

Football Match Result Database Specification Document, v1.4.0

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Contents

| | | |
|----------|--|----------|
| 1 | Mission Statement | 5 |
| 2 | Mission Objectives | 6 |
| 3 | Business Rules | 6 |
| 4 | Match Overview Tables | 6 |
| 4.1 | Match table (tblMatches) | 7 |
| 4.1.1 | matchID field | 8 |
| 4.1.2 | matchDate field | 9 |
| 4.1.3 | matchFirstHalfTime field | 9 |
| 4.1.4 | matchSecondHalfTime field | 10 |
| 4.1.5 | matchFirstOverTime field | 11 |
| 4.1.6 | matchSecondOverTime field | 11 |
| 4.1.7 | matchAttendance field | 12 |
| 4.1.8 | competitionID field | 12 |
| 4.1.9 | phaseID field | 13 |
| 4.1.10 | venueID field | 13 |
| 4.1.11 | refereeID field | 14 |
| 4.2 | Competitions lookup table (tblCompetitions) | 14 |
| 4.2.1 | competitionID field | 15 |
| 4.2.2 | compName field | 15 |
| 4.3 | Competition Phases lookup table (tblPhases) | 16 |
| 4.3.1 | phaseID field | 16 |
| 4.3.2 | phaseDesc field | 17 |
| 4.4 | Groups lookup table (tblGroups) | 17 |
| 4.4.1 | groupID field | 18 |
| 4.4.2 | groupDesc field | 18 |
| 4.5 | League or Shootout Round lookup table (tblRounds) | 19 |
| 4.5.1 | roundID field | 19 |
| 4.5.2 | roundDesc field | 20 |
| 4.6 | Knockout Rounds lookup table (tblKnockoutRounds) | 20 |
| 4.6.1 | koroundID field | 21 |
| 4.6.2 | koroundDesc field | 21 |
| 4.7 | Knockout Round Matchdays lookup table (tblMatchdays) | 22 |
| 4.7.1 | matchdayID field | 22 |
| 4.7.2 | matchdayDesc field | 23 |
| 4.8 | Venue lookup table (tblVenues) | 23 |
| 4.8.1 | venueID field | 24 |
| 4.8.2 | venCity field | 24 |
| 4.8.3 | countryID field | 25 |

| | | |
|--------|---|----|
| 4.8.4 | timezoneID field | 25 |
| 4.8.5 | venName field | 26 |
| 4.8.6 | venAltitude field | 26 |
| 4.8.7 | venLatitude field | 27 |
| 4.8.8 | venLongitude field | 27 |
| 4.9 | Venue History table (tblVenueHistory) | 28 |
| 4.9.1 | venuehistoryID field | 28 |
| 4.9.2 | venueID field | 29 |
| 4.9.3 | venuesurfaceID field | 29 |
| 4.9.4 | venueHistDate field | 30 |
| 4.9.5 | venueLength field | 30 |
| 4.9.6 | venueWidth field | 31 |
| 4.9.7 | venueHistCapacity field | 31 |
| 4.9.8 | venueHistSeats field | 32 |
| 4.10 | Venue Surfaces table (tblVenueSurfaces) | 32 |
| 4.10.1 | venuesurfaceID field | 33 |
| 4.10.2 | vensurfDesc field | 33 |
| 4.11 | Time Zones table (tblTimeZones) | 34 |
| 4.11.1 | timezoneID field | 34 |
| 4.11.2 | confedID field | 34 |
| 4.11.3 | tzName field | 35 |
| 4.11.4 | tzOffset field | 35 |
| 4.12 | Home Teams linking table (tblHomeTeams) | 36 |
| 4.12.1 | matchID field | 36 |
| 4.12.2 | countryID field | 37 |
| 4.13 | Away Teams linking table (tblAwayTeams) | 37 |
| 4.13.1 | matchID field | 37 |
| 4.13.2 | countryID field | 38 |
| 4.14 | Home Managers linking table (tblHomeManagers) | 38 |
| 4.14.1 | matchID field | 38 |
| 4.14.2 | managerID field | 39 |
| 4.15 | Away Managers linking table (tblAwayManagers) | 39 |
| 4.15.1 | matchID field | 39 |
| 4.15.2 | managerID field | 40 |
| 4.16 | Environments table (tblEnvironments) | 40 |
| 4.16.1 | enviroID field | 41 |
| 4.16.2 | matchID field | 41 |
| 4.16.3 | envKickoffTime field | 42 |
| 4.16.4 | envTemperature field | 42 |
| 4.17 | Weather conditions lookup table (tblWeather) | 43 |
| 4.17.1 | weatherID field | 43 |
| 4.17.2 | wxConditionDesc field | 44 |
| 4.18 | Kickoff weather linking table (tblWeatherKickoff) | 44 |
| 4.18.1 | enviroID field | 45 |
| 4.18.2 | weatherID field | 46 |
| 4.19 | Halftime weather linking table (tblWeatherHalftime) | 46 |
| 4.19.1 | enviroID field | 46 |
| 4.19.2 | weatherID field | 46 |
| 4.20 | Fulltime weather linking table (tblWeatherFulltime) | 46 |
| 4.20.1 | enviroID field | 47 |
| 4.20.2 | weatherID field | 47 |

| | | |
|----------|---|-----------|
| 5 | Personnel Tables | 47 |
| 5.1 | Players table (tblPlayers) | 47 |
| 5.1.1 | playerID field | 47 |
| 5.1.2 | countryID field | 47 |
| 5.1.3 | plyrBirthdate field | 48 |
| 5.1.4 | plyrFirstname field | 48 |
| 5.1.5 | plyrLastname field | 49 |
| 5.1.6 | plyrNickname field | 49 |
| 5.1.7 | plyrDefPosID field | 50 |
| 5.2 | Player History table (tblPlayerHistory) | 50 |
| 5.2.1 | playerhistoryID field | 51 |
| 5.2.2 | plyrHistDate field | 51 |
| 5.2.3 | plyrHistHeight field | 52 |
| 5.2.4 | plyrHistWeight field | 52 |
| 5.3 | Managers table (tblManagers) | 53 |
| 5.3.1 | managerID field | 53 |
| 5.3.2 | countryID field | 53 |
| 5.3.3 | mgrBirthdate field | 53 |
| 5.3.4 | mgrFirstname field | 53 |
| 5.3.5 | mgrLastname field | 53 |
| 5.3.6 | mgrNickname field | 53 |
| 5.4 | Referees table (tblReferees) | 54 |
| 5.4.1 | refereeID field | 54 |
| 5.4.2 | countryID field | 54 |
| 5.4.3 | refBirthdate field | 54 |
| 5.4.4 | refFirstName field | 54 |
| 5.4.5 | refLastName field | 54 |
| 5.5 | Country lookup table (tblCountries) | 55 |
| 5.5.1 | countryID field | 55 |
| 5.5.2 | ctyName field | 56 |
| 5.5.3 | confedID field | 56 |
| 5.6 | Confederations lookup table (tblConfederations) | 57 |
| 5.6.1 | confedID field | 57 |
| 5.6.2 | confedName field | 58 |
| 5.7 | Lineup table (tblLineups) | 58 |
| 5.7.1 | lineupID field | 59 |
| 5.7.2 | matchID field | 59 |
| 5.7.3 | playerID field | 60 |
| 5.7.4 | positionID field | 60 |
| 5.7.5 | lpStarting field | 61 |
| 5.7.6 | lpCaptain field | 61 |
| 5.8 | Positions lookup table (tblPositions) | 62 |
| 5.8.1 | positionID field | 62 |
| 5.8.2 | posFieldID field | 63 |
| 5.8.3 | posFlankID field | 63 |
| 5.9 | Field position name table (tblFieldNames) | 64 |
| 5.9.1 | posFieldID field | 64 |
| 5.9.2 | posFieldName field | 65 |
| 5.10 | Flank name table (tblFlankNames) | 65 |
| 5.10.1 | posFlankID field | 66 |
| 5.10.2 | posFlankName field | 66 |

| | | |
|----------|---|-----------|
| 6 | Match Event Tables | 67 |
| 6.1 | Goals table (tblGoals) | 67 |
| 6.1.1 | goalID field | 67 |
| 6.1.2 | countryID field | 68 |
| 6.1.3 | lineupID field | 68 |
| 6.1.4 | gtsTypeID field | 69 |
| 6.1.5 | gteTypeID field | 69 |
| 6.1.6 | glstime field | 70 |
| 6.1.7 | glstime field | 70 |
| 6.2 | Goal strike lookup table (tblGoalStrikes) | 71 |
| 6.2.1 | gtsTypeID field | 71 |
| 6.2.2 | gtsDesc field | 72 |
| 6.3 | Goal field event lookup table (tblGoalEvents) | 72 |
| 6.3.1 | gteTypeID field | 73 |
| 6.3.2 | gteDesc field | 73 |
| 6.4 | Penalties table (tblPenalties) | 74 |
| 6.4.1 | penaltyID field | 74 |
| 6.4.2 | lineupID field | 74 |
| 6.4.3 | foulID field | 75 |
| 6.4.4 | penOutcomeID field | 75 |
| 6.4.5 | penTime field | 76 |
| 6.4.6 | penSTime field | 76 |
| 6.5 | Penalty shootout table (tblPenaltyShootouts) | 77 |
| 6.5.1 | penaltyshootoutID field | 77 |
| 6.5.2 | lineupID field | 77 |
| 6.5.3 | roundID field | 77 |
| 6.5.4 | penOutcomeID field | 77 |
| 6.6 | Penalty shootout openers table (tblPenShootoutOpeners) | 78 |
| 6.6.1 | openerID field | 78 |
| 6.6.2 | matchID field | 78 |
| 6.6.3 | countryID field | 78 |
| 6.7 | Penalty outcome lookup table (tblPenOutcomes) | 78 |
| 6.7.1 | penOutcomeID field | 79 |
| 6.7.2 | poDesc field | 79 |
| 6.8 | Offenses table (tblOffenses) | 80 |
| 6.8.1 | offenseID field | 80 |
| 6.8.2 | lineupID field | 80 |
| 6.8.3 | foulID field | 80 |
| 6.8.4 | cardID field | 81 |
| 6.8.5 | ofnsTime field | 81 |
| 6.8.6 | ofnsSTime field | 82 |
| 6.9 | Fouls lookup table (tblFouls) | 82 |
| 6.9.1 | foulID field | 83 |
| 6.9.2 | foulDesc field | 83 |
| 6.10 | Card lookup table (tblCards) | 84 |
| 6.10.1 | cardID field | 84 |
| 6.10.2 | cardType field | 85 |
| 6.11 | Substitution table (tblSubstitutions) | 85 |
| 6.11.1 | subsID field | 86 |
| 6.11.2 | subsTime field | 86 |
| 6.11.3 | subsSTime field | 87 |
| 6.12 | Players substituted into match linking table (tblInSubstitutions) | 87 |
| 6.12.1 | subsID field | 88 |
| 6.12.2 | lineupID field | 88 |

| | | |
|----------|--|-----------|
| 6.13 | Players substituted out of match linking table (tblOutSubstitutions) | 89 |
| 6.13.1 | subsID field | 89 |
| 6.13.2 | lineupID field | 89 |
| 6.14 | Switch Positions table (tblSwitchPositions) | 89 |
| 6.14.1 | switchID field | 89 |
| 6.14.2 | lineupID field | 90 |
| 6.14.3 | switchPositionID field | 90 |
| 6.14.4 | switchTime field | 90 |
| 6.14.5 | switchSTime field | 91 |
| 7 | Views | 91 |
| 7.1 | CountriesList view | 91 |
| 7.2 | PlayersList view | 92 |
| 7.3 | ManagerList view | 92 |
| 7.4 | RefereeList view | 92 |
| 7.5 | HomeTeamList view | 92 |
| 7.6 | AwayTeamList view | 92 |
| 7.7 | VenuesList view | 93 |
| 7.8 | PositionsList view | 93 |
| 7.9 | MatchList view | 93 |
| 7.10 | LeagueMatchList view | 94 |
| 7.11 | GroupMatchList view | 94 |
| 7.12 | KnockoutMatchList view | 94 |
| 7.13 | LineupList view | 95 |
| 7.14 | GoalsList view | 95 |
| 7.15 | OwnGoalsList view | 96 |
| 7.16 | PenaltiesList view | 96 |
| 7.17 | CautionsList view | 97 |
| 7.18 | ExpulsionsList view | 97 |
| 7.19 | InSubList view | 97 |
| 7.20 | OutSubList view | 98 |
| 7.21 | SubstitutionsList view | 98 |
| 7.22 | SwitchPosList view | 98 |
| 7.23 | PenaltyShootout view | 99 |

Abstract

The purpose of the Database is to collect match result data for football league, knockout, or hybrid competitions among clubs in order to facilitate football analytics research. This document describes the table-, field- and relationship-level specifications of the Football Match Result Database. These specifications include the table names, descriptions, and member fields and their descriptions and types. The primary and foreign keys of each table will be identified and the characteristics between related tables will be defined from the perspective of the primary table. View specifications are defined in order to provide context-specific information from multiple tables, establish data security and confidentiality, and implement data integrity.

1 Mission Statement

The purpose of the Football Match Result Database is to maintain the match result data needed to support football research activities for the benefit of the football analytics community.

2 Mission Objectives

The Football Match Result Database will support the following:

- Maintain data on matches that occur within football league, knockout, or hybrid (league and knockout) competitions involving national teams.
- Maintain complete top-level information on the football match, including match date, competition name, competition phase, league or knockout round, competition group, matchday within a knockout round, participating teams, venues, and environmental conditions.
- Maintain time-dependent surface and capacity data on football venues, including field surface type, field dimensions, total stadium capacity, and total number of seats.
- Maintain complete information on macro-events that occur during a match, including goals, penalties, disciplinary incidents, substitutions, and penalty shootouts.
- Maintain complete information on participating personnel, such as players, managers, and match referees.
- Maintain time-dependent height and weight data on football players.

3 Business Rules

The following business rules shall be enforced on the Football Match Result Database:

- Starting player lists shall consist of exactly 11 players of which exactly one player is designated as the goalkeeper.
- A maximum of 18 players from one team will appear in a lineup list that corresponds to a match.
- A player can only be substituted one time during a match.
- Maximum substitution rules are enforced during a match.
- If a goalkeeper is expelled from a match, a new goalkeeper must be designated by either switching the positions of a field player or substituting a field player for a goalkeeper.
- A goalscorer or a recipient of a caution/expulsion card must be a player in the lineup who meets one of two criteria:
 - A starting player who has not yet been substituted; or
 - A player who has been substituted before the time of goal or disciplinary incident.

4 Match Overview Tables

The following tables capture high-level information on the football match, such as the competition, matchday, matchdate, league teams, and venues. The major tables in this section are the Match table, which links to personnel and match event tables, and the Environment table, which captures information on the climactic conditions under which the match was played.

4.1 Match table (tblMatches)

| | | | | |
|--------------------|--|----------------------|---------------------------|-----------------------------|
| tblMatches | High level information on the football match and its participants. The information in this table is required in order to track all matches played in a football competition as well as the teams, players, managers, and referees who participated in them. | | | |
| Primary Key | matchID | | | |
| Foreign Key | Related Table | Deletion Rule | Participation Type | Participation Degree |
| competitionID | tblCompetitions | — | Optional | (0,N) |
| phaseID | tblPhases | — | Optional | (0,N) |
| venueID | tblVenues | — | Optional | (0,N) |
| refereeID | tblReferees | — | Optional | (0,N) |
| — | tblLeagueMatches | Restrict | Mandatory | (1,1) |
| — | tblGroupMatches | Restrict | Mandatory | (1,1) |
| — | tblKnockoutMatches | Restrict | Mandatory | (1,1) |
| — | tblHomeTeams | Restrict | Mandatory | (1,1) |
| — | tblAwayTeams | Restrict | Mandatory | (1,1) |
| — | tblHomeManagers | Restrict | Mandatory | (1,1) |
| — | tblAwayManagers | Restrict | Mandatory | (1,1) |
| — | tblEnvironments | Restrict | Mandatory | (1,1) |
| — | tblLineups | Restrict | Mandatory | (1,1) |
| — | tblPenShootoutOpeners | Restrict | Mandatory | (1,1) |

4.1.1 matchID field

| | |
|----------------------------|--|
| <i>Specification Type</i> | Unique |
| <i>Shared By</i> | tblEnvironments, tblLineups, tblLeagueMatches, tblGroupMatches, tblKnockoutMatches, tblHomeTeams, tblAwayTeams, tblHomeManagers, tblAwayManagers, tblPenShootoutOpeners |
| <i>Description</i> | A unique number used to identify matches in a football competition. |
| <i>Data Type</i> | Numeric |
| <i>Character Support</i> | Numbers |
| <i>Length</i> | 7 |
| <i>Decimal Places</i> | 0 |
| <i>Input Mask</i> | ##### |
| <i>Display Format</i> | 0000000 |
| <i>Key Type</i> | Primary |
| <i>Key Structure</i> | Simple |
| <i>Uniqueness</i> | Unique |
| <i>Null Support</i> | No Nulls |
| <i>Values Entered By</i> | System |
| <i>Required Value</i> | Yes |
| <i>Default Value</i> | — |
| <i>Range of Values</i> | 1000000-9999999 |
| <i>Edit Rule</i> | Enter Now, Edits Not Allowed |
| <i>Comparisons Allowed</i> | Equal To, Not Equal To |
| <i>Operations Allowed</i> | — |

4.1.2 matchDate field

| | |
|----------------------------|---|
| <i>Specification Type</i> | Unique |
| <i>Shared By</i> | — |
| <i>Description</i> | The date on which the football match occurred, in ISO 8601 (YYYY-MM-DD) format. |
| <i>Data Type</i> | DateTime |
| <i>Character Support</i> | Numbers |
| <i>Length</i> | 7 |
| <i>Decimal Places</i> | 0 |
| <i>Input Mask</i> | YYYY-MM-DD |
| <i>Display Format</i> | Year Month Day |
| <i>Key Type</i> | Non-key |
| <i>Key Structure</i> | — |
| <i>Uniqueness</i> | Non-unique |
| <i>Null Support</i> | No Nulls |
| <i>Values Entered By</i> | User |
| <i>Required Value</i> | Yes |
| <i>Default Value</i> | — |
| <i>Range of Values</i> | — |
| <i>Edit Rule</i> | Enter Now, Edits Allowed |
| <i>Comparisons Allowed</i> | Equal, Not Equal, Greater Than, Less Than |
| <i>Operations Allowed</i> | Subtraction |

4.1.3 matchFirstHalfTime field

| | |
|----------------------------|--|
| <i>Specification Type</i> | Unique |
| <i>Shared By</i> | — |
| <i>Description</i> | The total playing time of the first half of the football match (normal + stoppage time), in minutes. |
| <i>Data Type</i> | Numeric |
| <i>Character Support</i> | Numbers |
| <i>Length</i> | 2 |
| <i>Decimal Places</i> | 0 |
| <i>Input Mask</i> | ## |
| <i>Display Format</i> | 00 |
| <i>Key Type</i> | Non-key |
| <i>Key Structure</i> | — |
| <i>Uniqueness</i> | Non-unique |
| <i>Null Support</i> | No Nulls |
| <i>Values Entered By</i> | User |
| <i>Required Value</i> | Yes |
| <i>Default Value</i> | 0 |
| <i>Range of Values</i> | > 0 |
| <i>Edit Rule</i> | Enter Now, Edits Allowed |
| <i>Comparisons Allowed</i> | Equal To, Not Equal To |
| <i>Operations Allowed</i> | Subtraction |

