

## Employee Performance Appraisal Database Management System

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### ABSTRACT

Formalized performance evaluation permit an orderly and rational way of determining promotion, salary increase, transfers, training needs, potentials retrenchment, retirement, reassignment, termination of appointment etc. Formal or systematic appraisal is often based on pooled judgments periodically rendered by supervisors and/or others when employees are rated against standards of performance. The general objective of this study was to design and implement an employee performance evaluation and management system for Federal College of Education Technical Umunze Anambra State, Nigeria. The methodology adopted in the design of this work is the universally accepted software engineering model, which is the structured system analysis and design methodology (SSADM). Programming Language adopted in the design is VB.Net. VB.Net was opted to be used considering that VB.Net standard edition is a fully fledged software development with a (free) open source license; VB.Net is platform independent and can run in any operating system without need for compilation; VB.Net has a native support for SQL and used for most, if not all, relational database management system. Looking at the benefits and achievement accomplished so far in this work, the researcher therefore, recommends this system design for unique and excellent results in the task of carrying out performance evaluation. Supervisors should also accept this technology as it will ensure successful performance appraisal and bring great change in the system.

**Keywords:** Systematic Appraisal, Software Engineering Model, Structured Query Language (SQL), Systematic Appraisal, Input/output, Data Dictionary

### INTRODUCTION

Difficulties in the evaluation and ranking of employees based on their performance pose challenges in setting target values for all the output factors for the inefficient employees. Performance evaluation and management system is an important management tool used to assess employees' efficiency in the workplace, and may be defined as a structured formal interaction between a subordinate and supervisor that usually takes the form of a periodic interview (annual or semiannual) to evaluate the work performance [1-5]. Performance evaluation and management system is intended to engage, align, and coalesce individual and group effort to continually improve overall organizational mission accomplishment. It provides a basis for identifying and correcting disparities in performance.

Thus, it is activities oriented and is a rational, formalized, legitimate test using observation and judgment. Systematically, performance evaluation and management system reviews each employee's work performance during a specific period, evaluates and records it for future reference. Essentially, weaknesses and strengths of individuals are examined and discussed to identify opportunities in view of establishing improvement and skills development [4,7].

Performance evaluation and management system collects and disseminates information relative to performance aspect. It promotes interdisciplinary flow of technical information among researchers and professionals. Also serve as a publication medium for various special interest groups in the performance community at large.

Performance evaluation is a key human resource management function which is viewed as a subset of performance management. Performance evaluation is a method of evaluating the behaviour of employees in the work spot, normally including both the quantitative and qualitative aspects of job performance [6, 8]. Performance evaluation as any procedure that entails setting work standards, assessing employee's actual performance relative to those standards, and providing feedback to the employees with the aim of motivating him/her to eliminate performance deficiencies or to continue to perform above par. The aims of appraisal three folds: appraisal entails historical review of employees' performance; it is a means for distributing rewards as well as a means for determining training and development needs. Performance evaluation is a systematic way of evaluating a workers performance and his potential for development. This continuing performance and periodic evaluation helps in retraining, promotional and retaining policies [9-12].

Performance Management on the hand is on going communication process, undertaken in partnership, between an employee and his or her immediate supervisor that involves establishing clear expectations and understanding about: the essential job functions the employee is expected to do; how the employee's job contributes to the goals of the organization; what "doing the job well" means in concrete terms and how employee and supervisor will work together to sustain, improve, or build on existing employee performance [13].

Performance appraisal, also known as employee appraisal on the other hand, is a method by which the job performance of an employee is evaluated (generally in terms of quality, quantity, cost and time). Performance evaluation is a part of career development). Performance evaluations are regular reviews of employee performance within organizations [14-18].

Generally, the aims of a performance evaluation and management systems are to:

- Give feedback on performance to employees.
- Identify employee training needs.
- Document criteria used to allocate organizational rewards.

- Form a basis for personnel decisions: salary increases, promotions, disciplinary actions, etc.
- Provide the opportunity for organizational diagnosis and development.
- Facilitate communication between employee and administration.
- Validate selection techniques and human resource policies to meet Federal Equal Employment Opportunity requirements.

With a right kind of performance evaluation system, industrial needs are fulfilled and staff appraisal is carried out in organizations for administration, informative and motivational purposes. Formalized performance evaluation permit an orderly and rational way of determining promotion, salary increase, transfers, training needs, potentials, retrenchment, reassignment, termination of appointment etc [19-21]. It is against this background that the researcher delved into the design and implementation of an employee performance evaluation and management system for Federal College of Education Technical Umunze, Anambra state.

