Research Article

Mobile Edge Computing Application in Enterprise Human Resource Management Platform Based on Task Scheduling Algorithm

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With the development of the social economy and the acceleration of economic globalization, human resources of enterprises have become an important factor restricting the development of enterprises. This paper creates an enterprise human resource management platform application based on twin network and mobile edge computing. By allocating computing and storage resources to the network edge close to users or data sources, mobile edge computing supports mobile to complete the computing offload of wireless access network applications. This process significantly reduces the end-to-end delay of the network and effectively reduces the processing load of the core network and data center. The simulation results can see that the average user benefit of all algorithms increases with the increase of network transmission speed and VCPU processing power. In addition to the introduction and popularization of information technology, the construction of enterprise human resources informatization also requires continuous and comprehensive monitoring and analysis of existing internal data, information, and data. The use of network communication technology to build a management information system, through information management, can significantly optimize and improve the efficiency of enterprise human resource management.

1. Introduction

The research object of this paper is a relatively large enterprise group. In recent years, the number and scale of enterprise subsidiaries have increased year by year; enterprise personnel have gradually increased; and there are more daily management work, which makes the management more difficult, and the problems have increased. The first is the poor interoperability of personnel information and data between the head office and its subsidiaries. The second is the high personnel cost, large investment in personnel departments, and low efficiency. Combined with the above aspects, the enterprise human resource management platform platform investigated in this paper is based on the enterprise human resource management needs and the design ideas and application conditions of the application of the existing domestic human resource management platform [1]. In this paper, we will consider the structure of an enterprise human resource management platform based on a twin network, which is system engineering with a large project investment. Moving edge computing, a relatively mature computing technology at home and abroad, is also used to ensure the progress and integrity of the design. Task scheduling and resource management are two key factors to be considered in the decision-making process of MEC unloading. On the one hand, the MEC environment is essentially a decentralized heterogeneous parallel computing environment. Only by properly planning tasks can we make full use of the performance advantages of the computing environment. When considering the dynamic changes in the network environment, you should also make planning decisions about when to uninstall tasks. On the other hand, the resources at the edge of the network are limited, so we should appropriately allocate the full potential of these resources so that they can give full play to their greatest advantages and improve their efficiency as much as possible. When there are a large number of users, you should also decide whether to allow them to uninstall (i.e., make permission decisions) to avoid
excessive resource contention. In this context, this paper focuses on graph-oriented task unloading planning, dynamic task unloading planning for complex task queues, and access decision and resource allocation considering user mobility from the perspective of users; considers the impact of various application unloading models in static and dynamic environments; and considers optimizing MEC computing unloading planning and resource management strategy to ensure the stable and continuous operation of the group management platform, so as to protect the existing investment. This design also considers the development trend of existing technology so that the enterprise’s human resources platform can adapt to future technological development and changes and better solve the technical problems caused by the upgrading of the enterprise’s human resources platform. In the process of realizing the enterprise human resources management platform to meet the relevant business needs of the enterprise human resources department to the greatest extent, the main principle of the platform is practicality, and the main goal of the platform construction is to find and timely deal with the problems related to personnel and human resources management.

Some research introduces an algorithm for predicting the appearance characteristics of moving targets. The algorithm uses memory-enhanced convolution long- and short-term memory networks to predict the changes in the appearance characteristics of targets and estimate the appearance characteristics of future targets. The tracker uses occlusion simulation to improve training and manage historical information to model the long sequence of dynamically changing targets and reliably predict the characteristics of the next frame [2]. This paper introduces the combination of kernel density feature map and edge detection algorithm, automatically generates ternary map to extract target contour information, and regenerates the tracking results according to the contour boundary. The literature introduces the use and application of personnel management platforms. The robust twin network tracking algorithm is introduced in the literature, which solves the problems of target scaling in the tracking process and makes the tracking algorithm more robust [3]. The literature introduces the generated image kernel density response diagram, which displays the weight of each pixel in the image.

