Deliverables

1. Description of project:

VolleyVision Pro is a comprehensive database solution crafted exclusively for volleyball coaches. This platform is designed to seamlessly manage team-related data, offering coaches a secure login and user-friendly interface to efficiently organize and monitor various aspects of their team's performance. Empowering coaches with essential features, VolleyVision Pro enables streamlined management, including updating player stats, handling team rosters, and accessing comprehensive player profiles. The system also provides valuable insights into upcoming tournaments and sponsorship agreements, facilitating strategic planning and commitment fulfillment. With its intuitive design, VolleyVision Pro ensures coaches stay organized, make informed decisions, and elevate team performance—a must-have tool for modern volleyball team management.

2. How our final schema differs:

Our final schema includes information that translates relationship sets to tables (i.e. Manages, Participate, etc). This was missing in our Milestone 2, where we only included entity sets. There were some changes with the Members, Coaches, and Players as well to properly represent the ISA relationship and primary keys within each table.

Members ID now should generate by default "ID INTEGER GENERATED BY DEFAULT ON NULL AS IDENTITY" and PlayerID should be UNIQUE.

We added DROP statements to properly run the SQL file and reflect all updates in our tables.

NOTES:

- Added relationship tables such as Sponsors, HostedAt, Participate, Get, and Teaches
- Added that MemberID thing
- 3. **Schema** (Primary key = underlined, Foreign key = **bolded**, Candidate key = *italic*)

Organization (<u>OrganizationID</u>: Integer, Name: varchar [50], AmountSponsored: Integer) (AmountSponsored cannot be negative)

Sponsors (**OrganizationID**: Integer, **TournamentID**: Integer, AmountSponsored: Integer)

Tournament (<u>TounamentID</u>: Integer

- , SponsorID: Integer <- (FK referencing Organization table (OrganizationID)
- , Name: varchar [50] , StartDate: Date , EndDate: Date
- , FacilityID(FK referencing Facility table): Integer) (FacilityName cannot be null, EndDate must be > StartDate)

```
Facility (FacilityID: Integer, FacilityName: Varchar[50], Address: varchar [50], Capacity:
Integer)
HostedAt (TournamentID: Integer <- (FK referencing Organization (OrganizationID))
   , FacilityID: Integer (FK referencing Facility (FacilityID)))
Club (ClubID: Integer, Name: varchar [50], Location: varchar[50]) (ClubID cannot be null)
Team (TeamID: Integer, ClubID(FK referencing Club): varchar [50], CoachID(FK referencing
Coaches): Integer, NumPlayers: Integer) (Club cannot be null)
Participate (TeamID: Integer <- (FK referencing Team (TeamID))
, TournamentID: integer <- (FK referencing TournamentID (TournamentID))
Players (ID: Integer, SIN: integer, TeamID(FK referencing Team): Integer, JerseyNum: Integer,
Position: Varchar[50]) (TeamID cannot be null, SIN must be unique)
PlayerStats (StatID(FK referencing Players): Integer, MatchesPlayed: Integer, GamesWon:
Integer, NumofPoints: Integer) (StatID must be unique)
Certification (CertificationID: Integer, CertificateName: varchar [50], ExpirationDate: Date)
Gets (GetID: Integer
,MemberID: Integer <- (FK referencing Members (MemberID))
,CertificateName: VARCHAR(50)
,DateCertified: DATE
)
Coaches (CertificateID(FK referencing Certification): Integer, YearStarted: Integer,
YearsCoached: Integer) (YearsCoached cannot be negative)
Teaches (TeachID: Integer
,TeamID: integer <- (FK referencing Team (TeamID))
,ID: Integer <- (FK referencing Members (MemberID))
)
Member (ID: Integer, Name: varchar[50], PhoneNum: Integer, Address: varchar [50], City:
varchar[50], Birthday: Date) (Name cannot be null)
```

