

Lecturer Academic Record Management System (A Case of Methodist University College Ghana)

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November 2013

Abstract

Managing academic activities of Lecturers of an institution is an important task as far as academia is concerned. This paper describes the design and development of an academic record management system for Lecturers. There are several academic management systems but the concentration is mostly on students. This paper concentrates on Lecturers. Microsoft Access is used to design and develop an academic record management system to keep track of Lecturer activities like the publications made in an academic year, conferences attended, research in progress, courses taught in the academic year and qualifications earned in the academic year. The new system eliminates the long line of processes characteristic of the old system with the Quality Assurance Unit of Methodist University College Ghana at the centre of affairs. The reports from the new system are made available for the Principal's annual report of the University, the Academic Board and the National Accreditation Board.

Keywords: Lecturer, Academic Record, Management System.

1. Introduction

At the end of each academic year of the Methodist University College Ghana (MUCG), Lecturers are requested to give an account of their activities which comprise their academic data for that academic year. These academic data include: the publications made, conferences attended and the papers presented at these conferences, the research in progress and the courses taught. In addition to these, Lecturers have to provide their qualifications, just in case there has been an upgrade, the Faculties and Departments they belong to. These are very vital academic data as far as Lecturing is concerned. They find useful applications in the Principal's annual report most importantly, as the Principal has to report on the publications and conferences made and attended by Lecturers. This goes to increase the research quantum of the University. These are also very relevant data for the National Accreditation Board (NAB), which is responsible for ensuring quality and performance of all the Universities in Ghana. They make sure that, Lecturers are up to the task of teaching and researching. These pieces of information are also necessary for consideration to promote Lecturers. Knowing the courses Lecturers teach every academic year is also very helpful, as it informs the work load of Lecturers to know whether the staff are over working or under working; how much more staff to employ or hire on part-time, just to mention a few.

MUCG has been in existence since the year 2000. From that time to date, the collation of such academic data has been through the filling of a paper form, the results of which are given to the respective Deans. There are four Deans at MUCG heading four Faculties: Social Studies, Business Administration, Arts and General Studies and Applied Sciences. The Faculty of Social Studies has four Departments: Information Technology, Mathematics and Statistics, Economics and Psychology. The Faculty of Business Administration also has four Departments: Accounting, Banking and Finance, Marketing and Human Resource Management and Management. The Faculty of Arts and General Studies has four Departments: French, General Studies, Music Centre and Performing Arts, Religious Studies and Ethics. The Faculty of Applied Sciences has six Departments: Agricultural Mechanization & Agro-Processing, Agricultural Economics & Agribusiness, Agricultural Extension, Animal Science, Crop Science and Horticulture. When these academic data get to the various Deans, they are supposed to put them together so that they become meaningful in the form of reports, which are given to the Principal's secretariat and also to the Academic Board of MUCG.

The academic data gathered are dumped in old shelves under the various Deans' outfits after the collation and retrieval of data. Whenever information is needed for academic purposes, one may have to go to the different Deans to collect the necessary information.

The Quality Assurance Unit of MUCG started in the 2011/2012 Academic year and it has taken up the task of managing such vital academic data of Lecturers of MUCG. It is now the sole unit responsible for gathering and processing of the academic data of Lecturers to enable generation of reports. The unit also manages such data.

Problem statement

When the academic record forms are distributed, getting them back is not an easy task. Some Lecturers just forget about the need to fill them and present them. Others may fill them but will not return them to the necessary quarters as they are supposed to submit to their Heads of Department. After the academic data of Lecturers are gathered by the Deans, they are now supposed to type them in MS Word. With the busy schedules of Deans, some of them are not able to do this themselves and thus end up giving them to others to type them out. This increases the errors in typing of such documents.

The academic data are therefore in the domain of the different Deans and thus not centrally controlled. This makes it difficult when collective information of Lecturers is needed. The data has to be collected from the different Deans in their different offices.

As it is now, in future requests for such data, repeated academic data is normally produced by Lecturers thus the likelihood of more errors in typing out such data. It also involves a lot of time to process in the case where such information is needed urgently, which happens often. Sometimes Lecturers are called and asked to present such data at very short notices.

Objectives

- To design a system to manage the academic activities of Lecturers.
- To be able to identify the work load of a Lecturer with minimal effort.
- To generate reports for the necessary quarters.

