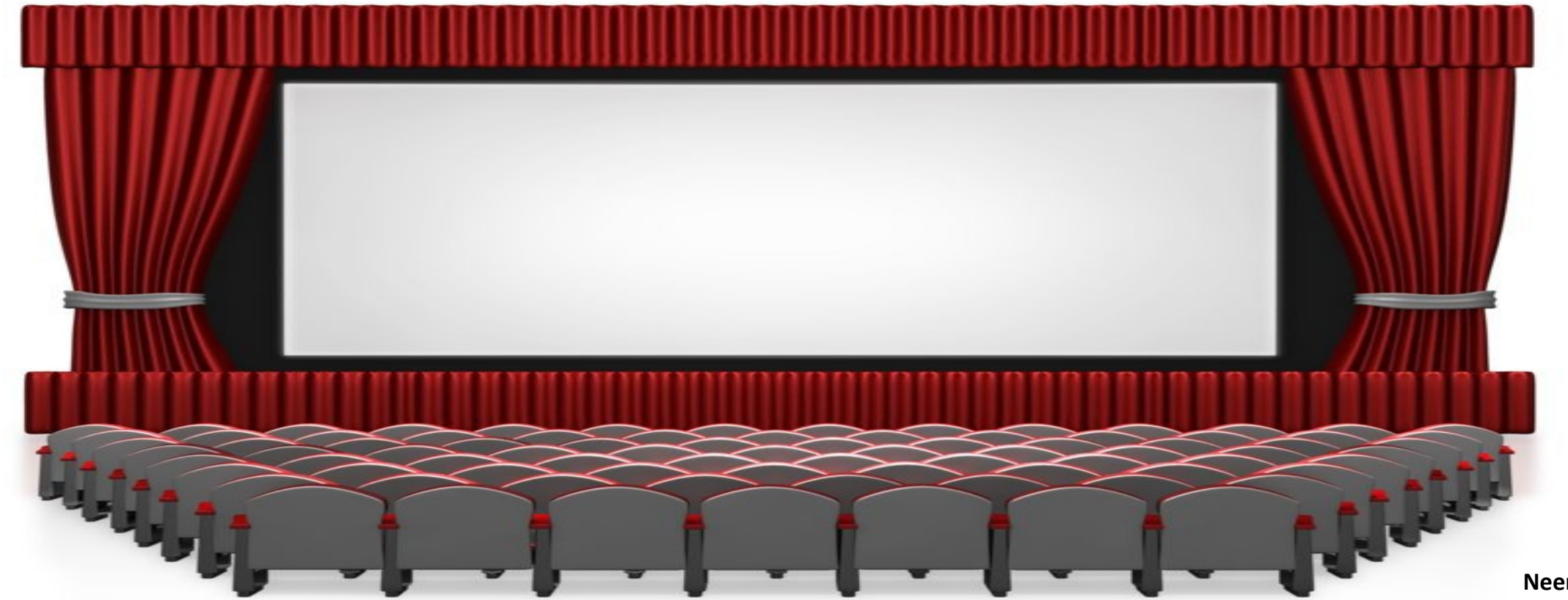
PLEASANTVILLE COMMUNITY THEATER



Hartej Singh-19935
Lidya Hadera-19948
Neema Humphrey -20041

INTRODUCTION

- Pleasantville theater is a nonprofit organization with 200 members.
- Produces two plays annually, engaging amateur performers.
- Annual dues of $50 per member supporting vibrant productions.
- Establishing a database to enhance efficiency operations.
- Sponsorship and program for cost defrayal.
- Use of local high school auditorium.

Problem Statement

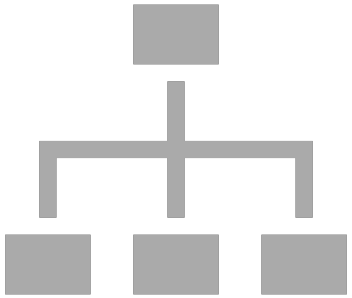
Member management lacks efficiency, hindering dues tracking and membership renewals.

Production coordination faces difficulties in tracking duties, proposals, and budgets.

Difficulty in managing producer duties and play proposals.

Solutions

Implement a system for efficient dues tracking and membership management.



Centralized system for producer assignments, scheduling, and budget management.

