Phase III. Implementation Part 1

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0. Pre-Illumination

For clearly describing the implementation of our database, we separate this report into three sections. In Section 1 we begin our process of building a database in MS Access using Query View, including tables, attributes, Primary Keys, foreign Keys, as well as data type and format. Further, in Section 2 we fill the tables with sample data. The creation of SQL Queries will be represented in Part 2 of Phase III. Implementation.

1. Creation of Database with SQL Statements

After normalizing every relational schema into third normal form and modifying some details, it is the time to implement our database using MS Access.

Using SQL statement, we create 20 tables as follows:

```
• ATTENDEE_ID:
```

```
CREATE TABLE ATTENDEE_ID
(
Barcode Number NOT NULL,
ID Number,
PRIMARY KEY (Barcode)
);
```

• INDIVIDUAL_OCCUPATION:

```
CREATE TABLE INDIVIDUAL_OCCUPATION
(
ID Number NOT NULL,
Occupation VarChar(40),
PRIMARY KEY (ID),
FOREIGN KEY (ID) REFERENCES INDIVIDUALS (ID)
ON DELETE CASCADE
ON UPDATE CASCADE
);
```

• INDIVIDUAL:

```
CREATE TABLE INDIVIDUAL
(
Barcode Number NOT NULL,
ID Number unique,
PRIMARY KEY (Barcode)
);
```

• DEPARTMENT:

```
CREATE TABLE DEPARTMENT
(
DNAME VARCHAR(30),
DPHONE VARCHAR(10),
DHEAD VARCHAR(30),
PRIMARY KEY (DNAME)
);
```

• EVENT_:

```
CREATE TABLE EVENT (
EVENT ID VARCHAR(8),
DATE OF EVENT DATE,
MAX OCCUPANCY INT,
PRIMARY KEY (EVENT ID)
);
• ADMIN:
CREATE TABLE ADMIN (
ADMIN ID VARCHAR(8),
FIRST NAME VARCHAR (15),
LAST NAME VARCHAR (15),
PASSWORD VARCHAR (20),
PRIMARY KEY (ADMIN ID)
);
• ATTENDS:
CREATE TABLE ATTENDS
(
EVENT ID VARCHAR(8),
Barcode Number NOT NULL,
PRIMARY KEY (EVENT ID),
FOREIGN KEY (EVENT ID) REFERENCES EVENT (EVENT ID),
FOREIGN KEY (Barcode) REFERENCES ATTENDEE ID (Barcode)
ON DELETE CASCADE
ON UPDATE CASCADE
);
• CAN_SPONSOR:
CREATE TABLE CAN SPONSOR
EVENT ID VARCHAR(8),
BARCODE INT,
PRIMARY KEY (EVENT_ID),
FOREIGN KEY (EVENT ID) REFERENCES EVENT (EVENT ID),
FOREIGN KEY (BARCODE) REFERENCES SPONSORS BARCODE (BARCODE)
ON DELETE CASCADE
ON UPDATE CASCADE
);
```

ASSOCIATES_WITH:

```
CREATE TABLE ASSOCIATES WITH
(
EVENT ID VARCHAR(8),
ADMIN ID VARCHAR(8),
PRIMARY KEY (EVENT ID),
FOREIGN KEY (EVENT_ID) REFERENCES EVENT_ (EVENT_ID),
FOREIGN KEY (ADMIN ID) REFERENCES ADMIN (ADMIN ID)
ON DELETE CASCADE
ON UPDATE CASCADE
);
• CONDUCTED_BY:
CREATE TABLE CONDUCTED BY
EVENT ID VARCHAR(8),
DNAME VARCHAR (30),
PRIMARY KEY (EVENT ID),
FOREIGN KEY (EVENT ID) REFERENCES EVENT (EVENT ID),
FOREIGN KEY (DNAME) REFERENCES DEPARTMENT (DNAME)
ON DELETE CASCADE
ON UPDATE CASCADE
);
   Attendee_Name
CREATE TABLE ATTENDEE NAME (
ID INT NOT NULL, NAME VARCHAR NOT NULL,
PRIMARY KEY(ID)
);
  Faculty
CREATE TABLE FACULTY (
FOFFICE VARCHAR(30) NOT NULL,
FPHONE TEXT
BARCODE TEXT
                            NOT NULL,
                           NOT NULL,
PRIMARY KEY (BARCODE)
);
  Staff
CREATE TABLE STAFF (
DEPARTMENT TEXT NOT NULL,
```

```
BARCODE TEXT NOT NULL, PRIMARY KEY(BARCODE)
```

