ASP.NET Fundamentals Exam – 17 June 2023

Homies

Problems for the exam for the "ASP.NET Core Fundamentals" course @ SoftUni

Homies is an online platform that the members of a neighbourhood use to announce different events like cleaning an area, important meeting, fun activities, etc.

1. Technological Requirements and Overview

- Use the provided skeleton – **`Homies_Skeleton`**. All of the needed packages have been installed.

The Technological Requirements are ABSOLUTE. If you do not follow them, you will NOT be scored for other Requirements.

The provided skeleton consists of:

- **`Areas/Identity/Pages`** – you have to scaffold Identity here
- **`Controllers`** – you should implement the controllers logic here
- **`Data`** – you should hold the entities models here
- **`Models`** – you should implement the models here
- **`Views`** – you are provided with the needed views. Your task is to implement some logic regarding the logged-in/logged-out user
- **`appsettings.json`** – don't forget to change the your **connection string**
- **`Program.cs`** – you should fulfil the security and password requirements here

NOTE: You should seed the database with provided in advance data regarding the **`Type`** and **`Event`** entity. In order to do this, remove the comments from the block of code in the **`protected override void OnModelCreating(ModelBuilder builder)`** method of the **`DbContext.`**

NOTE: Don't forget to uncomment the code inside the views while you implement your logic.

Now that you know the **Technological Requirements**, let us see what the **Functional Requirements** are.

2. Identity Requirements

You should **scaffold Identity** and use the **default `IdentityUser`**.

Remove the unnecessary code from the **`Login.cshtml`** and **`Register.cshtml`** files and leave only the needed code in order for the app to be functioning correctly.

NOTE: Don't worry about the views' style – once you scaffold Identity and remove the unnecessary code, the Login and Register pages should look like shown below. Don't add any classes to the views of those two pages!

The **password** requirements for the **`IdentityUser`** are the following:

- Require confirmed account: **`false`**
- Require digits: **`false`**
- Require non-alphanumeric characters: **`false`**
- Required uppercase letters: **`false`**

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3. Database Requirements

The **Database** of **Homies**:

Event

- Has **Id** – a unique **integer, Primary Key**
- Has **Name** – a **string** with min length **5** and max length **20** (**required**)
- Has **Description** – a **string** with min length **15** and max length **150** (**required**)
- Has **OrganiserId** – an **string** (**required**)
- Has **Organiser** – an **IdentityUser** (**required**)
- Has **CreatedOn** – a **DateTime** with format "**yyyy-MM-dd H:mm**" (**required**) (the **DateTime** format is recommended, if you are having troubles with this one, you are free to use another one)
- Has **Start** – a **DateTime** with format "**yyyy-MM-dd H:mm**" (**required**) (the **DateTime** format is recommended, if you are having troubles with this one, you are free to use another one)
- Has **End** – a **DateTime** with format "**yyyy-MM-dd H:mm**" (**required**) (the **DateTime** format is recommended, if you are having troubles with this one, you are free to use another one)
- Has **TypeId** – an **integer, foreign key (required)**
- Has **Type** – a **Type** (**required**)
- Has **EventsParticipants** – a collection of type **EventParticipant**

Type

- Has **Id** – a unique **integer, Primary Key**
- Has **Name** – a **string** with min length **5** and max length **15** (**required**)
- Has **Events** – a collection of type **Event**

EventParticipant

- **HelperId** – a **string**, **Primary Key**, **foreign key** (**required**)
- **Helper** – **IdentityUser**
- **EventId** – an **integer**, **Primary Key**, **foreign key** (**required**)
- **Event** – **Event**

Implement the entities with the **correct datatypes** and their **relations**.

Feel free to use the new syntax for realization of the many-to-many relation without a mapping table.