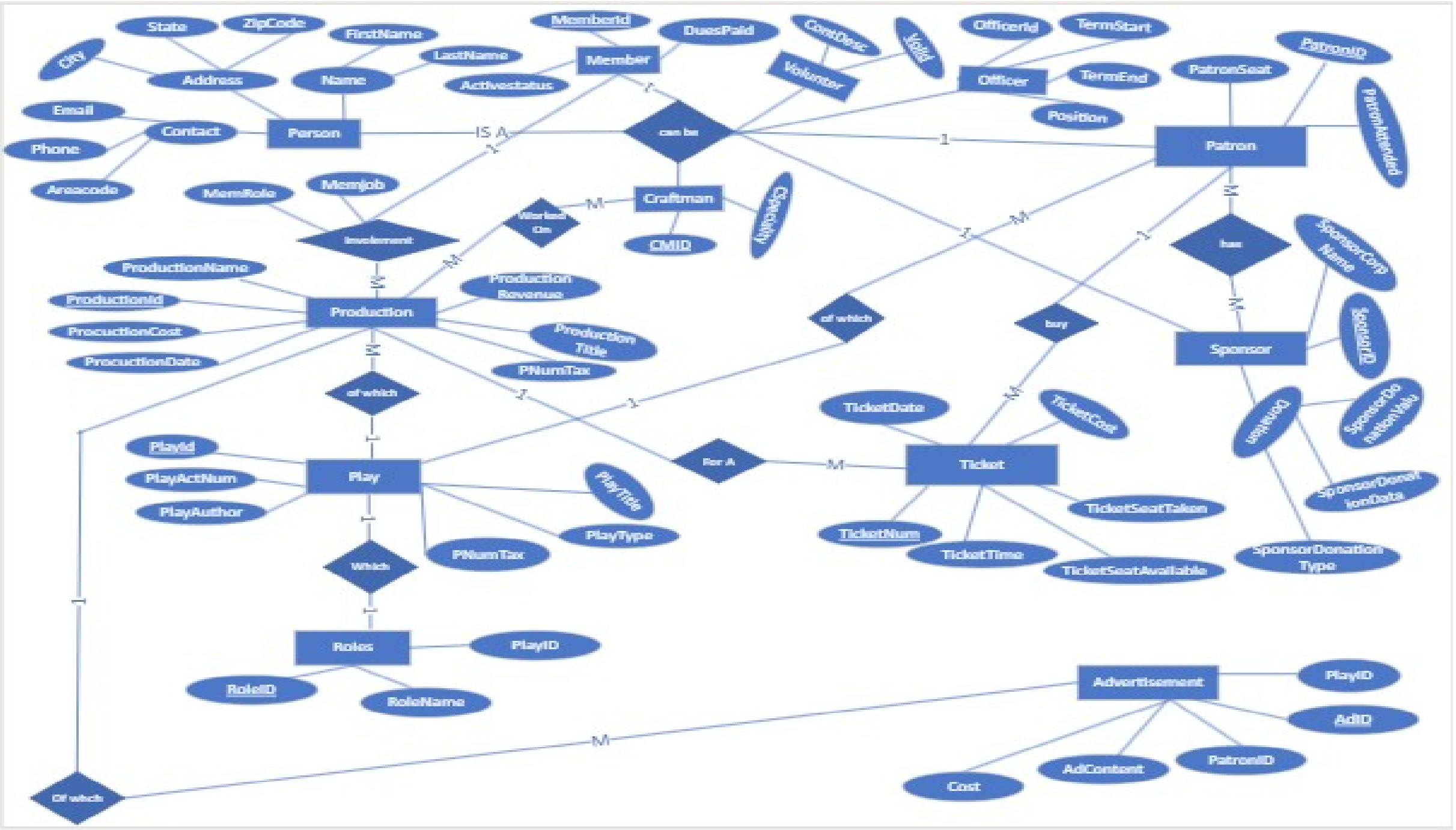
LIST OF ASSUMPTIONS

- Streamlined Officer Elections: System automates officer election processes
- Efficient Member Management: Ease accessibility
- Sponsorship Management: Centralizes financial support info
- Patron Engagement: Systematic approach for ticket sales and subscriptions
- Seating Arrangement: Manage seat allocations
- Production Coordination: Optimize production management

