Computerized Private Students' Admission System: A Case Study of Muni University

Taban Habibu¹, Draku Job²

^{1,2}Muni University, Faculty of Technoscience, Department of Computer and Information Science, Arua, Uganda

Abstract: Admission of students into any institution of learning such as Muni University is a core activity. Every academic institution needs students to exist and survive. Thus an admission system of a University needs to be efficient and effective in order to avoid unnecessary delays and losses associated with such delays and inefficiencies. The aim of this paper was undertaken to design and develop the under-graduate Private Students' Admission System at Muni University. The system targets at quickening and simplifying the process of admitting students into the University on private scheme. The data was mainly collected through interviews and document reviews followed by a design in Unified Modelling Language (UML) to meet the admission system requirements. The system was developed using Python, PHP, HTML, JavaScript and MySQL. The system was tested numerous times with real data by the department of Academic Registrar, Muni University.

Keywords: Computerized system, Admission, Private Students, Python, JavaScript's and MySQL

1. Introduction

Today all the work at the time of admission of the students is done traditionally by ink and paper, which proves tedious, prone to human errors at entry level, labor intensive and time consuming resulting in incorrect or undesired out comes. In the modern world of technology, computer is affecting our lives in more ways than we probably are aware of computerized management information of an educational institute, universities, college and others. The main principle behind the need of computerized private student admission system is intended at better computerized and centralized system to manage the admission of private students at Muni Universityto easy management of admission process. The design and implementation of the system and user interface is to help the administrator to easy admission process and issuing of admission letter in time. The system was tested and found to have produced the expected results. It is about time that traditional private admission process in Muni University gives way to computerized private students' admission system to simplify the task for academic registrar's officers.

2. Related Literature

Many Universities have adopted computers to handle each and every part of the student admission processing shifting from traditional methods into a better environment electronic that enhances productivity by reducing process time, producing early and accurate reports, making information readily available when needed. This adoption did not happen in one night, but rather an evolutionary process that started with the generation of computers. Today, internet accessibility has become the defector for routine operations and information interchange for many Universities through the worldwide web, e-mail, social media and mobile phone applications. According to Mills (1990), provision of services like students' admission, registration and applications are becoming proficient through the use of technological tools and packages like word processors, spread sheets and databases.

Information: Refers to processed data that is useful in decision making(Khana, 2008). The higher the quality of the information, the better the decision. The only best tool that can generate quality information is a computer. The need for computerized information management systems is on increase. The need of the time is to integrate traditional systems with information technology.

Computer system: Computer system is a combination of hardware, software, data, networks and the users.Computer system emphasizes mainly the computer software and hardware (Khanna, 2008). Much as computer software is a vital component of a computer system, it must also be supported by the current version of the hardware. Gordon E. Moore (1965) predicted that the potential and computing power of hardware doubles every two years (Giansante, Computer Basics, 2009)

Population and sampling:"A population refers to a complete set of objects, cases, and individuals that the researcher intends to generalize the research results to" (Olive M. Mugenda, 1999).Kumar in 2005, defined sampling as the process of selecting a few (a sample) from a bigger group (the sampling population) to become the basis of estimating or predicting a fact, a situation or outcome regarding the bigger group Phiona(2016). Muni University was sampled as a case study and extensive data was obtained from the admissions office mainly through interviews and document reviews. The faculty dean provided a documented data that was very helpful in identifying the functional and the non-functional requirements of the system. A student was identified with whom the researcher had a lot of brainstorming sessions. Three privately sponsored students were interviewed on the procedural process of applying for admission at Muni University through on private scholarship.

Volume 6 Issue 8, August 2017 <u>www.ijsr.net</u> Licensed Under Creative Commons Attribution CC BY

3. Proposed Methods and Discussion

System Design

This was used to interpret the data, tables that were drawn to determine and guide the implementation stage of the project. The tools deployed were mainly tables, Data Flow Diagrams (DFDs) and Entity Relationship Diagrams (ERDs). The design ensured that only authorized users are allowed to access the system's information.

The swim lane diagram: indicated how a student applies for admission at Muni University. It assigned responsibility and specified which object does what within a system process.



Figure 1: Swim Lane Diagram for Student Admission Process(Pressman, 2010).

System Design and Implementation

This described the detailed implementation of the computerized Private Students' Admission System of Muni University. The GUI was developed using HTML and

Python, specifically the Tkinter module. Tkinter provides Python applications with an easy-to-program user interface. Tkinter supports a collection of Tk widgets that support most application needs (Grayson, 2000).



