DATABASE MANAGEMETN

CINEMA TICKET MANAGEMENT

(COMPUER STREAM - 4TH YEAR)

GROUP-9	ID
DAGMAWI GEBREWOLD	ATR/9848/10
SAMUEL NEGALIGN	ATR/2574/10
HENOK MITIKU	ATR/2159/10
KALEB TESFAYE	ATR/8865/10

INSTRUCTOR: MR. TESFAMICHAEL

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1. Introduction

The Cinema Ticket management project aims to design efficient DBMS which enables simplified sales and financial controls. Using technologies to improve services and maximizing profits is the prominent marketing strategy today.

1.1 Purpose

This database design document provides detailed information on the data model implemented to support the functional requirements for the target DBMS with consideration to the system performance requirement.

The document describes how the database that will support the software's data model with details at conceptual design level. It provides for functional non-functional usage of tables, considerations and requirements.

1.2 Document Objectives

This document has the following objectives:

- To describe the conceptual model of a database, that is a collection of relate data stored in on or more files that can be accessed by users through DBMS.
- To serve as a basis for implementing the design of the database and related software modules, providing visibility into the design and every piece of necessary information at the development phase.

1.3 Target audience

This document is made primarily for the following parties:

- Technical reviewer who is going to evaluate the quality of this document
- Developers whose software should implement requirements specified in the document

1.4 System Overview

System overview	Detail
System name	Cinema ticket management
System type	Client-server software
Operational status	Under development
Database name	Ticket sales information

1.5 Assumptions, constraints and Dependencies

Every user should be

- Comfortable of working with computer.
- He/she must also have basic English language knowledge.

Constraints

- GUI is only in English language.
- To open an account the customer must come to the office (admin).
- He/she must have an account to book the movie. But they can see the posted movie as a guest.

2. Executive summary

2.1 Overview

This project tried to address the shortcomings in the Cinema entertainment sector. As an entertainment sector, the businessmen behind the cinema industry are expected to give quality services by improving their service delivery approaches. Currently, the demand for entertainment services from the cinema industry is radically growing respecting the advancement of the film industry. The problems identified in the sector are:

- The large and tedious queue of customers to buy tickets
- The time lost to find sales offices and the long process to complete transactions

The solution we are proposing is to build one sales centre for all the Cinema Houses in the city. The cinema managers should come to our sales office and register as a service provider. They can then follow the sales status of the tickets or transactions made and Update weekly movie schedules of the Cinema the respected Cinema. When a customer comes at our system, he will be provided with the tickets and weekly movie schedules of several Cinemas all at once. Customers can get these services filling membership form. They can complete transactions after registering in our system by depositing their account to buy tickets anytime earlier without the need of coming to sales offices.

We will begin developing this database system when manuals are forwarded from our instructor. We will be deriving the logical design of our proposed database architecture from the entity diagram we designed until then. The deadline of project completion time is also to be determined by the instructor. As a team of students, we are going to divide tasks by functionality of both the software (Front end) and the database specification, considering the necessity of time management until the final product of this design is delivered.

2.2 Justification

We are involved in this project primarily to solve the problems specified. The performance capability of our database design is the primary reason why the businessmen should invest on this project. The market efficiency that is made possible in this project can explained as follows:

- The number of customers that will use our services is expected to grow rapidly because the system provides efficient mechanism for ticket purchases.
- This project improves the sales control efficiency, because the previous trends didn't use database technology, all the work load including finance control and Auditing lay on sales men working under each cinema sales offices.
- It creates competitive environment the Cinema industry to attract more potential customers and improve the services they deliver.