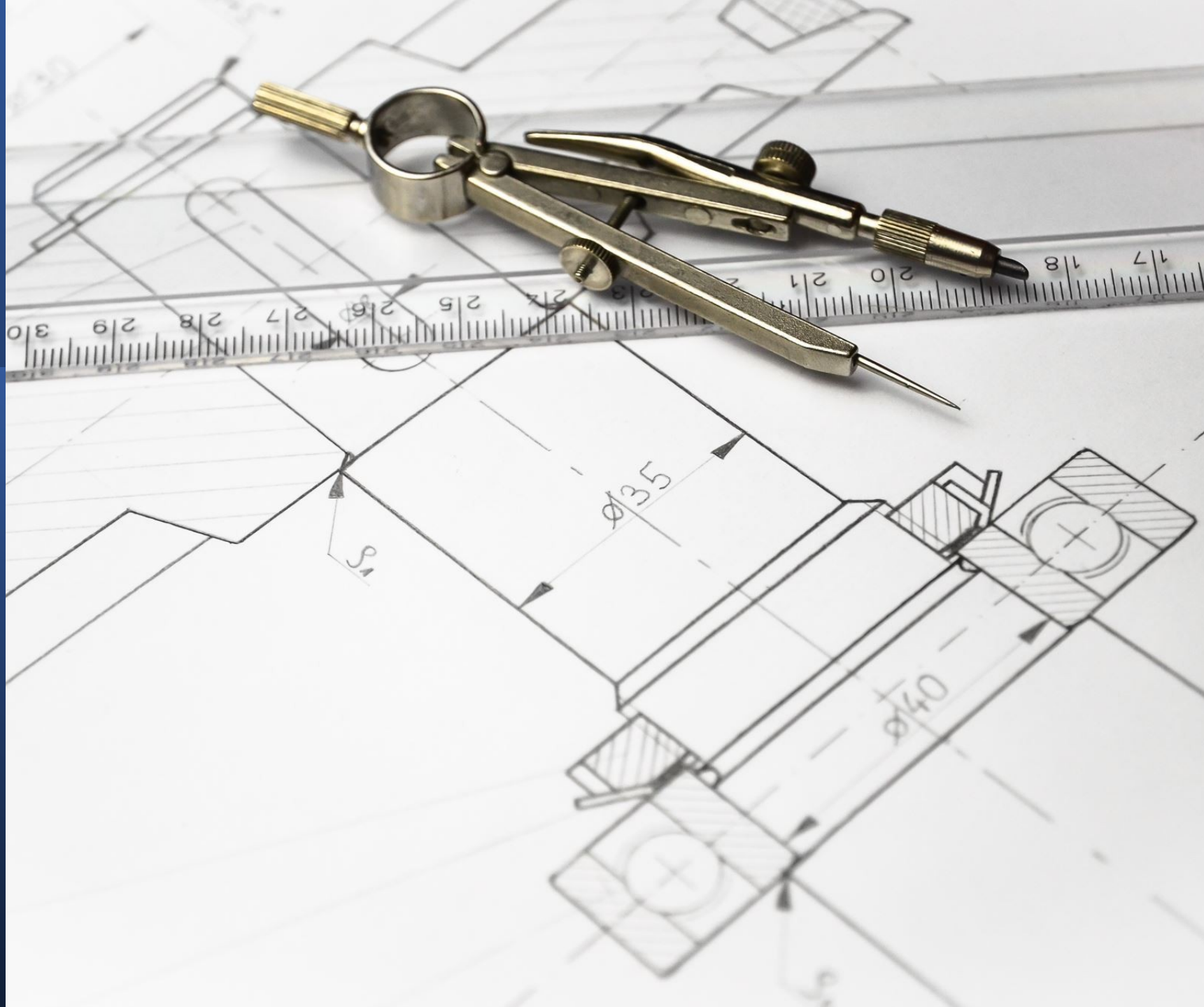
Data Dictionary

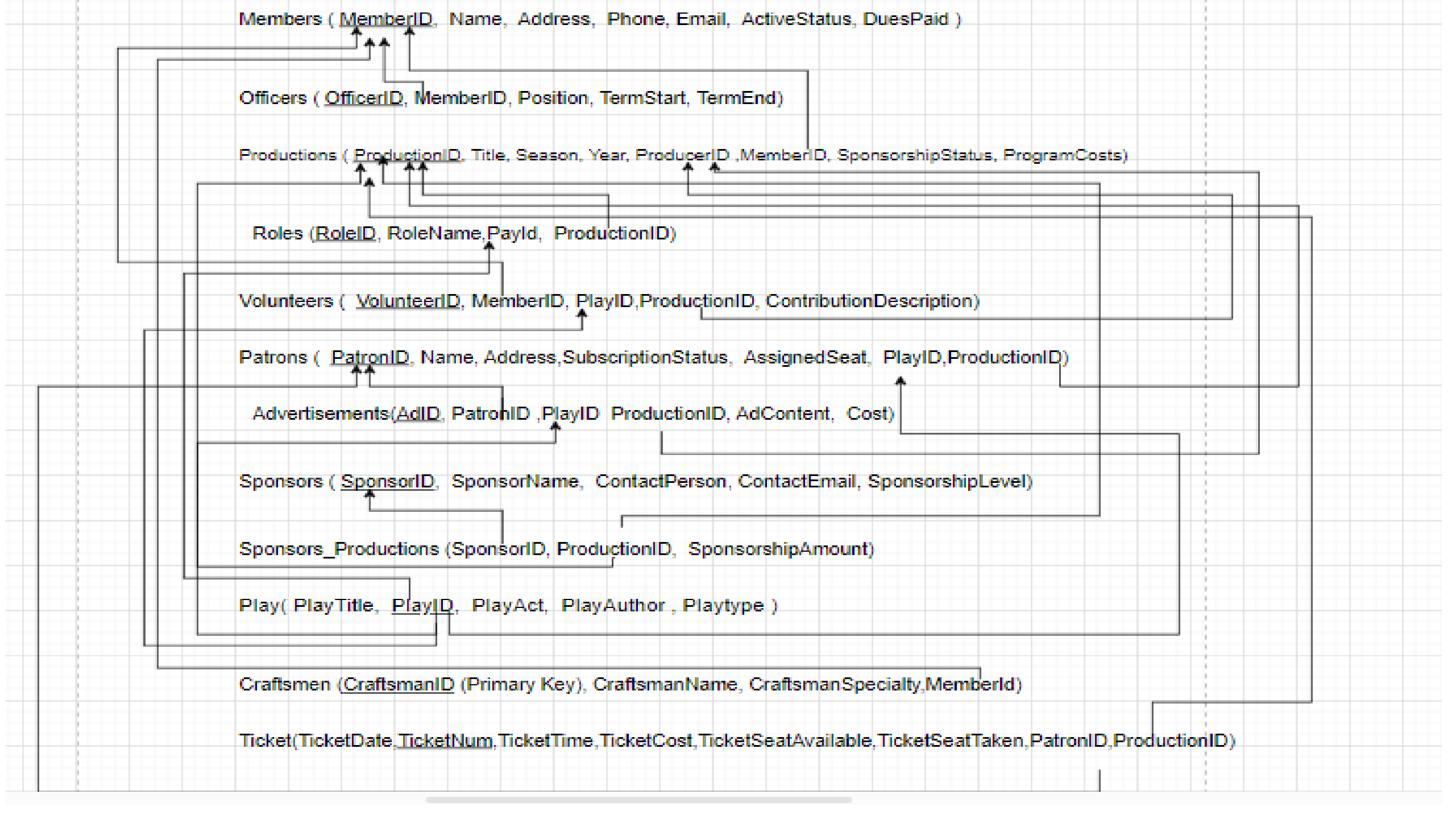
DATA ITEM	MEMBERSHIP FORM	MEMBERSHIP RENEWAL FORM	PLAY PROPOSAL FORM	PATRON CONTACT LIST FORM	CORPORATE SPONSORSHIP PROPOSAL FORM	PRODUCTION BUDGET SHEET FORM	PRODUCER SELECTION FORM	EQUIPMENT RENTAL REQU
Actual Expenses						✓		
Address	✓			✓				
Admission Ticket								
Advertisement								
Alternate Seats								
Amount								
Amount Paid	✓							
Auditorium Row								
Author			✓					
Available Seat								
Balance								
Balance Sheet								
Booked Seat								
Cast								
Cast Roles								
Casting								
Casting Evaluation								
City	✓			✓				
Club Members								
Company Name					✓			
Contracted Craftsmen								
Corporate Sponsorship								
Costume Design								
Credits								
Crew								
Current Financial Condition								
Date	✓	✓	✓					
Details about equipment								✓
Donation Type								

ER DIAGRAM


State
ZipCode
FirstName
MemberId
DuesPaid
ContDesc
Valid
OfficerId
TermStart
PatronID
City
Address
Name
LastName
Member
Volunteer
Officer
TermEnd
PatronSeat
Email
Activestatus
Position
Contact
Person
IS A
can be
Patron
PatronAttended
Phone
Areacode
MemRole
Memjob
Craftman
Specialty
CMID
Worked On
Involvement
M
1
ProductionName
ProductionId
ProcuctionCost
ProcuctionDate
Production
Production Revenue
Production Title
PNumTax
of which
buy
has
