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HUMAN MANAGEMENT INFORMATION SYSTEM AUTOMATION

Ayangbekun, O. Jacob, Samuel,O. Mary, Akanni, O. Abiodun
Department of Computer Engineering, Federal Polytechnic Ayede, Oyo State.
Corresponding Author: ayangbekunoj@gmail.com

ABSTRACT
Concerning the manual approach of information management being adopted by some organizations, numerous problems had been encountered in the process of handling some crucial activities such as recruitment of employees, salary payment, and retirement administration among others. For this reason, there is a need to devise a better and more effective means of solving the problems of human resource function with the aid of developing a web-based personnel information system to solve the problem associated with manpower planning, procurement, performance, and staff motivation. This paper, therefore, addresses this issue critically through a well-conducted feasibility study and automated systemanalysis (efficient web-basedpersonnel information system) of the human resource management operations in terms of recruitment and staff training development to achieve high and effective management of the human resource in an organization with the view to increase capability in a highly fulfilling environment.
Keywords: HMIS, Human Resources, Personnel, Information System, MIS, Organization,

1. INTRODUCTION
To sustain growth and maintain any organizational aim and objectives is critically based on certain functions. One such factor is the efficient management of personnel (human capital resources) both within and outside the organization and its environment, in other to operate at maximum capability in a highly fulfilling environment. The human resource management profession has undergone tremendous change over the past decades with its associated complexity by moving from the manual system into an automated embedded system in terms of recruitment, training, salary payments, data security, and staff evaluation among others.

It must be noted that people are still the most important asset to any organization. An examination of the most successful corporations and government agencies usually reveals that a quality workforce has made the difference between mediocrity and success. Personnel information supports the organization's mission, goals, and strategies. However, in recent years, a new wave of awareness has existed in the organization as it concerns the use of computers in administrative and planning areas of business activities. These areas require both quantitative and qualitative information. Organizations have thus, adopted the use of web-basedPersonnel Management Information System (MIS) and decision support system (DSS) in their decision. The internet, however, has a significant impact on the way HR professionals have accomplished this aforementioned task. This Information technology tools (Web-basedpersonnel information system) have brought about improvements that hereby makes human resource professionals spend less time on administrative task and more time with employees by building intelligence into a computing system.

With a personnel management Information System, Information needed by any section/department in an organization should be collected by one source, stored, and made available to any section of the organization that needs it. Until a manager has the correct information at the right time, he is unlikely to make the right decision; and the higher the quality of the information, the better the result of the decision-making (Unamka and Ewurum, 1995). Though the existing manual system of recording information is useful, however, with the development of Personnel Information System software, personnel records will be simultaneously integrated and rationalized. It should then be seen as a route to eradicating all the problems of the manual method of handling records through the creation of a

single system that would provide accurate information to all in a time and cost-efficient manner.
In this paper, some requirements about personnel management such as postings, qualifications, tests, training attended, family details, etc are catered for in this system through software design of a user-friendly graphical interface, data/information retrieval of individual personnel or collective information grouped by certain categories. These categories could be designation, retirement time, length of service, place of work or location, etc. Thus, the issue of ghost workers, hiding of files, falsification of records, and other vices that are often associated with the manual system will be eradicated.