### IMPLEMENTATION AND EVALUATION

This is the actual design of the proposed system. In this section, the system design involves application of various techniques and principles with the aim of translating the system requirement into representation of the system programmed. It is aimed at producing the model of the software developed.

#### Objective of the Design

The objectives of this research are to turn the results of the analysis made in the previous section into a model fit for implementation. Following this objective, this research concentrates on achieving the following:-

- Modeling the main menu of the proposed system.
- Modeling the graphical user interface (GUI) that will serve as input and/or output media.
- Modeling the database of the proposed system.
- Modeling the system flowchart and dataflow diagrams of the new system.

**Main Menu**

The main menu is the control center from which the various submenus in the program are called and being executed. The main menu of the proposed system is given in figure 3.3. It comprises of Record, Report, Decision and Administration.

**Record Submenu**

Record submenu comprises of the Employee, Appraisal, Transfer, Leave and Retirement.

**Data Specification**

**Table2.1:** *Employee*

Field Name	Field Type	Field Size	Remark
Empld	Text	15	
Emp Name	Text	15	
Date of Birth	Text	10	
LGA	Text	15	
State	Text	10	
Date Employed	Text	10	
Acada Qual 1	Text	10	
Acada Qual 2	Text	10	
Acada Qual 3	Text	10	
Acada Qual 4	Text	10	
Acada Qual 5	Text	10	

**Table2.2:** *Retirement*

Field Name	Field Type	Field Size	Remark
Empld	Text	15	
Name	Text	15	
Date Employed	Text	10	
Date Retired	Text	10	
Date Last Promoted	Text	10	
Position Last Promoted	Text	15	
Emolument	Double	20	

**Table2.3:** *Transfer*

Field Name	Field Type	Field Size	Remark
Empld	Text	15	
Name	Text	50	
Date	Text	10	
Previous Dept/Unit	Text	6	
Point Score	Text	6	
Remark	Text	50	

**Table2.4:** *Appraisal*

Field Name	Field Type	Field Size	Remark
Empld	Text	15	
Name	Text	50	
Date	Text	10	
Point Score	Text	7	
Remark	Text	5	

**Report Submenu**

Report submenu has Promotion, Employment, Transfer, Retirement, Appraisal, Leave and Disciplinary report.

**Decision Submenu**

Decision submenu deals with discipline.

**Administrator Submenu**

Administrator submenu deals with user and database.

**Mathematical Formula Specification**

a) Senior Administrative Staff	Maximum Score		Percentage Score
	22	$22 * 5 = 110$	$\text{Real Score}/110*100/1$
b) All other Senior Staff except Security	21	$21 * 5 = 105$	$\text{Real Score}/105*100/1$
c) All Junior Staff except Security	15	$15 * 5 = 75$	$\text{Real Score}/75*100/1$
d) All Junior Staff	17	$17 * 5 = 85$	$\text{Real Score}/85*100/1$

