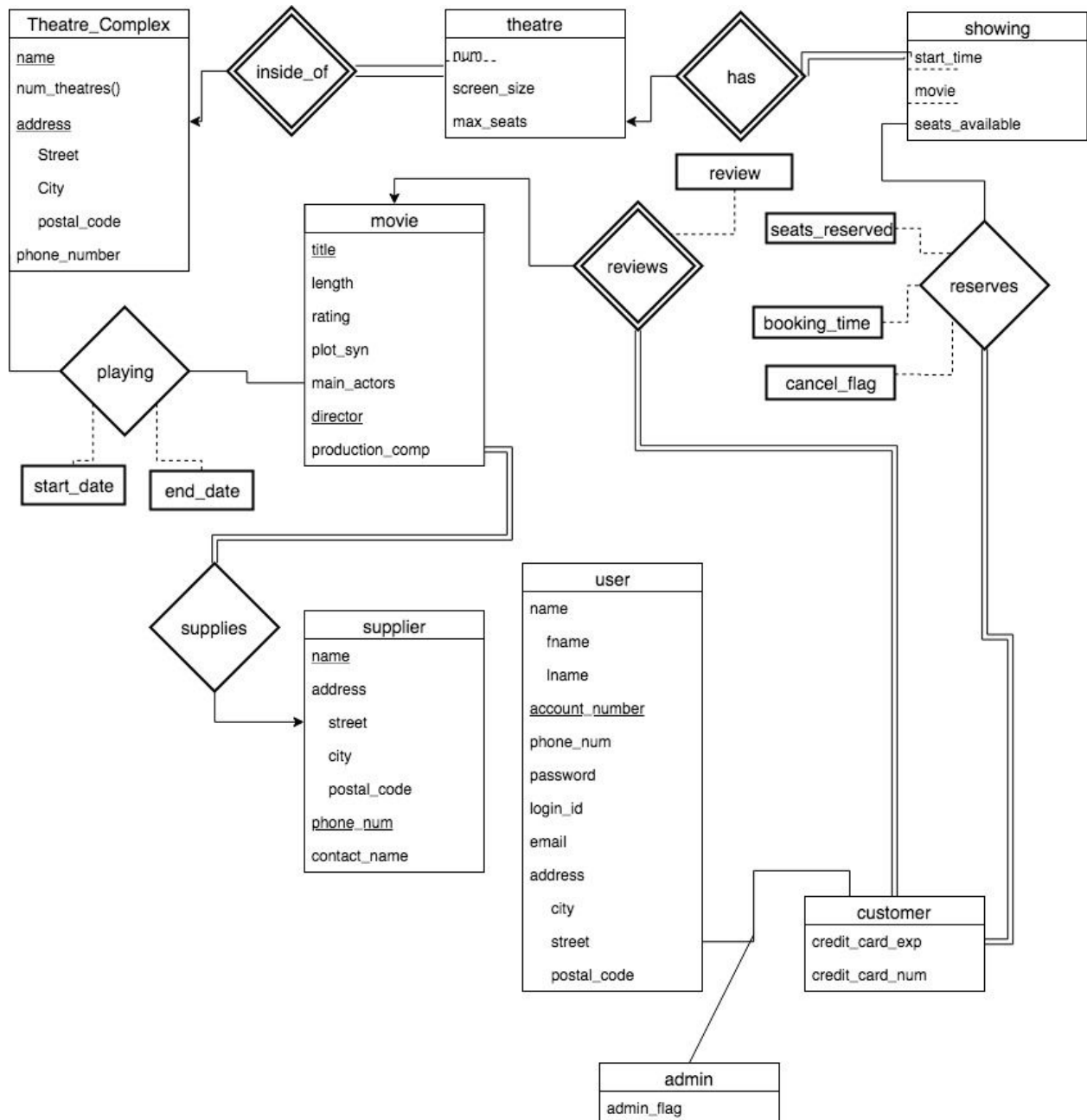


Group 13 (Christopher Ko - 10106388, Alfred Chen - 10092417, Hannah LeBlanc - 10091837)

