Assignment 3

Sarpreet Singh Buttar

Songho Lee

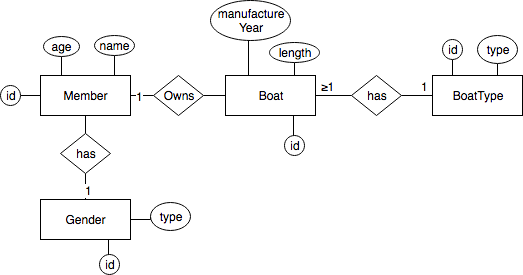
For the third assignment, we chose to create a management system for a boat club. The intended user of our programme is an administrator who wishes to manage a list of members and boats of a boat club. Our solution is suitable for a manager of a club as we provide a user-friendly web interface to add and edit members and boats. Besides, the user can search members and boasts in certain criteria. Therefore, the solution fulfils following:

# Requirements

1. An admin can perform CRUD functionalities.
2. An admin can also perform search such as
   1. Get all members
      1. Get members by name
      2. Get members by gender
      3. Get members by age [≤, ≥, =, >, <]
   2. Get all boats
      1. Get all boats by length [≤, ≥, =, >, <]
      2. Get all boats by manufacture year.
      3. Get all boats by its type.
   3. Get all boats of a specific member
   4. Get a member from a specific boat.

We chose to use MySQL as a database management system, and programming language as JavaScript with React. You can find instructions on how to execute the project programme in a readme file.

# Logical Model



A database requires two major entities which are **Member** and **Boat**, as we are developing the system for these. We decided to include [age, name and gender] to identify a member, and for boats, we include its [manufacture year, length and the type].

Gender and BoatType could have been treated as an attribute of Member and Boat respectively. However, we decided to have a separate entity for BoatType as we wanted to manage various types and having it as a separate entity eases updating and removing boat types which several boats may already have.

# SQL Design

member(id, name,age,gender)

gender(id, type)

boat(id, year, length, member\_id\*, type\_id)

boat\_type(id,type)