SponsorCorp Name
SponsorID
Sponsor
TicketDate
TicketCost
Donation
SponsorDonationDate
PlayId
PlayActNum
PlayAuthor
Play
PlayTitle
PlayType
PNumTax
For A
Ticket
TicketNum
TicketTime
TicketSeatTaken
TicketSeatAvailable
SponsorDonationType
Which
Roles
PlayID
RoleID
RoleName
Of which
Advertisement
PlayID
AdID
AdContent
PatronID
Cost

RELATIONAL SC HEMA




Members (MemberID, Name, Address, Phone, Email, ActiveStatus, DuesPaid)
Officers (OfficerID, MemberID, Position, TermStart, TermEnd)
Productions (ProductionID, Title, Season, Year, ProducerID ,MemberID, SponsorshipStatus, ProgramCosts)
Roles (RoleID, RoleName,PayId, ProductionID)
Volunteers (VolunteerID, MemberID, PlayID,ProductionID, ContributionDescription)
Patrons (PatronID, Name, Address,SubscriptionStatus, AssignedSeat, PlayID,ProductionID)
Advertisements(AdID, PatronID ,PlayID ProductionID, AdContent, Cost)
Sponsors (SponsorID, SponsorName, ContactPerson, ContactEmail, SponsorshipLevel)
Sponsors_Productions (SponsorID, ProductionID, SponsorshipAmount)
Play(PlayTitle, PlayID, PlayAct, PlayAuthor , Playtype)
Craftsmen (CraftsmanID (Primary Key), CraftsmanName, CraftsmanSpecialty,MemberId)
Ticket(TicketDate,TicketNum,TicketTime,TicketCost,TicketSeatAvailable,TicketSeatTaken,PatronID,ProductionID)

RELATIONAL MODEL

- **Members Table:**
- MemberID , FirstName, LastName, Address, Phone, Email, ActiveStatus, DuesPaid.

