

# UNIVERSITY OF NAIROBI

## ICT ANNUAL REPORT FOR 2013

31<sup>st</sup> January 2014

### 1 INTRODUCTION

The ICT Centre was established in 2002, as an independent unit from the former Institute of Computer Science (ICS). This was necessitated by the strategic importance of ICT services in the University, and in line with implementing the 1999 strategic rationalization recommendations for the University. The Centre's mandate is to assist the University enhance the innovative use of ICT products and services to support teaching, learning, research and administrative processes.

The University's performance has been exemplary both at regional and global level. It is the number One (1) University in Kenya and the East African region and is ranked position 1,167 in the global Webometrics ranking edition of January 2014. The superb performance has been possible through concerted hard work by staff, students and other stakeholders. The University of Nairobi continues to be a global pinnacle of research and academic excellence and its success is hinged on the use of ICT technology.

The Centre plays a vital role of providing ICT leadership at the University, the Higher Education sector, and indeed in Kenya, through the development of appropriate and innovative services in teaching, learning, research and supporting administrative process at the University. The University has invested heavily on ICT infrastructure and Information Systems. Bandwidth available for the University community has peaked 600Mbps.

The number of staff at the ICT Center stands at 132; 60 of the staff are based at Chiromo (headquarters) and the rest distributed across campuses to support and strengthen the ICT utilization across the entire University.

## **2 UPDATES**

### **2.1 VOICE OVER INTERNET PROTOCOL (VOIP) PHASE II IMPLEMENTATION**

VOIP phase II implementation commenced in October 2013. This was a successor to the VOIP Phase I project that was implemented in July 2007. The VOIP phase II project is almost complete pending commissioning. The VOIP system is functional and operational after having migrated from the Call Manager express setup to Call Manager.

VOIP and PABX integration has been done successfully for Main campus, Kikuyu (CEES) campus and Upper Kabete (CAVS) campus. Users from any VOIP can now reach any of the analogue extensions in these campuses. ISDN (Integrated Services Digital Network) has also been configured and integrated with the new infrastructure. VOIP users can now receive calls from any network and as well some privileged users can call any network.

### **2.2 WIRELESS LAN (Wi-Fi) DEPLOYMENT IN COLLEGES**

#### **2.2.1 School of Law (Parklands Campus)**

Wireless Access points have been successfully installed at the School of Law (Parklands Campus) and have been active since November 2013. This wireless deployment is based on a new technology known as the Beam Forming Technology which is able to focus the wireless signal to the intended recipients. This enables effective coverage of all the open spaces, hostels, classrooms and staff quarters in Parklands Campus.

#### **2.2.2 Main Campus**

This was the pilot project for the wireless LAN deployment which was started in 2009. It covers the hostels along Mamlaka road, ADD (Architecture Design and Development), SWA (Student Welfare Authority) and UHS (University Health Services). This has enabled the University to successfully decongest computer labs as students are able to access Internet and Intranet services from the comfort of their rooms.

#### **2.2.3 College of Education and External Studies**

In partnership with KENET (Kenya Education Network) which is the only NREN (National Research and Education Network) in Kenya, a wireless network with a very unique feature was set up in Kikuyu Campus. In addition to the wireless signals, this wireless network has Eduroam. Eduroam (education roaming) is a secure, world-wide roaming access service developed for the international education and research community.

Eduroam allows students, researchers and staff from participating institutions to obtain Internet connectivity across campus and when visiting other participating institutions to access the Internet without the additional need to reconfigure their network settings. This is currently a pilot project and this service will be rolled out to the rest of the University in due course.

#### **2.2.4 Other Colleges**

Wireless LAN has also been deployed in these colleges in the recent past.

1. School of Biological and Physical Sciences (Chiromo Campus) - 2010
2. School of Business (Lower Kabete Campus) - 2012
3. College of Health Sciences (Kenyatta Campus) - 2012
4. Kenya Science Campus - 2013

### **2.3 CORPORATE ANTIVIRUS**

The ICT Center rolled out a Corporate Antivirus solution (Kaspersky) in the entire University in the year 2012/2013. This was occasioned by the fact that the University network extends to several colleges which all need to exchange data. In response to the security needs of such an extensive network there was need for protecting information, both from deliberate attack and from "non-structured" risks such as the spread of a virus within the network. The ICT Centre has installed Kaspersky Endpoint Security on over 2,500 hosts across the various colleges in its network infrastructure.