4.1.4 matchSecondHalfTime field

| | |
|----------------------------|---|
| <i>Specification Type</i> | Unique |
| <i>Shared By</i> | — |
| <i>Description</i> | The total playing time of the second half of the football match (normal + stoppage time), in minutes. This field accounts for matches that had to be abandoned. |
| <i>Data Type</i> | Numeric |
| <i>Character Support</i> | Numbers |
| <i>Length</i> | 2 |
| <i>Decimal Places</i> | 0 |
| <i>Input Mask</i> | ## |
| <i>Display Format</i> | 00 |
| <i>Key Type</i> | Non-key |
| <i>Key Structure</i> | — |
| <i>Uniqueness</i> | Non-unique |
| <i>Null Support</i> | No Nulls |
| <i>Values Entered By</i> | User |
| <i>Required Value</i> | Yes |
| <i>Default Value</i> | 45 |
| <i>Range of Values</i> | ≥ 0 |
| <i>Edit Rule</i> | Enter Now, Edits Allowed |
| <i>Comparisons Allowed</i> | Equal To, Not Equal To |
| <i>Operations Allowed</i> | Subtraction |

4.1.5 matchFirstOverTime field

| | |
|----------------------------|--|
| <i>Specification Type</i> | Unique |
| <i>Shared By</i> | — |
| <i>Description</i> | The total playing time of the first extra time period of the football match (normal + stoppage time), in minutes. Only used in knockout matches. |
| <i>Data Type</i> | Numeric |
| <i>Character Support</i> | Numbers |
| <i>Length</i> | 2 |
| <i>Decimal Places</i> | 0 |
| <i>Input Mask</i> | ## |
| <i>Display Format</i> | 00 |
| <i>Key Type</i> | Non-key |
| <i>Key Structure</i> | — |
| <i>Uniqueness</i> | Non-unique |
| <i>Null Support</i> | No Nulls |
| <i>Values Entered By</i> | User |
| <i>Required Value</i> | Yes |
| <i>Default Value</i> | 0 |
| <i>Range of Values</i> | ≥ 0 |
| <i>Edit Rule</i> | Enter Now, Edits Allowed |
| <i>Comparisons Allowed</i> | Equal To, Not Equal To |
| <i>Operations Allowed</i> | Subtraction |

4.1.6 matchSecondOverTime field

| | |
|----------------------------|---|
| <i>Specification Type</i> | Unique |
| <i>Shared By</i> | — |
| <i>Description</i> | The total playing time of the second extra time period of the football match (normal + stoppage time), in minutes. Only used in knockout matches. |
| <i>Data Type</i> | Numeric |
| <i>Character Support</i> | Numbers |
| <i>Length</i> | 2 |
| <i>Decimal Places</i> | 0 |
| <i>Input Mask</i> | ## |
| <i>Display Format</i> | 00 |
| <i>Key Type</i> | Non-key |
| <i>Key Structure</i> | — |
| <i>Uniqueness</i> | Non-unique |
| <i>Null Support</i> | No Nulls |
| <i>Values Entered By</i> | User |
| <i>Required Value</i> | Yes |
| <i>Default Value</i> | 0 |
| <i>Range of Values</i> | ≥ 0 |
| <i>Edit Rule</i> | Enter Now, Edits Allowed |
| <i>Comparisons Allowed</i> | Equal To, Not Equal To |
| <i>Operations Allowed</i> | Subtraction |

4.1.7 matchAttendance field

| | |
|----------------------------|--|
| <i>Specification Type</i> | Unique |
| <i>Shared By</i> | — |
| <i>Description</i> | The reported attendance of the football match. |
| <i>Data Type</i> | Numeric |
| <i>Character Support</i> | Numbers |
| <i>Length</i> | 6 |
| <i>Decimal Places</i> | 0 |
| <i>Input Mask</i> | ##### |
| <i>Display Format</i> | 000000 |
| <i>Key Type</i> | Non-key |
| <i>Key Structure</i> | — |
| <i>Uniqueness</i> | Non-unique |
| <i>Null Support</i> | No Nulls |
| <i>Values Entered By</i> | User |
| <i>Required Value</i> | Yes |
| <i>Default Value</i> | 0 |
| <i>Range of Values</i> | 0 - 999999 |
| <i>Edit Rule</i> | Enter Now, Edits Allowed |
| <i>Comparisons Allowed</i> | Equal To, Not Equal To |
| <i>Operations Allowed</i> | Subtraction |

4.1.8 competitionID field

| | |
|-----------------------------|---|
| <i>Specification Type</i> | Replica |
| <i>Parent Table</i> | tblCompetitions |
| <i>Source Specification</i> | competitionID in tblCompetitions table |
| <i>Description</i> | The identification number of the football competition |
| <i>Data Type</i> | Numeric |
| <i>Character Support</i> | Numbers |
| <i>Length</i> | 3 |
| <i>Decimal Places</i> | 0 |
| <i>Input Mask</i> | ### |
| <i>Display Format</i> | 000 |
| <i>Key Type</i> | Foreign |
| <i>Key Structure</i> | Simple |
| <i>Uniqueness</i> | Non-unique |
| <i>Null Support</i> | No Nulls |
| <i>Values Entered By</i> | User |
| <i>Required Value</i> | Yes |
| <i>Default Value</i> | — |
| <i>Range of Values</i> | Any existing competitionID value in tblCompetitions |
| <i>Edit Rule</i> | Enter Now, Edits Allowed |
| <i>Comparisons Allowed</i> | Equal, Not Equal |
| <i>Operations Allowed</i> | — |

4.1.9 phaseID field

| | |
|-----------------------------|--|
| <i>Specification Type</i> | Replica |
| <i>Parent Table</i> | tblPhases |
| <i>Source Specification</i> | phaseID in tblPhases table |
| <i>Description</i> | The identification number of the competition phase |
| <i>Data Type</i> | Numeric |
| <i>Character Support</i> | Numbers |
| <i>Length</i> | 1 |
| <i>Decimal Places</i> | 0 |
| <i>Input Mask</i> | # |
| <i>Display Format</i> | 0 |
| <i>Key Type</i> | Foreign |
| <i>Key Structure</i> | Simple |
| <i>Uniqueness</i> | Non-unique |
| <i>Null Support</i> | No Nulls |
| <i>Values Entered By</i> | User |
| <i>Required Value</i> | Yes |
| <i>Default Value</i> | — |
| <i>Range of Values</i> | Any existing phaseID value in tblPhases |
| <i>Edit Rule</i> | Enter Now, Edits Allowed |
| <i>Comparisons Allowed</i> | Equal, Not Equal |
| <i>Operations Allowed</i> | — |

4.1.10 venueID field

| | |
|-----------------------------|---|
| <i>Specification Type</i> | Replica |
| <i>Parent Table</i> | tblVenues |
| <i>Source Specification</i> | venueID in tblVenues table |
| <i>Description</i> | The identification number of the venue used in the football match |
| <i>Data Type</i> | Numeric |
| <i>Character Support</i> | Numbers |
| <i>Length</i> | 4 |
| <i>Decimal Places</i> | 0 |
| <i>Input Mask</i> | #### |
| <i>Display Format</i> | 0000 |
| <i>Key Type</i> | Foreign |
| <i>Key Structure</i> | Simple |
| <i>Uniqueness</i> | Non-unique |
| <i>Null Support</i> | No Nulls |
| <i>Values Entered By</i> | User |
| <i>Required Value</i> | Yes |
| <i>Default Value</i> | — |
| <i>Range of Values</i> | Any existing venueID value in tblVenues |
| <i>Edit Rule</i> | Enter Now, Edits Allowed |
| <i>Comparisons Allowed</i> | Equal, Not Equal |
| <i>Operations Allowed</i> | — |

4.1.11 refereeID field

| | |
|-----------------------------|---|
| <i>Specification Type</i> | Replica |
| <i>Parent Table</i> | tblReferees |
| <i>Source Specification</i> | refereeID in tblReferees table |
| <i>Description</i> | The identification number of the referee officiating the football match |
| <i>Data Type</i> | Numeric |
| <i>Character Support</i> | Numbers |
| <i>Length</i> | 4 |
| <i>Decimal Places</i> | 0 |
| <i>Input Mask</i> | #### |
| <i>Display Format</i> | 0000 |
| <i>Key Type</i> | Foreign |
| <i>Key Structure</i> | Simple |
| <i>Uniqueness</i> | Non-unique |
| <i>Null Support</i> | No Nulls |
| <i>Values Entered By</i> | User |
| <i>Required Value</i> | Yes |
| <i>Default Value</i> | — |
| <i>Range of Values</i> | Any existing refereeID value in tblReferees |
| <i>Edit Rule</i> | Enter Now, Edits Allowed |
| <i>Comparisons Allowed</i> | Equal, Not Equal |
| <i>Operations Allowed</i> | — |

4.2 Competitions lookup table (tblCompetitions)

| | | | | |
|------------------------|---|----------------------|---------------------------|-----------------------------|
| tblCompetitions | This table contains the names of the football competitions, and this information is used to track all matches played under a certain competition. | | | |
| Primary Key | competitionID | | | |
| Foreign Key | Related Table | Deletion Rule | Participation Type | Participation Degree |
| — | tblMatches | Restrict | Mandatory | (1,1) |

4.2.1 competitionID field

| | |
|----------------------------|--|
| <i>Specification Type</i> | Unique |
| <i>Shared By</i> | tblMatches |
| <i>Description</i> | A unique number used to differentiate football competitions. |
| <i>Data Type</i> | Numeric |
| <i>Character Support</i> | Numbers |
| <i>Length</i> | 3 |
| <i>Decimal Places</i> | 0 |
| <i>Input Mask</i> | ### |
| <i>Display Format</i> | 000 |
| <i>Key Type</i> | Primary |
| <i>Key Structure</i> | Simple |
| <i>Uniqueness</i> | Unique |
| <i>Null Support</i> | No Nulls |
| <i>Values Entered By</i> | System |
| <i>Required Value</i> | Yes |
| <i>Default Value</i> | N/A |
| <i>Range of Values</i> | 100-999 |
| <i>Edit Rule</i> | Enter Now, Edits Not Allowed |
| <i>Comparisons Allowed</i> | Equal To, Not Equal To |
| <i>Operations Allowed</i> | — |

4.2.2 compName field

| | |
|----------------------------|--|
| <i>Specification Type</i> | Unique |
| <i>Shared By</i> | — |
| <i>Description</i> | The name of the football competition. |
| <i>Data Type</i> | Character |
| <i>Character Support</i> | Letters, Numbers |
| <i>Length</i> | 100 |
| <i>Decimal Places</i> | — |
| <i>Input Mask</i> | — |
| <i>Display Format</i> | Each description should start with a capital letter. |
| <i>Key Type</i> | Non-key |
| <i>Key Structure</i> | — |
| <i>Uniqueness</i> | Non-unique |
| <i>Null Support</i> | No Nulls |
| <i>Values Entered By</i> | User |
| <i>Required Value</i> | Yes |
| <i>Default Value</i> | — |
| <i>Range of Values</i> | — |
| <i>Edit Rule</i> | Enter Now, Edits Not Allowed |
| <i>Comparisons Allowed</i> | Equal, Not Equal |
| <i>Operations Allowed</i> | — |

4.3 Competition Phases lookup table (tblPhases)

| | | | | |
|--------------------|---|----------------------|---------------------------|-----------------------------|
| tblPhases | This table contains the different football competition phases, which allows the user to track matches within league, knockout, or hybrid league/knockout formats. | | | |
| Primary Key | phaseID | | | |
| Foreign Key | Related Table | Deletion Rule | Participation Type | Participation Degree |
| — | tblMatches | Restrict | Mandatory | (1,1) |

4.3.1 phaseID field

| | |
|----------------------------|--|
| <i>Specification Type</i> | Unique |
| <i>Shared By</i> | tblMatches |
| <i>Description</i> | A unique number used to differentiate football competition phases. |
| <i>Data Type</i> | Numeric |
| <i>Character Support</i> | Numbers |
| <i>Length</i> | 1 |
| <i>Decimal Places</i> | 0 |
| <i>Input Mask</i> | # |
| <i>Display Format</i> | 0 |
| <i>Key Type</i> | Primary |
| <i>Key Structure</i> | Simple |
| <i>Uniqueness</i> | Unique |
| <i>Null Support</i> | No Nulls |
| <i>Values Entered By</i> | System |
| <i>Required Value</i> | Yes |
| <i>Default Value</i> | N/A |
| <i>Range of Values</i> | 1-3 |
| <i>Edit Rule</i> | Enter Now, Edits Not Allowed |
| <i>Comparisons Allowed</i> | Equal To, Not Equal To |
| <i>Operations Allowed</i> | — |

4.3.2 phaseDesc field

| | |
|----------------------------|--|
| <i>Specification Type</i> | Unique |
| <i>Shared By</i> | — |
| <i>Description</i> | The name of the football competition phase. |
| <i>Data Type</i> | Character |
| <i>Character Support</i> | Letters, Numbers |
| <i>Length</i> | 12 |
| <i>Decimal Places</i> | — |
| <i>Input Mask</i> | — |
| <i>Display Format</i> | Each description should start with a capital letter. |
| <i>Key Type</i> | Non-key |
| <i>Key Structure</i> | — |
| <i>Uniqueness</i> | Non-unique |
| <i>Null Support</i> | No Nulls |
| <i>Values Entered By</i> | User |
| <i>Required Value</i> | Yes |
| <i>Default Value</i> | — |
| <i>Range of Values</i> | — |
| <i>Edit Rule</i> | Enter Now, Edits Not Allowed |
| <i>Comparisons Allowed</i> | Equal, Not Equal |
| <i>Operations Allowed</i> | — |

4.4 Groups lookup table (tblGroups)

| | | | | |
|--------------------|---|----------------------|---------------------------|-----------------------------|
| tblGroups | This table contains the names of competition groups, and this information is used to track all matches played in the group phase of a football competition. | | | |
| Primary Key | groupID | | | |
| Foreign Key | Related Table | Deletion Rule | Participation Type | Participation Degree |
| — | tblGroupMatches | Restrict | Mandatory | (1,1) |

4.4.1 groupID field

| | |
|----------------------------|---|
| <i>Specification Type</i> | Unique |
| <i>Shared By</i> | tblGroupMatches |
| <i>Description</i> | A unique number used to differentiate football competition group names. |
| <i>Data Type</i> | Numeric |
| <i>Character Support</i> | Numbers |
| <i>Length</i> | 2 |
| <i>Decimal Places</i> | 0 |
| <i>Input Mask</i> | ## |
| <i>Display Format</i> | 00 |
| <i>Key Type</i> | Primary |
| <i>Key Structure</i> | Simple |
| <i>Uniqueness</i> | Unique |
| <i>Null Support</i> | No Nulls |
| <i>Values Entered By</i> | System |
| <i>Required Value</i> | Yes |
| <i>Default Value</i> | N/A |
| <i>Range of Values</i> | 10-99 |
| <i>Edit Rule</i> | Enter Now, Edits Not Allowed |
| <i>Comparisons Allowed</i> | Equal To, Not Equal To |
| <i>Operations Allowed</i> | — |

4.4.2 groupDesc field

| | |
|----------------------------|--|
| <i>Specification Type</i> | Unique |
| <i>Shared By</i> | — |
| <i>Description</i> | The name of the football competition group. |
| <i>Data Type</i> | Character |
| <i>Character Support</i> | Letters, Numbers |
| <i>Length</i> | 2 |
| <i>Decimal Places</i> | — |
| <i>Input Mask</i> | — |
| <i>Display Format</i> | Each description should start with a capital letter. |
| <i>Key Type</i> | Non-key |
| <i>Key Structure</i> | — |
| <i>Uniqueness</i> | Non-unique |
| <i>Null Support</i> | No Nulls |
| <i>Values Entered By</i> | User |
| <i>Required Value</i> | Yes |
| <i>Default Value</i> | — |
| <i>Range of Values</i> | — |
| <i>Edit Rule</i> | Enter Now, Edits Not Allowed |
| <i>Comparisons Allowed</i> | Equal, Not Equal |
| <i>Operations Allowed</i> | — |

4.5 League or Shootout Round lookup table (tblRounds)

| | | | | |
|--------------------|---|----------------------|---------------------------|-----------------------------|
| tblRounds | This table contains the names of the rounds of the football competition, and allows for tracking of matches and performances in a single round or multiple rounds. This table can be applied to league competitions and penalty kick shootouts. | | | |
| Primary Key | roundID | | | |
| Foreign Key | Related Table | Deletion Rule | Participation Type | Participation Degree |
| — | tblLeagueMatches | Restrict | Mandatory | (1,1) |
| — | tblGroupMatches | Restrict | Mandatory | (1,1) |
| — | tblPenaltyShootouts | Restrict | Mandatory | (1,1) |

4.5.1 roundID field

| | |
|----------------------------|---|
| <i>Specification Type</i> | Unique |
| <i>Shared By</i> | tblLeagueMatches, tblGroupMatches, tblPenaltyShootouts |
| <i>Description</i> | A unique number used to identify the competition round of the football competition. |
| <i>Data Type</i> | Numeric |
| <i>Character Support</i> | Numbers |
| <i>Length</i> | 2 |
| <i>Decimal Places</i> | 0 |
| <i>Input Mask</i> | ## |
| <i>Display Format</i> | 00 |
| <i>Key Type</i> | Primary |
| <i>Key Structure</i> | Simple |
| <i>Uniqueness</i> | Unique |
| <i>Null Support</i> | No Nulls |
| <i>Values Entered By</i> | System |
| <i>Required Value</i> | Yes |
| <i>Default Value</i> | N/A |
| <i>Range of Values</i> | 10-99 |
| <i>Edit Rule</i> | Enter Now, Edits Not Allowed |
| <i>Comparisons Allowed</i> | Equal, Not Equal |
| <i>Operations Allowed</i> | — |

4.5.2 roundDesc field

| | |
|----------------------------|--|
| <i>Specification Type</i> | Unique |
| <i>Shared By</i> | — |
| <i>Description</i> | The round descriptor of the football competition. |
| <i>Data Type</i> | Character |
| <i>Character Support</i> | Letters, Numbers |
| <i>Length</i> | 20 |
| <i>Decimal Places</i> | — |
| <i>Input Mask</i> | — |
| <i>Display Format</i> | Each description should start with a number or capital letter. |
| <i>Key Type</i> | Non-key |
| <i>Key Structure</i> | — |
| <i>Uniqueness</i> | Non-unique |
| <i>Null Support</i> | No Nulls |
| <i>Values Entered By</i> | User |
| <i>Required Value</i> | Yes |
| <i>Default Value</i> | — |
| <i>Range of Values</i> | — |
| <i>Edit Rule</i> | Enter Now, Edits Not Allowed |
| <i>Comparisons Allowed</i> | — |
| <i>Operations Allowed</i> | — |