2.3 Resource requirements

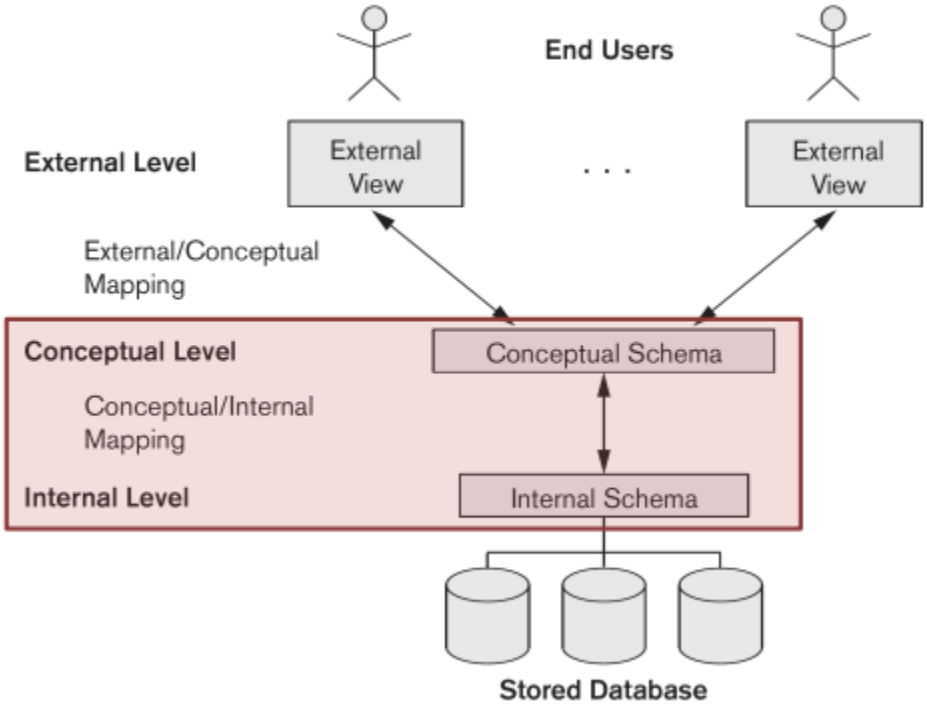
There are four students employed in this database design project named Cinema ticket management. Considering employment in semester projects of other courses, the effort required by this project could be minimized. As it is to be worked out by few numbers of participants, the development may require relatively more time.

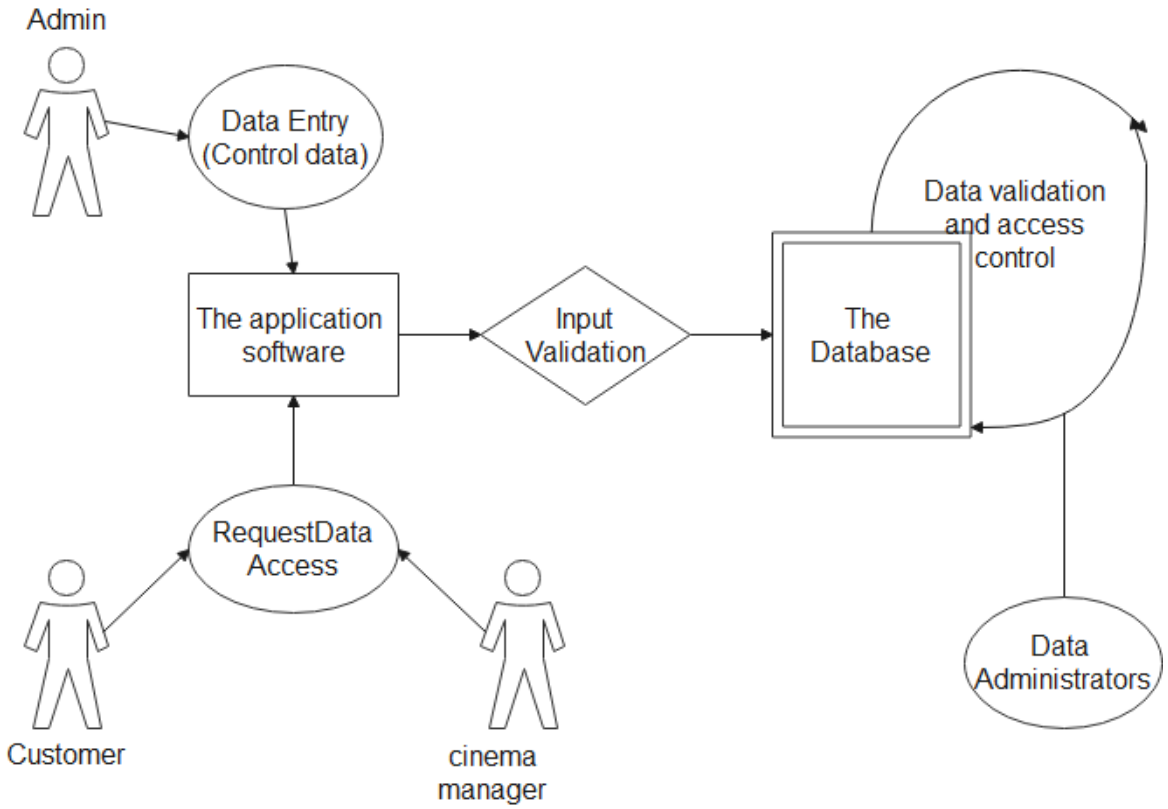
This project will not have Physical and Capital requirements as a mini project run by students.

