

## Transforming Satellite Campuses of Tertiary-education Institutions in Nigeria through Appropriate Application of Information Technology: A Case Study

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#### **ABSTRACT**

Satellite Campus is a campus of a college or university that is physically at a distance from the original university or college (main campus) area. In Nigeria, managing Satellite campuses is seen to be a very difficult task and hence has not been accepted fully as a dependable avenue to gain tertiary education by those who are constrained either by the nature of their work and those of other reasons to attend them. Most people have only seen satellite campuses as a means of generating funds only for the institutions. However, this paper opens up areas that make management of satellite campuses very difficult which have contributed mostly to the negative impression about them. They are students' result processing, general students' affairs management, financing and inappropriate and ineffective means of addressing part-time lecturers' honorarium. Effective management of these deficiencies through appropriate application of Information Technology (IT) tools is proposed and implemented in this work. These are expected to produce positive results and further boost the image of satellite campuses in Nigeria. The Continuing Education Centre (CEC), Federal polytechnic, Ado-Ekiti, as the case study for this work is the satellite campus of the institution, about 30 minutes drive from the main campus and one of the best managed with enviable graduates.

**Keywords:** Financing, Honorarium, Information Technology, Management, Result processing, Satellite Campus.

#### I. INTRODUCTION

Satellite campuses are set-up to providing tertiary education for students who may not be able to attend the main campus as a result of distance, work and some other important reasons. It may be located in a different city, state or country, and is often smaller than the main campus of an institution. It may be under the same accreditation and share resources or the same administration but maintain separate budgets, resources and governing bodies (Wikipedia, 2013). The availability of satellite campuses may increase higher education enrollment by nontraditional students (James et al., 2007). As good as the aim of setting up satellite campuses in Nigeria is, they are marred with different problems which often have resulted in giving bad impressions about them. Nigeria government at various point in time stopped the operations and citing of satellite campuses across the country as a result of poor management and ineffective teaching and learning processes that have resulted to half baked graduates. Only those operated within the region of their main campuses are allowed. Despite this, they also do have many challenges that negatively affect the quality of their graduates. However, attempts are being made by the government to find solutions to these problems by making regulations and policies to govern the way and manner by which these campuses are run. The regulations and policies include but not limited to the following;

- Satellite campuses are to be operated within few kilometers to their main campuses.
- Accreditation of courses are also extended to the satellite campuses
- Monitoring of the activities of the satellite campuses by the appropriate governing bodies established by government.

However, with all these in place, coupled with adequate provision of classrooms and laboratories, there are still peculiar problems associated with management of satellite campuses. According to Bainbridge (1996), transformation is necessary to ensure a better fit between an institution and the unique needs of a changing environment. Transformation may be thought of as "drastic changes triggered by external environmental factors". Also according to the New Oxford Dictionary of English, the concept of transformation refers to a "thorough or dramatic change in form or appearance" (Pearsall, 1998). Transformation is a specific type of change which can be distinguished from other types of changes in the sense that it implies not only a change of form but also the creation of something new. Transformation in the management of satellite campuses in Nigeria therefore requires that previous management practices and ways of doing things are discontinued. These transformation must be triggered by external environmental changes most especially student population increase (Pendlebury et al., 1998).

Khosa (1996) noted that tertiary-education institutions are an integral part of the social environment. The notable agent of transformation regarding the ills against management of satellite campuses in Nigeria is adequate application of Information Technology beyond the level of using computers for word processing and office decorations. Core areas that are very sensitive should be computerized. It is necessary therefore that the educational institutions should change its strategy and form in order to adapt to a new type of challenges that will affect both the students and workers (Swart et al., 1998). Software engineering has the objective of solving these challenges by producing good quality, maintainable software, on time, within budget (Aggarwal et al., 2008).

The research carried out in the Continuing Education Centre (CEC), the satellite campus of the Federal Polytechnic, Ado-Ekiti, opened up the main causes of these challenges and subsequent attempts at providing solution through appropriate application of Information Technology tools was implemented.