**Input/output Specification**

Figure2.2. Login

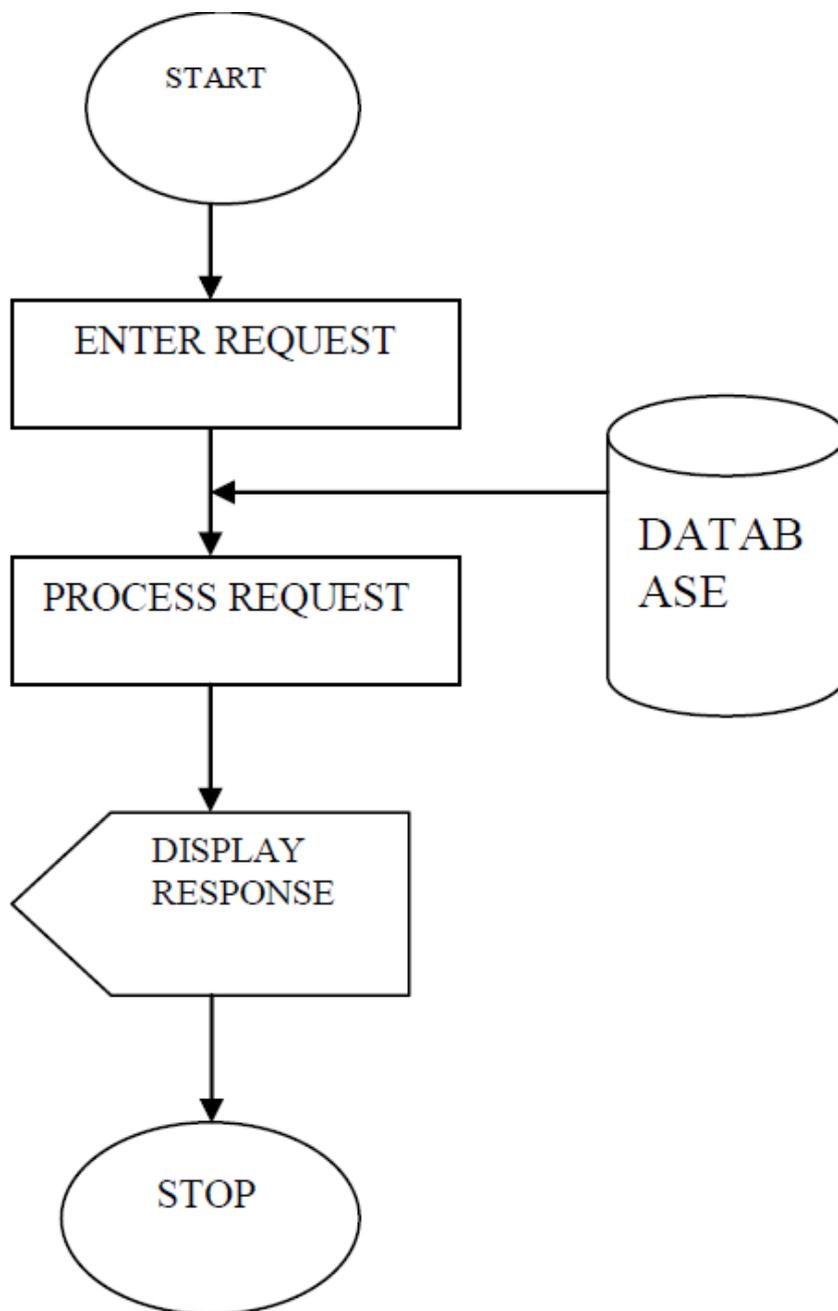
Figure2.3. Retirement Form

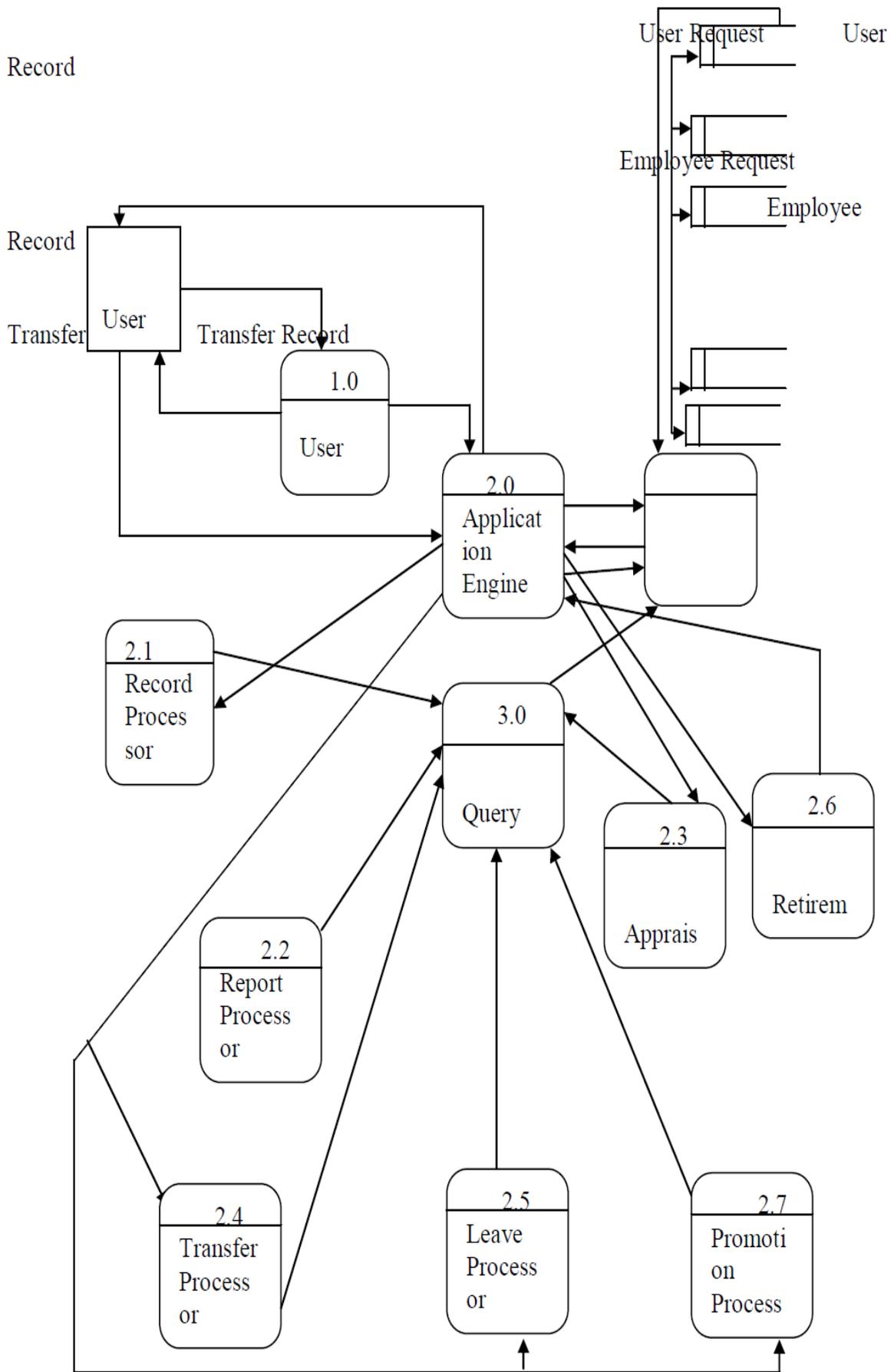
Figure2.4. Appraisal Assessment Form

Data Dictionary

Variables	Meaning/Functions
Db	This is the database object used to access and transact with the employee database
Stmt	This is the statement object used by the database object to execute query against the physical database
Rset	This is the result set object used by the database object to hold records returned from the database
Con	This is the connection object used by the database object to connect to the physical database
Jmnu Record	This is the Jmenu object used to display the Record menu
Jmnu Report	This is the Jmenu object used to display Report menu
Jmnu Decision	This is the Jmenu object used to display decision menu
Jmnu Administrator	This is the Jmenu object used to display administrators' menu
Jmi Appraisal	This is the Jmenu object used to display appraisal menu
Jni Exit	This is the Jmenu object used to exit the application

