

Gym Management System

Users and their Functionalities

1. Managers

a. Login

Tables: managers

b. Managing Employees, Trainers

(Add – remove – update – search)

Tables: Employees and trainers

c. Managing Devices/Equipment

(Add – remove – update – search)

Tables: Devices and Equipment

d. Managing Salaries

(Add – remove – update – search)

Tables: Salaries

e. View for Attendance

Tables: Attendance

f. Response for holiday requests

(Approve – postpone – cancel)

Tables: holiday

g. Add transaction

(Withdraw or deposit)

Tables: transaction

h. View statistics

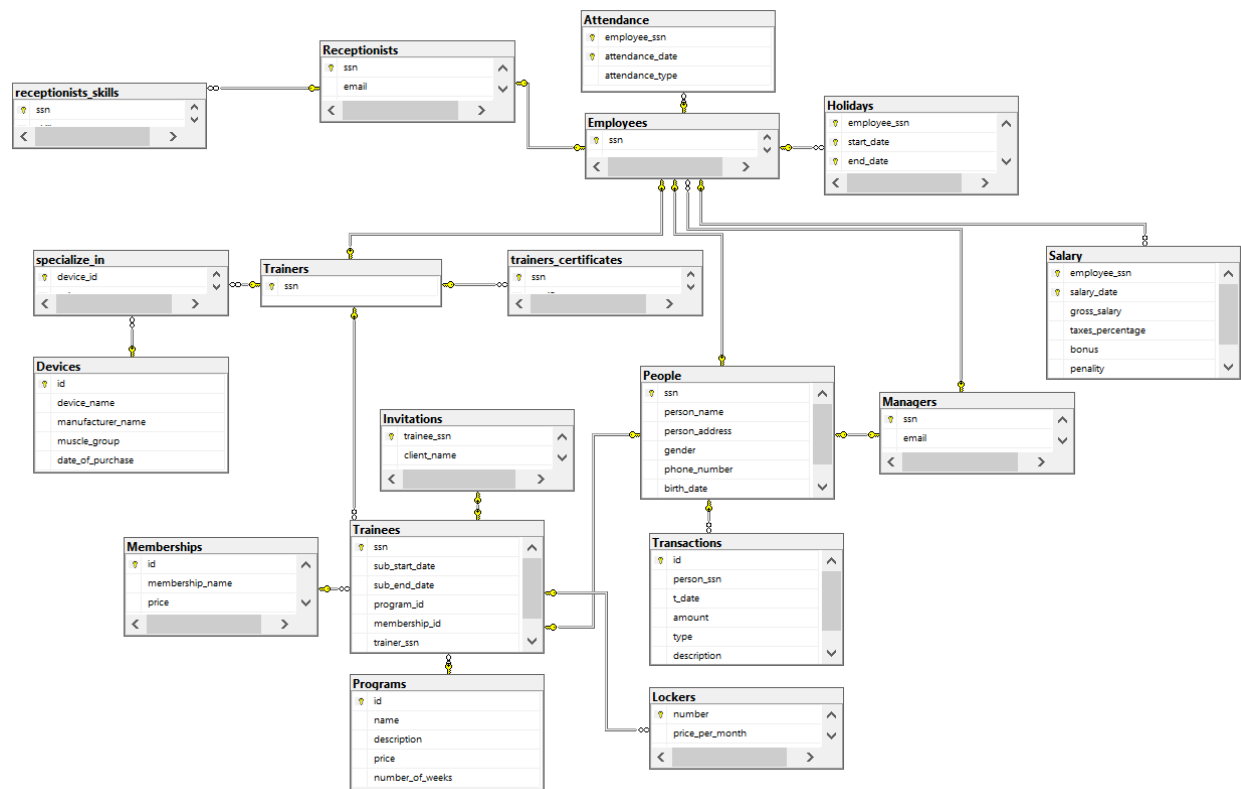
(Number of customers assigned to every trainer – number of customers using every device, Show profit of each year, etc.)

Tables: All tables

2. Receptionist

- a. Login
Tables: Receptionist
- b. Managing memberships
(Add – update - remove)
Tables: memberships
- c. Login trainers
Tables: trainers
- d. Assign trainers to trainees
Tables: trainers to trainees
- e. Update trainee program
(Training type – Equipment – days - time)
- f. Rent a locker
Tables: locker
- g. Request a holiday
Tables: holiday
- h. Register an invitation
Tables: invitation
- i. Add transaction
(Cannot view or delete)
Tables: transaction

Schema Diagram



Assumptions and Constraints

1. People

- Each person can make 0 or more transaction

2. Trainees

- Trainees will subscribe to membership.
- Trainees will have only one program or none.
- Trainees can be assigned to a trainer or none.
- Trainees can rent 1 locker monthly.

