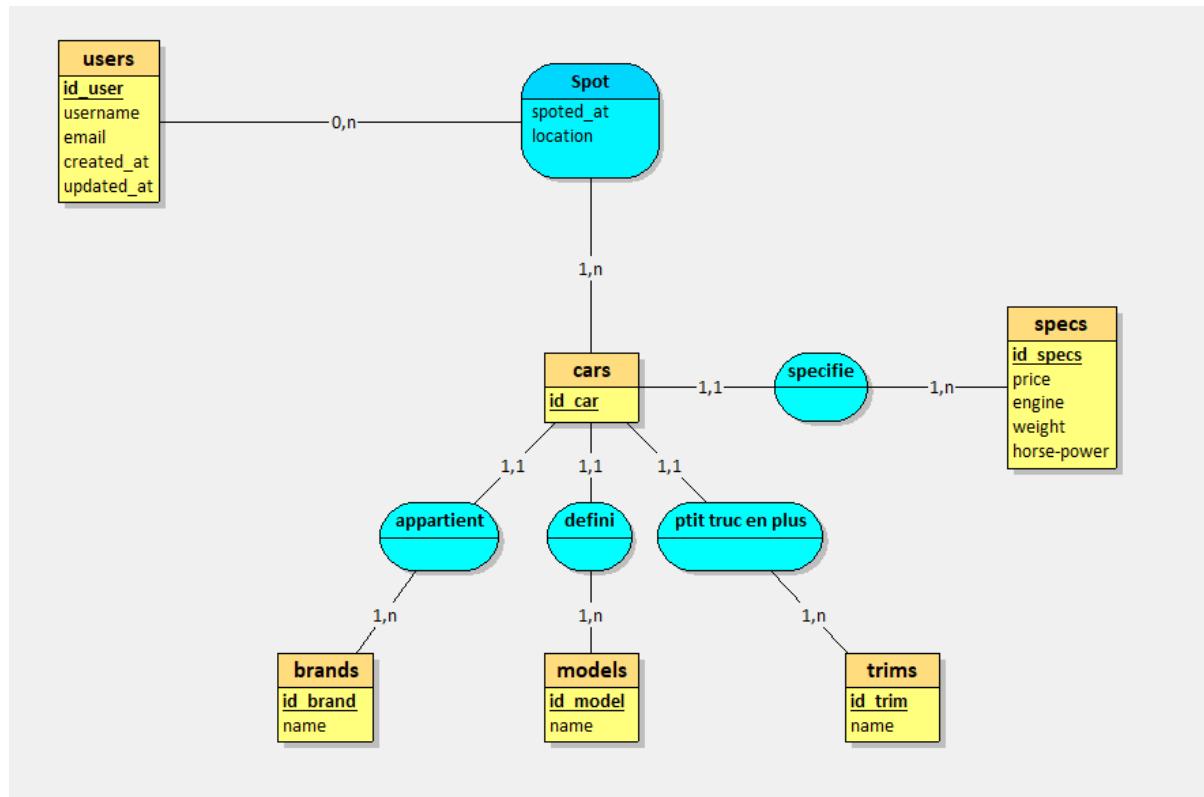


<https://github.com/leogrd49/carspot-app-IIA-I3>

## 1. MCD



MLD :

```
users = (id_user INT, username VARCHAR(50), email VARCHAR(50), created_at  
DATETIME, updated_at DATETIME);  
brands = (id_brand INT, name VARCHAR(50));  
models = (id_model INT, name VARCHAR(50));  
trims = (id_trim INT, name VARCHAR(50));  
specs = (id_specs INT, price DECIMAL(15,2), engine VARCHAR(50), weight  
DECIMAL(15,2), horse_power VARCHAR(50));  
cars = (id_car INT, #id_specs, #id_trim, #id_model, #id_brand);  
Spot = (#id_user, #id_car, spotted_at DATETIME, location VARCHAR(50));
```