3. Database specifications

3.1 Data flow diagram

The diagram demonstrates general model of the data flow for the DBMS we designed. The Application software has three data access interfaces for the customer, the Admins at sales branch offices and the cinema managers. The application has different sign in options for all of them. After validation of the data access prompt, they will be allowed to enter the system while with different authorization levels.





The application software portal is a bridge to access and control the database using queries. The next diagram shows the conceptual model of this data flow hierarchy.

3.2 Design Entities

Entities are conceptual blocks in the database design representing real world components of the system to be developed. The entities constituted in the design are Movie, Ticket, Customer, Customer Account, Cinema, Cinema manager, Cinema account, and Admin.

The Customer entity representing user profile is stored in the DBMS as a table having the following attributes:

- First name of the Customer
- Last name of the Customer
- User name of the Customer (Primary key)
- Password of the Customer
- Phone number of the Customer (Multivalued)

The Data Administrator is on of the Admins that supervises the other admins with the highest privileges (administrative). Admins are responsible for creating and managing the customer and cinema manager user profiles. Admin have the following attributes:

- First name
- Last name
- User name
- Password
- Phone number
- Cinema
- Address (Multivalued)

Admin takes name and address together as primary key.

The Movie entity represents all the details of a movie presented by the Cinema. It has the following attributes:

- Description of the movie provided by the Cinema manager
- Title of the movie
- Genre
- Cinema that streams the movie

- Date of stream
- Length of the movie
- start Time
- end Time (Derived from movie Length and start time)
- Posture
- Language
- Price of entrance for the movie

It takes movie Title and the Cinema where it is presented together as primary key.

The Ticket entity is the one that holds all the purchase information of the movie tickets sold. When a customer buys a ticket, the system generates a ticket constituting information respecting the following attributes:

- Ticket number that uniquely identifies the tickets sold as an id
- Seat number in the cinema that shows the prior position of the customer in the hall
- Price which validates entrance at the cinema hall
- Cinema
- Movie title
- Date of the event
- Starting Time

Customer Account is a weak entity that represents the account information of the customer in the system. It has dependency relationship with the Customer entity being managed by it. It has the following attributes:

- User name of the customer
- Name of the customer
- Balance remaining in the account
- Account number of the customer

All attributes are from the customer entity that made it weak. It takes primary key of customer entity as its primary key.

Cinema Account is a weak entity that represents the account information recorded by the name the of the Cinema in the system. It has dependency relationship with the Customer entity being managed by it. It has the following attributes:

- Name of the Cinema
- Address of the Cinema
- Balance remaining in the account
- Account number of the Cinema

All attributes are from the Cinema entity the same as the case of Customer account that made it weak.

Cinema is an entity of recorded information about the Cinema hall. It has:

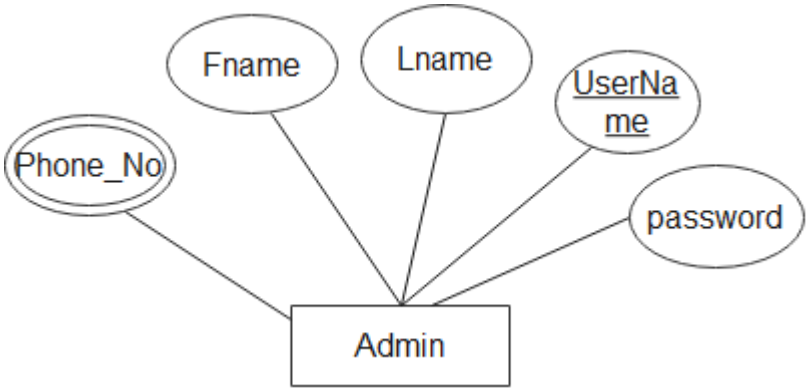
- Name of the Cinema
- Address of the cinema
- Number of seats in the hall indicating its capacity

It takes cinema name and address together as primary key.