Student

```
CREATE TABLE STUDENT (
CLASSIFICATION VARCHAR (25),
BARCODE TEXT NOT NULL,
PRIMARY KEY (BARCODE)
);
```

Location

```
CREATE TABLE LOCATION (
EVENT_LOCATION VARCHAR (30),
EVENT_ID VARCHAR (8),
PRIMARY KEY (EVENT_LOCATION, EVENT_ID),
FOREIGN KEY (EVENT_ID) REFERENCES EVENT_(EVENT_ID)
ON DELETE CASCADE
ON UPDATE CASCADE
);
```

Genre

```
CREATE TABLE GENRE (
EVENT_GENRE VARCHAR(40),
EVENT_ID VARCHAR (8),
PRIMARY KEY (EVENT_ID, EVENT_GENRE),
FOREIGN KEY (EVENT_ID) REFERENCES EVENT_(EVENT_ID)
ON DELETE CASCADE
ON UPDATE CASCADE
);
```

• **GUEST**

```
CREATE TABLE GUEST (
NAME VARCHAR (30),
RELATIONSHIP VARCHAR (30),
ATTENDEE_BARCODE NUMBER,
PRIMARY KEY (NAME, Barcode),
FOREIGN KEY (ATTENDEE_BARCODE) REFERENCES ATTENDEE_ID (Barcode)
ON DELETE CASCADE
```

```
ON UPDATE CASCADE );
```

• SPONSORS_BARCODE

```
CREATE TABLE SPONSORS_BARCODE (
BARCODE INT,
STREET_NAME VARCHAR (30),
STREET_NUMBER VARCHAR(30),
APT INT ,
ZIP INT,
NAME VARCHAR (30),
PRIMARY KEY (BARCODE)
);
```

• SPONSORS_ZIP

```
_____
```

```
CREATE TABLE SPONSORS_ZIP (
ZIP DOUBLE,
CITY VARCHAR (20),
STATE VARCHAR (20),
PRIMARY KEY (ZIP)
);
```

COMPANY

```
CREATE TABLE COMPANY (
BARCODE NUMBER NOT NULL,
C_INDUSTRY VARCHAR (30),
PRIMARY KEY (BARCODE)
);
```

2. A Database State

We insert some values into the database in order to test our SQL query statement. The query for one of the insertion statements for each table and the final results are shown as follows:

• INSERTION OF TABLE ADMIN_

-

VALUES ('404', 'Colonel', 'Sanders', 'CS@kfc');

_		ADMIN_ID 🔻	FIRST_NAME -	LAST_NAME -	PASSWORD_ •
	+	101	Michael	Scott	MScott124
	+	202	Dwight	Schrute	Dwight@123
	+	303	Pamela	Beesly	P@mmyBee10
	+	404	Colonel	Sanders	CS@kfc
	+	505	Tony	Tiger	FF@ceral
*					

• INSERTION OF ASSOCIATES_WITH

```
INSERT INTO ASSOCIATES_WITH
VALUES
(1111, 101);
```

• INSERTION OF TABLE ATTENDEE_ID

```
INSERT INTO ATTENDEE_ID
VALUES
(131516, 505);
```

Barcode	∇	ID	٥
110	394		303
131	516		505
222	543		909
233	568		606
333	555		707
338	235		101
343	536		808
387	662		202
912	101		1010

• INSERTION OF ATTENDEE_NAME

```
INSERT INTO ATTENDEE_NAME
VALUES ('303', 'Steve Rogers');
```

INSERTINTO X MAME ATTENDEE_NAME X

ID NAME Click to Add ID Carol Denvers

202 Tony Stark

303 Steve Rogers

505 Rachel Green
606 Monica Geller
707 Janice Hosenst
808 Chandler Bing
1010 Mike Hannigan

• INSERTION OF ATTENDS

```
INSERT INTO ATTENDS
VALUES
(1111, 131516);
```

Z EVENT_ID ▼	Barcode - Click to Add	¥
1111	131516	
2222	233568	
3333	333555	
4444	343536	
5555	222543	

• INSERTION OF CAN_SPONSOR

```
INSERT INTO CAN_SPONSOR
VALUES
(1111, 557480);
```

4	EVENT_ID •	BARCODE ▼
	1111	557480
	2222	125589
	3333	458779
	4444	875641
	5555	390024

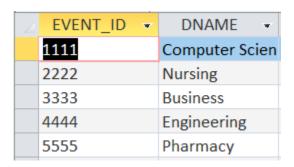
• INSERTION OF COMPANY

```
INSERT INTO COMPANY
VALUES (875641, 'Technology');
```

h.	BARCODE →	C_INDUSTRY ▼
	125589	Safety
	390024	Sports
	458779	Finance
	557480	Education
	875641	Technology
*		

INSERTION OF CONDUCTED_BY

INSERT INTO CONDUCTED_BY
VALUES
(1111, 'Computer Science');