### **2.4 UNIVERSITY RANKINGS**

The University System of Websites is continuously being updated at the faculty/institute/departmental levels. The content has been enriched and the design improved to cater for the needs of our diverse stakeholders including interactions through the social media. Consequently, the University has continued to perform well in the Webometrics and 4ICU rankings of Universities and Colleges.

Currently, the Webometrics ranking is based on a criterion that focuses on various indicators, which include: Impact (50%) and Activity (50%). Activity consists of three sub-indicators: presence (1/3), openness (1/3) and excellence (1/3). The University of Nairobi has steadily improved in its performance since 2004 when the first Webometrics ranking was released.

In **January 2014**, UoN was ranked 1<sup>st</sup> in East Africa, 9<sup>th</sup> in Africa, and 1,167 in the World.

Ranking	WORLD POSITION					
	AFRICA RANK	WORLD RANK	SIZE/PRESENCE	VISIBILITY/IMPACT	RICH FILES/OPENESS	SCHOLAR/EXCELLENCE
9-Jan	29	4,046	3,069	5,413	3,851	3,839
9-Jul	24	4,467	2,490	7,001	4,327	3,711
10-Jan	28	3,897	3,136	4,679	4,363	4,104
10-Jul	26	3,190	1,905	4,119	3,447	3,809
11-Jan	27	3,136	1,976	4,335	3,310	4,382
11-Jul	26	2,452	2,045	4,215	4,942	1,706
12-Jan	17	1,367	631	1,794	2,761	1,724
12-Jul	14	1,435	839	2,010	4,057	1,342
13-Jan	12	1,326	1,528	2,981	950	1,346
13-Jul	14	1,624	619	2,883	1,119	1,323
<b>14-Jan</b>	<b>9</b>	<b>1,167</b>	<b>1,828</b>	<b>1,898</b>	<b>774</b>	<b>1,329</b>

*Table 1 Webometrics Ranking January 2014*

## 2.5 LAN EXTENSION

In the year 2012/2013, five extramural centers were connected to the University Backbone. These are:

1. Nakuru
2. Nyeri
3. Kisii
4. Kakamega
5. Meru

The University CEES Library in Kisumu campus was also interconnected in this LAN extension. This enabled the University fraternity in these extramural centers to be able to utilize all the services and have the same seamless experience available in the mainstream university network.

In addition, the following projects were implemented and completed during the year 2012/2013.

- Pre-Clinical department LAN Extension with 395 data access points
- Mombasa Campus Computer Laboratory with 50 data points
- Chiromo Funeral Parlour LAN extension with 23 data points
- University Alumni Association and Quality Assurance offices LAN extension with 108 Data points
- Examination Centre student reception LAN extension with 20 data points

In addition to the above projects, in order to increase student's capacity to access internet resources Wireless LANS are being implemented in five Campuses i.e. Mombasa, Kisumu, Parklands, Kikuyu and Health Sciences and are expected to be completed by June 2013.

## **2.6 CORPORATE SOCIAL RESPONSIBILITY**

ICT Center conducted a remarkable outreach program in Rungiri Mixed Secondary School; Kiambu County. The spectacular event was meant to provide a platform for mentoring and enlightening the high school students in making prudent career choices in accordance with JAB admission criteria. This was part of the Center's Corporate Social Responsibility. This occasion was facilitated by the ICT Welfare team and key speakers were Mr. Paul Kariuki-Deputy Director ICT Center (MIS), Ms. Hada Aketch-Web Champion School of Business and Mrs. Josephine Ndung'u- Project leader (MIS).

## **2.7 MANAGEMENT INFORMATION SYSTEMS**

### **2.7.1 Customer Relations Management System**

The ICT Centre in collaboration with Examination Centre is in the process of establishing a state of the art online Customer Care Center. As part of enhancing service delivery to meet international standards, this project aims to implement a Customer Relationship Management (CRM) System to enable customers to be served efficiently. Customers will be able to request for services and track them online. The system will also track the status of the request and inform the client appropriately. This service will be available online such that requests and tracking can be done from anywhere though the Internet. The system will manage queuing efficiently and transparently.