#### II. RESEARCH METHOD

#### 2.1. Research Design

The objective of the research design is to analyze the experiences of the students and concerned stakeholders without predetermined expectancies, and to try to understand the data from their point of view (Moustakas, 1994). This is expected to assist in our getting solutions that are reliable.

#### 2.2. Analysis and Result

There was data collection through the use of the instrument of questionnaire. Stakeholders provided information on those areas they considered as the main cause of problem for the management of satellite campuses all over Nigeria that negatively affect the standard of their products. They mostly attributed it to the following major points;

- Lack of adequate records of students unlike in the main campus where students' records are adequately
  kept, probably as a result of manageable population size and closeness to the authority of the various
  institutions.
- Payment of lecturers' honorarium that is not regular. Lecturers are not paid on a regular monthly basis, rather on unit of course(s) taught. Opinions show that some lecturers do compromise on integrity by engaging in practices that are inimical to the standard of the institutions. However, opinions believe that if payment is made on time, it will reduce the trend.
- Opinions also show that the lecturers might be able to perpetrate these atrocities as a result of the fact that they were always considered as thin gods in the mind sets of their students because of the power the students believed the lecturers possessed as a result of being in custody of continuous assessment and examination scores which the students thought could be manipulated at will by the lecturers. A system that enforces the lecturers to submit continuous assessment score and examination scores immediately they are conducted will go a long way in sanitizing the process. The collation and production of final score sheets for result processing centrally done using appropriate software on a computer system as a tool is proposed.
- It is believed that if the money generated is adequately appropriated and no area of the school system is not developed, including sport, medical, library, laboratory, infrastructure, et cetera. All sectors will be optimally functional. To achieve this, computerizing the school fees payment analysis system is proposed.

The collation and analysis of the research instruments administered on students, non-academic and academic staff members considered as stakeholders are detailed below;

Table 1: Percentage of responses to the negative influence of not keeping adequate record in the management of satellite campuses in Nigeria tertiary-education system

Category	Enrollment	Agree	%	Partially Agree	%	Disagree	%	No comment	%
Students	84	80	95.2%	2	2.3%	2	2.3%	0	0%
Non- academic staff	65	56	86.2%	4	6.2%	3	4.6%	2	3.1%
Academic Staff	50	42	84.0%	4	8.0%	3	6.0%	1	2.0%

Table 2: Percentage of responses to the negative influence of delay or inappropriate payment of lecturers' honorarium

Category	Enrollment	Agree	%	Partially Agree	%	Disagree	%	No comment	%
Students	84	63	75.0%	10	12.0%	10	12.0%	1	1.0%
Non- academic staff	65	56	86.2%	4	6.2%	3	4.6%	2	3.1%
Academic Staff	50	26	52.0%	10	20.0%	13	26.0%	1	2.0%

Table 3: Percentage of responses to the negative influence of allowing lecturers to individually collate continuous assessment and examination scores for result processing

Category	Enrollment	Agree	%	Partially Agree	%	Disagree	%	No comment	%
Students	84	65	77.4%	10	11.9%	8	9.5%	1	1.2%
Non- academic staff	65	45	69.2%	15	23.1%	3	4.6%	2	3.1%
Academic Staff	50	24	48.0%	14	28.0%	9	18.0%	3	6.0%

Table 4: Percentage of responses to the negative influence of not separating school fees payment for different developmental projects in management of satellite campuses in Nigeria.