### 2. Research on Target Tracking and Mobile Edge Computing Resource Management Optimization in Twin Networks

#### 2.1. Target Tracking Algorithm Based on Twin Network

##### 2.1.1. Target Relocation Algorithm. In this paper, we will use the target color function to represent the target model. In order to reduce the amount of calculation, only m color intervals need to be selected from the histogram of the target image. The target model can be derived using the following equation:

\[ Q = \{ q_k, k = 1, 2 \ldots m \}. \]  

(1)

Calculate the probability density of the color interval as follows:

\[ q_k = \frac{C}{\sum_{i=1}^{n} K_E(x_i)}, \]  

(2)

where \( K_E \) is the kernel function of Epanechnikov. Since \( q_k \) needs to be normalized, \( C \) is expressed as follows:

\[ C = \frac{1}{\max_{0 \leq i \leq n} K_E(x_i)} \]  

(3)

The foreground area is close to the center of the target; the background pixels are few; the background area contains the entire target; and most of the background area is not in the target area. Definitions \( x_f \) and \( x_b \) represent pixels in the foreground area \( F \) and background area \( B \), respectively, and their distribution probabilities in the histogram of the area are defined as \( q^f \) and \( q^b \). The probability that a pixel belongs to the foreground area can be estimated as follows:

\[ p(F \mid x) = q^f(x) \frac{p^f(x)}{p^f(x) + p^b(x)} \]  

(4)

Now, we need to find the probability that pixels above \( q_k \) belong to the foreground area. Define the probability density of each interval in the foreground target histogram as \( q^f \), and \( q^b \) as the background target interval model. The foreground probability model can be calculated using equation (4):

\[ Q^* = \left\{ \frac{q^f_k}{q^b_k}, k = 1, 2 \ldots m \right\}. \]  

(5)

According to equation (5), \( Q^* \) intuitively shows that if \( q^f_k \) is greater than \( q^b_k \), the calculation result is greater than 1. If \( q^f_k \) is less than or equal to \( q^b_k \), the calculation result is also less than or equal to 1. Finally, \( Q^* \) must be normalized as follows:

\[ Q^\text{norm} = \text{Normalize} \ (Q^*). \]  

(6)

\( w \) is defined to represent the weight of each pixel obtained from \( Q^\text{norm} \). The sum of the weights of all pixels in the image is calculated as follows:

\[ m = \sum_{i=1}^{n} \frac{w_i}{-\ln(w_i)}. \]  

(7)

In order to reduce the influence of images of different scales on the weights, we need to calculate the average weight of \( m \). The record is as follows:

\[ \bar{m} = \frac{1}{n} \sum_{i=1}^{n} \frac{w_i}{-\ln(w_i)}. \]  

(8)

For two photos \( a \) and \( b \), their average weights are represented by the average of \( m_a \) and the average of \( m_b \), respectively, and the similarity between the two is calculated using the Bhattacharyya distance as follows:

\[ d_{ab} = \sqrt{\bar{m}_a \cdot \bar{m}_b}. \]  

(9)
2.1.2. Target Positioning Realization Framework. In most cases, the target will not be deformed in actual tracking, so the process of combining the tracking algorithm with the target appearance prediction can sufficiently reduce the appearance prediction part of the target. This section proposes a dual neural network tracking algorithm that will determine the deformation of the target and predict the appearance of the target. The specific framework is shown in Figure 1.

Among them, the tracking part is based on the algorithm structure of SiamRPN++; the input is the original target template and $t + 1$ image; and the output of the tracking part is the detection frame information and the pattern similarity value [4]. The decision-making module must be based on the detection at $t + 1$. The similarity score between the target and the original template is used to determine the state of the target. If the target has a deformation problem, the ConvLSTM network is used to predict the appearance change of the target during the deformation process. At the same time, an external memory is needed to store the target images captured from $t - n$ to $t$, and input them into ConvLSTM as the preorder sequence for predicting the appearance of the target [5]. Finally, the predicted target feature is retrieved as an auxiliary template and re-entered into the twin network to calculate the new tracking result.