4.6 Knockout Rounds lookup table (tblKnockoutRounds)

| | | | | |
|--------------------------|--|----------------------|---------------------------|-----------------------------|
| tblKnockoutRounds | This table contains the names of the knockout rounds, and this information is used to track all matches played in specific rounds of the knockout stage of a football competition. | | | |
| Primary Key | koroundID | | | |
| Foreign Key | Related Table | Deletion Rule | Participation Type | Participation Degree |
| — | tblKnockoutMatches | Restrict | Mandatory | (1,1) |

4.6.1 koroundID field

| | |
|----------------------------|--|
| <i>Specification Type</i> | Unique |
| <i>Shared By</i> | tblMatches |
| <i>Description</i> | A unique number used to differentiate knockout rounds. |
| <i>Data Type</i> | Numeric |
| <i>Character Support</i> | Numbers |
| <i>Length</i> | 2 |
| <i>Decimal Places</i> | 0 |
| <i>Input Mask</i> | ## |
| <i>Display Format</i> | 00 |
| <i>Key Type</i> | Primary |
| <i>Key Structure</i> | Simple |
| <i>Uniqueness</i> | Unique |
| <i>Null Support</i> | No Nulls |
| <i>Values Entered By</i> | System |
| <i>Required Value</i> | Yes |
| <i>Default Value</i> | N/A |
| <i>Range of Values</i> | 10-99 |
| <i>Edit Rule</i> | Enter Now, Edits Not Allowed |
| <i>Comparisons Allowed</i> | Equal To, Not Equal To |
| <i>Operations Allowed</i> | — |

4.6.2 koroundDesc field

| | |
|----------------------------|--|
| <i>Specification Type</i> | Unique |
| <i>Shared By</i> | — |
| <i>Description</i> | The descriptor of the knockout round. |
| <i>Data Type</i> | Character |
| <i>Character Support</i> | Letters, Numbers |
| <i>Length</i> | 40 |
| <i>Decimal Places</i> | — |
| <i>Input Mask</i> | — |
| <i>Display Format</i> | Each description should start with a capital letter. |
| <i>Key Type</i> | Non-key |
| <i>Key Structure</i> | — |
| <i>Uniqueness</i> | Non-unique |
| <i>Null Support</i> | No Nulls |
| <i>Values Entered By</i> | User |
| <i>Required Value</i> | Yes |
| <i>Default Value</i> | — |
| <i>Range of Values</i> | — |
| <i>Edit Rule</i> | Enter Now, Edits Not Allowed |
| <i>Comparisons Allowed</i> | Equal, Not Equal |
| <i>Operations Allowed</i> | — |

4.7 Knockout Round Matchdays lookup table (tblMatchdays)

| | | | | |
|---------------------|---|----------------------|---------------------------|-----------------------------|
| tblMatchdays | This table contains the name of the matchday within a knockout round, and this information is used to track all multiple matches played in the knockout stage of a competition. | | | |
| Primary Key | matchdayID | | | |
| Foreign Key | Related Table | Deletion Rule | Participation Type | Participation Degree |
| — | tblKnockoutMatches | Restrict | Mandatory | (1,1) |

4.7.1 matchdayID field

| | |
|----------------------------|--|
| <i>Specification Type</i> | Unique |
| <i>Shared By</i> | tblKnockoutMatches |
| <i>Description</i> | A unique number used to differentiate matchdays within a knockout round. |
| <i>Data Type</i> | Numeric |
| <i>Character Support</i> | Numbers |
| <i>Length</i> | 1 |
| <i>Decimal Places</i> | 0 |
| <i>Input Mask</i> | # |
| <i>Display Format</i> | 0 |
| <i>Key Type</i> | Primary |
| <i>Key Structure</i> | Simple |
| <i>Uniqueness</i> | Unique |
| <i>Null Support</i> | No Nulls |
| <i>Values Entered By</i> | System |
| <i>Required Value</i> | Yes |
| <i>Default Value</i> | N/A |
| <i>Range of Values</i> | 1-9 |
| <i>Edit Rule</i> | Enter Now, Edits Not Allowed |
| <i>Comparisons Allowed</i> | Equal To, Not Equal To |
| <i>Operations Allowed</i> | — |

4.7.2 matchdayDesc field

| | |
|----------------------------|--|
| <i>Specification Type</i> | Unique |
| <i>Shared By</i> | — |
| <i>Description</i> | The descriptor of the matchday. |
| <i>Data Type</i> | Character |
| <i>Character Support</i> | Letters, Numbers |
| <i>Length</i> | 12 |
| <i>Decimal Places</i> | — |
| <i>Input Mask</i> | — |
| <i>Display Format</i> | Each description should start with a capital letter. |
| <i>Key Type</i> | Non-key |
| <i>Key Structure</i> | — |
| <i>Uniqueness</i> | Non-unique |
| <i>Null Support</i> | No Nulls |
| <i>Values Entered By</i> | User |
| <i>Required Value</i> | Yes |
| <i>Default Value</i> | — |
| <i>Range of Values</i> | — |
| <i>Edit Rule</i> | Enter Now, Edits Not Allowed |
| <i>Comparisons Allowed</i> | Equal, Not Equal |
| <i>Operations Allowed</i> | — |

4.8 Venue lookup table (tblVenues)

| | | | | |
|--------------------|--|----------------------|---------------------------|-----------------------------|
| tblVenues | Contains the stadiums that are used in the football competition, and the clubs that predominately reside there. This table is used to perform performance studies against different venues or neutral sites. | | | |
| Primary Key | venueID | | | |
| Foreign Key | Related Table | Deletion Rule | Participation Type | Participation Degree |
| countryID | tblCountries | — | Optional | (0,N) |
| timezoneID | tblTimeZones | — | Optional | (0,N) |
| — | tblMatches | Deny | Mandatory | (1,1) |

4.8.1 venueID field

| | |
|----------------------------|--|
| <i>Specification Type</i> | Unique |
| <i>Shared By</i> | tblMatches |
| <i>Description</i> | A unique number used to identify venues used in football competitions. |
| <i>Data Type</i> | Numeric |
| <i>Character Support</i> | Numbers |
| <i>Length</i> | 4 |
| <i>Decimal Places</i> | 0 |
| <i>Input Mask</i> | #### |
| <i>Display Format</i> | 0000 |
| <i>Key Type</i> | Primary |
| <i>Key Structure</i> | Simple |
| <i>Uniqueness</i> | Unique |
| <i>Null Support</i> | No Nulls |
| <i>Values Entered By</i> | System |
| <i>Required Value</i> | Yes |
| <i>Default Value</i> | N/A |
| <i>Range of Values</i> | 1000-9999 |
| <i>Edit Rule</i> | Enter Now, Edits Not Allowed |
| <i>Comparisons Allowed</i> | Equal, Not Equal |
| <i>Operations Allowed</i> | — |

4.8.2 venCity field

| | |
|----------------------------|---|
| <i>Specification Type</i> | Unique |
| <i>Shared By</i> | — |
| <i>Description</i> | The name of the city in which the football venue resides. |
| <i>Data Type</i> | Character |
| <i>Character Support</i> | Letters, Numbers |
| <i>Length</i> | 40 |
| <i>Decimal Places</i> | — |
| <i>Input Mask</i> | — |
| <i>Display Format</i> | Each description should start with a capital letter. |
| <i>Key Type</i> | Non-key |
| <i>Key Structure</i> | — |
| <i>Uniqueness</i> | Non-unique |
| <i>Null Support</i> | No Nulls |
| <i>Values Entered By</i> | User |
| <i>Required Value</i> | Yes |
| <i>Default Value</i> | — |
| <i>Range of Values</i> | — |
| <i>Edit Rule</i> | Enter Now, Edits Allowed |
| <i>Comparisons Allowed</i> | — |
| <i>Operations Allowed</i> | — |

4.8.3 countryID field

| | |
|-----------------------------|--|
| <i>Specification Type</i> | Replica |
| <i>Parent Table</i> | tblCountries |
| <i>Source Specification</i> | countryID in tblCountries table |
| <i>Description</i> | The identification number of the country in which the venue is located |
| <i>Data Type</i> | Numeric |
| <i>Character Support</i> | Numbers |
| <i>Length</i> | 3 |
| <i>Decimal Places</i> | 0 |
| <i>Input Mask</i> | ### |
| <i>Display Format</i> | 000 |
| <i>Key Type</i> | Foreign |
| <i>Key Structure</i> | Simple |
| <i>Uniqueness</i> | Non-unique |
| <i>Null Support</i> | No Nulls |
| <i>Values Entered By</i> | User |
| <i>Required Value</i> | Yes |
| <i>Default Value</i> | — |
| <i>Range of Values</i> | Any existing countryID value in tblCountries |
| <i>Edit Rule</i> | Enter Now, Edits Allowed |
| <i>Comparisons Allowed</i> | Equal, Not Equal |
| <i>Operations Allowed</i> | — |

4.8.4 timezoneID field

| | |
|-----------------------------|--|
| <i>Specification Type</i> | Replica |
| <i>Parent Table</i> | tblTimeZones |
| <i>Source Specification</i> | timezoneID in tblTimeZones table |
| <i>Description</i> | The identification number of the time zone region in which the venue resides |
| <i>Data Type</i> | Numeric |
| <i>Character Support</i> | Numbers |
| <i>Length</i> | 3 |
| <i>Decimal Places</i> | 0 |
| <i>Input Mask</i> | ### |
| <i>Display Format</i> | 000 |
| <i>Key Type</i> | Foreign |
| <i>Key Structure</i> | Simple |
| <i>Uniqueness</i> | Non-unique |
| <i>Null Support</i> | No Nulls |
| <i>Values Entered By</i> | User |
| <i>Required Value</i> | Yes |
| <i>Default Value</i> | — |
| <i>Range of Values</i> | Any existing timezoneID value in tblTimeZones |
| <i>Edit Rule</i> | Enter Now, Edits Allowed |
| <i>Comparisons Allowed</i> | Equal, Not Equal |
| <i>Operations Allowed</i> | — |

4.8.5 venName field

| | |
|----------------------------|--|
| <i>Specification Type</i> | Unique |
| <i>Shared By</i> | — |
| <i>Description</i> | The name of the football venue used in the football competition. |
| <i>Data Type</i> | Character |
| <i>Character Support</i> | Letters, Numbers |
| <i>Length</i> | 40 |
| <i>Decimal Places</i> | — |
| <i>Input Mask</i> | — |
| <i>Display Format</i> | Each description should start with a capital letter. |
| <i>Key Type</i> | Non-key |
| <i>Key Structure</i> | — |
| <i>Uniqueness</i> | Non-unique |
| <i>Null Support</i> | No Nulls |
| <i>Values Entered By</i> | User |
| <i>Required Value</i> | Yes |
| <i>Default Value</i> | — |
| <i>Range of Values</i> | — |
| <i>Edit Rule</i> | Enter Now, Edits Allowed |
| <i>Comparisons Allowed</i> | — |
| <i>Operations Allowed</i> | — |

4.8.6 venAltitude field

| | |
|----------------------------|--|
| <i>Specification Type</i> | Unique |
| <i>Shared By</i> | — |
| <i>Description</i> | The altitude above mean sea level at which the football match occurred, in meters. |
| <i>Data Type</i> | Numeric |
| <i>Character Support</i> | Numbers |
| <i>Length</i> | 4 |
| <i>Decimal Places</i> | 0 |
| <i>Input Mask</i> | #### |
| <i>Display Format</i> | 0000 m |
| <i>Key Type</i> | Non-key |
| <i>Key Structure</i> | — |
| <i>Uniqueness</i> | Non-unique |
| <i>Null Support</i> | No Nulls |
| <i>Values Entered By</i> | User |
| <i>Required Value</i> | Yes |
| <i>Default Value</i> | — |
| <i>Range of Values</i> | — |
| <i>Edit Rule</i> | Enter Now, Edits Allowed |
| <i>Comparisons Allowed</i> | Equal, Not Equal, Greater Than, Less Than |
| <i>Operations Allowed</i> | — |

4.8.7 venLatitude field

| | |
|----------------------------|---|
| <i>Specification Type</i> | Unique |
| <i>Shared By</i> | — |
| <i>Description</i> | The geographic latitude of the football stadium in decimal degrees, based on WGS 84 reference system. |
| <i>Data Type</i> | Numeric |
| <i>Character Support</i> | Numbers |
| <i>Length</i> | 3 |
| <i>Decimal Places</i> | 6 |
| <i>Input Mask</i> | ###.##### |
| <i>Display Format</i> | 000.000000 |
| <i>Key Type</i> | Non-key |
| <i>Key Structure</i> | — |
| <i>Uniqueness</i> | Non-unique |
| <i>Null Support</i> | No Nulls |
| <i>Values Entered By</i> | User |
| <i>Required Value</i> | Yes |
| <i>Default Value</i> | — |
| <i>Range of Values</i> | — |
| <i>Edit Rule</i> | Enter Now, Edits Allowed |
| <i>Comparisons Allowed</i> | Equal, Not Equal, Greater Than, Less Than |
| <i>Operations Allowed</i> | — |

4.8.8 venLongitude field

| | |
|----------------------------|--|
| <i>Specification Type</i> | Unique |
| <i>Shared By</i> | — |
| <i>Description</i> | The geographic longitude of the football stadium in decimal degrees, based on WGS 84 reference system. |
| <i>Data Type</i> | Numeric |
| <i>Character Support</i> | Numbers |
| <i>Length</i> | 3 |
| <i>Decimal Places</i> | 6 |
| <i>Input Mask</i> | ###.##### |
| <i>Display Format</i> | 000.000000 |
| <i>Key Type</i> | Non-key |
| <i>Key Structure</i> | — |
| <i>Uniqueness</i> | Non-unique |
| <i>Null Support</i> | No Nulls |
| <i>Values Entered By</i> | User |
| <i>Required Value</i> | Yes |
| <i>Default Value</i> | — |
| <i>Range of Values</i> | — |
| <i>Edit Rule</i> | Enter Now, Edits Allowed |
| <i>Comparisons Allowed</i> | Equal, Not Equal, Greater Than, Less Than |
| <i>Operations Allowed</i> | — |

4.9 Venue History table (tblVenueHistory)

| | | | | |
|------------------------|---|----------------------|---------------------------|-----------------------------|
| tblVenueHistory | Contains the field characteristics and seating capacity of a football venue over its history. This table is used to perform performance studies involving match venues over time. | | | |
| Primary Key | venuehistoryID | | | |
| Foreign Key | Related Table | Deletion Rule | Participation Type | Participation Degree |
| venuesurfaceID | tblVenueSurfaces | — | Optional | (0,N) |
| — | tblVenues | — | Mandatory | (1,1) |

4.9.1 venuehistoryID field

| | |
|----------------------------|--|
| <i>Specification Type</i> | Unique |
| <i>Shared By</i> | tblVenues |
| <i>Description</i> | A unique number used to identify a historical record of a match venue. |
| <i>Data Type</i> | Numeric |
| <i>Character Support</i> | Numbers |
| <i>Length</i> | 5 |
| <i>Decimal Places</i> | 0 |
| <i>Input Mask</i> | ##### |
| <i>Display Format</i> | 00000 |
| <i>Key Type</i> | Primary |
| <i>Key Structure</i> | Simple |
| <i>Uniqueness</i> | Unique |
| <i>Null Support</i> | No Nulls |
| <i>Values Entered By</i> | System |
| <i>Required Value</i> | Yes |
| <i>Default Value</i> | N/A |
| <i>Range of Values</i> | 10000-99999 |
| <i>Edit Rule</i> | Enter Now, Edits Not Allowed |
| <i>Comparisons Allowed</i> | Equal, Not Equal |
| <i>Operations Allowed</i> | — |

4.9.2 venueID field

| | |
|-----------------------------|--|
| <i>Specification Type</i> | Replica |
| <i>Parent Table</i> | tblVenues |
| <i>Source Specification</i> | venueID in tblVenues table |
| <i>Description</i> | The identification number of the match venue |
| <i>Data Type</i> | Numeric |
| <i>Character Support</i> | Numbers |
| <i>Length</i> | 4 |
| <i>Decimal Places</i> | 0 |
| <i>Input Mask</i> | #### |
| <i>Display Format</i> | 0000 |
| <i>Key Type</i> | Foreign |
| <i>Key Structure</i> | Simple |
| <i>Uniqueness</i> | Non-unique |
| <i>Null Support</i> | No Nulls |
| <i>Values Entered By</i> | User |
| <i>Required Value</i> | Yes |
| <i>Default Value</i> | — |
| <i>Range of Values</i> | Any existing venueID value in tblVenues |
| <i>Edit Rule</i> | Enter Now, Edits Allowed |
| <i>Comparisons Allowed</i> | Equal, Not Equal |
| <i>Operations Allowed</i> | — |

4.9.3 venuesurfaceID field

| | |
|-----------------------------|---|
| <i>Specification Type</i> | Replica |
| <i>Parent Table</i> | tblVenueSurfaces |
| <i>Source Specification</i> | venuesurfaceID in tblVenueSurfaces table |
| <i>Description</i> | The identification number of the field surface |
| <i>Data Type</i> | Numeric |
| <i>Character Support</i> | Numbers |
| <i>Length</i> | 1 |
| <i>Decimal Places</i> | 0 |
| <i>Input Mask</i> | # |
| <i>Display Format</i> | 0 |
| <i>Key Type</i> | Foreign |
| <i>Key Structure</i> | Simple |
| <i>Uniqueness</i> | Non-unique |
| <i>Null Support</i> | No Nulls |
| <i>Values Entered By</i> | User |
| <i>Required Value</i> | Yes |
| <i>Default Value</i> | — |
| <i>Range of Values</i> | Any existing venuesurfaceID value in tblVenueSurfaces |
| <i>Edit Rule</i> | Enter Now, Edits Allowed |
| <i>Comparisons Allowed</i> | Equal, Not Equal |
| <i>Operations Allowed</i> | — |

4.9.4 venueHistDate field

| | |
|----------------------------|---|
| <i>Specification Type</i> | Unique |
| <i>Shared By</i> | — |
| <i>Description</i> | The date on which the historical venue data are valid, in ISO 8601 (YYYY-MM-DD) format. |
| <i>Data Type</i> | DateTime |
| <i>Character Support</i> | Numbers |
| <i>Length</i> | 7 |
| <i>Decimal Places</i> | 0 |
| <i>Input Mask</i> | YYYY-MM-DD |
| <i>Display Format</i> | Year Month Day |
| <i>Key Type</i> | Non-key |
| <i>Key Structure</i> | — |
| <i>Uniqueness</i> | Non-unique |
| <i>Null Support</i> | No Nulls |
| <i>Values Entered By</i> | User |
| <i>Required Value</i> | Yes |
| <i>Default Value</i> | — |
| <i>Range of Values</i> | — |
| <i>Edit Rule</i> | Enter Now, Edits Allowed |
| <i>Comparisons Allowed</i> | Equal, Not Equal, Greater Than, Less Than |
| <i>Operations Allowed</i> | Subtraction |

