AUTOMATED DATABASE OF APPROVED PROJECTS

(A CASE STUDY OF FEDERAL UNIVERSITY OF TECHNOLOGY, MINNA)

BY

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DEDICATION

This piece of work is dedicated to the entire EKPEKPE's Family particularly to my immediate family who stood by me through the thin and thick in producing this piece.

ACKNOWLEDGEMENT

With deep sense of joy and appreciation, I wish to place on record the special role played by Professor F. A. Ogbu (Project Supervisor). Sir, you have been very close all the time from the beginning of the program to the end despite your tight schedule, your constructive criticisms and corrections saved me from project pitfalls. May God continue to bless and guide you all in all your understanding.

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To other whose names are not mentioned here, may the Almighty God continue to remember you also with abundant blessings. Amen

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ABSTRACT

This project is aimed at eliminating the stress normally imposed on both students (final year) and lecturers on selecting project topic and also implementing for the first time a database that allows access to approved project. A sort of mini computerized library that computerized library that comprises all the necessary information required and also creating a link to approved projects copies submitted to the department.

CHAPTER ONE

INTRODUCTION

1.1 BACKGROUND OF THE STUDY

In all tertiary institution, when it comes to presenting project topics which will be worked on by the student, there seems to be difficulties ranging from the stress of getting a good caption to getting such a topic approved.

The vast and fast speed of technology seems to scare students; it is as though everything has been talked about. The stress graduating students undergo every last semester doubles due to the fact that a project topic must be submitted for approval. As simple as the whole scenario looks, for the graduating students project topics do not come easy. After going through volumes of previously approved project and then the students finally come up with a project topic, the student would soon be dismayed to find that such topic has been presented before.

The lecturers are not left out of the stressful condition, after collecting all projects topics presented by students, they (lecturers) have to make a search through all previously approved projects to make sure that no particular student is repeating a project topic already treated some years back. And since this process is done manually, this search can take forever and time is quite critical to any graduating student. The lecturer also has to make sure that each topic submitted commensurate the levels of course study and this does not make the lecturers' job any easier.

Students also need to search through previously approved project copies to reach a conclusion as to whether to produce a new caption from the general ideas gathered or to start from someone else's limitation. Now since this search process is done manually it is very difficult to get a topic related to what the student has in mind.

It is such a slow and tedious process to read through all previous project copies which may date as far back as when the department was created. For instance, where a graduating student had to go through an average of 20 copies of project for all the years the department had been in existence, it could prove to be a daunting task especially for students whose morale is already broken down.

1.1 HISTORY OF FEDERAL UNIVERSITY OF TECHNOLOGY, MINNA:

The Federal University of Technology, Minna is one of the third generation universities established in 1983 via decree No 11 and commenced operations on 1st February, 1983. The goal for its establishment is to give effect to the nation's drive for the much needed reliance on science, engineering and especially technology. Thus, it was one of the five specialized universities of technology. In its efforts at stemming the tide of brain drain from Nigeria and conscious of the dearth of academic staff, especially in technology education, the National Universities Commission intensified its encouragement to these universities to commence Postgraduate Programmes.

In order to achieve the set goals and objectives, this university commenced postgraduate programmes in 1989/1990 session after approval by senate and council as well as obtaining National Universities Commission (NUC) consent. The programmes effectively took off in 1991/92 session with 22 PhD and 42 Master's degree students. The number has steadily grown over the years in the various Postgraduate programmes.

The Federal University of Technology, Minna is federally owned. It was established on 1st February, 1983. The objective for its establishment is to give effect to the nation's drive for the much needed self reliance in Science, Engineering and especially Technology.

At inception, Professor J.O. Ndagi served as foundation Vice-Chancellor from 1983 to 1990, Professor S.O. Adeyemi as Vice-Chancellor 1991-94, Professor I.H. Umar as Sole Administrator 1994-1997, Professor S.A. Garba was appointed as Acting Vice-Chancellor on 26t h June, 1997 to August, 1997. Professor M.A. Daniyan was Vice-Chancellor from 7th August, 1997 to 6th August, 2002. Professor J.O. Adeniyi was appointed Acting Vice-Chancellor from 7th August, 2002 to 2nd October, 2002. The current Vice-Chancellor Professor H. Tukur Sa'ad was appointed on 3rd October, 2002.

The foundation Registrar Late Dr. B.P. Sawa served from 1983-1986, Mrs. L.S. J. Ahmed 1988-1993, Alhaji U.A. Sadiq effect from October,

1998, having acted in that capacity since 1993. The current Acting Registrar Mallam M.D. Usman was appointed on 1st October, 2003.

1.2 STATEMENT OF THE PROBLEM:

Time wastage is one of the problems associated with accessing previous project copies. Finishing one's project on time is a function of getting a project topic approved. To achieve this approval, the project should be relevant and commensurate with the programme level and should not be one that has been written before.

Another problem is lack of multiple accesses at the library where the student's exposure is limited to two (2) project work at a time. It means no two persons can have the access to the same set of project copies at the same time.

Thirdly, lack of exposure to well organized approved projects copies that are relevant to their interests and abilities, hinders the natural simulation and spurring in acquiring foreknowledge and skills of presentation.

Finally, in manual procedures where large amount of paper work is involved, it is difficult to obtain results from queries at a fast rate, making the decision process by top project supervisors slow.

1.3 PURPOSE OF STUDY:

1. To keep a comprehensive record of all approved project copies.
2. For easy reference by both students and staff.

3. To give students a form of review on related project work, enabling the student to know what area has been covered and to hat extent the solution was provided. Hence, such student will now to start from the limitations of the former project.
4. To design a user-friendly application that will work with the database effectively.
5. To create an efficient and effective computerised catalogued system for project copies. Hence accumulated knowledge and ideas of the past can be passed on and used for development in the future by assisting the researcher on what project is available by a given author, title and subject.

1.4 RESEARCH QUESTIONS:

1. What can be done to get project copies well catalogued?
2. What is the easiest way to have access to previously approved copies?
3. How many students are allowed to have access to the same project copy at the same time?
4. What other method would be preferable to the current manual process?
5. What is the extent to which an automated database would alleviate the problems associated with the current manual process?

1.5 SIGNIFICANCE OF THE STUDY:

The significance of this project study is that it will create a positive effort in meeting with the new challenge of computer era where the new trend is the application of computer knowledge in daily life's activities.

It will also enable users to have access to previous copies at a faster rate and with m much ease.

It will also enable users to know what a particular project copy similar to their own project work entails, what extent such work has covered and what area can be improved upon.

This study seeks to also help staff appointed as project supervisors to function more effectively and efficiently by giving them access to project copies that has been submitted to the department since it was created so as to avoid student repeating project work already done.

1.6 SCOPE OF THE STUDY:

This project involves all the graduating students in the entire Federal University of Technology, Minna that will be submitting a project copy in partial fulfillment of a course of study for the award of a certificate.

1.7 LIMITATION:

This project work is limited to all the graduating students in the Department t of Mathematics and Computer Science in the school.

CHAPTER TWO

LITERATURE REVIEW

2.0 INTRODUCTION:

In accordance to the Oxford Advanced Learners' Dictionary (1998), the word automated is defined as "the use of machines to do work previously done by people." It was also stated that technology advances have enabled most routine tasks to be automated. From all observable phenomena in our present environment, it is noticed that more and more daily activities are no longer carried out by humans; the trend of computer technology is a pointer that the gradual elimination of manual procedures is inevitable.

Since the submission of project copies is a yearly event. It means these project copies would require storage which becomes limited as the year passes by. Hence, the need for a database on those project copies that has been approved.

2.1 RESEARCH:

Osuala (1982) states that "the process of arriving at dependable solution to problems through the planned and systematic collection, analysis and interpretation of data is known as research. A review on Osuala's book showed that research is an important tool for acquiring knowledge for enhancing progress. It enhances a more effective relationship with one's environment to accomplish set purposes and to resolve one's conflicts. Research work is a synonymous term to project copies. Approved projects are copies that have been monitored and certified by an external supervisor as meeting the required standards.

Nworgu (1999) states that, "the essence of any research undertaking is to find a solution to an identified problem." A review on Nworgu's book gave an insight to what a project should look like. It entails the step by step instructions on what each chapter entails. This has gone a long way to ensure uniformity in the approach to project writing format which was one of the modeling factors for this project.

2.2 *DATABASE:*

Aronu (1998) defined a database system as "a computer-based record keeping system i.e. a system whose overall purpose is to record and maintain information".

He Aronu (1998) also stated that "the information, can be anything that is deemed to be significant to which the organization system is serving i.e. anything that nay be necessary to the decision making process involved in the management of that organization.

Mark (1984) defined database "as a collection of all data within a particular area or application. " He Mark (1984), also stated that the database should be independent of the application program which access the data item.

Rumble and Hampel (1985) stated that "the use of computer to store, manipulate and distribute collections of numeric data is related to a basic theme: think before doing".

Rumple and Hampel (1985) also stated that "computer database projects require careful plans and decision followed by rational selection and implementation of database management concepts".

Dennis (1982), states that "data is being organized into fields, records and files and that there might be need for a file structure". Dennis (1982) also stated that "every database is created using entities, defining an entity as the subject of a record that is created". From this book it was discovered that each entity entails facts differentiating it from all other entities, such facts are referred to as the attributes and are used as the database fields. Key attributes are key fields that uniquely identify the records.

Leong and SI (1985) states that "the importance of cache-memory in speeding data across from main memory is to achieve a reasonable performance cache management is mostly in the hardware and firmware'. Further review of Leong and SI (1985) sites that both cache placement and cache replacement algorithm which must be carefully considered describing the architecture of typical mobile database server interacting with a mobile client, usually a laptop is connected via a wireless channel to the remote database server.

Cashing of data from the database server therefore, can be performed at local disk and main memory. The database server will use its own main memory cache to store database items frequently accessed by most mobile clients as well. Leon and SI (1985) also states that "the server which is independent from the management of local storage cache and main memory cache by a client.

2.3 *CATALOGUING:*

Corbett (1978) stated that, "catalogue is nothing more than a list of books which is arranged on some definite plan; it is confined to the contents of a particular library." Catalogue is what points out the location symbol or call number. It is therefore the index materials in the library and is the reader's chief means of discovering and locating materials.

In view of this, this project makes use of menus that are user friendly aiding the user quick or faster access to required project. It was noted that the objectives of a catalogue are.

1. To enable user find a book by which either author, title or subject is known.
2. To sow what the library has, by a given author or subject.
3. To assist in the choice of a book e.g. as to its edition (bibliography).

All of these are what this project seeks to accomplish with some enhancement, in the sense that the former description where done manually but most of the procedures are now automated, speed is now an added factor achieved.

2.4 *SECURITY:*

Corbett (1978), also stated that "amongst the problems faced by a Liberian, since there was no uniformity amongst users is security of stock as cheap as possible having regard to the value of the different type of material being lent.

According to Aronu (1998) Password is defined as "a set of characters which may be allocated to a person or terminal and

required to be keyed into the system before further access is permitted to data file, program file, part of a program. It may be for reading only or reading and writing.

2.5 *SEARCH PROCESS:*

Searching for data or information via the Internet has been made easier with the aid of search engines such as "Google"

Heiler (1998) stated that "the amount of biological information accessible via the World Wide Web is truly astonishing, and the volume of data is increasing at a fast pace".

He Heiler (1998), also said "it is important to have easy and efficient ways of wading through the data and finding what is important to one's research."

Heiler (1998), stated that "for an individual to browse in a more efficient access method is to plan a search, depending on the type of data at hand. There are two basic ways of searching, (1) Using descriptive words to search text databases (2) Using protein sequence to search a sequence database in bro informatics". Heiler (1998) states also that "the three tools that allows text searching of multiple molecular biology database and providing links to relevant information for entries that match the search criteria; are Entrez (SRS) and DBGET. Further review on this book shows that queries can be as simple as entering the accession number of newly public sequence or as complex as searching multiple database fields for specific terms.

The following search concepts are those commonly used.

1. Boolean search – This makes use of AND, OR, NAND etc.
2. Broading or Narrowing the search of a database; this entails

writing a longer text (parameter) or reducing the text.

3. Proximity search – placing quotes around terms.
4. Wild cards – This makes use of special symbols e.g. "*" asterisks to mean "all".

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 INTRODUCTION:

Nworgu (1991), states that "the essence of any research undertaking is to find a solution to an identified problems(s)".

Research methodology is a detailed step by step procedure for collecting and analyzing the data needed to solve the existing problem.

Hence this chapter entails all investigations, principles and inquiry in seeking facts that were used in this project work. It also highlights the approach aimed at providing answers to questions; this includes collection and statistical analysis of data.

3.2 RESEARCH DESIGN:

The general approach adopted in this study is known as survey research design. This study was conducted with reference to the department of Mathematics & Computer Science, Federal University of Technology, Minna in other to present the need for an automated database of approved project copies.

3.3 AREA OF STUDY:

The area of study is the school of Postgraduate Studies, department of Mathematics & Computer Science, and this study comprises of Federal University of Technology, Minna.