2. LITERATURE REVIEW

2.1 Human Resource Management Overview

Human Resource Management (HRM) is a term often synonymously used as personnel administration which emerged as a clearly defined field in the 1920s in the US and largely concerned with the technical aspects of hiring, evaluating, training, and compensating employees in organizations (Werther, W. B. & Davis K, 1996). HRM hereby came into existence in response to the substantial increase in competitive pressure that organizations experience as a result of globalization, deregulation, and rapid technological change. These gave rise to an enhanced concern on the part of firms to engage in strategic planning--a process of anticipating future changes in the environmental conditions and aligning the various components of the organization in such a way as to promote organizational effectiveness.
However, Human resource management consists of all the activities undertaken by an enterprise to ensure the effective utilization of employees toward the attainment of individual, group, and organizational goals. (Dessler, G. 2000). It focuses on people management, especially on growth and employee development. It also emphasizes developing individual potential and skills (Elwood, F., and Trott. 1996). Such practices help the organization deal effectively with its people during the various phases of the employment cycle (Ivancwvich, John. 1999) including pre-hire, staffing, and post-hire activities.
Therefore, components of HRM include but are not limited to the following: Administration and organization structuring, recruitment and selection, personnel information management, employee self-service, timesheet management, leave management, performance management, payroll, benefits, report generation, etc.

2.2 Organizational Performance Metrics

Performance management is used as a generic term referring to methodologies, metrics, processes, and systems that monitor and manage corporate performance, to continuously measure its effectiveness and efficiency according to strategic, operational, human resources, information systems, marketing, and financial perspectives (Chvatalova & Koch, 2015).

This evaluation is required by the management to allow the development of the organization and its management system (Lebas and Euske, 2004). Organizational performance management can be seen either from the Management perspective or Measurement point of view. According to Bourne et al, 2003; Kennerley and Neely, 2003; Marr, 2004; Frolick, and Ariyachandra, 2006, Organizational performance management encompasses methodologies, frameworks and indicators to perform the followings:

(i) to assist organizations in formulating and evaluating the strategy,
(ii) to motivate people
(iii)to communicate or to report the performance to stakeholders.

Meanwhile, performance measurement requires an extensive use of quantitative and qualitative data, with clear definitions and specific frequency for analysis. Therefore, the choice between them depends on the purpose of the measurement and, in many cases, the availability of the data (Popova and Sharpanskykh, 2010).

3. METHODOLOGY

The proposed system covers the areas of personnel online recruitment (hiring), registration, seamless selection, Staff performance, and evaluation. This is carried out by data capturing of personal information documents (such as CV/credentials) upload and other post-hiring functions; through a unique applicant homepage where the administrators can communicate with the individual applicants about their interview selection, eligibility, performance, and so on.

3.1 Descriptive Model Design

Design can be defined as procedures/process of applying various techniques and principles to define a process or a system in sufficient details to permit its physical realization". It may be defined as a process of applying various techniques and principles to define a device, a process, or a system in sufficient detail to permit its physical realization. The design model used for this work is the waterfall model. This is because the waterfall model prescribes a systematic approach to software development which starts with a well-defined, specification of requirements and moves through a deployment in linear form. The waterfall lifecycle works by following a strict path through the development process not moving on to the next stage until the previous stage has been completed (being a complete data-driven solution that resolves around the management of employee files/profiles beginning from the recruitment stage). Since the requirements do not change in the course of the work, this methodology suits the work. If the requirements are dynamic, a more agile methodology would have been chosen. The specification of requirements includes a form to collect relevant job seeker data, a data warehouse where employee-related files and transactions are stored, an appropriate viewer for job seekers to track available jobs and their applications, an appropriate viewer for administrators to see applicant data, feedback from the user to administrators and vice versa.

3.2 Model Development & System Flow

Model development and design will be implemented using web-enabled programming languages and tools such as PHP, Apache server, MySQL, and HTML (Figure 1). This will cut across the Designing of database tables; attributing the constraints to the database table fields; designing of front-end interface of the solution; scripting and linking the front-end to the back-end; testing the solution; and finishing and compiling for distribution.