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Screenshots of data present in relations:

| | ৣ GETID ÷ | ∰ MEMBERID ‡ | □ CERTIFICATENAME | □ DATECERTIFIED | |
|---|-----------|--------------|-------------------|-----------------|--|
| 1 | 1 | 6 | Safe Sport | 2012-03-10 | |
| 2 | 2 | 7 | Safe Sport | 2014-05-11 | |
| 3 | 3 | 8 | Safe Sport | 2016-07-23 | |
| 4 | 4 | 9 | Safe Sport | 2017-01-20 | |
| 5 | 5 | 10 | Safe Sport | 2011-09-02 | |

| | ☐ ORGANIZATIONID ÷ | □ NAME ÷ | ☐ AMOUNTSPONSORED ÷ |
|---|--------------------|-------------------|---------------------|
| 1 | 1 | OrganizationOne | 10000 |
| 2 | 2 | OrganizationTwo | 10000 |
| 3 | 3 | OrganizationThree | 20000 |
| 4 | 4 | OrganizationFour | 3000 |
| 5 | 5 | OrganizationFive | 5000 |

| | ∏ FACILITYID ÷ | ☐ FACILITYNAME ÷ | ☐ ADDRESS ÷ | ☐ CAPACITY ÷ |
|---|----------------|------------------|---------------|--------------|
| 1 | 1 | FacilityOne | 123 Abc St | 500 |
| 2 | 2 | FacilityTwo | 19030 74 Ave | 400 |
| 3 | 3 | FacilityThree | 3012 Glen Dr | 500 |
| 4 | 4 | FacilityFour | 222 Smith Ave | 1000 |
| 5 | 5 | FacilityFive | 123 Van St | 700 |

| | ∏⊋ TOURNAMENTID ÷ | □ NAME \$ | <pre> □ FACILITYNAME</pre> | ☐ SPONSORID ÷ | ☐ STARTDATE ÷ | ■ ENDDATE |
|---|-------------------|--------------------------|----------------------------|---------------|---------------|------------|
| 1 | 1 | T0ne | FacilityOne | 1 | 2023-06-28 | 2023-06-30 |
| 2 | 2 | TTwo | FacilityTwo | 2 | 2024-03-28 | 2023-03-30 |
| 3 | 3 | TThree | FacilityThree | 3 | 2023-01-18 | 2023-01-19 |
| 4 | 4 | TFour | FacilityFour | 4 | 2023-07-28 | 2023-07-30 |
| 5 | 5 | TFive | FacilityFive | 5 | 2024-06-25 | 2024-06-29 |
| 6 | 6 | Provincials Championship | FacilityFive | 5 | 2024-06-25 | 2024-06-29 |

| | Ç CLUBID ÷ | ; | ■ NAME | ‡ | □ LOCATION | ‡ |
|---|------------|---|-----------|----------|---------------|----------|
| 1 | : | 1 | Club0ne | | 333 Sunny Ave | |
| 2 | : | 2 | ClubTwo | | 5034 Lock Ave | |
| 3 | ; | 3 | ClubThree | | 4102 Ocean Dr | |
| 4 | | 4 | ClubFour | | 3032 Bob Ave | |
| 5 | ! | 5 | ClubFive | | 553 Smith St | |

| | ∏ ID ÷ | □ NAME □ | ; | ⊃ PHONENUM ÷ | ☐ ADDRESS | \$ | □ CITY | ‡ | □ BIRTHDATE | ‡ | □ AGE ÷ |
|----|--------|-----------------|---|--------------|------------------|-----------|-----------|----------|-------------|----------|---------|
| 1 | 1 | Bob Smith | | 6045555555 | 123 Sunny Ave | | Vancouver | | 1996-01-01 | | 20 |
| 2 | 2 | Joe David | | 6045557777 | 333 Flemings Ave | | Vancouver | | 1991-02-01 | | 19 |
| 3 | 3 | Billy Smith | | 6045555566 | 555 Water Ave | | Burnaby | | 2000-11-10 | | 19 |
| 4 | 4 | Sue Anderson | | 6045555353 | 6063 Blue Street | | Richmond | | 1996-01-01 | | 22 |
| 5 | 5 | Michael Scott | | 6045555151 | 2323 80 Ave | | Surrey | | 1996-01-01 | | 24 |
| 6 | 6 | Eric Wong | | 778555555 | 123 Sunny Ave | | Vancouver | | 1996-01-01 | | 20 |
| 7 | 7 | Joe Anthony | | 7785557777 | 333 Flemings Ave | | Vancouver | | 1991-02-01 | | 19 |
| 8 | 8 | Billy While | | 7785555566 | 555 Water Ave | | Burnaby | | 2000-11-10 | | 19 |
| 9 | 9 | Odin Anderson | | 6047775353 | 6063 Blue Street | | Richmond | | 1996-01-01 | | 22 |
| 10 | 10 | Michael Hilario | | 6045559898 | 2323 80 Ave | | Surrey | | 1996-01-01 | | 24 |

