# Problem Statement: Gotham Cares Charitable Society

The Gotham Cares Charitable Society is planning to distribute food amongst the needy of Gotham in the coming months. The Society is planning to serve various types of ready to eat food packets through outlets across the city and are in dire need of volunteers for the distribution outlets.

They are planning to open a website solely to list the outlets and the street names. They expect interested volunteers to visit the website and then get in touch to volunteer for a suitable day at a distribution outlet of their choice.

They expect the following pages on the website and the features the page should have

* Home Page
  + An aesthetically pleasing home page with images, motto, and operating hours of the society.
  + Contact information comprising of the address, email, and multiple phone numbers must be shown.
* Distribution Outlets
  + A page which lists the outlets for the current and upcoming three days.
  + The outlet name, street name, nearest landmark, total number of available food packets and required number of volunteers must be displayed.
  + Each outlet must indicate the type of available food packets (Veg/Non-Veg/Both).
  + The list must be sorted alphabetically based on the street name and ascending order of the day.
  + The outlets that serve both Veg & Non-Veg food must appear on top of the list.
* Add an Outlet
  + A page which allows adding an outlet with all the details that need to be displayed in the listing page and the date on which the outlet will be serving food.
  + The name of the outlet must be unique for the day.
  + Only a maximum of 10 outlets can be open in a day, of which only 3 can distribute both Veg & Non-Veg food packets.
  + This page must only be accessible to authorised personnel of the society with their email and provided password.
* Edit or Delete an Outlet
  + A page which allows editing the details of an existing outlet.
  + An option must be provided to delete the outlet as well.
  + This page must only be accessible to authorised personnel of the society with their email and provided password.

# Questions

Described above is a problem statement and relative use cases. If your team has been assigned the task of building a web application which can cater to the use cases, then:

1. Provided that you are going to use a relational database.
   * List out the tables, their relationships, constraints, and indices. Create an ER diagram representing the relationships. The following videos helps you to get an understanding on how to draw ER diagrams.
     + <https://www.youtube.com/watch?v=QpdhBUYk7Kk>
     + <https://www.youtube.com/watch?v=-CuY5ADwn24>
   * Build SQL queries for creating the same.
2. With the aim of building a RESTful API service, define the possible API endpoints, their purpose and HTTP request methods.
3. Create a .NET Core Web API project (use version .NET 5), develop the API endpoints. Write the controllers and actions and generate the Swagger API document.
4. Develop the APIs in a three tier architecture format.
5. Integrate Entity Framework as the ORM for data access in the project. Use the code first approach to design the entities, and create the migrations to generate the database.
6. Use dependency injection throughout the project to make the interactions between the layers loosely coupled.
7. Use proper naming conventions for variables, classes, method names across the project. Use comments to describe the intent of the code you are writing.
8. Push the source code, documents, and diagrams to a GitHub repository daily.