Software Requirements Specification

1. Introduction

1.1. Purpose

The purpose of this document is to build an employee management system to help businesses track their active projects and manage employees. System will allow business owners to register their company and all employees. Apart from this, they will be able to get statistics for all project and teams, change employees' rights, roles and compensations.

1.2. Document Conventions

DB	Database
API	Application Programming Interface
UML	Unified Modeling Language

1.3. Intended audience and reading suggestions

The document describes a system for business managing. Therefore, it will be useful for companies, which has difficulties with managing their employees. This application will help organize people into teams and distribute work among employees. Intended audience are small or medium companies working on a few active projects.

2. Overall Description

2.1. Product Perspective

The employee management system offers such features:

- B**usiness owner can add an employee to the company** – this feature allows business owner to register a new employee and assign one for existing projects. Moreover, this feature includes functions to set employee's right, salary and position.
- **Business owner can fire an employee from the company** – this feature allows business owner to unassign an employee from all existing projects and delete one's corporate account.
- **Statistics of all projects for business owner** – this feature allows business owner to have a flexible statistics about every team velocity to keep track of status on each project.
- **Create teams for organization of working process** – this feature allows user to organize people by creating teams, inviting or removing other employees to those teams.
- **Manage tasks** – this feature allows user to create and configure tasks. It will help to distribute work along the team and keep track of completed work.
- **Manage schedule** – this feature allows user to add, remove or configure events to the schedule.
- **Personal statistics** – this feature allows an employee to fill one's statistics of work and to monitor progress of completed tasks.

2.2. Product features

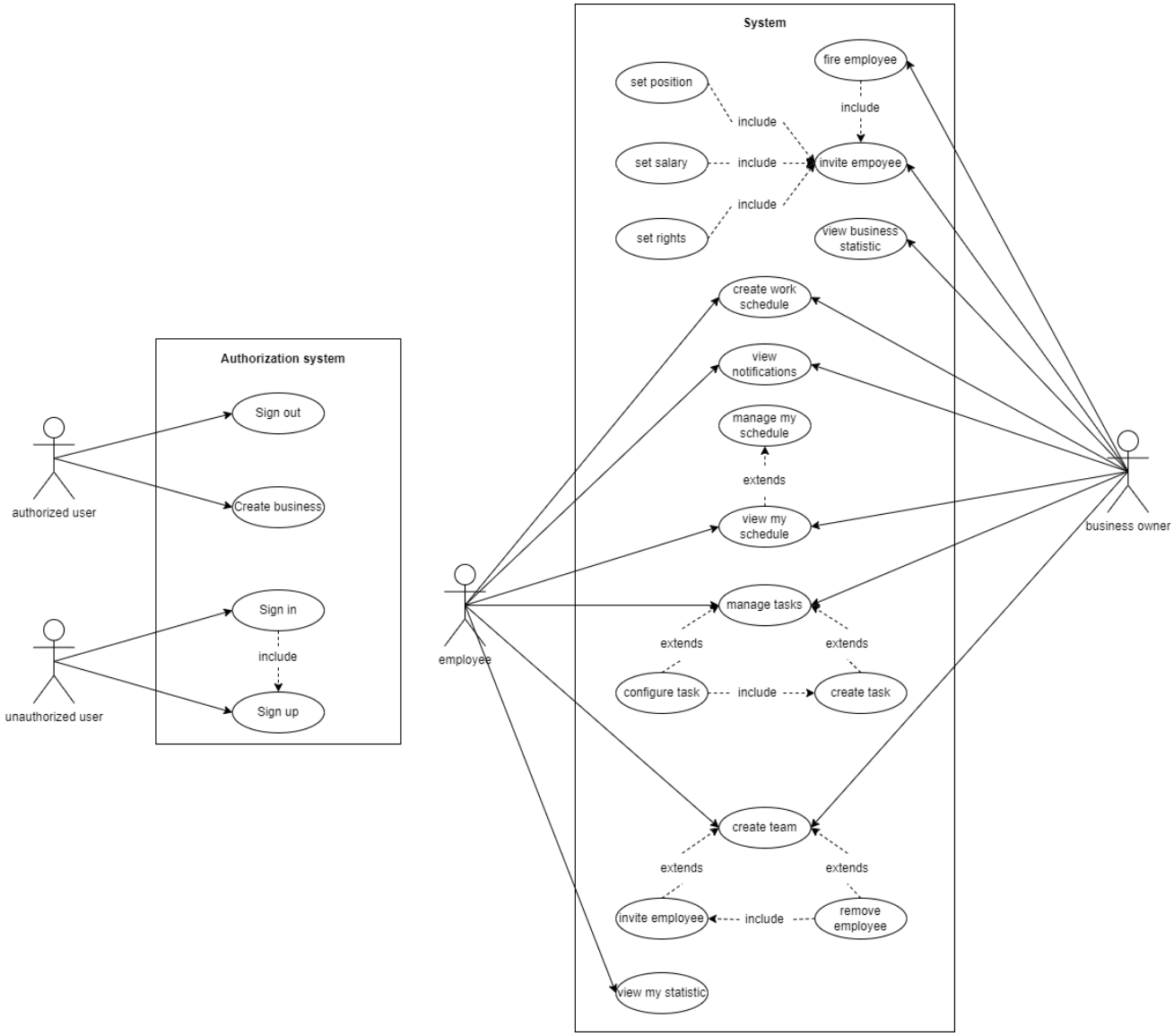
- Unregistered user can sign up in the system as a business owner. During this process user have to choose phone number, full name, e-mail, and password.
    - When user chooses and existing e-mail, username or phone number, he will be notified and forced to use another e-mail, phone number or password.
    - User enters new username/e-mail/phone number and in case of entering correct sign in data user is logged in.
- Registered user can sign in both as an owner and employee. To do this, user have to enter email and password.
    - In case of entering wrong e-mail or password user will be notified about it and asked to check his credentials.
    - In case of entering correct credentials user is logged in.