3. Related Work

An Academic Management System gathers, transmits and saves information for an institution Duan and Zhang (2007). In colleges and universities, all the business processes of management are an open system of management, including academic record management, course management, grade management and degree management Duan and Zhang (2007).

Academic Information Management System (AIMS) is a School Management System/ Student Management System for Schools, Private Institutions, Institutions of Higher Learning and Training Academy (www.ag-polytronics.com). The core modules within AIMS perform the following administrative tasks: Security Management, Course Management, Lecturer Management, Client Management, Intake Administration, Class Administration, Enrollment Administration, Resource Allocation Management, Examination Administration, Graduation Administration, Evaluation Administration, Grant Management, Finance, Report Management (www.ag-polytronics.com).

The Oxford Brookes University has an Academic Management Office responsible for managing the administration of students from enrolment through to completion of course; managing programmes for, and providing advice and support to staff and students on issues concerned with the Modular Programme; processing and recording information on courses on the University's electronic Course and

Student Information System (eCSIS); and monitoring the quality of the University's services (www.brookes.ac.uk).

The TopSchool Academic Management System provides all the tools to track students as they move towards program finishing point and graduation (www.topschoolinc.com). The system gives Faculty members, the Registrar, academic advisors and student services teams the ability to stay on top of students' progress and assess any potential risk factors so you can make sure students receive the support they need to succeed (www.topschoolinc.com).

There is also an academic advising system which supplements the conventional advising process. It minimises repetitive tasks performed by advisors, encourages students to adopt a proactive attitude towards advising, makes advising-related information available to remote students in a single place in electronic form and minimises inconsistencies in the advising process Marques et al (2001). This system supports three types of users: students, advisors and secretaries. The system advises students on course descriptions, courses to take next, based on classes they have already taken, etc.

At the Methodist University College Ghana, there is a system; OSIS for the management of student data: registration of students, registration of courses, setting and entering of results of students, and viewing of transcripts by students.

In all these systems, the focus is on the students and their activities. This system to be designed focuses rather on the activities of Lecturers. There is no doubt that students are important when it comes to the academia because they fuel the academic system. But without activities of Lecturer, all comes back to nothing. There is a need to have a system in place to manage the basic activities of Lecturers.

4. The Old System

What pertains now is that, the academic data form is handed to the individual Lecturers. The Lecturers are supposed to fill in with the required data as requested on the forms. The data needed are: Name of Lecturer, Department, Faculty, Qualifications, Papers and Books published in the academic year, Papers read at conferences, Research in progress, and Courses taught. On completion of the filling of these forms, they are to hand them over to the Deans of the various Faculties. The Deans therefore have the responsibility of now putting all these data together to make it meaningful. They are supposed to type them out in the form of reports.