## Assumptions

- When the customer makes a login id and password, an account id is assigned to them automatically
- For theatre\_complex entity, we are assuming that the combination of address, and name create a unique primary key
- Admins will not be able to book reservations, they are considered users but not like customers
- Postal code is variable between countries
- Phone number is integer - no leading zeros - no area code begins with zero
- We are storing passwords, credit card numbers and expiry dates in plain text. If this were implemented in the real world we would not do this
- Credit card numbers can vary in length

## ERM



## DDL

```

USE
    Db_omts;

CREATE TABLE theatre_complex(
    num_theatres INTEGER NOT NULL,
    NAME VARCHAR(50) NOT NULL,

```

```

        street VARCHAR(50) NOT NULL,
        city VARCHAR(50) NOT NULL,
        postal_code VARCHAR(6) NOT NULL,
        phone_number INTEGER NOT NULL,
        PRIMARY KEY(
            NAME,
            street,
            city,
            postal_code
        )
    );

CREATE TABLE theatre(
    num INTEGER NOT NULL,
    max_seats INTEGER NOT NULL,
    screen_size CHAR(1) NOT NULL,
    NAME VARCHAR(50) NOT NULL,
    street VARCHAR(50) NOT NULL,
    city VARCHAR(50) NOT NULL,
    postal_code VARCHAR(6) NOT NULL,
    PRIMARY KEY(
        num,
        NAME,
        street,
        city,
        postal_code
    ),
    FOREIGN KEY(
        NAME,
        street,
        city,
        postal_code
    ) REFERENCES theatre_complex(
        NAME,
        street,
        city,
        postal_code
    )
);

CREATE TABLE showing(
    start_time DATE NOT NULL,
    seats_available INTEGER NOT NULL,
    title VARCHAR(100) NOT NULL,
    director VARCHAR(50) NOT NULL,
    num INTEGER NOT NULL,
    NAME VARCHAR(50) NOT NULL,
    street VARCHAR(50) NOT NULL,
    city VARCHAR(50) NOT NULL,
    postal_code VARCHAR(6) NOT NULL,
    PRIMARY KEY(
        num,
        NAME,
        street,
        city,
        postal_code,
        start_time,
        title,
        director
    ),

```

```

        FOREIGN KEY(
            num,
            NAME,
            street,
            city,
            postal_code
        ) REFERENCES theatre(
            num,
            NAME,
            street,
            city,
            postal_code
        ),
        FOREIGN KEY(title, director) REFERENCES movie(title, director)
    );

CREATE TABLE movie(
    title VARCHAR(100) NOT NULL,
    director VARCHAR(50) NOT NULL,
    LENGTH DOUBLE NOT NULL,
    rating VARCHAR(5),
    plot_synopsis TEXT,
    actors TEXT,
    production_company VARCHAR(50),
    supplier_name VARCHAR(40) NOT NULL,
    supplier_phone_number INTEGER NOT NULL,
    PRIMARY KEY(title, director),
    FOREIGN KEY(
        supplier_name,
        supplier_phone_number
    ) REFERENCES supplier(NAME, phone_number)
);

CREATE TABLE playing(
    start_date DATE NOT NULL,
    end_date DATE NOT NULL,
    NAME VARCHAR(50) NOT NULL,
    street VARCHAR(50) NOT NULL,
    city VARCHAR(50) NOT NULL,
    postal_code VARCHAR(6) NOT NULL,
    title VARCHAR(100) NOT NULL,
    director VARCHAR(50) NOT NULL,
    PRIMARY KEY(
        NAME,
        street,
        city,
        postal_code,
        title,
        director
    ),
    FOREIGN KEY(
        NAME,
        street,
        city,
        postal_code
    ) REFERENCES theatre_complex(
        NAME,
        street,
        city,
        postal_code
    )
);

