Intelligent human resources management system requirements

Functional Requirements

1. **User Registration and Management**

   - The system shall allow administrators to register new employees by capturing their photographs and data to store them in the database.

   - The system shall provide functionalities to update or delete employee information and photographs.

2. **Attendance Marking**

   - The system shall identify and authenticate employees using facial recognition technology.

   - The system shall mark the attendance of the employee once authenticated.

   - The system shall record the time and date of attendance.

3. **User Authentication**

   - The system shall allow admin and HR to sign in and sign up.

   - The system shall authenticate administrators before allowing access to the application.

4. **Reports and Plots Generation**

   - The system shall generate daily, weekly, and monthly attendance reports.

   - The system shall allow exporting reports in various formats (e.g., PDF, Excel).

   - The system shall use payroll data to create reports for tax purposes, financial analysis, and compliance.

5. **Real-time Notifications**

   - The system shall send real-time notifications to administrators if any unauthorized person attempts to gain access.

   - The system shall notify employees of their successful attendance marking (with audio like hello employee name^^, or type name on screen).

6. Payroll

   - **The system shall calculating paychecks:** Based on hourly rates, salaries, commissions, or other compensation structures.

   - **The system shall consider withholding taxes,** Federal, state, local, Social Security, and Medicare taxes are calculated and deducted.

   - **The system shall track hours worked** For hourly employees, time and attendance data is recorded and processed.

   - **The system shall manage deductions o**ther deductions like health insurance, retirement contributions, and garnishments are handled.

   - **The system shall consider payments** paychecks are distributed through direct deposit, paper checks, or other methods.

7. Expense Management

   - The system shall facilitate the vacations and employee requirements from the admin by telling the HR and the system will provide the contact.

8. **User Interface**

   - The system shall provide a user-friendly interface for administrators.

   - The system shall display real-time attendance status on a dashboard.

Non-Functional Requirements

1. **Performance**

   - The system shall process and recognize faces within 2 seconds.

   - The system shall handle up to 100 concurrent user recognitions without performance degradation.

2. **Scalability**

- The system shall be scalable to accommodate the growing number of employees.

3. **Accuracy**

- The system shall achieve at least 99% accuracy in facial recognition to minimize false positives and negatives.

4. **Security**

- The system shall ensure that all data (including images and personal information) is stored securely and encrypted.

- The system shall comply with data protection regulations (e.g., GDPR).

5. **Availability**

- The system shall be available 99.9% of the time.

- The system shall include failover mechanisms to ensure continuous operation.

6. **Usability**

- The system shall have an intuitive interface that requires minimal training for administrators.

- The system shall provide help and support features.

7. **Maintainability**

- The system shall be designed to allow easy updates and maintenance.

- The system shall include logging and monitoring features to help in maintenance and troubleshooting.

8. **Compatibility**

- The system shall be compatible with various types of cameras and hardware configurations.

- The system shall be operable on different operating systems and platforms (e.g., Windows, Linux).

9. **Backup and Recovery**

- The system shall have automatic backup features to prevent data loss.

- The system shall provide a recovery mechanism to restore data in case of a system failure.

10. **Compliance**

    - The system shall adhere to industry standards and best practices for facial recognition technology.