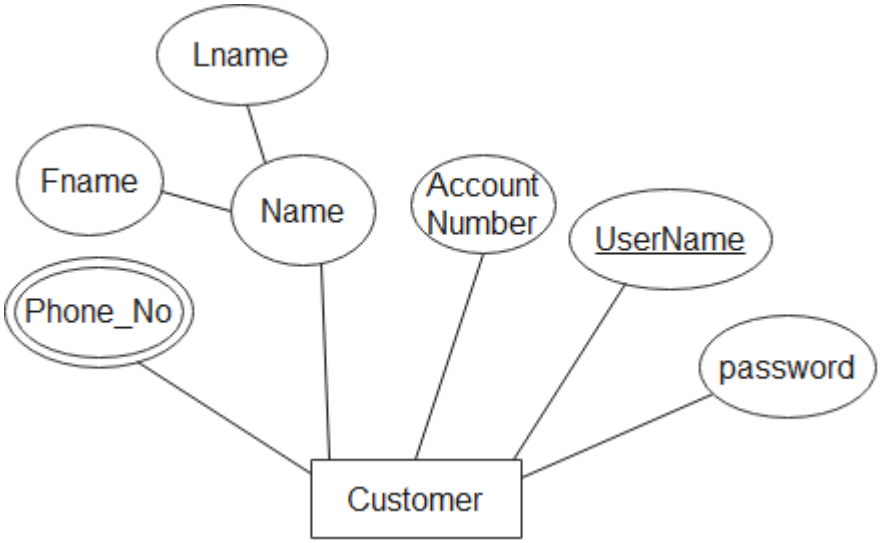
Cinema manager is the last entity to be discussed, which represents information of administrators or managers in the cinemas registered. It has the following attributes:

- Name of the manager
- The Cinema he/she works for
- Phone number (Multiple valued)
- Username (Primary key)
- Password
- Address (Multiple valued)

