

Assignment #3 - Aquarium Report

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PART 1

Below you can find our recent business rules. The ones we have adjusted or added for a better entity-relationship diagram (ERD) are written in red. Below the rules, you can find other details we have gotten feedback on but decided a change would not benefit our ERD and why.

Recent Business Rules:

1. The employees in the aquarium include Caretaker, veterinarians, security guard, janitor.
2. All employees have ID, first name, last name, birthday, shifts, hire date registered in the system.
3. Caretakers are assigned to tanks and look after at least one tank.
4. Caretakers feed animals according to their diets.
5. Veterinarians make periodical checkups for animals.
6. Each animal has a health record including their significant health issues and last checkup dates.
7. All animals have ID, species, diet, feeding time, gender.
8. All exhibits have ID, location, tank count, animal family type.
9. Each exhibit contains one or many tanks and each tank is part of exactly one exhibit.
10. Each tank contains one or many animals and each animal is in exactly one tank.
11. All tanks have ID, exhibit name, capacity, type, plus caretakers and veterinarians assigned.
12. Each janitor can clean one or many tanks and each tank only has one janitor.
13. Live measurements are done for water in the tanks, including temperature, ph, and clarity.
14. Each species has its own diet that the caretakers feed them.
15. The aquarium has multiple security guards.
16. Security guards have ID, shift hours and work days.
17. All aquariums have an ID, address, opening time and closing time.

SSN would not add benefit to our ERD since it is all about finance. We use EmployeeID as our primary key and thus need no other way to uniquely identify the employees. Furthermore, SSN is only valid in US, whereas we wanted to create a general ERD which can be applied to aquarium systems anywhere.

We decided not to keep visitors in our database since we do not think they are significant. All visitors are temporary, they can visit the aquarium anytime they want and as many times as they want, add nothing special to our ERD since we do not care about finance, thus statistics regarding finance as well.

PART 2

ACCESS LINK TO OUR LUCIDCHART ERD:

<https://www.lucidchart.com/invitations/accept/d8d74ab1-8ae3-4df9-9b31-a90bc1184c3c>

PART 3

ENTITY INSTANCES:

Aquarium

- AquariumID: 00001
- Address: 500 Oracle Parkway Redwood Shores, CA 94605
- Opening Time: 08.00
- Closing Time: 21.00

Exhibit

- ExhibitID: 00001
- Location: Cetacean Segment
- TankCount: 15
- AnimalFamilyType: Cetaceans
- Name: The Mysteries of Dolphins and Its Relatives

Tank

- TankID: 00001
- Capacity: 10
- SpeciesType: Orcas
- WaterType: Saltwater

Employees

- EmployeeID: 00001
- FirstName: Robert James
- LastName: Fischer
- Birthday: March 9, 1943
- HireDate: July 11, 1972
- ShiftDay: Mondays Wednesdays and Fridays
- ShiftHour: 08.00-21.00

Animals

- AnimalID: 00001
- Species: Hammerhead Shark
- Feeding Time: 09.00, 13.00, 22.00
- Diet: 2 portions of stingray for breakfast, 1 octopus and 1 crustacean for lunch, 2 squids for dinner
- Gender: Male

Measurement

- MeasurementID: 00001
- pH: 5.6

- Temperature: 18 Degrees Celcius
- Clarity: Clean

Health Report

- ReportID: 00001
- Date: March 17, 2019
- Time: 17.25
- NextCheckupDate: March 25, 2019
- Comment: Needs more Magnesium in its diet
- Sickness: Lack of Magnesium

Caretaker

- CEmployeeID: 00002
- CShiftDay: Thursdays and Saturdays
- CShiftHour: 08.00-21.00

Security Guard

- SGEmployeeID: 00003
- SGShiftDay: Tuesdays, Thursdays and Saturdays
- SGShiftHour: 08.00-16.00

Veterinarian

- VEmployeeID: 00004
- VClass: Cephalopods
- VShiftDay: Tuesdays, Thursdays and Fridays
- VShiftHour: 08.00-16.00