The home page and students guideline: allowed students to look at the beautiful view of the campus. Read on the instruction before applying for the course. Create an

Create account	2.Fill forms	3.Pay for forms	
Create account			
			To create an account, click on "Apply Now" menu option as shown in the image
TOME PROGRAMS GUIDELINES APPLY NOW CONTACT US			You can also get the same page by clicking on any Sign Up button you get while
			browsing this site
Student Name	e:* Enter	your full name	The sign up page has a form with the following fields. Fill all the fields correctly
Email Address	:* Enter	a valid Email address	Student Name: Please ensure that you provide your full name as it appears on your
Lindin / local cos	J.* Provid	le your Password	Academic documents.
User Password	J.		Password: Provide a unique password preferrably one that you do not use on other
User Password Confirm Passv	vord:* Re-en	ter your password	websites. The password should be atleast 8 characters long. Please note that your
User Password	vord:* Re-en	ter your password	websites. The password should be atleast 8 characters long. Please note that your password must only be known to you because if any other persons get to know your password, it implies that they can access your forms.

minimize errors.



The Registration Interface for students

A student seeking an admission to Muni University, has to visit the admission portal to create an account by clicking Apply Now to create an account. The applicant needs to provide his/her credentials. Any applicant without a valid email address cannot create an account with the system. For security purposes, a user is required to confirm the password.

account, make payment and submission. This helped

		Search programs
Ciana I na a su		
Sign op Create a Muni University	account today	
Direct A-level Entry and Diploma Sche signup, if you do not have an account.	mes are Open. Please	Welcome Already have an Account?
All fields are required. You must have a	n email address before	Forgot your password?
Watch how to create one	autress,	ROCOVER PASSWORD NOW
After creating your account, login to a	pply	GET A FREE EMAIL
Student Name:* Enter your full na	ime	In need of extra help?
Email Address:* Enter a valid Em	ail address	CONTACT US NOW
User Password:* Provide your Pas	sword	
Confirm Password:* Re-enter your pa	ssword	
SUBMIT		
	The create According to the create According to the create app ³	bunt Page Login Interface: allowed applicants to lentialsto access the system in order to sub- lications.
	OFFICE OF THE ACAL PRIVATE STUDENTS ADMIS	Select Language Select Language CONTACT US DEVELOPERS
HOME PROGRAMS GUIDELINES	APPLY NOW CONTACT US	Search programs SEARCH
	assword to go in	
Login Proviae your email daaress and p		
Having trouble in logging into your acco	ount? pplication form	Welcome
Having trouble in logging into your according trouble in logging into your according the source on: how to complete your a ind manage your dashboard	ount? pplication form	Welcome Don't have an Account?

Figure 5: Login Page

Admission form: The student login to access the admission form. The mandatory information includes the bio-data of the applicant (candidate), the programs applied for and the relevant academic information about the candidate. The mandatory fields are marked with asterisks.

	A					
ApplyFill your form of	details		Draku Job Dashboard Logout			
PERSONAL INFORMATI	ION					
Academic Year of Adm	ission:* Year 🔹	Other Names:*	Enter your Other Names			
Surname:*	Enter your surname	Date of Birth:*	Daj V Month Vear V			
Gender:*	T	Home District:*	Enter your Home District			
Place of Birth:*	Enter your place of birth	Sub-County:*	Enter Home sub-county			
Home County:*	Enter your home county	Citizenship:*	Enter your Citizenship			
Home Village:*	Enter your home village	Religious Affilliation:*	T			
Country of Residence:*	Enter country of residence	Permanent Address:*				
Marital Status:*	•					
Contact Address:*	Enter person to contact	Mobile Contact:*	Enter mobile contact			
SUBMIT		Photo:* Choose File No file chosen				
	Fig	ure 6: Application Form				
		Student's da information admission st	ashboard : allowed students to update their provided prior to verification and check for atus.			
NUM UNIVERSIA		FICE OF THE ACADEMIC REGIST	Select Language *			

HOME PROGRAMS O	GUIDELINES APPLY NOW CONTACT US	Search programs SEARCH
WELCOME TO YOUR DASK	HBOARD	Draku Job Dashboard Logo
PROFILE		PROGRAMS APPLIED FOR
PROFILE BIODATA		PROGRAMS APPLIED FOR 1. Bachelor of Nursing Science
PROFILE BIODATA ACADEMICS	Name: Draku Job	PROGRAMS APPLIED FOR 1. Bachelor of Nursing Science 2. Bachelor of Science with Education - Biologica
PROFILE BIODATA ACADEMICS	Name: Draku Job Email: dj1@muni.ac.ug	PROGRAMS APPLIED FOR 1. Bachelor of Nursing Science 2. Bachelor of Science with Education - Biologica 3. Bachelor of Science in Information Technology
PROFILE BIODATA ACADEMICS PARENTAL	Name: Draku Job Email: dj1@muni.ac.ug	PROGRAMS APPLIED FOR 1. Bachelor of Nursing Science 2. Bachelor of Science with Education - Biologica 3. Bachelor of Science in Information Technology 4. Bachelor of Nursing Science

Figure 7: Student's Dashboard

The Login Interface for Desktop Application: thisallowed the admission officer(s) to access the applications submitted by the students. The administrator needs to be registered with an email and a password before accessing the system. The interface was developed using python, specifically the Tkinter module.

