Prairie View A&M University

ROY G. PERRY COLLEGE OF ENGENEERING

DEPARTMENT OF COMPUTER SCIENCE

SWAC FOOTBALL DATABASE

Comp 3395-PO1- Database Management

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INTRODUCTION

Effective management of the Southwestern Athletic Conference (SWAC) involves a diverse data set related to various sports, teams, and players. The complexity of this data set leads to challenges with organization, efficiency, and security. To address these challenges and provide effortless database management for our stakeholders, including colleges, fans, recruiters, and more, we proudly introduce the SWAC Football Database. This comprehensive database ensures around the clock, user-friendly access to all data associated with the SWAC conference.

The SWAC, considered the premier HBCU conference, is made up of historically black colleges and universities in the Southern United States and is considered the premier HBCU conference. The SWAC football division consists of 12 colleges: Alabama A&M University, Alabama State University, Bethune-Cookman University, Florida A&M University, Jackson State University, Mississippi Valley State University, Alcorn State University, University of Arkansas at Pine Bluff, Grambling State University, Prairie View A&M University, Southern University, and Texas Southern University. The SWAC division stands out as a testament to excellence, progress, and tradition.

We recognize the diverse range of stakeholders invested in the success of SWAC, so we aim to cater to the needs of colleges seeking comprehensive performance insight, fans craving real-time updates, and recruiters seeking to make the best decisions. This database is more than just a solution, it connects our stakeholders to what matters most to them. With an emphasis on security, efficiency, and accessibility, the database ensures every user has a seamless experience with SWAC football data. This database is a dynamic platform showing the unique identity of the SWAC and everything that makes up its success.

Overview

This database is designed with 5 interconnected tables: Staff, SWAC Teams, Team Statistics, Games, and Players. Each table plays an important role in organizing essential information. The Staff table records key personnel involved in the management of this database, the SWAC Teams table catalogs details about each team, the Team Statistics table captures performance metrics, the Games table keeps track of game details, and the Players table provides insight into player profiles.

Each table has a unique primary key which serves to identify a row/record from the table; The primary keys are named after the table and tagged with ID at the end, i.e., TeamID. While there are five tables, there are only four foreign keys. For the Players, Games, and Team Statistics table, the foreign key references the SWAC Teams table. The Team Statistics table features another foreign key, which links to the Games table.

This database will assist various shareholders with organizing and accessing data. The database has five tables: Staff, SWAC Teams, Team Statistics, Games, and Players. Each table has a primary key and foreign key except for the SWAC Teams table, which lacks a foreign key. Each table is connected to the SWAC Teams table through their foreign key. The Team Statistics table is the only table with two foreign keys as it has relations with the Team table and the Games table. The Player's table is linked to the SWAC Teams table through the TeamID foreign key, which connects players to their teams. The Games table uses two foreign keys to establish connections with the home and away team for each match. The Team Statistics table has two foreign keys, allowing a relationship with the SWAC Teams table and Games table.

Architecture & ER Diagram

Figure 1. shows the architecture of the SWAC Football Database. In this illustration, you can see the datatypes and variables of each attribute in the database. In Figure 2 shows the ER diagram of the database. Both figures illustrate how the database is structured, and the Primary key foreign key relations.

