use of the building.

The successful completion of the renovation project not only revitalized the Six Formers block but also significantly contributed to a better learning environment for the students. The involvement of the KETASCO Alumni of North America, especially the dedication shown by Dr. Gadagbui and Prof.

Dogbey, served as a testament to the powerful impact of alumni engagement in educational development.

The KETASCO community, including students, faculty, and alumni, expressed their gratitude and pride in what was achieved through this collaboration. The renovated block now stands as a symbol of the dedication of its alumni and their commitment to the continuous improvement of educational facilities at their alma mater. This project not only improved the school's infrastructure but also strengthened the bond within the KETASCO community, inspiring current students by showing them the value of community support and the long-lasting impact of educational investments.

STELLAR PERFORMANCE IN ICT: A LANDMARK ACHIEVEMENT IN WASSCE EXAMINATIONS

This year's West African Senior School Certificate Examination (WASSCE) results have marked a monumental milestone for the Information and Communications Technology (ICT) Department, with an unprecedented 100% pass rate. This accomplishment not only highlights the dedication and expertise of our faculty but also underscores the pivotal role of enhanced facilities, specifically through the establishment of the new Alumni Center Lab, generously funded by the KETASCO Alumni of North America.

Historically, the ICT department faced significant challenges due to inadequate facilities, which impacted both teaching and learning. The intervention by the alumni to establish a state-of-the-art computer lab came at a crucial time, ensuring that our students had access to the necessary technology and resources to fully engage with the curriculum and excel in their studies.

This year’s success is not merely in the numbers but also in the breaking of gender barriers within the department. For the first time in the history of the ICT department, not one, but two female students achieved the highest grade of A1 in ICT. This is a remarkable and inspiring achievement that speaks volumes about the evolving dynamics and inclusivity within the field of technology education in the school.

The significance of this achievement cannot be overstated. It reflects a broader shift towards gender inclusivity within STEM fields, traditionally dominated by male students. These young girls have not

only set a high standard for their peers but have also become role models for future generations of female students aspiring to excel in technology.

Moreover, the ICT department's 100% pass rate stands out as the sole department within the school to achieve this mark this academic year, highlighting the exceptional teaching and the effectiveness of the newly installed facilities. The teachers of the ICT department deserve immense recognition for their steadfast commitment and unwavering support to each student, ensuring that everyone had the opportunity to perform to the best of their abilities.

The support from the KETASCO Alumni of North America was instrumental in this success. Their involvement goes beyond mere financial assistance; it represents a profound commitment to giving back to their alma mater and investing in the future of young learners. Their contribution has not only enhanced the learning environment but has also instilled a sense of community and collaboration among students and faculty alike.

As we celebrate this outstanding achievement, it is essential to recognize that this is just the beginning. The success of the ICT department sets a new standard and serves as a catalyst for continued excellence and innovation in our approach to education. We are inspired to keep pushing boundaries, encouraging our students, and providing them with the tools they need to succeed in this rapidly evolving technological world.

The 100% pass rate in the WASSCE by the ICT students is not just a statistic; it's a testament to hard work, innovation, and collaboration. It is a victory for everyone involved—from the visionary alumni and dedicated teachers to the brilliant students who have made us all proud. As we look to the future, we are motivated by our achievements and excited for what our students will accomplish next.

THE ALUMNI CENTER INVENTORY MANAGEMENT SOFTWARE

The Alumni Center App represents a significant leap forward in the management of inventory and resources within the Alumni Center, seamlessly integrating technological innovation with daily operations. Developed by Mr. Elvis Doe, the coordinator of the center, this app has been carefully designed to monitor and control the usage of various items within the facility. The development

journey of this app, from its conception to deployment, showcases a blend of technical adaptability and commitment to operational efficiency.

Initial Development Using ASP.NET (MICROSOFT WEB FRAMEWORK)

Originally, the Alumni Center App was developed using the ASP.NET framework, a choice reflecting the framework's robust capabilities in creating dynamic web pages and services. ASP.NET, a server-side web application framework created by Microsoft, has been widely recognized for its ability to help developers construct dynamic sites, applications, and services. This initial version 1.0 of the app leveraged ASP.NET to ensure that the center's inventory was managed efficiently, with features tailored to the unique needs of the Alumni Center.

Transition to Django Web Framework

Despite the initial successes with ASP.NET, the application faced significant challenges related to hosting and deployment, primarily due to licensing and operational restrictions imposed by Microsoft. These hurdles necessitated a strategic shift in the developmental framework used for the Alumni Center App. The decision was made to migrate the application to Django, a Python-based framework known for its robustness, scalability, and flexibility.