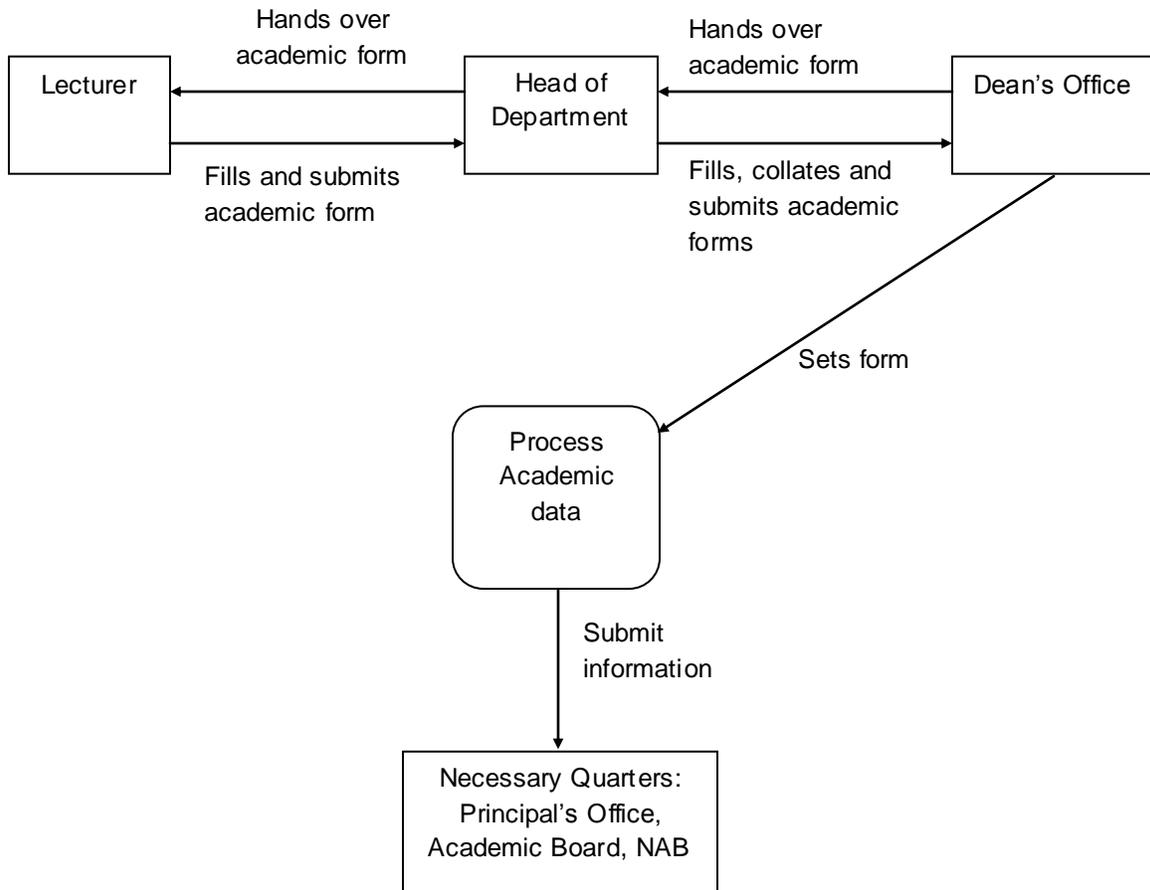


Fig. 1: Flow of Data in the Existing System

From Fig.1 above, the various Lecturers pass the filled Academic forms to their various Heads of Department (HoD) who then also pass them on to the Deans. This means the forms pass through 18 Heads of Department and four Deans, before they are processed and then assembled again to have complete information. The channels are too many leading to data loss. It is therefore not surprising that some Lecturers' complain of not seeing their articles where they should be seen because they have duly presented the data as requested. Technically speaking, the forms move from the Dean to the Dean's Secretary then to the HoD's Secretary to the HoD, then back to the HoD's Secretary to the Lecturer, to the HoD's Secretary again then to the HoD, and back again to the HoD's Secretary who now delivers them to the Dean's Secretary for onward delivery to the Dean. This is a very long and winding channel.

ITPOSMO by Molla and Heeks (2004) Analysis of the Existing Reality

Information

The unprocessed information that is to be collected include: Name of Lecturer, Department, Faculty, Qualifications, Papers and Books published in the academic year, Papers read at conferences, Research in progress, and Courses taught for the academic year.

Technology

The technology involved is computer, paper and photocopy as the paper on which is the information is to be provided is photocopied and dispatched to Lecturers. Computers are used to do the typing of the forms and formatting of the reports after which they are printed.

Processes

The processes involved are: preparing the paper forms, sending to Lecturers, returning to the Deans' offices, compiling the collected data according to Departments and Faculties and sending reports to the necessary quarters.

Staff

The staff involved are: the Secretaries of the Deans' and Heads of Departments, the Heads of Department, the Lecturers and the staff of the Principal's Office.

Management and Structure

This includes the Deans of the Faculties of Business Administration, Social Studies, Arts & General Studies and Applied Sciences, and the Principal and the Academic Board.

5. The New System

MUCG has intranet running on campus and for that matter, the academic form no more needs to be passed through all those long channels as above in the old system. In the case that updates are needed from Lecturers, the form could be sent to them via the intranet with the required requests. Lecturers can then respond to these requests. The channel should be between the Quality Assurance Unit of MUCG and the Lecturers through the intranet. There should be a database system controlled at the Quality Assurance Unit which is used to process the received data from the Lecturers. Once the data has been processed, reports can be generated to the necessary quarters, including the Deans, Principal's Office, the Academic Board and NAB and any other as and when the request is made.