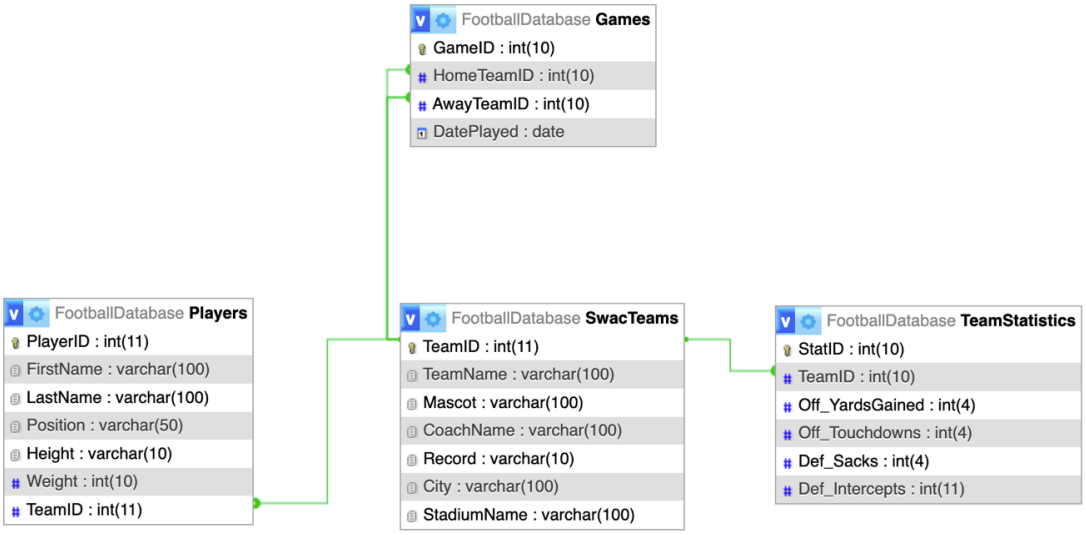


Figure 1. Structure of SWAC Football Database

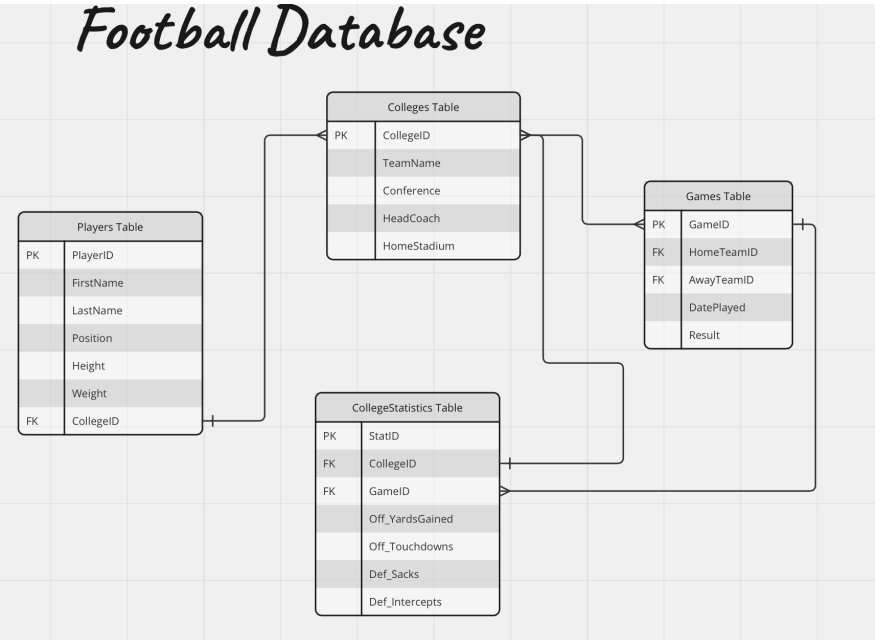


Figure 2. ER Diagram of SWAC Football Database

Implementation Methods

The SWAC Football Database was created with MySQL, phpMyAdmin, and the provided tool XAMPP. The initial creation of tables was created using MySQL in the command console. Once tables, primary, and foreign keys were established. phpMyAdmin was utilized to insert data into each table. SQL commands were still used within the phpMyAdmin interface as it was sometimes easier than making table structure changes with the GUI or reopening and signing into MySQL with the command line. The photo below (Figure 3) shows how the SWAC Football Database is implemented in phpMyAdmin. phpMyAdmin was also used to create our triggers and procedures. Finally, .php code was used to create our database web interface.