• INSERTION OF TABLE DEPARTMENT

INSERT INTO DEPARTMENT VALUES

('Computer Science', '11111111111', 'Spongebob Squarepants');

DHEAD - Click to Add -DNAME - DPHONE -Business 3333333333 Santa Claus ■ Computer Scie 1111111111 Spongebob Squ Thanos 777777777 Nursing Hillary Clinton 4456342312 ⊕ Pharmacy 6769903001 Captain Cavem

INSERTION OF TABLE EVENT_

INSERT INTO EVENT_ VALUES ('1111', '10/25/1985', 100);

		EVENT_ID	*	DATE_OF_E\ -	MAX_OCCUF -
	+	1111		10/25/1985	100
	+	2222		12/11/1986	420
	+	3333		5/19/1987	100
	+	4444		8/26/1988	62
	+	5555		1/20/1989	3
*					

• INSERTION OF FACULTY

```
INSERT INTO FACULTY
VALUES
('COSC143','234-322-6589','131519');
```

FOFFICE

FPHONE

BARCODE

COSC143

234-322-6589

131519

ENG332

456-207-1990

233568

HIS493

669-459-2241

333555

*

• INSERTION OF GENRE

```
INSERT INTO GENRE
VALUES
(1111, 'Midnight Breakfast');
```



INSERTION OF GUEST

```
INSERT INTO GUEST
VALUES
('Ross Geller', 'Brother', 233568);
```

 NAME -	RELATIONSH •	ATTENDEE_B ▼
Joey Tribbiani	Friend	333555
Phoebe Buffay	Friend	233568
Rose Geller	Brother	233568

• INSERTION OF TABLE INDIVIDUAL

```
INSERT INTO INDIVIDUAL(ID, BARCODE)
VALUES
(356, 937456);
```

Barcode ♥ ID ♥

267252 560

334689 673

626352 325

937456 356

• INSERTION OF TABLE INDIVIDUAL_OCCUPATION

```
INSERT INTO INDIVIDUAL_OCCUPATION(OCCUPATION, ID)
VALUES
('Doctor', 356);
```

ID ▽	Occupation 😾
325	Fire Fighter
356	Doctor
560	Software Developer
673	Teacher

• INSERTION OF LOCATION

INSERT INTO LOCATION
VALUES
(1111, 'Cafeteria');

 EVENT_ID -	EVENT_LOCA -
1111	Cafeteria
2222	Stadium
3333	Theater Hall
4444	Classroom

• INSERTION OF SPONSORS_BARCODE

INSERT INTO SPONSORS_BARCODE
VALUES (026352, 'Alumni Dr.', 360, 2005, 95666, 'James Nguyen');

.....

4	BARCODE -	STREET_NAME -	STREET_NUMBER →	APT -	ZIP +	NAME +
+	26352	Alumni Dr.	360	2005	95666	James Nguyen
+	125589	S Whaley	300	2330	53884	Longview Fire Department #55
+	267252	High Dr.	348	1030	14998	Marc Garcia
+	334689	My Rd.	123	1332	55829	Belami Jones
+	390024	Old Omen Rd.	3088	4112	44331	Nil Sporting Goods
+	458779	N. Dream St.	2200	1222	69756	Weston Bank Server
+	557480	University Blvd	3900	1130	75701	University of Texas at Tyler
+	875641	Preston Rd.	2601	3221	87759	Microsoft Stores
+	937456	McDonald Rd.	3700	3311	77905	Helena Scott
*						

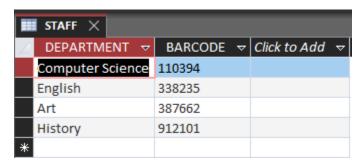
• INSERTION OF SPONSORS_ZIP

```
INSERT INTO SPONSORS_ZIP
VALUES (95666, 'Las Vegas', 'Nevada');
```

ZIP	*	CITY	~	STATE	¥
	14998	Eureka		California	
	44331	Cleveland		Ohio	
	53884	Tupelo		Mississippi	
	55829	Monroe		Louisiana	
	69756	Orlando		Florida	
	75701	Tyler		Texas	
	77905	Knoxville		Tennessee	
	87759	Dothan		Alabama	
	95666	Las Vegas		Nevada	

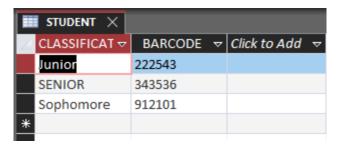
• INSERTION OF STAFF

```
INSERT INTO STAFF
VALUES ('Computer Science', '110394');
```



• INSERTION OF STUDENT

```
INSERT INTO STUDENT
VALUES
('Junior', '222543');
```



Till now we have finished the process of creating tables and inserting some values into the tables.