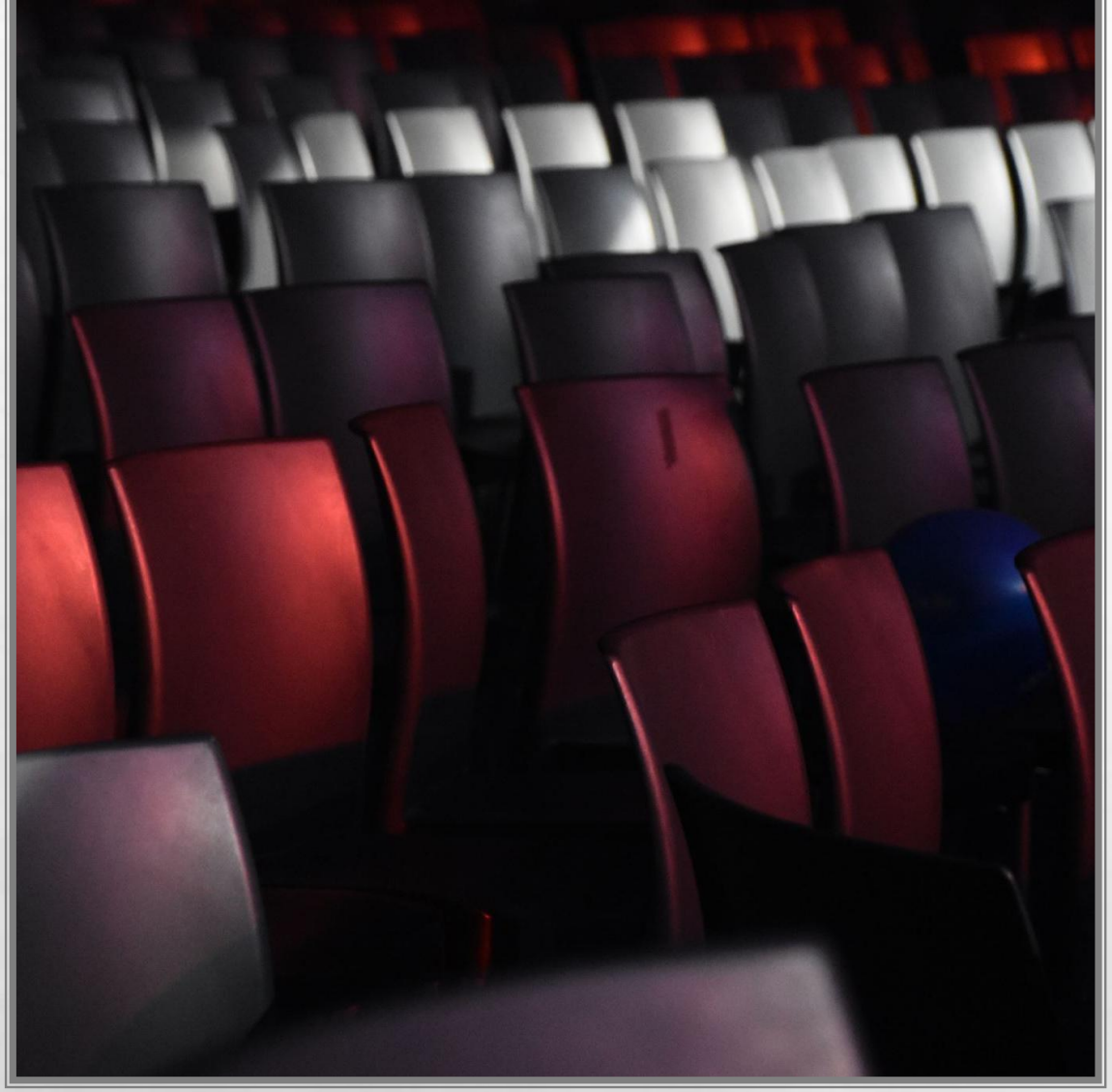
CINEFLICK

BY: GABRIEL HENDERSON



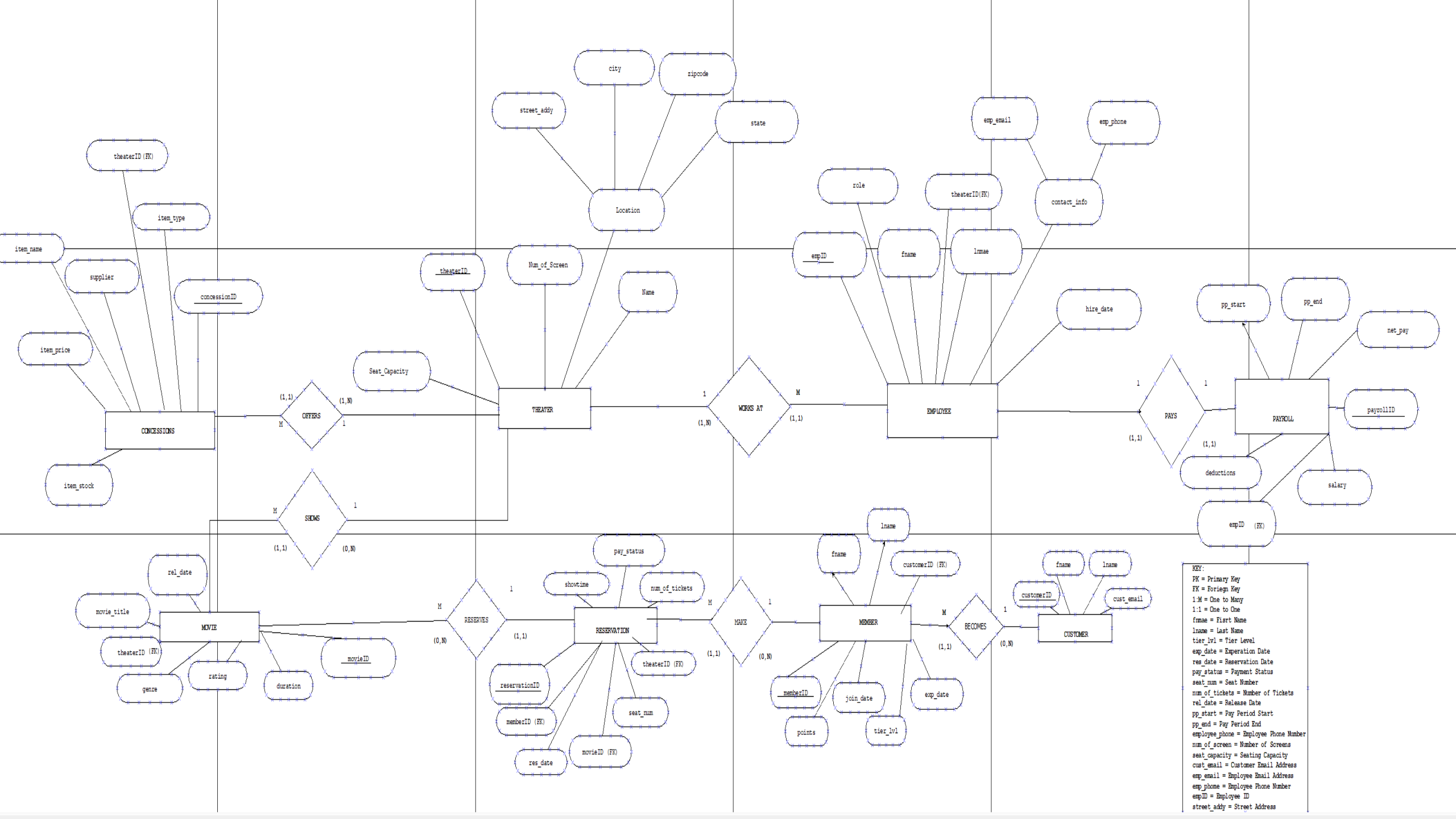
PROJECT PROPOSAL

- CINEFLICK IS A MOVIE THEATER CHAIN THAT UTILIZES A CENTRALIZED RELATIONAL DATABASE SOLUTION DESIGNED TO ELIMINATE DATA REDUNDANCY AND SUPPORT CRITICAL OPERATIONAL FUNCTIONS ACROSS ALL CINEMA LOCATIONS. THE SYSTEM GUARANTEES SUPERIOR DATA INTEGRITY FOR STAFFING, INVENTORY, AND TICKETING, ENABLING RAPID, ACCURATE REPORTING ESSENTIAL FOR EFFICIENT CHAIN MANAGEMENT.

