

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

Taban Habibu<sup>1</sup>, Draku Job<sup>2</sup>

<sup>1,2</sup>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 outcomes. 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 University to 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.

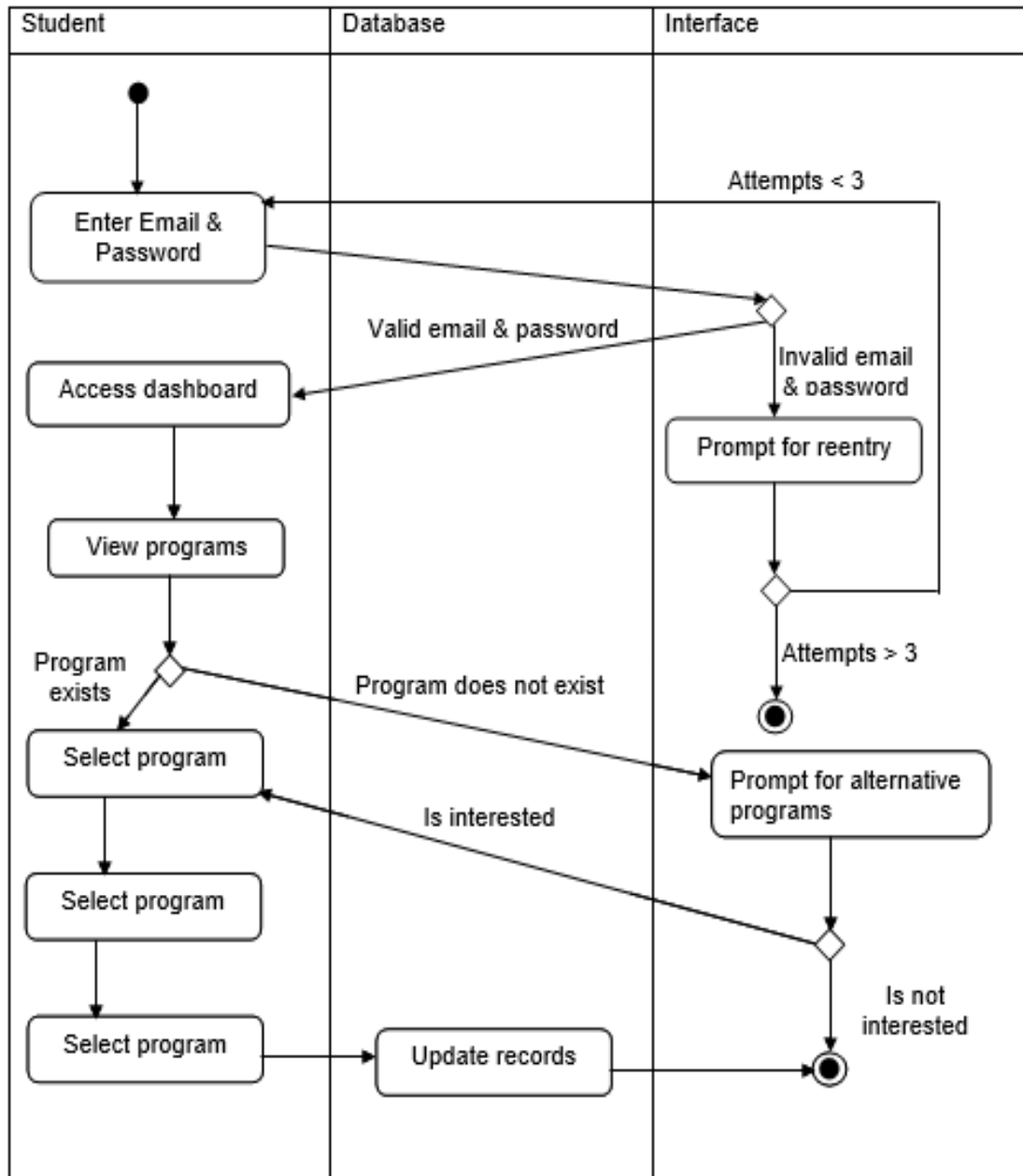
### 3. Proposed Methods and Discussion

#### 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).

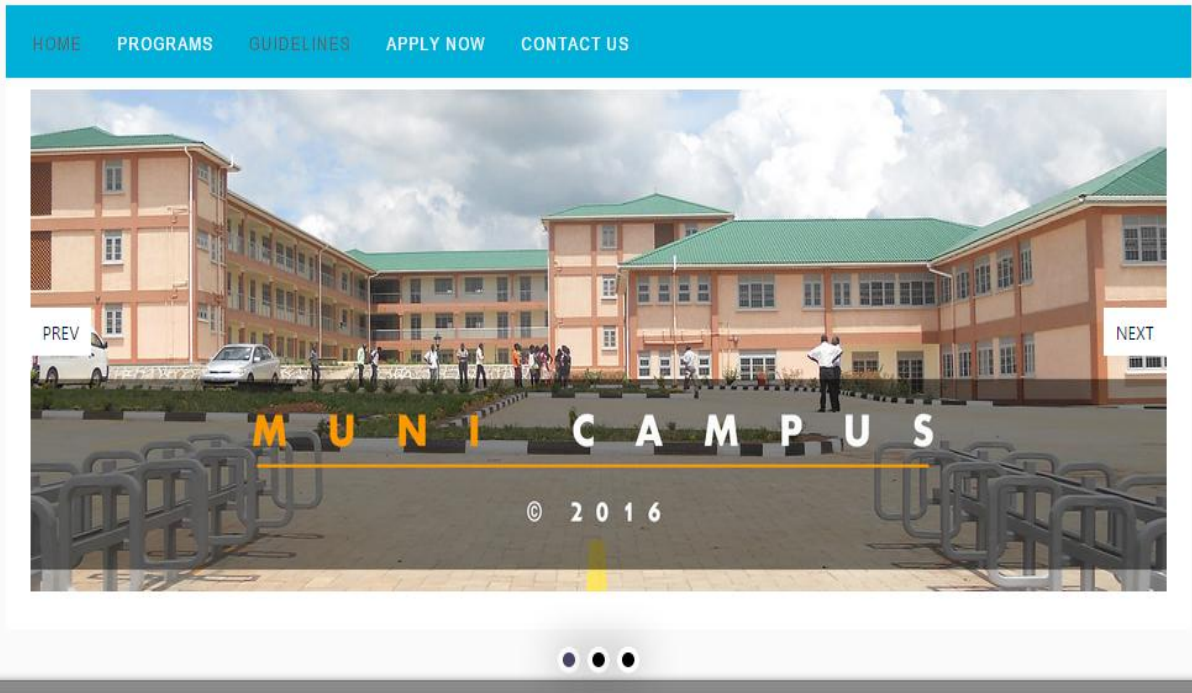


Figure 2: Home Page

**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

account, make payment and submission. This helped minimize errors.

