Which tools were used:

1. ASP.NET WebAPI

2. EntityFramework 6 Code first approach

3. Log4net - for logging

4. Castle Windsor – Inversion of Controll

Results:

1. Business Logic:
   You can register employees in system by name. If employees already exists it updates his areas with new ones.

   You can add new areas, and see list of existing areas.
   Currently we identify area by name. So if you will input not existing area – nothing will happen.

   You can assign calls in the order as was specified in Url.

Call will be assigned by following algorithm:

   1.   Firstly get employees which can handle this call and we sort them by count of areas that they can handle.

   2.   Then we calculate how many calls in queue, besides current call, employee can handle

   3.   We select employee which has minimum count of calls that he can handle besides current call

EXAMPLE:

Imagine that we have following areas:

1 – special-offers

2 – bills

3 – contracts

We register 3 employees

1. e1 which can handle area 1
   http://localhost:12844/CallManagement/Register?employeeName=e1&areas=special-offers
2. e2 which can handle area 1 and 3
   http://localhost:12844/CallManagement/Register?employeeName=e2&areas=special-offers&areas=contracts

3. e3 which can handle area 1 and 2
   http://localhost:12844/CallManagement/Register?employeeName=e3&areas=special-offers&areas=bills

Image that we have call query:

Request for area 1 3 1

http://localhost:12844/CallManagement/Call?areas=special-offers&areas=contracts&areas=special-offers

as a result all calls will be handled

WebApi methods:

Methods	Parameters	Descrption
CallManagement/Register	employeeName – employee name `areas – list of areas`	Registers new employee in system. Or updates him if already exists (it updates his new areas, and delete previous areas)
CallManagement/Call	`areas – list of areas`	Assign calls in the same orders to available active employees
CallManagement/Reset		Resets all employees (it sets 'IsActive' to false in database, which means that employees went home ☺)
Area/Add	`areaName`	Add new area to system
Area/All		Get all areas