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V A R A Ž D I N, BEOGRAD, ŽILINA

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**Application for temporal measurement and calculation of labor costs**

erasmus + jcc project

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**Application for temporal measurement and calculation of labor costs**

Project work

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1. Introduction

This work will present the documentation of a project on the topic "Application for temporal measurement and calculation of labor costs". It will be shown how the Era diagram was envisioned, showing how the database for our application would look like. Then we will show how our application works through textual and pictorial explanations.

Our application has for purpose to manage the paycheck of employees from a random firm. It records and manage the employee’s shifts, leaves and contract in order to calculate the resulting paycheck and deliver it to the employee.

1. Era

Diagram

Description automatically generated

Picture Era model

An employee is defined mostly by their id, for every employee we have their personal information and their role (regular employee or administrator) which will describe how much they can do on the application.

For every contract, the basic price of the hour and the maximum number of vacation are recorded. We also have access to the job position (the real name of the job) and which employee is concerned by the contract.

When an employee takes a leave, they define the first and last day of the leave before defining the type of leave it is. Depending on which type (mode of operation) the payweight will change. This payweight is a decimal that we apply to the price of the hour to know how much the employee was paid for this time period.

Similarly, when taking a shift, an employee declares the concerned day, then the start and end of the shift (this cannot be bellow 8 hours as it is the regular time a shift should be). Depending on the type of the shift (day shift, night shift,…) the payweight will also differ (the payweight for a regular day shift is 1 but it changes for the rest).

Finally, with all those information related to the employee id. The application is capable of calculating the paycheck of the employee for a certain period and can record it. Now that we understand what the application is doing, let’s see how it works.

1. Application

As we have already stated, our application has two different roles, namely regular employee and company director. First, we will show how the application looks when a regular employee logs in, and then how it looks when the director himself logs in.

* 1. Regular employee

This image below shows us the initial login window, as we can see we need username and password information to log in. As an example, we will take the worker Luka Bosotin, his data for entering the application are lboostin username and lbosotin password.

Icon

Description automatically generated

Picture Log in

When we have logged in, a new window appears in which we see the buttons New, My shifts, My Paychecks, My Contract, Sickness/Vacation and Sign out.

Graphical user interface

Description automatically generated with low confidence

Picture Home menu

If we click on the "New" button, a drop-down menu opens where we can see buttons such as Employee, Contract, Shift, Leave and Paycheck. Only one is enabled for us and that is "Shift", the others are disabled because our director manipulates them. after we click on "Shift" a new window appears in which we select the day and type of shift, when we have selected everything we can press create.

Graphical user interface

Description automatically generated with low confidence

Picture New shift

Graphical user interface, application

Description automatically generated

Picture Create shift

Then, after creating a shift, we can click on the "My shifts" button, where we can see exactly which shifts we worked, we will show it in the picture below as it looks in detail.

Table

Description automatically generated

Picture My shifts

Then the worker can see his paid wages for a certain month, he can see by clicking on the "My Contract" button what his contract actually is and what it consists of, if he clicks on the "Sickness/Vacation" button, all his absences from work will be displayed. as well as the reasons why he was absent. These would be all the options that our employee could do, and of course he only has the option of logging out. The above options will be shown in a couple of images below in the continuation of the text.

Graphical user interface, application, table

Description automatically generated

Picture My Paychecks

Table

Description automatically generated with medium confidence

Picture My Contract

Graphical user interface

Description automatically generated with medium confidence

Picture Sickness/Vacation

* 1. Company director

As we used username and password for regular employee, so for our example director we will use username fradotovi and password fradotovi.

After entering the application, the home menu is the same as that of the regular employee, the only difference is in the "New" drop-down menu. What was disabled for the regular employee is now enabled for the director and he can manipulate it. We can see in the picture below what it looks like.

Graphical user interface

Description automatically generated

Picture Director "New" button

* + 1. Employee

By clicking on the employee button, the director gets a new window in which he can create a new employee, but also if the director places his cursor on the employee, he gets a new button "All employees" which, when pressed, opens a new window with all employees.

Table

Description automatically generated with medium confidence

Picture New employee

Graphical user interface, application

Description automatically generated

Picture Register employee

Graphical user interface, application, table

Description automatically generated

Picture All employees

* + 1. Contract

Then the director can create a new contract for any employee. If he places his cursor on "Contract" a menu is displayed where he sees "New Job" when he clicks on that button a new window opens where he can create a new job or a new position. Then he can see "Update Contracts", by clicking on it a new window opens where the director can update any contract and the last button the director sees and can click is "All Contracts" which opens a window where he can see all the existing contracts that the company concluded with the workers. All displays will be placed in the form of screenshots below this text.

Graphical user interface

Description automatically generated

Picture Contract button

Graphical user interface, text, application, email

Description automatically generated

Picture New Contract

Graphical user interface, application

Description automatically generated

Picture New Job

Graphical user interface, application

Description automatically generated

Picture Update Contract

Table

Description automatically generated

Picture All Contracts

* + 1. Shift

On the "Shift" button, the director can create a shift just like a regular employee, just one of the advantages is that he can create a shift not only for himself but also for any other worker who may have forgotten to register his working day. By placing the cursor on "Shift", he sees two new buttons, namely: "New Shift Type" which, when clicked, opens a new window where he can create a new type of shift, and the "All Shifts" button, which, when clicked, opens a new window which denies him all the shifts that the workers worked. We will show the above in the screenshots below.

Graphical user interface

Description automatically generated with medium confidence

Picture Shift button

Graphical user interface, application

Description automatically generated

Picture Create shift

Graphical user interface, application

Description automatically generated

Picture Create new shift

Table

Description automatically generated

Picture All Shifts

* + 1. Leave

Then the director can manipulate the "Leave" button, where he can, when the window opens, open a sick leave or vacation for each employee as well as for himself. But if he comes to Leave with his mouse, he can see another button "All leaves" where by clicking on it, a window opens where he can see all the absences from work of all employees. We can see that in the pictures below this text.

Graphical user interface

Description automatically generated

Picture Leave button

Graphical user interface, application

Description automatically generated

Picture Create Leave

Table

Description automatically generated

Picture All Leaves

* + 1. Paycheck

The last button that the director can influence is "Paychecks". In it, the director can pay salaries to all employees of the company, and when he comes to it, the button "All Paychecks" is displayed, with which he can see all paid salaries for all users in a new window. And these are all the benefits that the director has, and the regular employee does not. Other buttons on the home page are the same as for regular employee, which are explained in the previous chapter.

Graphical user interface

Description automatically generated

Picture Paycheck

Graphical user interface, application

Description automatically generated

Picture Create Paycheck

Graphical user interface, table

Description automatically generated

Picture All Paychecks

1. Conclusion

We can conclude that this project was very interesting and challenging, but we responded to all his requests as we thought was the best and got a very functional application that could be used by some larger companies and that would be very useful and make it easier for them to monitor the worker's shifts , annual vacations and sick leave, paid salaries and other things. With some improvement of the application, it could provide an even greater number of useful functionalities for a company, so our application is not perfect, but with additional requirements, it could be improved and perfected.

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