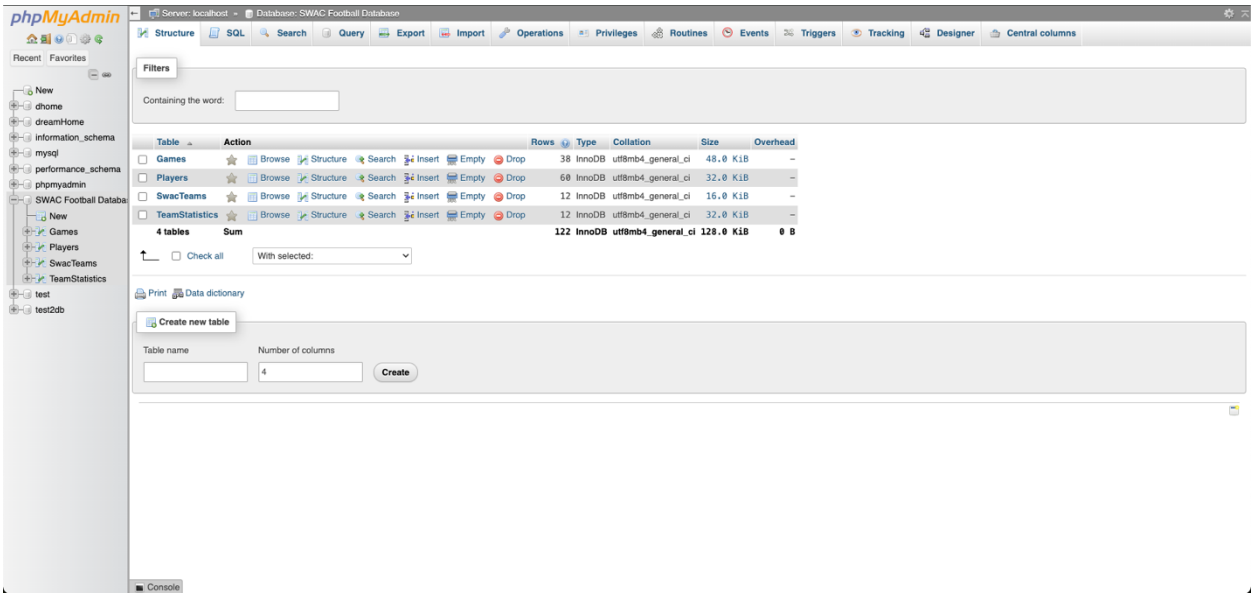


Figure 3. photo of SWAC Football Database inside phpMyAdmin

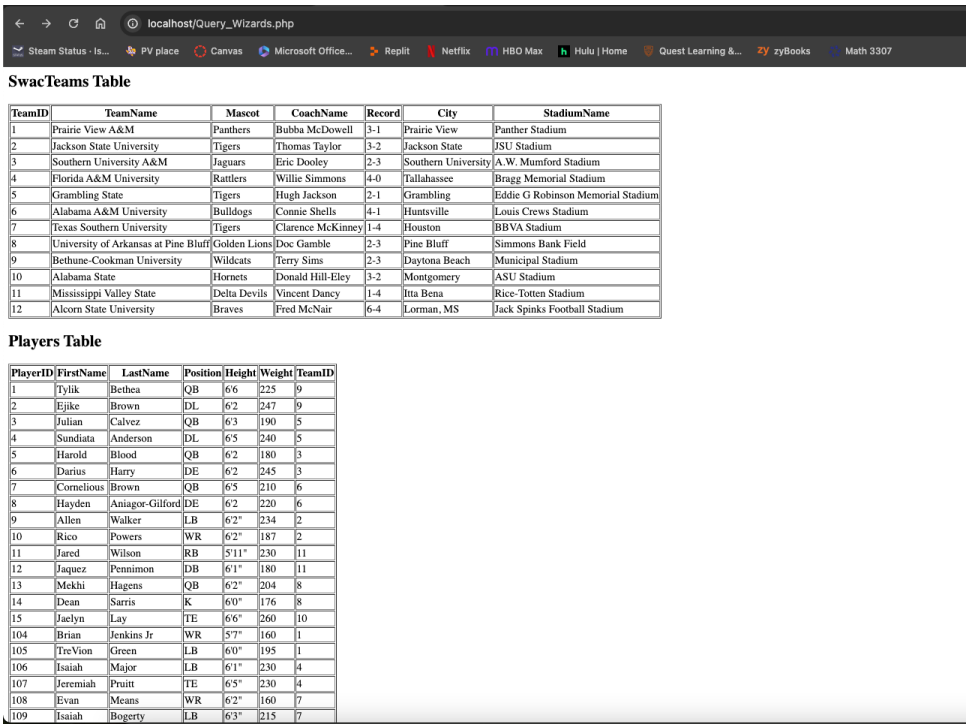
Database Website

Our database website interface was created using .php. The file Query_Wizards.php contains the source code of the website. The website outputs the tables and data within our SWAC Football database.

TeamStatistics Table

StatID	TeamID	Off_YardsGained	Off_Touchdowns	Def_Sacks	Def_Intercepts
0	4	3740	34	33	9
1	1	3486	23	15	8
2	2	3852	35	28	16
3	3	3286	27	24	6
5	5	3695	36	21	13
6	11	2473	13	10	5
7	10	2584	18	23	8
8	9	2630	22	22	9
9	8	2784	18	18	4
10	7	3810	32	25	5
11	6	3687	38	19	10
12	12	3542	23	28	14

Figure 4: Screenshot of .php website displaying ‘TeamStatitics’ table



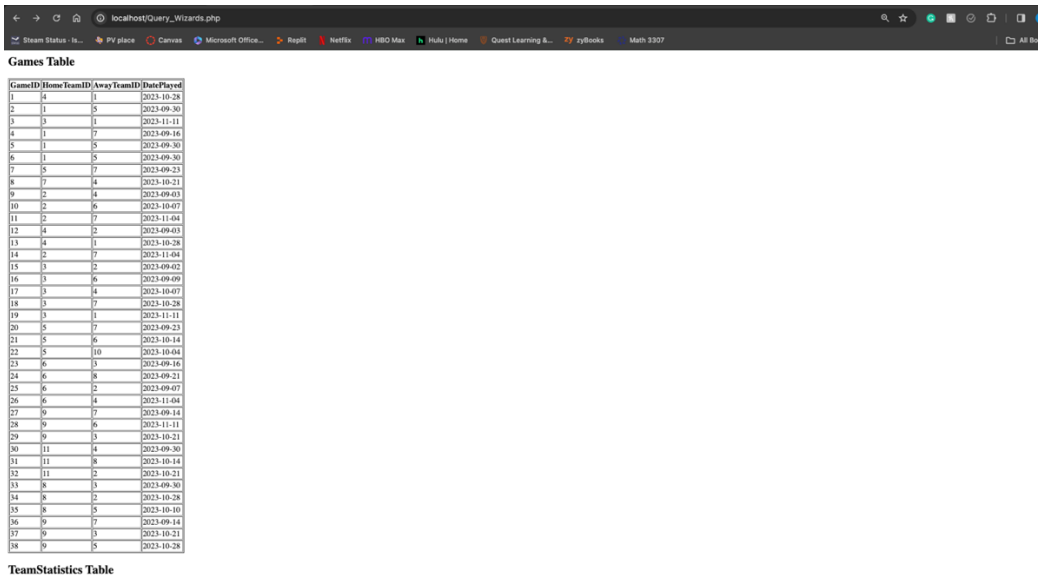
SwacTeams Table

TeamID	TeamName	Mascot	CoachName	Record	City	StadiumName
1	Prairie View A&M	Panthers	Bubba McDowell	3-1	Prairie View	Panther Stadium
2	Jackson State University	Tigers	Thomas Taylor	3-2	Jackson State	JSU Stadium
3	Southern University A&M	Jaguars	Eric Dooley	2-3	Southern University	A.W. Mumford Stadium
4	Florida A&M University	Rattlers	Willie Simmons	4-0	Tallahassee	Bragg Memorial Stadium
5	Grambling State	Tigers	Hugh Jackson	2-1	Grambling	Eddie G Robinson Memorial Stadium
6	Alabama A&M University	Bulldogs	Connie Shells	4-1	Huntsville	Louis Crews Stadium
7	Texas Southern University	Tigers	Clarence McKinney	1-4	Houston	BBVA Stadium
8	University of Arkansas at Pine Bluff	Golden Lions	Doc Gamble	2-3	Pine Bluff	Simmons Bank Field
9	Bethune-Cookman University	Wildcats	Terry Sims	2-3	Daytona Beach	Municipal Stadium
10	Alabama State	Hornets	Donald Hill-Eley	3-2	Montgomery	ASU Stadium
11	Mississippi Valley State	Delta Devils	Vincent Dancy	1-4	Itta Bena	Rice-Totten Stadium
12	Alcorn State University	Braves	Fred McNair	6-4	Lorman, MS	Jack Spinks Football Stadium

Players Table

PlayerID	FirstName	LastName	Position	Height	Weight	TeamID
1	Tylik	Bethea	QB	6'6	225	9
2	Ejike	Brown	DL	6'2	247	9
3	Julian	Calvez	QB	6'3	190	5
4	Sundiata	Anderson	DL	6'5	240	5
5	Harold	Blood	QB	6'2	180	3
6	Darius	Harry	DE	6'2	245	3
7	Cornelious	Brown	QB	6'5	210	6
8	Hayden	Aniagor-Gilford	DE	6'2	220	6
9	Allen	Walker	LB	6'2"	234	2
10	Rico	Powers	WR	6'2"	187	2
11	Jared	Wilson	RB	5'11"	230	11
12	Jaquez	Pennimon	DB	6'1"	180	11
13	Mekhi	Hagens	QB	6'2"	204	8
14	Dean	Sarris	K	6'0"	176	8
15	Jaelyn	Lay	TE	6'6"	260	10
104	Brian	Jenkins Jr	WR	5'7"	160	1
105	TreVion	Green	LB	6'0"	195	1
106	Isaiah	Major	LB	6'1"	230	4
107	Jeremiah	Pruitt	TE	6'5"	230	4
108	Evan	Means	WR	6'2"	160	7
109	Isaiah	Bogerty	LB	6'3"	215	7