Django, unlike ASP.NET, is an open-source framework supported by the Django Software Foundation, a non-profit organization dedicated to the maintenance and improvement of the framework. This shift not only allowed for greater control over the application's development and deployment processes but also aligned with broader technological trends favoring open-source solutions.

Features and Capabilities

The redeveloped Alumni Center App on Django includes several key features essential for effective inventory management. These include real-time tracking of item usage, automated restocking alerts, detailed usage reports, and user-friendly interfaces for both administrators and users of the center. By harnessing Django’s model-template-views architecture, the app provides a streamlined and intuitive user experience while maintaining the flexibility needed to adapt to future needs.

Impact and Future Directions

Released in early 2023 after overcoming initial delays due to the framework transition, the Alumni Center App has dramatically improved the management of resources within the Alumni Center. The

app's impact extends beyond simple inventory management; it enhances operational transparency as it is web-based and so can be accessed by the Alumni executives all over the world and also allows for better planning and allocation of resources.

Looking forward, the possibilities for further enhancement and expansion of the app are vast. Potential updates could include integration with other institutional systems, the introduction of machine learning algorithms for predictive analytics, and expanded mobile access and functionality.

The development of the Alumni Center App is a prime example of how adaptive technology solutions can significantly enhance organizational efficiency. By transitioning from ASP.NET to Django, the app not only overcame significant deployment challenges but also set a new standard for future applications within the Alumni Center. With its robust functionality and user-centered design, the Alumni Center App is poised to remain an essential tool in the management of the center's resources.

RENEWAL OF ALUMNI CENTRE DOMAIN NAME

Overview

The domain name for the Ketasco Alumni Centre, accessible at ketascoalumnicentre.com, expired in February of 2024. This domain is crucial for maintaining the online presence of the Alumni Centre, facilitating communication and hosting relevant information and updates.

Service Provider

The service provider for the domain name is Ovation Hall Ghana, a reputable company specializing in domain registration and web hosting services. Ovation Hall Ghana has been known for its reliable service and support, making it a suitable choice for the Alumni Centre's needs.

Renewal Details

- **Package Cost**: The cost for renewing the domain name package is GH₵ 176 per annum.
- **Subscription Period**: A two-year subscription has been paid in advance, ensuring that the domain name will remain active and functional without interruption until February 2026.

Importance of Timely Renewal

Renewing the domain name promptly is vital for several reasons:

1. **Continuity**: It ensures continuous access to the Alumni Centre's website.
2. **Brand Integrity**: Maintaining the domain name helps preserve the Centre's online identity and brand recognition.
3. **Security**: Avoiding expiration reduces the risk of the domain being hijacked or acquired by third parties, which could lead to misinformation or loss of credibility.

Financial Overview

The advance payment for the two-year subscription amounts to GH₵ 352 (GH₵ 176 per annum), which has been processed successfully. This proactive financial planning demonstrates a commitment to maintaining the Centre’s digital presence and avoiding any disruptions that could affect alumni engagement.

HOSTING OF THE ALUMNI CENTER INVENTORY MANAGEMENT SYSTEM ON DIGITAL OCEAN

Background

The strategic decision was made to transition the Inventory Management System from Ovation Hall to Digital Ocean due to consistent issues with service delivery. Ovation Hall's performance, marked by frequent downtimes and slow customer support, was deemed unsatisfactory, prompting the search for a more reliable hosting solution.

New Hosting Solution

After evaluating several alternatives, Digital Ocean was selected for its robust performance, competitive pricing, and excellent support services. The Alumni Center Inventory Management System is now hosted on a Digital Ocean Standard Droplet. This particular droplet configuration, chosen for its balance of cost and capability, ensures that the system remains both accessible and efficient.

Cost Efficiency

The Digital Ocean Standard Droplet costs $6 per month, which is inclusive of bank and service charges. This pricing model provides a significant cost-benefit advantage, especially considering the enhanced service reliability and support. The chosen droplet comes with the following features:

- 1 GB RAM
- 1 vCPU
- 25 GB SSD Disk
- 1 TB Transfer

These resources are more than adequate for the current needs of the Alumni Center Inventory Management System, offering a stable and responsive environment.

Performance and Reliability

Digital Ocean is renowned for its high uptime rates and fast response times, attributes that directly address the previous issues encountered with Ovation Hall. The transition to Digital Ocean is expected to lead to:

- Improved application performance due to faster server speeds and better resource management.
- Enhanced reliability with minimal downtimes, ensuring that the inventory system is available when needed.

- Faster and more effective customer support, crucial for resolving any issues that may arise swiftly.

The migration from Ovation Hall to Digital Ocean was meticulously planned and executed to minimize disruption. The move marked a significant upgrade in the hosting environment for the Alumni Center Inventory Management System.