- **Officers Table:**
- OfficerID, MemberID (FK), Position, TermStart, TermEnd.

- **Productions Table:**
- ProductionID, Title, Season, Year, ProducerID (FK), SponsorshipStatus, ProgramCosts.

- **Roles Table**:
- RoleID (PK), RoleName, PlayID (FK).

- **Volunteers Table:**
- VolunteerID (PK), MemberID (FK), PlayID (FK), ContributionDescription.

- **Patrons Table:**
- PatronID (PK), FirstName, LastName, Address, SubscriptionStatus, AssignedSeat, PlayID (FK).

TABLE CREATION AND DATA INSERTION

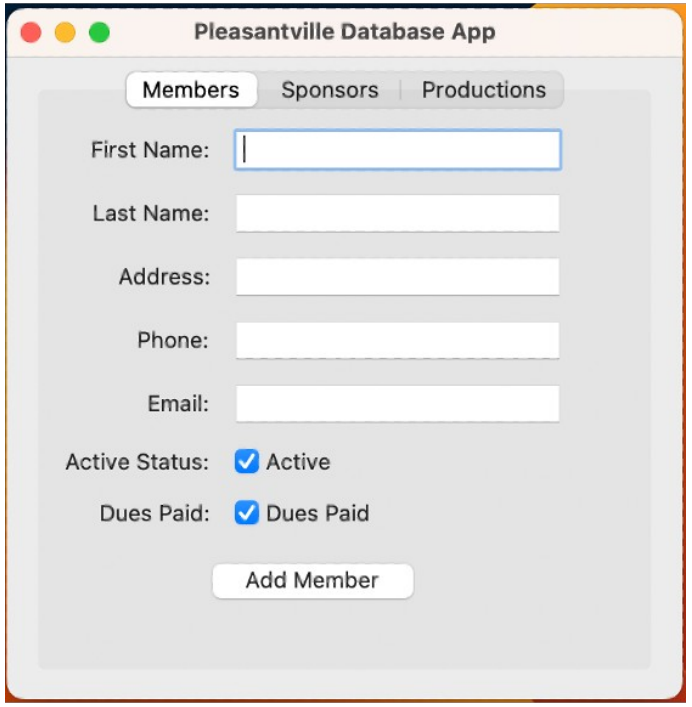
```
CREATE TABLE Members (
    Member ID INT PRIMARY KEY,
    FirstName VARCHAR(40),
    LastName VARCHAR(40),
    Phone VARCHAR(20) NOT NULL,
    Email VARCHAR(20) NOT NULL,
    ActiveStatus BOOLEAN,
    DuesPaid BOOLEAN
);
```

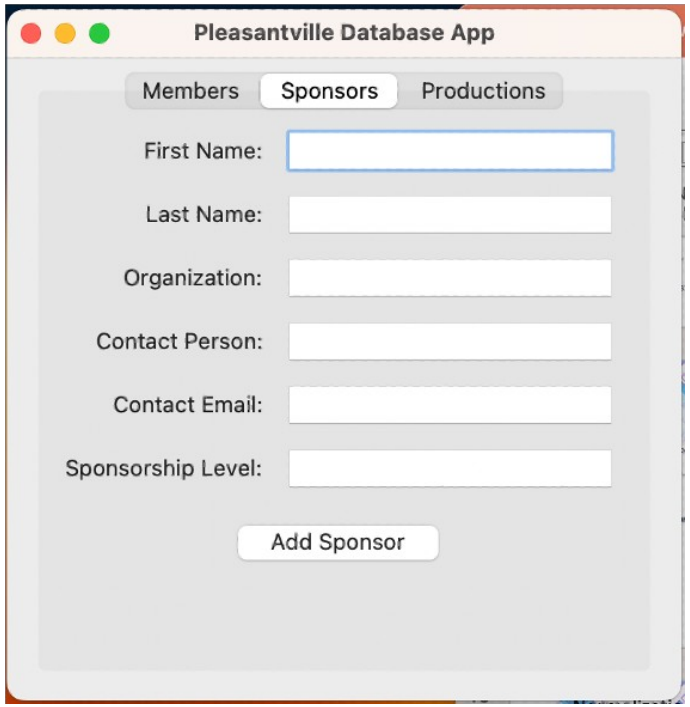
```
INSERT INTO Members VALUES
    (1, 'John', 'Doe', '555-1234', 'jd@gmail.com', true, true),
    (2, 'Jane', 'Smith', '555-5678', 'js@yahoo.com', true, false);
```