3.4 POPULATION OF STUDY:

The population of the study consists of all final year students in the Department of Mathematics and Computer science.

3.5 *SAMPLING TECHNIQUE:*

The sampling technique employed in this research study is the simple Random sampling. This sampling technique involves each element of the population having equal and independent chance of being included in the sample. If in a population, there are X^{th} elements, the chance of drawing each element is 1/x. Using the proportional allocation into PGD, 500 level & lectures we have

PGD

$(49/(49+75+13))^{*}40 = 14$

500 Levels

$(75/(49+75+13))^{*}40 = 22$

Lecturers

$(13/(49+75+13))^{*}40 = 4$

40

3.6 *SAMPLE OF STUDY:*

The position of the population for which data were actually collected are the PGD and 500 Level students and lecturers in the department of Maths & Computer. The accessed sample chosen for this study were graduating students from computer science in the department of Maths & Computer. The researchers sample were both male and female totaling 40 in number.

3.7 *INSTRUMENTS FOR DATA COLLECTION:*

It is most eminent that both current and past facts about the observed system are well known before applying any analytical tool. The source of data used for this research work was gathered from both student and staff, by the following methods:-

i. Observation
ii. Questionnaires
iii. Review of other materials
iv. Interview

I. OBSERVATION:

This method carried out by the researcher, involves watching people, event situation and phenomena and obtaining first hand information relating to particular aspects of such people, event or situation. The researcher made use of what is known as participant observation, which entails being a member of the setting in which the observation is taking place. The researcher is a PGD student of computer science.

II. QUESTIONNAIRE:

This is a set of question designed and printed on paper to be answered by the group of people to which it was distributed in other to obtain required information. The structured or fixed response questionnaire was used in this project work as to avoid ambiguous answers and opinions, to justify the need for an automated database system.

III. REVIEW OF OTHER MATERIAL:

Quite a part of the data used in this project were collections made up of extracts from various textbooks, journals, and other research work relevant to the topic under consideration.

IV INTERVIEW:

This involves meeting with people, questioning and interacting with them so as to get their own opinion about the problem at hand.

3.8 METHODS OF DATA COLLECTION:

The researcher was engaged in observing and also the consultation of various literatures in the collection of data. This method is known as a primary method of data collection. An assistant aided the researcher in the distribution of the forms. After responding to such forms the researcher received the forms via the students' representative. This method is referred to as the SECONDARY method.

3.9 STATISTICAL TOOL USED:

The statistical tool used to draw inference on the data collection is chi-square test denoted by χ^2. It is a non-parametric inferential statistical method used in analyzing frequencies or nominal data. It makes no restrictive assumptions about the distribution of scores in question hence it can be used where the assumptions parametric statistic about the distribution are not satisfied.

The chi-square is a two-tailed test. It can only indicate whether or not a set of observed frequencies differ significantly from the corresponding set of expected frequencies, not possibly the direction in which they differ.

The formula for computing X^2 is stated as:

$$\chi^2 = \Sigma \ [O - E]^2 / E$$

Where:

O = Observed frequency

E = Expected or theoretical frequency

= 'Sum of' or summation.

The above formula suggests that we determined the expected frequencies first. These are those which occur during the null hypothesis, while the observed frequencies correspond to the frequencies obtained by direct observation of the phenomenon (or event) under consideration. We next calculate the square difference of the difference between the observed and expected frequencies. These square differences are divided by the corresponding expected frequencies and the rations summed up to get χ^2

Ho : To determine whether there is no significant difference between the relationship.

H1. : To determine whether there is a significant difference between the relations.

3.10 TEST OF HYPOTHESIS:

Hypothesis is a conjectural proposition about the solution whose validity and veracity is to be established.

For this project the Test of Hypothesis is

Ho: To determine whether there is no need for an automated database for previously approved project copies

H1: To determine whether there is need for an automated database for previously approved project copies

CHAPTER FOUR

4.0 *DATA PRESENTATION AND ANALYSIS*

4.1 *INTRODUCTION:*

This chapter presents all data collected, and the analysis carried out on the data to confirm whether the assumptions made by the researcher holds true. This chapter also outlines the input and output specification and design of the new system.

4.2 *DATA PRESENTATION:*

The purpose of this research work is to point out flaws that needs to be removed from the current manual search process and also to ease the work load in keeping previously approved projects

With this point of view the data gathered are analyzed to test the two (2) sets of hypothesis.

Table 1 Frequency Table

Options	Male	Female	Total	Percentage
500 Level	13	11	24	60
PGD	6	10	16	40
	19	21	40	100

The above table gives a break down of the number of times a student's project topic was rejected before approval.

DATA ANALYSIS:

CHI – SQUARE Test Applied.

AIM: To investigate weather the opinion of the student on how many times their project topic was rejected depends on their level. The X^2 Test of independence at 5% level of significance

HYPOTHESIS:

Ho: Students opinion does not depend on their level and the frequency of project rejection is high.

H1. Students' opinion depends on their level and the frequency of project rejection is low.

LEVEL OF SIGNIFICANCE:

$\alpha = 0.05$

TEST OF STATISTIC:

$$\chi^2 cal. = \sum_{i=1}^{r} \sum_{j=1}^{c} \frac{(oij - eij)^2}{eij}$$

DECISION CRITERION:

Reject Ho: If χ^2 cal exceeds χ^2 tab $0.05,1 = 2.34146$

COMPUTATION:

Contingency Table 2: Shows the summary of the computation as follows

Oji	Eij	Oij - Eij	(Oij – Eij)^2	(Oij – Eij)^2/Eij
13	11.4	1.6	2.56	0.224561404
11	12.6	-1.6	2.56	0.203174603
6	7.6	-1.6	2.56	0.336842105
10	8.4	1.6	2.56	0.304761905
				0.069340017

DECISION:

Since χ^2 cal = 1.0693 does not exceed the χ^2 tab 0.05,1 = 2.34146, we then accept Ho, we can now conclude that the frequency of project rejection is high.

Table 3 Frequency table

Options	Male	Female	Total	Percentage
500 Level	7	6	13	32.5
PGD	5	9	14	35
Lecturer	6	7	13	32.5
	18	22	40	100

The above table gives a break down of the different opinion on the number of times a student's project topic was rejected because it was below standard.

DATA ANALYSIS:

CHI – SQUARE Test Applied.

AIM: To investigate whether the opinion of both student and lecturer, on how many times a project topic was rejected because it was below standard depends on their level.

The χ^2 Test of independence at 5% level of significance.

HYPOTHESIS:

Ho: Students and Lecturer opinion does not depend on their level and the frequency of project rejection is high.

H1: Students and Lecturer opinion depends on their level and the frequency of project rejection is low.

LEVEL OF SIGNIFICANC:

$\alpha = 0.05$

TEST OF STATISTIC

$$\chi^2 cal. = \sum_{i=r}^{r} \sum_{j=c}^{r} \frac{(oij - eij)^2}{eij}$$

DECISION CRITERION:

Reject Ho: If χ^2cal exceeds χ^2tab 0.05,2 =5.99146

COMPUTATION:

Contingency Table 4: Shows the summary of the computation as follows

Oij	Eij	Oij – Eij	(Oij – Eij)^2	(Oij – Eij)^2/Eij
7	5.85	1.15	1.3225	0.226068376
6	7.15	-1.15	1.3225	0.184965035
5	6.3	-1.3	1.69	0.268253968
9	7.5	1.3	1.69	0.219480519
6	5.85	0.15	0.0225	0.000346154
7	7.15	-0.15	0.0225	0.003146853
				0.905760906

DECISION:

Since χ^2cal =0.90576 does not exceed the χ^2 tab 0.05,2 =5.99146, we then accept Ho, we can now conclude that the frequency of project rejection because it was below standard is high.

Table 5 Frequency table

Male	Female	Total	Percentage
7	6	13	32.5
9	5	14	35
7	6	13	32.5

23	17	40	100

The above table gives a break down of the different opinion on the number of times a student's project topic was rejected because it has been written before.

DATA ANALYSIS:

CHI – SQUARE Test Applied.

AIM: To investigate weather the opinion of both student and lecturer, on how many times a project topic was rejected because it has been written before depends on their level. The χ^2 Test of independence at 5% level of significance.

HYPOTHESIS:

Ho: Students and Lecturer opinion does not depend on their level and the frequency of project rejection is high.

H1: Students and Lecturer opinion depends on their level and the frequency of project rejection is low.

LEVEL OF SIGNIFICANCE:

$\alpha = 0.05$

TEST OF STATISTIC

$$\chi^2 cal. = \sum_{i=rj=c}^{r} \sum^{r} \frac{(oij - eij)^2}{eij}$$

DECISION CRITERION:

Reject Ho: If χ^2cal exceeds χ^2tab 0.05,2 = 5.99146

COMPUTATION

Contingency Table 6: Shows the summary of the computation as follows

Oij	Eij	Oij – Eij	(Oij – Eij)^2	(Oij –Eij)^2/Eij
7	7.475	- 0.475	0.225625	0.030183946
6	5.525	0.475	0.225625	0.040837104
9	8.05	0.95	0.9025	0.112111801
5	5.95	-0.95	0.9025	0.151680672
7	7.475	-0.475	0.225625	0.030183946
6	5.525	0.475	0.225625	0.040837104
				0.405834575

DECISION

Since χ^2cal = 0.4058 does not exceed the χ^2tab 0.05,2 = 5.99146 we then accept Ho, we can then conclude that the frequency of project rejection because its been written before is high.

Table 7 Frequency Table

Options	Male	Female	Total	Percentage
PGD	11	9	20	50
500 Level	7	5	12	30
Lecturer	4	4	8	20
	22	**18**	**40**	**100**

The above table gives a break down of the different opinion on the number of times a student's project topic was rejected due to improper presentation or caption.

DATA ANALYSIS:

CHI – SQUARE Test Applied.

AIM: To investigate whether the opinion of both student and lecturer, on how many times a project topic was rejected due to improper presentation or caption depends on their level. The χ^2 Test of independence at 5% level of significance

HYPOTHESIS:

Ho: Students and Lecturer opinion does not depend on their level and the frequency of project rejection is high.

H1: Students and Lecturer opinion depends on their level and the frequency of project rejection is low.

LEVEL OF SIGNIFICANCE:

$\alpha = 0.05$

TEST OF STATISTIC:

$$\chi^2 cal. = \sum_{i=r}^{r} \sum_{j=c}^{r} \frac{(oij - eij)^2}{eij}$$

DECISION CRITERION:

Reject Ho: If χ^2 cal exceeds χ^2 tab 0.05,8 =15.5073

COMPUTATION:

Contingency Table 8: Shows the summary of the computation as follows

Oij	Oij	Oij – Eij	(Oij – Eij)^2	(Oij – Eij)^2/Eij
11	11	0	0	0
9	9	0	0	0
7	6.6	0.4	0.16	0.024242424
5	5.4	-0.4	0.16	0.02962963
4	4.4	-0.4	0.16	0.036363636

4	3.6	0.4	0.16	0.044444444
				0.134680135

DECISION:

Since χ^2cal =0.13465 does not exceed the χ^2tab 0.05,2 =5.99146, we then accept Ho, we can now conclude that the frequency of project rejection because it was below standard is high.

Table 9 Frequency table

Options	Male	Female	Total	Percentage
PGD	8	7	15	37.5
500 Level	10	8	18	45
Lecturer	4	3	7	17.5
	22	18	40	100

The above table gives a break down of the different opinion on the ease of searching through previous project copies.

DATA ANALYSIS:

CHI – SQUARE Test Applied.

AIM: To investigate the ease with which a search process can be carried out. The X Test of independence at 5% level of significance.

HYPOTHESIS:

Ho: Students and Lecturer opinion on the current search process is that it is relatively difficult.

H1: Students and Lecturer opinion on the current search process is that it is not relatively difficult.

LEVEL OF SIGNIFICANCE:

α = 0.05

TEST OF STATISTIC:

$$\chi^2 cal. = \sum_{i=1}^{r} \sum_{j=1}^{c} \frac{(oij - eij)^2}{eij}$$

DECISION CRITERION:

Reject Ho: If χ^2cal exceeds χ^2tab 0.05,2 =5.99146

COMPUTATION:

Contingency Table 10: Shows the summary of the computation as follows

Oij	Eij	Oij – Eij	(Oij – Eij)^2	(Oij – Eij)^2/Eij
4	4.32	-0.32	0.1024	0.023703704
3	2.52	0.48	0.2304	0.091428571
2	2.16	-0.16	0.0256	0.011851852
2	2.4	-0.4	0.16	0.066666667
1	1.4	-0.4	0.16	0.114285714
2	1.2	0.8	0.64	0.533333333
5	2.4	2.6	6.76	**2.816666667**

DECISION:

Since χ^2cal =2.81667 does exceeds the χ^2tab 0.05,2 =5.99146, we then accept Ho, we can now conclude that the frequency of project rejection because it was below standard is high.

