Employee Appraisal Calculation System

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Abstract - **Employee is an intangible asset for an organization.They are extremely important to supply services that the organization has to offer. An employee who is at work on time hardly absent who lowers the number of work-related problems and who has a suitable level of productivity will be considered a good performer that is why the performance appraisal concept was introduced. It acts as a motivation for worker to improve his productivity. Evaluating an employee's performance and conducting appraisal is difficult for managers. To overcome such problem in organization we propose to make an application which evaluates the employee's performance based on the tasks assigned by the manager and performance appraisal will be calculated based on the peer review, HR review and leave record. The data related to each employee can be easily viewed just in one click. The application correctly and efficiently evaluates performance so that the employee study exactly how well he/she did during the previous months and can use that information to improve his/her performance in the future.**

keywords - **Performance Appraisal, Performance Evaluation, Human Resource Management.**
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I. INTRODUCTION

Performance appraisal (PA) also called as review, is the methodical evaluation of an employee performance and to figure out the capability of a person for further growth and development. It's the employees who help the organization with their efforts. Improving or upgrading an employee efficiency and performance therefore become major priorities. The rating scale is explicitly used in appraisal calculation in many organizations. The manager rates performance on a predefined range as: excellent, good, average, fair, and poor. Below the ranking method, each and every employee is collated with the other employees by the manager, rather than to a standard measurement. This introduces practical challenges to the review process e.g. unfair pre-defined ratings. Employee performance evaluation and appraisal calculation system is specially designed to remove all existing problems in ranking method. It includes personal information about an employee as well as crucial work-related data. The system is actually a suite of modules i.e. leave management, human resource management, feedback management and appraisal calculation module, etc. It also involves various job roles i.e. Employee, manager, HR and admin. The higher authority will allocate the task to their Employees. Employee can see their assigned task and the status of the task also previously assigned task. The system tracks the leave history of all employees and displays it to both employees and their manager. Human resource plays an important role in this system. HR is responsible to generate questionnaire specific to job profile and calculate the appraisal performance considering all the parameters. The System is set of modules developed using PHP. It is simple to understand, fast and can perform most of the operations of company.

A. PROBLEM STATEMENT:

Standard or Physical Handing of Employee data result in many challenges. In the organization, it is quite troublesome to identify what tasks are allocated to the employees, check whether he/she had accomplished the assigned task or not and so on. This situation is noticeable in procedures in particular leave management where a worker is need to fill a form which may take measurable time to certified. The use of paper work in handling some of these procedures could lead to human mistakes, might not have quick access to papers. Main issue with such paper work is that they are susceptible to misplacement and misfiling as well as time-consuming. One more problem is that most of the employees hate interviews on performance appraisal because of fear of criticism, fear related to changes in salaries, promotions, they worried about the outcomes of these interviews. Another issue is sometimes manager commit mistakes while assessing employees. Performance appraisal process may spoil due to biases and judgement errors. Some companies usually have different portals for project management and the timeline sheets for the productive management of the tasks allotted to the staff and leaves raised by them. Managing the work on different websites is inconvenient, so we came up with an idea of centralizing all the information spread over different websites. The above-mentioned problems can be resolved by designing use-friendly web-based system where on basis of time taken by individual to complete specific task the performance will be calculated, how well he is involved in the team, peer reviews and leaves requested by employee will be considered. By taking into consideration all these parameters the appraisal will be approved by the reporting authorities and finally a detailed report will be generated that will be available to the individual employee also the higher authorities.

B. SCOPE:

The employee appraisal calculation system is a distributed web-based system which has several modules and features. From feedback management module employee receives the feedback. Feedback can be given by team members as well as from manager. Another module is Leave management where employee can request for leaves by mentioning the reason behind it and number of

leaves also immediately notifies the respective manager about the leave. Employee can see what are the projects has been assigned and deadline of completion plus they can upload their project related documents. Managers can assign, remove, manage and track the tasks allotted to the employees. HR management where HR is mainly responsible to generate the questionnaire respective to the job roles and employee can be able to see the questionnaire once it has been activated by HR. Questions can be statically or dynamically created. Graphical representation of the report shows the gap between the real and predicted efforts. The information is updated in the system in real-time. Improved communication as employee can send and receive documents, status updates, and timelines.

II. LITERATURE SURVEY

- **Paper 1:** "Employee Performance Appraisal System based on Ranking and Reviews", Ashish Modi, Sharath Kumar j, Muralidhar (2017).