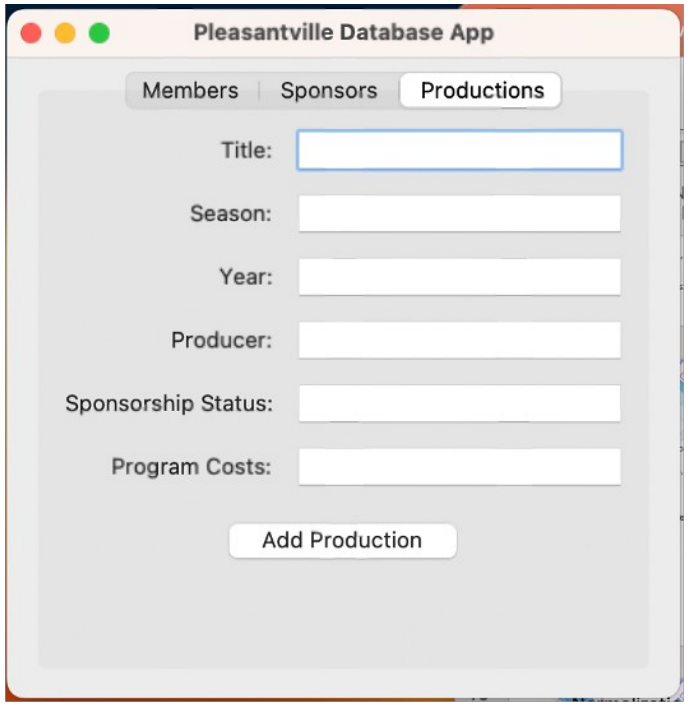
Select * from members;

MemberID	FirstName	LastName	Phone	Email	ActiveStatus	DuesPaid
1	John	Doe	555-1234	jd@gmail.com	1	1
2	Jane	Smith	555-5678	js@yahoo.com	1	0
3	Jack	Lee	577-9078	jack@gmail.com	1	0
4	Henry	Tom	510-5978	ht@hotmail.com	1	0
5	Queen	Leo	555-5690	ql@gmail.com	1	0
6	Joy	Bobh	555-5643	jb@gmail.com	1	0
7	Los	Singh	555-3458	ls@gmail.com	1	0
8	Derick	Hanes	555-3456	dh@gmail.com	1	0
9	Brown	Marshal	555-5497	bm@yahoo.com	1	0
10	Alice	Johnson	555-1010	aj@web.com	0	1

INPUT GUI


Pleasantville Database App
Members
Sponsors
Productions
First Name:
Last Name:
Address:
Phone:
Email:
Active Status:
Active
Dues Paid:
Dues Paid
Add Member


Pleasantville Database App
Members
Sponsors
Productions
First Name:
Last Name:
Organization:
Contact Person:
Contact Email:
Sponsorship Level:
Add Sponsor


Pleasantville Database App
Members
Sponsors
Productions
Title:
Season:
Year:
Producer:
Sponsorship Status:
Program Costs:
Add Production

NORMALIZATION

- Process of organizing data to reduce redundancy and improve data consistency
- **Members (<u>MemberID</u>, FirstName, LastName, Address, Zip Code , State ,City , Phone, Email, ActiveStatus, DuesPaid BOOLEAN);**

- MemberID → FirstName, LastName, Address, ZipCode, State, City, Phone, Email, ActiveStatus, DuesPaid:

- Phone → MemberID, FirstName, LastName, Address, Zipcode, State, City, Email, ActiveStatus, DuesPaid:

- Email → MemberID, FirstName, LastName, Address, Zipcode, State, City, Phone, ActiveStatus, DuesPaid:

- (State, City, Zipcode) → Address:

MemberID	FirstName	LastName	Address	Zipcode	State	City	Phone	Email	ActiveStatus	DuesPaid
1	John	Doe	123 Main St	555-1234	NY	New York	555-1294	jd@gmail.com	1	1
2	Jane	Smith	456 Oak St	555-5678	CA	Los Angeles	555-5878	js@yahoo.com	1	0
3	Jack	Lee	344 Romper St	577-9078	CA	San Francisco	577-9978	jack@gmail.com	1	0
4	Henry	Tom	22 Lose St	510-5978	CA	San Diego	510-7078	ht@hotmail.com	1	0
5	Queen	Leo	4 Downtime St	555-5690	NY	Albany	555-5340	ql@gmail.com	1	0
6	Joy	Bobh	2 Weru Dr	555-5643	CA	San Jose	555-2223	jb@gmail.com	1	0
7	Los	Singh	10089 Mission	555-3458	CA	Los Angeles	555-4058	ls@gmail.com	1	0
8	Derick	Hanes	200 Whipple St	555-1233	CA	San Francisco	555-1784	dh@gmail.com	1	0
9	Brown	Marshal	500 Hayward St	555-5497	NY	New York	555-9999	bm@yahoo.com	1	0
10	Alice	Johnson	789 Pine St	555-1010	NY	Albany	555-6666	aj@web.com	0	1