System Flowchart/Dataflow Diagram of the New System





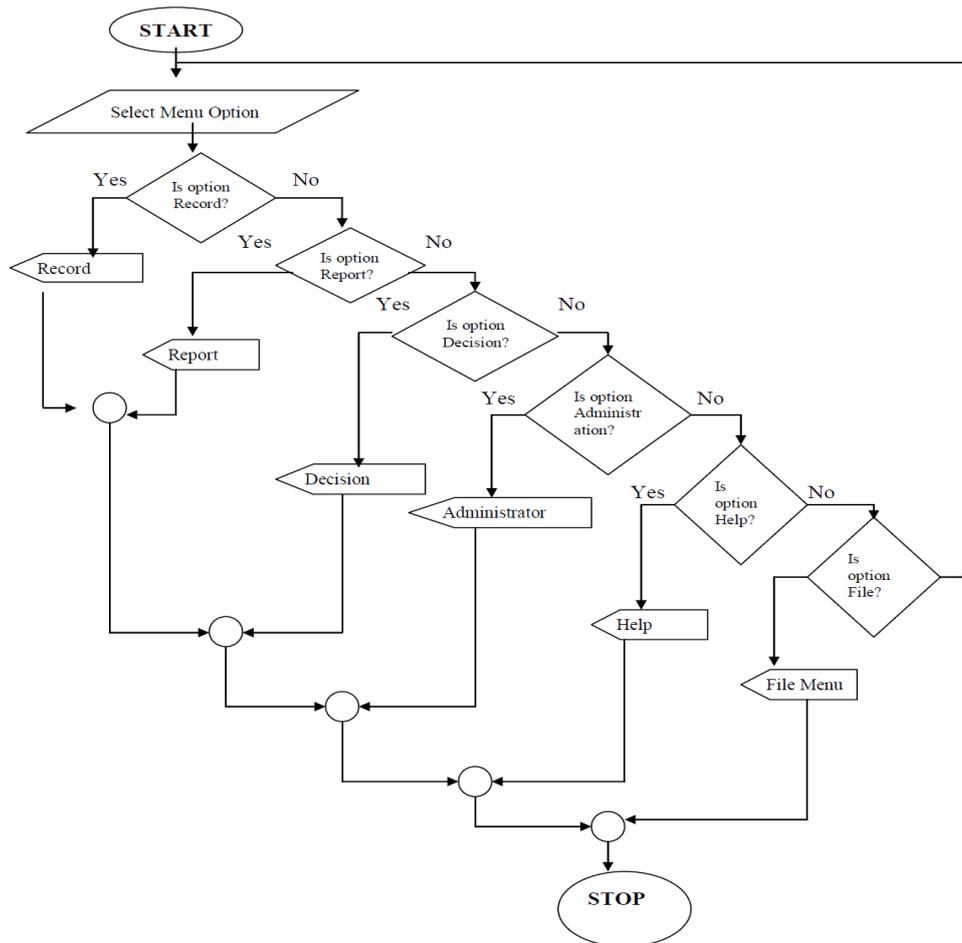


Figure2.7. Menu Selection Flowchart

Algorithm for the Modules

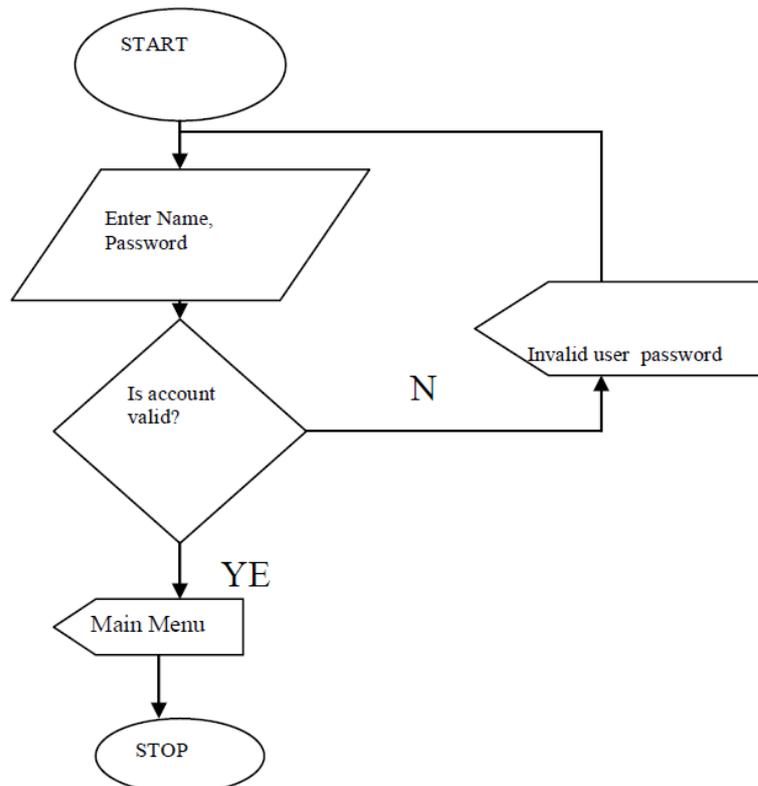


Figure2.8. User Login Flowchart

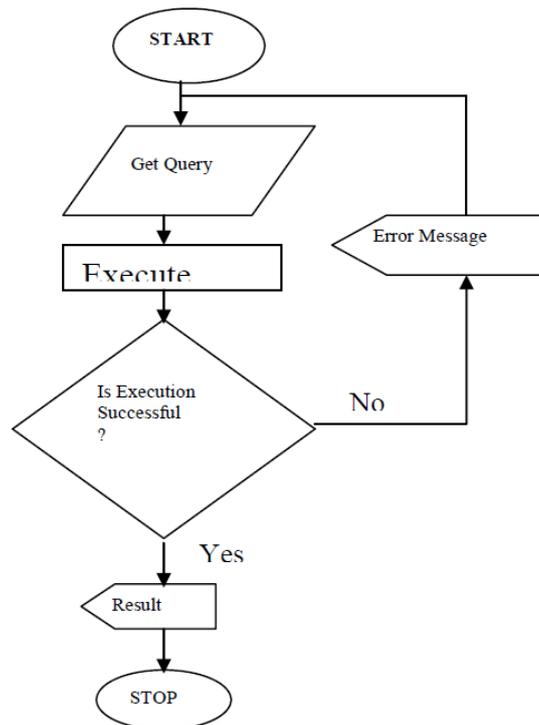


Figure2.9. Database Flowchart

**Application Details**

On the Main menu, to access any of the Submenu select the Menu from the Main menu, then select the Submenu of choice, For example;