2.1.3. Research on Robust Optimization of Target Tracking Algorithm. Taking into account the various environmental interference factors encountered in the process of target positioning, this section combines the tracking displacement, target feature prediction, and tracking frame optimization methods proposed in this section to propose a robust tracking algorithm based on dual neural networks [6]. The algorithm shown in Figure 2 is divided into three main parts: the tracking part, the mixed decision part, and the tracking frame optimization part. The algorithm solves the inaccurate tracking performance of the traditional twin network tracking algorithm due to video jitter, blur, occlusion, fast movement, deformation, overscaling, and so on. from various angles and improves the robustness of the twin network tracking algorithm.

2.2. Key Technologies of Task Scheduling in Mobile Edge Computing

2.2.1. Task Scheduling Model. Assuming that the uplink rate from MD to MS is $R_{d}^{i}$ (bit/s), the time $T_{i}^{u}$ required for $v_{i}$ to upload data can be expressed as follows:

$$ T_{i}^{u} = \frac{D_{i}^{in}}{R_{d}^{i}}. \quad (10) $$

In the edge execution stage, $C_{i}$ CPU cycles run on the VM of the MS. The total clock frequency of the virtual CPU (VCPU) allocated by the MS to the user is denoted by $F$. Multiple physical CPUs on the MS can provide the total clock frequency. The next step is the time required by $v_{i}$ at this stage.

2.2.2. Target Positioning Realization Framework. In most cases, the target will not be deformed in actual tracking, so the process of combining the tracking algorithm with the target appearance prediction can sufficiently reduce the appearance prediction part of the target. This section proposes a dual neural network tracking algorithm that will determine the deformation of the target and predict the appearance of the target. The specific framework is shown in Figure 1.

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The revolving phase of the result is similar to the task sending phase, and the revolving time can be expressed as follows:

$$ T_{i}^{d} = \frac{D_{i}^{out}}{R_{d}^{i}}. \quad (12) $$

The energy consumption for unloading required by $v_{i}$ is

$$ E_{i}^{u} = P_{i}^{d} T_{i}^{d} + P_{i}^{x} T_{i}^{d}. \quad (13) $$

The local execution time $T_{i}^{l}$ can be expressed as follows:

$$ T_{i}^{l} = \frac{C_{i}}{F^{l}}. \quad (14) $$

$F^{l}$ is the clock frequency of the CPU on the MD, allowing $P^{l}$ to specify the CPU performance on the MD, which is widely used as a superlinear function of the CPU frequency $F^{l}$, namely

$$ P^{l} = \xi \cdot (F^{l})^{y}. \quad (15) $$

The energy consumption of scheduling $v_{i}$ for local execution is

$$ E_{i}^{l} = P^{l} T_{i}^{l} = \xi \cdot (F^{l})^{y-1} C_{i}. \quad (16) $$

Assuming that $v_{i}$ is to be executed locally, the preparation time for local execution of the task (i.e., the earliest time that the local CPU can execute the task) is defined as follows:

$$ RT_{i}^{l} = \max_{v_{j} \in \text{pred}(v_{i})} \max \left\{ FT_{i}^{l}, FT_{j}^{d} \right\}. \quad (17) $$

The completion time of its local execution is

$$ FT_{i}^{l} = ST_{i}^{l} + T_{i}^{l}. \quad (18) $$

Assuming that $v_{i}$ is scheduled to run remotely, define the standby and startup time of $v_{i}$ in these three stages, corresponding to the three stages of remote execution tasks. The waiting time for sending task $v_{i}$ is defined as follows:

$$ RT_{i}^{sd} = \max_{v_{j} \in \text{pred}(v_{i})} \max \left\{ FT_{i}^{sd}, FT_{j}^{d} \right\}, \quad (19) $$

where $v_{i}$ is the sending end time:

$$ FT_{i}^{e} = ST_{i}^{sd} + T_{i}^{d}. \quad (20) $$

The preparation time $RT_{i}^{e}$ for executing task $v_{i}$ on the VM can be expressed as follows:

$$ RT_{i}^{e} = \max \left\{ FT_{i}^{d}, \max_{v_{j} \in \text{pred}(v_{i})} FT_{j}^{e} \right\}, \quad (21) $$

$$ FT_{i}^{e} = ST_{i}^{e} + T_{i}^{e}. $$

When task $v_{i}$ finishes execution (at time $FT_{i}^{e}$), $v_{i}$ enters the ready state for return, namely
2.2.2. Task Unloading Scheduling Scheme. The DAG task uses the execution mode to determine whether the task is executed locally or in a remote location. The scheduling priority determines the order in which tasks scheduled on the same processor should follow. The priority relationship between tasks in DAG application $G$ is represented by the task sequence, called priority sequence, which is described as follows:

$$Q^G = (k_1, k_2, \ldots, k_{\nu_1}).$$

(23)

If Topology ($G$) is the set of all topology types of $G$, then $Q^G$ must satisfy

$$Q^G \in \text{Topology} (G),$$

$$A^G = (a_1, a_2, \ldots, a_{\nu_1}).$$

(24)

2.3. Network Performance Simulation Experiment Results and Analysis. Based on the purpose of MLO offloading scheduling, in a standard simulation environment, for different task sizes (i.e., $N$), the average DAG offloading planning delay of each offloading algorithm is compared. The experimental results are shown in Table 1. The result corresponding to ES is the optimal solution.

In addition, based on the purpose of MLO, the next step is to retrain the offload scheduling strategy of DRLOSM in different environments and evaluate the impact of different environments on the performance of all algorithms. To obtain the best reference solution for the experiment, the size of the DAG node is limited to 15 (too complicated for the time required by the exhaustive method) [7]. Figures 3 and 4, respectively, show the average DAG offload scheduling delay of each algorithm in the test set at different network transmission rates and different overall VCPU clock frequencies (allocated by MS; the rest of the parameters are default values). It can be seen that with the increase in network transmission speed and VCPU processing capacity, the offload scheduling delay of all algorithms is decreasing, except for LE, which does not perform task offload at all. For the purpose of MLO, the HEFT algorithm developed specifically for DAG scheduling delay works well. In most cases, its performance is better than some other basic algorithms. It is worth noting that if the network environment is very good and the VCPU is powerful enough, then offloading all tasks is also a good choice.

Figure 4 shows the average offload scheduling delay at various total VCPU frequencies based on MLO purposes.

Then, based on the goal of MUO, the offloading scheduling strategy of DRLOSM is retrained in a standard
The experimental results are shown in Table 2.

Figure 5 shows the average user utility of each algorithm under the purpose of MUO. The average user utility of all algorithms increase with the increase in network transmission speed and VCPU processing power.

### Table 1: Average DAG offload scheduling delay of each algorithm under MLO purpose (milliseconds).

| Number of nodes | ES   | LE   | OE   | RS   | RR   | HEFT | DRLOSM |
|-----------------|------|------|------|------|------|------|--------|
| 10              | 476.4| 723.0| 610.6| 612.6| 605.2| 514.5| 489.7  |
| 15              | 643.6| 1,053.5| 870.1| 862.1| 832.5| 719.6| 660.6  |
| 20              | 826.1| 1,394.5| 1,160.1| 1,080.1| 1,068.1| 925.4| 852.4  |
| 25              | N/A  | 1,796.0| 1,428.8| 1,370.1| 1,313.3| 1,145.5| 1,017.5 |
| 30              | N/A  | 2,154.6| 1,736.4| 1,648.7| 1,591.8| 1,399.1| 1,236.4 |
| 35              | N/A  | 2,463.6| 1,973.5| 1,958.1| 1,907.7| 1,665.4| 1,468.5 |
| 40              | N/A  | 2,910.4| 2,414.7| 2,192.0| 2,114.1| 1,864.4| 1,679.7 |
| 45              | N/A  | 3,182.0| 2,480.5| 2,271.9| 2,187.5| 1,955.5| 1,678.6 |
| 50              | N/A  | 3,663.1| 3,118.0| 2,725.2| 2,572.7| 2,287.6| 2,082.5 |