Table 11 Frequency table

Options	Male	Female	Total	Percentage
PGD	8	5	13	32.5
500 Level	8	12	20	50

Lecturer	3	4	7	17.5
	19	21	40	100

The above table gives a break down of the different opinion on the need for an automated database on approved project copies.

DATA ANALYSIS:

CHI – SQUARE Test Applied.

AIM: To investigate the need for an automated database. The χ^2 Test of independence at 5% level of significance.

HYPOTHESIS:

Ho: Students and Lecturer opinion indicates the need for an automated database is significantly important.

H1: Students and Lecturer opinion indicates the need for an automated database is significantly not important.

LEVEL OF SIGNIFICANCE

$\alpha = 0.05$

TEST OF STATISTIC

$$\chi^2 cal. = \sum_{i=r}^{r} \sum_{j=c}^{r} \frac{(oij - eij)^2}{eij}$$

DECISION CRITERION:

Reject Ho: If χ^2cal exceeds χ^2tab 0.05,2 =5.99146

COMPUTATION

Contingency Table 12: Shows the summary of the computation as follows

Oij	Eij	Oij – Eij	(Oij – Eij)^2	(Oij –Eij)^2/Eij
4	4.32	-0.32	0.1024	0.023703704
3	2.52	0.48	0.2304	0.091428571
2	2.16	-0.16	0.0256	0.011851852
2	2.4	-0.4	0.16	0.066666667
1	1.4	-0.4	0.16	0.114285714
2	1.2	0.8	0.64	0.533333333
5	2.4	2.6	6.76	2.816666667

DECISION

Since X^2 cal = 2.81667 does not exceed the X^2 tab 0.05,2 =5.99146, we then accept Ho, we can now conclude that the frequency of project rejection because it was below standard is high.

4.3 INPUT SPECIFICATION

The input fields required for the research work are as defined in the tables below

Table Name: Author Title

Field Name	Type	Length
RegNo	Text	9
Accession	Text	12
Title	Text	35
Year pub	Date	8
Prog ID	Integer	2
Category	Text	15
Abstract	Memo	

Table Name: Author Title

Field Name	Type	Length

Pro ID	Integer	2
RegNo	Text	9
Surname	Text	15
Forename	Test	25
Birthdate	Date	8
Gender	Text	1
Level	Text	5

Table Name: Department

Field Name	Type	Length
DeptID	Integer	2
Department	Text	25
Abbreviation	Text	15

Table Name: Programme

Field Name	Type	Length
DeptID	Integer	2
ProgID	Integer	2
ProgName	Text	25
Abbreviation	Text	15

4.4 OUTPUT SPECIFICATION

FEDERAL UNIVERSITY OF TECHNOLOGY, MINNA

AUTOMATED DATABASE OF APPROVED PROJECTS

LIST OF PROJECT FOR THE YEAR: 9999

COLLEGE: XXXXXXXX DEPARTMENT: XXXXX

SCHOOL: XXXXXXXX PROGRAMME: XXXXX

Serial # 99 Accession # XXXXXXX Title XXXXX Author XXXXXXXXX

Pg: ...

The above report displays the list of projects for a particular year.

FEDERAL UNIVERSITY OF TECHNOLOGY, MINNA

AUTOMATED DATABASE OF APPROVED PROJECTS

LIST OF PROJECT AS AT: 99/99/99

FACULTY: XXXXXXXX DEPARTMENT: XXXXX

SCHOOL : XXXXXXXX PROGRAMME: XXXXX

Serial # 99 Accession # XXXX Title XXXXX Author XXXXX Reg # XXXX Year 9999 Category XXXXXXXX

Pg: ....

This report displays the entire list of project copies available

---

FEDERAL UNIVERSITY OF TECHNOLOGY, MINNA

AUTOMATED DATABASE OF APPROVED PROJECTS

LIST OF PROJECT BY AUTHOR: XXXXXXXXXXX

FACULTY: XXXXXXXX DEPARTMENT: XXXXX

SCHOOL: XXXXXXXX PROGRAMME: XXXXX

Serial # 99 Accession # XXXX Title XXXXX Author XXXXX Reg # XXXX Year 9999 Category XXXXXXXX

Pg: ....

This report displays the list of project by their respective authors.

FEDERAL UNIVERSITY OF TECHNOLOGY, MINNA

AUTOMATED DATABASE OF APPROVED PROJECTS

LIST OF PROJECT BY: WORD

FACULTY: XXXXXXXX DEPARTMENT: XXXXX

SCHOOL: XXXXXXXX PROGRAMME: XXXXX

Serial # 99 Accession # XXXX Title XXXXX Author XXXXX Reg # XXXX Year 9999 Category XXXXXXXX

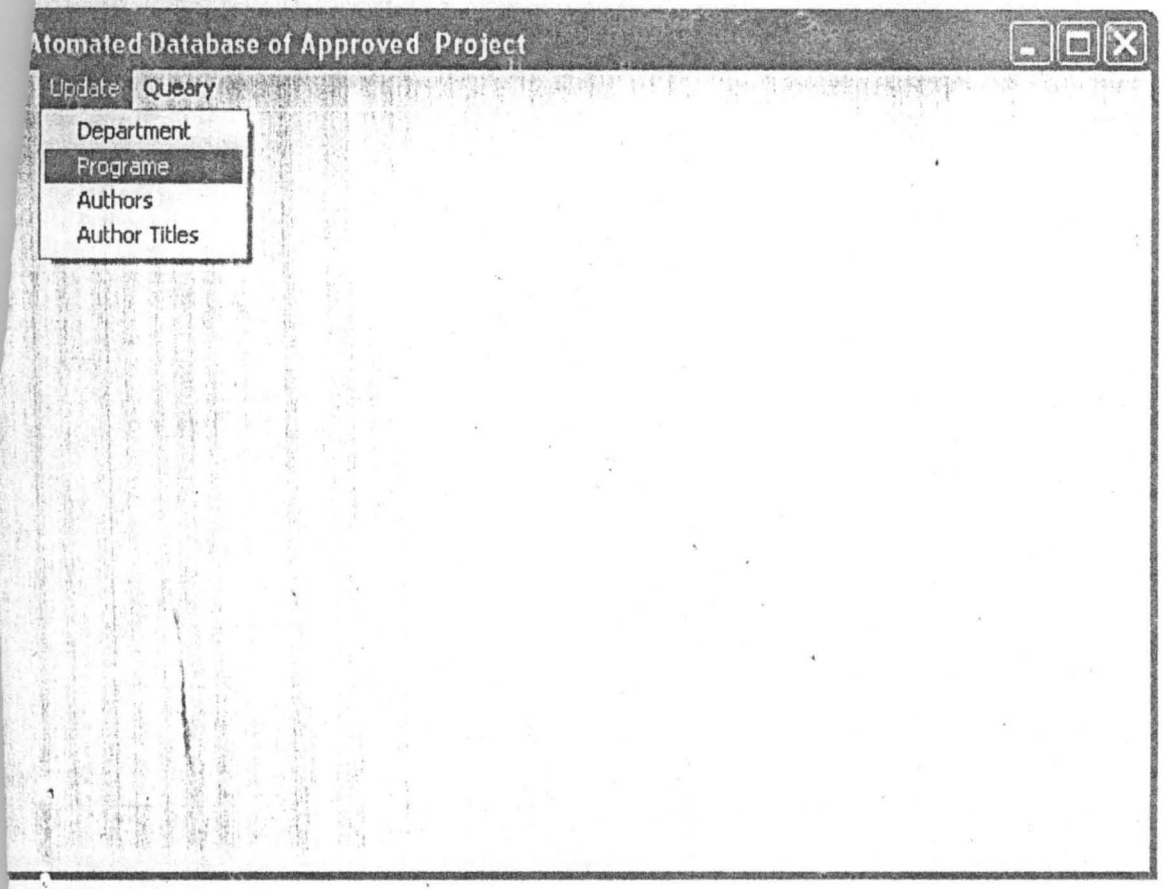
Pg. ....

This report displays the list of project containing the word specified.

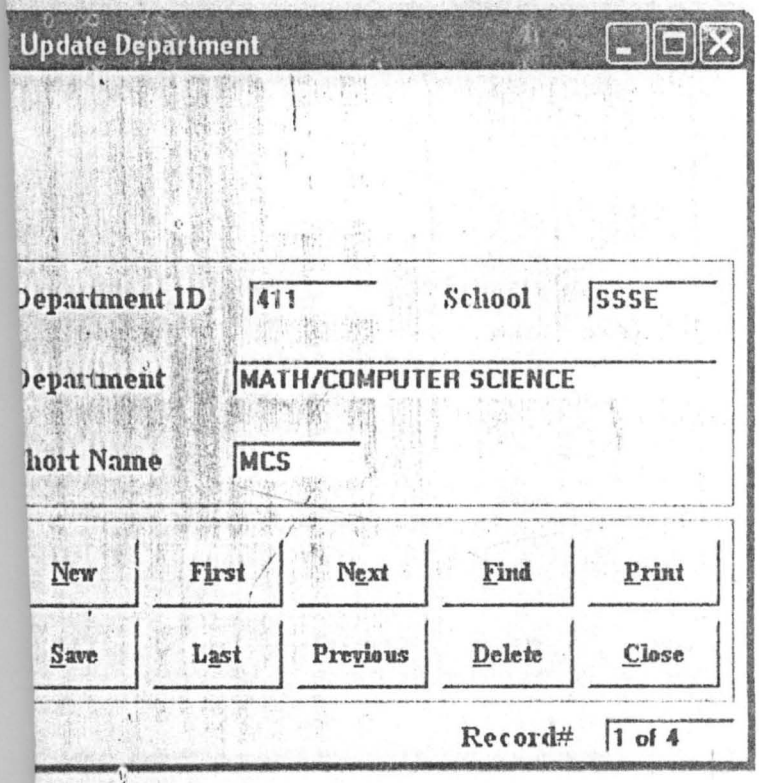
.....