REPORT

Employment;

Appraisal;

Promotion;

Leave Assessment;

Transfer;

Retirement.

**Implementation Detail**

*Sample Implementation Snapshots*

The sample implementation snapshots are shown below:

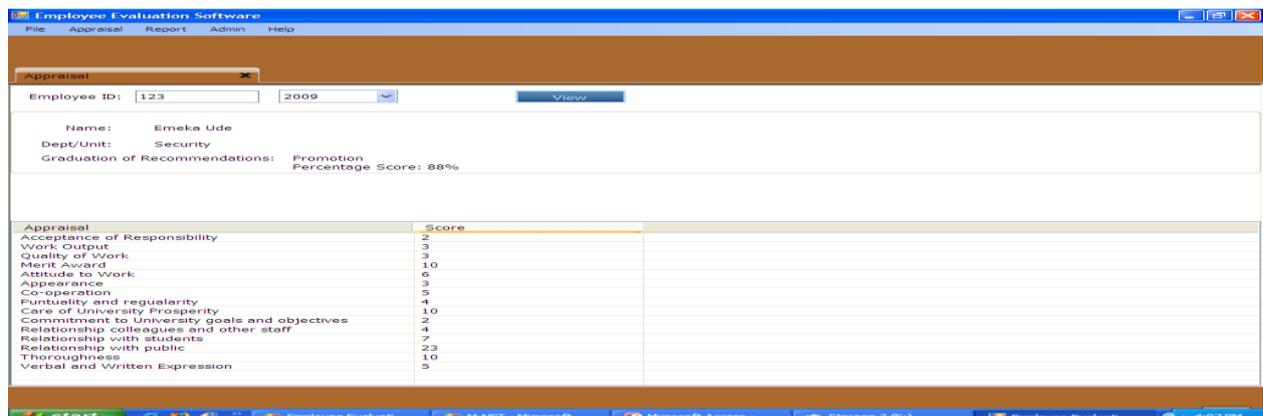


Figure2.10. Appraisal menu showing employee ID and performance assessment indices /scores

# Employee Performance Appraisal Database Management System

The screenshot displays the 'Appraisal Form Part I' window within the 'Employee Evaluation Software'. The window title bar includes 'Employee Evaluation Software' and standard OS window controls. The menu bar contains 'File', 'Appraisal', 'Report', 'Admin', and 'Help'. The main content area is divided into several sections with corresponding input fields:

- Employee ID No.:** A text input field.
- Name:** A text input field.
- Date of Birth:** A date selection dropdown menu.
- Date of Appointment:** A date selection dropdown menu.
- If On Transfer, From:** A text input field.
- Academic Qualifications:** A text area with a scroll bar, including a note: "Include Class of Degree, Awarding Institution and year".
- Previous Employment History:** A text area with a scroll bar, including a note: "Include Employer, Post Held Last, Last Income P. A., Date Left, Reason for Leaving".
- Years of Experience (Administrative/Professional/Teaching):** A text area with a scroll bar, including a note: "Include Dates, Place and Position".
- Faculty/Department/Unit:** A text input field.
- Rank on First Appointment/Transfer:** A text input field.
- Date of Last Promotion:** A date selection dropdown menu.
- Present Rank:** A text input field.
- Present Salary:** A text input field.

The Windows taskbar at the bottom shows the 'start' button and several open applications, including 'Employee Eva...', 'M-NET - Micro...', 'Microsoft Acc...', 'Storage 3 (E:)', and 'Document1 - ...'. The system clock indicates 4:08 PM.