## 2. SCRIPT SQL

```
CREATE TABLE users(
    id_user INT,
    username VARCHAR(50),
    email VARCHAR(50),
    created_at DATETIME,
    updated_at DATETIME,
    PRIMARY KEY(id_user)
) ;

CREATE TABLE brands(
    id_brand INT,
    name VARCHAR(50),
    PRIMARY KEY(id_brand)
) ;

CREATE TABLE models(
    id_model INT,
    name VARCHAR(50),
    PRIMARY KEY(id_model)
) ;

CREATE TABLE trims(
    id_trim INT,
    name VARCHAR(50),
    PRIMARY KEY(id_trim)
) ;

CREATE TABLE specs(
    id_specs INT,
    price DECIMAL(15,2),
    engine VARCHAR(50),
    weight DECIMAL(15,2),
    horse_power VARCHAR(50),
    PRIMARY KEY(id_specs)
) ;

CREATE TABLE cars(
    id_car INT,
    id_specs INT NOT NULL,
    id_trim INT NOT NULL,
    id_model INT NOT NULL,
    id_brand INT NOT NULL,
    PRIMARY KEY(id_car),
```

```
FOREIGN KEY(id_specs) REFERENCES specs(id_specs),
FOREIGN KEY(id_trim) REFERENCES trims(id_trim),
FOREIGN KEY(id_model) REFERENCES models(id_model),
FOREIGN KEY(id_brand) REFERENCES brands(id_brand)
);

CREATE TABLE Spot(
    id_user INT,
    id_car INT,
    spoted_at DATETIME,
    location VARCHAR(50),
    PRIMARY KEY(id_user, id_car),
    FOREIGN KEY(id_user) REFERENCES users(id_user),
    FOREIGN KEY(id_car) REFERENCES cars(id_car)
);
```

### 3. Création de la BDD

```
--  
-- INSERT INTO USERS (10 lignes)  
-----  
  
INSERT INTO users (id_user, username, email, created_at, updated_at)  
VALUES  
(1, 'carspotter01', 'spotter01@example.com', NOW(), NOW()),  
(2, 'auto_fan', 'autofan@example.com', NOW(), NOW()),  
(3, 'luxuryhunter', 'luxuryhunter@example.com', NOW(), NOW()),  
(4, 'speedlover', 'speedlover@example.com', NOW(), NOW()),  
(5, 'dailycarspot', 'dailycarspot@example.com', NOW(), NOW()),  
(6, 'paris_spots', 'parisspots@example.com', NOW(), NOW()),  
(7, 'nyc_cars', 'nyccars@example.com', NOW(), NOW()),  
(8, 'motorhead', 'motorhead@example.com', NOW(), NOW()),  
(9, 'randomspotter', 'randomspotter@example.com', NOW(), NOW()),  
(10, 'exotic_finder', 'exoticfinder@example.com', NOW(), NOW());  
  
-----  
-- INSERT INTO BRANDS (10 lignes)  
-----  
  
INSERT INTO brands (id_brand, name) VALUES  
(1, 'Ferrari'),  
(2, 'Lamborghini'),  
(3, 'Porsche'),  
(4, 'BMW'),  
(5, 'Mercedes'),  
(6, 'Audi'),  
(7, 'McLaren'),  
(8, 'Bugatti'),  
(9, 'Aston Martin'),  
(10, 'Tesla');  
  
-----  
-- INSERT INTO MODELS (10 lignes)  
-----  
  
INSERT INTO models (id_model, name) VALUES  
(1, '488 GTB'),  
(2, 'Huracán EVO'),  
(3, '911 Turbo S'),  
(4, 'M3 G80'),
```

```

(5, 'AMG GT'),
(6, 'RS6 Avant'),
(7, '720S'),
(8, 'Chiron'),
(9, 'Vantage'),
(10, 'Model S Plaid');

-----
-- INSERT INTO TRIMS (10 lignes)
-----

INSERT INTO trims (id_trim, name) VALUES
(1, 'Base'),
(2, 'Sport'),
(3, 'Track'),
(4, 'Performance'),
(5, 'Luxury'),
(6, 'Black Edition'),
(7, 'N-Lite'),
(8, 'Evo'),
(9, 'Turbo'),
(10, 'Carbon Pack');

-----
-- INSERT INTO SPECS (10 lignes)
-----

INSERT INTO specs (id_specs, price, engine, weight, horse_power)
VALUES
(1, 250000, 'V8', 1475, '670'),
(2, 300000, 'V10', 1422, '640'),
(3, 230000, 'Flat-6', 1580, '650'),
(4, 95000, 'L6', 1650, '510'),
(5, 150000, 'V8', 1730, '585'),
(6, 130000, 'V8', 1950, '600'),
(7, 300000, 'V8', 1400, '720'),
(8, 3500000, 'W16', 1995, '1500'),
(9, 180000, 'V8', 1700, '528'),
(10, 120000, 'Electric', 2200, '1020');

-----
-- INSERT INTO CARS (10 lignes)
-----

INSERT INTO cars (id_car, id_specs, id_trim, id_model, id_brand)