- Owner can create projects for his business.
    - To do this, owner chooses name and description for his project.
- Owner can register employees to his business.
    - To do this owner has to know additional e-mail and full name of an employee.
    - Owner enters e-mail and full name of the user, then system automatically sends auto generated business account on this e-mail.
- Owner can see velocity of the teams among the projects.
    - This information is located on “Home” tab
    - By clicking on “Team” dropdown button owner is able to change team
    - By clicking on “Project” button owner in able to change current observable project.
- Owner can see his projects, get full information about particular project and get information about teams and team members on this project.
    - For this owner should click on one of the buttons in the list of all projects which is located on the “Home” tab.
- Logged in as employee can see his working schedule, projects, statistics for current week, team members and his tasks.
    - For this employee have to use one of the buttons on the “Home” tab.
- Employee can manage his tasks.
    - To do this, employee can click on one of the buttons on the right side of his screen.
    - In case of click on “Create new task” button, user have to enter task info, user will be notified and forced to change fields in case they are incorrect

    - User can start task by clicking on the “Start task” button, that will change task status to “In progress”
- Employee can see his working schedule, where all standups and other meetings schedule will be displayed.
    - For this user should open “Home” page an look around until he sees window with working schedule.
    - By clicking on the left or right arrows he can change the date and obtain schedule for other days.
- Both owner and Employee can see information about the team.
    - For this both of them have to choose “Teams” option on the specific project page.
- Owner and employees with permissions can manage employees
    - To do this, they should choose specific user in the list and click on the triple-dot button, then all the fields of the specific user in the list will become updatable.