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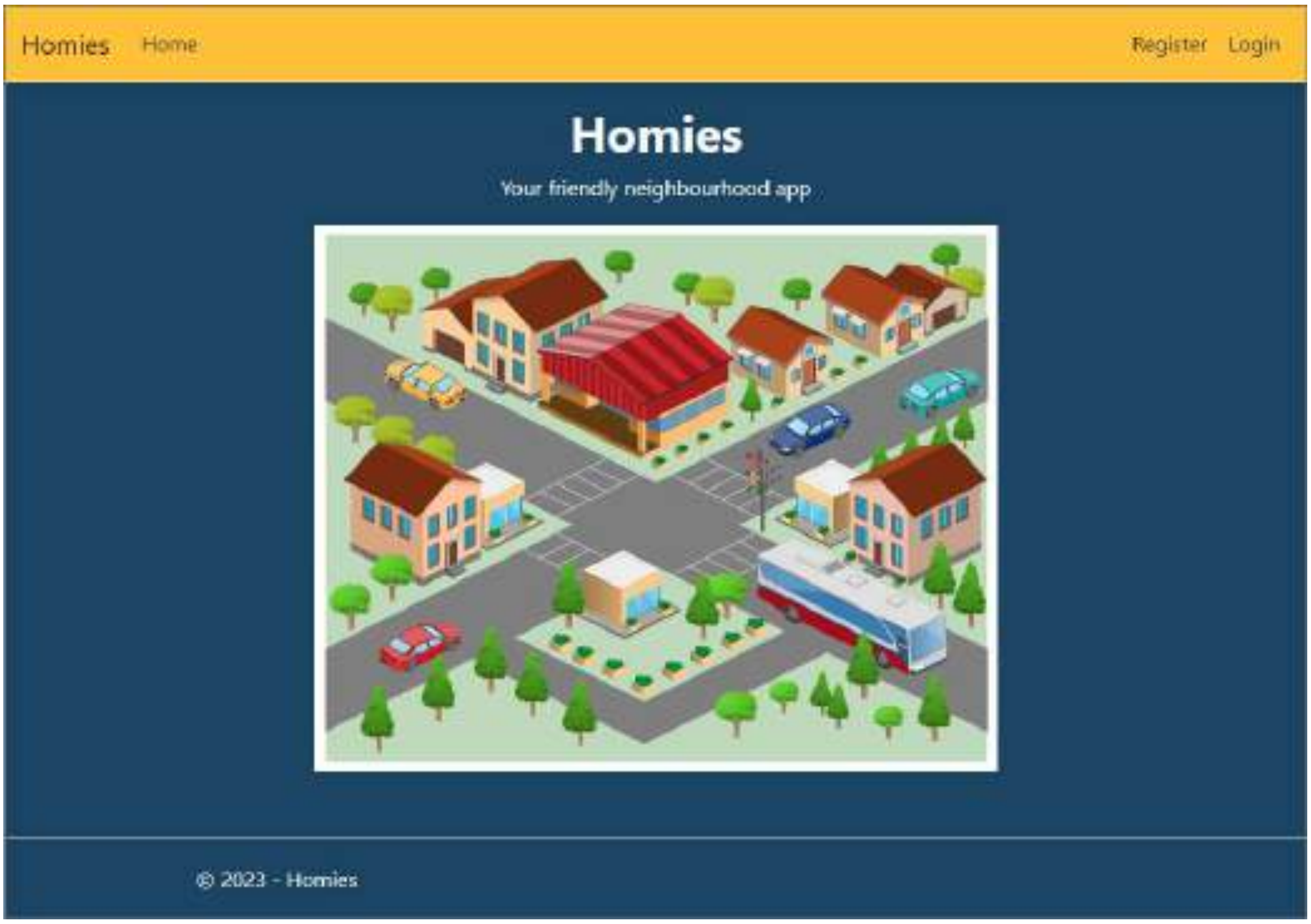
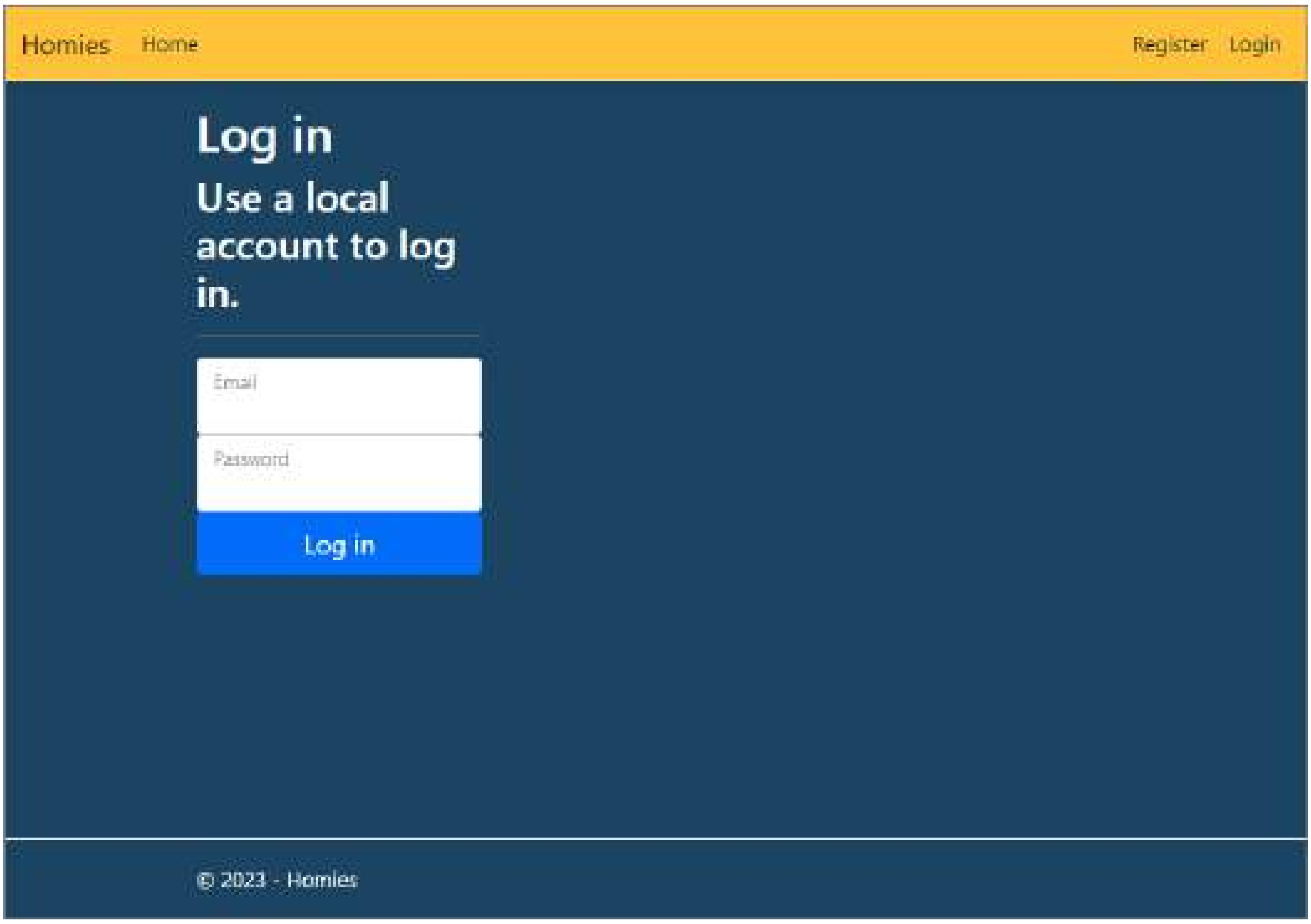
4. Page Requirements

Index Page (logged-out user)



Login Page (logged-out user)



Log in

Use a local account to log in.