NORMALIZATION

- Members Table before normalization:

Normalization Demonstration

MemberID	Phone	Email
1	555-1234	jd@gmail.com
2	555-5678	js@yahoo.com
3	577-9078	jack@gmail.com
4	510-5978	ht@hotmail.com
5	555-5690	ql@gmail.com
6	555-5643	jb@gmail.com
7	555-3458	ls@gmail.com
8	555-3456	dh@gmail.com
9	555-5497	bm@yahoo.com
10	555-1010	aj@web.com

MemberID	FirstName	LastName	ActiveStatus	DuesPaid
1	John	Doe	1	1
2	Jane	Smith	1	0
3	Jack	Lee	1	0
4	Henry	Tom	1	0
5	Queen	Leo	1	0
6	Joy	Bobh	1	0
7	Los	Singh	1	0
8	Derick	Hanes	1	0
9	Brown	Marshal	1	0
10	Alice	Johnson	0	1

MemberID	Address	ZipCode	State	City
1	123 Main St	555-0934	California	Los Angeles
2	456 Oak St	555-58978	California	San Francisco
3	344 Romper St	577-9987	California	San Jose
4	22 Lose St	510-5555	California	Sacramento
5	4 Downtime St	555-6660	California	San Diego
6	2 Weru Dr	555-1234	California	Fresno
7	10089 Mission	555-6546	California	Santa Clara
8	200 Whipple St	555-9089	California	Mountain View
9	500 Hayward St	555-5490	California	Hayward
10	789 Pine St	555-1040	California	Oakland

TRIGGERS

```
CREATE TABLE MembersAudit
(  AuditID INT PRIMARY KEY
AUTO_INCREMENT,
MemberID INT,  FirstName
VARCHAR(40),  LastName
VARCHAR(40),  Phone
VARCHAR(20),  Email
VARCHAR(20),  ActiveStatus
BOOLEAN,  DuesPaid
BOOLEAN,  ActionType
VARCHAR(10),
ActionTimestamp
TIMESTAMP DEFAULT
CURRENT_TIMESTAMP);
```

```
CREATE TRIGGER
Members_Insert_Trigger

AFTER INSERT ON Members
FOR EACH ROW

INSERT INTO MembersAudit

(MemberID, FirstName,
LastName, Phone, Email,
ActiveStatus, DuesPaid,
ActionType)

VALUES (NEW.MemberID,
NEW.FirstName,
NEW.LastName, NEW.Phone,
NEW.Email,
NEW.ActiveStatus,
NEW.DuesPaid, 'INSERT');
```

Non-Routine Request for Information

```
326     -- 2.  Get the total program costs for each season (Spring/Fall)
327 •   SELECT Season, SUM(ProgramCosts) AS TotalProgramCosts
328     FROM Productions
329     GROUP BY Season;
330
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

Season	TotalProgramCosts
Fall	5981.50
Spring	4402.00

Retrieve the total program costs for productions in the year 2023.

```
SELECT SUM(ProgramCosts) AS total_program_costs
FROM Productions WHERE Year = 2023;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

total_program_costs
1800.50

Find the average ticket cost for each production.