Figure 5: Screenshot of .php website displaying ‘SwacTeams’ table & ‘Players’ table

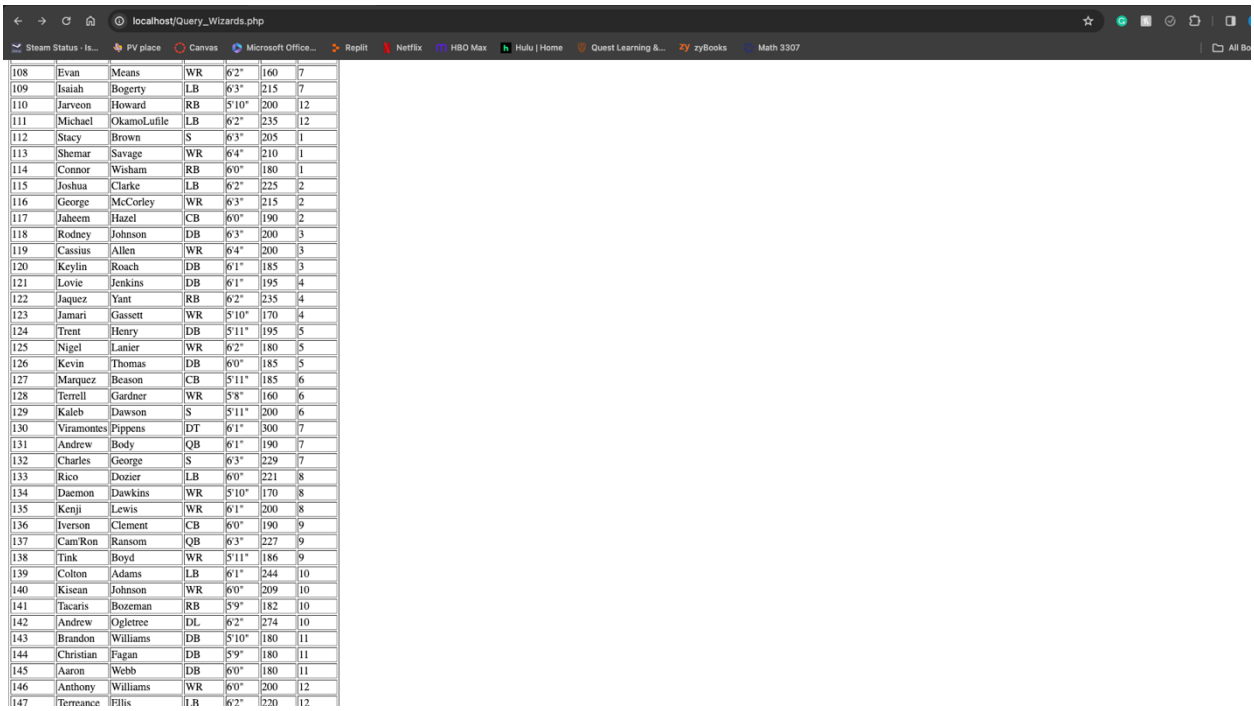


Games Table

GameID	HomeTeamID	AwayTeamID	DatePlayed
1	4	1	2023-10-28
2	1	5	2023-09-30
3	3	1	2023-11-11
4	1	7	2023-09-16
5	1	5	2023-09-30
6	1	5	2023-09-30
7	5	7	2023-09-23
8	7	4	2023-10-21
9	2	4	2023-09-03
10	2	6	2023-10-07
11	2	7	2023-11-04
12	4	2	2023-09-03
13	4	1	2023-10-28
14	2	7	2023-11-04
15	3	2	2023-09-02
16	3	6	2023-09-09
17	3	4	2023-10-07
18	3	7	2023-10-28
19	3	1	2023-11-11
20	5	7	2023-09-23
21	5	6	2023-10-14
22	5	10	2023-10-04
23	6	3	2023-09-16
24	6	8	2023-09-21
25	6	2	2023-09-07
26	6	4	2023-11-04
27	9	7	2023-09-14
28	9	6	2023-11-11
29	9	3	2023-10-21
30	11	4	2023-09-30
31	11	8	2023-10-14
32	11	2	2023-10-21
33	8	3	2023-09-30
34	8	2	2023-10-28
35	8	5	2023-10-10
36	9	7	2023-09-14
37	9	3	2023-10-21
38	9	5	2023-10-28