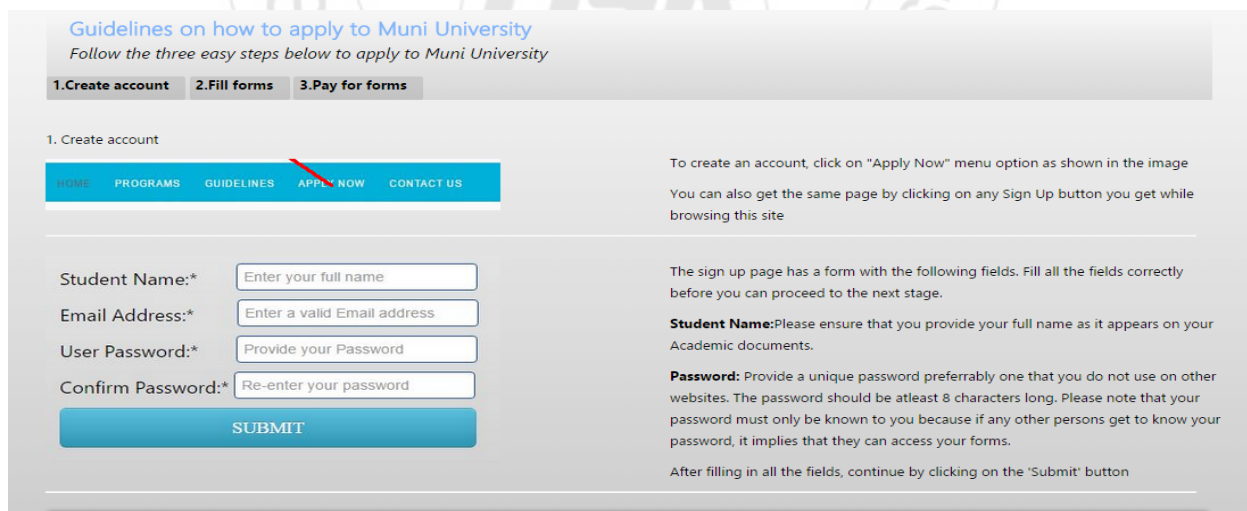


Figure 3: Students' Guideline

**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.

Figure 4: Create Account Page

**The Login Interface:** allowed applicants to enter their credentials to access the system in order to submit in their applications.

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.

**Apply** Fill your form details
[Draku Job](#) [Dashboard](#) [Logout](#)

---

**PERSONAL INFORMATION**

Academic Year of Admission:* <input type="text" value="Year"/>	Other Names:* <input type="text" value="Enter your Other Names"/>
Surname:* <input type="text" value="Enter your surname"/>	Date of Birth:* <input type="text" value="Day"/> <input type="text" value="Month"/> <input type="text" value="Year"/>
Gender:* <input type="text"/>	Home District:* <input type="text" value="Enter your Home District"/>
Place of Birth:* <input type="text" value="Enter your place of birth"/>	Sub-County:* <input type="text" value="Enter Home sub-county"/>
Home County:* <input type="text" value="Enter your home county"/>	Citizenship:* <input type="text" value="Enter your Citizenship"/>
Home Village:* <input type="text" value="Enter your home village"/>	Religious Affiliation:* <input type="text"/>
Country of Residence:* <input type="text" value="Enter country of residence"/>	Permanent Address:* <input type="text"/>
Marital Status:* <input type="text"/>	Mobile Contact:* <input type="text" value="Enter mobile contact"/>
Contact Address:* <input type="text" value="Enter person to contact"/>	Photo:* <input type="text" value="Choose File"/> No file chosen

**Figure 6:** Application Form

**Student's dashboard:** allowed students to update their information provided prior to verification and check for admission status.

OFFICE OF THE ACADEMIC REGISTRAR  
PRIVATE STUDENTS ADMISSIONS - MUNI UNIVERSITY

---

HOME PROGRAMS GUIDELINES APPLY NOW CONTACT US

---

WELCOME TO YOUR DASHBOARD

[Draku Job](#) [Dashboard](#) [Logout](#)