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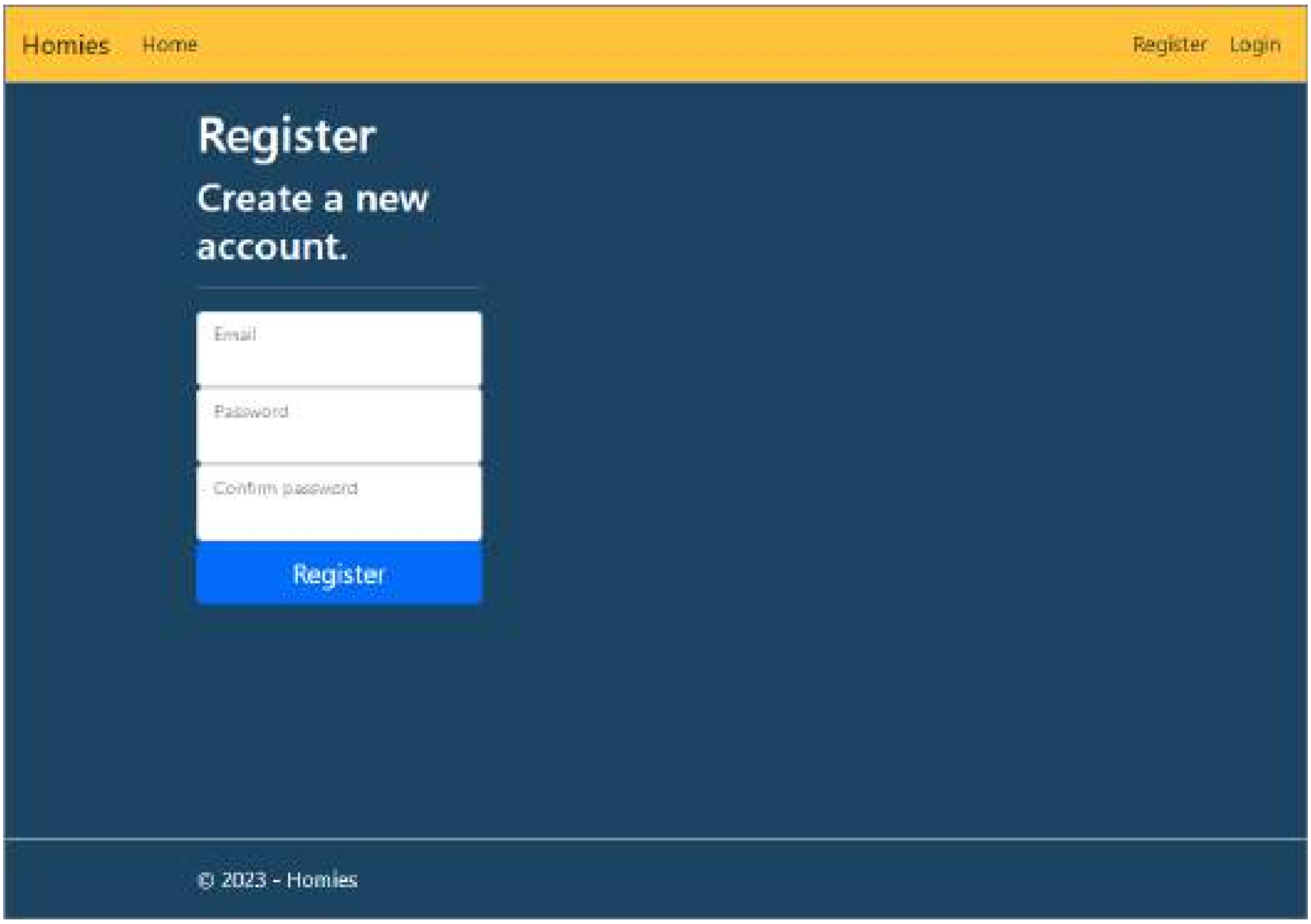
Register Page (logged-out user)



Register

Create a new account.