ENTITIES AND ATTRIBUTES

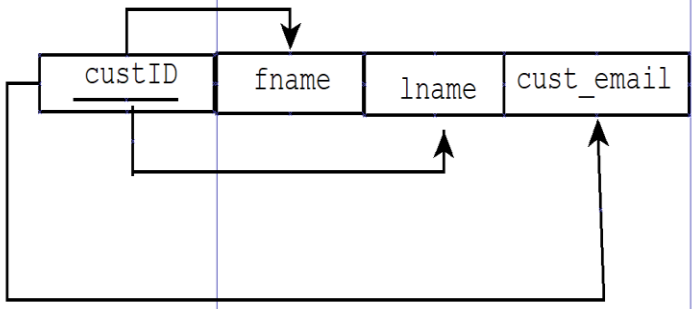
THEATRE	theaterID, name, street, city, state, zip, num_of_screens, seat_capacity
CUSTOMER	customerID, fname, lname, cust_email
MEMBERSHIP	memberID, customerIDFK, tier_lvl, points_balance, join_date, exp_date
EMPLOYEE	employeeID, fname, lname, role, hire_date, emp_email, emp_phone, theaterIDFK
PAYROLL	payrollID, employeeIDFK, pp_start, pp_end, salary_amount, deductions, net_pay
CONCESSIONS	concessionID, name, type, price, supplier, stock_quantity
MOVIE	movieID, title, genre, duration, rating, release_date, theaterIDFK
RESERVATION	resID, memberIDFK, movieIDFK, theaterIDFK, showtime, num_of_tickets, seat_numbers, res_date, pay_status
MARKETING	campaignID, campaign_name, start_date, budget, target_customer, promo_code
TRAINING	trainingID, training_type, employeeIDFK, comp_date, certificate_score

ER- DIAGRAM


city
zipcode
street_addy
state
Location
theaterID (FK)
item_type
item_name
supplier
concessionID
item_price
item_stock
CONCESSIONS
theaterID
Num_of_Screen
Name
Seat_Capacity
THEATER
OFFERS
(1,1)
(1,N)
M
1
SHOWS
M
1
(1,1)
(0,N)
1
WORKS AT
(1,N)
M
(1,1)
emp_email
emp_phone
role
theaterID(FK)
contact_info
empID
fname
lnmae
hire_date
EMPLOYEE
1
PAYS
(1,1)
1
(1,1)
pp_start
pp_end
net_pay
PAYROLL
payrollID
deductions
salary
empID (FK)
rel_date
movie_title
theaterID (FK)
genre
rating
duration
movieID
MOVIE
M
(0,N)
RESERVES
1
(1,1)
pay_status
showtime
num_of_tickets
RESERVATION
reservationID
memberID (FK)
res_date
movieID (FK)
seat_num
theaterID (FK)
M
(1,1)
MAKE
1
(0,N)
lname
fname
customerID (FK)
MEMBER
memberID
points
join_date
tier_lvl
exp_date
M
(1,1)
BECOMES
1
(0,N)
fname
lname
customerID
cust_email
CUSTOMER
KEY:
PK = Primary Key
FK = Foriegn Key
1:M = One to Many
1:1 = One to One
frmae = Fisrt Name
lname = Last Name
tier_lvl = Tier Level
exp_date = Experation Date
res_date = Reservation Date
pay_status = Payment Status
seat_num = Seat Number
num_of_tickets = Number of Tickets
rel_date = Release Date
pp_start = Pay Period Start
pp_end = Pay Period End
employee_phone = Employee Phone Number
num_of_screen = Number of Screens
seat_capacity = Seating Capacity
cust_email = Customer Email Address
emp_email = Employee Email Address
emp_phone = Employee Phone Number
empID = Employee ID
street_addy = Street Address

DEPENDENCY DIAGRAM

Customer(custID, fname, lname, cust_email)