TeamStatistics Table

Figure 6: Screenshot of .php website displaying ‘Games’ table



108	Evan	Means	WR	6'2"	160	7
109	Isaiah	Bogerty	LB	6'3"	215	7
110	Jarveon	Howard	RB	5'10"	200	12
111	Michael	OkamoLufile	LB	6'2"	235	12
112	Stacy	Brown	S	6'3"	205	1
113	Shemar	Savage	WR	6'4"	210	1
114	Connor	Wisham	RB	6'0"	180	1
115	Joshua	Clarke	LB	6'2"	225	2
116	George	McCorley	WR	6'3"	215	2
117	Jaheem	Hazel	CB	6'0"	190	2
118	Rodney	Johnson	DB	6'3"	200	3
119	Cassius	Allen	WR	6'4"	200	3
120	Keylin	Roach	DB	6'1"	185	3
121	Lovie	Jenkins	DB	6'1"	195	4
122	Jaquez	Yant	RB	6'2"	235	4
123	Jamari	Gassett	WR	5'10"	170	4
124	Trent	Henry	DB	5'11"	195	5
125	Nigel	Lanier	WR	6'2"	180	5
126	Kevin	Thomas	DB	6'0"	185	5
127	Marquez	Beason	CB	5'11"	185	6
128	Terrell	Gardner	WR	5'8"	160	6
129	Kaleb	Dawson	S	5'11"	200	6
130	Viramontes	Pippens	DT	6'1"	300	7
131	Andrew	Body	QB	6'1"	190	7
132	Charles	George	S	6'3"	229	7
133	Rico	Dozier	LB	6'0"	221	8
134	Daemon	Dawkins	WR	5'10"	170	8
135	Kenji	Lewis	WR	6'1"	200	8
136	Iverson	Clement	CB	6'0"	190	9
137	Cam'Ron	Ransom	QB	6'3"	227	9
138	Tink	Boyd	WR	5'11"	186	9
139	Colton	Adams	LB	6'1"	244	10
140	Kisean	Johnson	WR	6'0"	209	10
141	Tacaris	Bozeman	RB	5'9"	182	10
142	Andrew	Ogletree	DL	6'2"	274	10
143	Brandon	Williams	DB	5'10"	180	11
144	Christian	Fagan	DB	5'9"	180	11
145	Aaron	Webb	DB	6'0"	180	11
146	Anthony	Williams	WR	6'0"	200	12
147	Terreance	Ellis	LB	6'2"	220	12

Figure 7: screenshot of .php website displaying 'Players' table.

Example Queries/Executions

The following shows examples of queriers a user may use to answer business questions about the SWAC Football Teams Database.

```
MariaDB [SWAC Football Database]> SELECT
    ->     Players.FirstName,
    ->     Players.LastName,
    ->     Players.Position,
    ->     SwacTeams.TeamName,
    ->     SwacTeams.Record
    -> FROM
    ->     Players
    -> JOIN
    ->     SwacTeams ON Players.TeamID = SwacTeams.TeamID
    -> WHERE
    ->     Players.Position = 'QB';
+-------------+----------+----------+-----------------------------------+--------+
| FirstName   | LastName | Position | TeamName                          | Record |
+-------------+----------+----------+-----------------------------------+--------+
| Harold      | Blood    | QB       | Southern University A&M           | 2-3    |
| Julian      | Calvez   | QB       | Grambling State                   | 2-1    |
| Cornelious  | Brown    | QB       | Alabama A&M University            | 4-1    |
| Andrew      | Body     | QB       | Texas Southern University         | 1-4    |
| Mekhi       | Hagens   | QB       | University of Arkansas at Pine Bluff | 2-3    |
| Tylik       | Bethea   | QB       | Bethune-Cookman University        | 2-3    |
| Cam'Ron     | Ransom   | QB       | Bethune-Cookman University        | 2-3    |
+-------------+----------+----------+-----------------------------------+--------+
7 rows in set (0.002 sec)
```

Figure 8: Select players who play the 'QB' position and retrieve their personal information along with team name.

```
MariaDB [SWAC Football Database]> SELECT Players.FirstName, Players.LastName, Players.Position, Players.Height FROM Players WHERE Players.Position = '
RB' AND Players.Height BETWEEN '5-11' AND '6-5';
+-----------+----------+----------+--------+
| FirstName | LastName | Position | Height |
+-----------+----------+----------+--------+
| Connor    | Wisham   | RB       | 6'0"   |
| Jaquez    | Yant     | RB       | 6'2"   |
+-----------+----------+----------+--------+
2 rows in set (0.001 sec)
```

Figure 9: Find players with specific position and height range.

```
MariaDB [SWAC Football Database]> SELECT Players.*, SwacTeams.TeamName
    -> FROM Players
    -> JOIN SwacTeams ON Players.TeamID = SwacTeams.TeamID
    -> ORDER BY Players.Weight DESC
    -> LIMIT 1;
+----------+-----------+----------+----------+--------+--------+--------+--------------------------+
| PlayerID | FirstName | LastName | Position | Height | Weight | TeamID | TeamName                 |
+----------+-----------+----------+----------+--------+--------+--------+--------------------------+
|      130 | Viramontes | Pippens  | DT       | 6'1"   |    300 |      7 | Texas Southern University |
+----------+-----------+----------+----------+--------+--------+--------+--------------------------+
1 row in set (0.040 sec)
```