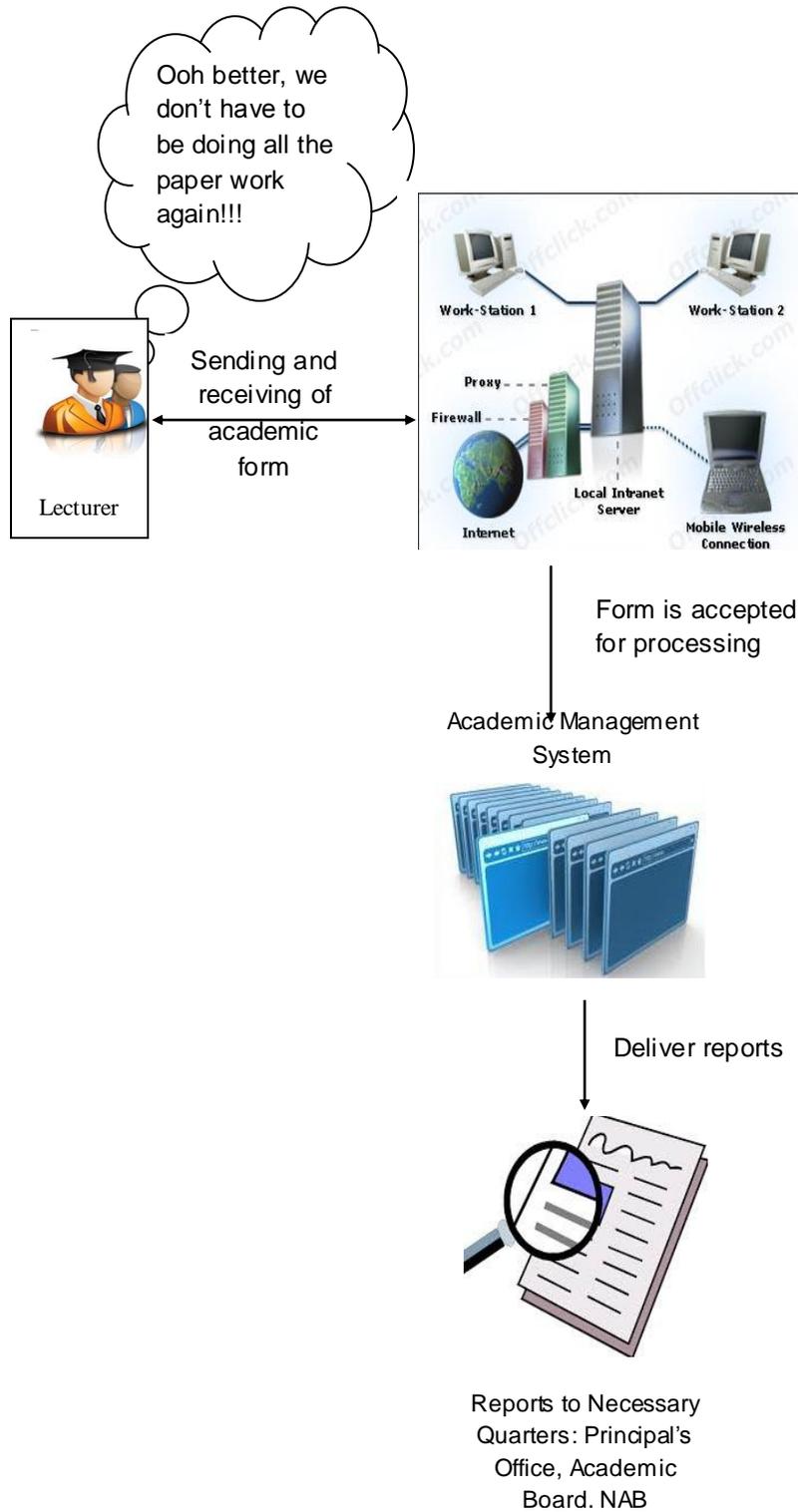


Fig. 2: Rich Picture of the New System

An ITPOSMO Analysis of the New System

Information

The unprocessed information to be collected is no different from the old system including: Name of Lecturer, Department, Faculty, Qualifications, Papers and Books published in the academic year, Papers read at conferences, Research in progress, and Courses taught for the academic year.