```

```

    ),
    FOREIGN KEY(title, director) REFERENCES movie(title, director)
);

CREATE TABLE supplier(
    NAME VARCHAR(40) NOT NULL,
    street VARCHAR(50) NOT NULL,
    city VARCHAR(50) NOT NULL,
    postal_code VARCHAR(6) NOT NULL,
    phone_number INTEGER NOT NULL,
    contact_name VARCHAR(40) NOT NULL,
    PRIMARY KEY(NAME, phone_number)
);

CREATE TABLE customer(
    fname VARCHAR(50) NOT NULL,
    lname VARCHAR(50) NOT NULL,
    account_number INTEGER NOT NULL AUTO_INCREMENT,
    phone_number VARCHAR(30),
    PASSWORD TEXT NOT NULL,
    login_id VARCHAR(50) NOT NULL,
    email VARCHAR(50) NOT NULL,
    street VARCHAR(50),
    city VARCHAR(12),
    postal_code VARCHAR(6),
    credit_card_num VARCHAR(30),
    credit_expiry_date DATE,
    PRIMARY KEY(account_number)
);

CREATE TABLE admin(
    fname VARCHAR(50) NOT NULL,
    lname VARCHAR(50) NOT NULL,
    account_number INTEGER NOT NULL AUTO_INCREMENT,
    phone_number VARCHAR(30),
    PASSWORD TEXT NOT NULL,
    login_id VARCHAR(50) NOT NULL,
    email VARCHAR(50) NOT NULL,
    street VARCHAR(50),
    city VARCHAR(50),
    postal_code VARCHAR(6),
    admin_flag BOOLEAN,
    PRIMARY KEY(account_number)
);

CREATE TABLE reviews(
    review TEXT,
    title VARCHAR(100) NOT NULL,
    director VARCHAR(50),
    account_number INTEGER NOT NULL,
    PRIMARY KEY(
        title,
        director,
        account_number
    ),
    FOREIGN KEY(title, director) REFERENCES movie(title, director),
    FOREIGN KEY(account_number) REFERENCES customer(account_number)
);

CREATE TABLE reserves(

```

```

account_number INTEGER NOT NULL,
num INTEGER NOT NULL,
NAME VARCHAR(50) NOT NULL,
street VARCHAR(50) NOT NULL,
city VARCHAR(50) NOT NULL,
postal_code VARCHAR(6) NOT NULL,
start_time DATE NOT NULL,
title VARCHAR(100) NOT NULL,
director VARCHAR(50),
seats_reserved INTEGER NOT NULL,
booking_time DATE NOT NULL,
cancel_flag BOOLEAN NOT NULL,
PRIMARY KEY(
    account_number,
    num,
    NAME,
    street,
    city,
    postal_code,
    start_time,
    title,
    director
),
FOREIGN KEY(
    num,
    NAME,
    street,
    city,
    postal_code,
    start_time,
    title,
    director
) REFERENCES showing(
    num,
    NAME,
    street,
    city,
    postal_code,
    start_time,
    title,
    director
),
FOREIGN KEY(account_number) REFERENCES customer(account_number)
);

```

## Data and Table Views

### Table - Theatre complex

```

INSERT INTO theatre_complex(num_theatres, name, street, city, postal_code, phone_number)
VALUES (3, "complex_1", "1 Theatre Lane", "Kingston", "F9G6U5", 6131234567);

```

```

INSERT INTO theatre_complex(num_theatres, name, street, city, postal_code, phone_number)
VALUES (2, "complex_2", "2 Cinema Avenue", "Calgary", "Y8I400", 1111111111);

```

```

INSERT INTO theatre_complex(num_theatres, name, street, city, postal_code, phone_number)

```

```
VALUES (1, "complex_3", "17 Star Wars Park", "Toronto", "M1W4Z2", 123456789);
```

num_theatres	name	street	city	postal_code	phone_number
3	complex_1	1 Theatre Lane	Kingston	F9G6U5	2147483647
2	complex_2	2 Cinema Avenue	Calgary	Y8I4O0	1111111111
1	complex_3	17 Star Wars Park	Toronto	M1W4Z2	123456789