Digital Ocean offers a variety of pricing plans for its cloud computing services. Here's an overview of the pricing for their main packages as of 2024:

1. Droplets

Droplet pricing varies based on the type and specifications:

- **Standard Droplets**:
  - $5/month: 1 vCPU, 1GB RAM, 25GB SSD, 1TB transfer
  - $10/month: 1 vCPU, 2GB RAM, 50GB SSD, 2TB transfer
  - $15/month: 2 vCPUs, 2GB RAM, 60GB SSD, 3TB transfer
  - $20/month: 2 vCPUs, 4GB RAM, 80GB SSD, 4TB transfer
  - Higher tiers available up to $960/month
- **General Purpose Droplets**:
  - $60/month: 2 vCPUs, 8GB RAM, 50GB SSD, 4TB transfer
  - $120/month: 4 vCPUs, 16GB RAM, 100GB SSD, 5TB transfer
  - Higher tiers available up to $3,840/month
- **CPU-Optimized Droplets**:
  - $40/month: 2 vCPUs, 4GB RAM, 25GB SSD, 4TB transfer
  - $80/month: 4 vCPUs, 8GB RAM, 50GB SSD, 5TB transfer
  - Higher tiers available up to $720/month

- **Memory-Optimized Droplets**:
    - Pricing typically starts around $75/month for 2 vCPUs, 16GB RAM, and scales up based on resource requirements.

2. Kubernetes

Digital Ocean Kubernetes (DOKS) is free; you only pay for the underlying resources (Droplets, Load Balancers, Block Storage).

3. App Platform

- **Starter**: $0/month for static sites
- **Basic**: Starting at $5/month per container
- **Professional**: Starting at $12/month per container
- Additional costs apply for databases, additional storage, and more advanced configurations.

CONCLUSION

The 2024 Annual Report of the Alumni Center at Keta Senior High Technical School (KETASCO) demonstrates the commitment of the Alumni in giving back to their alma mater and the significant progress and achievements of integration of Information and Communication Technology (ICT) within the educational framework. The report highlights several key initiatives and their impacts, showcasing the center's commitment to enhancing educational experiences and operational efficiencies.

Key Achievements and Developments:

Educational Impact and ICT Integration:

- Regular ICT classes and specialized sessions have greatly improved students' digital literacy and engagement across various departments. The tailored educational needs for General Science, Visual Arts, and General Arts students have fostered creativity and problem-solving skills.

Operational Enhancements:

- The transition of the Alumni Center Inventory Management System to Digital Ocean improved application performance, reliability, and cost-efficiency. This change has minimized downtimes and enhanced resource management.

Technological Advancements:

- Development of the new Inventory Management App using Django provided better control over app development and deployment. The app's real-time tracking and inventory management have significantly boosted operational efficiency.

Resource Management and Connectivity Improvements:

- Procuring 33 units of 802.11 USB Wireless 300Mbps WiFi adapters effectively addressed connectivity issues, bypassing the need for extensive infrastructure repairs. This solution has restored stable internet connectivity, enhancing the lab's capabilities.

Administrative Challenges:

- The unexpected transfer of the former headmaster, who was instrumental in the Alumni lab's establishment, posed initial challenges. This change disrupted strategic planning and collaboration, highlighting the need for stable leadership.

Learners Platform Initiative:

- The KETASCO Alumni of North America (KANA) introduced the Learners Platform to aid students preparing for the WASSCE. However, varying engagement levels across departments suggest a need for strategies to increase utilization and maximize educational benefits.

Impact and Vision:

The Alumni Center's efforts have culminated in a remarkable 100% pass rate in the ICT department's WASSCE results, with notable achievements in gender inclusivity. This success underscores the importance of continuous support from alumni and the strategic use of ICT in education. The center's initiatives have not only enhanced learning outcomes but also prepared students for future challenges in a digital world.

Future Directions:

Moving forward, the Alumni Center aims to maintain and build upon its successes by:

- Ensuring stable leadership and effective collaboration with stakeholders.
- Enhancing engagement with digital platforms like the Learners Platform.
- Continuing to innovate and improve resource management and technological infrastructure.

The 2024 Annual Report reflects a year of strategic growth, resilience, and dedication to educational excellence through ICT integration. The Alumni Center's achievements set a high standard for future initiatives, inspiring continued innovation and support for the KETASCO community.

RECOMMENDATIONS

The following recommendations are proposed to enhance the center's impact and address the challenges identified:

1. Provision of Uninterrupted Power Supply (UPS)

The installation of an Uninterrupted Power Supply (UPS) in the Alumni Center Lab is of paramount importance given the current erratic power crisis. A UPS provides a reliable power source that ensures continuous operation of critical equipment and devices, safeguarding against sudden power outages.