Technology

The technology involved in the new system include: computer, intranet, database and print (if need be).

Processes

The processes of the new system are: electronic transmission of forms, database processes like querying and report making.

Staff

The staff involved in the new system are the Quality Assurance Unit staff and Lecturers from whom the unprocessed information to be gathered.

Management and Structure

This also includes the Deans of the Faculties of Business Administration, Social Studies, Arts & General Studies and Applied Sciences, and the Principal and the Academic Board.

Design of the New System

The new system comprises 7 tables: Lecturer, Publication, Course, Department, Faculty, Research_in_Progress and Conference_Reading. Forms were designed for each of these tables. The tables have the following characteristics.

Lecturer (Lect_ID, Title, Surname, First_Name, Other_Name, Qualification, Fac_ID, Dept_ID)

Publication (Pub_ID, Lect_ID, Pub_Title)

Course (Course_Code, Course_Name, Lect_ID, Dept_ID)

Department (Dept_ID, Dept_Name)

Faculty (Fac_ID, Fac_Name, Dept_ID)

Research_in_Progress (Research_ID, Research_Title, Lect_ID)

Conference_Reading (Paper_ID, Paper_title, Lect_ID)

The figure below depicts the relationships that exist between the different entities in the new system.

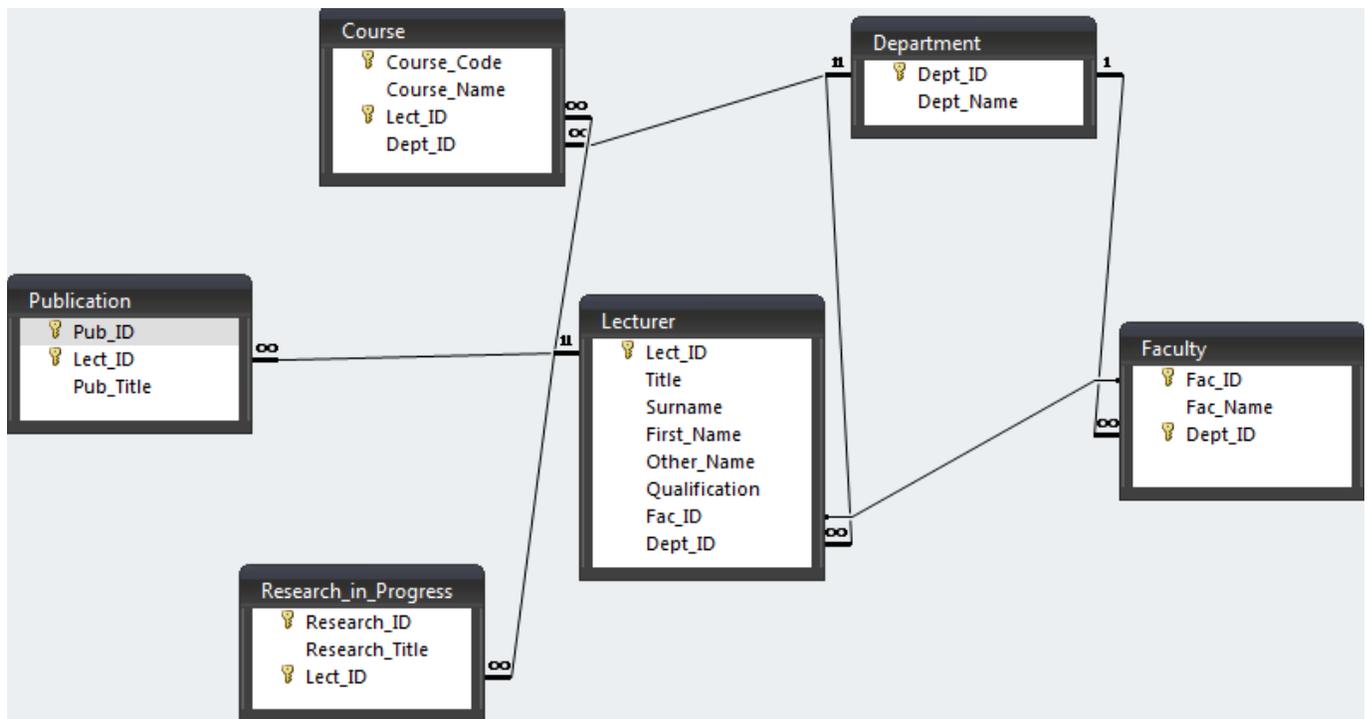


Fig.3: Entity Relationship Diagram of the New System

Queries and Reports

Based on queries, reports are generated to suit the information needs of the necessary quarters. Below are some of the queries that have been created.