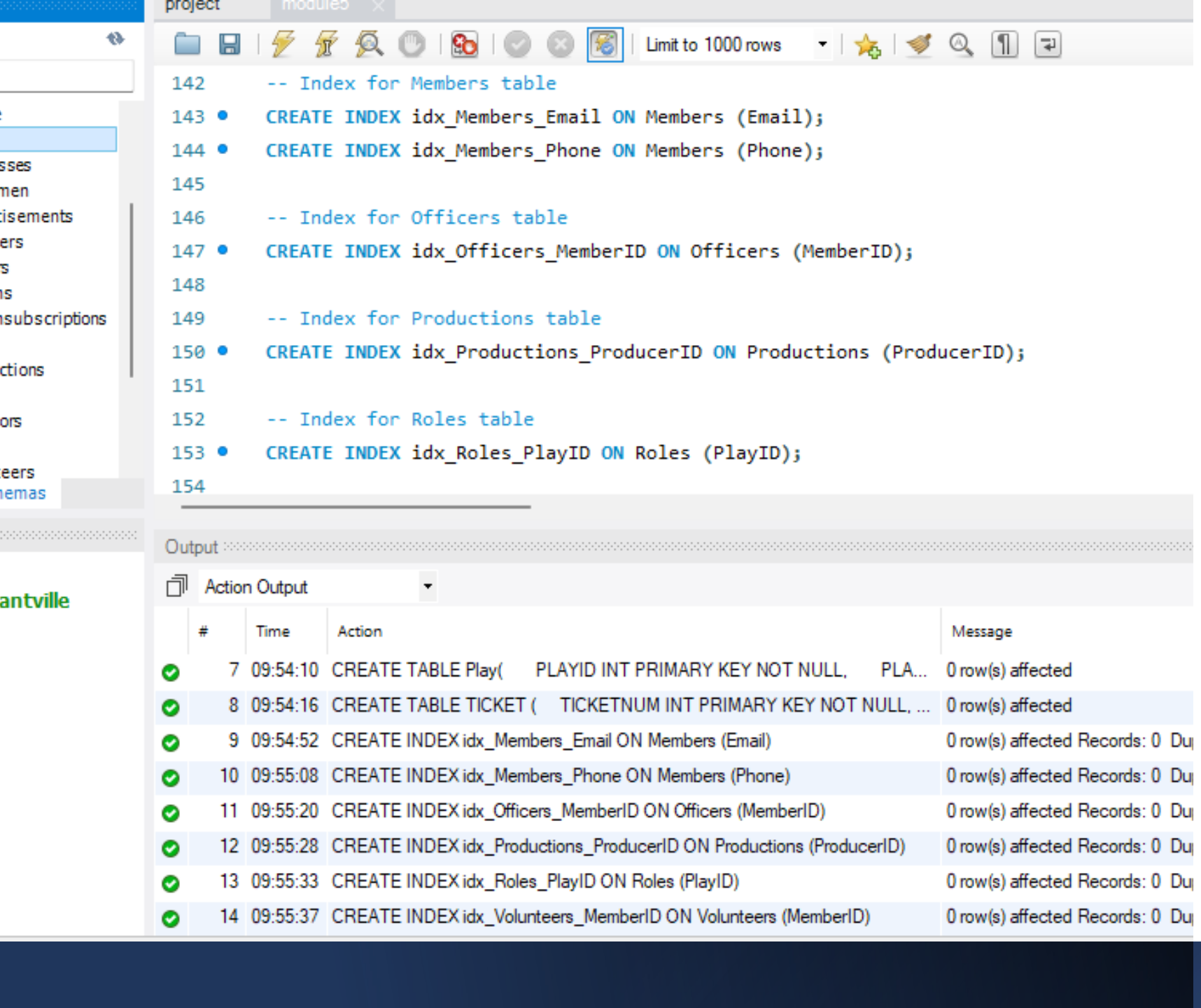
```
SELECT Productions.ProductionID, Title,  AVG(TicketCost) AS
AverageTicketCost

 FROM Productions

JOIN Ticket ON Productions.ProductionID = Ticket.ProductionIDGROUP
BY Productions.ProductionID, Title;
```

ProductionID	Title	AverageTicketCost
1	Play 1	27.500000
2	Play 2	27.500000
3	Play 3	30.000000
4	Play 4	27.500000
5	Play 5	30.000000

Retrieve the titles of plays that have advertisements with a cost greater than $700

```
SELECT Title
FROM Productions
WHERE ProductionID IN
(SELECT DISTINCT Advertisements.PlayID
 FROM Advertisements
  WHERE Cost > 700);
```

Title
Play 4
Play 5



INDEXES

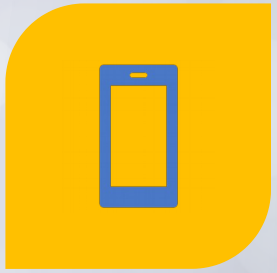
- CREATE INDEX idx_Members_Email ON Members (Email);

- CREATE INDEX idx_Members_Phone ON Members (Phone);

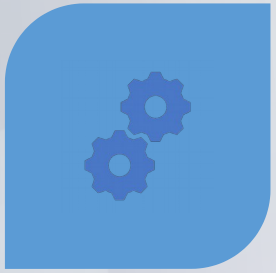
CHALLENGES

DESIGN
COMPLEXITY

INTEGRATION
WITH PRODUCTION
FLOW



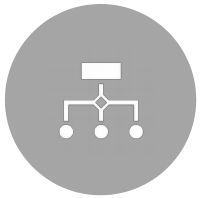
DATA ACCURACY AND
MAINTENANCE



LIMITED TECHNOLOGY
AWARENESS

KNOWLEDGE OBTAINED

Database design and management.



Project coordination.

Leadership and teamwork.

CONCLUSION

IMPORTANCE OF THE DATABASE.

REQUIREMENT GATHERING ANALYSIS

ENHANCED DECISION MAKING

THANK YOU