False-Skill Employment Management System

Okoro U.R, Izang A.A, Damaru D.A, Onaolapo W.J and Osinaike O.E

Abstract —There are several processes and technological tools used in hiring an employee and managing various skills. Recent advancement in employment technology and job search procedure has mandated a shift in paradigm for skill and competency management. Companies require specific level of competency in various types of skills. The competency level in any skill(s) categories can help employers to choose the right candidate for a vacancy. Several researches have shown that companies often find it difficult to properly verify or validate most applicant submission and hence hire job seekers based on their individual skills which are declared in submitted CVs. More than 75 percent of employers have once hired the wrong person(s) for a position and for every one 'bad hire', the companies lost $17,000 on average per year. Some professional career network such as LinkedIn and Jobcase do not auto-verify any skill-set added by a user or skill rating done by individuals. Therefore, there is need to have a closed system that can combact fasle skill decalartions and help the human resource department to identify the most qualified employee .The outcome of this paper called DEW is a web-base career network which proposes as skill market-place where both jobseekers and companies can create profiles while ensuring that skill(s) listed by jobseekers can be rated and published not only users but majorly by registered and verified companies. Professional Career Networks can adopt this strategy towards improving the employment technology for skill-set and competnecy level continuum.

Keywords— Competency, Human Resource Information System (HRIS), Performance Management System (PMS), Skills Verification,

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1 INTRODUCTION

The Human Resource Department of hiring companies are usually faced with the challenge of hiring the right jobseeker or job applicant with the right skills needed for whatever vacant positions they have to fill. Hence, interviews or assessment quizzes are held for such jobseekers to verify their competencies.

HRM is a combination of people-oriented management practices that views employees as assets, not costs; and its main aim is to create and maintain a skillful and committed workforce to gain competitive advantage. The human resources management (HRM) is a relatively modern label for the ranges of themes and practices involved in managing people. In organizations today, "people" (workers) are critical factors in its well-being. Since every organization is made up of people, hiring and maintaining good and qualified people is critical to the effectiveness or success of organization. For the fact that every organization is human oriented - a factor without which the organization is reduced to nothing - the process of acquiring human services, developing skills, motivating them and ensuring their loyalty in the organization are vital instrument for achieving organization objectives be it a public or private sector. [1]

In today's fast-paced world, things have become so much unpredictable and uncertain especially in areas of rapid and radical technological development which focus more on computerization. Organizations must be engaged with tools that enhanceproper utilization of human resources and operations manner throughout the agency. Human Resource Mangement

technology such as electronic recruitment and staffing systems meant to help to improve the efficiency and effectiveness of organizational management and operations. [2]

It is therefore important that Human Resource Department hire qualified candidates via those technologies. This can only be achieved when there is strategy or system that can filter a false skill declaration providing a first-phase solution to false-skill declaration Professional Career Networks can be restructured using this strategy to verify and validate a skill-set and compentecy level supplied by an applicant.

2 PERFORMANCE MANAGEMENT SYSTEM

A Performance Management System is designed to assist management and employees alike in communicating performance goals, sharing performance information on a regular basis, fostering learning and development, and exploring career opportunities.

Performance management is a cycle of managing employee performance for success where goals are created, competencies are incorporated, and constructive feedback is provided for continuous improvement.

Benefits of a Performance Management System include [3]:

i. Creates a high-performance organization and profession

ii. Establishes a clear link between organizational and individual objectives

iii. Encourages ongoing communication through coaching and meaningful feedback to employees

iv. Encourages discussion and development of competencies through training

v. Recognizes exemplary performance and accomplishments.

Integrating competencies within the performance management process provides feedback to employees not only on "what" they have accomplished (i.e. performance goals), but

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also on "how" the work was performed, using competencies as a ba/sis for providing feedback. Assessing competencies as a part of the performance process is an important means of assisting employees in understanding performance expectations and enhancing their competency proficiency.