4.9.5 venueLength field

| | |
|----------------------------|--|
| <i>Specification Type</i> | Unique |
| <i>Shared By</i> | — |
| <i>Description</i> | The length of the football pitch (field), in meters. |
| <i>Data Type</i> | Numeric |
| <i>Character Support</i> | Numbers |
| <i>Length</i> | 3 |
| <i>Decimal Places</i> | 0 |
| <i>Input Mask</i> | ### |
| <i>Display Format</i> | 000 |
| <i>Key Type</i> | Non-key |
| <i>Key Structure</i> | — |
| <i>Uniqueness</i> | Non-unique |
| <i>Null Support</i> | No Nulls |
| <i>Values Entered By</i> | User |
| <i>Required Value</i> | Yes |
| <i>Default Value</i> | 105 |
| <i>Range of Values</i> | 90-120 |
| <i>Edit Rule</i> | Enter Now, Edits Allowed |
| <i>Comparisons Allowed</i> | Equal To, Not Equal To |
| <i>Operations Allowed</i> | Subtraction |

4.9.6 venueWidth field

| | |
|----------------------------|---|
| <i>Specification Type</i> | Unique |
| <i>Shared By</i> | — |
| <i>Description</i> | The width of the football pitch (field), in meters. |
| <i>Data Type</i> | Numeric |
| <i>Character Support</i> | Numbers |
| <i>Length</i> | 2 |
| <i>Decimal Places</i> | 0 |
| <i>Input Mask</i> | ## |
| <i>Display Format</i> | 00 |
| <i>Key Type</i> | Non-key |
| <i>Key Structure</i> | — |
| <i>Uniqueness</i> | Non-unique |
| <i>Null Support</i> | No Nulls |
| <i>Values Entered By</i> | User |
| <i>Required Value</i> | Yes |
| <i>Default Value</i> | 68 |
| <i>Range of Values</i> | 45-90 |
| <i>Edit Rule</i> | Enter Now, Edits Allowed |
| <i>Comparisons Allowed</i> | Equal To, Not Equal To |
| <i>Operations Allowed</i> | Subtraction |

4.9.7 venueHistCapacity field

| | |
|----------------------------|---|
| <i>Specification Type</i> | Unique |
| <i>Shared By</i> | — |
| <i>Description</i> | The total capacity of the football venue, considering seated and standing sections. |
| <i>Data Type</i> | Numeric |
| <i>Character Support</i> | Numbers |
| <i>Length</i> | 6 |
| <i>Decimal Places</i> | 0 |
| <i>Input Mask</i> | ##### |
| <i>Display Format</i> | 000000 |
| <i>Key Type</i> | Non-key |
| <i>Key Structure</i> | — |
| <i>Uniqueness</i> | Non-unique |
| <i>Null Support</i> | No Nulls |
| <i>Values Entered By</i> | User |
| <i>Required Value</i> | Yes |
| <i>Default Value</i> | 0 |
| <i>Range of Values</i> | ≥ 0 |
| <i>Edit Rule</i> | Enter Now, Edits Allowed |
| <i>Comparisons Allowed</i> | Equal To, Not Equal To |
| <i>Operations Allowed</i> | Subtraction |

4.9.8 venueHistSeats field

| | |
|----------------------------|--|
| <i>Specification Type</i> | Unique |
| <i>Shared By</i> | — |
| <i>Description</i> | The total number of seats in the football venue. |
| <i>Data Type</i> | Numeric |
| <i>Character Support</i> | Numbers |
| <i>Length</i> | 6 |
| <i>Decimal Places</i> | 0 |
| <i>Input Mask</i> | ##### |
| <i>Display Format</i> | 000000 |
| <i>Key Type</i> | Non-key |
| <i>Key Structure</i> | — |
| <i>Uniqueness</i> | Non-unique |
| <i>Null Support</i> | No Nulls |
| <i>Values Entered By</i> | User |
| <i>Required Value</i> | Yes |
| <i>Default Value</i> | 0 |
| <i>Range of Values</i> | ≥ 0 |
| <i>Edit Rule</i> | Enter Now, Edits Allowed |
| <i>Comparisons Allowed</i> | Equal To, Not Equal To |
| <i>Operations Allowed</i> | Subtraction |

4.10 Venue Surfaces table (tblVenueSurfaces)

| | | | | |
|-------------------------|---|----------------------|---------------------------|-----------------------------|
| tblVenueSurfaces | Contains a list of surface types of a football pitch. | | | |
| Primary Key | venuesurfaceID | | | |
| Foreign Key | Related Table | Deletion Rule | Participation Type | Participation Degree |
| — | tblVenues | Restrict | Mandatory | (1,1) |

4.10.1 venuesurfaceID field

| | |
|----------------------------|--|
| <i>Specification Type</i> | Unique |
| <i>Shared By</i> | tblVenues |
| <i>Description</i> | A unique number used to identify playing surfaces. |
| <i>Data Type</i> | Numeric |
| <i>Character Support</i> | Numbers |
| <i>Length</i> | 2 |
| <i>Decimal Places</i> | 0 |
| <i>Input Mask</i> | ## |
| <i>Display Format</i> | 00 |
| <i>Key Type</i> | Primary |
| <i>Key Structure</i> | Simple |
| <i>Uniqueness</i> | Unique |
| <i>Null Support</i> | No Nulls |
| <i>Values Entered By</i> | System |
| <i>Required Value</i> | Yes |
| <i>Default Value</i> | N/A |
| <i>Range of Values</i> | 10-99 |
| <i>Edit Rule</i> | Enter Now, Edits Not Allowed |
| <i>Comparisons Allowed</i> | Equal, Not Equal |
| <i>Operations Allowed</i> | — |

4.10.2 vensurfDesc field

| | |
|----------------------------|--|
| <i>Specification Type</i> | Unique |
| <i>Shared By</i> | — |
| <i>Description</i> | The description of the playing surface. |
| <i>Data Type</i> | Character |
| <i>Character Support</i> | Letters, Numbers |
| <i>Length</i> | 30 |
| <i>Decimal Places</i> | — |
| <i>Input Mask</i> | — |
| <i>Display Format</i> | Each description should start with a capital letter. |
| <i>Key Type</i> | Non-key |
| <i>Key Structure</i> | — |
| <i>Uniqueness</i> | Non-unique |
| <i>Null Support</i> | No Nulls |
| <i>Values Entered By</i> | User |
| <i>Required Value</i> | Yes |
| <i>Default Value</i> | — |
| <i>Range of Values</i> | — |
| <i>Edit Rule</i> | Enter Now, Edits Allowed |
| <i>Comparisons Allowed</i> | — |
| <i>Operations Allowed</i> | — |

4.11 Time Zones table (tblTimeZones)

| | | | | |
|---------------------|---|----------------------|---------------------------|-----------------------------|
| tblTimeZones | Contains data on the time zone regions throughout the world, taken from the Olsen tz database. The information in this table is used to relate the local time of a match venue to any other time zone in the world. | | | |
| Primary Key | timezoneID | | | |
| Foreign Key | Related Table | Deletion Rule | Participation Type | Participation Degree |
| — | tblVenues | Restrict | Mandatory | (1,1) |

4.11.1 timezoneID field

| | |
|----------------------------|---|
| <i>Specification Type</i> | Unique |
| <i>Shared By</i> | tblVenues |
| <i>Description</i> | A unique number used to identify time zone regions. |
| <i>Data Type</i> | Numeric |
| <i>Character Support</i> | Numbers |
| <i>Length</i> | 3 |
| <i>Decimal Places</i> | 0 |
| <i>Input Mask</i> | ### |
| <i>Display Format</i> | 000 |
| <i>Key Type</i> | Primary |
| <i>Key Structure</i> | Simple |
| <i>Uniqueness</i> | Unique |
| <i>Null Support</i> | No Nulls |
| <i>Values Entered By</i> | System |
| <i>Required Value</i> | Yes |
| <i>Default Value</i> | N/A |
| <i>Range of Values</i> | 100-999 |
| <i>Edit Rule</i> | Enter Now, Edits Not Allowed |
| <i>Comparisons Allowed</i> | Equal, Not Equal |
| <i>Operations Allowed</i> | — |

4.11.2 confedID field

See specification in Section 5.5.3.

4.11.3 tzName field

| | |
|----------------------------|--|
| <i>Specification Type</i> | Unique |
| <i>Shared By</i> | — |
| <i>Description</i> | The name of the time zone geographic region. |
| <i>Data Type</i> | Character |
| <i>Character Support</i> | Letters, Numbers |
| <i>Length</i> | 80 |
| <i>Decimal Places</i> | — |
| <i>Input Mask</i> | — |
| <i>Display Format</i> | Each description should start with a capital letter. |
| <i>Key Type</i> | Non-key |
| <i>Key Structure</i> | — |
| <i>Uniqueness</i> | Non-unique |
| <i>Null Support</i> | No Nulls |
| <i>Values Entered By</i> | User |
| <i>Required Value</i> | Yes |
| <i>Default Value</i> | — |
| <i>Range of Values</i> | — |
| <i>Edit Rule</i> | Enter Now, Edits Allowed |
| <i>Comparisons Allowed</i> | — |
| <i>Operations Allowed</i> | — |

4.11.4 tzOffset field

| | |
|----------------------------|---|
| <i>Specification Type</i> | Unique |
| <i>Shared By</i> | — |
| <i>Description</i> | The time offset of the time zone region from UTC, in decimal hours. |
| <i>Data Type</i> | Numeric |
| <i>Character Support</i> | Numbers |
| <i>Length</i> | 4 |
| <i>Decimal Places</i> | 2 |
| <i>Input Mask</i> | ##.## |
| <i>Display Format</i> | ±00.00 |
| <i>Key Type</i> | Non-key |
| <i>Key Structure</i> | — |
| <i>Uniqueness</i> | Non-unique |
| <i>Null Support</i> | No Nulls |
| <i>Values Entered By</i> | User |
| <i>Required Value</i> | Yes |
| <i>Default Value</i> | 0.0 |
| <i>Range of Values</i> | -12.0 - 14.0 |
| <i>Edit Rule</i> | Enter Now, Edits Allowed |
| <i>Comparisons Allowed</i> | Equal, Not Equal, Greater Than, Less Than |
| <i>Operations Allowed</i> | — |

4.12 Home Teams linking table (tblHomeTeams)

| | | | | |
|---------------------|---|----------------------|---------------------------|-----------------------------|
| tblHomeTeams | This table contains the names of the national teams that are designated home teams in a football match. | | | |
| Primary Key | matchID, countryID | | | |
| Foreign Key | Related Table | Deletion Rule | Participation Type | Participation Degree |
| matchID | tblMatches | — | Optional | (1,1) |
| countryID | tblCountries | — | Optional | (1,N) |

4.12.1 matchID field

| | |
|-----------------------------|--|
| <i>Specification Type</i> | Replica |
| <i>Parent Table</i> | tblMatches |
| <i>Source Specification</i> | matchID in tblMatches table |
| <i>Description</i> | The identification number of the match played in a football competition. |
| <i>Data Type</i> | Numeric |
| <i>Character Support</i> | Numbers |
| <i>Length</i> | 7 |
| <i>Decimal Places</i> | 0 |
| <i>Input Mask</i> | ##### |
| <i>Display Format</i> | 0000000 |
| <i>Key Type</i> | Foreign |
| <i>Key Structure</i> | Composite |
| <i>Uniqueness</i> | Non-unique |
| <i>Null Support</i> | No Nulls |
| <i>Values Entered By</i> | User |
| <i>Required Value</i> | Yes |
| <i>Default Value</i> | — |
| <i>Range of Values</i> | Any existing matchID value in tblMatches |
| <i>Edit Rule</i> | Enter Now, Edits Allowed |
| <i>Comparisons Allowed</i> | Equal To, Not Equal To |
| <i>Operations Allowed</i> | — |

4.12.2 countryID field

| | |
|-----------------------------|---|
| <i>Specification Type</i> | Replica |
| <i>Parent Table</i> | tblCountries |
| <i>Source Specification</i> | countryID in tblCountries table |
| <i>Description</i> | The identification number of the designated home team |
| <i>Data Type</i> | Numeric |
| <i>Character Support</i> | Numbers |
| <i>Length</i> | 3 |
| <i>Decimal Places</i> | 0 |
| <i>Input Mask</i> | ### |
| <i>Display Format</i> | 000 |
| <i>Key Type</i> | Foreign |
| <i>Key Structure</i> | Composite |
| <i>Uniqueness</i> | Non-unique |
| <i>Null Support</i> | No Nulls |
| <i>Values Entered By</i> | User |
| <i>Required Value</i> | Yes |
| <i>Default Value</i> | — |
| <i>Range of Values</i> | Any existing countryID value in tblCountries |
| <i>Edit Rule</i> | Enter Now, Edits Allowed |
| <i>Comparisons Allowed</i> | Equal, Not Equal To |
| <i>Operations Allowed</i> | — |

4.13 Away Teams linking table (tblAwayTeams)

| | | | | |
|---------------------|---|----------------------|---------------------------|-----------------------------|
| tblAwayTeams | This table contains the names of the national teams that are designated away teams in a football match. | | | |
| Primary Key | matchID, countryID | | | |
| Foreign Key | Related Table | Deletion Rule | Participation Type | Participation Degree |
| matchID | tblMatches | — | Mandatory | (1,1) |
| countryID | tblCountries | — | Mandatory | (1,N) |

4.13.1 matchID field

See specification in Section 4.12.1.

4.13.2 countryID field

| | |
|-----------------------------|---|
| <i>Specification Type</i> | Replica |
| <i>Parent Table</i> | tblCountries |
| <i>Source Specification</i> | countryID in tblCountries table |
| <i>Description</i> | The identification number of the designated away team |
| <i>Data Type</i> | Numeric |
| <i>Character Support</i> | Numbers |
| <i>Length</i> | 3 |
| <i>Decimal Places</i> | 0 |
| <i>Input Mask</i> | ### |
| <i>Display Format</i> | 000 |
| <i>Key Type</i> | Foreign |
| <i>Key Structure</i> | Composite |
| <i>Uniqueness</i> | Non-unique |
| <i>Null Support</i> | No Nulls |
| <i>Values Entered By</i> | User |
| <i>Required Value</i> | Yes |
| <i>Default Value</i> | — |
| <i>Range of Values</i> | Any existing countryID value in tblCountries |
| <i>Edit Rule</i> | Enter Now, Edits Allowed |
| <i>Comparisons Allowed</i> | Equal, Not Equal To |
| <i>Operations Allowed</i> | — |

4.14 Home Managers linking table (tblHomeManagers)

| | | | | |
|------------------------|--|----------------------|---------------------------|-----------------------------|
| tblHomeManagers | This table contains the names of the managers of the home teams in a football match. | | | |
| Primary Key | matchID, managerID | | | |
| Foreign Key | Related Table | Deletion Rule | Participation Type | Participation Degree |
| matchID | tblMatches | — | Mandatory | (1,1) |
| managerID | tblManagers | — | Mandatory | (1,N) |

4.14.1 matchID field

See specification in Section 4.12.1.

4.14.2 managerID field

| | |
|-----------------------------|---|
| <i>Specification Type</i> | Replica |
| <i>Parent Table</i> | tblManagers |
| <i>Source Specification</i> | managerID in tblManagers table |
| <i>Description</i> | The identification number that refers to the club manager for the designated home team. |
| <i>Data Type</i> | Numeric |
| <i>Character Support</i> | Numbers |
| <i>Length</i> | 4 |
| <i>Decimal Places</i> | 0 |
| <i>Input Mask</i> | #### |
| <i>Display Format</i> | 0000 |
| <i>Key Type</i> | Foreign |
| <i>Key Structure</i> | Composite |
| <i>Uniqueness</i> | Non-unique |
| <i>Null Support</i> | No Nulls |
| <i>Values Entered By</i> | User |
| <i>Required Value</i> | Yes |
| <i>Default Value</i> | — |
| <i>Range of Values</i> | Any existing managerID value in tblManagers |
| <i>Edit Rule</i> | Enter Now, Edits Allowed |
| <i>Comparisons Allowed</i> | Equal To, Not Equal To |
| <i>Operations Allowed</i> | — |

4.15 Away Managers linking table (tblAwayManagers)

| | | | | |
|------------------------|--|----------------------|---------------------------|-----------------------------|
| tblAwayManagers | This table contains the names of the managers of the away teams in a football match. | | | |
| Primary Key | matchID, managerID | | | |
| Foreign Key | Related Table | Deletion Rule | Participation Type | Participation Degree |
| matchID | tblMatches | — | Mandatory | (1,1) |
| managerID | tblManagers | — | Mandatory | (1,N) |

4.15.1 matchID field

See specification in Section 4.12.1.