```

```
VALUES
(1, 1, 10, 1, 1),
(2, 2, 8, 2, 2),
(3, 3, 9, 3, 3),
(4, 4, 2, 4, 4),
(5, 5, 5, 5, 5),
(6, 6, 6, 6, 6),
(7, 7, 10, 7, 7),
(8, 8, 3, 8, 8),
(9, 9, 5, 9, 9),
(10, 10, 4, 10, 10);

-----
-- INSERT INTO SPOT (10 lignes)
-----

INSERT INTO Spot (id_user, id_car, spoted_at, location) VALUES
(1, 1, '2025-01-01 14:21:00', 'Paris'),
(2, 2, '2025-01-02 16:10:00', 'Lyon'),
(3, 3, '2025-01-05 12:05:00', 'Marseille'),
(4, 4, '2025-01-10 09:00:00', 'Geneva'),
(5, 5, '2025-01-11 18:41:00', 'Berlin'),
(6, 6, '2025-01-15 20:15:00', 'Madrid'),
(7, 7, '2025-01-20 10:30:00', 'Lisbon'),
(8, 8, '2025-01-22 11:00:00', 'Rome'),
(9, 9, '2025-01-23 15:50:00', 'London'),
(10, 10, '2025-01-25 17:10:00', 'Amsterdam');
```

#### 4. Requêtes SQL

```
SELECT location, COUNT(*) AS nb_spots
FROM Spot
GROUP BY location;

SELECT username
FROM users
ORDER BY created_at DESC;

SELECT users.username, brands.name
FROM Spot
JOIN users ON users.id_user = Spot.id_user
JOIN cars ON cars.id_car = Spot.id_car
JOIN brands ON brands.id_brand = cars.id_brand;

UPDATE users
SET email = 'modif@mail.com'
WHERE id_user = 1;

DELETE FROM Spot
WHERE location = 'Paris';

SELECT location, COUNT(*)
FROM Spot
GROUP BY location
HAVING COUNT(*) > 1;

SELECT name
FROM brands
UNION
SELECT name
FROM models;

ALTER TABLE users
ADD phone VARCHAR(20);

ALTER TABLE cars
DROP FOREIGN KEY cars_ibfk_2;
```

```
DROP TABLE IF EXISTS trims;

SELECT *
FROM users
LIMIT 5;

SELECT DISTINCT location
FROM Spot;

SELECT *
FROM users
WHERE username LIKE 'A%';

SELECT *
FROM cars
WHERE id_brand IN (1,2,3);

SELECT *
FROM specs
WHERE price BETWEEN 50000 AND 300000;

SELECT id_user,
CASE
    WHEN id_user <= 3 THEN 'Niveau 1'
    WHEN id_user <= 6 THEN 'Niveau 2'
    ELSE 'Niveau 3'
END AS niveau
FROM users;

TRUNCATE TABLE Spot;

EXPLAIN SELECT *
FROM users;

CREATE VIEW vue_spots AS
SELECT users.username, cars.id_car
FROM Spot
JOIN users ON users.id_user = Spot.id_user
JOIN cars ON cars.id_car = Spot.id_car;

CREATE OR REPLACE VIEW vue_spots_v2 AS
SELECT users.username, location
```

```
FROM Spot
JOIN users ON users.id_user = Spot.id_user;

DROP VIEW vue_spots_v2;
```