The algorithm in this paper helps to discover the best employees or the worthy candidates for appraisal. Decision tree method is used on the previous year data of employee performance. This data mining approach helps the institutes, companies, and anywhere, where the need of employee and this ranking and review technique will help to the manager to find best employees in minimal time when he has so many numbers of employee data or big dataset.

- **Paper 2:** "Tool Support for Effective Employee Performance Appraisal in Software Engineering Industry", Prashanth Prabaharan, Indika Perera(2017).

The result of this paper research introduces a toolkit. This tool broadly diminished the unfairness of the current rating system. The tool shows information about each person on their portal. Depends on performance criteria the index is calculated. The line graph is used to show the progress of the person so that he/she can easily self-examine it. This tool has limited functionalities.

- **Paper 3:** "Portraying an employee performance management system based on multi-criteria decision analysis and visual techniques", Vijay Edward Pereira, Alessio Ishizaka.

Aforementioned paper has introduced cross- curricular methods such as MCDA and different visual approaches. Such techniques are valuable for any performance related system which need to be translucent, truthful as well as analytical.
The management can quickly observe the employee skill structures and detects fine points with respect to individual's performance. The management can easily spot the candidate who is underperforming or performing well with the help of visual techniques. This research shows that it is easier for manager to understand the visual structures because they are hypothetically easier to understand. They have training activities to upgrade performance flaws.

III. PROPOSED SYSTEM

- **Aim:**

The primary aim of our project is to perform an appraisal calculation of an employee working in an organization based on his performance. The appraisal will be calculated based on peer reviews, manager reviews, some questions prepared by HR based on his project that he has been working on. This system will eliminate the fixed appraisal parameter and avoid the biasing that has been carried out in various organization. Work well Earn well that's our motto.

- **Objectives:**

1. To eliminate the manual appraisal calculation process
2. To avoid biasing in an organization
3. To help employee to move forward in right way in order to boost his/her career
4. To make sure each and every employee deserve the perfect amount of appraisal
5. Provide better understanding between employee and his organization
6. To calculate his/her performance
7. To make sure each and every employee should work well in order to gain a good appraisal
8. To have a good vibe while working in a team towards one another
9. Enhances a team to work together
10. Work well Earn well

IV. FEASIBILITY STUDY

The feasibility study of this project has revealed the project as follows:

A. Economic feasibility:

Economic feasibility satisfies by providing the fact that services are effectively and efficiently given to number of users in this project as well as can save substantial time along with money. The total cost that have required for building the project is less than the profit that project is going to provide once it is developed.

B. Behavioral feasibility:

The working staff members are also interested in this project, as it will help them to do work with ease and efficiently without complexity, so they supported the development of this project with full enthusiasm.

C. Technical feasibility:

Technical feasibility centers on the existing computer system (Hardware, Software etc.) and to what extent it supports the existing system. As the existing system computer system is viable.

D. Time feasibility:

It is the determination of whether a proposed project can be implemented fully within stipulated time frame. The project was decided to be done in three months and was thought to be feasible enough.

V. IMPLEMENTATION

The implementation of Employee Appraisal Calculation system has been divided into two parts. In first part, the actual working is described and in second part, the snapshots of the system with their description showing the implementation part in detail.

- **Working:**

The System includes mainly four job titles such as System admin, Manager, Employee and HR. There are different modules which comes under each job title. The entire process starts when an individual logged into the system. After successful login, each individual can be able to see his/her profile. Both admin and manager can add employees to different projects. After allocation of projects an individual will receive a notification about it on their profile page. Employee can then update the project status information i.e. pending or completed. According to our survey HR of the organization usually generates the appraisal report once in a year or after six months. In this system HR creates questionnaire for employees based on the assigned projects. Employee then fill the form, rate the other team members and give feedbacks. The manager then rates the employee and submit the form to HR. This system calculates the appraisal based on various parameters i.e. peer feedback and rating, manager rating, HR questionnaire, leaves raised by employee. Average of all the parameter is taken into consideration and final rating is calculated. If the final rating is less than 3 then salary hike will be 4%, if it is between 3-4 then hike will be 6% and if rating is 4 and above then 6%. Employee can view the progress report and, in the end, graphical representation of report will be generated.

