

# CS-M68

## Web Application

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Mohamad Khaleqi

808956

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### Coursework information

To write this project I used **Visual Studio 2013** and .Net Framework v4.5. Codes and pages are mostly selected in *Razor v3*, a new feature of Visual Studio 2013 and .Net framework v4.5.

This project is written in C# and I used HTML5, some Java Script and also Ajax. It is fully *Object Oriented* and works with methods. The project has an Admin with full access to delete or edit other users. this is required information to login as admin:

- Username: **administrator**
- Password: **Adminpass**

### Security

In this project I have fully checked user input by: first, using *Regular Expression* or *Regex* in form element. Second, I used binding data by parameter to SQL statement to prevent first order SQL injection. third, I used

AntiForgery.GetHtml()

command in each form to stop attack from outside of the form. This command add a hidden input to form with a long hashed token and stop any attack form outside of the form. Further more, I hashed user's passwords with *Crypto* library. Another checking is URL checking from changin and trying to attack or do something from URL.

In this Project with Razor v3 and writing code and classes in different layers and like : repository and Handler, I used someting like MVC programming. URL in this project is fully friendly and always work with methods.

This project has got these part:

- Database in App\_Data with a table
- The table has got a primary key and auto increament field named ID
- Login with username and password
- Register with username, password, email, Date of birth
- Users are not allowed to put a date bigger than today for birthday
- Dafault page - if is the user birthday, the program shows birthday message automatically and full statistics of other users

- Edit profile to change D.O.B. and change email or password- Users in this project are not allowed to delete the profile
- For safety and as usual programming, users are not allowed to change their username and the statistics
- Admin can delete or edit other users without their permission
- Readme page (this file), explain about the project
- information page which is mostly about the game and how to play
- Logout page

In this project I used the default template in visual studio with some modification and also I used some regex to check if it is the user's birthday or not. Mostly all pages are in cshtml format and they follow the *page layout* in order to have same design. I used *Session* in this project to login and keep the state until user logout or close the browser.

**Technical View:** To implement this game, I used a simple 2D array which has got the result:

```
{
    {0,-1,1,1,-1},
    {1,0,-1,-1,1},
    {-1,1,0,1,-1},
    {-1,1,-1,0,1},
    {1,-1,1,-1,0}
}
```