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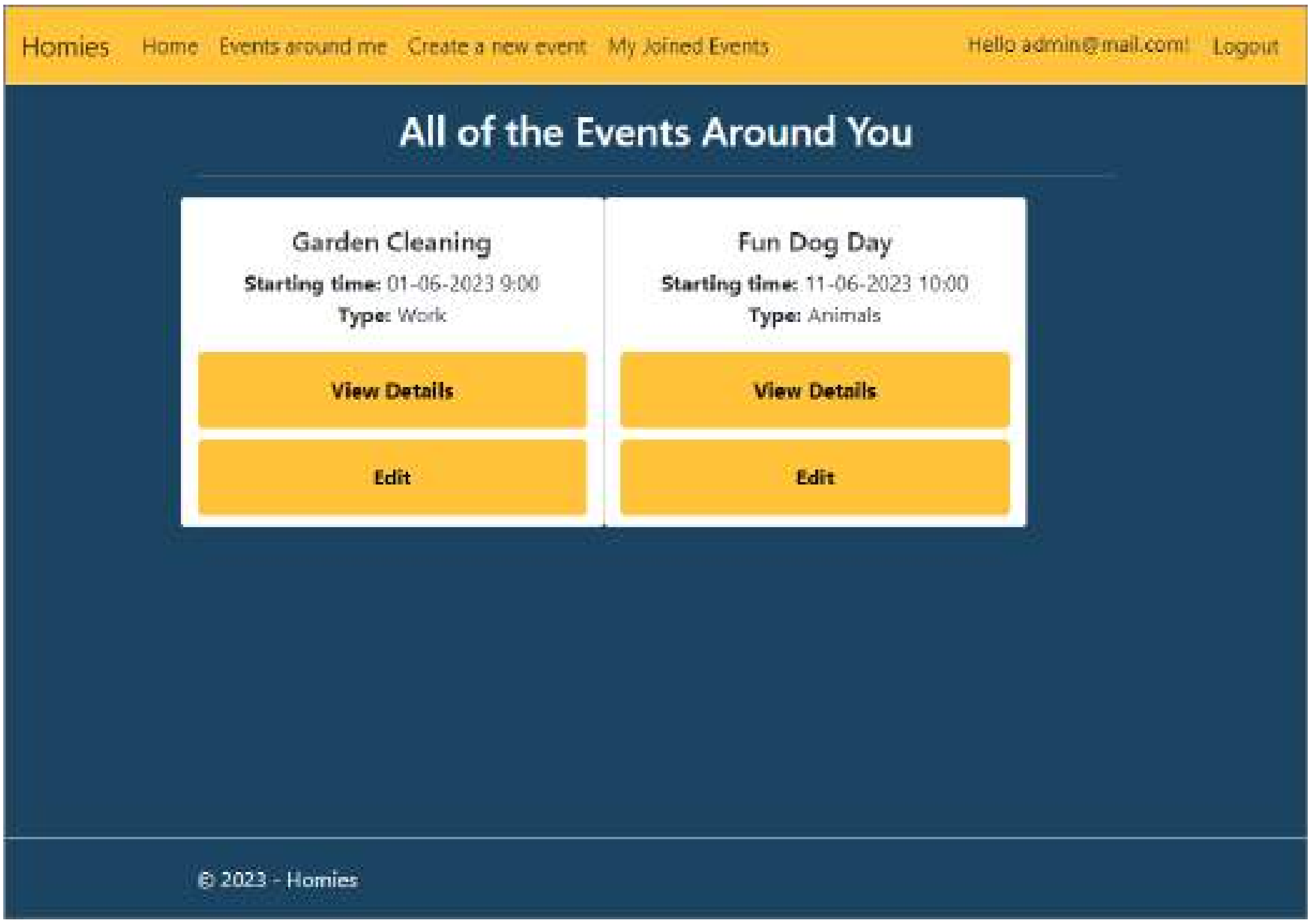
/Event/All (logged-in user, creator of an event)



All of the Events Around You

Garden Cleaning
Starting time: 01-06-2023 9:00
Type: Work

Fun Dog Day
Starting time: 11-06-2023 10:00
Type: Animals

NOTE: If the user is **logged in** and tries to go to the **Home page**, the application must redirect them to the **`/Event/All`**.