### Table - theatre

```
INSERT INTO theatre(num, max_seats, screen_size, name, street, city, postal_code)
VALUES (1, 10, "S", "complex_1", "1 Theatre Lane", "Kingston", "F9G6U5");
```

```
INSERT INTO theatre(num, max_seats, screen_size, name, street, city, postal_code)
VALUES (2, 15, "M", "complex_1", "1 Theatre Lane", "Kingston", "F9G6U5");
```

```
INSERT INTO theatre(num, max_seats, screen_size, name, street, city, postal_code)
VALUES (3, 25, "L", "complex_1", "1 Theatre Lane", "Kingston", "F9G6U5");
```

```
INSERT INTO theatre(num, max_seats, screen_size, name, street, city, postal_code)
VALUES (1, 10, "S", "complex_2", "2 Cinema Avenue", "Calgary", "Y8I4O0");
```

```
INSERT INTO theatre(num, max_seats, screen_size, name, street, city, postal_code)
VALUES (2, 20, "M", "complex_2", "2 Cinema Avenue", "Calgary", "Y8I4O0");
```

```
INSERT INTO theatre(num, max_seats, screen_size, name, street, city, postal_code)
VALUES (1, 13, "S", "complex_3", "17 Star Wars Park", "Toronto", "M1W4Z2");
```

num	max_seats	screen_size	name	street	city	postal_code
1	10	S	complex_1	1 Theatre Lane	Kingston	F9G6U5
1	10	S	complex_2	2 Cinema Avenue	Calgary	Y8I4O0
1	13	S	complex_3	17 Star Wars Park	Toronto	M1W4Z2
2	15	M	complex_1	1 Theatre Lane	Kingston	F9G6U5
2	20	M	complex_2	2 Cinema Avenue	Calgary	Y8I4O0
3	25	L	complex_1	1 Theatre Lane	Kingston	F9G6U5

### Table - showing

```
INSERT INTO
showing(start_time,seats_available,title,director,num,name,street,city,postal_code)
VALUES ("2222-08-05",11,"FAST FIFTY","Arfus Chen", 1, "complex_1", "1 Theatre Lane",
"Kingston", "F9G6U5");
```

```
INSERT INTO
```

```

showing(start_time,seats_available,title,director,num,name,street,city,postal_code)
VALUES ("2222-08-05",21,"RECURSION RECURSION","Hann Leblank", 2, "complex_2", "2 Cinema Avenue", "Calgary", "Y8I400");

```

start_time	seats_available	title	director	num	name	street	city	postal_code
2222-08-05	11	FAST FIFTY	Arfus Chen	1	complex_1	1 Theatre Lane	Kingston	F9G6U5
2222-08-05	21	RECURSION RECURSION	Hann Leblank	2	complex_2	2 Cinema Avenue	Calgary	Y8I400

## Table - movie

```

INSERT INTO movie(title, director, length, rating, plot_synopsis, actors,
production_company, supplier_name, supplier_phone_number)
VALUES ("FAST FIFTY", "Arfus Chen", 1, "G", "Go fast. Go furious", "Dude_1", "My house",
"Their house", 123123123);

INSERT INTO movie(title, director, length, rating, plot_synopsis, actors,
production_company, supplier_name, supplier_phone_number)
VALUES ("RECURSION RECURSION", "Hann Leblank", 2, "R", "Recursive. Recursion", "Gal_1", "Her house",
"His house", 123456123);

```

title	director	length	rating	plot_synopsis	actors	production_company	supplier_name	supplier_phone_number
FAST FIFTY	Arfus Chen	1	G	Go fast. Go furious	Dude_1	My house	Their house	123123123
RECURSION RECURSION	Hann Leblank	2	R	Recursive. Recursion	Gal_1	Her house	His house	123456123

## Table - playing

```

INSERT INTO playing(start_date, end_date, name, street, city, postal_code, title, director)
VALUES ("2018-03-03", "2021-06-15", "complex_1", "1 Theatre Lane", "Kingston", "F9G6U5",
"FAST FIFTY", "Arfus Chen");

INSERT INTO playing(start_date, end_date, name, street, city, postal_code, title, director)
VALUES ("2019-03-03", "2021-06-15", "complex_2", "2 Cinema Avenue", "Calgary", "Y8I400",
"RECURSION RECURSION", "Hann Leblank");

INSERT INTO playing(start_date, end_date, name, street, city, postal_code, title, director)
VALUES ("2019-03-03", "2021-06-15", "complex_3", "17 Star Wars Park", "Toronto", "M1W4Z2",
"RECURSION RECURSION", "Hann Leblank");