### Table 2: The average user utility of each algorithm under the purpose of MUO.

| Number of nodes | ES   | LE   | OE   | RS   | RR   | HEFT | DRLOSM |
|-----------------|------|------|------|------|------|------|--------|
| 10              | 0.4565| 0    | 0.4389| 0.2414| 0.2627| 0.2455| 0.4511  |
| 15              | 0.4691| 0.4450| 0.2571| 0.2891| 0.2905| 0.4625| 0.4786  |
| 20              | 0.4809| 0.4505| 0.2884| 0.3004| 0.3044| 0.4746| 0.4786  |
| 25              | N/A  | 0.4660| 0.2966| 0.3243| 0.3160| 0.4786| 0.4786  |
| 30              | N/A  | 0.4638| 0.2936| 0.3148| 0.3044| 0.4746| 0.4786  |
| 35              | N/A  | 0.4665| 0.2944| 0.3006| 0.2851| 0.4760| 0.4786  |
| 40              | N/A  | 0.4514| 0.3051| 0.3232| 0.3168| 0.4865| 0.4786  |
| 45              | N/A  | 0.4735| 0.3218| 0.3391| 0.3320| 0.4865| 0.4786  |
| 50              | N/A  | 0.4425| 0.3034| 0.3330| 0.3260| 0.4580| 0.4786  |

Figure 3: Average offload scheduling delay under different network rates based on MLO purposes.

Figure 4: Average offload scheduling delay under different total frequencies of VCPU based on MLO purpose.

Simulation environment and re-compared with the above-mentioned six basic algorithms. The experimental results are shown in Table 2.

Figure 5 shows the average user effect of each algorithm in the test set under different network transmission rates and different overall VCPU clock frequencies (other parameters are default values). It can be seen that the average user benefits of all algorithms increase with the increase in network transmission speed and VCPU processing power.

### 3. Design and Implementation of Enterprise Human Resource Management Platform under the Background of the Internet

#### 3.1. System Architecture Design of Enterprise Human Resource Management Platform

#### 3.1.1. System Infrastructure. Figure 6 shows the logical structure of the enterprise human resource management platform.
3.1.2. Platform Safety Management System. The security system of the human resource management platform includes a variety of security protection methods. However, in the actual implementation of security protection, it is not that the more advanced the technical means, the more reasonable and safer the enterprise human resource management system will be. As with any system construction, the economic capacity, rationality, and feasibility of the system need to be considered. When implementing a security protection system, it is necessary to find a balance between investment and profit and implement system security protection in stages.

Figure 7 is the security system diagram of the enterprise human resource management platform.

(1) System security

(a) Access management: According to the enterprise’s access control requirements for application characteristics and data resources, the system must provide access management based on visitor role access control.

(b) Identity authentication: Ensure that the identity authentication of system users is safe and effective and carefully consider the security authentication mechanism in the enterprise. Combined with this, the security requirements of identity authentication are guaranteed.

(c) Session security: Web applications are based on the HTTP protocol. Due to its unique stateless and connectionless characteristics, the application must maintain the state of all user sessions. The session processing mechanism for securely tracking and managing authenticated users is the same as the security authentication process, which is very important for the overall security of web applications.

(d) Encryption processing: Encryption processing is an important means and method to control application security. The encryption method used by the system to store, send, and process data needs to be clear.

(2) Data security

(a) User account encryption: Encrypt the user account password so that the plaintext of the password does not appear anywhere. The system encrypts the user password with MD5 to prevent the password from appearing in clear text.

(b) Roles and permissions: Strictly control the permissions of ordinary users and do not grant permissions that should not be granted to the user. Depending on how the client is used, role permissions must be assigned accordingly. Appropriate permissions are granted according to different operations of users on data; the database audit mechanism provides monitoring of data access and system resource utilization in the database. These role and permission control strategies can effectively prevent illegal users from interacting with the database, prevent legal users from interacting with the database, and maximize the security of data.