2.3. User class and characteristics

User class and characteristics can be demonstrated with use case UML diagram:



Use case description:

№	Name	Functionality	Description
1	Sign up	Creates new account for business owner	Business owner creates new personal account and fill it with relevant information
2	Sign in	Sign in to existing account	User inputs his personal login and password to get into his personal account
3	Sign out	Exit an account	User can log out from an account to change credentials or if one doesn’t need stay logged in.

4	Invite employee	Create an account for new employee in current company	Business owner creates an account for the new employee and adds relevant information to it. Business owner can set rights, position and salary for the employee
5	Fire employee	Deletes employee's account from current company	Business owner can delete employee's account if one fired from the company. Makes credentials of employee unavailable for usage
6	Create work schedule	User creates schedule for events	User can creates new schedule, add custom events to it, delete and modify them
7	View notification		
8	View schedule	Show schedule for the given day or week	
9	Manage tasks	User creates/ deletes/modifies tasks	Users can create new tasks and add relevant information to it. Existing tasks can be deleted or modified by all team members
10	Create team	User creates new team, invites colleagues to existing ones' or removes people from team	User can create new teams to collaborate with people. Invite people to existing teams or remove team members
11	View statistics	Show statistics of the current user	User can keep track of one's statistics of completed tasks

2.4. Operating environment

Operating environment for employee management system is listed below:

- Database: PostgreSQL
- IDE: Microsoft Visual Studio 2019
- UI: Figma
- Version control: Git, Github
- Project management: Github Board

2.5. Assumptions and dependencies

The main assumption before this project starts is the complexity of managing large groups of people for businesses. It is hard to organize people into teams, establish their

communication and keep track of real progress on different projects. Therefore, this software could be helpful for small businesses, as for large companies.

The software will be self-contained without any dependence on third-party vendors.

3. System Features

3.1. Description and priority

“Employeest” - is a multipurpose versatile employees managing system that makes it easier to manage your business.

It allows business owners to set up their “virtual” businesses, fire/promote employees, manage their working schedules, and view statistics.

For employees, it provides an all-in-one service for tracking their working time, viewing statistics, managing tasks, and even configuring their own working schedule.

Therefore, this software could be popular among any business type from small companies to large ones.

3.2. Stimulus/response sequences

User creates new business account and fill it with relevant information. User takes to his personal account via email and password. Business owner can add, remove and set employee’s information.

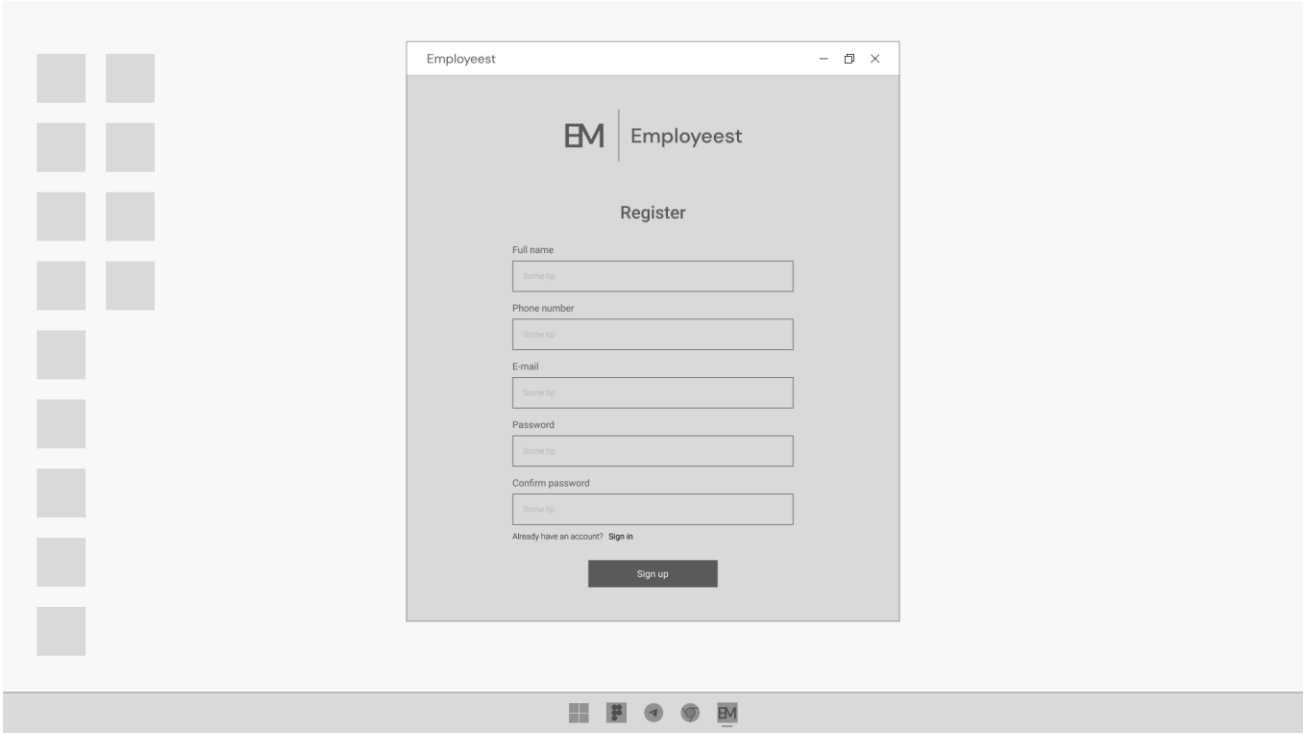
Employee can be assigned to projects and teams. One can manage own schedule and tasks.

