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IT PROJECT DISTRIBUTION AUTOMATION

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Abstract: **This project works with the shortest path finding ant optimization algorithm. Using this apps manager efforts reduce to selecting the employee. We can implement this concept in large scale to reduce the time taken during the selection process. It is very hard to find the bug free selection of data from anonymous dataset. Using ant optimization we can find the lots of solution and the shortest path solution for the problem which going to take very less time to complete the problem. This project has the big scope to implement in selection arena. In project we can implement the chatting option for manager and employee to sharing their issue to resolve quickly and problem solving panel to everyone to reduce the time taken by the development. We will implement the star rating to the employee after completing project successfully, and it is very easy to find the employee of the month or year. We can generate the project list which completed on time.**

Keywords: Ant Colony Optimization, project distribution, Agent based data mining, Distributed data mining.

1. INTRODUCTION

Ant Colony Optimization (ACO), which studies artificial agent systems, takes inspiration from the foraging behavior of real world ants. Biologists noticed that blind ants can find the shortest path between food sources and their nests. Research also found out that ants deposit pheromone on the way while walking. The other ants can follow the previous pheromone by probability while passing by. The more the pheromone, the higher the probability with which the ants will follow. Because it takes less time for ants to find food and carry them back to the nests through the shortest path, after a long enough period of time, more ants will choose this shortest path and deposit pheromone on it. In this way, all eventually choose ants the shortest path. ACO is used to solve discrete optimization problems such as the Traveling Salesman Problem (TSP) and the Quadratic Assignment Problem (QAP). The first ant algorithm was introduced by Dorigo et al. in 1991 and was called the Ant System (AS) .

In this project we are working with three modules(Employee, Project and Manager) through swarm intelligence and ant colony optimization algorithm to find the perfect candidate based on nature of project or assignment. Swarm intelligence is the discipline that deals with natural and artificial system composed of individuals that coordinates using decentralized control and self-organized which communicate with each other through logic to reduce the human effort. It contain the specification of the employee like name, employee id, date of joining, date of birth, current technology, experience, previous experience, address, mobile number, email address. Project contain all the information about the latest project and classified the requirement of the project like technology, experience, project costing and project strength, days required for development and testing of the project, project maintenance and logic. Manager contains the list of employee and list of project. Manager has rights to open the project and approve the project requirement and employee knowledge.

The main novel idea of ants with evocation algorithm, to be discussed in the remainder of the paper, is the synergistic use of the previous best solution constructed by ants.

2. LITERATURE SURVEY

1. This paper develops a novel approach with an event-based scheduler (EBS) and an ant colony optimization (ACO) algorithm [1]. The proposed approach represents a plan by a task list and a planned employee allocation matrix. In this way, both the issues of task scheduling and employee allocation can be taken into account. In the EBS, the beginning time of the project, the time when resources are released from finished tasks, and the time when employees join or leave the project are regarded as events. The basic idea of the EBS is to adjust the allocation of employees at events and keep the allocation unchanged at nonevents

2.Ant colony optimization (ACO) is a population-based meta heuristic that can be used to find approximate solutions to difficult optimization problems [4]. In ACO, a set of software agents called artificial ants search for good solutions to a given optimization problem research into developing effective computer aided techniques for planning software projects is important and challenging for software engineering

3. SPSP is a problem of scheduling the task and employee. SPSP is a NP -hard (Non Polynomial) problem. SPSP is a problem which is related to RCPSP problem. For solving such problem number of model has been developed[3]. Number of Meta heuristic algorithm is also applied to solve such problem (e.g. GA). This paper presents the survey of method sand models that are put into the historical context[3]. SPSP split the task and distribute dedication of employee to task nodes. Author propose san ACO Meta heuristics approach to solve the SPSP problem

4. This paper proposes a cooperative continuous ant colony optimization (CCACO) algorithm and applies it to address the accuracy-oriented fuzzy systems(FSs)design problems[2]. All of the free parameter sin a zero-or first-order Takagi-Sugeno - Kang (TSK) FS are optimized through CCACO. The CCACO algorithm performs optimization through multiple ant colonies, where each ant colony is only responsible for optimizing the free parameter sin a single fuzzy rule. The ant colonies cooperate to design a complete FS, with a complete parameter solution vector (encoding a complete FS) that is formed by selecting a sub solution component (encoding a single fuzzy rule) from each colony. Sub solutions in each ant colony are evolved independently using a new continuous ant colony optimization algorithm.

5. Besides control performance an efficient usage of computation and communication resources is crucial[4]. This paper presents a novel event-based code sign concept for NECSs. The code sign concept involves a joint design of a control law, a scheduler, and an event generator. The control law serves for improving control performance the scheduler and the event generator for an efficient usage of the limited resources. The code sign problem is formulated as a line is matrix in equality (LMI) problem which can be solved efficiently.

3. BACKGROUND

This application is developed for employee sorting based on their knowledge, skill, experience and performance. This project assume to enhance with corporate company for the employee selection for many events festival without extra affords they need to fill the requirement for particular event. This project used to simplify the sorting through ant optimization.

This application performance depends on the number of employee and the condition of the selection and the project requirement. To application depends upon the device and android platform version and internet speed to transfer the data from server. Manager module can get data which is uploaded by the employee, which contains all information about the employees. Then Manager will create a new project and fill all the necessary things required by the project and application will automatically select the right person to the right job or project.

Employee can upload his profile details to application, then employee can get the auto generated alert to his / her account for selecting and rejecting option through application, means if employees are working on other tasks then he can reject or accept the project task.

Employee and manager will communicate with android application; manager will create the new project requirement. Project will display on employee interface, and then employee will check his/her task and conditions for the project. After that he will accept or decline the project. After accepting the task then accepted employees list will go to manager for the verification.