3 HUMAN RESOURCE MANAGEMENT, PERFORMANCE MANAGEMENT SYSTEM AND SKILL VALIDATION

Both the job description and the job specification are useful tools for the staffing process. Someone (e.g. a department manager) or some event (e.g. an employee's leaving) with the organization usually determines a need to hire a new employee. In large organizations, an employee requisition must be submitted to the HR department that specifies the job title, the department and the employee is needed. From there, the job description can be referenced for specific job related qualifications to provide more detail when advertising the position either internally, or externally, or both. [4]

Not only must the HR department attract qualified applicants through job postings or other forms of advertising, but it also assists in screening candidate's resume and bringing those with the proper qualifications in for an interview. The final say in selecting the candidate will probably be the line manager's assuming all equal employment opportunity commission (EEOC) requirement are met. Other ongoing staffing responsibilities involve planning for new or changing positions and receiving current job analyses and job description to make sure they accurately reflect the current position.

In the process of hiring these candidates based on their skill and competency level, this project is to ensure that any candidate invited for an interview in the company should have what exactly the company needs in regards to skills and competency level.

3.1 TYPES OF SKILLS

Business Dictionary has defined Skill as the ability and capacity acquired through deliberate, systematic, and sustained effort to smoothly and adaptively carryout complex activities or job functions involving ideas(cognitive skills), things (technical skills), and or people (interpersonal skills). Competency on the other and is used as a more general description of the requirements of human beings in organizations. Companies require a specific level of competency in various types of skills when hiring an applicant. Thes Competency level in any skill(s) go a long way to show the employers that such candidate is the right candidate for the job position there is [5]. The skill-set are catogorized into three:

1. **TECHNICAL SKILLS:** These skills are the knowledge and abilities needed to accomplish mathematical, engineering, scientific or computer-related duties as well as other specific tasks relating to tech-

nology. It can also refer to the ability to perform tasks that require the use of certain tools, whether tangible or intangible, and technology to compete them. Knowledge of these skills allows for practical use.

2. **HUMAN SKILLS:** These skills are skills that involve the ability to work well with other people both individually and in group. They are otherwise known as Management Skills. Applicants with the required skill-set create an environment where people feel secure and authentic.

3. **CONCEPTUAL SKILLS:** These are the abilities to see the big picture and understand the relationships among elements that make up the big picture.

4 OBJECTIVES OF THE STUDY

The General objective of this study is to design a performance management system that will aid organizations Human Resource Management Department in hiring the right candidate based on skills and competency for the right job.
The specific objectives are to:

1. identify and classify technological challenges faced by human resources department as it pertains to performance management systems
2. build an anti-false skill declaration modules based on -objective 1
3. implement and evaluate the design

5 RELATED PLATFORMS

In order to critically understand the problem domain, research in the areas such as Human Resource Information System (HRIS), Performance Management System (PMS) and Skills Validation Techniques (SVT) was carried out. Two major social media were analyzed and benchmarked. Findings are summarized below

A. LINKEDIN: LinkedIn is a social network for professionals. Whether you are a marketing executive at a major company, a business owner who runs a small local shop or even a first year college student looking to explore future career options, LinkedIn is for anybody and everybody who is interested in taking their professional lives seriously by finding new opportunities to grow their careers and to connect with other professionals. On LinkedIn, however, you add "connections", you converse via private message (or available contact information) and you have all of your professional experience and achievements laid out in a neatly organized profile to show off to other users. These features are more specialized because they cater to professionals, but in general, if you know how to use Facebook or any other similar social network, LinkedIn is somewhat comparable. [6] It is a global software such that it is

been used all over the world to locate jobseekers and display job offers that can be applied for.   However, the LinkedIn services are solely online and this hinders offline verification. Secondly, Skill ratings are done by individual on the same network.

B. JOBCASE: Created in 2004 but entered the social media in 2009. It allows creation of a comprehensive profile that describes not only your education and experience, but also your preferred salary, work conditions, personal traits, and whether or not you'd be willing to relocate. Jobcase Inc. operates a job seeker social network for blue collar workforce in the United States. The company also offers advanced marketing and matching services for employers. It focuses on people with non-traditional work backgrounds, including workers without degrees. However, JOBCASE, this system is not concerned with the skills job applicants declare neither is it concerned with validation or verification of skill-set.