Figure 10: Find the player with the highest weight and display their details along with the team information.

```
bin — mysql -u root -p — 180×68
MariaDB [SWAC Football Database]> SELECT Players.*, SwacTeams.TeamName
    -> FROM Players
    -> JOIN SwacTeams ON Players.TeamID = SwacTeams.TeamID;
+----------+-----------+-----------------+----------+--------+--------+--------+-----------------------------------+
| PlayerID | FirstName | LastName        | Position | Height | Weight | TeamID | TeamName                          |
+----------+-----------+-----------------+----------+--------+--------+--------+-----------------------------------+
|      104 | Brian     | Jenkins Jr      | WR       | 5'7"   |    160 |      1 | Prairie View A&M                  |
|      105 | TreVion   | Green           | LB       | 6'0"   |    195 |      1 | Prairie View A&M                  |
|      112 | Stacy     | Brown           | S        | 6'3"   |    205 |      1 | Prairie View A&M                  |
|      113 | Shemar    | Savage          | WR       | 6'4"   |    210 |      1 | Prairie View A&M                  |
|      114 | Connor    | Wisham          | RB       | 6'0"   |    180 |      1 | Prairie View A&M                  |
|        9 | Allen     | Walker          | LB       | 6'2"   |    234 |      2 | Jackson State University          |
|       10 | Rico      | Powers          | WR       | 6'2"   |    187 |      2 | Jackson State University          |
|      115 | Joshua    | Clarke          | LB       | 6'2"   |    225 |      2 | Jackson State University          |
|      116 | George    | McCorley        | WR       | 6'3"   |    215 |      2 | Jackson State University          |
|      117 | Jaheem    | Hazel           | CB       | 6'0"   |    190 |      2 | Jackson State University          |
|        5 | Harold    | Blood           | QB       | 6'2    |    180 |      3 | Southern University A&M           |
|        6 | Darius    | Harry           | DE       | 6'2    |    245 |      3 | Southern University A&M           |
|      118 | Rodney    | Johnson         | DB       | 6'3"   |    200 |      3 | Southern University A&M           |
|      119 | Cassius   | Allen           | WR       | 6'4"   |    200 |      3 | Southern University A&M           |
|      120 | Keylin    | Roach           | DB       | 6'1"   |    185 |      3 | Southern University A&M           |
|      106 | Isaiah    | Major           | LB       | 6'1"   |    230 |      4 | Florida A&M University            |
|      107 | Jeremiah  | Pruitt          | TE       | 6'5"   |    230 |      4 | Florida A&M University            |
|      121 | Lovie     | Jenkins         | DB       | 6'1"   |    195 |      4 | Florida A&M University            |
|      122 | Jaquez    | Yant            | RB       | 6'2"   |    235 |      4 | Florida A&M University            |
|      123 | Jamari    | Gassett         | WR       | 5'10"  |    170 |      4 | Florida A&M University            |
|        3 | Julian    | Calvez          | QB       | 6'3    |    190 |      5 | Grambling State                   |
|        4 | Sundiata  | Anderson        | DL       | 6'5    |    240 |      5 | Grambling State                   |
|      124 | Trent     | Henry           | DB       | 5'11"  |    195 |      5 | Grambling State                   |
|      125 | Nigel     | Lanier          | WR       | 6'2"   |    180 |      5 | Grambling State                   |
|      126 | Kevin     | Thomas          | DB       | 6'0"   |    185 |      5 | Grambling State                   |
|        7 | Cornelious | Brown          | QB       | 6'5    |    210 |      6 | Alabama A&M University            |
|        8 | Hayden    | Aniagor-Gilford | DE       | 6'2    |    220 |      6 | Alabama A&M University            |
|      127 | Marquez   | Beason          | CB       | 5'11"  |    185 |      6 | Alabama A&M University            |
|      128 | Terrell   | Gardner         | WR       | 5'8"   |    160 |      6 | Alabama A&M University            |
|      129 | Kaleb     | Dawson          | S        | 5'11"  |    200 |      6 | Alabama A&M University            |
|      108 | Evan      | Means           | WR       | 6'2"   |    160 |      7 | Texas Southern University         |
|      109 | Isaiah    | Bogerty         | LB       | 6'3"   |    215 |      7 | Texas Southern University         |
|      130 | Viramontes | Pippens        | DT       | 6'1"   |    300 |      7 | Texas Southern University         |
|      131 | Andrew    | Body            | QB       | 6'1"   |    190 |      7 | Texas Southern University         |
|      132 | Charles   | George          | S        | 6'3"   |    229 |      7 | Texas Southern University         |
|       13 | Mekhi     | Hagens          | QB       | 6'2"   |    204 |      8 | University of Arkansas at Pine Bluff |
|       14 | Dean      | Sarris          | K        | 6'0"   |    176 |      8 | University of Arkansas at Pine Bluff |
|      133 | Rico      | Dozier          | LB       | 6'0"   |    221 |      8 | University of Arkansas at Pine Bluff |
|      134 | Daemon    | Dawkins         | WR       | 5'10"  |    170 |      8 | University of Arkansas at Pine Bluff |
|      135 | Kenji     | Lewis           | WR       | 6'1"   |    200 |      8 | University of Arkansas at Pine Bluff |
|        1 | Tylik     | Bethea          | QB       | 6'6    |    225 |      9 | Bethune-Cookman University        |
|        2 | Ejike     | Brown           | DL       | 6'2    |    247 |      9 | Bethune-Cookman University        |
|      136 | Iverson   | Clement         | CB       | 6'0"   |    190 |      9 | Bethune-Cookman University        |
|      137 | Cam'Ron   | Ransom          | QB       | 6'3"   |    227 |      9 | Bethune-Cookman University        |
|      138 | Tink      | Boyd            | WR       | 5'11"  |    186 |      9 | Bethune-Cookman University        |
|       15 | Jaelyn    | Lay             | TE       | 6'6"   |    260 |     10 | Alabama State                     |
|      139 | Colton    | Adams           | LB       | 6'1"   |    244 |     10 | Alabama State                     |
|      140 | Kisean    | Johnson         | WR       | 6'0"   |    209 |     10 | Alabama State                     |
|      141 | Tacaris   | Bozeman         | RB       | 5'9"   |    182 |     10 | Alabama State                     |
|      142 | Andrew    | Ogletree        | DL       | 6'2"   |    274 |     10 | Alabama State                     |
|       11 | Jared     | Wilson          | RB       | 5'11"  |    230 |     11 | Mississippi Valley State          |
|       12 | Jaquez    | Pennimon        | DB       | 6'1"   |    180 |     11 | Mississippi Valley State          |
|      143 | Brandon   | Williams        | DB       | 5'10"  |    180 |     11 | Mississippi Valley State          |
|      144 | Christian | Fagan           | DB       | 5'9"   |    180 |     11 | Mississippi Valley State          |
|      145 | Aaron     | Webb            | DB       | 6'0"   |    180 |     11 | Mississippi Valley State          |
|      110 | Jarveon   | Howard          | RB       | 5'10"  |    200 |     12 | Alcorn State University           |
|      111 | Michael   | OkamoLufile     | LB       | 6'2"   |    235 |     12 | Alcorn State University           |
|      146 | Anthony   | Williams        | WR       | 6'0"   |    200 |     12 | Alcorn State University           |
|      147 | Terreance | Ellis           | LB       | 6'2"   |    220 |     12 | Alcorn State University           |
|      148 | Malik     | Rodgers         | WR       | 5'10"  |    170 |     12 | Alcorn State University           |
+----------+-----------+-----------------+----------+--------+--------+--------+-----------------------------------+
60 rows in set (0.016 sec)
```