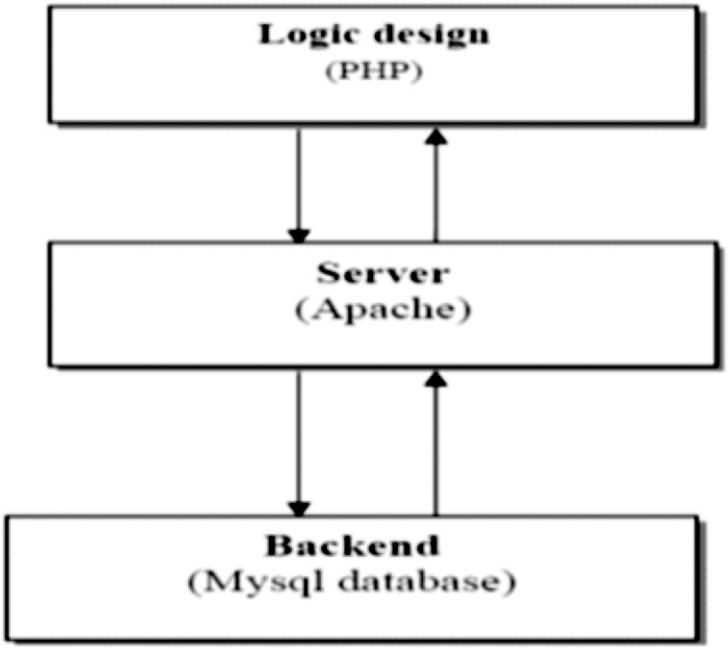


Figure 1: Human Management Information System Architectural Design

The system flow chart of the proposed Human Management and Information System (HMIS) for an organization is hereby shown below (Figure 2)