### **2.7.2 Employers' portal**

To further enhance service delivery, employers will be able to confirm authenticity of our graduands certificates and transcripts through an employer's web portal. The online portal will allow employers to log in and verify graduands' details as per university records. Currently the data available that can be verified online is for graduands of 2009 to date and plans are underway to migrate data for the previous years.

### **2.7.3 Research Grant Management Information System**

ICT Centre is currently developing a Research Grant Management Information System (RG-MIS). The RG-MIS will cover administration and management of all research grants in the University from call for proposals, response to calls, project execution, reporting to close out of the project. This system will be accessible within the University intranet with some of the output of the projects being disseminated through the University system of websites. The system will have provision for procurement and a workflow system which will be implemented in the subsequent phases.

The primary function of the Research Grants Management Information System for the University is to capture grant proposals, university grant administration approval, receipt and management of funds, monitoring and reporting of grants. Researchers and general users will view various grant opportunities available from the system.

Successful applications of Research Grants will have the project MoUs, letters of intent, contracts and research permits uploaded to the system. Progress of these projects will be tracked in terms of key milestones. Receipt of funds will be recorded in the system and these funds will be apportioned and disbursed through agreed budget lines. The system will generate reports according to the needs of the stakeholders.

### **2.7.4 Direct Recognition of Bank Deposits in SMIS**

This module was developed to eliminate the need for students to queue when they have already made payment by direct banking. The bank now sends confirmed end-of-day transactions through an email link. Each transaction has a source reference number which uniquely identifies it. Each bank entry can therefore be mapped to a credit entry in SMIS therefore making reconciliation and audit easier. This has made the process of receipting faster and more efficient. The long queues that used to be witnessed at G3 payment office are now a thing of the past.

## **2.8 STAFF WELFARE**

The Center boasts of 130 proficient members of staff that work across all the University Colleges thanks to their flexible nature and multitasking skills. The ICT Center's vision, mission and core values are deeply embraced by its members of staff and thus fostering unity, efficiency and discipline; a perfect blend to create a strong working team. It is due to this that the students and entire University staff have reliable access to ICT services in line with University priorities.

The Center highly appreciates its staff's dedication to their performance of duty and promotes meritocracy. In the year 2013, fourteen members of staff were promoted; with six, five and three members of staff from Management Information Systems, User Support and Network Infrastructure Service sections respectively.

Much as it operates on a perpetual quest for implementing an evolutionary ICT policy and strategy, the Center strives to respect and protect the environment, which is why, last year; it planted more than 120 trees in Chiromo Campus and the University sports ground. Furthermore, ICT Center upholds recreational activities for its members of staff. Over the years, its staff members have been engaged in routine team building events and outreach activities, for example visiting the Rungiri Mixed Secondary School and holding an end year staff party in 2013.

## **2.9 UPCOMING PROJECTS**

In line with its strategic plan and commitment to provide quality services, ICT Centre has embarked on a number of projects to ensure that the University aligns itself with modern IT technology demands that will cater for teaching, learning and research applications as well as service delivery systems.

The following projects are in progress for the year 2013/2014.

- Implementation of Wi-Fi networks in the Dental School, and College of Agriculture and Veterinary Studies (CAVS).
- Firewall Upgrade
- Data Center Facilities Refurbishment
- Installation of 3 new servers and Storage Area Networks
- Installation of Microsoft Active Directory and Upgraded Microsoft licenses
- Refurbishment of ICT Centre Corporate Lab
- Centralized printing solution for ICT centre
- Installation of a new 250 KVA generator for the Data center
- LAN & WIFI extension and connectivity to SWA, SMU units and student common rooms and hostels.
- Upgrade of CCTV Surveillance system for JKML Library
- Hyslop building LAN upgrade

The MIS section's planned projects include;

- Automation of the tax filing process on the HRMIS, popularly known as P9
- Online application for degree programmes
- Payment of some levies via mobile money e.g. Examination Center levies
- Automation of the procurement and cash module on the Financial Management System (FIMS).