| | <u> </u> | ☐ CERTIFICATENAME \$ | □ EXPIRATIONDATE |
|---|----------|----------------------|------------------|
| 1 | 55551 | Cert0ne | 2023-06-12 |
| 2 | 55552 | CertTwo | 2023-02-11 |
| 3 | 55553 | CertThree | 2024-01-01 |
| 4 | 55554 | CertFour | 2023-10-10 |
| 5 | 55555 | CertFive | 2023-06-13 |

| | , ৃি ORGANIZATIONID ‡ | ু TOURNAMENTID ÷ | ☐ AMOUNTSPONSORED ≎ |
|---|-----------------------|------------------|---------------------|
| 1 | 1 | 1 | 100000 |
| 2 | 2 | 2 | 200000 |
| 3 | 3 | 3 | 300000 |
| 4 | 4 | 4 | 400000 |
| 5 | 5 | 5 | 500000 |

| | ্লি TOURNAMENTID | ‡ | ু FACILITYID | ‡ |
|---|-------------------------|----------|--------------|----------|
| 1 | | 1 | | 1 |
| 2 | | 2 | | 2 |
| 3 | | 3 | | 3 |
| 4 | | 4 | | 4 |
| 5 | | 5 | | 5 |

| | कि ID ‡ | ☐ YEARSCOACHED ÷ | |
|---|----------------|------------------|--|
| 1 | 6 | 2 | |
| 2 | 7 | 3 | |
| 3 | 8 | 5 | |
| 4 | 9 | 7 | |
| 5 | 10 | 10 | |
| 6 | 11 | 4 | |

| | | - · · · · · · · · · · · · · · · · · · · | | |
|---|------------------|---|-----------|----------------|
| | <u></u> TEAMID ≎ | CLUBID ÷ | COACHID ÷ | □ NUMPLAYERS ÷ |
| | 1 | 1 | 6 | 12 |
| 2 | 2 | 2 | 7 | 14 |
| 3 | 3 | 3 | 8 | 12 |
| 4 | 4 | 4 | 9 | 12 |
| 5 | 5 | 5 | 10 | 14 |

| | ু CLUBID ÷ | ্টি TEAMID ≑ |
|---|------------|--------------|
| | 1 | 1 |
| 2 | 2 | 2 |
| 3 | 3 | 3 |
| 4 | 4 | 4 |
| 5 | 5 | 5 |
| | | |

| | ুদু TEAMID ÷ | TOURNAMENTID ÷ |
|----|--------------|----------------|
| 1 | 1 | 1 |
| 2 | 2 | 2 |
| 3 | 3 | 3 |
| 4 | 4 | 4 |
| 5 | 5 | 5 |
| 6 | 1 | 6 |
| 7 | 2 | 6 |
| 8 | 3 | 6 |
| 9 | 4 | 6 |
| 10 | 5 | 6 |
| | | |

| | हुन् ID ÷ | ☐ JERSEYNUM ‡ | □ POSITION ÷ | ু TEAMID ‡ | □ SIN ÷ |
|---|-----------|---------------|--------------|------------|---------|
| 1 | 2 | 10 | Middle | 1 | 556633 |
| 2 | 3 | 16 | Setter | 3 | 663321 |
| 3 | 4 | 9 | Power | 5 | 332244 |
| 4 | 5 | 6 | Libero | 5 | 562525 |
| | | | | | |

| | <u>∏</u> STATID ÷ | 📭 PLAYERID 🗧 | | | ☐ GAI | MESWON | l | □ NUMOFPO | INTS | ‡ |
|---|-------------------|--------------|----------|-------------|-------|----------|----|-----------|----------|----------|
| 1 | 2 | 2 | | 25 | | | 10 | | 91 | 00 |
| 2 | 3 | 3 | | 10 | | | 2 | | 20 | |
| 3 | 4 | 4 | | 7 | | | 2 | | 20 | |
| 4 | 5 | 5 | | 5 | | | 10 | | 20 | 90 |
| | Œ | TEACHID | ‡ | □ TE | AMID | ‡ | | ₩ ID | ‡ | |
| 1 | | | 1 | | | 1 | | | 6 | |
| 2 | | | 2 | | | 2 | | | 7 | |
| 3 | | | 3 | | | 3 | | | 8 | |
| 4 | | | 4 | | | 4 | | | 9 | |
| 5 | | | 5 | | | 5 | | | 10 | |

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4. **SQL Queries**

All SQL queries can be found in our volleyball.php file.