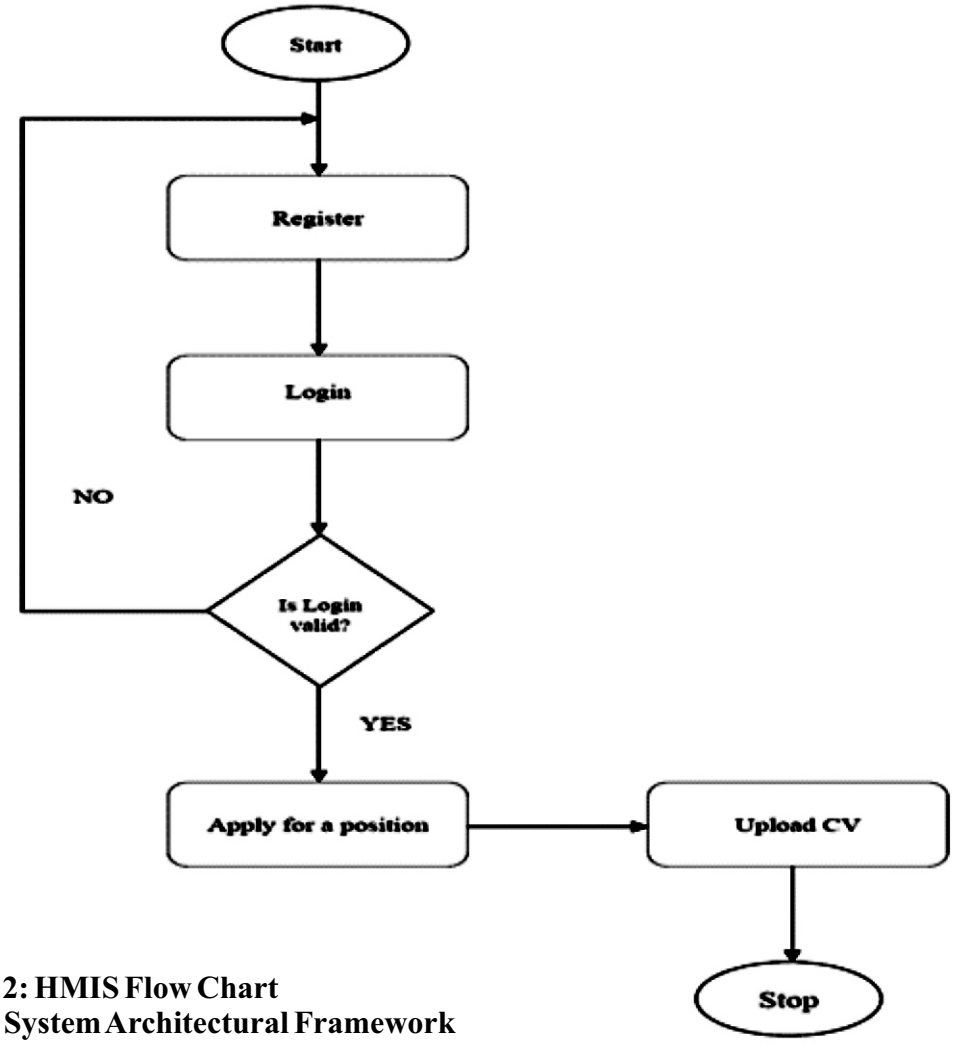


Figure 2: HMIS Flow Chart

3.3 System Architectural Framework

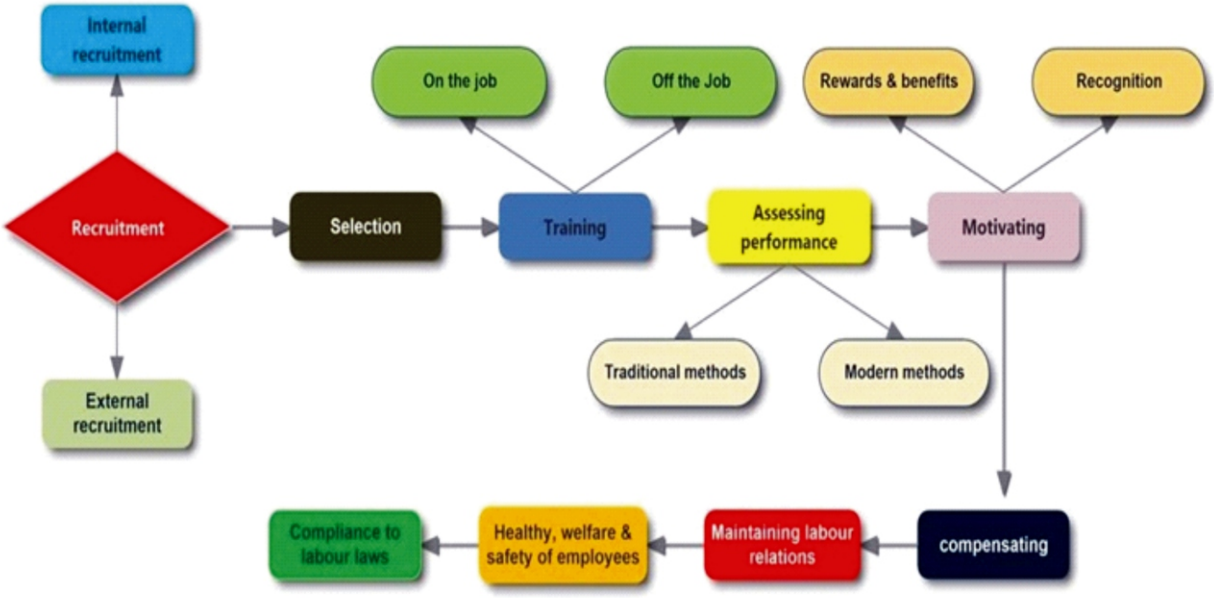


Figure 3: System Architectural Design

This represents a broad framework within which individual information systems fit within the context of Management Information Systems (MIS) as subsystems. The architecture of the MIS plan provides a system structure and its input, output, and linkages. It also provides a way to handle the systems or subsystems. It spells out the subsystems from data entry to processing, analysis to modeling, and storage to printing.

4. SYSTEM IMPLEMENTATION

It must be noted here that Personnel Recruitment System is just one of the other components implemented in the proposed HMIS. The system requirements are made up of the hardware requirements, software requirements, and the environment through which this new system will be adopted for proper and effective implementation of the HMIS.