- FIRST NORMAL FORM (1NF)
- THE TABLE PASSES 1NF BECAUSE ALL ATTRIBUTES ARE SINGLE VALUED. I ENSURED NO REPEATING GROUPS AND BROKE DOWN ANY LARGE FIELDS, FOR EXAMPLE SPLITTING A POTENTIAL 'FULL NAME' FIELD INTO FNAME AND LNAME.
- 2. SECOND NORMAL FORM (2NF)
- DEPENDENCY ON THE WHOLE KEY. THE TABLE PASSES 2NF BECAUSE THE PRIMARY KEY (CUSTOMERID) IS A SINGLE ATTRIBUTE. THIS STRUCTURE MAKES IT IMPOSSIBLE TO HAVE A PARTIAL DEPENDENCY, GUARANTEEING THAT ALL DATA DEPENDS ON THE ENTIRE KEY.
- 3. THIRD NORMAL FORM (3NF)
- ELIMINATING TRANSITIVE DEPENDENCY. THE TABLE PASSES 3NF BECAUSE THERE ARE NO TRANSITIVE DEPENDENCIES. AS SHOWN BY THE ARROWS, ALL NON-KEY ATTRIBUTES DEPEND DIRECTLY AND ONLY ON THE CUSTOMERID, ENSURING NO DATA REDUNDANCY.

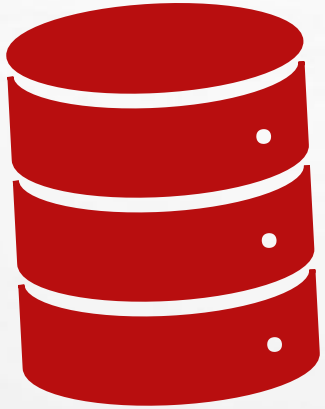
NORMALIZED RELATIONAL SCHEMA

- THEATRE (THEATERID, NAME, NUM_OF_SCREEN, SEAT_CAPACITY, STREET, CITY, ZIP, STATE)
- CUSTOMER (CUSTOMERID, FNAME, LNAME, CUST_EMAIL)
- MOVIE (MOVIEID, TITLE, GENRE, DURATION, RATING, REL_DATE, THEATERID)
- MEMBERSHIP (MEMBERID, TIER_LVL, POINTS, JOIN_DATE, EXP_DATE, CUSTOMERID)
- EMPLOYEE (EMPID, ROLE, FNAME, LNAME, EMP_EMAIL, EMP_PHONE, HIRE_DATE, THEATERID)
- PAYROLL (PAYROLLID, PP_START, PP_END, SALARY, NET_PAY, DEDUCTIONS,EMPID)
- CONCESSIONS (CONCESSIONID, ITEM_NAME, ITEM_TYPE, ITEM_PRICE, SUPPLIER, , ITEM_STOCK,THEATERID)
- RESERVATION (RESID, SHOWTIME, NUM_OF_TICKETS, SEAT_NUM, RES_DATE, PAY_STATUS ,MEMBERED,MOVIEID,THEATERID)

DATA DICTIONARY

TABLE NAME	ATTRIBUTE NAME	CONTENTS	TYPE	FORMAT	RANGE	REQUIRED	PK	FK	FK REFERENCED TABLE
THEATRE	TheatreID	Unique identifier for the theatre location.	CHAR(5)	XXXXX	A1001-Z9999	Y	PK		
	Name	Official name of the theatre.	VARCHAR(50)	X(50)	Alphanumeric	Y			
	Location	Physical address or district.	VARCHAR(255)	X(255)	Full Address	Y			
	Number_Of_Screens	Count of auditoriums in the theatre.	INT	99	1-20	Y			
	Seating_Capacity	Total seating capacity of the theatre.	INT	99999	50-5000	Y			

CONCESSIONS	ConcessionID	Unique ID for an item in the menu.	CHAR(5)	XXXXX	N/A	Y	PK		
	Name	Name of the concession item.	VARCHAR(50)	X(50)	e.g., Large Popcorn	Y			
	Type	Category of the concession item.	VARCHAR(50)	X(50)	e.g., Food, Drink, Candy	Y			
	Price	Selling price of the item.	NUMBER	999.99	>= 0.01	Y			
	Stock_Quantity	Current quantity in inventory.	INT	99999	>= 0	Y			
	Supplier	Vendor who	VARCHAR(100)	X(100)	N/A	Y			



DATABASE DEMO