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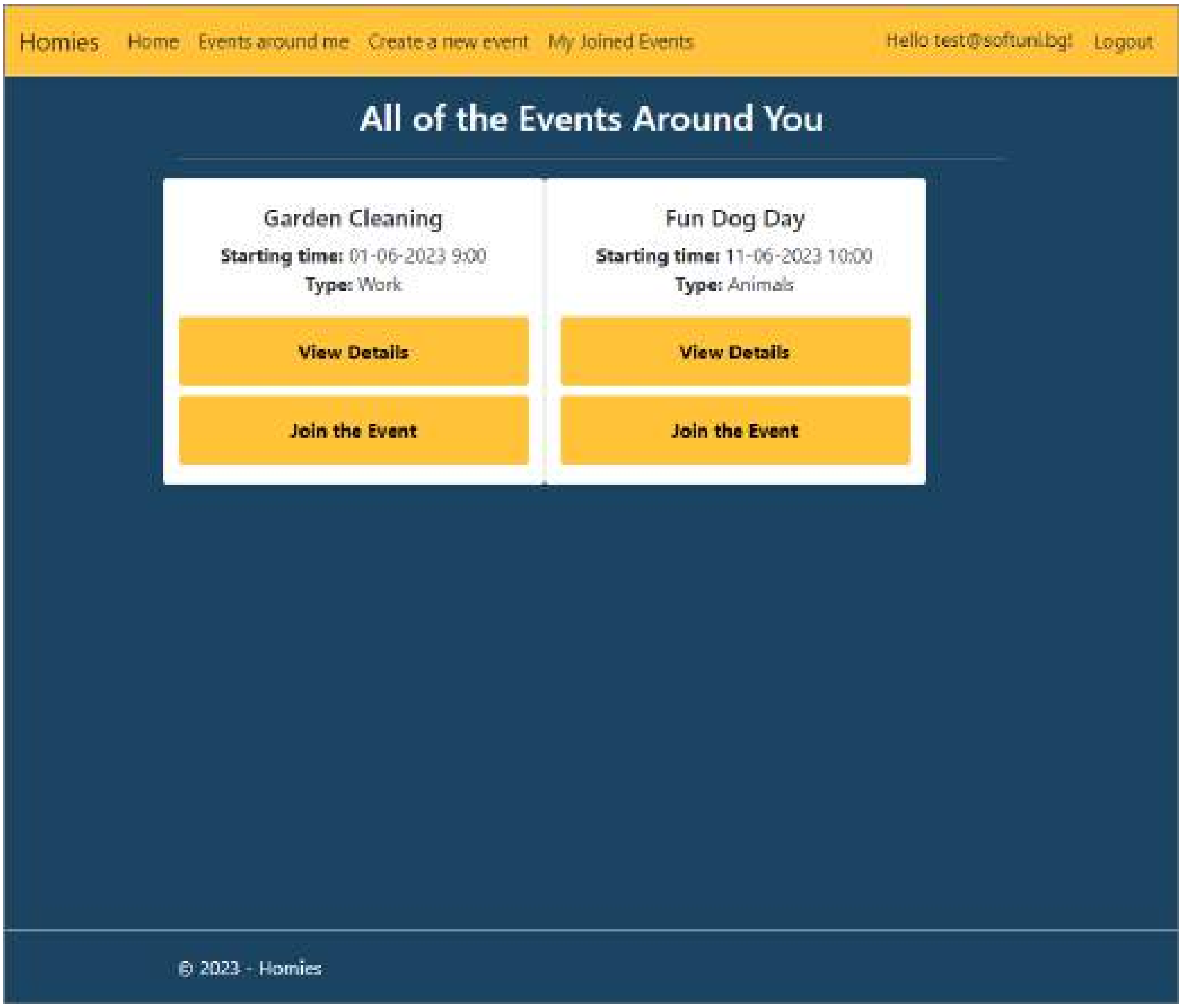
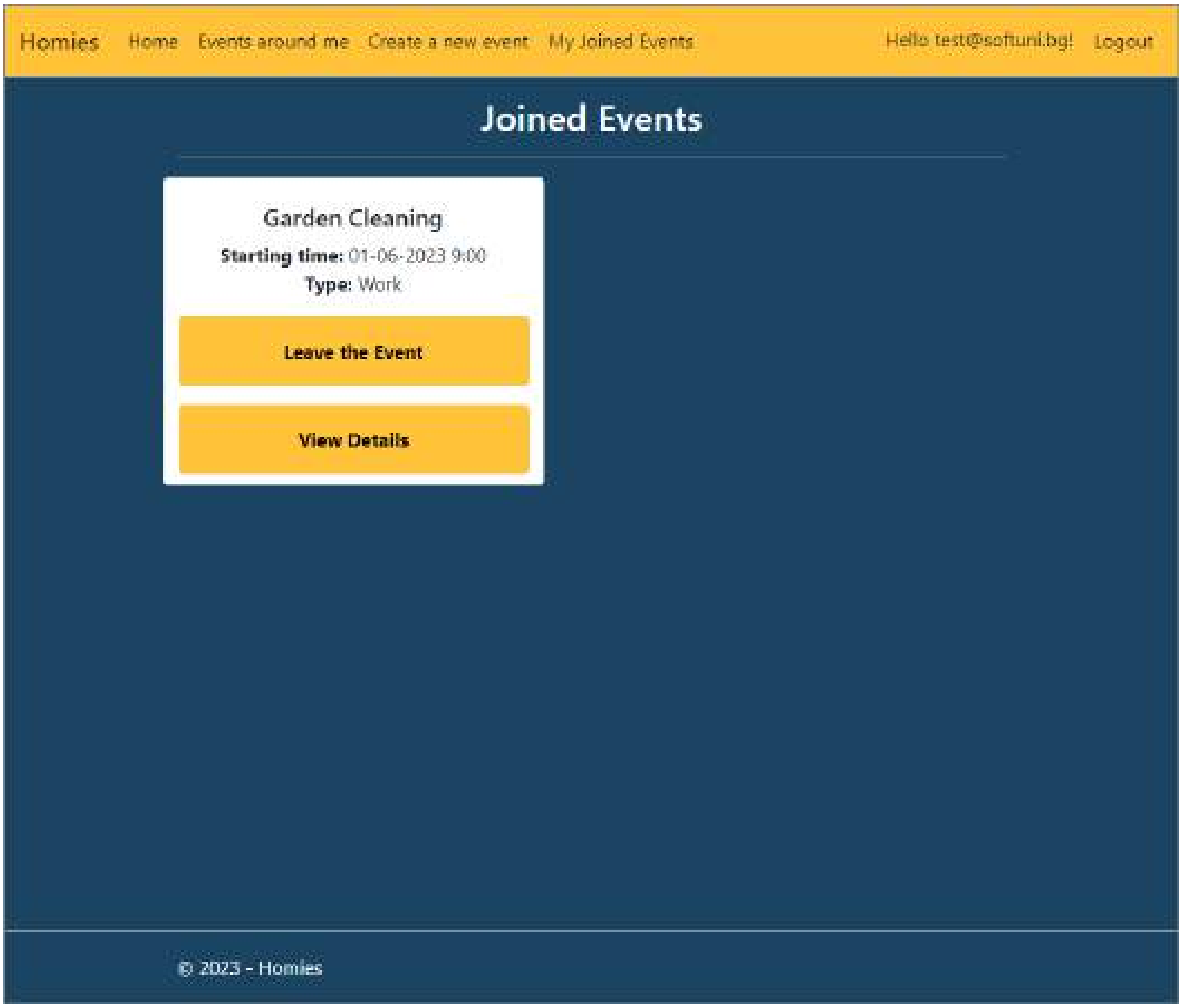
/Event/All (logged-in user, not creator of an event)



NOTE: If the user is **logged in** and tries to go to the **Home page**, the application must redirect them to the **`/Event/All`**.