(3) Storage backup and recovery

If necessary, Oracle logical or physical backups can be used to protect data as much as possible.

(a) Logical backup: The logical backup of the database is divided into two parts, reading database entries and writing files.

(b) Physical backup: Physical backup is only the file information allocated to the database, and the parameter setting information and logical information in the database are not included in the scope. Oracle supports two different types of physical file backups, offline backups and online backups.

(c) Offline backup: Offline backup is used to back up each data file after successfully shutting down the database.

(d) Online backup: Online backup can be used to back up databases running in archivelog mode. In this way, the online log is archived and a complete record of all operations in the database is created.

The online backup process requires specific steps. First, it provides a full point in time recovery and then keeps the database open when backing up the file system.
The implementation strategies include the following. Multiple server policies can be used to back up data on another server. The backup data file must match the parameter settings of the database, such as table structure and other information. If you need to recover data unexpectedly, the data recovery process can be completed with only a few changes.

Data files, log information, and control file information are backed up online regularly, and the database server exports them regularly once a week.

3.2. Database Design of Enterprise Human Resource Management Platform. Database design is a very important work in system development, which is directly related to the efficiency, performance, and security of system operation [8]. The enterprise human resource management platform includes different types of data, massive data, complex data description, and data processing. Providing a database that can meet the system objectives and effectively store and manage data is the key to building the system.

The main database tables and contents of the Oracle 10g database used in this system are as follows.

The summary of the enterprise HR management platform is shown in Table 3.

The name of the employee work stage evaluation table is T_OA_JOBEVALUATION, and the fields in the table are shown in Table 4.

The name of the vacation record table is TOA_LEAVE, and some fields are listed in Table 5.

3.3. Guarantee Measures for the Implementation of Enterprise Human Resource Management Strategy. Based on the description of the weak human base and framework conditions of enterprises in the current new era, we first pay attention to the internal talent development and incentive mechanism, especially the technology implementation and training [9]. We need to observe and create a good supporting and auxiliary environment for relevant external talents and career development and eliminate all bottlenecks and restrictive factors that hinder talents from entering the company, deeply implement the spirit of the Central Committee’s opinions on deepening the reform of talent development system and other documents, build and establish a modern personnel system in line with the spirit of the times with market and competitiveness, and improve the recruitment, training, evaluation, flow, and incentive mechanism of talents.

Secondly, the times are advancing. At present, a company has room for improvement in some business or service innovations [10, 11]. For the establishment and development of innovative enterprises, based on innovation systems, equipment and facilities, talents, and relevant incentive mechanisms, it is necessary to formulate long-term plans to provide a good foundation for innovation and growth. Through regular training courses, we will promote and innovate an innovative corporate governance culture that meets the needs of the development of the market economy. In essence, promoting such an invisible code of conduct not only can actively promote the growth of the company but also can promote the long-term development of the company [12]. When discussing the maintenance and construction of corporate culture, enterprise leaders need to pay attention to the following basic requirements: first, corporate culture must deeply reflect the correct core values [13]. Corporate culture plays an important role in the orderly development of various production and operation activities and the establishment of market rules. Secondly, corporate culture should deeply reflect the unique temperament of the enterprise. Corporate culture is unique and intangible, but it is a very valuable asset [14]. Finally, corporate culture must be able to reflect a specific cultural vitality and vitality. Enterprise is the matrix of the corporate culture. They grow together, influence, and promote each other.

The survival and development of an enterprise depend directly on the comprehensive quality of its managers to a great extent. For enterprises, it is necessary to establish a good management team for large talent companies to implement all talent management and implementation [15]. Therefore, through the enterprise development strategy and the actual work of the enterprise, the enterprise needs to actively cooperate with the implementation of the quality improvement plan of human resources managers and establish and support the enterprise to form a professional large-scale human resources management department, which can be divided into two methods. One of them is the company’s direct recruitment [16]. Through the selection of
enterprise recruiters, headhunting recruitment, and recommendation, the management team talents of excellent large-scale human resources companies can directly join the company’s management team from the department [17].