---

<ul style="list-style-type: none"> <li style="background-color: #e0e0e0; padding: 5px; margin-bottom: 5px;">PROFILE</li> <li style="background-color: #e0e0e0; padding: 5px; margin-bottom: 5px;">BIODATA</li> <li style="background-color: #e0e0e0; padding: 5px; margin-bottom: 5px;">ACADEMICS</li> <li style="background-color: #e0e0e0; padding: 5px; margin-bottom: 5px;">PARENTAL</li> <li style="background-color: #e0e0e0; padding: 5px; margin-bottom: 5px;">APPLICATION FORM</li> <li style="background-color: #e0e0e0; padding: 5px;">PAY IN SLIP</li> </ul>	<p><b>Name:</b> Draku Job <b>Email:</b> dj1@muni.ac.ug</p> <p><b>Application Status:</b> <b>Admission Status:</b></p>	<p><b>PROGRAMS APPLIED FOR</b></p> <ol style="list-style-type: none"> <li>1. Bachelor of Nursing Science</li> <li>2. Bachelor of Science with Education - Biological</li> <li>3. Bachelor of Science in Information Technology</li> <li>4. Bachelor of Nursing Science</li> </ol> <div style="text-align: center; margin-top: 10px;"> <input type="button" value="EDIT PROGRAMS"/> </div>
--	---	---

**Figure 7:** Student's Dashboard

**The Login Interface for Desktop Application:** this allowed 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.

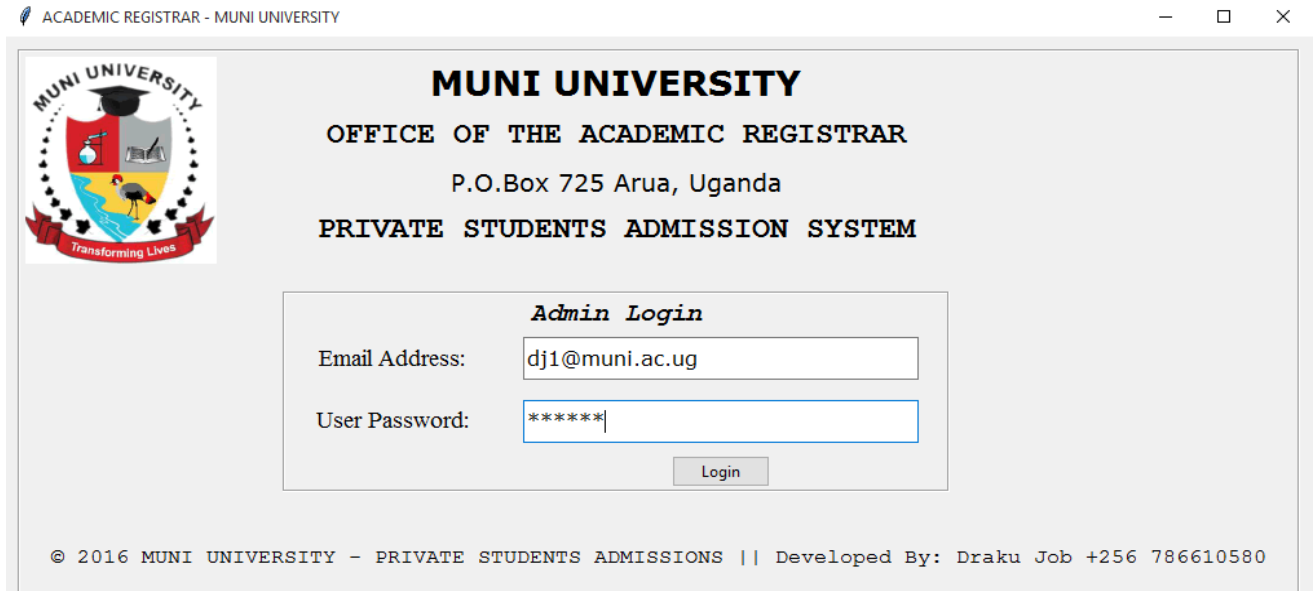


Figure 8: Admin Login Interface

**The Admin list of applicants:** allowed the administrator to view all the applications submitted from the web interface. The admin can create applications for candidates who choose to apply direct from the University using the create new button.