Hence, this work focused on skill-set verification characteristic proposing that skills enlisted by a user must be auto-filterd by registered companies where the user must have worked or gained such skills (including auto rating for fresh verified graduants)

7 THE DESIGN MODEL OF THE SYSTEM: DEW PERFORMANCE MANAGEMENT SYSTEM

Water Fall Development system design model was adopted. This model is the traditional model of software development. The waterfall model upholds the belief that each phase should be given adequate attention [8][9] and should be completed before proceeding to the next phase of the model. Each phase has specific deliverables and a review process.
A use case diagram herewith represents the modules in DEW in terms of actors, targest and cross dependencies between actors and targets. In other words, it represents every case action or activity. Certain scenario has been used to specify behavior by description.
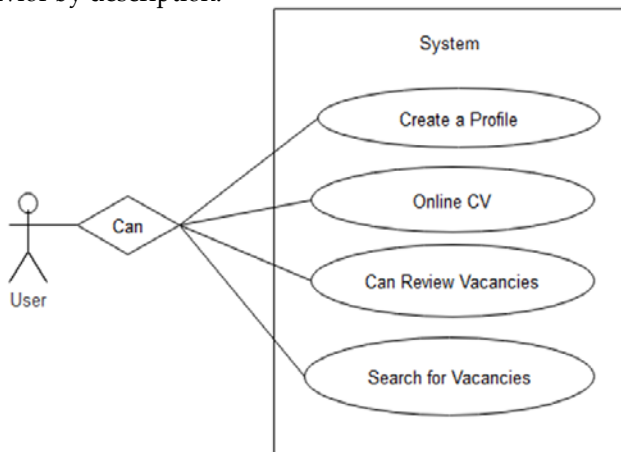

Figure 1 - Use Case Diagram of a Job Seeker as a System User

i.   Actor: The System User as a Job Seeker
In this module, the user can:
i.   Review Vacancies in Companies
ii.   Create and Login to Profile
iii.   Upload accepted format of Curriculum Vitae
iv.   Can Rate other System Users and Companies
v.   Search for Vacancies
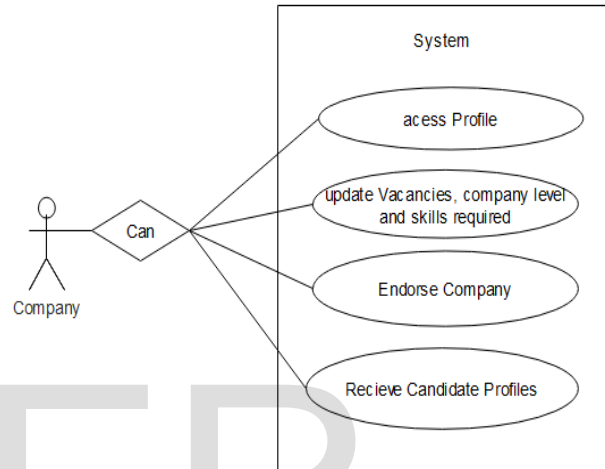vi.   Edit, Update and Delete items from Profile (e.g. Cv and Skills)

Figure 2 - Use Case Diagram of a Company as a System User

ii.   Actor: The System User as a Company
In this module, the user can:
i.   Receive Candidates' Profiles
ii.   Stayed as Company in the system
iii.   Have an Accessible profile
iv.   Can rate others and be rated by others too
v.   Update company details:
    • Vacancies
    • Skills required
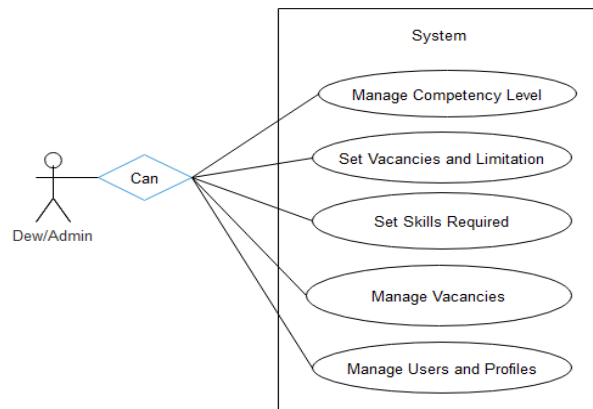   • Company Level

Figure 3 - Use case Diagram of the System Administrator

iii.   Actor: The Administrator

The administrator can perform the following functions on the system

   i.   Login as Admin/Dew and have a role based functionality

   ii.   Set skills required to a particular Vacancy
- Review set skills
- Manages Skills
- Filter Skills

   iii.   Upload accepted vacancies applicants list
- Create Vacancies
- Deny Vacancies
- Review Vacancies

   iv.   Manage competency Level
- Review User
- Validate User
- Match User

Upon accessing the software, the following figure are viewable pages

Figure 4 - Home page of the application showing list of jobs posted by companies.