This is the most direct process and the most effective management method. Another method is to tap the potential internally. The selection and training within the enterprise improve the skills and quality of the existing employees of the company, so as to achieve the goal of further developing the employee structure. Although this type of management cost is low, the speed is slow, and there may be a significant delay, which requires enterprise decision-makers to make strategic decisions [18, 19].

In addition, entrepreneurs need to change their way of thinking and concepts, more recognize the special importance of human resources department management, strengthen the organizational leadership of relevant human resources departments, and coordinate various functions so that all aspects of organizations and plans can get the support of the whole society. At the same time, promoting the construction of a sound human resources management system to the enterprise strategic level and improving the

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Table 3: Summary of enterprise HR management platform.

| Table name | Function description |
|------------|----------------------|
| T_PERSONNEL_CONFIG | Personnel information query configuration table |
| T_PERSONNEL_DEAD | Death |
| T_PERSONNEL_INVITE | Recruitment |
| T_PERSONNEL_MEMBERS | Personnel information |
| T_PERSONNEL_MOVE | Manpower shuffling |
| T_PERSONNEL_APPROVEDPEOPLE | City planning office approved the number of people |
| TPERSONNEL_MEMBERS_RATIO | Personnel information comparison table |
| T_PERSONNEL_APPOINTD (_PROC) | Personnel appointment and dismissal solicitation form |
| T_PERSONNEL_ATTRITION (_PROC) | Attrition review form |
| T_PERSONNEL_ATTRITIONPROC | Attrition information table |
| T_PERSONNEL_GOABROADOB (_PROC) | Examination form for going abroad on business |

Table 4: Periodic work assessment form for employees.

| Listing | Data type | Length | Decimal places | Identification | Primary key | Allow empty | Defaults | Instruction |
|---------|-----------|--------|----------------|----------------|-------------|-------------|----------|-------------|
| RECORDID | VARCHAR2 | 9      | —              | —              | Yes         | No          | —        | Employee work appraisal ID |
| CREATEUSERID | VARCHAR2 | 9      | —              | —              | Yes         | —           | —        | Creator ID |
| CREATEMEMBERNAME | VARCHAR2 | 21     | —              | —              | Yes         | —           | —        | Creator name |
| CREATEDEPTID | VARCHAR2 | 9      | —              | —              | Yes         | —           | —        | Creator department ID |
| CREATEDEPTNAME | VARCHAR2 | 21     | —              | —              | Yes         | —           | —        | Creator department name |
| CREATETIME | DATE     | 8      | —              | —              | Yes         | —           | —        | Creation time |
| UPDATETIME | DATE     | 8      | —              | —              | Yes         | —           | —        | Last update time |
| OFFICESOPINION | VARCHAR2 | 501    | —              | —              | Yes         | —           | —        | Personnel department review |

Table 5: Leave record form.

| Listing | Data type | Length | Decimal places | Identification | Primary key | Allow empty | Defaults | Instruction |
|---------|-----------|--------|----------------|----------------|-------------|-------------|----------|-------------|
| RECORDID | VARCHAR2 | 9      | —              | —              | Yes         | No          | —        | Record ID |
| CREATEUSERID | VARCHAR2 | 9      | —              | —              | Yes         | —           | —        | Creator ID |
| CREATEMEMBERNAME | VARCHAR2 | 21     | —              | —              | Yes         | —           | —        | Create name |
| CREATEDEPTID | VARCHAR2 | 9      | —              | —              | Yes         | —           | —        | Create department ID |
| CREATEDEPTNAME | VARCHAR2 | 21     | —              | —              | Yes         | —           | —        | Create department name |
| APPLYREASON | VARCHAR2 | 101    | —              | —              | Yes         | —           | —        | Reason for leave |
| STARTTIME | DATE     | 8      | —              | —              | Yes         | —           | —        | Leave start time |
| ENDTIME | DATE     | 8      | —              | —              | Yes         | —           | —        | Leave end time |
| LEAVEDAYS | NUMBER   | —      | —              | —              | Yes         | —           | —        | Days off |
overall quality level of human resources are two of the strategic objectives of building a high-quality human resources department, so as to lay the foundation for building a high-quality human resources management department.