/Event/Joined (logged-in user)



Joined Events

Garden Cleaning

Starting time: 01-06-2023 9:00

Type: Work

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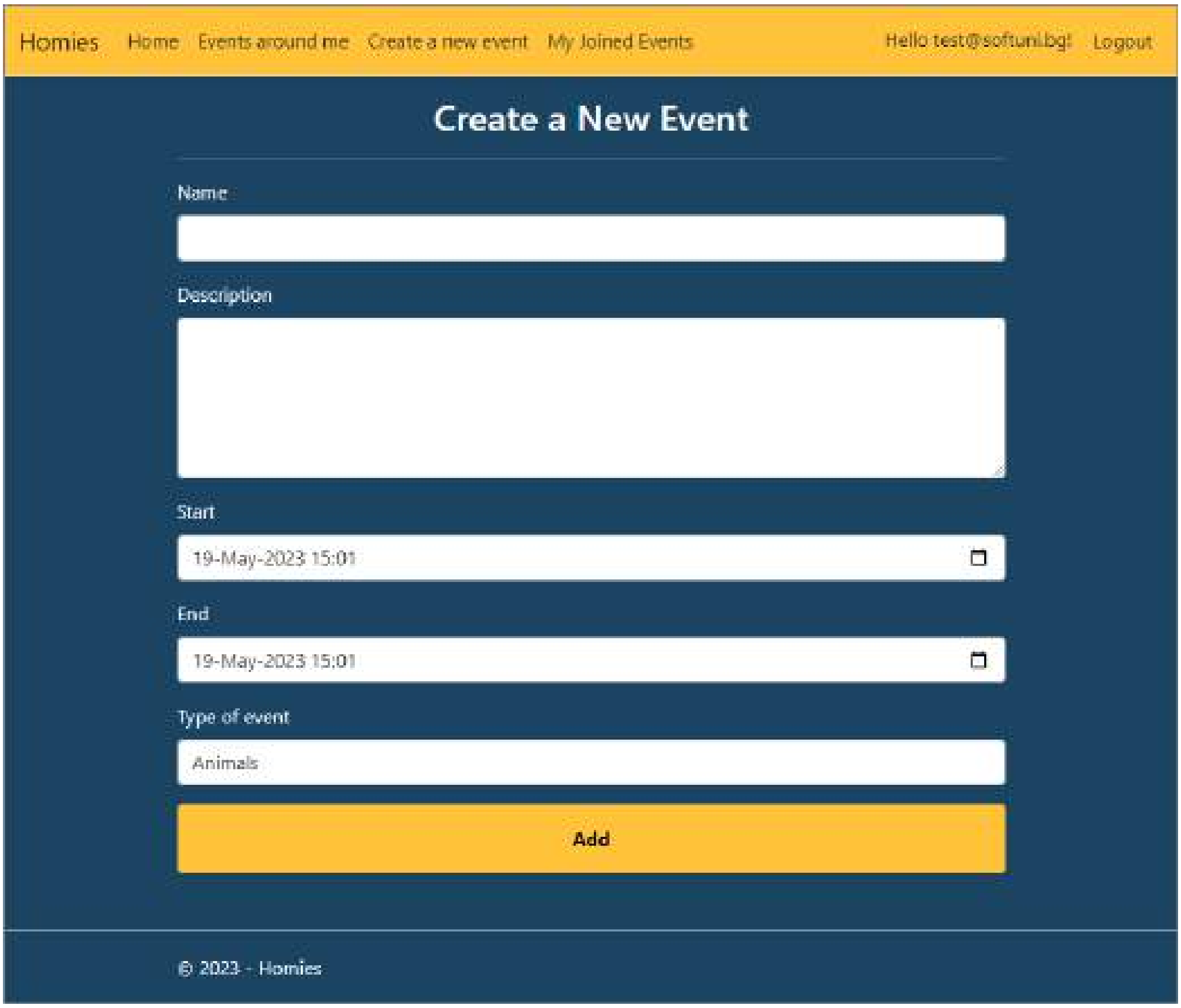
NOTE: the **`DateTime`** format is recommended, if you are having troubles with the one in the image, you are **free** to use **another** one.

/Event/Add (logged-in user)



Create a New Event

Name

Description

Start

19-May-2023 15:01

End

19-May-2023 15:01

Type of event

Animals

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NOTE: the **`DateTime`** format is recommended, if you are having troubles with the one in the image, you are **free** to use **another** one.

NOTE: The little calendar icons in the example views are NOT required.