Category	Enrollment	Agree	%	Partially Agree	%	Disagree	%	No comment	%
Students	84	80	95.2%	2	2.4%	1	1.2%	1	1.2%
Non- academic staff	65	60	92.3%	4	6.2%	1	1.5%	0	0.0%
Academic Staff	50	48	96.0%	1	2.0%	0	0.0%	1	2.0%

Table 1 shows that 95.2 % of the students population, 86.2% of the non-academic staff and 84% of academic staff members of the polytechnic community agreed to the negative influence arising from lack of adequate record keeping of students' details on the overall standard of satellite campuses in Nigeria when compared with main campuses where adequate records are kept and maintained. Table 2 indicates that 75% of the students sampled, 86.2% of non-academic staff members and 52.0% of the academic staff members believe that when the part time lecturers of the satellite campuses are not paid their honorarium on time due to either logistic or whatever reason, the lecturers' may not give their best unlike the regularly paid full time lecturers of the main campuses. It is also believed that this may make some lecturers to comprise on integrity. The opinions of the stakeholders on giving the duties of assessing, collating and producing final score sheets of examination by part time lecturers is another issue that may affect standard. 77.4%, 69.2% and 48% of students, non-academic and academic staff members respectively agreed to this. 95.2%, 92.3% and 96.0% of the sampled students' population, non-academic and academic staff respectively believed that separation of fees payment by comprehensive analysis of students' school fees into the various units for even development of each section is desirable.

#### III. SYSTEM IMPLEMENTATION

The outcome of the data collection formed the basis for development of some fundamental software packages to handle the identified areas that were considered to be the problems of satellite campus management in Nigeria. The system is implemented with Visual BASIC.NET as front end and MYSQL server as the back end. Sample reports generated in some of the developed software packages, tested (*with hypothetical data*) and implemented only for the purpose of this research work are as follows;

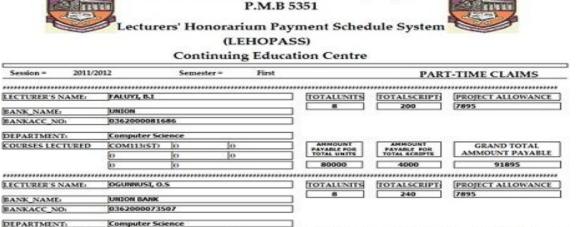
#### 3.1. Lecturers' Honorarium Payment System (LEHOPAS)

This is a software package developed to be used in processing lecturers' payment claim, the software will make it easy to pay lecturers based on the total unit allocated.

GRAND TOTAL

AMMOUNT PAYABLE

92695



The Federal Polytechnic Ado-Ekiti, Nigeria

ALL CLAIMS FOR CEC

TOTAL UNITS = 16

TOTAL SCRIPTS = 440

AMMOUNT PAYABLE FOR TOTAL UNITS = 160000

AMMOUNT PAYABLE FOR TOTAL SCRIPT = 8800

TOTAL PAYABLE PROJECT ALLOWANCE = 15790

GRAND TOTAL AMMOUNT PAYABLE = 184590

om123(ST)

Figure 1: Example of output of calculated honorarium for lecturers

80000

4800

г

#### 3.1. Mark Sheet processing System

COURSES LECTURED

This is software that makes inputting of scores into score sheet a lot easier. It enables raw scores of students in continuous assessments and semester examination to be automatically added up by the software to generate a final score sheet print-out which will then be taken for further processing to generate semester results. It will make this processing faster and easier.