4.1 Index Page

This is the user's (employee) page and can also be referred to as Login / SignUp Page (Figure 4). When the application is launched using any of the web browsers, this page is displayed. All New Users must sign up or Register as indicated on the page. However, Pre-registered users log into their accounts by entering their Usernames and Password accordingly. Users then supply the required personal information and make the necessary upload of their documents as specified by the system flow (Figure 2) requirements for the recruitment process. This is also represented in the database Table schema (Figure 5)

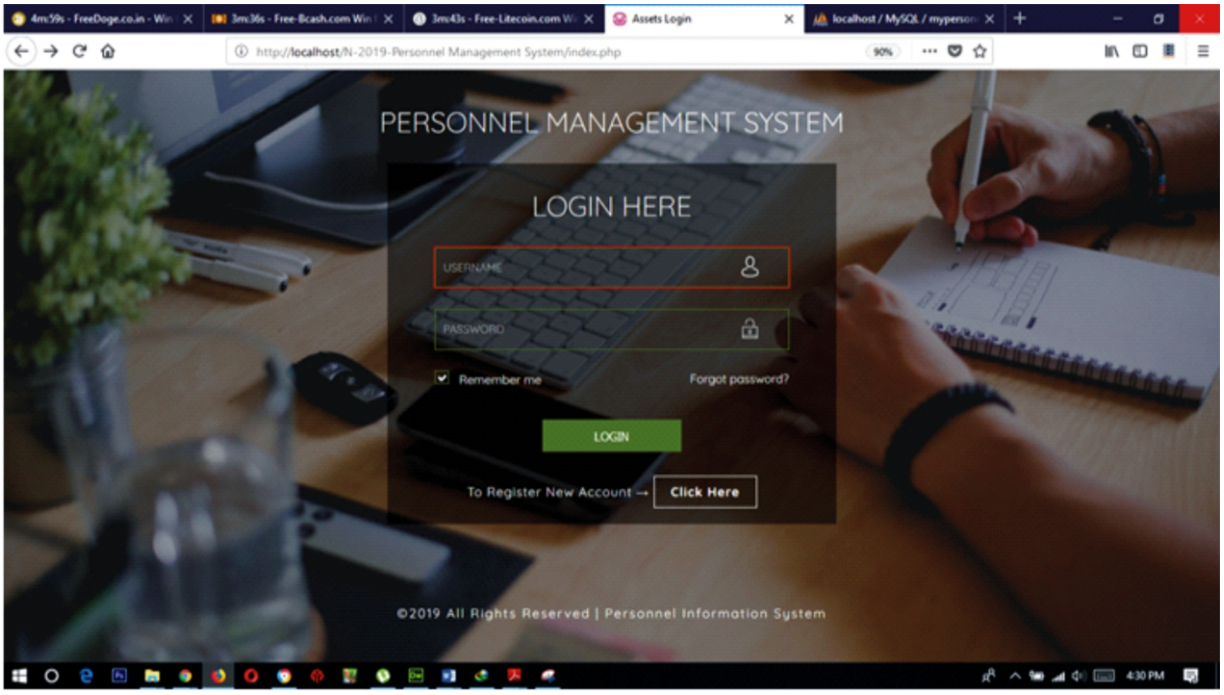


Figure 4: Index Page

Name	Type	Collation	Attributes	Null	Default	Comments	Extra
id	int(11)			No	None		AUTO_INCREMENT
staffid	varchar(20)	latin1_swedish_ci		No	None		
myname	varchar(50)	latin1_swedish_ci		No	None		
mygender	char(20)	latin1_swedish_ci		No	None		
myage	int(11)			No	None		
email	varchar(255)	latin1_swedish_ci		No	None		
phone	varchar(20)	latin1_swedish_ci		No	None		
academic	text	latin1_swedish_ci		No	None		
pubpap	int(11)			No	None		
myseminar	int(11)			No	None		
status	char(20)	latin1_swedish_ci		No	None		

Figure 5: Database Table Description

4.2 Administrator's Page

The role of this module is for the organizational assessment, feedback, and control of user data. This is being managed by IT-inclined personnel specifically assigned by the organization managers. This module (Figure 6) comprises the following links – New Staff Upload and Staff Evaluation page: directly connected to the database for data communication, transmission, and storage across every section of the organization's human capitalresources.