Query for Publication by Lecturer

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SELECT DISTINCT Lecturer.Title, [First_Name] & " " & [Surname] AS Name, Publication.Pub_Title
FROM Lecturer INNER JOIN Publication ON Lecturer.Lect_ID = Publication.Lect_ID
WHERE (((Lecturer.Surname)=[Enter Surname]) AND ((Lecturer.First_Name)=[Enter First Name]));
```

Query for Publications by Faculty

```
SELECT Lecturer.Title, [First_Name] & " " & [Surname] AS Name, Publication.Pub_Title
FROM (Faculty INNER JOIN Lecturer ON Faculty.Fac_ID=Lecturer.Fac_ID) INNER JOIN Publication ON
Lecturer.Lect_ID=Publication.Lect_ID
WHERE (((Faculty.Fac_Name)=[Enter Faculty Name]));
```

Query for Research in Progress

```
SELECT Lecturer.Title, [First_Name] & " " & [Surname] AS Name, Research_in_Progress.Research_Title
FROM Lecturer INNER JOIN Research_in_Progress ON Lecturer.Lect_ID =
Research_in_Progress.Lect_ID
WHERE (((Lecturer.Surname)=[Enter Surname]) AND ((Lecturer.First_Name)=[Enter First Name]));
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Conclusion

The Academic Record Management System for Lecturers is a useful system that keeps track of the activities of Lecturers at the Methodist University College Ghana. It holds very important data on activities of Lecturers of which reports can be generated to suit the purposes. The Principal's Annual Report needs information like the publications of Lecturers, conferences attended and papers read at the conferences and research in progress. These add value to the report as such information are considered very important in the academic environment and sister institutions would like to know where they can collaborate in terms of research. These pieces of information also sell MUCG and the Lecturers as well.

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Appendix

Data Dictionary

Lecturer Table

Field Name	Data Type	Description
Lect_ID	Text	Lecturer's Identification Number (Primary Key)
Title	Text	Title of Lecturer (Dr., Prof., Mr., Mrs., etc)
Surname	Text	Surname of Lecturer
First_Name	Text	First name of Lecturer
Other_Name	Text	Other Names of Lecturer
Qualification	Text	Lecturer's Qualifications

Publication Table

Field Name	Data Type	Description
Pub_ID	Text	Publication's Identification Number (Primary Key)
Lect_ID	Text	Lecturer's Identification Number (Primary Key)
Pub_Title	Memo	Title of Publication

Course Table

Field Name	Data Type	Description
Course_ID	Text	Code for a Course (Primary Key)
Course_Name	Text	Name of the Course
Lect_ID	Text	Lecturer's Identification Number (Primary Key)
Dept_ID	Text	Department's Identification Number

Department Table

Field Name	Data Type	Description
Dept_ID	Text	Department's Identification Number (Primary Key)
Dept_Name	Text	Name of Department

Faculty Table

Field Name	Data Type	Description
Fac_ID	Text	Faculty's Identification Number (Primary Key)
Fac_Name	Text	Faculty's Name
Dept_ID	Text	Department's Identification Number (Primary Key)

Research_in_Progress Table

Field Name	Data Type	Description
Research_ID	Text	Identification Number of Research (Primary Key)
Research_Title	Text	Title of Research
Lect_ID	Text	Lecturer's Identification Number (Primary Key)

Conference_Reading Table

Field Name	Data Type	Description
Paper_ID	Text	Identification Number of Paper Presented at the Conference (Primary Key)
Paper_Title	Memo	Title of the Paper presented at the conference
Lect_ID	Text	Lecturer's Identification Number (Primary Key)

Ofosu, J. B., & Bemile, R. K. (2013). Lecturer Academic Record Management System (A Case of Methodist University College Ghana). Open Science Repository Computer and Information Sciences, Online(open-access), e23050476. doi:10.7392/openaccess.23050476