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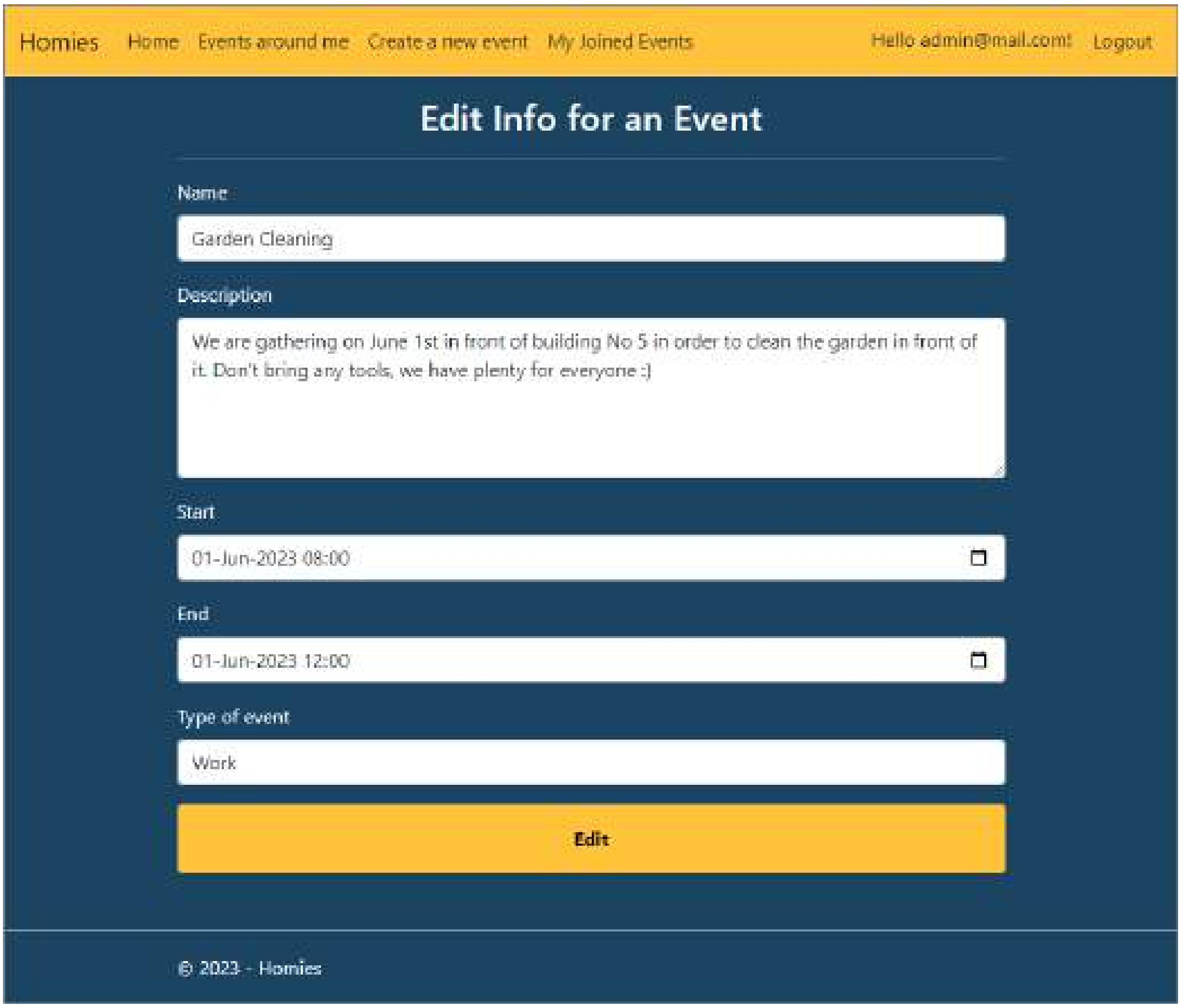
/Event/Edit/{id} (logged-in user)



Edit Info for an Event

Name

Garden Cleaning

Description

We are gathering on June 1st in front of building No 5 in order to clean the garden in front of it. Don't bring any tools, we have plenty for everyone :)

Start

01-Jun-2023 08:00

End

01-Jun-2023 12:00

Type of event

Work

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<u>**NOTE:**</u> the **`DateTime`** format is recommended, if you are having troubles with the one in the image, you are **free** to use **another** one.

<u>**NOTE: The little calendar icons in the example views are NOT required.**</u>

/Event/Join?id={id} (logged-in user)

Adds the selected event to the user's collection of events. If the event is already in their collection, it shouldn't be added. If everything is successful, the user must be redirected to the their collection "**`/Event/Joined`**" page.

/Event/Leave?id={id} (logged-in user)

Removes the selected event from the user's collection of events. If everything is successful, the user must be redirected to home "**`/Event/All`**" page.

NOTE: The templates should look **EXACTLY** as shown above.

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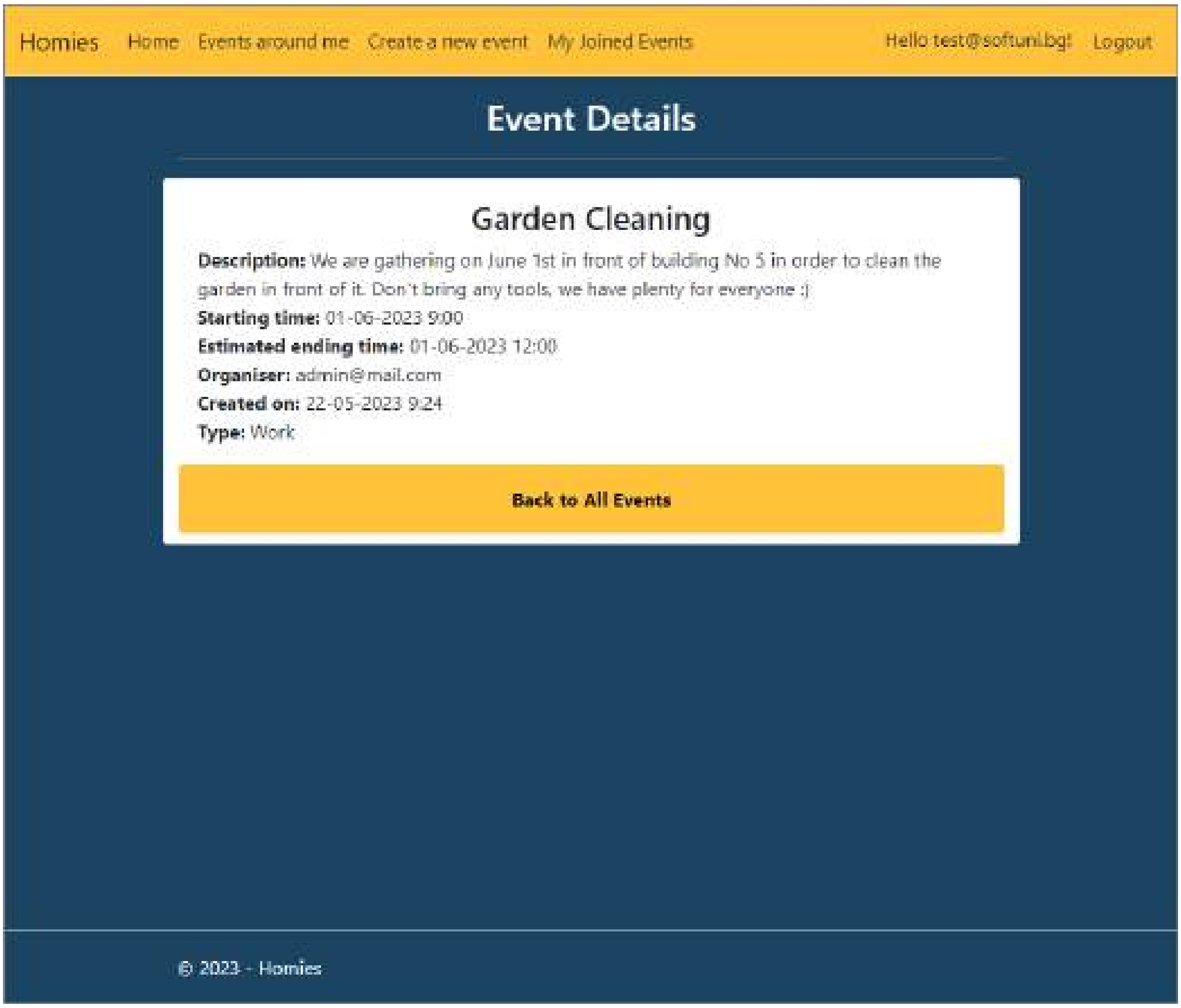
* BONUS: /Event/Details/{id} (logged-in user)