4.15.2 managerID field

| | |
|-----------------------------|---|
| <i>Specification Type</i> | Replica |
| <i>Parent Table</i> | tblManagers |
| <i>Source Specification</i> | managerID in tblManagers table |
| <i>Description</i> | The identification number that refers to the club manager for the designated away team. |
| <i>Data Type</i> | Numeric |
| <i>Character Support</i> | Numbers |
| <i>Length</i> | 4 |
| <i>Decimal Places</i> | 0 |
| <i>Input Mask</i> | #### |
| <i>Display Format</i> | 0000 |
| <i>Key Type</i> | Foreign |
| <i>Key Structure</i> | Composite |
| <i>Uniqueness</i> | Non-unique |
| <i>Null Support</i> | No Nulls |
| <i>Values Entered By</i> | User |
| <i>Required Value</i> | Yes |
| <i>Default Value</i> | — |
| <i>Range of Values</i> | Any existing managerID value in tblManagers |
| <i>Edit Rule</i> | Enter Now, Edits Allowed |
| <i>Comparisons Allowed</i> | Equal To, Not Equal To |
| <i>Operations Allowed</i> | — |

4.16 Environments table (tblEnvironments)

| | | | | |
|------------------------|---|----------------------|---------------------------|-----------------------------|
| tblEnvironments | Records the ambient conditions under which the football match took place. This table is used to track match performance relative to weather and other natural conditions. | | | |
| Primary Key | enviroID | | | |
| Foreign Key | Related Table | Deletion Rule | Participation Type | Participation Degree |
| matchID | tblMatches | — | Optional | (1,1) |
| — | tblWeatherKickoff | Restrict | Mandatory | (0,1) |
| — | tblWeatherHalftime | Restrict | Mandatory | (0,1) |
| — | tblWeatherFulltime | Restrict | Mandatory | (0,1) |

4.16.1 enviroID field

| | |
|----------------------------|---|
| <i>Specification Type</i> | Unique |
| <i>Shared By</i> | tblMatches |
| <i>Description</i> | A unique number used to tie environmental conditions to the matches in which they are played. |
| <i>Data Type</i> | Numeric |
| <i>Character Support</i> | Numbers |
| <i>Length</i> | 7 |
| <i>Decimal Places</i> | 0 |
| <i>Input Mask</i> | ##### |
| <i>Display Format</i> | 0000000 |
| <i>Key Type</i> | Primary |
| <i>Key Structure</i> | Simple |
| <i>Uniqueness</i> | Unique |
| <i>Null Support</i> | No Nulls |
| <i>Values Entered By</i> | System |
| <i>Required Value</i> | Yes |
| <i>Default Value</i> | — |
| <i>Range of Values</i> | 1000000-9999999 |
| <i>Edit Rule</i> | Enter Now, Edits Not Allowed |
| <i>Comparisons Allowed</i> | Equal To, Not Equal To |
| <i>Operations Allowed</i> | — |

4.16.2 matchID field

| | |
|-----------------------------|---|
| <i>Specification Type</i> | Replica |
| <i>Parent Table</i> | tblMatches |
| <i>Source Specification</i> | matchID in tblMatches table |
| <i>Description</i> | The identification number of the football match |
| <i>Data Type</i> | Numeric |
| <i>Character Support</i> | Numbers |
| <i>Length</i> | 7 |
| <i>Decimal Places</i> | 0 |
| <i>Input Mask</i> | ##### |
| <i>Display Format</i> | 0000000 |
| <i>Key Type</i> | Foreign |
| <i>Key Structure</i> | Simple |
| <i>Uniqueness</i> | Non-unique |
| <i>Null Support</i> | No Nulls |
| <i>Values Entered By</i> | User |
| <i>Required Value</i> | Yes |
| <i>Default Value</i> | — |
| <i>Range of Values</i> | Any existing matchID value in tblMatches |
| <i>Edit Rule</i> | Enter Now, Edits Allowed |
| <i>Comparisons Allowed</i> | Equal, Not Equal |
| <i>Operations Allowed</i> | — |

4.16.3 envKickoffTime field

| | |
|----------------------------|--|
| <i>Specification Type</i> | Unique |
| <i>Shared By</i> | — |
| <i>Description</i> | The time at which the football match kicked off. |
| <i>Data Type</i> | DateTime |
| <i>Character Support</i> | Numbers |
| <i>Length</i> | 4 |
| <i>Decimal Places</i> | 0 |
| <i>Input Mask</i> | HH:MM |
| <i>Display Format</i> | HH:MM |
| <i>Key Type</i> | Non-key |
| <i>Key Structure</i> | — |
| <i>Uniqueness</i> | Non-unique |
| <i>Null Support</i> | No Nulls |
| <i>Values Entered By</i> | User |
| <i>Required Value</i> | Yes |
| <i>Default Value</i> | — |
| <i>Range of Values</i> | — |
| <i>Edit Rule</i> | Enter Now, Edits Allowed |
| <i>Comparisons Allowed</i> | Equal, Not Equal, Greater Than, Less Than |
| <i>Operations Allowed</i> | — |

4.16.4 envTemperature field

| | |
|----------------------------|---|
| <i>Specification Type</i> | Unique |
| <i>Shared By</i> | — |
| <i>Description</i> | The ambient temperature at kickoff, in degrees Celsius. |
| <i>Data Type</i> | Numeric |
| <i>Character Support</i> | Numbers |
| <i>Length</i> | 2 |
| <i>Decimal Places</i> | 1 |
| <i>Input Mask</i> | ##.## |
| <i>Display Format</i> | 20.0°C |
| <i>Key Type</i> | Non-key |
| <i>Key Structure</i> | — |
| <i>Uniqueness</i> | Non-unique |
| <i>Null Support</i> | No Nulls |
| <i>Values Entered By</i> | User |
| <i>Required Value</i> | Yes |
| <i>Default Value</i> | 20.0 |
| <i>Range of Values</i> | -15.0 - 40.0 |
| <i>Edit Rule</i> | Enter Now, Edits Allowed |
| <i>Comparisons Allowed</i> | Equal, Not Equal, Greater Than, Less Than |
| <i>Operations Allowed</i> | — |

4.17 Weather conditions lookup table (tblWeather)

| | | | | |
|--------------------|--|----------------------|---------------------------|-----------------------------|
| tblWeather | Contains a list of specific weather conditions during a football match. These conditions are terms from NOAA National Weather Service. | | | |
| Primary Key | weatherID | | | |
| Foreign Key | Related Table | Deletion Rule | Participation Type | Participation Degree |
| — | tblEnvironments | Restrict | Mandatory | (1,1) |

4.17.1 weatherID field

| | |
|----------------------------|---|
| <i>Specification Type</i> | Unique |
| <i>Shared By</i> | tblEnvironments |
| <i>Description</i> | A unique number used to identify specific weather conditions. |
| <i>Data Type</i> | Numeric |
| <i>Character Support</i> | Numbers |
| <i>Length</i> | 2 |
| <i>Decimal Places</i> | 0 |
| <i>Input Mask</i> | ## |
| <i>Display Format</i> | 00 |
| <i>Key Type</i> | Primary |
| <i>Key Structure</i> | Simple |
| <i>Uniqueness</i> | Unique |
| <i>Null Support</i> | No Nulls |
| <i>Values Entered By</i> | System |
| <i>Required Value</i> | Yes |
| <i>Default Value</i> | — |
| <i>Range of Values</i> | 10-99 |
| <i>Edit Rule</i> | Enter Now, Edits Not Allowed |
| <i>Comparisons Allowed</i> | Equal To, Not Equal To |
| <i>Operations Allowed</i> | — |

4.17.2 wxConditionDesc field

| | |
|----------------------------|---|
| <i>Specification Type</i> | Unique |
| <i>Shared By</i> | — |
| <i>Description</i> | The description of the predominate weather condition during the football match. |
| <i>Data Type</i> | Character |
| <i>Character Support</i> | Letters |
| <i>Length</i> | 40 |
| <i>Decimal Places</i> | — |
| <i>Input Mask</i> | — |
| <i>Display Format</i> | Each description should start with a capital letter. |
| <i>Key Type</i> | Non-key |
| <i>Key Structure</i> | — |
| <i>Uniqueness</i> | Non-unique |
| <i>Null Support</i> | No Nulls |
| <i>Values Entered By</i> | User |
| <i>Required Value</i> | Yes |
| <i>Default Value</i> | — |
| <i>Range of Values</i> | — |
| <i>Edit Rule</i> | Enter Now, Edits Allowed |
| <i>Comparisons Allowed</i> | — |
| <i>Operations Allowed</i> | — |

4.18 Kickoff weather linking table (tblWeatherKickoff)

| | | | | |
|--------------------------|---|----------------------|---------------------------|-----------------------------|
| tblWeatherKickoff | This table records the ambient weather conditions at kickoff of the football match. | | | |
| Primary Keys | enviroID,weatherID | | | |
| Foreign Key | Related Table | Deletion Rule | Participation Type | Participation Degree |
| enviroID | tblEnvironments | — | Mandatory | (1,1) |
| weatherID | tblWeather | — | Mandatory | (1,1) |

4.18.1 enviroID field

| | |
|-----------------------------|---|
| <i>Specification Type</i> | Unique |
| <i>Parent Table</i> | tblEnvironments |
| <i>Source Specification</i> | enviroID field in tblEnvironments table |
| <i>Description</i> | A unique number used to tie environmental conditions to the matches in which they are played. |
| <i>Data Type</i> | Numeric |
| <i>Character Support</i> | Numbers |
| <i>Length</i> | 7 |
| <i>Decimal Places</i> | 0 |
| <i>Input Mask</i> | ##### |
| <i>Display Format</i> | 0000000 |
| <i>Key Type</i> | Foreign |
| <i>Key Structure</i> | Composite |
| <i>Uniqueness</i> | Non-unique |
| <i>Null Support</i> | No Nulls |
| <i>Values Entered By</i> | User |
| <i>Required Value</i> | Yes |
| <i>Default Value</i> | — |
| <i>Range of Values</i> | Any existing enviroID value in tblEnvironments |
| <i>Edit Rule</i> | Enter Now, Edits Allowed |
| <i>Comparisons Allowed</i> | Equal To, Not Equal To |
| <i>Operations Allowed</i> | — |

4.18.2 weatherID field

| | |
|-----------------------------|---|
| <i>Specification Type</i> | Unique |
| <i>Parent Table</i> | tblWeather |
| <i>Source Specification</i> | weatherID field in tblWeather table |
| <i>Description</i> | A unique number used to identify specific weather conditions. |
| <i>Data Type</i> | Numeric |
| <i>Character Support</i> | Numbers |
| <i>Length</i> | 2 |
| <i>Decimal Places</i> | 0 |
| <i>Input Mask</i> | ## |
| <i>Display Format</i> | 00 |
| <i>Key Type</i> | Foreign |
| <i>Key Structure</i> | Composite |
| <i>Uniqueness</i> | Non-unique |
| <i>Null Support</i> | No Nulls |
| <i>Values Entered By</i> | User |
| <i>Required Value</i> | Yes |
| <i>Default Value</i> | — |
| <i>Range of Values</i> | Any existing weatherID value in tblWeather |
| <i>Edit Rule</i> | Enter Now, Edits Allowed |
| <i>Comparisons Allowed</i> | Equal To, Not Equal To |
| <i>Operations Allowed</i> | — |

4.19 Halftime weather linking table (tblWeatherHalftime)

| | | | | |
|---------------------------|--|----------------------|---------------------------|-----------------------------|
| tblWeatherHalftime | This table records the ambient weather conditions at halftime of the football match. | | | |
| Primary Keys | enviroID,weatherID | | | |
| Foreign Key | Related Table | Deletion Rule | Participation Type | Participation Degree |
| enviroID | tblEnvironments | — | Mandatory | (1,1) |
| weatherID | tblWeather | — | Mandatory | (1,1) |

4.19.1 enviroID field

See specification in Section 4.18.1.

4.19.2 weatherID field

See specification in Section 4.18.2.

4.20 Fulltime weather linking table (tblWeatherFulltime)

| | | | | |
|--------------------------|---|----------------------|---------------------------|-----------------------------|
| tblWeatherKickoff | This table records the ambient weather conditions at the end of the football match. | | | |
| Primary Keys | enviroID,weatherID | | | |
| Foreign Key | Related Table | Deletion Rule | Participation Type | Participation Degree |
| enviroID | tblEnvironments | — | Mandatory | (1,1) |
| weatherID | tblWeather | — | Mandatory | (1,1) |

4.20.1 enviroID field

See specification in Section 4.18.1.

4.20.2 weatherID field

See specification in Section 4.18.2.

5 Personnel Tables

The following tables capture data related to personnel associated with a football match, such as the players, managers, and central referees (but not assistant referees). The tactical positions of the players and the national origins of the personnel are also captured here. The major personnel table related to a match is the Lineup table, which tracks the player list (starting and bench) for a particular match.

5.1 Players table (tblPlayers)

| | | | | |
|--------------------|--|----------------------|---------------------------|-----------------------------|
| tblPlayers | Contains the list of players who participate in the football competition, allowing for the tracking of player participation and performance in the club and the competition. | | | |
| Primary Key | playerID | | | |
| Foreign Key | Related Table | Deletion Rule | Participation Type | Participation Degree |
| countryID | tblCountries | — | Optional | (0,N) |
| — | tblLineups | Restrict | Mandatory | (1,1) |

5.1.1 playerID field

| | |
|----------------------------|---|
| <i>Specification Type</i> | Unique |
| <i>Shared By</i> | tblLineups |
| <i>Description</i> | A unique number used to identify players in a football competition. |
| <i>Data Type</i> | Numeric |
| <i>Character Support</i> | Numbers |
| <i>Length</i> | 6 |
| <i>Decimal Places</i> | 0 |
| <i>Input Mask</i> | ##### |
| <i>Display Format</i> | 000000 |
| <i>Key Type</i> | Primary |
| <i>Key Structure</i> | Simple |
| <i>Uniqueness</i> | Unique |
| <i>Null Support</i> | No Nulls |
| <i>Values Entered By</i> | System |
| <i>Required Value</i> | Yes |
| <i>Default Value</i> | N/A |
| <i>Range of Values</i> | 100000-999999 |
| <i>Edit Rule</i> | Enter Now, Edits Not Allowed |
| <i>Comparisons Allowed</i> | Equal To, Not Equal To |
| <i>Operations Allowed</i> | — |

5.1.2 countryID field

See specification in Section 4.8.3.

5.1.3 plyrBirthdate field

| | |
|----------------------------|---|
| <i>Specification Type</i> | Unique |
| <i>Shared By</i> | — |
| <i>Description</i> | The birth date of the football player, in ISO 8601 (YYYY-MM-DD) format. |
| <i>Data Type</i> | DateTime |
| <i>Character Support</i> | Numbers |
| <i>Length</i> | 7 |
| <i>Decimal Places</i> | 0 |
| <i>Input Mask</i> | YYYY-MM-DD |
| <i>Display Format</i> | Year Month Day |
| <i>Key Type</i> | Non-key |
| <i>Key Structure</i> | — |
| <i>Uniqueness</i> | Non-unique |
| <i>Null Support</i> | No Nulls |
| <i>Values Entered By</i> | User |
| <i>Required Value</i> | Yes |
| <i>Default Value</i> | — |
| <i>Range of Values</i> | — |
| <i>Edit Rule</i> | Enter Now, Edits Allowed |
| <i>Comparisons Allowed</i> | Equal, Not Equal, Greater Than, Less Than |
| <i>Operations Allowed</i> | Subtraction |

5.1.4 plyrFirstname field

| | |
|----------------------------|--|
| <i>Specification Type</i> | Unique |
| <i>Shared By</i> | — |
| <i>Description</i> | The player's first name. |
| <i>Data Type</i> | Character |
| <i>Character Support</i> | Letters |
| <i>Length</i> | 20 |
| <i>Decimal Places</i> | — |
| <i>Input Mask</i> | — |
| <i>Display Format</i> | Each description should start with a capital letter. |
| <i>Key Type</i> | Non-key |
| <i>Key Structure</i> | — |
| <i>Uniqueness</i> | Non-unique |
| <i>Null Support</i> | No Nulls |
| <i>Values Entered By</i> | User |
| <i>Required Value</i> | Yes |
| <i>Default Value</i> | — |
| <i>Range of Values</i> | — |
| <i>Edit Rule</i> | Enter Now, Edits Allowed |
| <i>Comparisons Allowed</i> | — |
| <i>Operations Allowed</i> | — |

5.1.5 plyrLastname field

| | |
|----------------------------|--|
| <i>Specification Type</i> | Unique |
| <i>Shared By</i> | — |
| <i>Description</i> | The player's last name. |
| <i>Data Type</i> | Character |
| <i>Character Support</i> | Letters |
| <i>Length</i> | 30 |
| <i>Decimal Places</i> | — |
| <i>Input Mask</i> | — |
| <i>Display Format</i> | Each description should start with a capital letter. |
| <i>Key Type</i> | Non-key |
| <i>Key Structure</i> | — |
| <i>Uniqueness</i> | Non-unique |
| <i>Null Support</i> | No Nulls |
| <i>Values Entered By</i> | User |
| <i>Required Value</i> | Yes |
| <i>Default Value</i> | — |
| <i>Range of Values</i> | — |
| <i>Edit Rule</i> | Enter Now, Edits Allowed |
| <i>Comparisons Allowed</i> | — |
| <i>Operations Allowed</i> | — |

5.1.6 plyrNickname field

| | |
|----------------------------|--|
| <i>Specification Type</i> | Unique |
| <i>Shared By</i> | — |
| <i>Description</i> | The player's nickname, if any. |
| <i>Data Type</i> | Character |
| <i>Character Support</i> | Letters |
| <i>Length</i> | 30 |
| <i>Decimal Places</i> | — |
| <i>Input Mask</i> | — |
| <i>Display Format</i> | Each description should start with a capital letter. |
| <i>Key Type</i> | Non-key |
| <i>Key Structure</i> | — |
| <i>Uniqueness</i> | Non-unique |
| <i>Null Support</i> | Nulls Allowed |
| <i>Values Entered By</i> | User |
| <i>Required Value</i> | No |
| <i>Default Value</i> | NULL |
| <i>Range of Values</i> | — |
| <i>Edit Rule</i> | Enter Now, Edits Allowed |
| <i>Comparisons Allowed</i> | — |
| <i>Operations Allowed</i> | — |

5.1.7 plyrDefPosID field

| | |
|-----------------------------|---|
| <i>Specification Type</i> | Replica |
| <i>Parent Table</i> | tblPositions |
| <i>Source Specification</i> | positionID in tblPositions table |
| <i>Description</i> | The identification number of the player's default football position |
| <i>Data Type</i> | Numeric |
| <i>Character Support</i> | Numbers |
| <i>Length</i> | 2 |
| <i>Decimal Places</i> | 0 |
| <i>Input Mask</i> | ## |
| <i>Display Format</i> | 00 |
| <i>Key Type</i> | Foreign |
| <i>Key Structure</i> | Simple |
| <i>Uniqueness</i> | Non-unique |
| <i>Null Support</i> | No Nulls |
| <i>Values Entered By</i> | User |
| <i>Required Value</i> | Yes |
| <i>Default Value</i> | — |
| <i>Range of Values</i> | Any existing positionID value in tblPositions |
| <i>Edit Rule</i> | Enter Now, Edits Allowed |
| <i>Comparisons Allowed</i> | Equal, Not Equal |
| <i>Operations Allowed</i> | — |

5.2 Player History table (tblPlayerHistory)

| | | | | |
|-------------------------|---|----------------------|---------------------------|-----------------------------|
| tblPlayerHistory | Contains the physical characteristics of a football player over his playing history. This table is used to perform performance studies involving players over time. | | | |
| Primary Key | playerhistoryID | | | |
| Foreign Key | Related Table | Deletion Rule | Participation Type | Participation Degree |
| playerID | tblPlayers | — | Optional | (0,N) |

5.2.1 playerhistoryID field

| | |
|----------------------------|---|
| <i>Specification Type</i> | Unique |
| <i>Shared By</i> | — |
| <i>Description</i> | A unique number used to identify a historical record of a football player's physical characteristics. |
| <i>Data Type</i> | Numeric |
| <i>Character Support</i> | Numbers |
| <i>Length</i> | 7 |
| <i>Decimal Places</i> | 0 |
| <i>Input Mask</i> | ##### |
| <i>Display Format</i> | 0000000 |
| <i>Key Type</i> | Primary |
| <i>Key Structure</i> | Simple |
| <i>Uniqueness</i> | Unique |
| <i>Null Support</i> | No Nulls |
| <i>Values Entered By</i> | System |
| <i>Required Value</i> | Yes |
| <i>Default Value</i> | N/A |
| <i>Range of Values</i> | 1000000-9999999 |
| <i>Edit Rule</i> | Enter Now, Edits Not Allowed |
| <i>Comparisons Allowed</i> | Equal, Not Equal |
| <i>Operations Allowed</i> | — |

5.2.2 plyrHistDate field

| | |
|----------------------------|--|
| <i>Specification Type</i> | Unique |
| <i>Shared By</i> | — |
| <i>Description</i> | The date on which the historical player data are valid, in ISO 8601 (YYYY-MM-DD) format. |
| <i>Data Type</i> | DateTime |
| <i>Character Support</i> | Numbers |
| <i>Length</i> | 7 |
| <i>Decimal Places</i> | 0 |
| <i>Input Mask</i> | YYYY-MM-DD |
| <i>Display Format</i> | Year Month Day |
| <i>Key Type</i> | Non-key |
| <i>Key Structure</i> | — |
| <i>Uniqueness</i> | Non-unique |
| <i>Null Support</i> | No Nulls |
| <i>Values Entered By</i> | User |
| <i>Required Value</i> | Yes |
| <i>Default Value</i> | — |
| <i>Range of Values</i> | — |
| <i>Edit Rule</i> | Enter Now, Edits Allowed |
| <i>Comparisons Allowed</i> | Equal, Not Equal, Greater Than, Less Than |
| <i>Operations Allowed</i> | Subtraction |