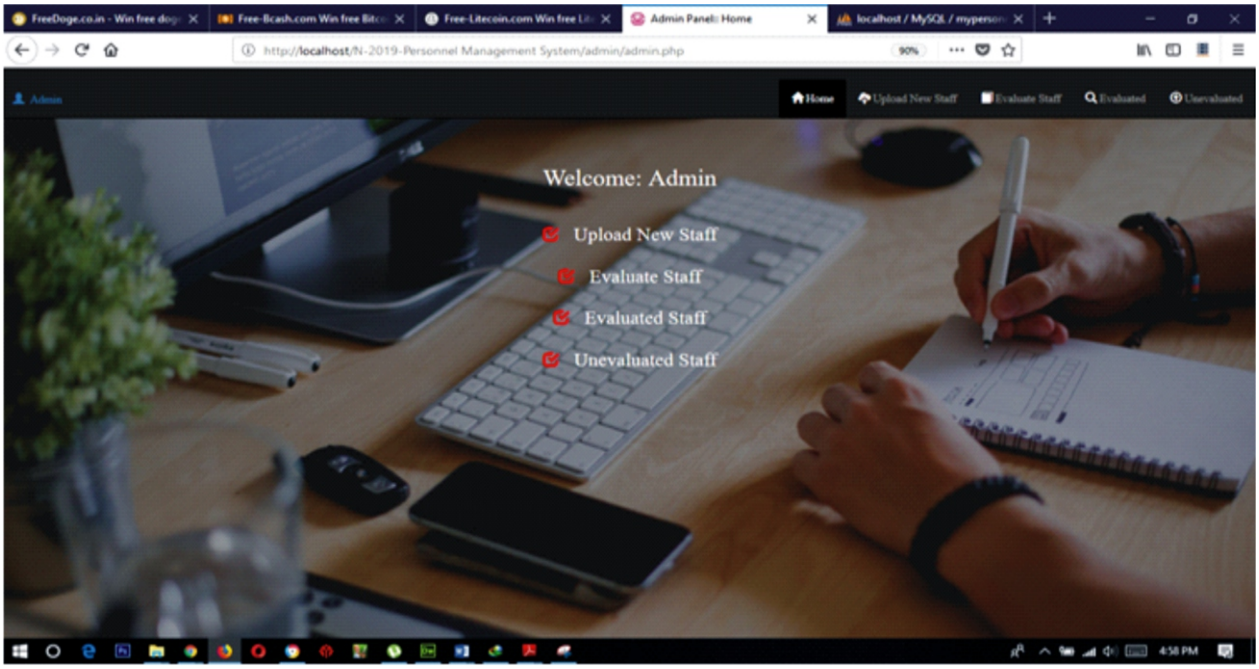


Figure 6: Admin Page

4.3 Staff Upload

Since every organization is made up of personnel/workforce, information about each staff of the organization is captured by the HMIS. This can be assessed anytime by the management within the organization when the need arises (Figure 7). However, this is being accessed and monitored by the system administrator (admin), acted upon as directed by the human resource manager and directly uploaded to the database.