The figure above shows the page for page list, this page will allow job seekers to view multiple jobs posted on the website by companies.

Figure 5 below shows the template of creating an account, this page allows the system users as job seekers and companies to register.
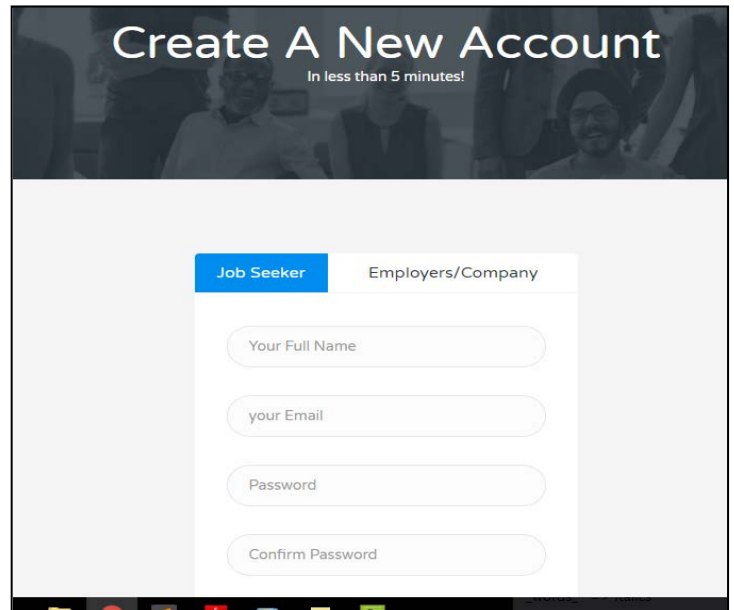
Figure 5 - Registeration page for both applicants and companies

The figure below allows a user to view his resume. His resume is related to the list of experiences and job details entered by the user. These details can be viewd by the administrator or interested companies who have set notifcations or alerts for such competency level or skill-set.
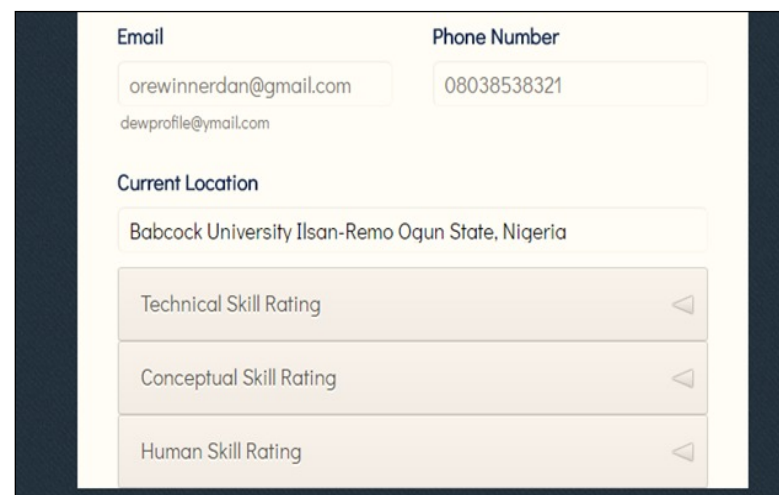

Figure 6 - Users resume

The figure 6 shows user resume details, these details are designed in such a way that the system allows user to edit records in his profile.

Figure 7 – User Account Information

Figure 7 shows the user information in the system, these details are the registration details saved by the system. The details are address, phone number, email and the expertise of the system user. The details are saved in the More on the users account info also shown is the rating feature.

The figures 9 and 10 below shows the ability of companies to rate individual job seekers highlighting importantly, the companies that have given the highest rating to job seekers as regarding the skills under each skll-set which they have listed in their cv. As sgown in figure 10 applicants to be further contacted by company seeking to hire the applicant.