5.2.3 plyrHistHeight field

| | |
|----------------------------|--|
| <i>Specification Type</i> | Unique |
| <i>Shared By</i> | — |
| <i>Description</i> | The height of the football player, in meters. |
| <i>Data Type</i> | Numeric |
| <i>Character Support</i> | Numbers |
| <i>Length</i> | 3 |
| <i>Decimal Places</i> | 1 |
| <i>Input Mask</i> | #.## |
| <i>Display Format</i> | 0.00 m |
| <i>Key Type</i> | Non-key |
| <i>Key Structure</i> | — |
| <i>Uniqueness</i> | Non-unique |
| <i>Null Support</i> | No Nulls |
| <i>Values Entered By</i> | User |
| <i>Required Value</i> | Yes |
| <i>Default Value</i> | 1.50 |
| <i>Range of Values</i> | 0.00 - 2.50 |
| <i>Edit Rule</i> | Enter Now, Edits Allowed |
| <i>Comparisons Allowed</i> | Equal, Not Equal, Greater Than, Less Than |
| <i>Operations Allowed</i> | — |

5.2.4 plyrHistWeight field

| | |
|----------------------------|---|
| <i>Specification Type</i> | Unique |
| <i>Shared By</i> | — |
| <i>Description</i> | The weight of the football player, in kilograms. |
| <i>Data Type</i> | Numeric |
| <i>Character Support</i> | Numbers |
| <i>Length</i> | 3 |
| <i>Decimal Places</i> | 0 |
| <i>Input Mask</i> | ### |
| <i>Display Format</i> | 000 kg |
| <i>Key Type</i> | Non-key |
| <i>Key Structure</i> | — |
| <i>Uniqueness</i> | Non-unique |
| <i>Null Support</i> | No Nulls |
| <i>Values Entered By</i> | User |
| <i>Required Value</i> | Yes |
| <i>Default Value</i> | 50 |
| <i>Range of Values</i> | 0 - 150 |
| <i>Edit Rule</i> | Enter Now, Edits Allowed |
| <i>Comparisons Allowed</i> | Equal, Not Equal, Greater Than, Less Than |
| <i>Operations Allowed</i> | — |

5.3 Managers table (tblManagers)

| | | | | |
|--------------------|--|----------------------|---------------------------|-----------------------------|
| tblManagers | Contains the list of managers who participate in the football competition, allowing for the tracking of managerial changes at the club during a competition. | | | |
| Primary Key | managerID | | | |
| Foreign Key | Related Table | Deletion Rule | Participation Type | Participation Degree |
| countryID | tblCountries | — | Optional | (0,N) |
| — | tblMatches | Restrict | Mandatory | (1,1) |

5.3.1 managerID field

| | |
|----------------------------|--|
| <i>Specification Type</i> | Unique |
| <i>Shared By</i> | tblMatches |
| <i>Description</i> | A unique number used to identify managers in a football competition. |
| <i>Data Type</i> | Numeric |
| <i>Character Support</i> | Numbers |
| <i>Length</i> | 4 |
| <i>Decimal Places</i> | 0 |
| <i>Input Mask</i> | #### |
| <i>Display Format</i> | 0000 |
| <i>Key Type</i> | Primary |
| <i>Key Structure</i> | Simple |
| <i>Uniqueness</i> | Unique |
| <i>Null Support</i> | No Nulls |
| <i>Values Entered By</i> | System |
| <i>Required Value</i> | Yes |
| <i>Default Value</i> | N/A |
| <i>Range of Values</i> | 1000-9999 |
| <i>Edit Rule</i> | Enter Now, Edits Not Allowed |
| <i>Comparisons Allowed</i> | Equal To, Not Equal To |
| <i>Operations Allowed</i> | — |

5.3.2 countryID field

See specification in section 4.8.3.

5.3.3 mgrBirthdate field

Specification is identical to that defined in section 5.1.3.

5.3.4 mgrFirstname field

Specification is identical to that defined in section 5.1.4.

5.3.5 mgrLastname field

Specification is identical to that defined in section 5.1.5.

5.3.6 mgrNickname field

Specification is identical to that defined in section 5.1.6 .

5.4 Referees table (tblReferees)

| | | | | |
|--------------------|---|----------------------|---------------------------|-----------------------------|
| tblReferees | Contains the list of match referees who participate in the football competition, allowing for the tracking of their participation and performance in the competition. | | | |
| Primary Key | refereeID | | | |
| Foreign Key | Related Table | Deletion Rule | Participation Type | Participation Degree |
| countryID | tblCountries | — | Optional | (0,N) |
| — | tblMatches | Restrict | Mandatory | (1,1) |

5.4.1 refereeID field

| | |
|----------------------------|--|
| <i>Specification Type</i> | Unique |
| <i>Shared By</i> | tblMatches |
| <i>Description</i> | A unique number used to identify match referees in a football competition. |
| <i>Data Type</i> | Numeric |
| <i>Character Support</i> | Numbers |
| <i>Length</i> | 4 |
| <i>Decimal Places</i> | 0 |
| <i>Input Mask</i> | #### |
| <i>Display Format</i> | 0000 |
| <i>Key Type</i> | Primary |
| <i>Key Structure</i> | Simple |
| <i>Uniqueness</i> | Unique |
| <i>Null Support</i> | No Nulls |
| <i>Values Entered By</i> | System |
| <i>Required Value</i> | Yes |
| <i>Default Value</i> | N/A |
| <i>Range of Values</i> | 1000-9999 |
| <i>Edit Rule</i> | Enter Now, Edits Not Allowed |
| <i>Comparisons Allowed</i> | Equal To, Not Equal To |
| <i>Operations Allowed</i> | — |

5.4.2 countryID field

See specification in section 4.8.3.

5.4.3 refBirthdate field

Specification is identical to that defined in section 5.1.3.

5.4.4 refFirstName field

Specification is identical to that defined in section 5.1.4.

5.4.5 refLastName field

Specification is identical to that defined in section 5.1.5.

5.5 Country lookup table (tblCountries)

| | | | | |
|---------------------|--|----------------------|---------------------------|-----------------------------|
| tblCountries | Contains the list of countries represented by personnel who participate in a football competition. | | | |
| Primary Key | countryID | | | |
| Foreign Key | Related Table | Deletion Rule | Participation Type | Participation Degree |
| — | tblPlayers | Restrict | Mandatory | (1,1) |
| — | tblManagers | Restrict | Mandatory | (1,1) |
| — | tblReferees | Restrict | Mandatory | (1,1) |
| confedID | tblConfederations | — | Optional | (1,N) |

5.5.1 countryID field

| | |
|----------------------------|--|
| <i>Specification Type</i> | Unique |
| <i>Shared By</i> | tblPlayers, tblManagers, tblReferees, tblTeams, tblVenues |
| <i>Description</i> | A unique number used to identify the country of personnel. |
| <i>Data Type</i> | Numeric |
| <i>Character Support</i> | Numbers |
| <i>Length</i> | 3 |
| <i>Decimal Places</i> | 0 |
| <i>Input Mask</i> | ### |
| <i>Display Format</i> | 000 |
| <i>Key Type</i> | Primary |
| <i>Key Structure</i> | Simple |
| <i>Uniqueness</i> | Unique |
| <i>Null Support</i> | No Nulls |
| <i>Values Entered By</i> | System |
| <i>Required Value</i> | Yes |
| <i>Default Value</i> | N/A |
| <i>Range of Values</i> | 100-999 |
| <i>Edit Rule</i> | Enter Now, Edits Not Allowed |
| <i>Comparisons Allowed</i> | Equal To, Not Equal To |
| <i>Operations Allowed</i> | — |

5.5.2 ctyName field

| | |
|----------------------------|--|
| <i>Specification Type</i> | Unique |
| <i>Shared By</i> | — |
| <i>Description</i> | Country name. |
| <i>Data Type</i> | Character |
| <i>Character Support</i> | Letters |
| <i>Length</i> | 60 |
| <i>Decimal Places</i> | — |
| <i>Input Mask</i> | — |
| <i>Display Format</i> | Each description should start with a capital letter. |
| <i>Key Type</i> | Non-key |
| <i>Key Structure</i> | — |
| <i>Uniqueness</i> | Non-unique |
| <i>Null Support</i> | No Nulls |
| <i>Values Entered By</i> | User |
| <i>Required Value</i> | Yes |
| <i>Default Value</i> | — |
| <i>Range of Values</i> | — |
| <i>Edit Rule</i> | Enter Now, Edits Not Allowed |
| <i>Comparisons Allowed</i> | — |
| <i>Operations Allowed</i> | — |

5.5.3 confedID field

| | |
|-----------------------------|---|
| <i>Specification Type</i> | Replica |
| <i>Parent Table</i> | tblConfederations |
| <i>Source Specification</i> | confedID in tblConfederations table |
| <i>Description</i> | The identification number of the football confederation |
| <i>Data Type</i> | Numeric |
| <i>Character Support</i> | Numbers |
| <i>Length</i> | 2 |
| <i>Decimal Places</i> | 0 |
| <i>Input Mask</i> | ## |
| <i>Display Format</i> | 00 |
| <i>Key Type</i> | Foreign |
| <i>Key Structure</i> | Simple |
| <i>Uniqueness</i> | Non-unique |
| <i>Null Support</i> | No Nulls |
| <i>Values Entered By</i> | User |
| <i>Required Value</i> | Yes |
| <i>Default Value</i> | — |
| <i>Range of Values</i> | Any existing confedID value in tblConfederations |
| <i>Edit Rule</i> | Enter Now, Edits Allowed |
| <i>Comparisons Allowed</i> | Equal, Not Equal |
| <i>Operations Allowed</i> | — |

5.6 Confederations lookup table (tblConfederations)

| tblConfederations | Contains the list of football confederations. | | | |
|--------------------------|---|----------------------|---------------------------|-----------------------------|
| Primary Key | confedID | | | |
| Foreign Key | Related Table | Deletion Rule | Participation Type | Participation Degree |
| — | tblCountries | Restrict | Mandatory | (1,1) |
| — | tblTimeZones | Restrict | Mandatory | (1,1) |

5.6.1 confedID field

| | |
|----------------------------|--|
| <i>Specification Type</i> | Unique |
| <i>Shared By</i> | tblCountries |
| <i>Description</i> | A unique number used to identify the football confederation. |
| <i>Data Type</i> | Numeric |
| <i>Character Support</i> | Numbers |
| <i>Length</i> | 2 |
| <i>Decimal Places</i> | 0 |
| <i>Input Mask</i> | ## |
| <i>Display Format</i> | 00 |
| <i>Key Type</i> | Primary |
| <i>Key Structure</i> | Simple |
| <i>Uniqueness</i> | Unique |
| <i>Null Support</i> | No Nulls |
| <i>Values Entered By</i> | System |
| <i>Required Value</i> | Yes |
| <i>Default Value</i> | N/A |
| <i>Range of Values</i> | 10-99 |
| <i>Edit Rule</i> | Enter Now, Edits Not Allowed |
| <i>Comparisons Allowed</i> | Equal To, Not Equal To |
| <i>Operations Allowed</i> | — |

5.6.2 confedName field

| | |
|----------------------------|--|
| <i>Specification Type</i> | Unique |
| <i>Shared By</i> | — |
| <i>Description</i> | Name of football confederation. |
| <i>Data Type</i> | Character |
| <i>Character Support</i> | Letters |
| <i>Length</i> | 40 |
| <i>Decimal Places</i> | — |
| <i>Input Mask</i> | — |
| <i>Display Format</i> | Each description should start with a capital letter. |
| <i>Key Type</i> | Non-key |
| <i>Key Structure</i> | — |
| <i>Uniqueness</i> | Non-unique |
| <i>Null Support</i> | No Nulls |
| <i>Values Entered By</i> | User |
| <i>Required Value</i> | Yes |
| <i>Default Value</i> | — |
| <i>Range of Values</i> | — |
| <i>Edit Rule</i> | Enter Now, Edits Not Allowed |
| <i>Comparisons Allowed</i> | — |
| <i>Operations Allowed</i> | — |

5.7 Lineup table (tblLineups)

| | | | | |
|--------------------|---|----------------------|---------------------------|-----------------------------|
| tblLineups | This table contains the players who participate in matches of the football competition, whether they are starting players or on the substitutes' list. The information is necessary to track the level of participation of players over a season. | | | |
| Primary Key | lineupID | | | |
| Foreign Key | Related Table | Deletion Rule | Participation Type | Participation Degree |
| matchID | tblMatches | — | Optional | (22,36) |
| countryID | tblCountries | — | Optional | (1,N) |
| playerID | tblPlayers | — | Optional | (1,N) |
| positionID | tblPositions | — | Optional | (1,N) |
| — | tblGoals | Restrict | Mandatory | (1,1) |
| — | tblPenalties | Restrict | Mandatory | (1,1) |
| — | tblOffenses | Restrict | Mandatory | (1,1) |
| — | tblSubs | Restrict | Mandatory | (1,1) |
| — | tblSwitchPositions | Restrict | Mandatory | (1,1) |

5.7.1 lineupID field

| | |
|----------------------------|---|
| <i>Specification Type</i> | Unique |
| <i>Shared By</i> | tblGoals, tblPenalties, tblOffenses, tblSubstitutions |
| <i>Description</i> | A unique number used to identify players who participate in football matches. |
| <i>Data Type</i> | Numeric |
| <i>Character Support</i> | Numbers |
| <i>Length</i> | 7 |
| <i>Decimal Places</i> | 0 |
| <i>Input Mask</i> | ##### |
| <i>Display Format</i> | 0000000 |
| <i>Key Type</i> | Primary |
| <i>Key Structure</i> | Simple |
| <i>Uniqueness</i> | Unique |
| <i>Null Support</i> | No Nulls |
| <i>Values Entered By</i> | System |
| <i>Required Value</i> | Yes |
| <i>Default Value</i> | — |
| <i>Range of Values</i> | 1000000-9999999 |
| <i>Edit Rule</i> | Enter Now, Edits Not Allowed |
| <i>Comparisons Allowed</i> | Equal To, Not Equal To |
| <i>Operations Allowed</i> | — |

5.7.2 matchID field

See specification in section 4.16.2.

5.7.3 playerID field

| | |
|-----------------------------|---|
| <i>Specification Type</i> | Replica |
| <i>Parent Table</i> | tblLineups |
| <i>Source Specification</i> | playerID in tblLineups table |
| <i>Description</i> | The identification number of the player who participates in the lineup. |
| <i>Data Type</i> | Numeric |
| <i>Character Support</i> | Numbers |
| <i>Length</i> | 6 |
| <i>Decimal Places</i> | 0 |
| <i>Input Mask</i> | ##### |
| <i>Display Format</i> | 000000 |
| <i>Key Type</i> | Foreign |
| <i>Key Structure</i> | Simple |
| <i>Uniqueness</i> | Non-unique |
| <i>Null Support</i> | No Nulls |
| <i>Values Entered By</i> | User |
| <i>Required Value</i> | Yes |
| <i>Default Value</i> | — |
| <i>Range of Values</i> | Any existing playerID value in tblPlayers |
| <i>Edit Rule</i> | Enter Now, Edits Allowed |
| <i>Comparisons Allowed</i> | Equal, Not Equal |
| <i>Operations Allowed</i> | — |

5.7.4 positionID field

| | |
|-----------------------------|---|
| <i>Specification Type</i> | Replica |
| <i>Parent Table</i> | tblPositions |
| <i>Source Specification</i> | positionID in tblPositions table |
| <i>Description</i> | The identification number of the football positions |
| <i>Data Type</i> | Numeric |
| <i>Character Support</i> | Alphanumeric |
| <i>Length</i> | 2 |
| <i>Decimal Places</i> | 0 |
| <i>Input Mask</i> | ## |
| <i>Display Format</i> | 00 |
| <i>Key Type</i> | Foreign |
| <i>Key Structure</i> | Simple |
| <i>Uniqueness</i> | Non-unique |
| <i>Null Support</i> | No Nulls |
| <i>Values Entered By</i> | User |
| <i>Required Value</i> | Yes |
| <i>Default Value</i> | — |
| <i>Range of Values</i> | Any existing positionID value in tblPositions |
| <i>Edit Rule</i> | Enter Now, Edits Allowed |
| <i>Comparisons Allowed</i> | Equal, Not Equal |
| <i>Operations Allowed</i> | — |

5.7.5 lpStarting field

| | |
|----------------------------|---|
| <i>Specification Type</i> | Unique |
| <i>Shared By</i> | — |
| <i>Description</i> | A flag to designate starting players in the match lineup. |
| <i>Data Type</i> | Boolean or Numeric |
| <i>Character Support</i> | Alphanumeric |
| <i>Length</i> | 1 |
| <i>Decimal Places</i> | 0 |
| <i>Input Mask</i> | # |
| <i>Display Format</i> | 0 |
| <i>Key Type</i> | Non-key |
| <i>Key Structure</i> | — |
| <i>Uniqueness</i> | Non-unique |
| <i>Null Support</i> | No Nulls |
| <i>Values Entered By</i> | User |
| <i>Required Value</i> | Yes |
| <i>Default Value</i> | 0 or FALSE |
| <i>Range of Values</i> | 0-1 or TRUE/FALSE |
| <i>Edit Rule</i> | Enter Now, Edits Not Allowed |
| <i>Comparisons Allowed</i> | Equal To, Not Equal To |
| <i>Operations Allowed</i> | — |

5.7.6 lpCaptain field

| | |
|----------------------------|---|
| <i>Specification Type</i> | Unique |
| <i>Shared By</i> | — |
| <i>Description</i> | A flag to designate the team captain in the match lineup. |
| <i>Data Type</i> | Boolean or Numeric |
| <i>Character Support</i> | Numbers |
| <i>Length</i> | 1 |
| <i>Decimal Places</i> | 0 |
| <i>Input Mask</i> | # |
| <i>Display Format</i> | 0 |
| <i>Key Type</i> | Non-key |
| <i>Key Structure</i> | — |
| <i>Uniqueness</i> | Non-unique |
| <i>Null Support</i> | No Nulls |
| <i>Values Entered By</i> | User |
| <i>Required Value</i> | Yes |
| <i>Default Value</i> | 0 or FALSE |
| <i>Range of Values</i> | 0-1 or TRUE/FALSE |
| <i>Edit Rule</i> | Enter Now, Edits Not Allowed |
| <i>Comparisons Allowed</i> | Equal To, Not Equal To |
| <i>Operations Allowed</i> | — |

5.8 Positions lookup table (tblPositions)

| | | | | |
|---------------------|---|----------------------|---------------------------|-----------------------------|
| tblPositions | This table contains information on the field positions (including goalkeeper) and their flanks they occupy on the field. The information is used to track the tactical organization of the lineup during a match. | | | |
| Primary Key | positionID | | | |
| Foreign Key | Related Table | Deletion Rule | Participation Type | Participation Degree |
| posFieldID | tblFieldNames | — | Optional | (1,3) |
| posFlankID | tblFlankNames | — | Optional | (1,3) |
| — | tblLineups | Restrict | Mandatory | (1,1) |