3. Employees

- Each employee has 1 or more manager
- Employees have attendance.
- Each employee can request multiple holidays

4. Trainers

- Each trainer is assigned zero or more trainees.
- Each trainer can be specialized in 0 or more device equipment

5. Managers

- Each manager manages 0 or more employees

6. Devices

- Each device has 1 or more trainers specialized in it.

7. Program

- A program can be used by multiple Trainees

8. Lockers

- Locker is assigned to 1 Trainee or none

9. Memberships

- Each membership could have zero or more than 1 trainee subscribed
- Each membership will have a limited number of invitations.

10. Salary

- Bonuses is based on the attendance (number of times the employees came early of the current month).
- Penalty is based on the attendance (number of times the employees absent or late of the current month).
- Each early come = +10 LE/day
- Each absent = -15 LE/day
- Each absent = -10 LE/day

11. Bonuses and penalty are updated each time the attendance entity is updated **Attendance**

- Keep track of the employee's attendance, where if he/she is attended or not, late, or early.
- Employee is considered attended if the holiday is accepted

12. Invitations

- Each trainee has a limited number of invitations

13. Transactions

- Managers' profit will be calculated (Net Profit)

Validations

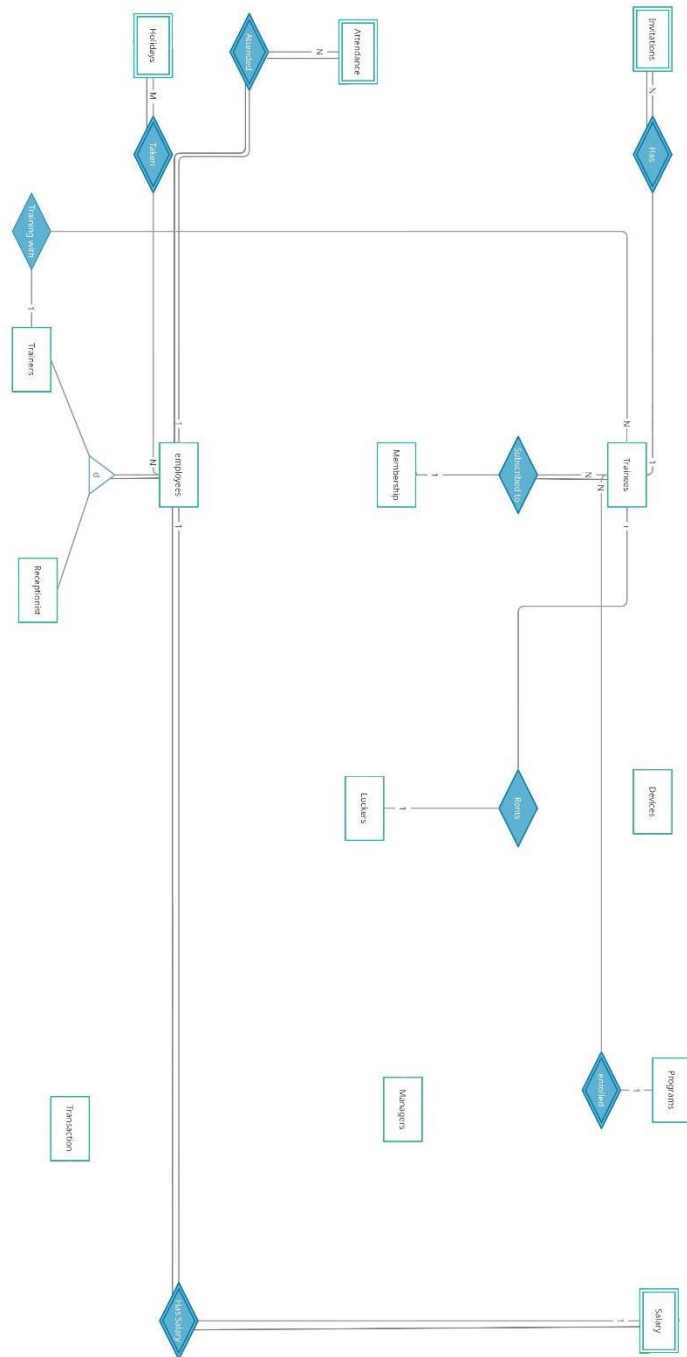
SSN – 14 digits

Password – 16 digits max

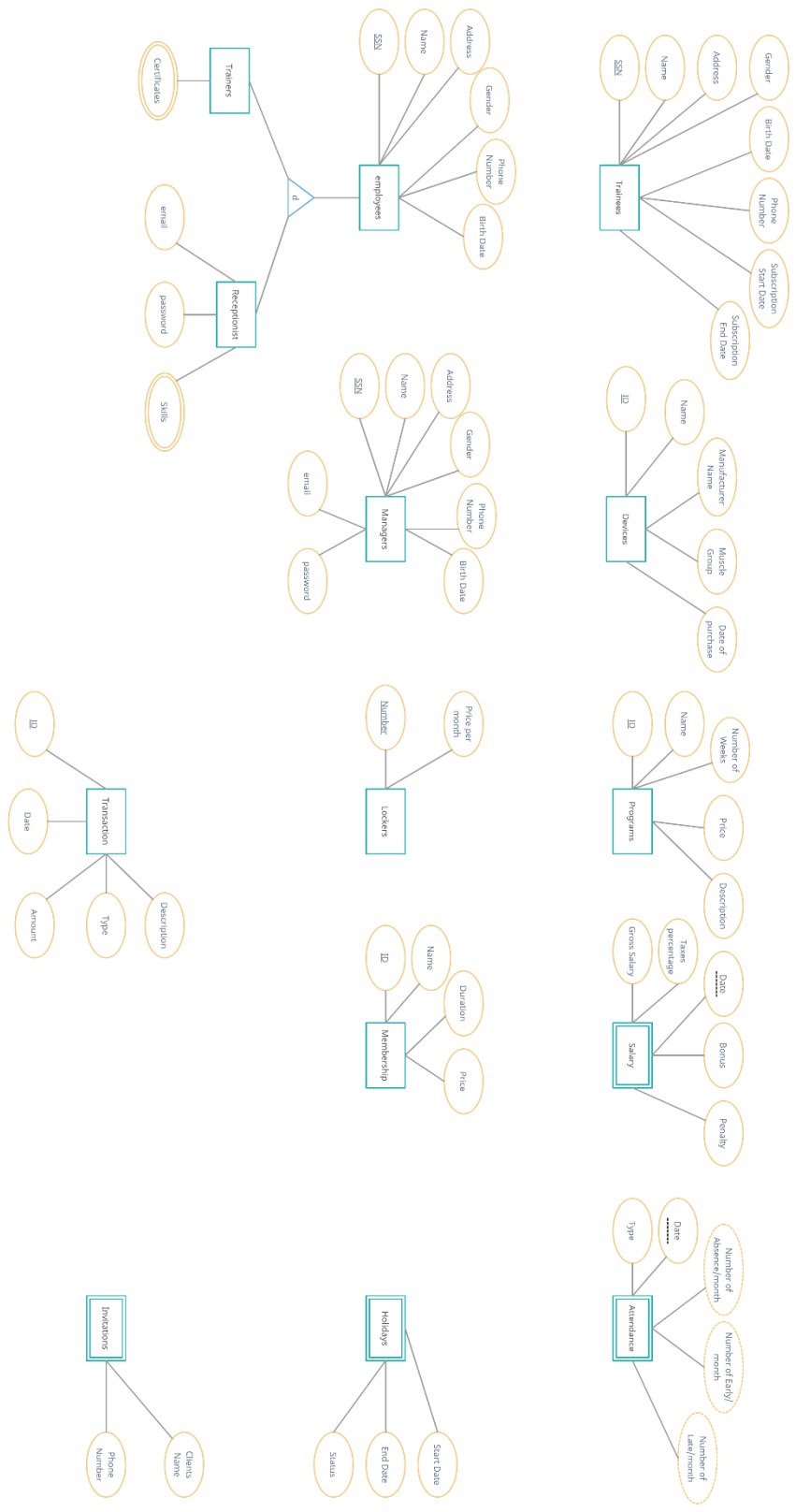
Phone number – 11 – 14 digits (may add +20)

NOTE: passwords are encrypted.

ER Relationships



ER Attributes



Full ER