Figure2.11. Appraisal Form Part I

The screenshot displays the 'Appraisal Form Part II' window. The main content area contains a list of performance metrics, each with a corresponding input field (mostly dropdown menus or text boxes) and a 'Save' button at the bottom:

- Employee:** A dropdown menu.
- Cadre:** A dropdown menu.
- Acceptance of Responsibility:** A text input field.
- Work Output:** A text input field.
- Quality of Work:** A text input field.
- Merit Award:** A text input field.
- Attitude of work:** A text input field.
- Appearance:** A text input field.
- Co-operation:** A text input field.
- Punctuality and Regularity:** A text input field.
- Care of University Prosperity:** A text input field.
- Commitment to University goals and objectives:** A text input field.
- Relationship with colleagues and other staff:** A text input field.
- Relationship with students:** A text input field.
- Relationship with the public:** A text input field.
- Thoroughness:** A text input field.
- Verbal and Written Expression:** A text input field.

The Windows taskbar at the bottom shows the 'start' button and several open applications, including 'Employee Eva...', 'M-NET - Micro...', 'Microsoft Acc...', 'Storage 3 (E:)', and 'Document1 - ...'. The system clock indicates 4:08 PM.

Figure2.12. Appraisal form Part II

The screenshot displays the 'Transfer' submenu window. The main content area contains the following fields:

- Employee:** A dropdown menu.
- Previous Dept/Unit:** A text input field.
- Current Dept/Unit:** A text input field.
- Transfer Date:** A date selection dropdown menu.
- Comment:** A text area with a scroll bar.

A 'Save' button is located at the bottom of the form. The Windows taskbar at the bottom shows the 'start' button and several open applications, including 'Employee Eva...', 'M-NET - Micro...', 'Microsoft Acc...', 'Storage 3 (E:)', and 'Document1 - ...'. The system clock indicates 4:09 PM.

Figure2.13. Transfer submenu

The screenshot displays the 'Retirement' submenu window. The main content area contains the following fields:

- Employee:** A dropdown menu.
- Date of Appointment:** A date selection dropdown menu.
- Date Retired:** A date selection dropdown menu.
- Date of Last Promotion:** A date selection dropdown menu.
- Position of Last Promotion:** A text input field.
- Emolument:** A text input field.

A 'Save' button is located at the bottom of the form. The Windows taskbar at the bottom shows the 'start' button and several open applications, including 'Employee Eva...', 'M-NET - Micro...', 'Microsoft Acc...', 'Storage 3 (E:)', and 'Document1 - ...'. The system clock indicates 4:09 PM.

Figure2.14. Retirement submenu

### DISCUSSION OF RESULTS

The result achieved in this work will ensure a result oriented administration of the performance evaluation exercise and as well ensure fairness and efficiency of its execution. The features will enhance distribution of proper forms in a timely manner ensuring completed forms are returned for filing by a specified date. Reviewing forms for completeness and discrepancies identification are made easy. Also proper safeguard and filing of completed forms are guaranteed. Employees' performance will be adequately evaluated and monitored.

The report/record menu comprises employee appraisal, transfer, and retirement submenus as shown in above. It allows the appraiser /management assess employees performance for the purposes of promotion, transfer, retirement etc based on already defined assessment indices and percentage scores. Graduation of recommendations is done on the basis of percentage scores. Details of assessment such as work output, quality of work, attitude to work, punctuality, commitment to organizational goals, thoroughness, etc are also considered and reflect in the submenus.

Furthermore, the administrative submenu focused on the user and password as shown above. These submenus allow the appraiser to access employees' records in the performance and management system. It provides an avenue for adding users, changing user names and passwords.

However, for the system to operate effectively and error free, certain functions must be carried out to avoid virus and bug. They are as follows: Install an updated version of any utility software like the Netquin, Norton etc; Run the anti-virus daily after booting the system in order to scan the program in the system. It is advisable to click REFRESH in order to free up the system memory at anytime, anywhere in the running environment. Always close the program after use before shutdown.

### CONCLUSION

It is being believed that computer system can be used to perform a successful and easy performance evaluation and management exercise. A critical assessment of this work testifies to that. The research work has achieved the following:

- i. It has introduced a new kind of system that eliminates the existing problems in the old system.
- ii. It has reduced workload of the supervisor in carrying out the task of performance evaluation and has made an easier and interesting system for such tasks.
- iii. It has improved the efficiency and effectiveness in carrying out the task of performance evaluation and management.

Hence what have being achieved in this work is summarized. In the same vein, suggested areas for further studies are made together with conclusion and recommendation.

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