In order to support the company’s personnel development, an internal coordination and cooperation mechanism has been established to further strengthen the publicity and promotion of the company’s human resources strategic plan within the company so that all functional departments and all employees understand, recognize, and understand the importance of the company’s human resources strategic plan and strategic plan. At the same time, establish a reasonable working system and mechanism to provide an institutional guarantee for the smooth implementation of strategic labor planning. In all the processes of human resources strategic planning and implementation, it enables unlimited cooperation between all departments and industries. At the same time, it is necessary to establish a reasonable resource allocation and mechanism to realize the sharing of resources and information between different functional departments and ensure the smooth and effective implementation of strategic planning.

Strengthen management participation. During the implementation of the strategy, the support and recognition of the company’s internal management provide a good foundation and guarantee for the implementation of the talent strategic plan at the management, resource, and system levels. When implementing the company’s human resources strategy, the cooperation between departments will inevitably bring problems. Relevant executives need to clarify the core content of personnel strategy implementation and effectively promote the sustainability of the strategy through participation in management. Some human resource management, such as detailed incentives and training, clearly require human and other resources. Some companies and management need to pay attention to the resource investment and have a solid foundation for implementing a human resource management strategy.

In addition to the introduction and popularization of information technology, the construction of enterprise human informatization also needs to continuously and comprehensively monitor and analyze the existing internal data, information, and data. For example, establish performance systems for employees in different departments of the company, use performance indicators to form employee performance information management, establish personnel cost information system, and monitor specific cost indicators such as recruitment cost and labor cost of the company. Use the information system to enable the relevant data in the process of enterprise talent management to continuously and comprehensively analyze and apply the indicators.

Considering the current overall development of the company and the scale of employees, it is difficult to rely on the internal personnel department as the overall responsibility of the personnel strategy in terms of the number and professional scope of the management department. It is very limited, which inevitably affects the efficiency of the company’s overall human resource management. Therefore, we can give priority to making full use of external third-party specialized agencies to provide support and services for business personnel management and promote the improvement of resource utilization efficiency with the help of outsourcing of large-scale business enterprises.

Important work contents that do not include corporate culture or confidentiality, such as service delivery, can be regarded as part of the company’s existing human resource management contents and strategy implementation. Institutions in various business areas are required to fully improve their professional level, retain sufficient practice and energy in the design and implementation of internal management strategy, and ensure the scientficity and coordination of enterprise personnel management strategy. Before cooperating with external service institutions, the company conducted scientific and complete preliminary research and investigation on the scope, organizational structure, and current overall operation and development of external service institutions through objective analysis. Therefore, the selection of appropriate institutions can be determined according to the evaluation and comparison of institutional performance. In addition, firstly, according to the internal workload and work content of the company, the hierarchical structure of the company’s personnel outsourcing services should be carried out, then the work allocation and outsourcing agreement should be clarified, and the service outsourcing plan should be formulated, which can reasonably improve the efficiency of resource utilization.

4. Conclusion

The task of designing and implementing an enterprise human resource management platform in this paper is huge. The human resource department plays a very important role in this development. The human resource management platform of an enterprise makes use of today’s relatively mature computer technology and the needs of human resource management to create a business system that can be integrated with the business field of the enterprise. This paper mainly focuses on the relatively low level of data interaction between the enterprise headquarters and its subsidiaries and the low efficiency of traditional human resource management and describes the design and implementation of the enterprise human resource management platform, which combines the existing hardware and software with the existing human resource management platform; based on the actual situation of twin network and mobile edge computing, we build an enterprise human resource management platform.

Data Availability

The data used to support the findings of this study are available from the corresponding author upon request.

Conflicts of Interest

The authors declare that they have no conflicts of interest.
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