Business owner can get statistics about all company projects and view teams’ velocity. There is a function to create new projects and assign workers to them.

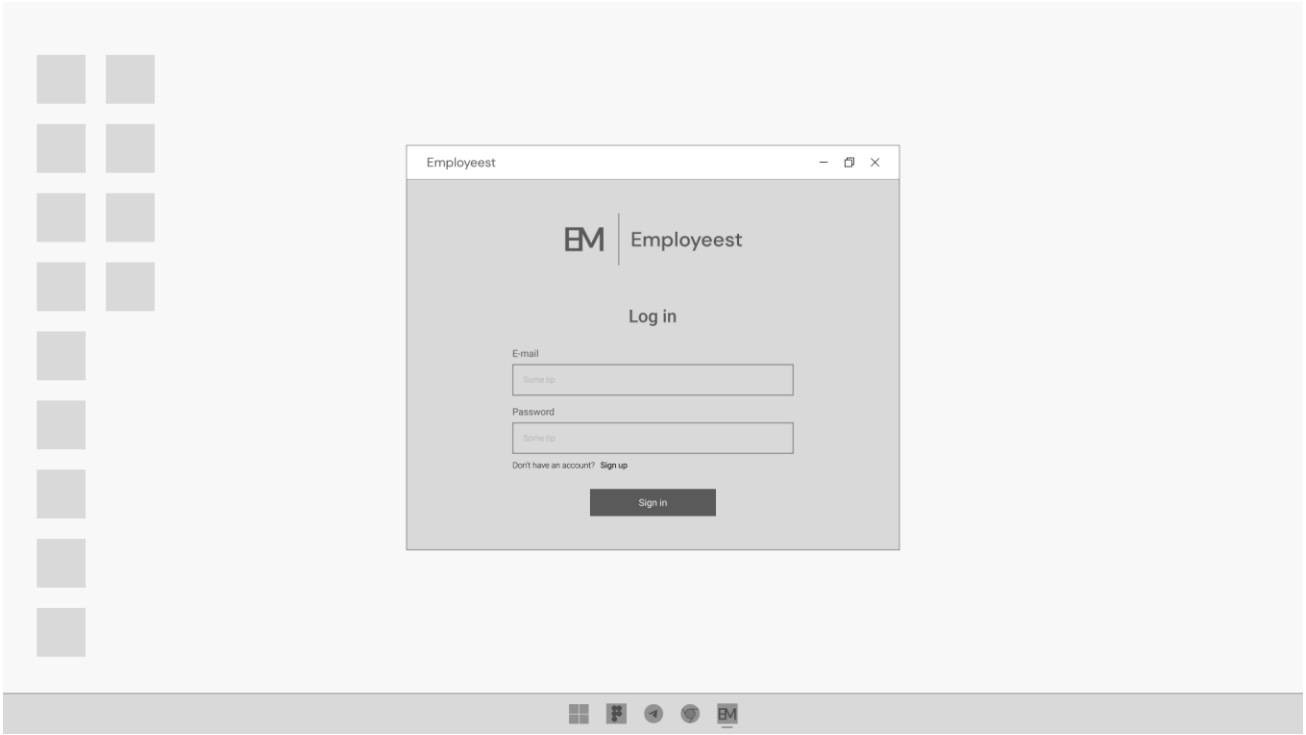
4. External Interface Requirements

4.1. User Interfaces

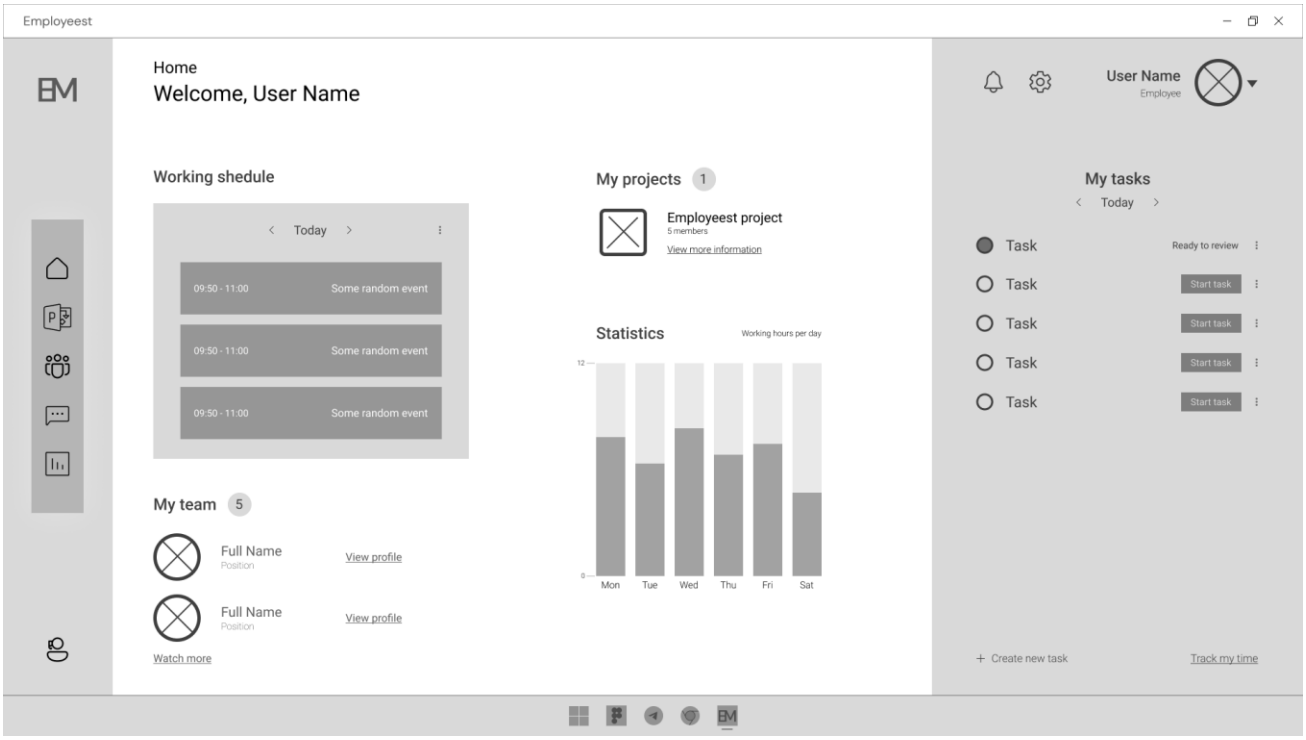
Registration form



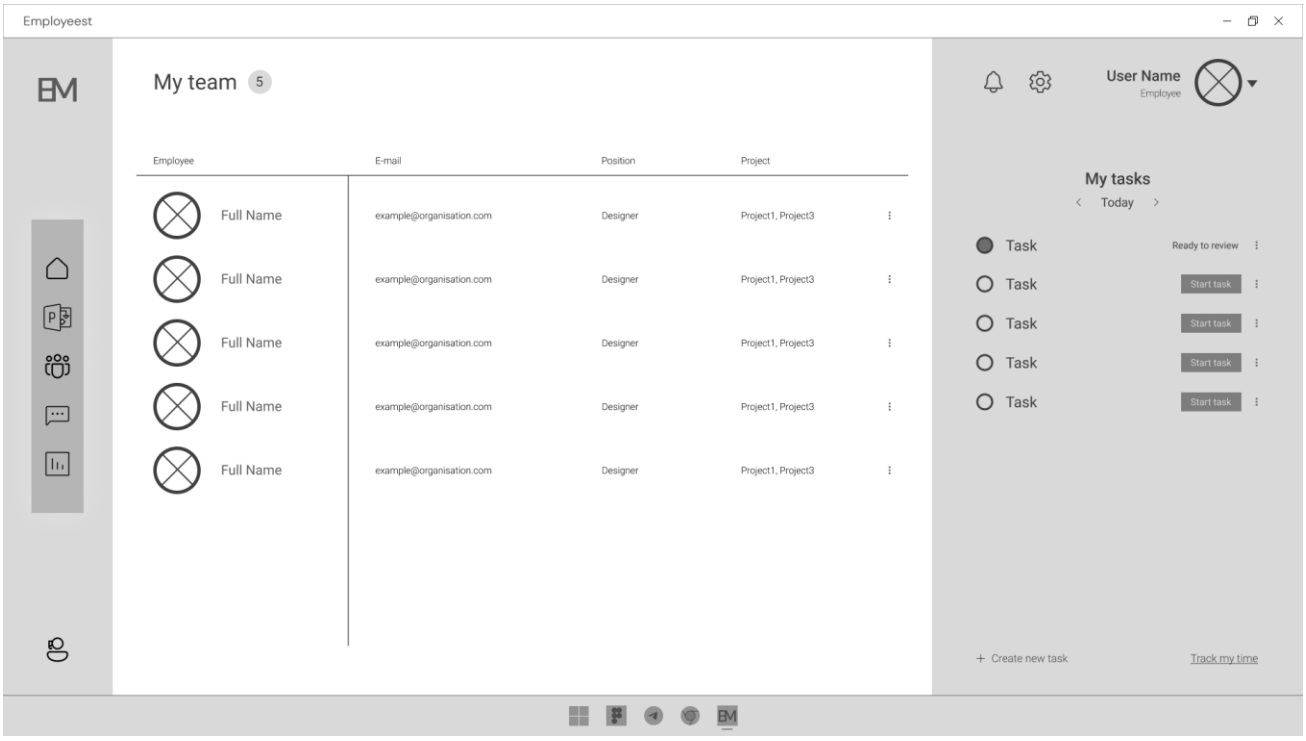
Log in form



Employee’s dashboard

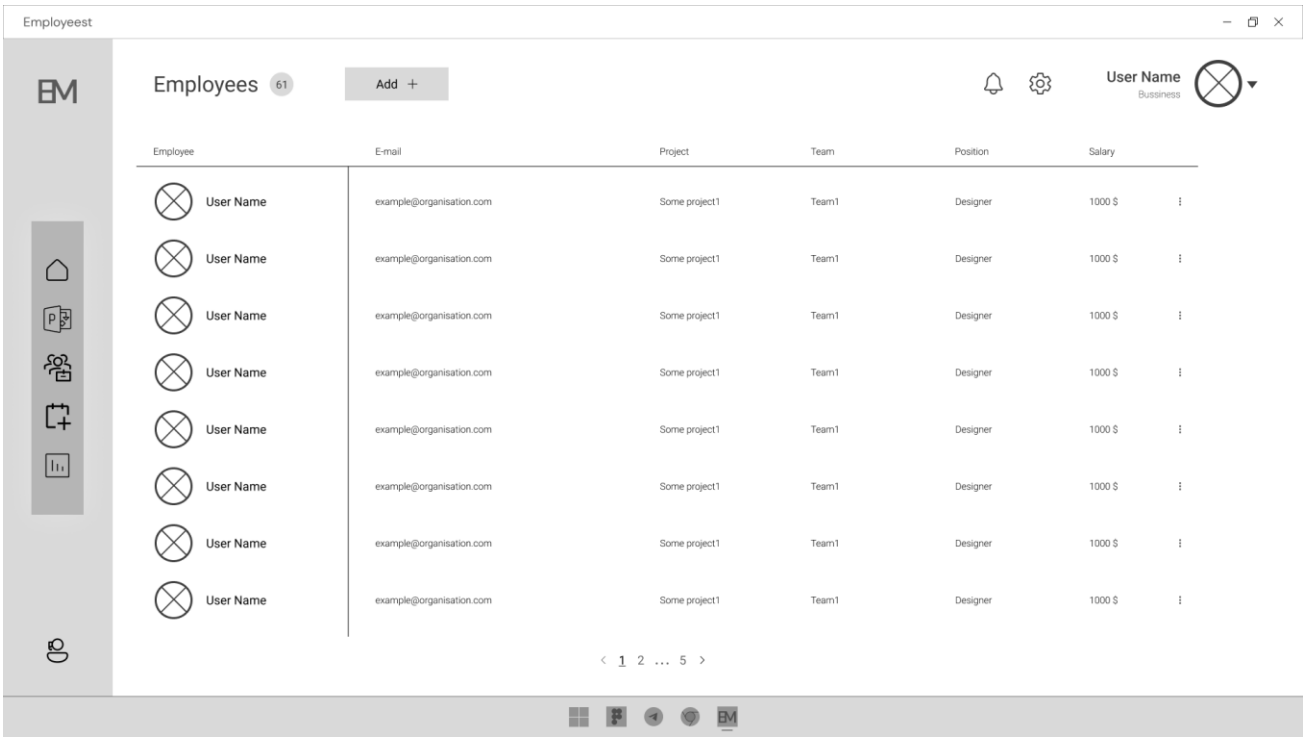


Employee’s team



Owner’s dashboard

Owner’s workers



4.2. Hardware Interfaces

Computer with Windows OS

4.3. Software Interfaces

Software used	Description
Operating system	Windows, it is used widely and is user-friendly
Framework	.NET Core
DB	PostgreSQL, it is used widely, free and open-source

5. Nonfunctional Requirements

5.1. Performance requirements

This application is an employee management system

5.2. Security requirement

Private companies potentially can use this application in order to manage its stuff. This leads to the idea that security factor is crucial because all employees data should not be accessed by third parties. In addition, all company activity, achievements and results should be kept in private.

5.3. Software quality attributes

Availability: The employee management system should be available all the time. Otherwise, it can cause disorganization among teams and stop work for an indefinite period of time, what can lead companies to loose reputation.

Maintainability: Business owner should maintain workers, their salary, position, rights and private information. However, no one could be able to access information of all employees' data.

Usability: The application should satisfy customers' needs to be competitive in the market.