System and technologies

OrionHRS System Description

OrionHRS is a human resources management system designed for companies that want to streamline processes related to employee management, workflow and internal communication. The system was created based on the MVC (Model-View-Controller) pattern, which allows for transparency, modularity and ease of expansion. The main goal of the system is to simplify daily HR processes and increase management efficiency in the organization.

Problems that OrionHRS solves

1. Registration and attendance management

Problem: Manual recording of employee attendance can be time-consuming and error-prone.

Solution: The system allows employees to report attendance at work (e.g., remotely, on-site, on assignment), which is automatically recorded and processed.

2. Leave management

Problem: Difficulties in monitoring leave requests, approving them and coordinating between departments.

Solution: The system offers a full module for handling leave requests, allowing employees and supervisors to submit, accept and monitor requests.

3. Electronic workflow

Problem: The traditional paper-based workflow is inefficient and difficult to follow.

Solution: The system allows you to upload, store and approve documents in PDF format, eliminating the need for paper documents.

4. Internal recruitment

Problem: Lack of transparency in available job opportunities within the organization.

Solution: The system includes an internal recruitment module that allows employees to apply for open positions within the company, streamlining career development within the organization.

5. Security and access control

Problem: There is no proper mechanism for managing user sessions.

Solution: The system provides advanced security features for managing user access and sessions.

System functionalities

Employee Management:

- Storage of employee data, such as contact information, position, supervisor, employment status.
- Registration of supervisors and deputies.

Attendance Registration:

- Reporting attendance by employees (e.g., office attendance, remote work, delegation).
- Automatic approval of attendance by the system or supervisor.

Management of vacation requests:

- Submission of leave requests (vacation, medical, on-demand, etc.).
- Accepting or rejecting applications by superiors.
- Display the employee's leave history.

Electronic workflow:

- Uploading PDF documents from within the system.
- Storing documents in a database.
- Approval of documents by several designated approvers.

Internal Recruitment:

- Display a list of open jobs in the company.
- Job details (description, requirements, salary ranges).
- Ability to apply for internal positions.

Security and session management:

- Login and logout mechanism.
- Restrict access to features to logged-in users only.

Aesthetic and user-friendly interface:

- Centrally placed forms (e.g., login) in aesthetically pleasing rounded tabs with hover effects and shadows.
- Responsive design based on Bootstrap, adapted to different devices.

Technologies used

Backend:

- C# (ASP.NET Core) a platform for developing web applications based on the MVC pattern.
- Entity Framework Core ORM used to communicate with the PostgreSQL database.
- PostgreSQL relational database, storing information about employees, attendance, vacation requests and documents.

Frontend:

- Razor Pages for generating server views.
- Bootstrap CSS framework used for responsive design.

Other:

- Session Management User session management in ASP.NET Core.
- HTML5 & CSS3 for creating and styling user interface elements.
- JavaScript/jQuery to handle dynamic user interactions.

Design patterns used

ModelViewController (MVC):

Divide the application into three layers: Model (data logic), View (presentation) and Controller (application logic). This makes the code clear and easy to maintain.