APPENDIX III

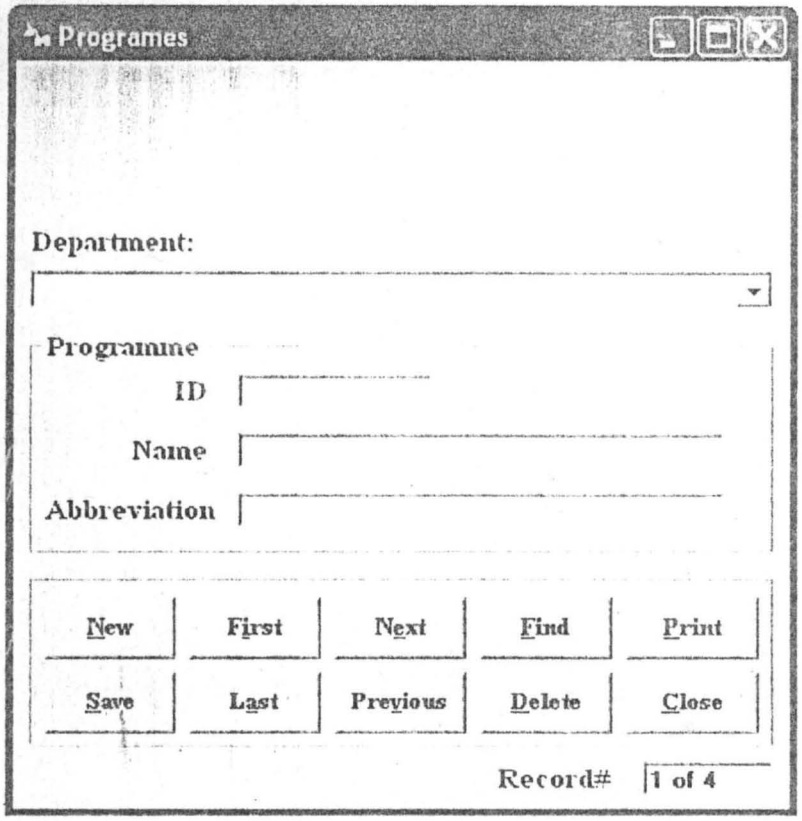
SAMPLE OUTPUT



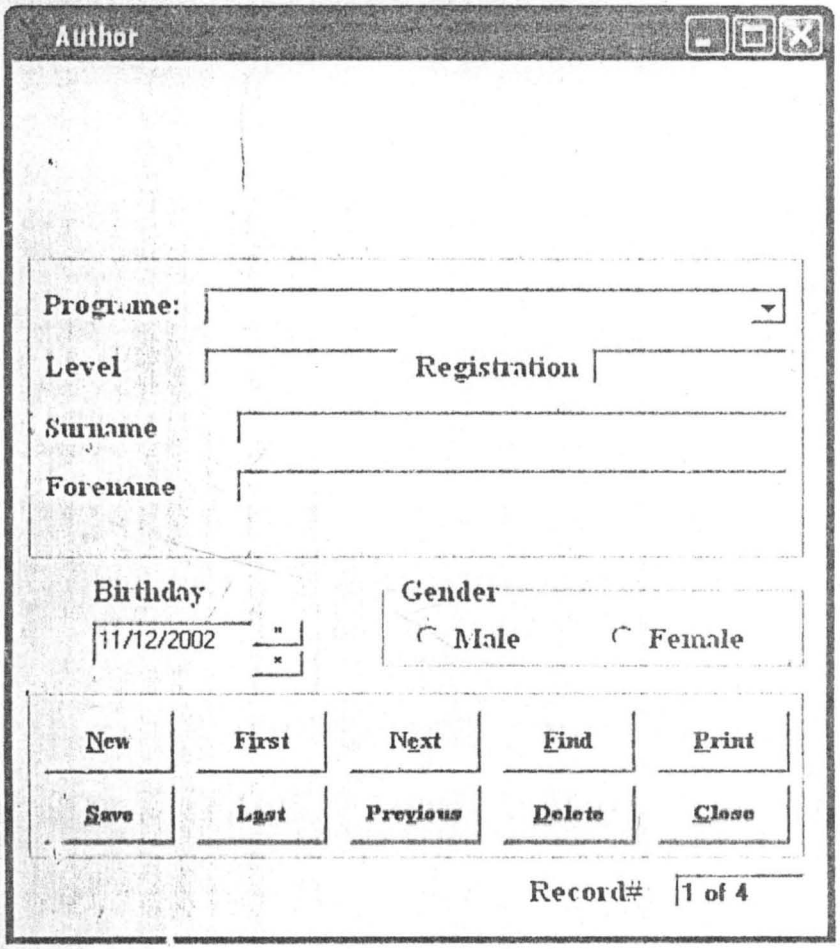
MAIN MENU SCREEN



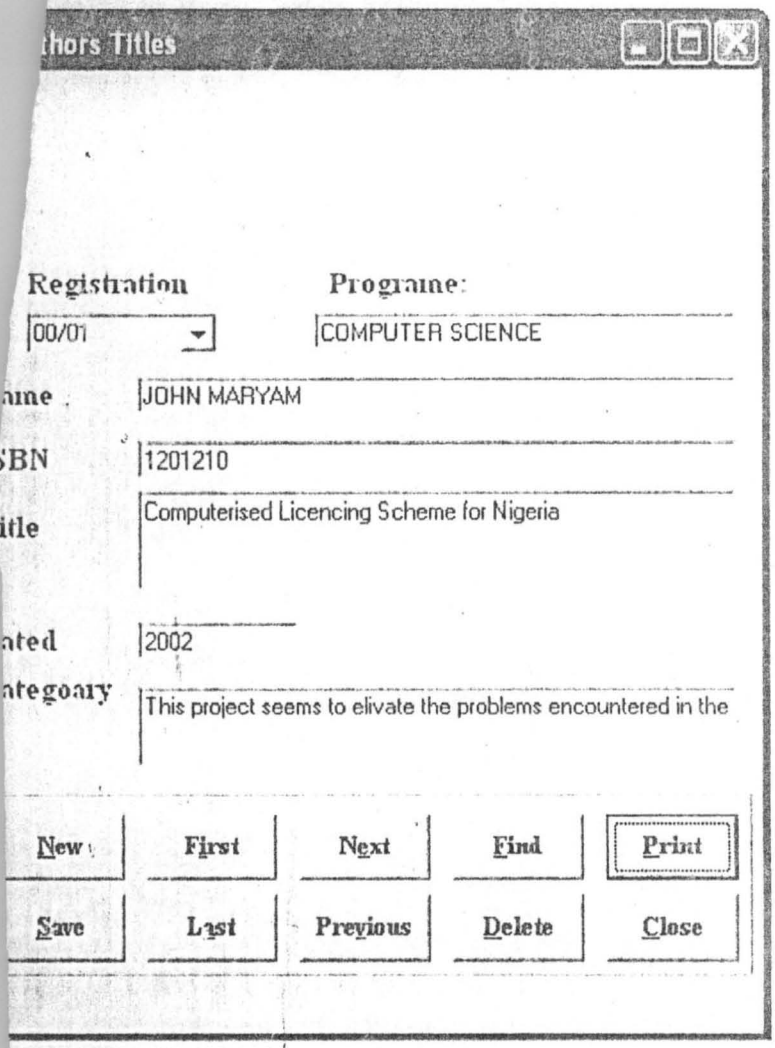
UPDATE DEPARTMENT SCREEN



UPDATE PROGRAMES SCREEN



UPDATE AUTHOR SCREEN



AUTHORS TITLES

CHAPTER FIVE

5.1 *SUMMARY OF FINDINGS:*

The major aim of this project research is to design and develop a software application that would ease and reduce to the bearest minimum problems encountered by student during the selection of project topic and lecturers who are project supervisors in the search process through previously approved project copies before approving the current topics presented by students.

Questionnaires were designed to gather information on the opinion of both student and lecturer.

The following are the findings gotten from the research carried out

1. There was a general opinion of both students and lecturer that the
2. Current manual search processes through previously approved project is relatively difficult.
3. There was a general opinion of both students and lecturer that there is need for an automated database on previously approved project copies.

The application software is aimed at providing quick and precise access to Project catalog information such as:

1. Title of the project
2. Author
3. Department
4. Year of publication
5. And the abstract of the project.

These are the information provided, particularly the abstract which is to display the abstract of the project in view.

5.2 *CONCLUSION:*

The project study has looked at the problems faced by students when selecting project topic and lecturer when approving project topics presented by students and concluded that the basic problems are

1. That students presents topic already done before
2. Most of the project topic submitted does not commensurate the
3. Student's level of study i.e. they are either below or above standard
4. It is not easy searching through previously approved project copies
5. Most of the time when the student knows what to do there is the problem of presenting a good caption for the project.
6. The manual method of keeping previously approved projects is becoming more prone to errors in accession numbers which will make search process almost impossible
7. The analysis carried out went on to prove that hypothesis of the need for an automated data base for previously approved project holds true.

Finally it has been proven by this research and many others that with the use of computer in any activity even library information and cataloguing will improve the efficiency of the system and output more accurate results.

5.3 RECOMMENDATION:

Based on the findings from this research, the researcher will want to recommend to the department of Mathematics & Computer Science and the Federal University of Technology, Minna as a whole that

1. There should be an establishment of a standard computer library to make available all the relevant reference material required by the final year student.
2. The software developed as part of this project should be implemented and used.

ADVANTAGES OF AN AUTOMATED SYSTEM:

1. Time wasting tasks are reduced or eliminated
2. Accuracy and efficiency is guaranteed.
3. Speed in categorizing information
4. Less human intervention.

DEPARTMENT OF MATHEMATICS & COMPUTER SCIENCE

FEDERAL UNIVERSITY OF TECHNOLOGY, MINNA

QUESTIONNAIRE

To Whom It May Concern

I David Ekekpe, of the above named department is on a research to assess the need for an automated database on approved projects in Federal University of Technology, Minna the information supplied in this questionnaire would be treated confidentially.

Instructions: *Question 1 for student only* others for both student and lecturers mark the check box that best suits your answer.

PGD ..... 500 Levels..... Lecturer .....?

1 Was your project topic approved the?

a. First time b. Second time c. Third time d. Fourth time

e. Not approved

2 What do you think was the reason for rejecting the project topic?

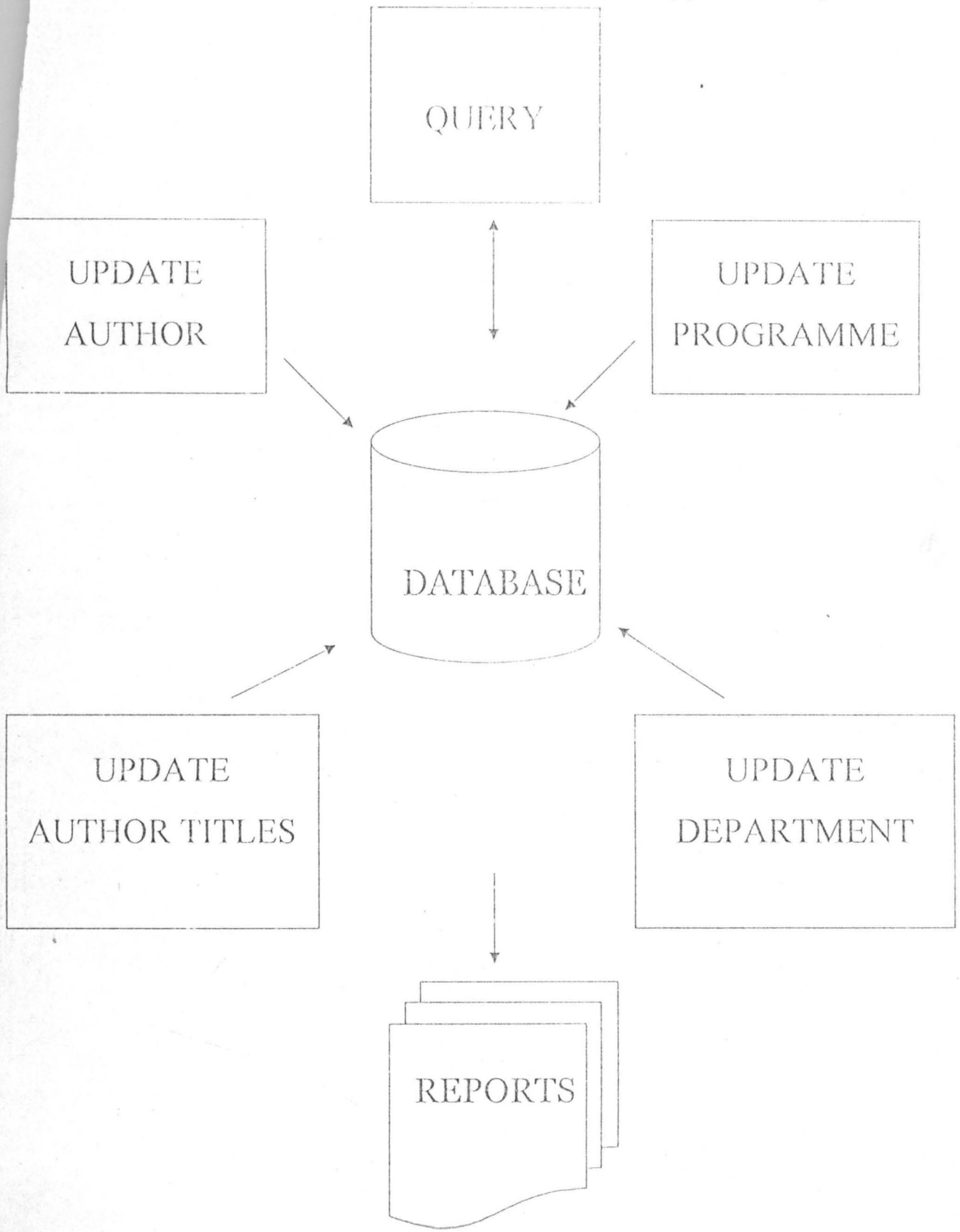
Questions	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree
It was below standard?					
It had been written before?					
The topic was not properly presented?					
Is it very easy searching for previously approved projects in the current manual system?					
Don you think there is a					

need for an automated database of previously approved project copies?					