```

start_date	end_date	name	street	city	postal_code	title	director
2018-03-03	2021-06-15	complex_1	1 Theatre Lane	Kingston	F9G6U5	FAST FIFTY	Arfus Chen
2019-03-03	2021-06-15	complex_2	2 Cinema Avenue	Calgary	Y8I400	RECURSION RECURSION	Hann Leblank
2019-03-03	2021-06-15	complex_3	17 Star Wars Park	Toronto	M1W4Z2	RECURSION RECURSION	Hann Leblank



Table - supplier

```
INSERT INTO supplier(name, street, city, postal_code, phone_number, contact_name)
VALUES ("supplier_1", "1234 Supplier Road", "Vancouver", "F8Y8U9", 9586748590, "person
name");

INSERT INTO supplier(name, street, city, postal_code, phone_number, contact_name)
VALUES ("supplier_2", "675849 Main Street - Unit 3", "Edmonton", "A7H4O1", 3859481728, "Abby
Chan");
```

name	street	city	postal_code	phone_number	contact_name
supplier_1	1234 Supplier Road	Vancouver	F8Y8U9	2147483647	person name
supplier_2	675849 Main Street - Unit 3	Edmonton	A7H4O1	2147483647	Abby Chan

Table - customer

```
INSERT INTO customer (fname, lname,phone_number,password, login_id, email, street, city,
postal_code, credit_card_num, credit_expiry_date)
VALUES ("Hannah","LeBlanc",6136136133,"HELLO", "hanskisj","hannah.leblanc@queensu.ca","10
Main Street","Kingston","W3R499","1111111111111111","2021-06-00");

INSERT INTO customer (fname, lname,phone_number,password, login_id, email, street, city,
postal_code, credit_card_num, credit_expiry_date)
VALUES ("Christophe","Ko",4164164166,"WHAT", "chrissycakez","chris.ko@queensu.ca","400
Byward Street","Kingston","W3K779","2222222222222222","2021-08-00");

INSERT INTO customer (fname, lname,phone_number,password, login_id, email, street, city,
postal_code, credit_card_num, credit_expiry_date)
VALUES ("Alfred","Chen",7897897899,"UP", "alfredlixixi","alfred.chen@queensu.ca","32 King
Street","Kingston","W33GH9","3333333333333333","2021-07-00");
```

fname	lname	account_number	phone_number	password	login_id	email	street	city	postal_code	credit_card_num
Hannah	LeBlanc	1	6136136133	HELLO	hanskisj	hannah.leblanc@queensu.ca	10 Main Street	Kingston	W3R499	1111111111111111
Christopher	Ko	2	4164164166	WHAT	chrissycakez	chris.ko@queensu.ca	400 Byward Street	Kingston	W3K779	2222222222222222
Alfred	Chen	3	7897897899	UP	alfredlixixi	alfred.chen@queensu.ca	32 King Street	Kingston	W33GH9	3333333333333333

Table - admin

```
INSERT INTO admin (fname, lname,phone_number,password, login_id, email, street, city,
postal_code, admin_flag)
VALUES ("Admin","InCharge",9999999999, "admin", "admin","admin.admin@queensu.ca","1 Admin
Avenue","Kingston","H1H2H1",true);
```

fname	lname	account_number	phone_number	password	login_id	email	street	city	postal_code	admin_flag
Admin	InCharge	1	9999999999	admin	admin	admin.admin@queensu.ca	1 Admin Avenue	Kingston	H1H2H1	1

Table - reviews

```
INSERT INTO reviews(review, title, director, account_number)
VALUES ("This movie just kept repeating the first 5 minutes of the film.", "RECURSION RECURSION", "Hann Leblank", 1);
```

review	title	director	account_number
This movie just kept repeating the first 5 minutes...	RECURSION RECURSION	Hann Leblank	1

Table - reserves

```
INSERT INTO reserves(account_number, num, name, street, city, postal_code, start_time,
title, director, seats_reserved, booking_time, cancel_flag)
VALUES (1, 1, "complex_3", "17 Star Wars Park", "Toronto", "M1W4Z2", "2222-08-05", "FAST FIFTY", "Arfus Chen", 5, "2018-07-02", false);
```

account_number	num	name	street	city	postal_code	start_time	title	director	seats_reserved	booking_time	cancel_flag
1	1	complex_3	17 Star Wars Park	Toronto	M1W4Z2	2222-08-05	FAST FIFTY	Arfus Chen	5	2018-07-02	0