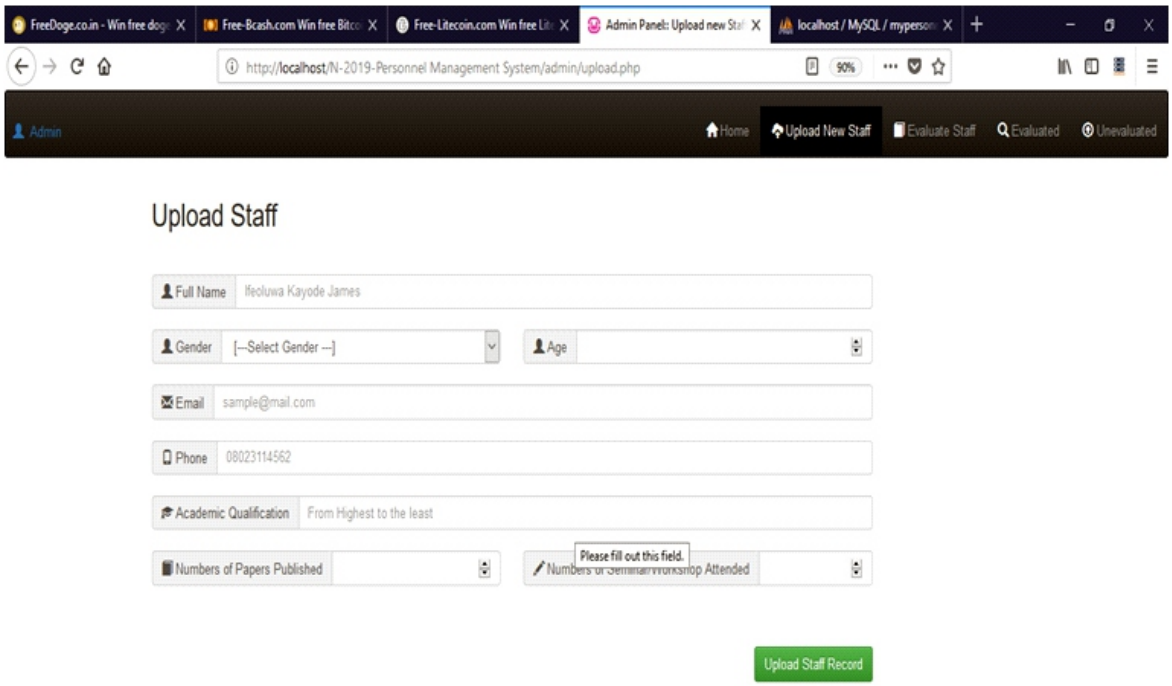


Figure 7: Upload Staff Page

4.5 Staff Evaluation Performance

Staff performance is measured via the evaluation module (Figure 8) as every workforce is being commended by the authorities where the personnel has served across various sections/units. Therefore each staff is being evaluated online by the developed system to motivate other staff thereby bringing development/progress to the organization. However, the results of this evaluation will be automatically sent to individual registered accounts.