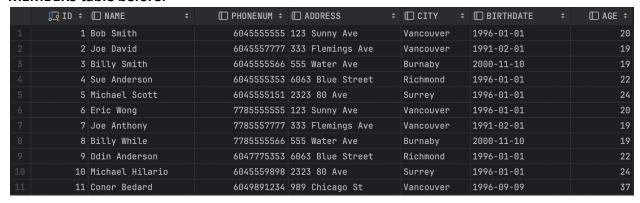
| Query | Where it can be found: |
|----------------------------------|------------------------|
| Insert | Line 745/796 |
| Update | Line 669/673 |
| Delete | Line 707 |
| Division | Line 834 |
| Selection | Line 581 |
| Aggregation with Group By | Line 610 |
| Aggregation with Having | Line 635 |
| Join | Line 430 |
| Projection | Line 510 |
| Nested Aggregation with Group By | Line 467 |

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5. **GUI**

INSERT query

MEMBERS table before:



Interface:

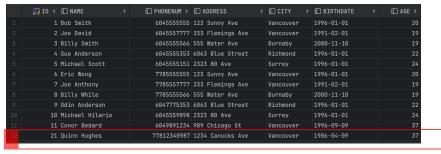
Please register as a member below!



Interface response:

You have registered successfully! Your Member ID is: 21

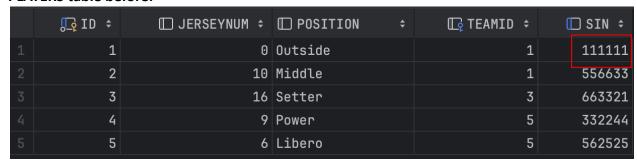
MEMBERS table after:



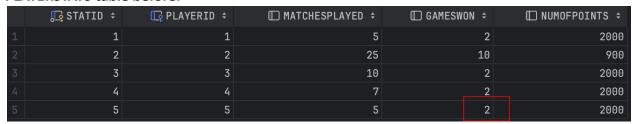
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UPDATE query

PLAYERS table before:



PLAYERSTATS table before:



Update Player Stats

Interface before:

Update Player Stats

What do you want to update?: SIN What do you want to update?: Games Won Player ID: 1 Player ID: 5 New Value: 222222 **\$** New Value: 10

| Update | OR | Update |
|---|----|--------------------------------------|
| Interface After: Update Player Stats | | |
| What do you want to update?: SIN V | | |
| Player ID: | | New Value: |
| New Value: | | |
| Update | | Update |
| Stats has been updated successfully! | OR | Stats has been updated successfully! |

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PLAYERS table after:

| | ्रि ID ÷ | ☐ JERSEYNUM ÷ | ☐ POSITION ÷ | ☐ TEAMID ÷ | □ SIN ÷ |
|---|----------|---------------|--------------|------------|---------|
| 1 | 1 | 0 | Outside | 1 | 222222 |
| 2 | 2 | 10 | Middle | 1 | 556633 |
| 3 | 3 | 16 | Setter | 3 | 663321 |
| 4 | 4 | 9 | Power | 5 | 332244 |
| 5 | 5 | 6 | Libero | 5 | 562525 |

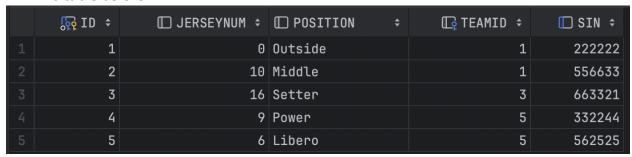
PLAYERSTATS table after:

| | ∏ STATID ÷ | PLAYERID ÷ | ☐ MATCHESPLAYED ÷ | ☐ GAMESWON ÷ | □ NUMOFPOINTS ÷ |
|---|------------|------------|-------------------|--------------|-----------------|
| 1 | 1 | 1 | 5 | 2 | 2000 |
| 2 | 2 | 2 | 25 | 10 | 900 |
| 3 | 3 | 3 | 10 | 2 | 2000 |
| 4 | 4 | 4 | 7 | 2 | 2000 |
| 5 | 5 | 5 | 5 | 10 | 2000 |

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DELETE query

PLAYERS table before:



Interface before:

Remove a player on your team here!

| Your Team | ID: 1 |
|--------------|-------|
| Player ID: [| 1 |
| Remove | |

Interface after:

Remove a player on y

| Your Team ID: |
|------------------------------|
| Player ID: |
| Remove |
| Player deleted successfully! |

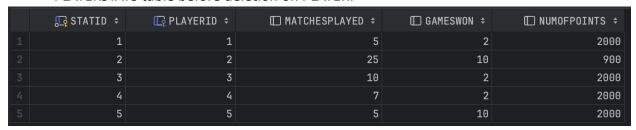
PLAYERS table after:



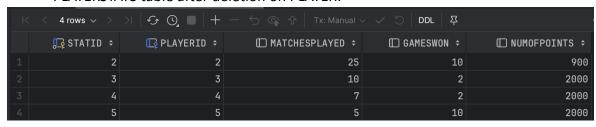
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DELETE ON CASCADE situation:

PLAYERSTATS table before deletion on PLAYER:



PLAYERSTATS table after deletion on PLAYER:



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DIVISION query

Interface before:

Click to check which tournament every club participates

Submit

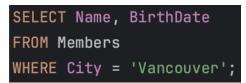
Interface after:

Click to check which tournament every club participates



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SELECTION query





Interface before:

Member DoB

DoB for members residing in

| Submit | |
|--------|--|
| | |

city

Interface after:

Member DoB

DoB for members residing in





Retrieved data from SELECTION guery:

| Name | BirthDate |
|-------------|-----------|
| Joe David | 01-FEB-91 |
| Eric Wong | 01-JAN-96 |
| Joe Anthony | 01-FEB-91 |

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AGGREGATION WITH GROUP BY query



| | ☐ TEAMID ÷ | ■ NUMPLAYERS ÷ |
|---|------------|----------------|
| 1 | 1 | 3 |
| 2 | 2 | 1 |
| 3 | 5 | 2 |
| 4 | 4 | 3 |
| 5 | 3 | 1 |

Interface before:

Team Size



Interface after:

Team Size

Submit

Retrieved data from AGGREGATION (GB) query:

| TeamID | NumPlayers |
|--------|------------|
| 1 | 3 |
| 2 | 1 |
| 5 | 2 |
| 4 | 3 |
| 3 | 1 |

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AGGREGATION WITH HAVING query

400000

4 OrganizationFour

Interface before:

Our Valued Sponsors

List of organizations with an average sponsorship amount of \$200K+ for tournaments



Interface after:

Our Valued Sponsors

List of organizations with an average sponsorship amount of \$200K+ for tournaments



Retrieved data from AGGREGATION (H) query:

| OrganizationID | Name | AverageSponsorship |
|----------------|-------------------|--------------------|
| 5 | OrganizationFive | 500000 |
| 3 | OrganizationThree | 300000 |
| 4 | OrganizationFour | 400000 |

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JOIN query

Interface before:

Checkout some player stats!

| Player ID: | 2 |
|------------|---|
| Check | |

Interface after:

Checkout some player stats!

Player ID:

Cneck

Retrieved data from the join query:

| ID | SIN | JerseyNum | Position | TeamID | StatID | MatchesPlayed | GamesWon | NumofPoints |
|----|--------|-----------|----------|--------|--------|---------------|----------|-------------|
| 2 | 556633 | 10 | Middle | 1 | 2 | 25 | 10 | 900 |

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PROJECTION query

\$sqlTemplate = "SELECT column_name FROM USER_TAB_COLUMNS WHERE table_name = '\$tableName'";

Interface before:

Search Here!

Select a table: PLAYERS Attributes to search for (comma separated): 1,3



Interface after:

Search Here!

Select a table: ORGANIZATION V Attributes to search for (comma separated):

Search

Search results from PLAYERS with Selected Columns:

| JERSEYNUM | TEAMID |
|-----------|--------|
| 0 | 1 |
| 10 | 1 |
| 16 | 3 |
| 9 | 5 |
| 6 | 5 |
| 10 | 1 |
| 10 | 2 |
| 11 | 4 |
| 11 | 4 |
| 1 | 4 |

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NESTED AGGREGATION WITH GROUP BY query

Interface before:

Tournament Showcase: Average Sponsorship Insights



Interface after:

Tournament Showcase: Average Sponsorship Insights



Tournaments & Average Sponsorships:

| rearriamente a , trerage eponicorompo. | |
|--|-------------------------------------|
| Tournament | Average Sponsorship Amount Received |
| TOne | \$10000 |
| TTwo | \$10000 |
| TThree | \$20000 |
| TFour | \$3000 |
| TFive | \$5000 |