5.8.1 positionID field

| | |
|----------------------------|--|
| <i>Specification Type</i> | Unique |
| <i>Shared By</i> | tblLineups |
| <i>Description</i> | A unique number used to identify football positions. |
| <i>Data Type</i> | Numeric |
| <i>Character Support</i> | Numbers |
| <i>Length</i> | 2 |
| <i>Decimal Places</i> | 0 |
| <i>Input Mask</i> | ## |
| <i>Display Format</i> | 00 |
| <i>Key Type</i> | Primary |
| <i>Key Structure</i> | Simple |
| <i>Uniqueness</i> | Unique |
| <i>Null Support</i> | No Nulls |
| <i>Values Entered By</i> | System |
| <i>Required Value</i> | Yes |
| <i>Default Value</i> | — |
| <i>Range of Values</i> | 10-99 |
| <i>Edit Rule</i> | Enter Now, Edits Not Allowed |
| <i>Comparisons Allowed</i> | Equal To, Not Equal To |
| <i>Operations Allowed</i> | — |

5.8.2 posFieldID field

| | |
|-----------------------------|---|
| <i>Specification Type</i> | Replica |
| <i>Parent Table</i> | tblFieldNames |
| <i>Source Specification</i> | posFieldID in tblFieldNames table |
| <i>Description</i> | The identification number of the football field positions |
| <i>Data Type</i> | Numeric |
| <i>Character Support</i> | Numbers |
| <i>Length</i> | 1 |
| <i>Decimal Places</i> | 0 |
| <i>Input Mask</i> | # |
| <i>Display Format</i> | 0 |
| <i>Key Type</i> | Foreign |
| <i>Key Structure</i> | Simple |
| <i>Uniqueness</i> | Non-unique |
| <i>Null Support</i> | No Nulls |
| <i>Values Entered By</i> | User |
| <i>Required Value</i> | Yes |
| <i>Default Value</i> | — |
| <i>Range of Values</i> | Any existing posFieldID value in tblFieldNames |
| <i>Edit Rule</i> | Enter Now, Edits Allowed |
| <i>Comparisons Allowed</i> | Equal, Not Equal |
| <i>Operations Allowed</i> | — |

5.8.3 posFlankID field

| | |
|-----------------------------|---|
| <i>Specification Type</i> | Replica |
| <i>Parent Table</i> | tblFlankNames |
| <i>Source Specification</i> | posFlankID in tblFlankNames table |
| <i>Description</i> | The identification number of the flank locations. |
| <i>Data Type</i> | Numeric |
| <i>Character Support</i> | Numbers |
| <i>Length</i> | 1 |
| <i>Decimal Places</i> | 0 |
| <i>Input Mask</i> | # |
| <i>Display Format</i> | 0 |
| <i>Key Type</i> | Foreign |
| <i>Key Structure</i> | Simple |
| <i>Uniqueness</i> | Non-unique |
| <i>Null Support</i> | No Nulls |
| <i>Values Entered By</i> | User |
| <i>Required Value</i> | Yes |
| <i>Default Value</i> | — |
| <i>Range of Values</i> | Any existing posFlankID value in tblFlankNames |
| <i>Edit Rule</i> | Enter Now, Edits Allowed |
| <i>Comparisons Allowed</i> | Equal, Not Equal |
| <i>Operations Allowed</i> | — |

5.9 Field position name table (tblFieldNames)

| | | | | |
|----------------------|--|----------------------|---------------------------|-----------------------------|
| tblFieldNames | This table contains a list of the basic field positions. | | | |
| Primary Key | posFieldID | | | |
| Foreign Key | Related Table | Deletion Rule | Participation Type | Participation Degree |
| — | tblPositions | Restrict | Mandatory | (1,1) |

5.9.1 posFieldID field

| | |
|----------------------------|--|
| <i>Specification Type</i> | Unique |
| <i>Shared By</i> | tblLineups |
| <i>Description</i> | A unique number used to identify football positions. |
| <i>Data Type</i> | Numeric |
| <i>Character Support</i> | Numbers |
| <i>Length</i> | 1 |
| <i>Decimal Places</i> | 0 |
| <i>Input Mask</i> | # |
| <i>Display Format</i> | 0 |
| <i>Key Type</i> | Primary |
| <i>Key Structure</i> | Simple |
| <i>Uniqueness</i> | Unique |
| <i>Null Support</i> | No Nulls |
| <i>Values Entered By</i> | System |
| <i>Required Value</i> | Yes |
| <i>Default Value</i> | — |
| <i>Range of Values</i> | 1-9 |
| <i>Edit Rule</i> | Enter Now, Edits Not Allowed |
| <i>Comparisons Allowed</i> | Equal To, Not Equal To |
| <i>Operations Allowed</i> | — |

5.9.2 posFieldName field

| | |
|----------------------------|--|
| <i>Specification Type</i> | Unique |
| <i>Shared By</i> | — |
| <i>Description</i> | The description of the generic field position. |
| <i>Data Type</i> | Character |
| <i>Character Support</i> | Letters |
| <i>Length</i> | 15 |
| <i>Decimal Places</i> | — |
| <i>Input Mask</i> | — |
| <i>Display Format</i> | Each description should start with a capital letter. |
| <i>Key Type</i> | Non-key |
| <i>Key Structure</i> | — |
| <i>Uniqueness</i> | Non-unique |
| <i>Null Support</i> | No Nulls |
| <i>Values Entered By</i> | User |
| <i>Required Value</i> | Yes |
| <i>Default Value</i> | — |
| <i>Range of Values</i> | — |
| <i>Edit Rule</i> | Enter Now, Edits Not Allowed |
| <i>Comparisons Allowed</i> | — |
| <i>Operations Allowed</i> | — |

5.10 Flank name table (tblFlankNames)

| | | | | |
|----------------------|--|----------------------|---------------------------|-----------------------------|
| tblFlankNames | This table contains a list of the basic flanks on the field. | | | |
| Primary Key | posFlankID | | | |
| Foreign Key | Related Table | Deletion Rule | Participation Type | Participation Degree |
| — | tblPositions | Restrict | Mandatory | (1,1) |

5.10.1 posFlankID field

| | |
|----------------------------|---|
| <i>Specification Type</i> | Unique |
| <i>Shared By</i> | tblLineups |
| <i>Description</i> | A unique number used to identify flank areas. |
| <i>Data Type</i> | Numeric |
| <i>Character Support</i> | Numbers |
| <i>Length</i> | 1 |
| <i>Decimal Places</i> | 0 |
| <i>Input Mask</i> | # |
| <i>Display Format</i> | 0 |
| <i>Key Type</i> | Primary |
| <i>Key Structure</i> | Simple |
| <i>Uniqueness</i> | Unique |
| <i>Null Support</i> | No Nulls |
| <i>Values Entered By</i> | System |
| <i>Required Value</i> | Yes |
| <i>Default Value</i> | — |
| <i>Range of Values</i> | 1-3 |
| <i>Edit Rule</i> | Enter Now, Edits Not Allowed |
| <i>Comparisons Allowed</i> | Equal To, Not Equal To |
| <i>Operations Allowed</i> | — |

5.10.2 posFlankName field

| | |
|----------------------------|--|
| <i>Specification Type</i> | Unique |
| <i>Shared By</i> | — |
| <i>Description</i> | The description of the flank area on the field. |
| <i>Data Type</i> | Character |
| <i>Character Support</i> | Letters |
| <i>Length</i> | 8 |
| <i>Decimal Places</i> | — |
| <i>Input Mask</i> | — |
| <i>Display Format</i> | Each description should start with a capital letter. |
| <i>Key Type</i> | Non-key |
| <i>Key Structure</i> | — |
| <i>Uniqueness</i> | Non-unique |
| <i>Null Support</i> | Nulls Allowed |
| <i>Values Entered By</i> | User |
| <i>Required Value</i> | No |
| <i>Default Value</i> | — |
| <i>Range of Values</i> | — |
| <i>Edit Rule</i> | Enter Now, Edits Not Allowed |
| <i>Comparisons Allowed</i> | — |
| <i>Operations Allowed</i> | — |

6 Match Event Tables

The following tables capture data from match events. These events include goals scored in open play, penalty kick decisions, disciplinary events, substitutions, and tactical or enforced position changes.

6.1 Goals table (tblGoals)

| | | | | |
|--------------------|---|----------------------|---------------------------|-----------------------------|
| tblGoals | This table contains information on the goals that were scored during a match, excluding penalties. The information in this table is used to track match scorelines, scoring records of players in a match, and the types of goals scored. | | | |
| Primary Key | goalID | | | |
| Foreign Key | Related Table | Deletion Rule | Participation Type | Participation Degree |
| countryID | tblCountries | — | Optional | (0,N) |
| lineupID | tblLineups | — | Optional | (0,N) |
| gtsTypeID | tblGoalStrikes | — | Optional | (0,N) |
| gtfTypeID | tblGoalEvents | — | Optional | (0,N) |

6.1.1 goalID field

| | |
|----------------------------|--|
| <i>Specification Type</i> | Unique |
| <i>Shared By</i> | — |
| <i>Description</i> | A unique number used to identify goals scored in a football match. |
| <i>Data Type</i> | Numeric |
| <i>Character Support</i> | Numbers |
| <i>Length</i> | 6 |
| <i>Decimal Places</i> | 0 |
| <i>Input Mask</i> | ##### |
| <i>Display Format</i> | 000000 |
| <i>Key Type</i> | Primary |
| <i>Key Structure</i> | Simple |
| <i>Uniqueness</i> | Unique |
| <i>Null Support</i> | No Nulls |
| <i>Values Entered By</i> | System |
| <i>Required Value</i> | Yes |
| <i>Default Value</i> | — |
| <i>Range of Values</i> | 100000-999999 |
| <i>Edit Rule</i> | Enter Now, Edits Not Allowed |
| <i>Comparisons Allowed</i> | Equal, Not Equal |
| <i>Operations Allowed</i> | — |

6.1.2 countryID field

| | |
|-----------------------------|---|
| <i>Specification Type</i> | Replica |
| <i>Parent Table</i> | tblCountries |
| <i>Source Specification</i> | countryID in tblCountries table |
| <i>Description</i> | The identification number of one of the teams credited with the goal scored in the football match |
| <i>Data Type</i> | Numeric |
| <i>Character Support</i> | Numbers |
| <i>Length</i> | 3 |
| <i>Decimal Places</i> | 0 |
| <i>Input Mask</i> | ### |
| <i>Display Format</i> | 000 |
| <i>Key Type</i> | Foreign |
| <i>Key Structure</i> | Simple |
| <i>Uniqueness</i> | Non-unique |
| <i>Null Support</i> | No Nulls |
| <i>Values Entered By</i> | User |
| <i>Required Value</i> | Yes |
| <i>Default Value</i> | — |
| <i>Range of Values</i> | tblHomeTeams.countryID, tblAwayTeams.countryID |
| <i>Edit Rule</i> | Enter Now, Edits Allowed |
| <i>Comparisons Allowed</i> | Equal, Not Equal |
| <i>Operations Allowed</i> | — |

6.1.3 lineupID field

| | |
|-----------------------------|---|
| <i>Specification Type</i> | Replica |
| <i>Parent Table</i> | tblLineups |
| <i>Source Specification</i> | lineupID in tblLineups table |
| <i>Description</i> | The identification number of player participations in match lineups |
| <i>Data Type</i> | Numeric |
| <i>Character Support</i> | Numbers |
| <i>Length</i> | 7 |
| <i>Decimal Places</i> | 0 |
| <i>Input Mask</i> | ##### |
| <i>Display Format</i> | 0000000 |
| <i>Key Type</i> | Foreign |
| <i>Key Structure</i> | Simple |
| <i>Uniqueness</i> | Non-unique |
| <i>Null Support</i> | No Nulls |
| <i>Values Entered By</i> | User |
| <i>Required Value</i> | Yes |
| <i>Default Value</i> | — |
| <i>Range of Values</i> | Any existing lineupID value in tblLineups |
| <i>Edit Rule</i> | Enter Now, Edits Allowed |
| <i>Comparisons Allowed</i> | Equal, Not Equal |
| <i>Operations Allowed</i> | — |

6.1.4 gtsTypeID field

| | |
|-----------------------------|---|
| <i>Specification Type</i> | Replica |
| <i>Parent Table</i> | tblGoalStrikes |
| <i>Source Specification</i> | gtsTypeID in tblGoalStrikes table |
| <i>Description</i> | The identification number of body parts used to score goals from open play. |
| <i>Data Type</i> | Numeric |
| <i>Character Support</i> | Numbers |
| <i>Length</i> | 1 |
| <i>Decimal Places</i> | 0 |
| <i>Input Mask</i> | # |
| <i>Display Format</i> | 0 |
| <i>Key Type</i> | Foreign |
| <i>Key Structure</i> | Simple |
| <i>Uniqueness</i> | Non-unique |
| <i>Null Support</i> | No Nulls |
| <i>Values Entered By</i> | User |
| <i>Required Value</i> | Yes |
| <i>Default Value</i> | — |
| <i>Range of Values</i> | Any existing gtsTypeID value in tblGoalStrikes |
| <i>Edit Rule</i> | Enter Now, Edits Allowed |
| <i>Comparisons Allowed</i> | Equal, Not Equal |
| <i>Operations Allowed</i> | — |

6.1.5 gteTypeID field

| | |
|-----------------------------|---|
| <i>Specification Type</i> | Replica |
| <i>Parent Table</i> | tblGoalEvents |
| <i>Source Specification</i> | gteTypeID in tblGoalEvents table |
| <i>Description</i> | The identification number of field events from which goals were scored. |
| <i>Data Type</i> | Numeric |
| <i>Character Support</i> | Numbers |
| <i>Length</i> | 1 |
| <i>Decimal Places</i> | 0 |
| <i>Input Mask</i> | # |
| <i>Display Format</i> | 0 |
| <i>Key Type</i> | Foreign |
| <i>Key Structure</i> | Simple |
| <i>Uniqueness</i> | Non-unique |
| <i>Null Support</i> | No Nulls |
| <i>Values Entered By</i> | User |
| <i>Required Value</i> | Yes |
| <i>Default Value</i> | — |
| <i>Range of Values</i> | Any existing gteTypeID value in tblGoalEvents |
| <i>Edit Rule</i> | Enter Now, Edits Allowed |
| <i>Comparisons Allowed</i> | Equal, Not Equal |
| <i>Operations Allowed</i> | — |

6.1.6 glsTime field

| | |
|----------------------------|--|
| <i>Specification Type</i> | Unique |
| <i>Shared By</i> | — |
| <i>Description</i> | The match time at which the goal was scored. |
| <i>Data Type</i> | Numeric |
| <i>Character Support</i> | Numbers |
| <i>Length</i> | 2 |
| <i>Decimal Places</i> | 0 |
| <i>Input Mask</i> | ## |
| <i>Display Format</i> | 00 |
| <i>Key Type</i> | Non-key |
| <i>Key Structure</i> | — |
| <i>Uniqueness</i> | Non-unique |
| <i>Null Support</i> | No Nulls |
| <i>Values Entered By</i> | User |
| <i>Required Value</i> | Yes |
| <i>Default Value</i> | — |
| <i>Range of Values</i> | 0 - 90 |
| <i>Edit Rule</i> | Enter Now, Edits Allowed |
| <i>Comparisons Allowed</i> | Equal To, Not Equal To |
| <i>Operations Allowed</i> | Subtraction |

6.1.7 glsSTime field

| | |
|----------------------------|---|
| <i>Specification Type</i> | Unique |
| <i>Shared By</i> | — |
| <i>Description</i> | The match time during stoppage time at which the goal was scored. |
| <i>Data Type</i> | Numeric |
| <i>Character Support</i> | Numbers |
| <i>Length</i> | 2 |
| <i>Decimal Places</i> | 0 |
| <i>Input Mask</i> | ## |
| <i>Display Format</i> | 00 |
| <i>Key Type</i> | Non-key |
| <i>Key Structure</i> | — |
| <i>Uniqueness</i> | Non-unique |
| <i>Null Support</i> | No Nulls |
| <i>Values Entered By</i> | User |
| <i>Required Value</i> | Yes |
| <i>Default Value</i> | — |
| <i>Range of Values</i> | 0-15 when glsTime = 45 or glsTime = 90, 0 otherwise |
| <i>Edit Rule</i> | Enter Now, Edits Allowed |
| <i>Comparisons Allowed</i> | Equal To, Not Equal To |
| <i>Operations Allowed</i> | Subtraction |

6.2 Goal strike lookup table (tblGoalStrikes)

| | | | | |
|-----------------------|--|----------------------|---------------------------|-----------------------------|
| tblGoalStrikes | This table contains a list of the body parts used to score goals from open play. | | | |
| Primary Key | gtsTypeID | | | |
| Foreign Key | Related Table | Deletion Rule | Participation Type | Participation Degree |
| — | tblGoals | Restrict | Mandatory | (1,1) |

6.2.1 gtsTypeID field

| | |
|----------------------------|--|
| <i>Specification Type</i> | Unique |
| <i>Shared By</i> | tblGoals |
| <i>Description</i> | A unique number that identifies the body part used to score open play goals. |
| <i>Data Type</i> | Numeric |
| <i>Character Support</i> | Numbers |
| <i>Length</i> | 1 |
| <i>Decimal Places</i> | 0 |
| <i>Input Mask</i> | # |
| <i>Display Format</i> | 0 |
| <i>Key Type</i> | Primary |
| <i>Key Structure</i> | Simple |
| <i>Uniqueness</i> | Unique |
| <i>Null Support</i> | No Nulls |
| <i>Values Entered By</i> | System |
| <i>Required Value</i> | Yes |
| <i>Default Value</i> | — |
| <i>Range of Values</i> | 1-9 |
| <i>Edit Rule</i> | Enter Now, Edits Not Allowed |
| <i>Comparisons Allowed</i> | Equal, Not Equal |
| <i>Operations Allowed</i> | — |

6.2.2 gtsDesc field

| | |
|----------------------------|---|
| <i>Specification Type</i> | Unique |
| <i>Shared By</i> | — |
| <i>Description</i> | The description of the body part used to score open play goals. |
| <i>Data Type</i> | Character |
| <i>Character Support</i> | Letters |
| <i>Length</i> | 15 |
| <i>Decimal Places</i> | — |
| <i>Input Mask</i> | — |
| <i>Display Format</i> | Each description should start with a capital letter. |
| <i>Key Type</i> | Non-key |
| <i>Key Structure</i> | — |
| <i>Uniqueness</i> | Non-unique |
| <i>Null Support</i> | No Nulls |
| <i>Values Entered By</i> | User |
| <i>Required Value</i> | Yes |
| <i>Default Value</i> | — |
| <i>Range of Values</i> | — |
| <i>Edit Rule</i> | Enter Now, Edits Not Allowed |
| <i>Comparisons Allowed</i> | — |
| <i>Operations Allowed</i> | — |