Without a UPS, the Alumni Center Lab is exposed to significant risks and potential damages. Sudden power losses can cause abrupt shutdowns of computers, servers, and other electronic equipment, leading to data corruption, loss of unsaved work, and hardware damage. Sensitive laboratory instruments, which may be in the middle of delicate procedures, can be particularly vulnerable to these power disruptions. The frequent start-stop cycles caused by power outages can degrade the lifespan of these devices, leading to costly repairs and replacements. Furthermore, critical research data stored on electronic media could become irretrievably lost or corrupted, setting back projects by weeks or even months.

In the context of the ongoing power crisis, the absence of a UPS in the Alumni Center Lab poses an immediate and escalating threat. As power outages become more frequent and unpredictable, the likelihood of equipment damage and data loss increases. This not only jeopardizes the lab's current operations but also its future viability. Therefore, it is imperative to prioritize the installation of a UPS to mitigate these risks, ensuring that the lab remains a safe and functional environment.

2. Provision of Stepdown Transform

The RICOH SP 311SFNw printer, which was gifted to the Alumni Center by former headmaster Mr. Isaac Dzidzienyo, requires a stepdown transformer to become operational. This printer is designed for a specific voltage input, typically matching the standard voltage of the region where it was originally used. Given that the electrical infrastructure at the Alumni Center differ from the printer’s requirements, a stepdown transformer is essential to adjust the local high voltage (possibly 220V-240V) down to the printer’s operational voltage (likely 110V). This stepdown transformer will ensure the printer receives the correct voltage, preventing potential electrical damage and ensuring safe, reliable operation.

By connecting the RICOH SP 311SFNw printer to a suitable stepdown transformer, the Alumni Center can finally utilize this valuable resource. The printer will provide reliable printing, scanning and copying capabilities, enhancing the center's administrative efficiency.

3. Replacement of Rj45 Keystone Jacks

The Alumni Center's network infrastructure has faced significant disruptions due to damaged RJ45 keystone jacks. These essential components of the wired network system were responsible for ensuring stable and efficient internet connectivity throughout the facility. Their malfunction has severely limited network access, affecting various operations and communications within the center. To address this issue, immediate action was taken to procure 802.11 wireless USB network adapters as an interim solution. These adapters have provided a temporary but essential means to restore connectivity.

The replacement of the damaged RJ45 keystone jacks is now a top priority to fully restore the Alumni Center’s network infrastructure. While the wireless USB adapters have offered a stopgap measure, they cannot match the reliability and speed of a wired network. The planned replacement of these keystone jacks will reinstate the robust, high-speed connections necessary for optimal performance of network-dependent services. This upgrade will not only resolve the current connectivity issues but also enhance the overall resilience and efficiency of the Alumni Center’s IT infrastructure, ensuring uninterrupted service.

4. Enhance Engagement with the Learners Platform:

Develop targeted strategies to increase student engagement with the Learners Platform. This could include incentives for usage, and integrating the platform more closely with the curriculum to ensure it becomes an essential tool for examination preparation and overall learning.

5. Expand ICT Infrastructure:

Continue to invest in ICT infrastructure to support the growing needs of students and faculty. This includes upgrading hardware and expanding wireless capabilities. The procurement of USB WiFi adapters should be supplemented with regular updates and maintenance of the core network infrastructure.

6. Foster Alumni Involvement:

Alumni support has been crucial for the school's success, and strengthening this relationship can lead to more resources, mentorship opportunities, and potential funding for future projects.

7. Regular Feedback and Monitoring:

Implement a system for regular feedback from students and teachers regarding the use of ICT resources at the Alumni Center and the effectiveness of the various educational tools provided. This feedback will help in making timely improvements and ensuring that the resources are meeting the users' needs.

8. Promote Gender Inclusivity in ICT Programs:

Build on the success of achieving female excellence in WASSCE ICT Examination by promoting further initiatives that encourage female students to pursue ICT and STEM-related fields.

9. Leverage Open-Source Solutions:

Continue to utilize and contribute to open-source solutions for the center's technological needs. The transition to Django for the Inventory Management App has shown the benefits of open-source tools. Further exploring and implementing such solutions can reduce costs and increase flexibility.

10. Plan for Scalability:

Develop a long-term plan for scaling the ICT infrastructure to accommodate future growth. This includes anticipating future technology trends and ensuring that the Alumni Center remains at the forefront of educational innovation.

By addressing these recommendations, the Alumni Center can continue to build on its successes and further enhance its role in improving educational outcomes at KETASCO.

NOW OR NEVER