Event Details

Garden Cleaning

Description: We are gathering on June 1st in front of building No 5 in order to clean the garden in front of it. Don't bring any tools, we have plenty for everyone :)
Starting time: 01-06-2023 9:00
Estimated ending time: 01-06-2023 12:00
Organiser: admin@mail.com
Created on: 22-05-2023 9:24
Type: Work

NOTE: the **DateTime** format is recommended, if you are having troubles with the one in the image, you are **free** to use **another** one.

5. Functionality

The functionality of the **Homies** Platform is very simple.

Users

Guests can **Register**, **Login** and view the **Index Page**.

Users can **add events**, **edit events only they have added** and **view the details of all events**.

Users can see **added events** by all **users** on the **Home Page (/Event/All)**.

If the user is the creator of the event, they can see the **[Edit]** button. If the user is not the creator of the event, they can join the event.

Event

Events can be **added** by **users**. All created **events** are visualized on the **Home Page (/Event/All)**.

Events are visualized on the **Home Page** **`(/Event/All)`** with **some** of their information.

Events are visualized on the **Home Page** **`(/Event/All)`** with two buttons:

- **First button:**
  - `[View Details]`
- **Second button:**
  - If the user **IS** the **creator** of the event – **`[Edit]`**;
  - If the user **IS NOT** the **creator** of the element – **`[Join the Event]`**

The **`[View Details]`** button displays a new page with **all** of the **info** for the **selected event**.

The **`[Edit]`** button displays a new page with a form, filled in with **all** of the **info** for the **selected event**. Users can change this info and save it.

The **`[Join the Event]`** button adds the **event** to the **user**'s collection of **events**, **unless it is already added**.

Users have a **`My Joined Events`** page where only the **events** in their collection are visualized.

- The **`[Leave]`** button **removes** the **event** from the **user's** collection of **events**.

Redirections

- Upon successful **Login** of an **`IdentityUser`**, you should be redirected to the /**`Event/All`**.
- Upon successful **Creation** of an **Event**, you should be redirected to the /**`Event/All`**.
- Upon successful **Adding** an **Event** to the **User**'s collection, should be redirected to the /**`Event/Joined`**.
- Upon successful **Editing** of an **Event**, you should be redirected to the **`/Event/All`**.
- Upon successful **Removal** of an **Event** from the **User**'s collection, should be redirected to the /**`Event/All`**.
- If a **User** tries to **add** an **already added Event** to their **collection**, they should be redirected to **`/Event/All`** (or just a page refresh).
- Upon successful **Logout** of a **User**, you should be redirected to the **`Index` Page**.
- If any of the **validations** in the POST forms **don't pass**, **redirect** to the **same page** (**reload/refresh** it).

6. Security

The **Security** section mainly describes access requirements. Configurations about which users can access specific functionalities and pages:

- **Guest** (not logged in) users can access the **`Index`** page.
- **Guest** (not logged in) users can access the **`Login`** page.
- **Guest** (not logged in) users can access the **`Register`** page.
- **Guests** (not logged in) cannot access **Users-only** pages.
- **Users** (logged in) cannot access **Guest** pages.
- **Users** (logged in) can access the **`Event/Add`** page and functionality.
- **Users** (logged in) can access the **`Event/Edit`** page and functionality.
- **Users** (logged in) can access the **`Event/Details`** page and functionality.
- **Users** (logged in) can access the **`Event/All`** page.
- **Users** (logged in) can access the **`Joined`** page.
- **Users** (logged in) can access **`Logout`** functionality.
- **Users (**logged in**)** cannot access the **`Event/Edit`** page of an **`Event`** that have another user as a creator.

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7. Code Quality

Make sure you provide the best architecture possible. Structure your code into different classes, follow the principles of high-quality code (**SOLID**). You will be scored for the **`Code Quality`** and **`Architecture`** of your project.

8. Scoring

Identity Requirements – 5 points

Database Requirements – 10 points

Template Requirements – 10 points

Functionality – 50 points

Security – 5 points

Code Quality – 10 points

Data Validation – 10 points

Bonus – 5 points

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