- **Screenshots:**
1. **HR Home Page**

Fig 1:HR home page

The above image is the home page of HR person. Different modules are present on the left side of the page which includes project management, feedback, leave management, appraisal form, etc. HR's personal data is display on the dashboard which includes data related to projects, leaves, feedback. The home page is identical for the other job profiles.
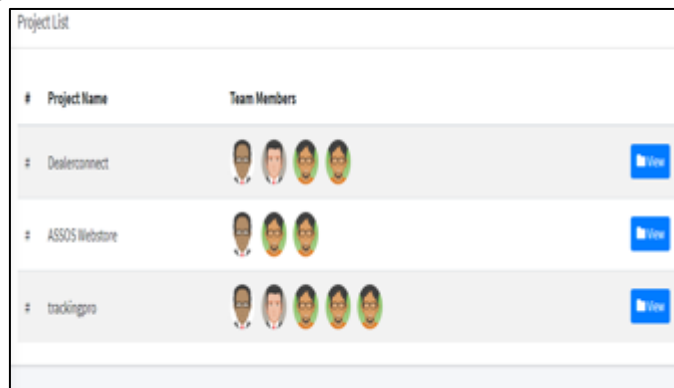
2. **Project Management**

Fig 2: Project management

The above image shows list of projects and allotted team members for it. Each person in a team can see data related to project on their home page plus upload project related documents. Senior manager can allocate projects.

3.   Leave management
3.1. Apply for leave

Fig 3.1: Apply for leave

The above picture is about the leave raised by an employee. Employee can precisely mention the purpose for which they are appealing to leave and number of leaves required.

3.2. Leave acceptance/rejection

Fig 3.2: Leave acceptance/rejection

Aforementioned image is from the manager's profile. Manager can only approve or reject the leave and status related to it will be updated in real time.

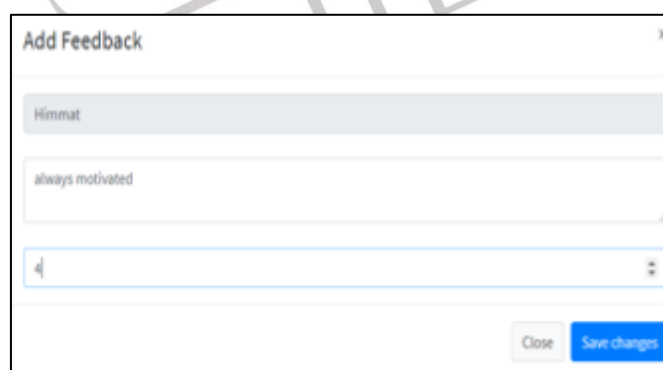### 4.   Feedback Management
4.1. Peer review

Fig 4.1:Peer review

The above image is related to peer feedback. Team members review each other and gives rating out of 5. Such output is then provided to HR for further calculations.

4.2. Feedback list

Fig 4.2: Feedback list

The feedback list includes the updated data related to individual which includes name of a person, their projects and rating values.
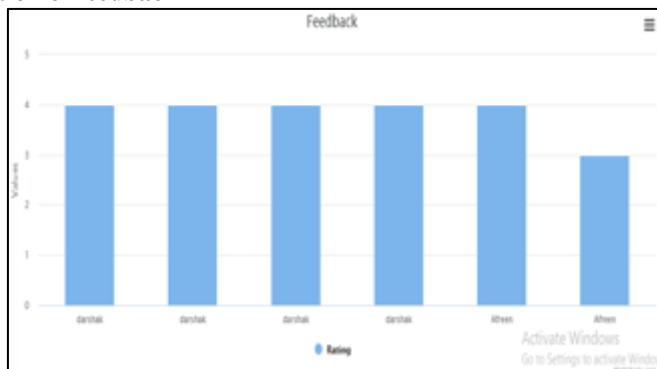
4.3. Graphical representation of feedback

Fig 4.3: Graphical representation of feedback

Graphical representation of performance feedback of various employees.

5. Appraisal Calculation
5.1. HR Questionnaire

Fig 5.1:HR Questionnaire

HR create questionnaire related to projects that has been completed. Questions can be statically or dynamically created.

5.2. Appraisal form

Fig 5.2: Appraisal form

A make it active button in above image is used to visible the appraisal form. Once it is visible, an individual can view the resultant form.

VI. CONCLUSION

Thus, in our system each and every employee working in an organization will gain the appraisal based on the performance he/she has given in the last one year. Biasing in an organization will be eliminated and Also our system acts as an intermediator connecting employees and higher authorities which provide a user-friendly environment and each and every employee will get an appraisal, he/she deserves. As a future work, some additional stuff could be implemented and integrated into the application code making it much more reliable and flexible; especially what concerns a pay-roll module, for instance.

VII. REFERENCES

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