Figure 8- Technical Skills Rating

Figure 10- Page showing contact button

Figure 11 - Company information

Another system component is the company. This class of users can view user's (job seekers) profiles as well as rate the user. The figure 12 above shows the information each company has to be registered with the system before it is viewed by users, a user can rate companies.

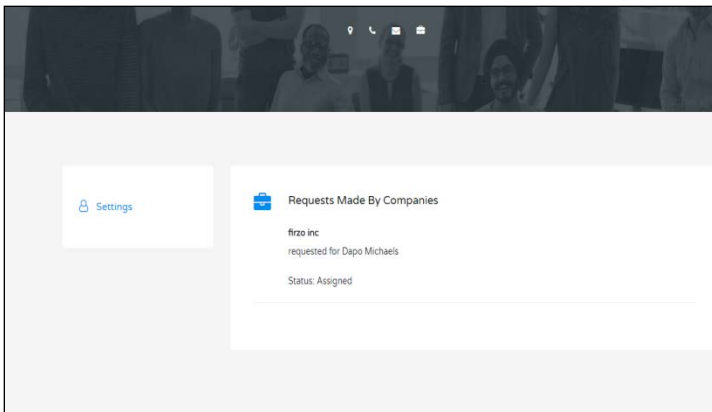*Figure 12 – Company Profile Information*

Figure 13 - Admin section, the list of requests made by companies are shown and the admin can assign the users to the companies that requested for them

8 CONCLUSION

DEW Performance Management System was designed in such a way that will allow users: -to rate each other's skills, -to apply for vacant job opportunities prefiltered by company settings, - The system is also designed in such a way that users have to register and own an account in order to be able to apply for jobs. This system will reduce the difficulty suffered during search for a vacancy by job seeker and also reduce the number of applicants for jobs as the profiles of job seekers must match the requirements of companies for vacant job positions. Full adaption of of this software will solve the basic requirements of the skill verification of job seekers, because it is capable of providing means of rating of skills not just by unverifiable users but mainly by companies.   It is therefore important that Human Resource Department hire qualified candidates by filtering a false skill declaration providing a first-phase solution [5] to false-skill declaration. Professional Career Networks can be restructured to use adopt this strategy by verifying and validatinga skill-set and compentecy level supplied by an applicant.

REFERENCES

[1] Beardwell, J. and Claydon, T. (2007) *Human resource Management: A Contemporary Approach*. 5 thed. Harlow: Prentice Hall.W.-K. Chen, *Linear Networks and Systems.* Belmont, Calif.: Wadsworth, pp. 123-135, 1993. (Book style)

[2] Bratton, J. and Gold, J. (2007) *Human Resource Management: Theory and Practice*, 4 thed.   Basingstoke: Palgrave McMillan.

[3] *Objectives of* Performance Management. (2017). Retrieved from Management Study Guide: http://managementstudyguide.com/performance-reviews.htm

[4] Laumer, S., Maier, C., & Eckhardt, A. (2014). The impact of human resources information systems and business process management implementations on recruiting process performance. *Twentieth Americas Conference on Information System*, (p. 12).

[5] Okoro et al. (2016). *An Ontology Model for acquiring Business Skills.* ICET Conference Proceeding, International Conference on Intelligent Computing and Emerging Technology (ICET). Pp.107-110. Retrieved from www.csconf.babcock.edu.ng; https://babcock.academia.edu/Departments/Computer_Science/Documents

[6] Nations, D. (2017, August 01). *What Is LinkedIn and Why Should You Be on It?* Retrieved from Lifewire: https://www.lifewire.com/what-is-linkedin-3486382

[7] Alcorn, S. (2016, February 3). *Fred Goff - A Case for Jobcase*. Retrieved from https://www.huffingtonpost.com/stacey-alcorn/fred-goff--a-case-for-job_b_9367988.html

[8] Whitten J. L., Bentley L. D., Dittman K. C. (2004). "*Systems Analysis and Design Methods*", McGraw Hill, 6th Edition, New York.

[9] Fourer R, Gay DM, Kemighan BW. AMPL (2003): *A Modeling Language for Mathematical Programming*. 2. Pacific Grove, CA: Duxbury Press.