Cricket League Management System

Team Member:

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Final Task and Time Management

Phase 1: Problem Statement:

For our problem statement, the group chose the domain of Entertainment. After deciding on Entertainment, we went into the broader issue by selecting the scope of the business. After a thorough discussion we decided to go with the Cricket League Management System which Rahul came up with. We then went on to describe the data pieces that were critical to the business, taking into account the primary players, their interactions, and the numerous components that required data gathering. Finally, we outlined business objectives and functional requirements that provided important insights into the firm for growth. This thorough approach to problem selection provided a clear idea about our project from the perspective of the business owner as well as Database Engineer.

Phase 2: EER Modeling

Based on Phase1 we started modelling ER Diagram. First, we gathered all the entities and their attributes relevant to the Cricket League Management System. After that we identified the relation between each entity and added the attributes to the relation that were needed. We made sure each entity had a primary key. We then obtained the cardinality based on the problem description and real-world assumptions. Later we analyzed and made sure all the requirements from our phase 1 were satisfied. The resulting EER diagram thus reflected a thorough understanding of the project.

Phase 3: Mapping to Relations

We made the necessary changes in ER diagram according to the feedback provided by the TA. While changing, we understood that some constraints in phase1 had to be updated. So, we updated phase 1 and 2 where needed and started with phase3. Based on the revised ER Diagram we started constructing the functional dependencies and identified all the primary, foreign and candidate keys as instructed.

Phase 4: DB Creation, Complex SQL Queries

Due to our project requirement and constraints, we faced few issues while converting it into BCNF but after brainstorming, with everyone's efforts we figured it out. Once all the relations were in BCNF we started scripting.

Step 1: DDL Script

We divided all the tables between the four of us. Rahul and Aniket created tables for players, team, fans and fan_email, fans_ticketprice. Harshada and Shruti created tables for Stadium, Match, supports, Involves and fans_entering. We made sure all the constraints and references were added correctly. We

analyzed each other's create statements for correctness and then executed them all. After removing the errors, we successfully created projectDBcreate.sql file.

Step 2: DML Script

We divided all the tables between the four of us. Rahul inserted data for table fans_entering and players. Shruti inserted data for Involves, Supports, fans_ticketprice. Harshada inserted data for Stadium, fan_emails, teams. Aniket inserted data for the match and fans table. After executing these queries individually, we merged and successfully populated the tables with file name projectDBinsert.sql

Step 3: DML Update Script

We collectively created the update script analyzing how each update statement will affect the table and which business goal's output will get modified. We made sure all the update statements made sense and aligned with our goals.

Step 4: Drop script

Rahul wrote the drop scripts and all of us later wrote the sequence for dropping the tables so that drop script doesn't fail. All the tables that were not referenced by other tables were dropped first.

Step 5: Ad-hoc SQL queries

We divided the business goals among us and started to write the queries. Once we got the output for all the queries, we observed how update command affected the output for the queries. We then jotted the requirements for phase 4 and mapped which queries satisfied them. We then understood that we need to change some business goals to satisfy the requirement. We updated the business goals in phase 1 document and added all the concepts that were mentioned.

Step 6: Documentation

Harshada and Shruti created the document and added all the details of how DBMS project was successfully implemented as above.