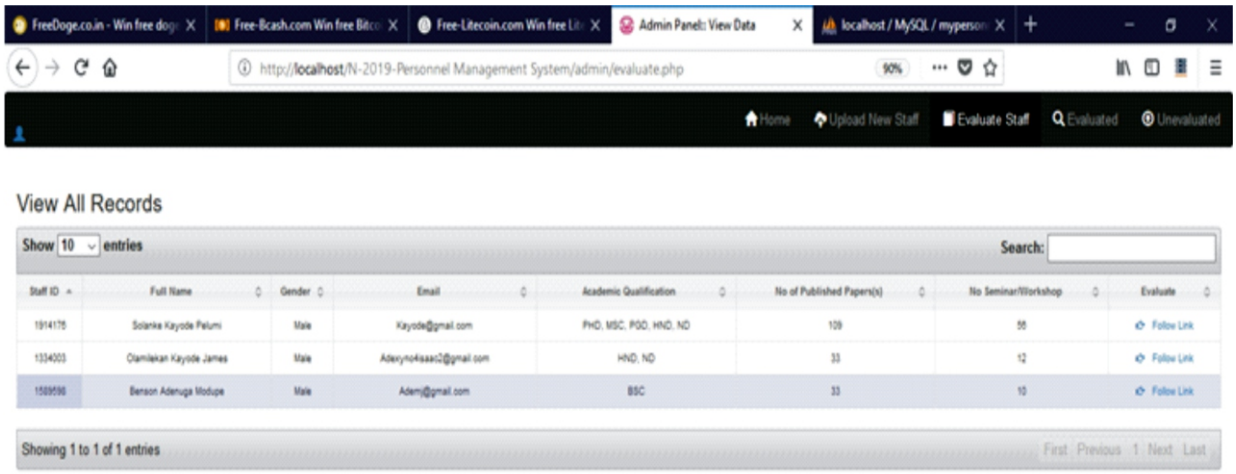


Figure 8: Evaluated Staff

Meanwhile, the unevaluated staff is indicated with a red flag on the page's right-hand side as displayed in the graphical user interface (GUI) below (Figure 9). This can be a result of poor attitudes to work or other failed criteria as stipulated by the organization as a yardstick.

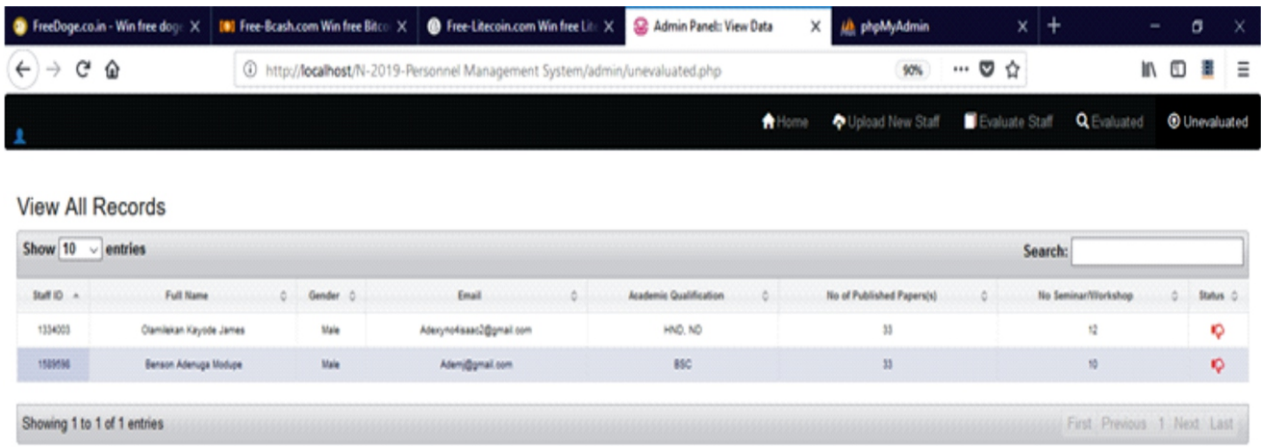


Figure 9: Unevaluated Staff

5. CONCLUSION AND RECOMMENDATION

Personnel recruitment and staff evaluation across levels requires that an assessment of the present and future needs of the organization be compared with present resources and future predicted resources. Appropriate steps should then be planned to bring demand and supply into balance. The central aim of modern human resource management is to enhance the effective use, involvement, and contribution of employees throughout the organization. This requires a great deal of information accretion, classification, and statistical analysis as a subsidiary aspect of personnel management. What future demands will be is only influenced in part by the forecast of the human resource manager, whose main task may well be to scrutinize and modify the crude predictions of other managers. However, this can be achieved with ease using system automation by the application of the IT paradigm thereby making the process seamless, faster, more effective, and efficient to the benefit of both personnel and the organization. Personnel management information software developed to assist managers keep track of employee records as implemented in this research work. It is hereby recommended that organizations should invest more in information technology for efficient management of organizational resources to maximize productivity and great improvements.

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