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4. SYSTEM ARCHITECTURE

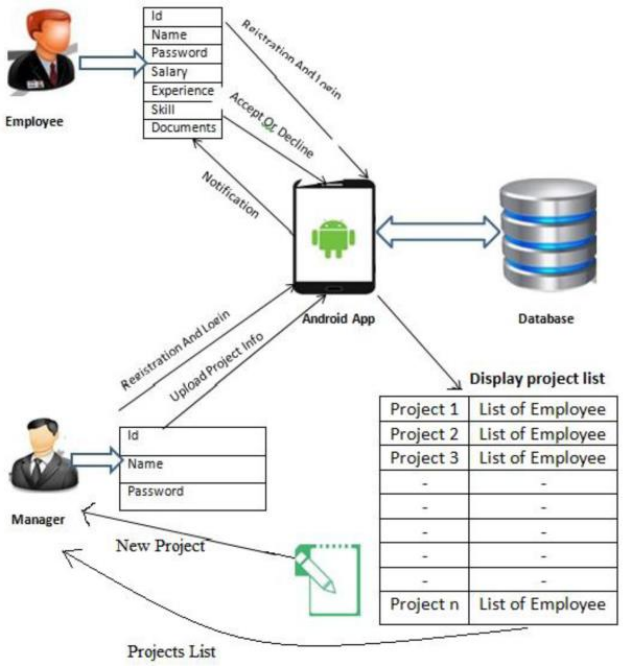

Fig: 4.1 (system Architecture)

Project having three major section employee, Project and Manager. Manager responsible for the project and employee management, employee responsible for time line and project This project will based on complete automation for employee as well as project through this manage have to check complete requirement and best employee for the particular work and whether the employee has knowledge or not .

Employee can change their profile by which manage can understand quickly for example if employee joined java classes an got certification on java then he will add java certification on their profile then manager if upload project based on java then apps automatically list that employee under java project this will help to everybody to complete project under time line and it enhance the quality of project by which client as well as employee will going to benefited and it will working on real time so whenever manage see the performance of particular employee he can see all the employee attributes and position of employee with respect to the current project .

To get data in android apps using database GSON and JSON are going to implement due to fast data retrieving and analysis of data.

5. MATHEMATICAL MODEL

Let S be the system consisting of the following:

S= {I, O, F, DD, NDD, Shared Memory}

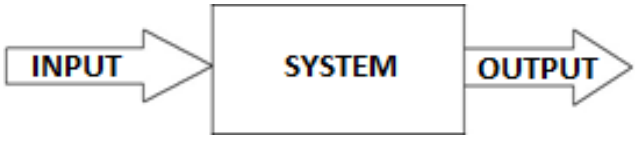

Fig: 5.1 (Mathematical Model)

Where,

I=List of inputs I= {I1, I2, I3, I4}

I1= {project registration}

Manager can register project for all based on condition where project p I2= {employee registration}

Employee can register where employee e I3= {uploading project requirement}

Project requirement for classification of project attributes I4= {employee detail}

Separate the employee base on classification and attributes values

O=Set Of Outputs

O= {O1, 02, 03, 04}

O1= {Career recommendation to the student}

Based on their performance it recommends the latest project. O2= {selected photograph and receipt}

Manager will review through images and document provided by the employee O3= {view and download homework and notices}

Manager and employees will download the information from apps O4= {acknowledge the leave note}

Employee can take leave through this apps F= Functions

F1: Experience ()

Experience function will count the working experience it will increment from previous experience + current experience.

F2: Quick Learning ()

Quick Learning function will check whether this guy's learning method or capability to adopt new technologies fast or slow.

F3: Project Requirement ()

This methods works under the manager module here manager will define the requirement of project base on clients requirement.

F4: List employee ()

Though this function program will get the number of active employee in this company and who is active with complete detail of each employee.

F5: Project List ()

Through this function we will get the current open projects for employees and detail requirement of project and name of the clients.

F6: Project Assign ()

Project assign function will decide the project requirement matches with employee requirement. DD: Deterministic Data

Employee profile, manager profile and project requirement.

NDD: Non Deterministic Data

Selected employee list will populated after matching with project requirement

6. ALGORITHM

Ant Colony Optimization

Step1:-Initialize the project requirement

Step2:-Application select the employees based on their qualification, technologies, experience from the Database

Step3:-Generate the list of employee based on project requirement

Step4:-Employees will get notification through application

Step5:-Employees will accept or decline the project then Manager will get the employees list

Step7:-Selected employees will get information of project in details

Step8:-If numbers of employees is not enough for project

Step9:-Go to step 3

Step10:-If requirement of project and number of employees is equal to selected employees then terminate.

Event-Based Scheduler

Step1:- Initialize the list employees

Step2:-If employees decline then application generate the list of decline employees

Step3:-Sorting the project keywords

Step4:-Check the employees profile for last rejection of project

Step5:-Time taken by the employee and extra time taken by the employee

Step6:-Extra time will added on the project completion time if not completed on time.

Step 7:- analysis the complete time of project development

7. RESULT ANALYSIS

This project can be implements on the so many fields like employee management, project management, ERP, student management, inventory management. It will helps to get all data in real-time on just fingertip by this user van get fresh data always through this user can modify the data and add based on transaction apps show the result and make life easy.

8. CONCLUSION

This project provides the complete automation during to distribution of project and its module to the perfect person by this nobody can blame to the authority and timeline never be dead because its algorithm developed to finding the employee based on their knowledge and previously completed jobs with performance based on speed. Our algorithm search many parameters by which program analysis the employee completed.

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