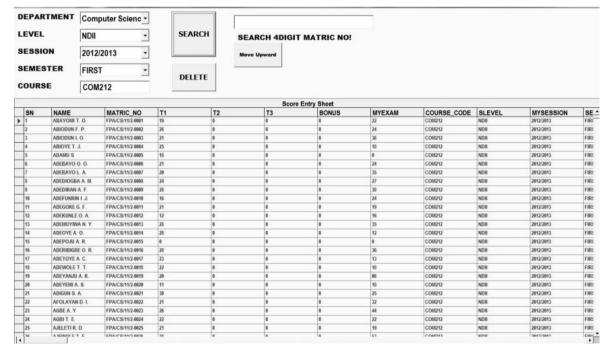


Figure 2: Entry form for entering continuous assessments and examination scores



## FEDERAL POLYTECHNIC, ADO

### Ekiti State, Nigeria

#### Mark Sheet

 School:
 School Of Science and Computer
 Class:
 NDII

 Department:
 Computer Science
 Semester:
 FIRST

 Course Code:
 COM212
 Session:
 2012/2013

Course Title: System Programing Course Unit: 3.0

S/N	MATRIC NO	FULLNAME	C.A.	EXAM	TOTAL
1	FPA/CS/11/2-0001	ABAYOMI T. O.	19	22	41
2	FPA/CS/11/2-0002	ABIODUN F. P.	26	24	50
3	FPA/CS/11/2-0003	ABIODUN I. O.	21	36	57
4	FPA/CS/11/2-0004	ABIOYE T. J.	25	18	43
5	FPA/CS/11/2-0005	ADAMU S	18	0	18
6	FPA/CS/11/2-0006	ADEBAYO O. O.	21	24	45
7	FPA/CS/11/2-0007	ADEBAYO L. A.	20	35	55
8	FPA/CS/11/2-0008	ADEDIOGBA A. M.	24	27	51
9	FPA/CS/11/2-0009	ADEDIRAN A. F.	28	38	66
10	FPA/CS/11/2-0010	ADEFUNRIN I .J.	16	24	40
11	FPA/CS/11/2-0011	ADEGOKE G. F.	21	19	40
12	FPA/CS/11/2-0012	ADEKUNLE O. A.	12	16	28
13	FPA/CS/11/2-0013	ADEMUYIWA N. Y.	28	35	63
14	FPA/CS/11/2-0014	ADEOYE A. O.	28	12	40
15	FPA/CS/11/2-0015	ADEPOJU A. R.	0	0	0
16	FPA/CS/11/2-0016	ADERIBIGBE O. R.	28	36	64
17	FPA/CS/11/2-0017	ADETOYE A. C.	23	13	36
18	FPA/CS/11/2-0018	ADEWOLE T. T.	22	18	40
19	FPA/CS/11/2-0019	ADEYANJU A. K.	20	06	26
20	FPA/CS/11/2-0020	ADEYEMI A. S.	11	18	29
21	FPA/CS/11/2-0021	ADIGUN S. A.	30	25	55
22	FPA/CS/11/2-0022	AFOLAYAN D. I.	21	32	53
23	FPA/CS/11/2-0023	AGBE A. Y	26	44	70
24	FPA/CS/11/2-0024	AGBI T. E.	22	22	44
25	FPA/CS/11/2-0025	AJELETI R. D.	21	19	40

Figure 3: Sample score-sheet with totals of continuous assessments and examination scores

#### 3.2 School Fees Payment Analysis System (SFPAS)

This is an accounting software tested and can be used to generate monthly/yearly financial statement of any institution in different formats. It produces the breakdown of the fees paid by students and thereby providing easy means of allocating funds to the various units appropriately such as sports, medical, laboratories, transportation and examinations.



# Financial Analysis For School Fees Payment Federal Polytechnic Ado-Ekiti, Ekiti State

School:

Department:

Session: 2012/2013

Level:

Semester:

Programme: F

		201	12/2013				FT	[ Page:	1 of	639	]
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STUDENT_NAME:	NLEMADIM, JULIET C	SPORT_GAMES	N 750.00	RESULT_VERIF		N	LAB_WORKSHOP:	N 0.00	EDSVC:	N	3,450.00
DEPARTMENTID:	ACC	CAUTIONFEE:	N 500.00	HANDBOOK:	N	500.00	PROSPECTUS:	N 1,000.00	E-TOTAL	N 2	24,600.00
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STUDENT_NAME:	Apata, Omowunmi	SPORT_GAMES	N 750.00	RESULT_VERIF		N	LAB_WORKSHOP:	N 0.00	EDSVC:	N	3,450.00
DEPARTMENTID:	ACC	CAUTIONFEE:	N 500.00	HANDBOOK:	N	500.00	PROSPECTUS:	N 1,000.00	E-TOTAL	N 2	24,600.00
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STUDENT_NAME:	AFOLABI, MOTUNRAYO	SPORT_GAMES	N 750.00	RESULT_VERIF		N	LAB_WORKSHOP:	N 0.00	EDSVC:	N	3,450.00
DEPARTMENTID:	ACC	CAUTIONFEE:	N 500.00	HANDBOOK:	N	500.00	PROSPECTUS:	N 1,000.00	E-TOTAL	N 2	24,600.00
reg no	FPA/HND/FT3140	INTERNET_FA	N	TRANSACTION	N	800.00	UTILITY:	N 5,000.00	TOTAL:	N 2	24,600.00