Figure 11: Display teams with their respective coaches and the number of interceptions

```
MariaDB [SWAC Football Database]> SELECT SwacTeams.TeamName, COUNT(Games.GameID) AS NumGamesPlayed
    -> FROM SwacTeams
    -> LEFT JOIN Games ON SwacTeams.TeamID = Games.HomeTeamID OR SwacTeams.TeamID = Games.AwayTeamID
    -> WHERE MONTH(Games.DatePlayed) = 10 AND YEAR(Games.DatePlayed) = 2023
    -> GROUP BY SwacTeams.TeamID, SwacTeams.TeamName;
+-----------------------------------+----------------+
| TeamName                          | NumGamesPlayed |
+-----------------------------------+----------------+
| Prairie View A&M                  |              2 |
| Jackson State University          |              3 |
| Southern University A&M           |              4 |
| Florida A&M University            |              4 |
| Grambling State                   |              4 |
| Alabama A&M University            |              2 |
| Texas Southern University         |              2 |
| University of Arkansas at Pine Bluff |              3 |
| Bethune-Cookman University        |              3 |
| Alabama State                     |              1 |
| Mississippi Valley State          |              2 |
+-----------------------------------+----------------+
11 rows in set (0.062 sec)
```

Figure 12: Display the teams that have played games in October 2023 along with the number of games played.

```
MariaDB [SWAC Football Database]> SELECT Players.FirstName, Players.LastName, Players.Weight, SwacTeams.TeamName
    -> FROM Players
    -> JOIN SwacTeams ON Players.TeamID = SwacTeams.TeamID
    -> WHERE Players.Weight BETWEEN '180' AND '220';
+-------------+-----------------+--------+-----------------------------------+
| FirstName   | LastName        | Weight | TeamName                          |
+-------------+-----------------+--------+-----------------------------------+
| TreVion     | Green           |    195 | Prairie View A&M                  |
| Stacy       | Brown           |    205 | Prairie View A&M                  |
| Shemar      | Savage          |    210 | Prairie View A&M                  |
| Connor      | Wisham          |    180 | Prairie View A&M                  |
| Rico        | Powers          |    187 | Jackson State University          |
| George      | McCorley        |    215 | Jackson State University          |
| Jaheem      | Hazel           |    190 | Jackson State University          |
| Harold      | Blood           |    180 | Southern University A&M           |
| Rodney      | Johnson         |    200 | Southern University A&M           |
| Cassius     | Allen           |    200 | Southern University A&M           |
| Keylin      | Roach           |    185 | Southern University A&M           |
| Lovie       | Jenkins         |    195 | Florida A&M University            |
| Julian      | Calvez          |    190 | Grambling State                   |
| Trent       | Henry           |    195 | Grambling State                   |
| Nigel       | Lanier          |    180 | Grambling State                   |
| Kevin       | Thomas          |    185 | Grambling State                   |
| Cornelious  | Brown           |    210 | Alabama A&M University            |
| Hayden      | Aniagor-Gilford |    220 | Alabama A&M University            |
| Marquez     | Beason          |    185 | Alabama A&M University            |
| Kaleb       | Dawson          |    200 | Alabama A&M University            |
| Isaiah      | Bogerty         |    215 | Texas Southern University         |
| Andrew      | Body            |    190 | Texas Southern University         |
| Mekhi       | Hagens          |    204 | University of Arkansas at Pine Bluff |
| Kenji       | Lewis           |    200 | University of Arkansas at Pine Bluff |
| Iverson     | Clement         |    190 | Bethune-Cookman University        |
| Tink        | Boyd            |    186 | Bethune-Cookman University        |
| Kisean      | Johnson         |    209 | Alabama State                     |
| Tacaris     | Bozeman         |    182 | Alabama State                     |
| Jaquez      | Pennimon        |    180 | Mississippi Valley State          |
| Brandon     | Williams        |    180 | Mississippi Valley State          |
| Christian   | Fagan           |    180 | Mississippi Valley State          |
| Aaron       | Webb            |    180 | Mississippi Valley State          |
| Jarveon     | Howard          |    200 | Alcorn State University           |
| Anthony     | Williams        |    200 | Alcorn State University           |
| Terreance   | Ellis           |    220 | Alcorn State University           |
+-------------+-----------------+--------+-----------------------------------+
35 rows in set (0.019 sec)
```

Figure 13: Find players and their teams based on specific weight range.

```
MariaDB [SWAC Football Database]> SELECT TeamName, AVG(Off_YardsGained) AS AvgYardsGained
    -> FROM TeamStatistics
    -> JOIN SwacTeams ON TeamStatistics.TeamID = SwacTeams.TeamID
    -> GROUP BY TeamName
    -> ORDER BY AvgYardsGained DESC
    -> LIMIT 5;
+--------------------------+----------------+
| TeamName                 | AvgYardsGained |
+--------------------------+----------------+
| Jackson State University |      3852.0000 |
| Texas Southern University |      3810.0000 |
| Florida A&M University   |      3740.0000 |
| Grambling State          |      3695.0000 |
| Alabama A&M University   |      3687.0000 |
+--------------------------+----------------+
5 rows in set (0.019 sec)
```

Figure 14: Show the top 5 teams with the highest average offensive yards gained.