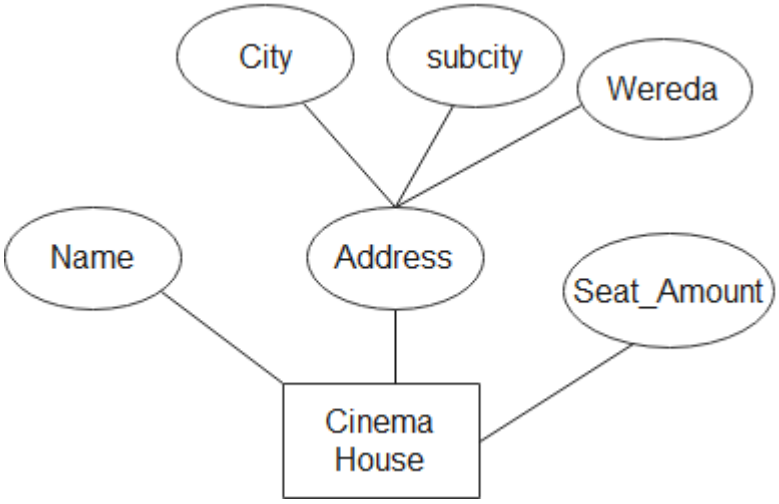
Admin



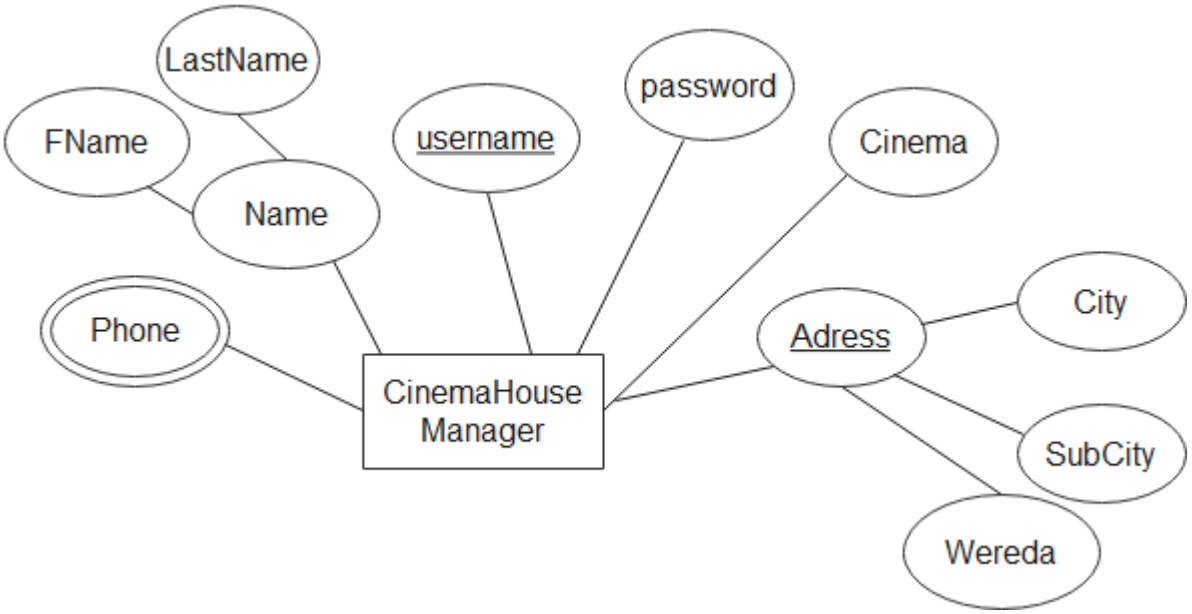
Customer



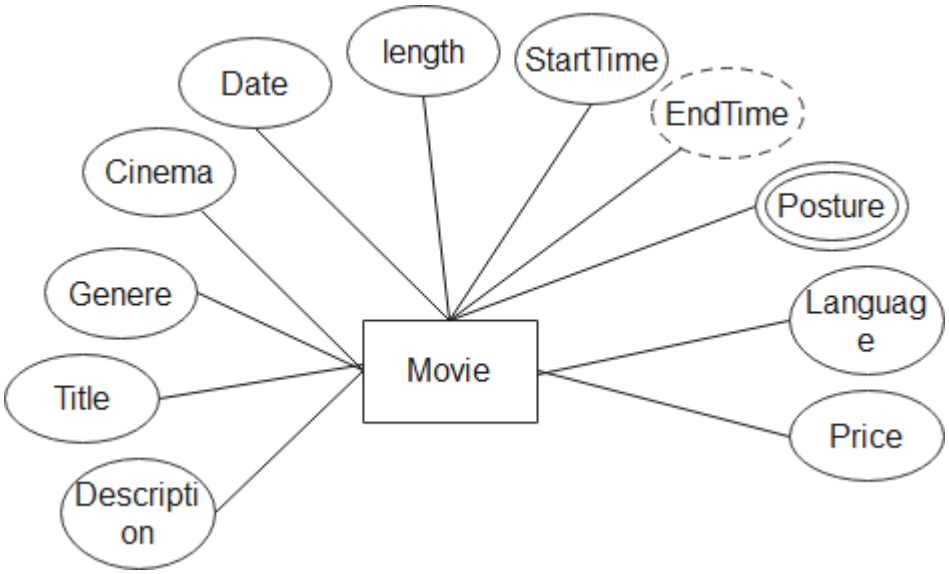
Cinema House



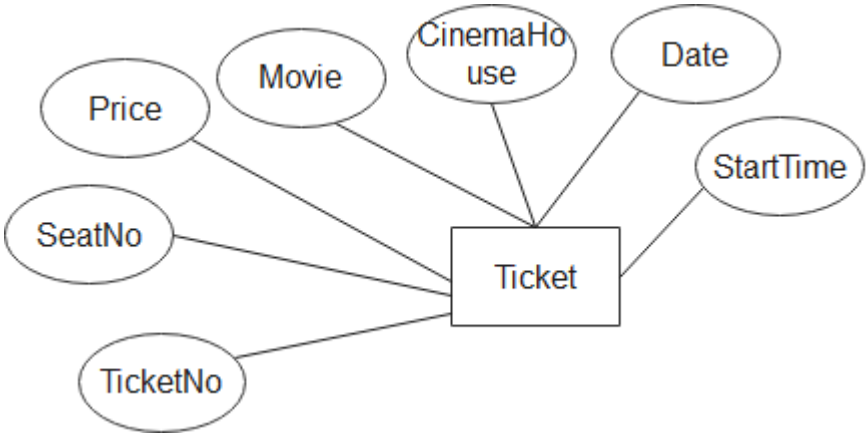
Cinema Manager



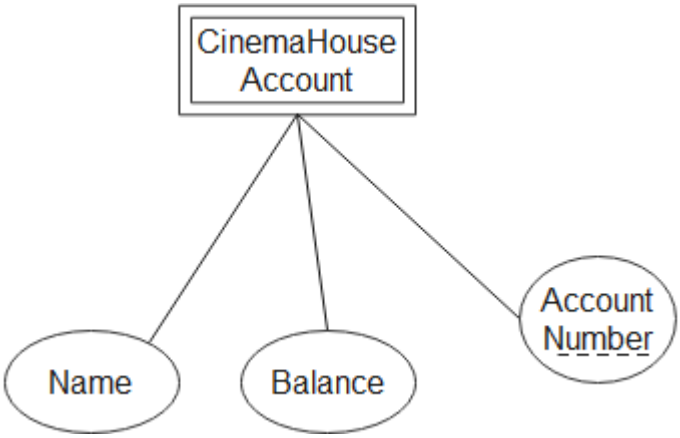
Movie



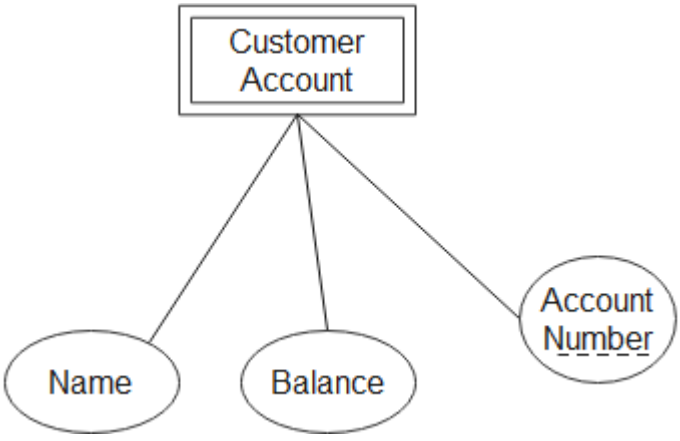
Ticket



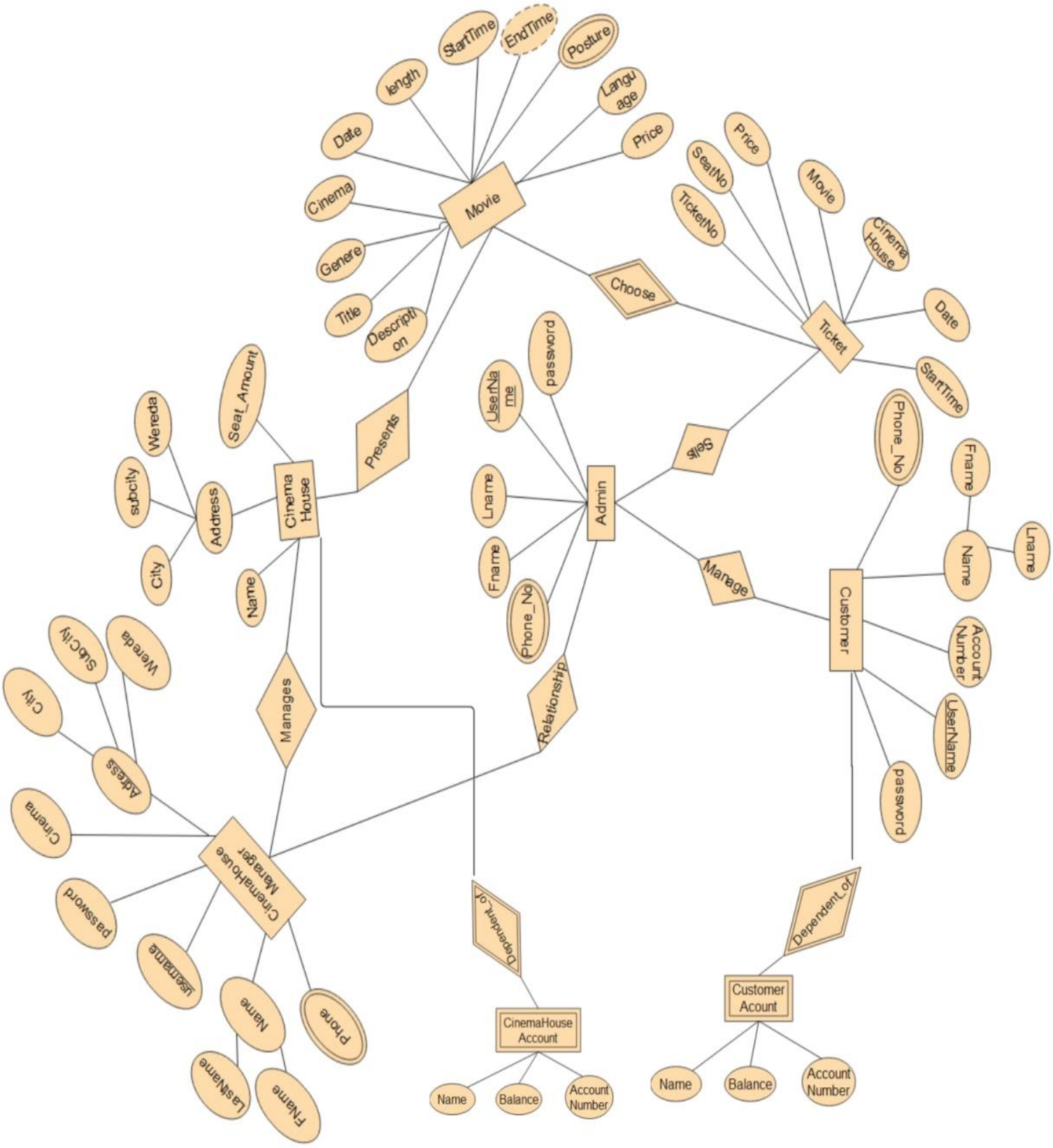
Cinema House Account



Customer Account



The diagram below shows relationship of the entities considered in the system design.



4. Database functional requirements

Registration

The customer will get into the system by entering his password and user name. However, to do that he have to register first. The admin will register the new customers and stores his information into database table.

Moreover, to get into the system there should be some validation to cross check the username and password of the customer. This will be done by comparing the entered data with the customer database table data's.

And the admin will also register new cinema managers. This cinema managers represents their cinema house company.

Posting movie

The cinema house posts movies with it's movie title, it's genre that indicates whether it is romance, action or something else ,Date, length of the movie ,starting time , end time , posture, movie language and it's price.

Booking ticket

The customer will access the movie lists and can choose whatever he wants and buy the ticket. The ticket consists the price of the movie, the cinema house name , date, and total seat number in the cinema house and when the customer buy's the ticket , the ticket database table will generate random number from the total seat number and gives that to the customer. So that will be his sit number. Ticket selling will be managed by admin.

Creating account

However, in order to buy the tickets the customer should have to create an account. So there will be customer account that will contain the balance of the

user. By using this, the customer buy the ticket as long as the balance is sufficient.

There will also be cinema manager account. Through this account the cinema houses gets paid.

Transaction

The admin makes the transaction of money from customer to cinema manager account. The money comes from ticket selling and the admin will manage the transaction of money between the customer and cinema house.