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STUDENT_NAME:	OLUFUNMI ADEOLA	SPORT_GAMES	N	RESULT_VERIF	N 0.00	LAB_WORKSHOP:	N	EDSVC:	N 3,4	150.00
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STUDENT_NAME:	ESIEBO, EJIROOGHENE	SPORT_GAMES	N 750.00	RESULT_VERIF	N	LAB_WORKSHOP:	N	EDSVC:	N 3,4	150.00
DEPARTMENTID:	URB	CAUTIONFEE:	N 500.00	HANDBOOK:	N 500.00	PROSPECTUS:	N 1,000.00	E-TOTAL	N 25,6	500.00
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DEPARTMENTID:	URB	CAUTIONFEE:	N 500.00	HANDBOOK:	N 500.00	PROSPECTUS:	N 1,000.00	E-TOTAL	N 25,6	500.00
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STUDENT_NAME:	ALADE, SUNDAY JOHNSON	SPORT_GAMES	N 750.00	RESULT_VERIF	N	LAB_WORKSHOP:	N	EDSVC:	N 3,4	150.00
DEPARTMENTID:	URB	CAUTIONFEE:	N 500.00	HANDBOOK:	N 500.00	PROSPECTUS:	N 1,000.00	E-TOTAL	N 25,6	500.00
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STUDENT_NAME:	OMOLOLA OLAWOLE	SPORT_GAMES	N	RESULT_VERIF	N 0.00	LAB_WORKSHOP:	N	EDSVC:	N 3,4	150.00
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STUDENT_NAME:	ADEFOLALU Oluwafemi	SPORT_GAMES	N	RESULT_VERIE	N 0.00	LAB_WORKSHOP:	. N	EDSVC:	N 3,4	450.00
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Cultule	ıry.					CAUTIONFEE:			N 1,022,50	
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						LIBRARY_DEV:			N 2,599,20	00.00
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	3103					HANDBOOK:			N 1,022,50	0.00
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						INSURANCE:			N 1,793,50	
						BUS LEVY:			N 4,941,00	
						EDSVC:			N 9,628,95	
		ב שרות אי		N 62 606	150.00			N 63		
		E-TOTAL:		N 63,606,	150.00	TOTAL:		N 63	,623,400	.00
		1								

Figure 4: Output with summary of distribution of school fees payments

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#### IV. CONCLUSION

The outcome of data collection which informed the development of these application packages will no doubt yield good results in any of the satellite campuses in Nigeria today when fully adopted. The application packages were developed in such a way that an individual with a fore knowledge of normal administration of such educational centre (without computer knowledge) should be able to use them effectively with confidence within few days. The packages will afford the centres the ability to keep and maintain adequate records of students and staff. Important decisions will be taken with dispatch and academic results will be more credible and timely. The task to match the need of stakeholders and bringing the system on board were successfully achieved.

#### **ACKNOWLEDGEMENTS**

I thank the management and staff of the Continuing Education Centre, Federal Polytechnic, Ado-Ekiti, Nigeria for their understanding throughout the long period it took to achieve the desired results in this research work, most especially Engr. T.D Adegboyega, the Dean and Engr. J. Adams, the Sub-Dean. Many thanks to Femi Adefaka and Godwin Udeji for their technical assistance.

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