Example of Triggers

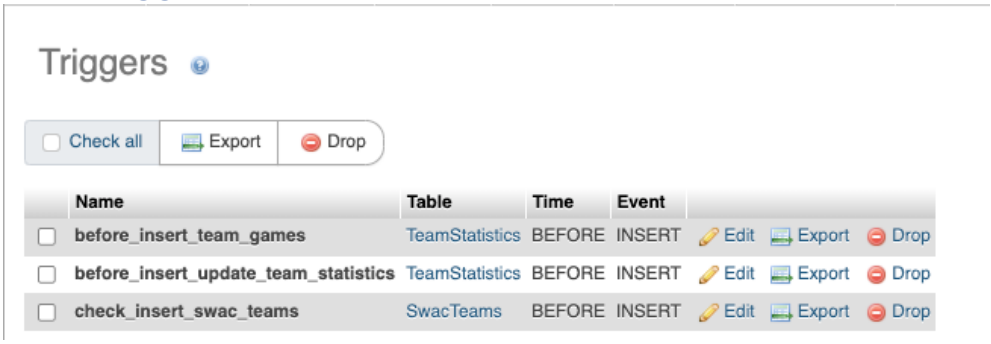


Figure 15: Screenshot of triggers in our database.

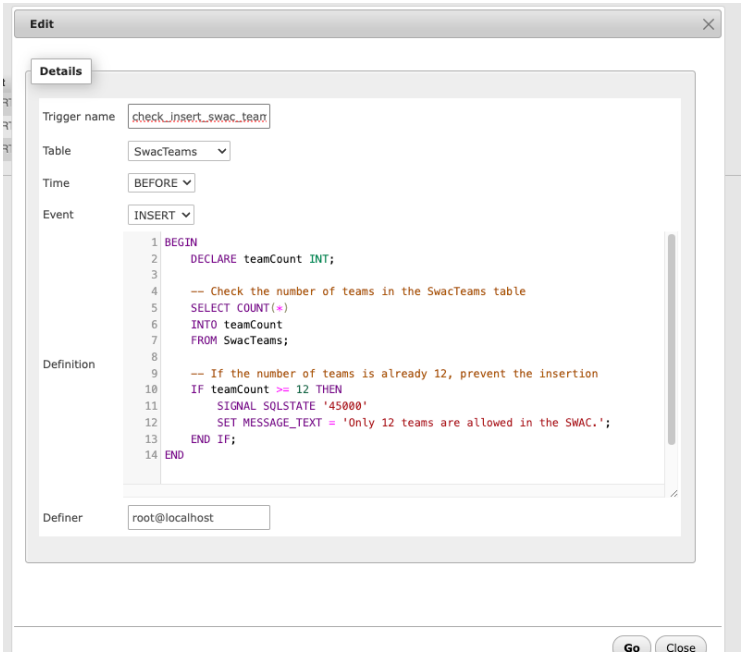


Figure 16: Source code of trigger to block insertion of more than 12 SWAC teams.

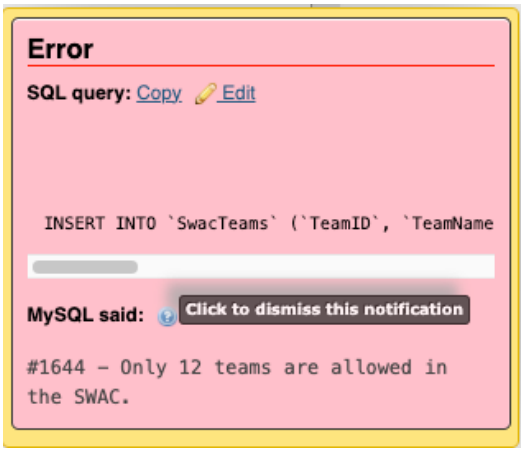


Figure 17: Triggering of trigger shown in figure

Discussion & Conclusion

The football database project for the SWAC Championship holds immense importance in its practical implications and the comprehensive lessons it imparted. This project wasn't solely about creating a functional database; it encapsulated the essence of hands-on learning, providing a rich tapestry of experiences crucial for our growth in the field of computer and information technology.

The project's significance lies in its ability to simulate real-world scenarios, allowing us to comprehend the intricate nuances of database design, implementation, and utilization. Through this endeavor, we grasped the pivotal role of databases in sports management, understanding how these systems are pivotal in organizing, analyzing, and managing vast amounts of sports-related data. This practical insight expanded our understanding of database applications beyond theoretical concepts.

Moreover, the project was a catalyst for personal and professional development. It served as a platform to foster essential skills such as problem-solving, teamwork, adaptability, and effective communication. These soft skills, coupled with technical proficiency, form the cornerstone of a successful career in the computer and information technology domain.

The paramount importance of this project lies not only in the creation of a functional football database but also in the holistic learning journey it provided. It instilled in us a deeper appreciation for the practical applications of our academic knowledge and illuminated the vast possibilities within the realm of database systems.

In essence, the football database project for the SWAC Championship was an invaluable learning experience that transcended technical expertise. It was a journey that sculpted us into adaptable, proficient, and collaborative professionals, ready to tackle the challenges and opportunities that await in the dynamic landscape of technology.

Roles and Contributions:

Jabin (Group Leader): Oversaw project organization, ensured task delegation,and coordinated team efforts. Jabin was pivotal in setting project timelines and ensuring each member stayed on track with their responsibilities. Additionally, Jabin actively contributed to database design, the implementation of triggers and procedures, the php website creation, and final paper.

Rakshith: Played a significant role in database implementation using phpMyAdmin, specifically focusing on inserting data, and executing queries for testing purposes.

Kolade: Contributed extensively to the development of the database structure, particularly in designing the Entity-Relational (ER) model. Kolade ensured that database attributes, integrity

constraints, and relationships were well-defined, contributing significantly to the database's coherence and functionality.

Zero: Zero concentrated on the finer details of the database, working on constraints and triggers, business questions and queries, and Database implementation. Their contribution was crucial in ensuring the database had a good foundation to start on.

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