APPENDIX I

SYSTEM FLOWCHART

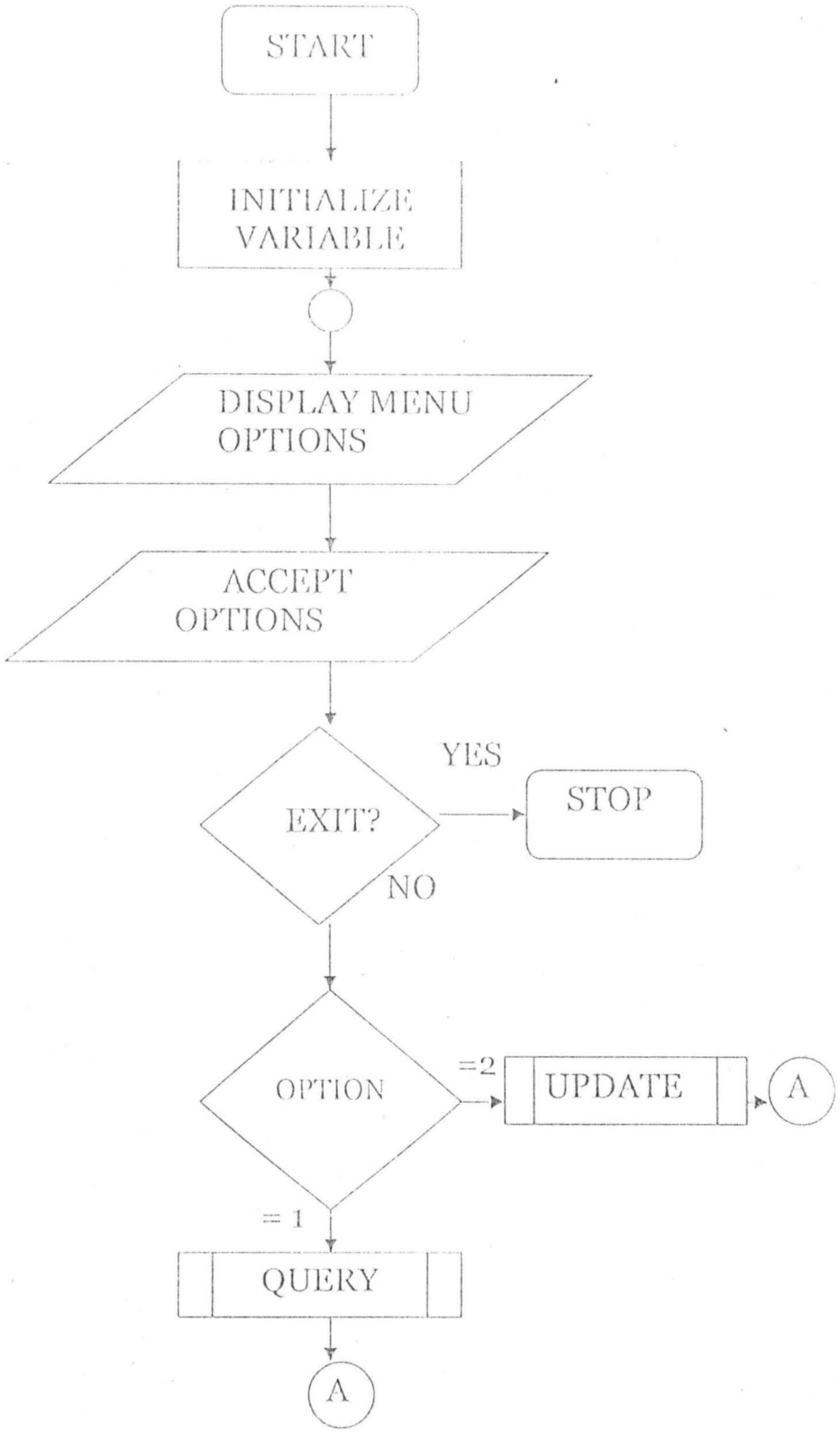
System Flowchart: Automated Database For Approved Projects