International Journal of Science and Research (IJSR)

ISSN (Online): 2319-7064

Index Copernicus Value (2015): 78.96 | Impact Factor (2015): 6.391

🖉 ACADEMIC REGISTRAR - MUNI U	INIVERSITY					
UNIVERSIA	MU	NI UNI	VERSITY			
	OFFICE OF	THE ACA	DEMIC REGI	STRAR		
	P.C	.Box 725 A	rua, Uganda			
	PRIVATE ST	UDENTS 2	ADMISSION	SYSTEM		
Transforming Lives						
		Admin 1	Login			
	Email Address:	dj1@muni	.ac.ug			
	User Password:	*****				
			Login			
© 2016 MUNI UNIVE	ERSITY - PRIVATE S	TUDENTS ADM	ISSIONS Dev	veloped By: Dr	aku Job +2	56 786610580
	Fi	gure 8: Admi	n Login Interfac	e		
		and 1	er.			
Admin list of applicat	nts: allowed the adm	inistrator to	choose to app	ply direct from	the University	ty using the cr
all the applications su	ibmitted from the we	b interface.	new button.			
aumin can create af	prications for can	indates who				_
		Muni Univers	ty Admission System			
HUNI UNIVERSIA				ERSITY		
5 mls		OFFICE		THE DECIMA		
		OFFICE	OF THE ACAD	EMIC REGIST	RAR	
Transforming Lives			P.O.Box 725 Art	ua,Uganda		
		Designation	Ctudente A	dmiggion Gug	tom	
		Privale	e Students Ad	mission sys		
Applications Admissions Programs	Jsers					
studentName En	sail Schome	L Choice1	IST OF APPLICANTS	Choice?	Choice4	Dovmont
Toko Brian tb1@mu	ni.ac.ug Direct	ISM		SMB	ISM	Payment
Draku Job dj1@mu	ni.ac.ug Direct	NSM	SMB	ITM	NSM	Paid
1			_	_		

Figure 9: Admin List of Applicants

The Programs List: This is where the administrator adds and updates program details at Muni University. All changes made on the admin side are visible to the students on the portal. The system is updated in real time.



4. System Testing and Evaluation

The system was tested with some samples of students, lecturers and the academic registrar officer's for validityand evaluation of the data processed. They validated the system for the different data sets including whether the report generated rhymes with what they have been doing traditionally. It was found that the system was valid and only processes valid data. The procedure followed the Norman's execution-evaluation cycle Alan Dix et al.(2004).

5. Conclusion

The Computerized Private Students Admission System of Muni University was designed and developed to improve the efficiency and effectiveness of the admission process of privately sponsored students, reduced costs of operation and save time for both the University and the applicants. Though the system achieved most of the purposes; future addition of payment module to integrate banking service with the University system to notify the academic officer is required, thus when a student makes a deposit to the bank and further to develop a mobile application version of the system.

References

- [1] Giansante, M. (2009). Computer Basics. Lincoln Technology Help Desk.
- [2] Grayson, J. E. (2000). Python and Tkinter Programming. 32 Lafayette Place Greenwich, CT 06830: Manning Publications Co.
- [3] Khana, R. (2008). Basics of Computer Science. New Delhi: New Age International Publishers.

- [4] Olive M. Mugenda, A. M. (1999). Research Methods; Qualitative and Quantitative Approces. Nairobi: African Centre for Technology Studies.
- [5] Phiona, M. (2016). IS Research Methodology, Lecture Notes. Arua: Muni University.
- [6] Pressman, R. S. (2010). Software Engineering, A Approach. Macmillan Publishing Practictioners' Solutions.
- [7] Alan Dix, Janet Finlay, Gregory D. Abowd, Russel Beale, (2004). Norman's execution-evaluation cycle

Author Profile



Taban Habibuworks as Lecturer and Senior Cisco Instructor in the Faculty of Technoscience, Muni University. Former Ag. HOD Computer and Information Science, PhD in Computer Science and Engineering (in view).



Draku Job a pioneer student in Bachelor of Information Systems in Muni University.

Volume 6 Issue 8, August 2017

www.ijsr.net

Licensed Under Creative Commons Attribution CC BY