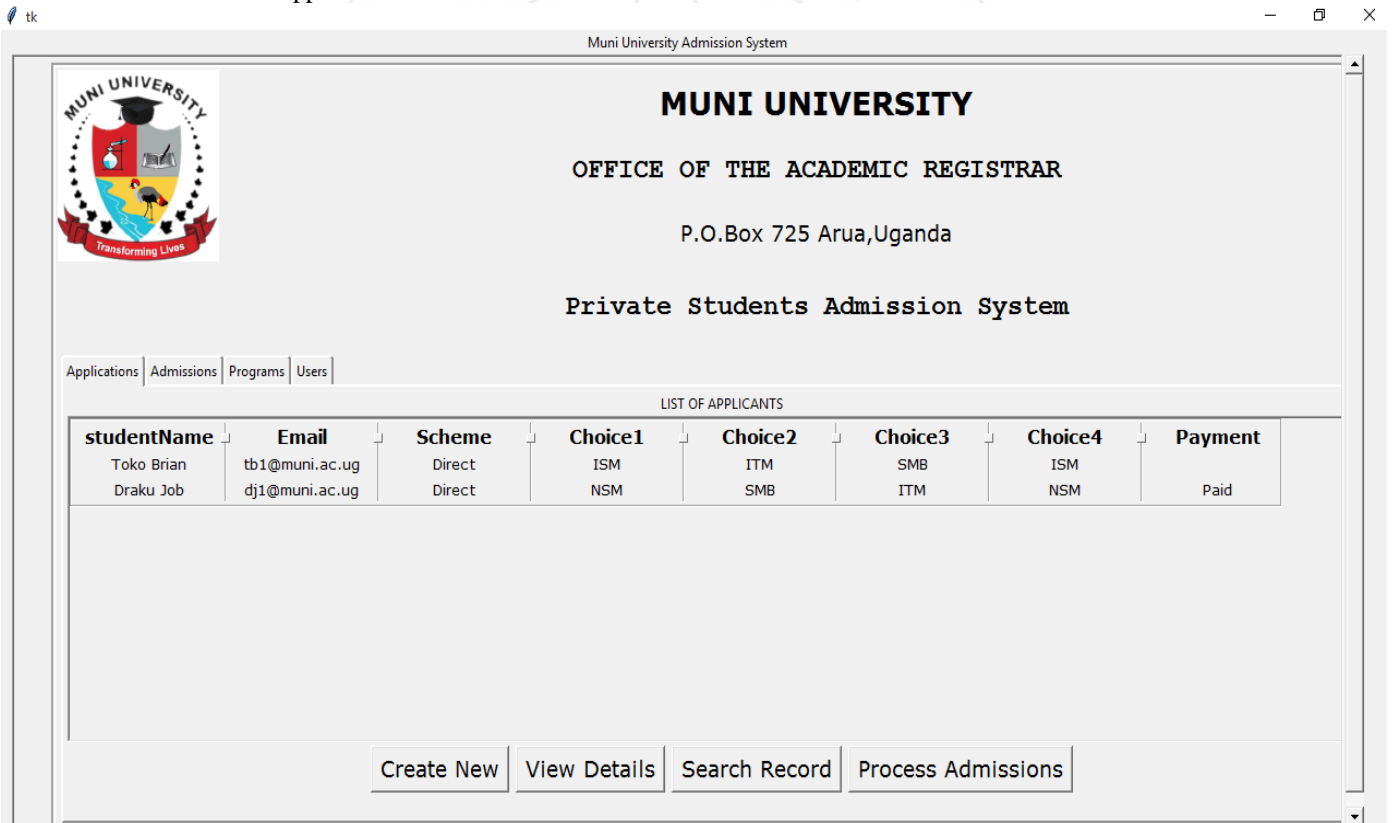
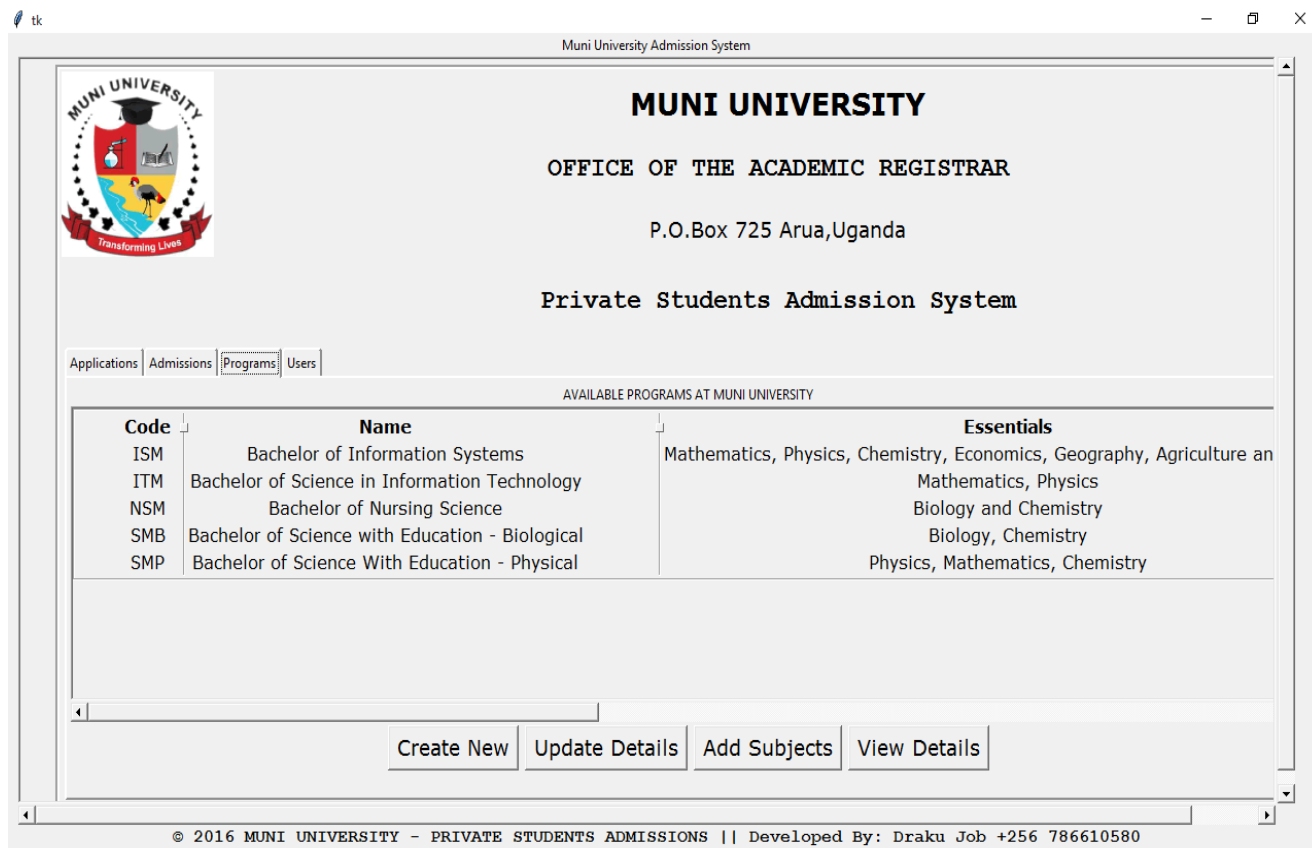


Figure 9: Admin List of Applicants

**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.



**Figure 10: List of Programs Available**

#### 4. System Testing and Evaluation

The system was tested with some samples of students, lecturers and the academic registrar officer's for validity and 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.

- [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 Practitioners' Approach. Macmillan Publishing Solutions.
- [7] Alan Dix, Janet Finlay, Gregory D. Abowd, Russel Beale, (2004). Norman's execution-evaluation cycle

#### Author Profile



**Taban Habibu** works 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.

#### 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.