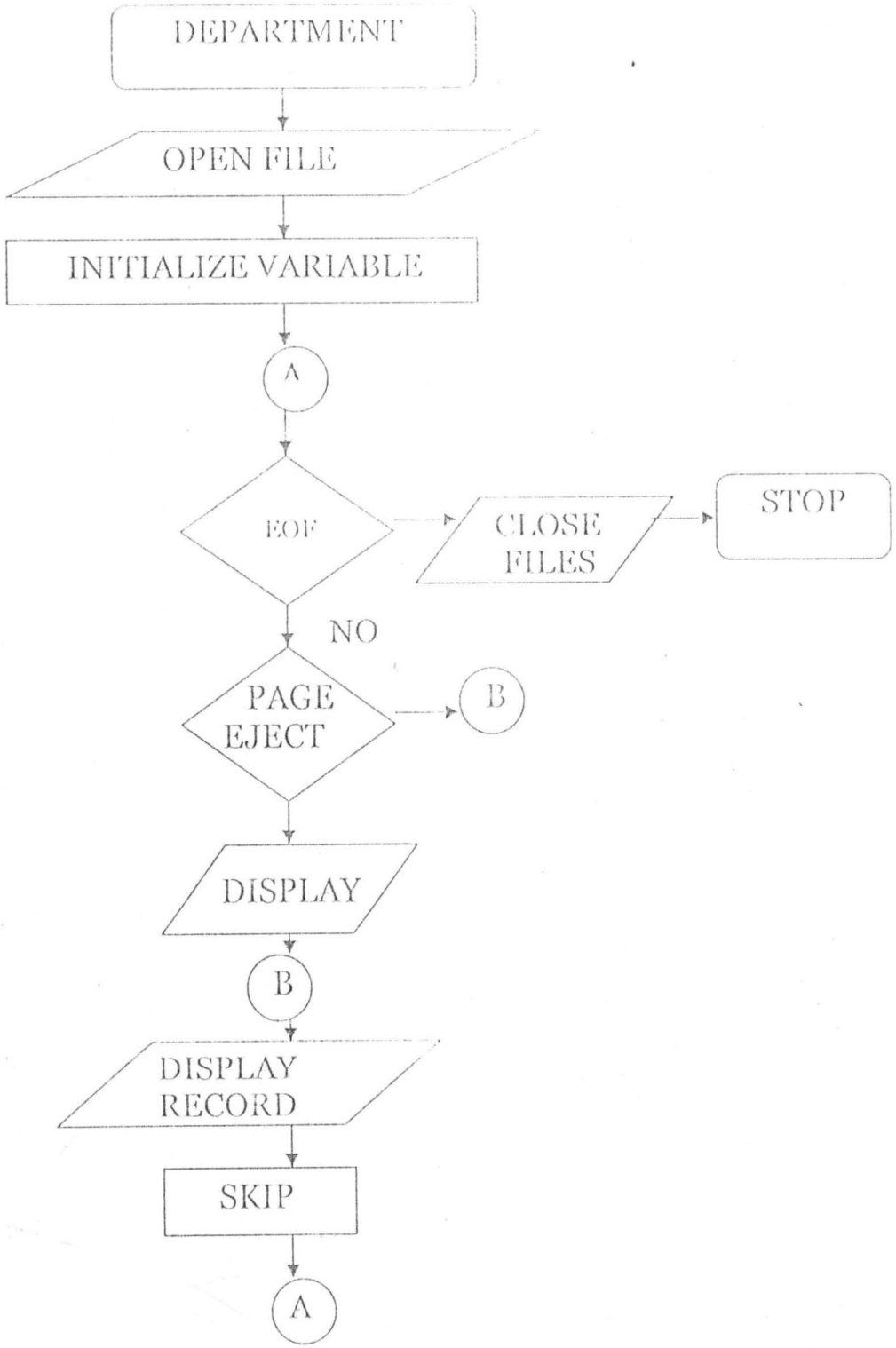
APPENDIX II

PROGRAM FLOWCHART

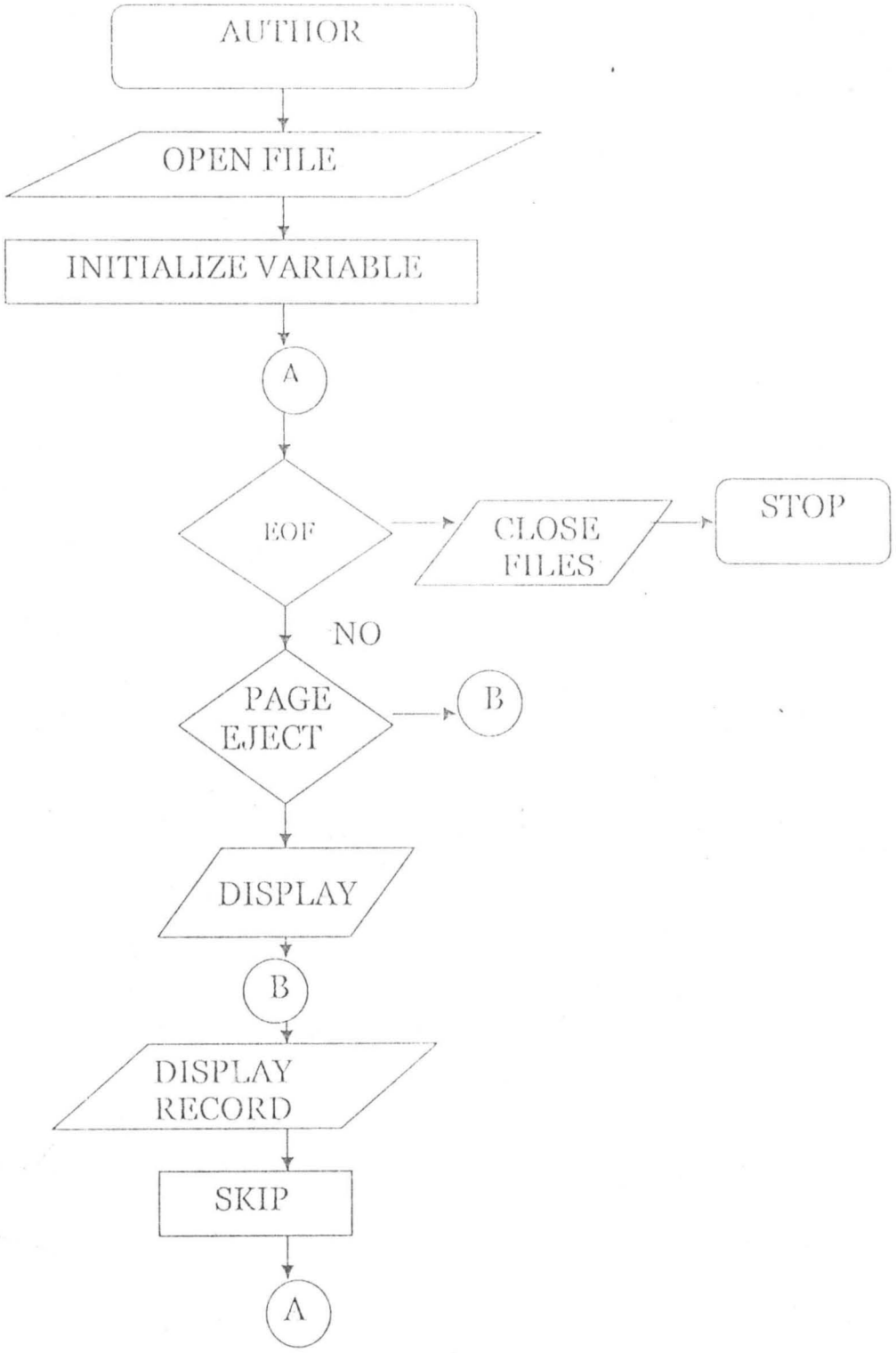
FLOWCHART:MAINMENU



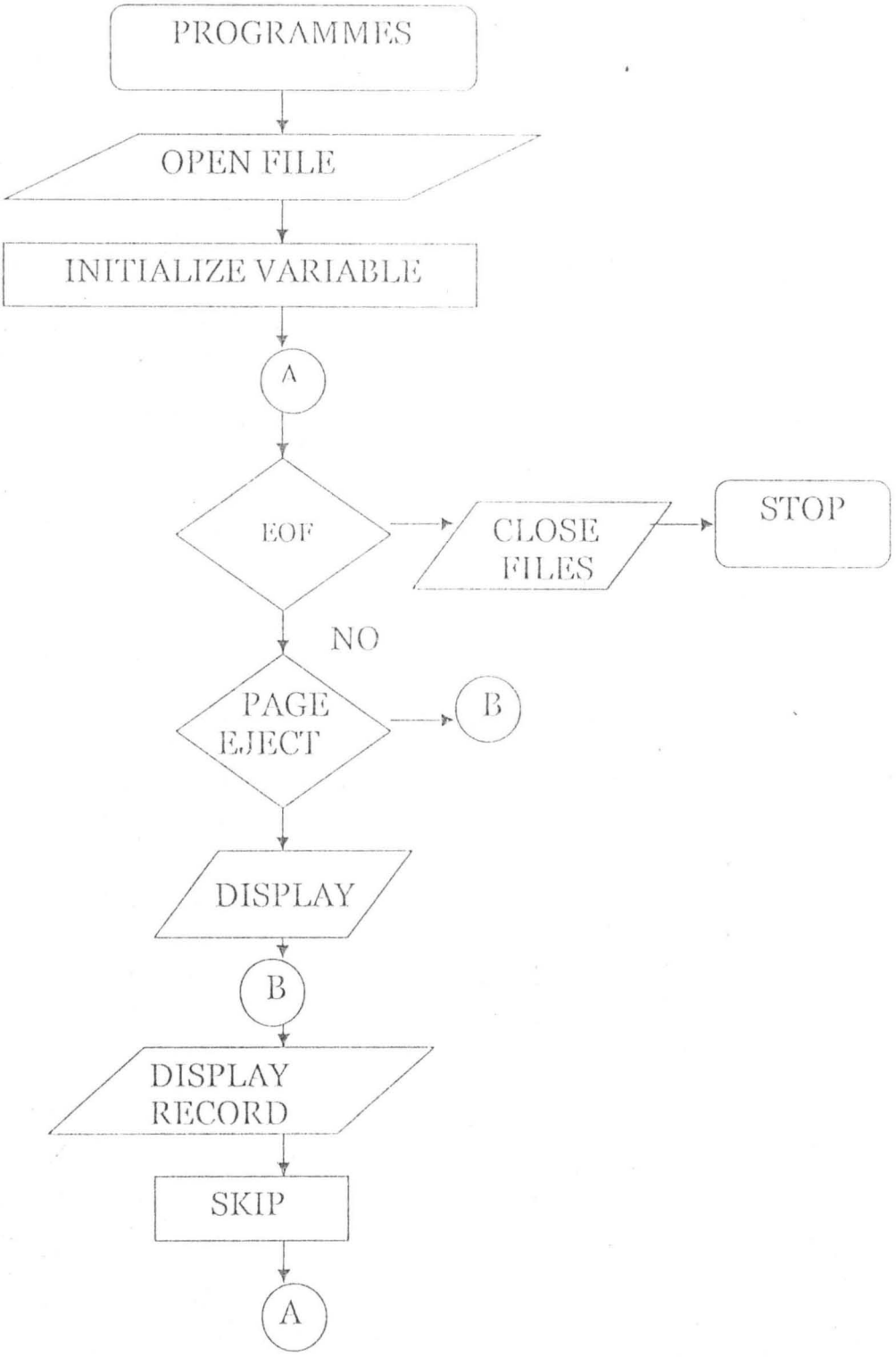
FLOWCHART: DEPARTMENT



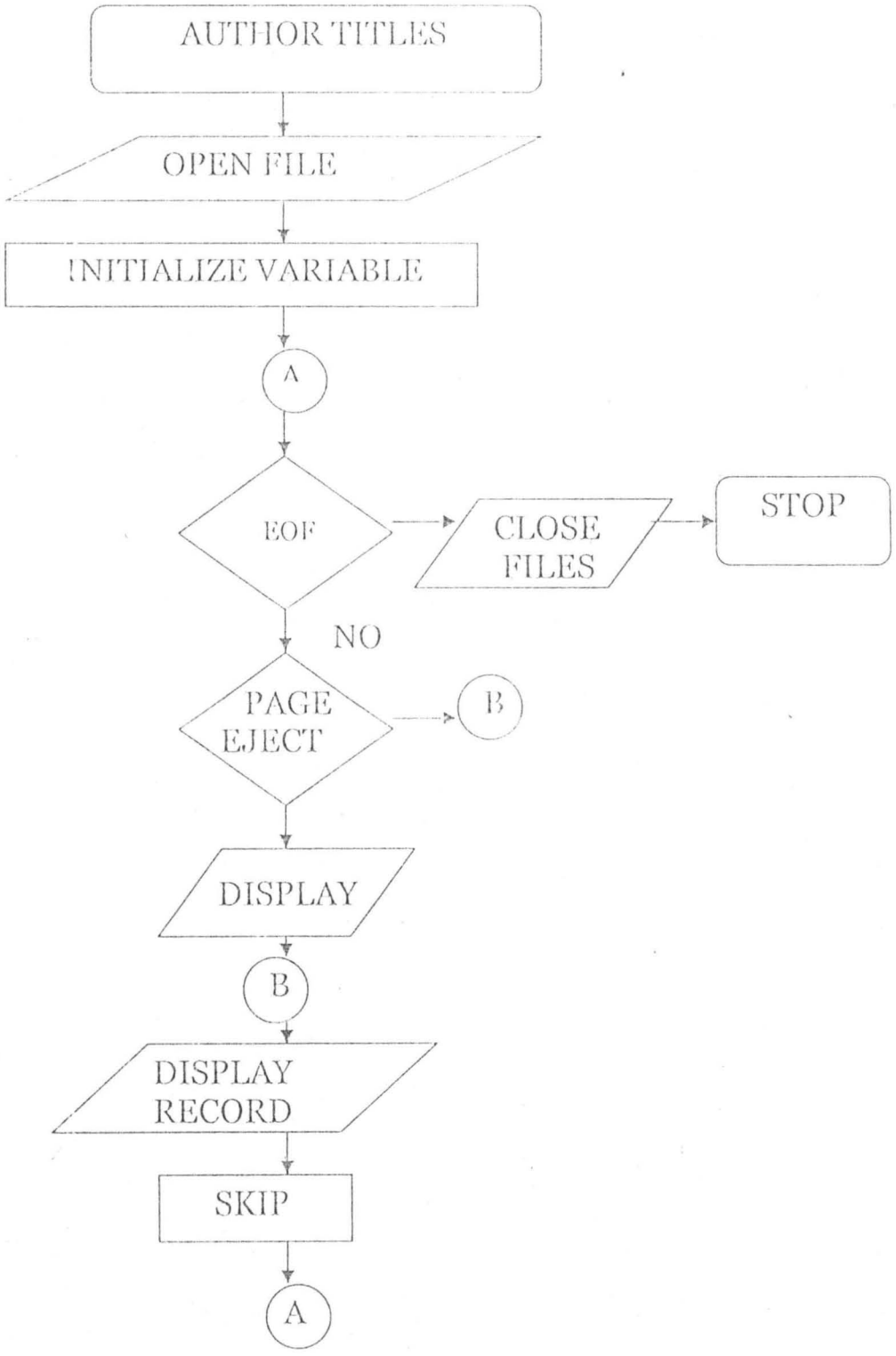
FLOWCHART: AUTHOR



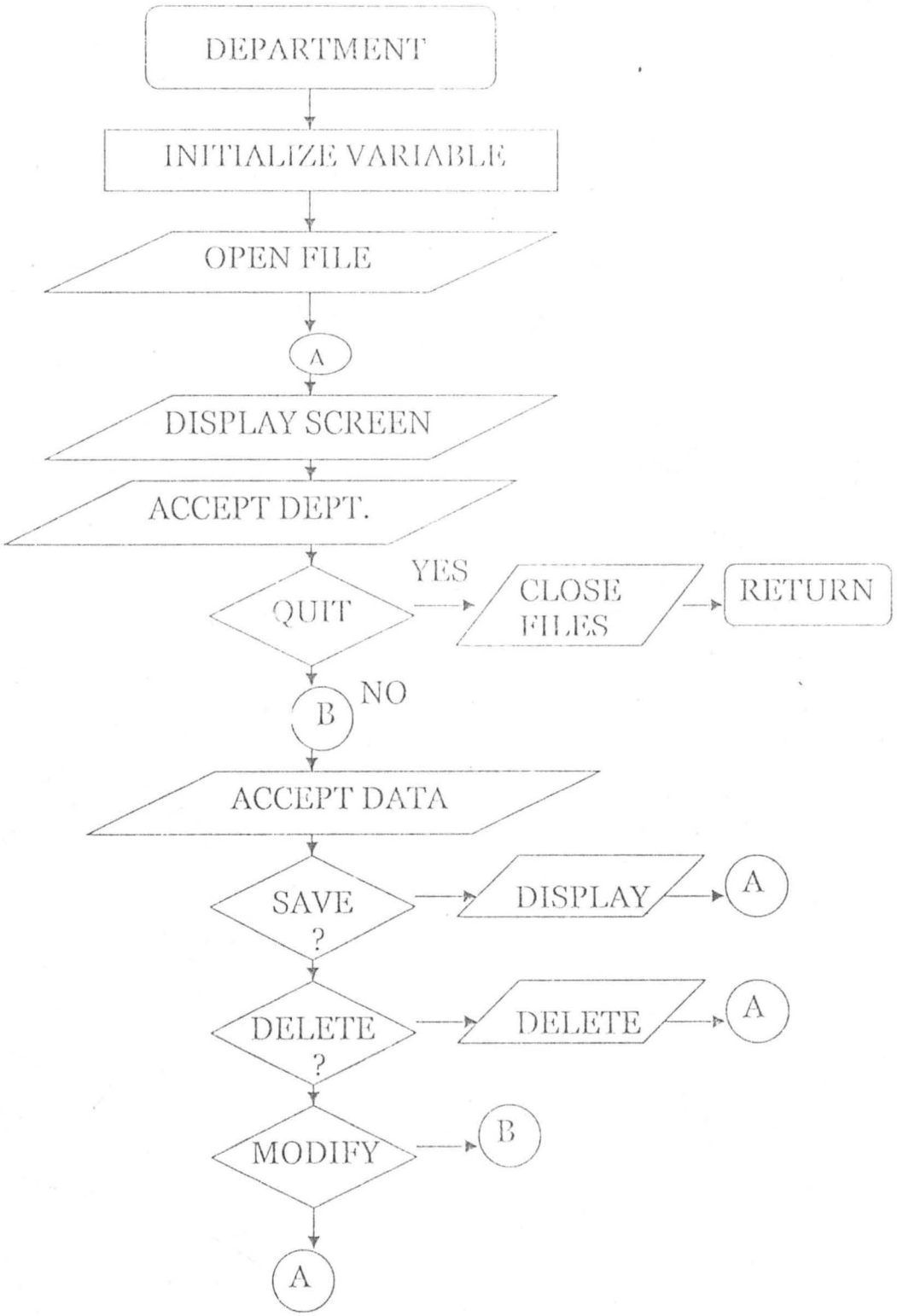
FLOWCHART: PROGRAMMES



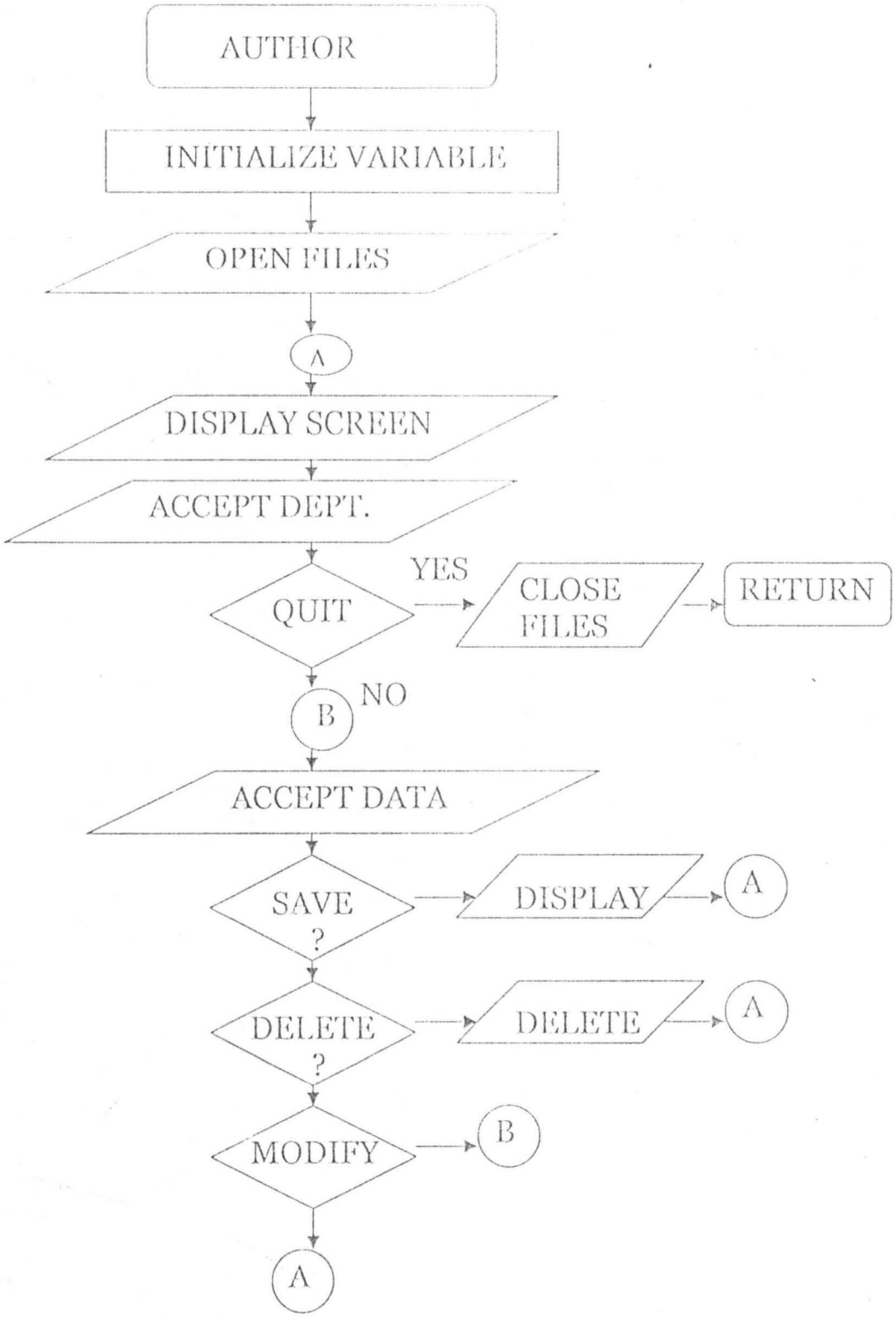
FLOWCHART: AUTHOR TITLES



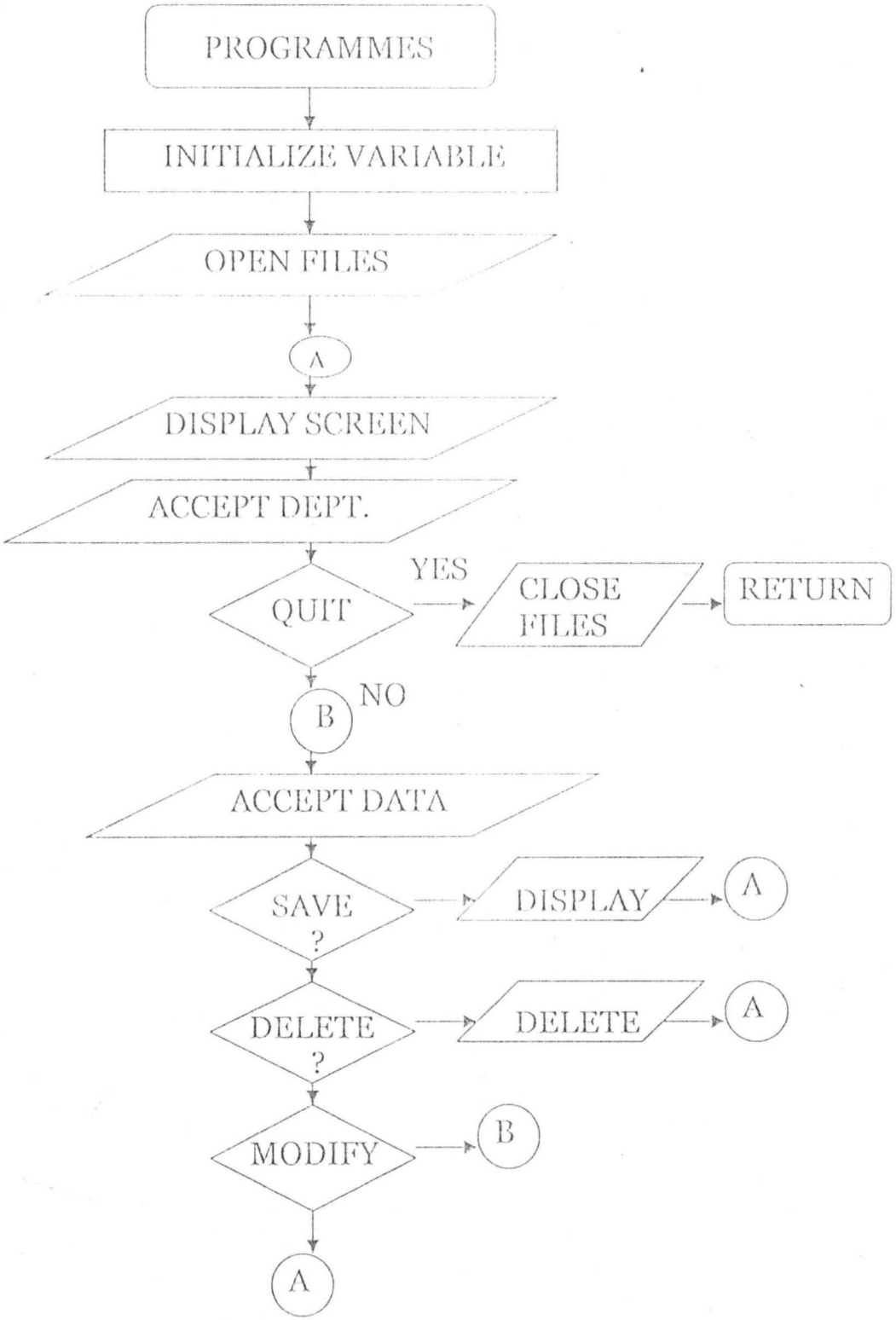
FLOWCHART: UPDATE DEPARTMENT



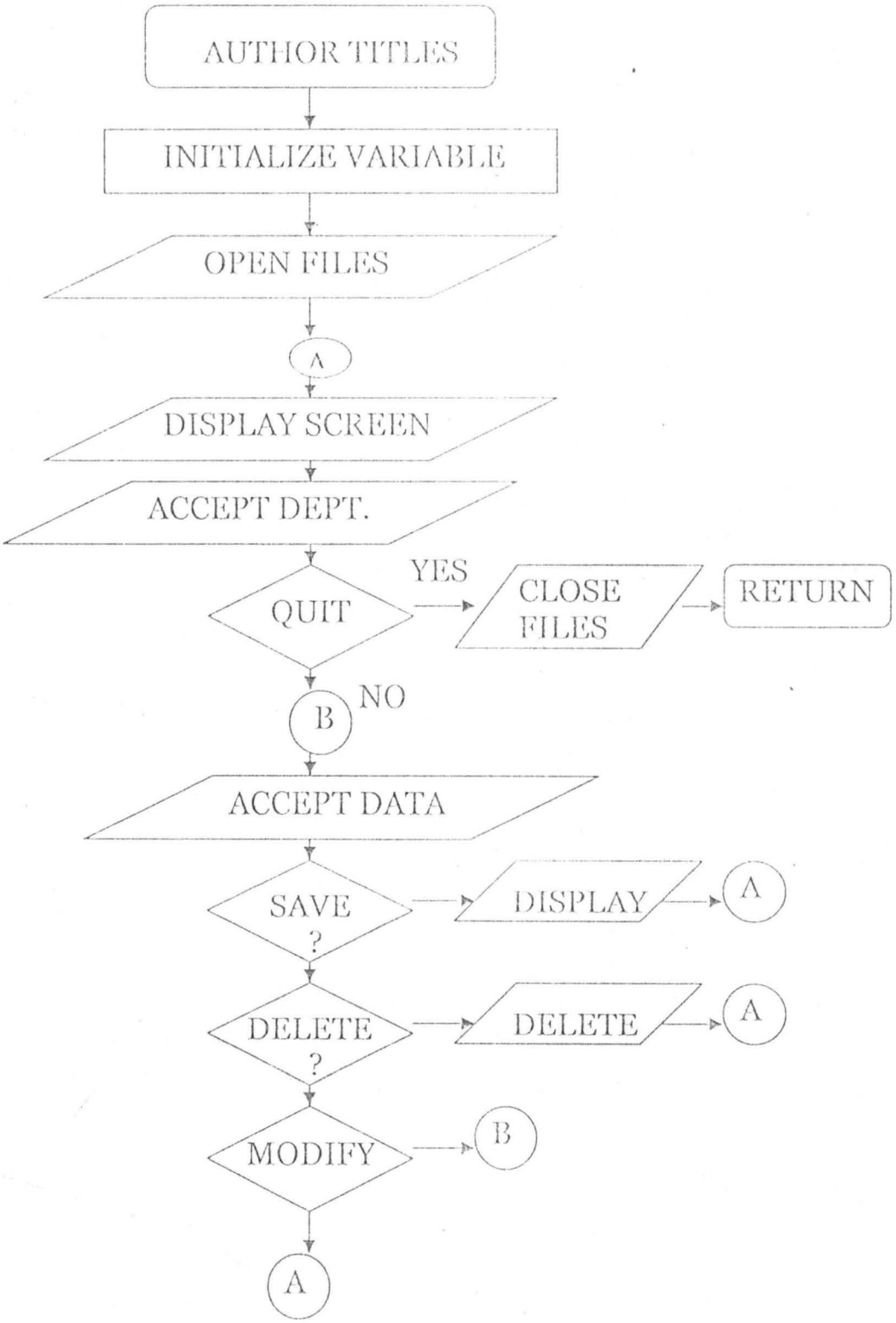
FLOWCHART: UPDATE AUTHOR



FLOWCHART: UPDATE PROGRAMMES



FLOWCHART: UPDATE AUTHOR TITLES



APPENDIX IV

PROGRAM LISTING

```
Dim oRsAutTitle As New Recordset
Dim oRsAutProg As New Recordset
Dim sAutTitle As String
Dim sAutProg As String
Dim sDeptID As String
Dim i As Integer
Dim iAns As Integer
Dim mboolShow As Boolean
Dim mboolAdding As Boolean
Dim mBook As Variant

Private Sub cboRegNo_Click()
    If cboRegNo.Text <> cboRegNo.Tag Then
        cboRegNo.Tag = cboRegNo.Text
        Call LoadDetails(cboRegNo.Text)
        Call TextChange
    End If
End Sub

Private Sub cboRegNo_GotFocus()
    cboRegNo.Tag = cboRegNo.Text
End Sub

Private Sub cboRegNo_LostFocus()
    If cboRegNo.Text = "" Then
        MsgBox "Please Specify a Registration Number Please"
        vbOKOnly vbInformation, "Update Author Titles"
        Cancel = True
    End If
End Sub

Private Sub cboRegNo_Validate(Cancel As Boolean)
    If cboRegNo.Text = "" Then
        MsgBox "Please Specify a Registration Number Please"
        vbOKOnly vbInformation, "Update Author Titles"
        Cancel = True
    End If
End Sub

Private Sub cmdClose_Click()
    If cmdClose.Caption = "&Close" Then
        Set oRsAutTitle = Nothing
        Set oRsAutProg = Nothing
        Unload Me
        mdiADAP.mnuAutTitles.Enabled = True
        Exit Sub
    Else
        oRsAutTitle.CancelUpdate
        If oRsAutTitle.RecordCount = 0 Then
            Set oRsAutTitle = Nothing
            Set oRsAutProg = Nothing
            Unload Me
            Exit Sub
        Else
            Call FillFields
            Call ToggleButtons

        End If
    End If
End Sub

Private Sub cmdDelete_click()
    With oRsAutTitle
        iAns = MsgBox("Delete Current Record", vbYesNo + vbQuestion, "Delete Record")
        If iAns = vbYes Then
            .Delete
            .MoveNext
            If .EOF Then
                Call form_Activate
                Exit Sub
            Else
                Call FillFields
```

```
        End If
    End With
d Sub

ivate Sub cmdFind_Click()
    Dim sRegno As String
    sRegno = InputBox("Enter Student Registration Number:", "Find Records")
    If sRegno = "" Then
        Exit Sub

    End If

    With oRsAutTitle
        mBook = .Bookmark
        MoveFirst
        sRegno = "[RegNo] " & sRegno & ""
        .Find sRegno
        If .EOF Then
            MsgBox "Record does ot exist", vbOKOnly + vbInformation, "Find Record"
            .Bookmark = mBook
            Exit Sub

        Else
            MsgBox "Find Successful", vbOKOnly + vbInformation, "Find Record"
            Call FillFields

        End If
    End With
 Sub

vate Sub cmdFirst_Click()
 oRsAutTitle.MoveLast

 Sub

vate Sub cmdNew_Click()
 mboolAdding = True
 oRsAutTitle.AddNew
 Call ClsFields

 Sub

vate Sub cmdNext_Click()
th oRsAutTitle
 MoveNext
If .EOF Then
 .MoveLast
 MsgBox "Last Record Already Displayed", vbOKOnly + vbInformation, "Update Author Title"

End If
d With
Sub

ate Sub cmdPrevious_Click()
th oRsAutTitle
Movelrevious
f .BOF Then
  .MoveFirst
  MsgBox "First Record Already Displayed", vbOKOnly + vbInformation, "Update Author Title


nd If
l With
ub

te Sub cmdSave_Click()
all SaveRecords
all ToggleButtons
boolAdding = False

ub
```

```
or Titles"
    Call cmdClose_Click
    Exit Sub
  End If

  If oRsAutTitle.RecordCount = 0 Then
    iAns = MsgBox("No Records in Table, Add New", vbYesNo + vbInformation, "Update Author T
tles")

    If iAns = vbYes Then
    Call cmdNew_Click
    Call LoadDetails(cboRegNo.Text)

  Else
    Call cmdClose_Click
    Exit Sub

  End If
 Else
   Call FillFields
   Call ToggleButtons

 End If
nd Sub

rivate Sub form_Load()
 sAutProg = "Select Programme.ProgID, Programme.[DeptID], [RegNo]," & "Surname" & " + " & "F
reNames As Names," & "ProgName From Author Inner Join Programme" & "On Author.ProgID = Progr
mme.ProgID" & " Where Author.DeptID = Programme.DeptID" & "Order By ProgName, [RegNo]"
 sAutTitle = "Select *From [Author Title] Order By DeptID, ProgID, RegNo"
 sAutProg.Open aAutTitle, goConn, adOpenKeyset, adLockOptimistic
 sAutTitle.Open aAutTitle, goConn, adOpenKeyset, adLockOptimistic

 If oRsAutProg.RecordCount > 0 Then
    'Load Registration Number
    With oRsAutProg
       .MoveFirst
       Do While Not .EOF
           cboRegNo.AddItem ![RegNo]
           .MoveNext

       Loop
       cboRegNo.ListIndex = 0
       cboRegNo.Tag = cboRegNo.Text
    End With

  Else

  End If
nd Sub

rivate Sub ClsFields()
   txtName = ""
   txtAccession = ""
   txtTitle = ""
   txtYearPub = Year(Date)
   txtCategory = ""
   txtAbstract = ""

nd Sub

rivate Sub FillFields()
  '
  'Load and Display Record
  '
  mboolShow = True
  With oRsAutTitle
    cboRegNo.Text = ![RegNo]
    txtAccession = ![Acession]
    txtYearPub = Text2Field(![YearPub])
    ... = ![Category]
```

```
    mboolShow = False

End Sub

Private Sub LoadDetails(ReqNumber As String)
    'Load and Display Student Name and Programme of Study
    '
    Dim sFind As String
    sFind = "[ReqNo] = " & ReqNumber & """
    With oRsAutProg
      .MoveFirst
      .Find sFind
      txtName.Text = ![Names]
      txtProg.Text = ![ProgName]
      txtProg.Tag = ![ProgId]
      sDeptID = ![DeptID]
    End With
End Sub


Private Sub SaveRecords()
    'On Error Goto Save Err
    With oRsAcTitle
      ![ReqNo]    Text2Field(cboReqNo.Text)
      ![DeptID] = Text2Field(sDeptID)
      ![ProgId] = Text2Field(txtProg.Tag)
      ![AcessionNo] = textAccession
      ![Title] = Text2Field(txtTitle)
      ![YearPub] = textYearPub
      ![Category] = Text2Field(textCategory)
      ![Abstract] = Text2Field(textAbstract)
      .Update
      txtRecNo = .AbsolutePosition & "/" & .RecordCount

    End With
    Exit Sub

ave Err:
    MsgBox "Error#:" & Err.Number & vbCr& & vbCr & Err.Description, vbCritical + vbOKOnly, "S
ve Error"

nd Sub

blic Sub ToggleButtons()
 cmdNew.Enabled = Not cmdNew.Enabled
 cmdSave.Enabled = Not cmdSave.Enabled
 cmdFind.Enabled = Not cmdFind.Enabled
 cmdDelete.Enabled = Not cmdDelete.Enabled
 cmdFirst.Enabled = Not cmdFirst.Enabled
 cmdLast.Enabled = Not cmdLast.Enabled
 cmdPrevious.Enabled = Not cmdPrevious.Enabled
 cmdNext.Enabled = Not cmdNext.Enabled
 cmdPrint.Enabled = Not cmdPrint.Enabled
 If cmdClose.Caption = "&Close" Then
    cmdClose.Caption = "&Cancel"
 End If

End Sub

Private Sub TextChange()
'
'Toggles Control Buttons if User Wants to Edit
'
If mboolShow = False Then
  If cmdSave.Enabled = False Then
      Call ToggleButtons
      Exit Sub

  Else
      Exit Sub
```

```
ublic Function Text2Field(vntField As Variant) As String
  If IsNull(vntField) Then
     Text2Field = ""

  Else
     Text2Field = vntField

  End If
nd Function

rivate Sub txtAbstract_Change()
    Call TextChange
nd Sub

rivate Sub txtAccession_Change()
    Call TextChange
nd Sub

rivate Sub txtCategory_Change()
    Call TextChange
nd Sub

rivate Sub txtTitle_Change()
    Call TextChange
nd Sub

rivate Sub txtYearPub_Change()
    Call TextChange
nd Sub


ption Explicit

ublic goConn As ADODB.Connection
ublic Sub Main()
 Dim bPerform As Boolean
 Set goConn = New ADODB.Connection
 Screen.MousePointer = vbHourglass
 '
 'Open the Database Engine
 '
 bPerform = DataOpen(goConn)

 If bPerform Then
    mdiADAP.Show
 Else
    MsgBox "No connection"
 End If

 Screen.MousePointer = vbDefault
 d Sub

 blic Function DataOpen(oConn As Connection) As Boolean
    On Error GoTo Open_Err

Er  oConn.CursorLocation = adUseClient
d

    'Set the connection string
iv  oConn.ConnectionString = ConnectString()

    'Set the mode of the connection
    oConn.Mode = adModeReadWrite

    'Open the connection
    oConn.Open

    DataOpen = True
V   Exit Function
on_Err:
ct  Call ErrorHandler(goConn)
cr  MsgBox Err.Description
            False
```

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Federal University of Technology, Minna

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Leong & Si, August (1998). High performance Operations Using a Compound Database, The Computer Journal, Vol. 41, 284 – 295.

Mark Wallace (1987). Communication with Database in Natural Language, Halted Press: A Division of John Wiley & Sons

Michael, H. (1998). Microsoft Visual Basic 6.0 Professional Step By Step, Microsoft Press, USA.

Oliver and Chapman's (1996). Data Processing and Information Technology, Ashford Color Press, Gosport, UK.

Osuala, E. C. (1982). Introduction to Research Methodology, African Rep Publishers Limited, Onitsha Nigeria.

Ott, Et A_1. (170). Understanding Statistics, Pws – Kent Publishing Company, Boston, USA.

Oxford Advance Learner's Dictionary, (1998).

Student Information Handbook, (1999), Rev. Edition

Federal University of Technology, Minna

```
Public Function ConnectString() As String
    'Jet MDB
    ConnectString = "Provider Microsoft.Jet.OLEDB.4.0;" & "Data Source =" & App.Path & "\Adap.
MDB"
End Function

Public Sub ErrorHandler(oConn As Connection)
    Dim oErr As Error
    Dim strMsg As String

    For Each oErr In oConn.Errors
        strMsg = strMsg & "Error#:" & oErr.Number & vbCrLf
        strMsg = strMsg & "Description:" & oErr.Description & vbCrLf
        strMsg = strMsg & "Source:" & oErr.Source & vbCrLf
        strMsg = strMsg & "SQL State:" & oErr.SQLState & vbCrLf
        strMsg = strMsg & "Native Error:" & oErr.NativeError & vbCrLf
    Next
End Sub

Option Explicit
Dim oRsDept As Reccordset
Dim strSQLDept As String
Dim mboolShow As Boolean
Dim mboolAdding As Boolean
Dim vntRec As Variant
Dim sSTD As String
Dim iAns As Integer

Private Sub cmdPrint_Click()
    'drpState.Refresh
    'drpState.Show
End Sub

Private Subform_Activate()
  With oRsDept
    If .EOF Then
        If .RecordCount = 0 Then
            iAns = MsgBox("Do you want to Add New Records", vbQuestion + vbYesNo, "No Records
in State Table")
            If iAns = vbYes Then
                Call cmdNew_Cick
                Call ToggleButtons

            Else
                Call cmdClose_Click

            End If
        Else

        End If
    Else
        Call FillFields

    End If

  End With
End Sub

Private Subform_Load()
    strSQLDept = "SELECT *FROM Department ORDER BY [DeptID]"
    Set oRsDept = New Recordset
    oRsDept.Open strSQLDpet, goConn, adOpenKeyset, adLockOptimistic, adCmdText

    mboolAding = False
    mboolShow = False
End Sub

Private SubToggleButtons()
    cmdNew.Enabled = Not cmdNew.Enabled
    cmdSave.Enabled = Not cmdSave.Enabled
    cmdDelete.Enabled = Not cmdDelete.Enabled
    cmdFirst.Enabled = Not cmdFirst.Enabled
```

```
cmdPrint.Enabled = Not cmdPrint.Enabled
If cmdClose.Caption = "&Close" Then
    cmdClose.Caption = "&Cancel"
 Else
   cmdClose.Caption = "&Close"
End If
 Sub

vate Sub TextChanged()
 If Not mboolShow Then
    If Not cmdSave.Enabled Then
       Call ToggleButtons
    End If
 End If
 Sub

vate Sub ClsField()
 mboolShow = Fals
 txtStateID = ""
 txtStateName = ""
 mboolShow = True

 Sub


vate SubSaveRecords()
On Error GoTo Save_Err
Vith oRsDept
  ![State] = Text2Field(StrConv(txtStateName, vbUpperCase))
  ![StateID] = Text2Field(StrConv(txtStateID, vbUpperCase))
  .Update

 Call FillFields
End With
Exit Sub
_Err:
 Err.Number = 3021 Then
MsgBox "Duplicate Records not Permitted", vbInformation + vbOKOnly, "Save Error"

End If
oRsDept.CancelUpdate
Sub

c Function TextField(vntField As Variant) As String
f IsNull(vntField) Then
   Text2Field = ""

lse
   Text2Field = vntField
nd If
unction

c SubcmdClose_Click()
f cmdClose.Caption = "&Close" Then
  mdiADAP.mnuDept.Enabled = True
  Unload Me

lse
   oRsDept.CancelUpdate
   If oRsDept.RecordCount = 0 Then
      Unload Me
      Exit Sub
   End If
   Call FillFields
   Call ToggleButtons
d If
b

e SubcmdDelete_click()
h oRsDept
SID = ![StateID]
Ans = MsgBox("Proceed With Deletion", vbYesNo + vbQuestion, "Delete Check
```

```
    .MoveNext
    If .RecordCount = 0 Then 'Has the last record been deleted?
       Call form_Activate

    Else
      If .EOF Then
         .MoveLast

      End If
      Call FillFields

    End If
  End If
d With
Sub

vate SubcmdFind_Click()
Dim bmark As Variant
Dim sEmp As String
sSID = InputBox("Enter State ID Please:", "Find State")
If Trim(sSID) = "" Then
   MsgBox "No State was Selected", vbOKOnly + vbInformation, "Find State"
   Exit Sub

End If

'Find and Display State
If FindRec(sSID, bmark) Then
    Call FillFields
    MsgBox "Find successful", vbOKOnly + vbInformation, "Find State"
    Exit Sub
Else
    MsgBox "The Specified State Does Exist Please"

End If

'With oRsDept
'   vntBook = .Bookmark
'   strSeek = "[StateID]=" & Chr(sSID)

'   MoveFirst
'   Find strSeek
'   If .EOF Then
'       MsgBox "Find Unsuccessful, vbOKOnly + vbInformation, "Find State"
'       .Bookmark =vntBook
'       Exit Sub
    End If
    Call FillFields
    Call ToggleButtons
    MsgBox "Find Unsuccessful, vbOKOnly + vbInformation, "Find State"
End With

ub

te SubcmdFirst_Click()
th oRsDept
If Not .BOF Then
   .MoveFirst
   Call FillFields

End If

d With
ub

te Sub cmdLast_Click()
ith oRsDept
If Not .EOF Then
   .MoveLast
   Call FillFields

nd If
```

```
Private SubcmdNew_Click()
    Call ClsFields
    oRsDept.AddNew
    txtStateID.SetFocus
End Sub

ivate Sub cmdNext_Click()
    With oRsDept
     .MoveNext
     If .EOF Then
        .MoveLast
        Exit Sub
     End If
     Call FillFields

    End With
d Sub

ivate Sub cmdPrevious_Click()
    With oRsDept
     .MovePrevious
     If .BOF Then
        .MoveFirst
        Exit Sub
     End If
     Call FillFields

    End With
d Sub

ivate Sub cmdSave_Click()
    If mboolAdding Then
        mboolAdding = False
    End If
    Call SaveRecords
    Call FillFields
    Call ToggleButtons
    Exit Sub
    Sub

ction FillFields()
    Dim StrSeek As String
    mboolShow = True

    With oRsDept
      txtRecNo.Text = Trim(CStr(.AbsolutePosition)) & " of" & Trim(CStr(.RecordCount))
      txtDeptID.Text = Text2Field(![DeptID])
      txtDeptName.Text = Text2Field(![DeptName])
      txtschool = "EDUCATION & SCIENCE EDUCATION."
      txtAbbr = Text2Field(![Abreviation])

    End With
    mboolShow = False

    Function

vate Sub Form_Unload(Cancel As Integer)
    Call cmdClose_Click

Sub

vate Function Date2Field(vntField As Variant) As Date
    If IsNull(vntField) Then
        Date2Field = Date

    Else
        Date2Field = vntField

    End If
Function
```

```
End Sub

Private Sub txtStateName_Change()
    Call TextChanged
End Sub

Private Function FindRec(oRsDept ID As String, bmark As Variant) As Boolean
    Dim seekState As String
    seekState = "[StateID]=""" & oRsDept ID & """

    With oRsDept
      bmark = .Bookmark
      .MoveFirst
      .Find seekState
      If Not .EOF Then
        FindRec = True
        Exit Function

      Else
        FindRec = False
        .Bookmark = bmark
        Exit Function
      End If

nd Function

rivate Sub mnuAuthors_Click()
    'mnuAuthors.Enabled=False
    Load FrmAuthor
    FrmAuthor.Move (mdiADAP.ScaleWidth / 2) - (FrmAuthor.Width / 2# / 2) - FrmAuthor.Height /
2
    FrmAuthor.Show
d Sub

ivate Sub mnuAutTitles_Click()
    mnuAutTitles.Enabled = False
    Load frmAutTitle
    frmAutTitle.Move (mdiADAP.ScaleWidth / 2) - (frmAutTitle.Width / 2), -(mdiADAP.ScaleHeigh
/ 2) - (frmAutTitle.Height / 2)
    frmAutTitle.Show

d Sub

ivate Sub mnuDept_Click()
  'mnuAuthors.Enabled=False
  Load frmDepartment
    frmDepartment.Move (mdiADAP.ScaleWidth / 2) - (frmDepartment.Width / 2# / 2) - frmDepartm
t.Height / 2
    frmDepartment.Show

d Sub

vate Sub mnuExit_Click()
    End

 Sub

vate Sub mnuProg_Click()
  'mnuAuthors.Enabled=False
  Load frmProg
    frmProg.Move (mdiADAP.ScaleWidth / 2) - (frmProg.Width / 2# / 2) - frmProg.Height / 2
    frmProg.Show
    Sub
```