6.3 Goal field event lookup table (tblGoalEvents)

| | | | | |
|----------------------|---|----------------------|---------------------------|-----------------------------|
| tblGoalEvents | This table contains a list of the types of plays from which open play goals are scored. | | | |
| Primary Key | gteTypeID | | | |
| Foreign Key | Related Table | Deletion Rule | Participation Type | Participation Degree |
| — | tblGoals | Restrict | Mandatory | (1,1) |

6.3.1 gteTypeID field

| | |
|----------------------------|--|
| <i>Specification Type</i> | Unique |
| <i>Shared By</i> | tblGoals |
| <i>Description</i> | A unique number used to identify match events that produced goals. |
| <i>Data Type</i> | Numeric |
| <i>Character Support</i> | Numbers |
| <i>Length</i> | 1 |
| <i>Decimal Places</i> | 0 |
| <i>Input Mask</i> | # |
| <i>Display Format</i> | 0 |
| <i>Key Type</i> | Primary |
| <i>Key Structure</i> | Simple |
| <i>Uniqueness</i> | Unique |
| <i>Null Support</i> | No Nulls |
| <i>Values Entered By</i> | System |
| <i>Required Value</i> | Yes |
| <i>Default Value</i> | — |
| <i>Range of Values</i> | 1-9 |
| <i>Edit Rule</i> | Enter Now, Edits Not Allowed |
| <i>Comparisons Allowed</i> | Equal, Not Equal |
| <i>Operations Allowed</i> | — |

6.3.2 gteDesc field

| | |
|----------------------------|---|
| <i>Specification Type</i> | Unique |
| <i>Shared By</i> | — |
| <i>Description</i> | The description of the match event that led to a goal in open play. |
| <i>Data Type</i> | Character |
| <i>Character Support</i> | Letters |
| <i>Length</i> | 30 |
| <i>Decimal Places</i> | — |
| <i>Input Mask</i> | — |
| <i>Display Format</i> | Each description should start with a capital letter. |
| <i>Key Type</i> | Non-key |
| <i>Key Structure</i> | — |
| <i>Uniqueness</i> | Non-unique |
| <i>Null Support</i> | No Nulls |
| <i>Values Entered By</i> | User |
| <i>Required Value</i> | Yes |
| <i>Default Value</i> | — |
| <i>Range of Values</i> | — |
| <i>Edit Rule</i> | Enter Now, Edits Not Allowed |
| <i>Comparisons Allowed</i> | — |
| <i>Operations Allowed</i> | — |

6.4 Penalties table (tblPenalties)

| | | | | |
|---------------------|--|----------------------|---------------------------|-----------------------------|
| tblPenalties | This table lists the penalties given during a football competition. The information stored here will be used to track fouls that resulted in penalties, the referees who awarded them, and the performance of penalty kick takers and goalkeepers. | | | |
| Primary Key | penaltyID | | | |
| Foreign Key | Related Table | Deletion Rule | Participation Type | Participation Degree |
| lineupID | tblLineups | — | Optional | (0,N) |
| foulID | tblFouls | — | Optional | (0,N) |
| penOutcomeID | tblPenOutcomes | — | Optional | (0,N) |

6.4.1 penaltyID field

| | |
|----------------------------|--|
| <i>Specification Type</i> | Unique |
| <i>Shared By</i> | — |
| <i>Description</i> | A unique number used to identify penalties that occur during a football match. |
| <i>Data Type</i> | Numeric |
| <i>Character Support</i> | Numbers |
| <i>Length</i> | 5 |
| <i>Decimal Places</i> | 0 |
| <i>Input Mask</i> | ##### |
| <i>Display Format</i> | 00000 |
| <i>Key Type</i> | Primary |
| <i>Key Structure</i> | Simple |
| <i>Uniqueness</i> | Unique |
| <i>Null Support</i> | No Nulls |
| <i>Values Entered By</i> | System |
| <i>Required Value</i> | Yes |
| <i>Default Value</i> | — |
| <i>Range of Values</i> | 10000-99999 |
| <i>Edit Rule</i> | Enter Now, Edits Not Allowed |
| <i>Comparisons Allowed</i> | Equal, Not Equal |
| <i>Operations Allowed</i> | — |

6.4.2 lineupID field

See specification in section 6.1.3.

6.4.3 foulID field

| | |
|-----------------------------|---|
| <i>Specification Type</i> | Replica |
| <i>Parent Table</i> | tblFouls |
| <i>Source Specification</i> | foulID in tblFouls table |
| <i>Description</i> | The identification number of the types of fouls that result in bookings or penalties. |
| <i>Data Type</i> | Numeric |
| <i>Character Support</i> | Numbers |
| <i>Length</i> | 2 |
| <i>Decimal Places</i> | 0 |
| <i>Input Mask</i> | ## |
| <i>Display Format</i> | 00 |
| <i>Key Type</i> | Foreign |
| <i>Key Structure</i> | Simple |
| <i>Uniqueness</i> | Non-unique |
| <i>Null Support</i> | No Nulls |
| <i>Values Entered By</i> | User |
| <i>Required Value</i> | Yes |
| <i>Default Value</i> | — |
| <i>Range of Values</i> | Any existing foulID value in tblFouls |
| <i>Edit Rule</i> | Enter Now, Edits Allowed |
| <i>Comparisons Allowed</i> | Equal, Not Equal |
| <i>Operations Allowed</i> | — |

6.4.4 penOutcomeID field

| | |
|-----------------------------|---|
| <i>Specification Type</i> | Replica |
| <i>Parent Table</i> | tblPenOutcomes |
| <i>Source Specification</i> | penOutcomeID in tblPenOutcomes table |
| <i>Description</i> | The identification number of penalty kick outcomes. |
| <i>Data Type</i> | Numeric |
| <i>Character Support</i> | Numbers |
| <i>Length</i> | 1 |
| <i>Decimal Places</i> | 0 |
| <i>Input Mask</i> | # |
| <i>Display Format</i> | 0 |
| <i>Key Type</i> | Foreign |
| <i>Key Structure</i> | Simple |
| <i>Uniqueness</i> | Non-unique |
| <i>Null Support</i> | No Nulls |
| <i>Values Entered By</i> | User |
| <i>Required Value</i> | Yes |
| <i>Default Value</i> | — |
| <i>Range of Values</i> | Any existing penOutcomeID value in tblPenOutcomes |
| <i>Edit Rule</i> | Enter Now, Edits Allowed |
| <i>Comparisons Allowed</i> | Equal, Not Equal |
| <i>Operations Allowed</i> | — |

6.4.5 penTime field

| | |
|----------------------------|--|
| <i>Specification Type</i> | Unique |
| <i>Shared By</i> | — |
| <i>Description</i> | The match time at which the penalty was given. |
| <i>Data Type</i> | Numeric |
| <i>Character Support</i> | Numbers |
| <i>Length</i> | 2 |
| <i>Decimal Places</i> | 0 |
| <i>Input Mask</i> | ## |
| <i>Display Format</i> | 00 |
| <i>Key Type</i> | Non-key |
| <i>Key Structure</i> | — |
| <i>Uniqueness</i> | Non-unique |
| <i>Null Support</i> | No Nulls |
| <i>Values Entered By</i> | User |
| <i>Required Value</i> | Yes |
| <i>Default Value</i> | — |
| <i>Range of Values</i> | 0 - 90 |
| <i>Edit Rule</i> | Enter Now, Edits Allowed |
| <i>Comparisons Allowed</i> | Equal To, Not Equal To |
| <i>Operations Allowed</i> | Subtraction |

6.4.6 penSTime field

| | |
|----------------------------|---|
| <i>Specification Type</i> | Unique |
| <i>Shared By</i> | — |
| <i>Description</i> | The match time during stoppage time at which the penalty was given. |
| <i>Data Type</i> | Numeric |
| <i>Character Support</i> | Numbers |
| <i>Length</i> | 2 |
| <i>Decimal Places</i> | 0 |
| <i>Input Mask</i> | ## |
| <i>Display Format</i> | 00 |
| <i>Key Type</i> | Non-key |
| <i>Key Structure</i> | — |
| <i>Uniqueness</i> | Non-unique |
| <i>Null Support</i> | No Nulls |
| <i>Values Entered By</i> | User |
| <i>Required Value</i> | Yes |
| <i>Default Value</i> | 0 |
| <i>Range of Values</i> | 0-15 when penTime = 45 or penTime = 90, 0 otherwise |
| <i>Edit Rule</i> | Enter Now, Edits Allowed |
| <i>Comparisons Allowed</i> | Equal To, Not Equal To |
| <i>Operations Allowed</i> | Subtraction |

6.5 Penalty shootout table (tblPenaltyShootouts)

| | | | | |
|----------------------------|--|----------------------|---------------------------|-----------------------------|
| tblPenaltyShootouts | This table lists the penalties taken during a penalty shootout at the end of a football match. The information stored here will be used to track the performance of penalty kick takers and goalkeepers. | | | |
| Primary Key | penaltyshootoutID | | | |
| Foreign Key | Related Table | Deletion Rule | Participation Type | Participation Degree |
| lineupID | tblLineups | — | Optional | (0,N) |
| roundID | tblRounds | — | Optional | (0,N) |
| penOutcomeID | tblPenOutcomes | — | Optional | (0,N) |

6.5.1 penaltyshootoutID field

| | |
|----------------------------|---|
| <i>Specification Type</i> | Unique |
| <i>Shared By</i> | — |
| <i>Description</i> | A unique number used to identify specific penalty shoot out events. |
| <i>Data Type</i> | Numeric |
| <i>Character Support</i> | Numbers |
| <i>Length</i> | 6 |
| <i>Decimal Places</i> | 0 |
| <i>Input Mask</i> | ##### |
| <i>Display Format</i> | 000000 |
| <i>Key Type</i> | Primary |
| <i>Key Structure</i> | Simple |
| <i>Uniqueness</i> | Unique |
| <i>Null Support</i> | No Nulls |
| <i>Values Entered By</i> | System |
| <i>Required Value</i> | Yes |
| <i>Default Value</i> | — |
| <i>Range of Values</i> | 100000-999999 |
| <i>Edit Rule</i> | Enter Now, Edits Not Allowed |
| <i>Comparisons Allowed</i> | Equal, Not Equal |
| <i>Operations Allowed</i> | — |

6.5.2 lineupID field

See specification in Section 6.1.3.

6.5.3 roundID field

See specification in Section 4.5.1.

6.5.4 penOutcomeID field

See specification in Section 6.7.1.

6.6 Penalty shootout openers table (tblPenShootoutOpeners)

| | | | | |
|------------------------------|--|----------------------|---------------------------|-----------------------------|
| tblPenShootoutOpeners | This table records the teams that shoot first during a penalty shootout at the end of a football match. The information stored here will be used to track the shooting order of a penalty kick shootout. | | | |
| Primary Key | openerID | | | |
| Foreign Key | Related Table | Deletion Rule | Participation Type | Participation Degree |
| matchID | tblMatches | — | Optional | (0,1) |
| countryID | tblCountries | — | Optional | (0,N) |

6.6.1 openerID field

| | |
|----------------------------|--|
| <i>Specification Type</i> | Unique |
| <i>Shared By</i> | — |
| <i>Description</i> | A unique number used to identify penalty shootout openers. |
| <i>Data Type</i> | Numeric |
| <i>Character Support</i> | Numbers |
| <i>Length</i> | 5 |
| <i>Decimal Places</i> | 0 |
| <i>Input Mask</i> | ##### |
| <i>Display Format</i> | 00000 |
| <i>Key Type</i> | Primary |
| <i>Key Structure</i> | Simple |
| <i>Uniqueness</i> | Unique |
| <i>Null Support</i> | No Nulls |
| <i>Values Entered By</i> | System |
| <i>Required Value</i> | Yes |
| <i>Default Value</i> | — |
| <i>Range of Values</i> | 10000-99999 |
| <i>Edit Rule</i> | Enter Now, Edits Not Allowed |
| <i>Comparisons Allowed</i> | Equal, Not Equal |
| <i>Operations Allowed</i> | — |

6.6.2 matchID field

See specification in Section 4.1.1.

6.6.3 countryID field

See specification in Section 4.8.3.

6.7 Penalty outcome lookup table (tblPenOutcomes)

| | | | | |
|-----------------------|---|----------------------|---------------------------|-----------------------------|
| tblPenOutcomes | This table lists the possible penalty outcomes during a football match. | | | |
| Primary Key | penOutcomeID | | | |
| Foreign Key | Related Table | Deletion Rule | Participation Type | Participation Degree |
| — | tblPenalties | Restrict | Mandatory | (1,1) |

6.7.1 penOutcomeID field

| | |
|----------------------------|---|
| <i>Specification Type</i> | Unique |
| <i>Shared By</i> | — |
| <i>Description</i> | A unique number used to identify penalty kick outcomes. |
| <i>Data Type</i> | Numeric |
| <i>Character Support</i> | Numbers |
| <i>Length</i> | 1 |
| <i>Decimal Places</i> | 0 |
| <i>Input Mask</i> | # |
| <i>Display Format</i> | 0 |
| <i>Key Type</i> | Primary |
| <i>Key Structure</i> | Simple |
| <i>Uniqueness</i> | Unique |
| <i>Null Support</i> | No Nulls |
| <i>Values Entered By</i> | System |
| <i>Required Value</i> | Yes |
| <i>Default Value</i> | — |
| <i>Range of Values</i> | 1-9 |
| <i>Edit Rule</i> | Enter Now, Edits Not Allowed |
| <i>Comparisons Allowed</i> | Equal, Not Equal |
| <i>Operations Allowed</i> | — |

6.7.2 poDesc field

| | |
|----------------------------|--|
| <i>Specification Type</i> | Unique |
| <i>Shared By</i> | — |
| <i>Description</i> | The description of the penalty kick outcome. |
| <i>Data Type</i> | Character |
| <i>Character Support</i> | Letters |
| <i>Length</i> | 15 |
| <i>Decimal Places</i> | — |
| <i>Input Mask</i> | — |
| <i>Display Format</i> | Each description should start with a capital letter. |
| <i>Key Type</i> | Non-key |
| <i>Key Structure</i> | — |
| <i>Uniqueness</i> | Non-unique |
| <i>Null Support</i> | No Nulls |
| <i>Values Entered By</i> | User |
| <i>Required Value</i> | Yes |
| <i>Default Value</i> | — |
| <i>Range of Values</i> | — |
| <i>Edit Rule</i> | Enter Now, Edits Not Allowed |
| <i>Comparisons Allowed</i> | — |
| <i>Operations Allowed</i> | — |

6.8 Offenses table (tblOffenses)

| | | | | |
|--------------------|---|----------------------|---------------------------|-----------------------------|
| tblOffenses | This table lists the cautions and expulsions given out during a football match. The information stored here will allow the tracking of disciplinary records of players and the performance of referees during a football competition. | | | |
| Primary Key | offenseID | | | |
| Foreign Key | Related Table | Deletion Rule | Participation Type | Participation Degree |
| lineupID | tblLineups | — | Optional | (0,N) |
| foulID | tblFouls | — | Optional | (0,N) |
| cardID | tblPenOutcomes | — | Optional | (0,N) |

6.8.1 offenseID field

| | |
|----------------------------|---|
| <i>Specification Type</i> | Unique |
| <i>Shared By</i> | — |
| <i>Description</i> | A unique number used to identify bookings that occur during a football match. |
| <i>Data Type</i> | Numeric |
| <i>Character Support</i> | Numbers |
| <i>Length</i> | 6 |
| <i>Decimal Places</i> | 0 |
| <i>Input Mask</i> | ##### |
| <i>Display Format</i> | 000000 |
| <i>Key Type</i> | Primary |
| <i>Key Structure</i> | Simple |
| <i>Uniqueness</i> | Unique |
| <i>Null Support</i> | No Nulls |
| <i>Values Entered By</i> | System |
| <i>Required Value</i> | Yes |
| <i>Default Value</i> | — |
| <i>Range of Values</i> | 100000-999999 |
| <i>Edit Rule</i> | Enter Now, Edits Not Allowed |
| <i>Comparisons Allowed</i> | Equal, Not Equal |
| <i>Operations Allowed</i> | — |

6.8.2 lineupID field

See specification in section 6.1.3.

6.8.3 foulID field

See specification in section 6.4.3.

6.8.4 cardID field

| | |
|-----------------------------|---|
| <i>Specification Type</i> | Replica |
| <i>Parent Table</i> | tblCards |
| <i>Source Specification</i> | cardID in tblCards table |
| <i>Description</i> | The identification number of caution/expulsion cards. |
| <i>Data Type</i> | Numeric |
| <i>Character Support</i> | Numbers |
| <i>Length</i> | 1 |
| <i>Decimal Places</i> | 0 |
| <i>Input Mask</i> | # |
| <i>Display Format</i> | 0 |
| <i>Key Type</i> | Foreign |
| <i>Key Structure</i> | Simple |
| <i>Uniqueness</i> | Non-unique |
| <i>Null Support</i> | No Nulls |
| <i>Values Entered By</i> | User |
| <i>Required Value</i> | Yes |
| <i>Default Value</i> | — |
| <i>Range of Values</i> | Any existing cardID value in tblCards |
| <i>Edit Rule</i> | Enter Now, Edits Allowed |
| <i>Comparisons Allowed</i> | Equal, Not Equal |
| <i>Operations Allowed</i> | — |

6.8.5 ofnsTime field

| | |
|----------------------------|---|
| <i>Specification Type</i> | Unique |
| <i>Shared By</i> | — |
| <i>Description</i> | The match time at which the booking occurred. |
| <i>Data Type</i> | Numeric |
| <i>Character Support</i> | Numbers |
| <i>Length</i> | 2 |
| <i>Decimal Places</i> | 0 |
| <i>Input Mask</i> | ## |
| <i>Display Format</i> | 00 |
| <i>Key Type</i> | Non-key |
| <i>Key Structure</i> | — |
| <i>Uniqueness</i> | Non-unique |
| <i>Null Support</i> | No Nulls |
| <i>Values Entered By</i> | User |
| <i>Required Value</i> | Yes |
| <i>Default Value</i> | — |
| <i>Range of Values</i> | 0 - 90 |
| <i>Edit Rule</i> | Enter Now, Edits Allowed |
| <i>Comparisons Allowed</i> | Equal To, Not Equal To |
| <i>Operations Allowed</i> | Subtraction |

6.8.6 ofnsSTime field

| | |
|----------------------------|--|
| <i>Specification Type</i> | Unique |
| <i>Shared By</i> | — |
| <i>Description</i> | The match time during stoppage time at which the booking occurred. |
| <i>Data Type</i> | Numeric |
| <i>Character Support</i> | Numbers |
| <i>Length</i> | 2 |
| <i>Decimal Places</i> | 0 |
| <i>Input Mask</i> | ## |
| <i>Display Format</i> | 00 |
| <i>Key Type</i> | Non-key |
| <i>Key Structure</i> | — |
| <i>Uniqueness</i> | Non-unique |
| <i>Null Support</i> | No Nulls |
| <i>Values Entered By</i> | User |
| <i>Required Value</i> | Yes |
| <i>Default Value</i> | 0 |
| <i>Range of Values</i> | 0-15 when ofnsTime = 45 or ofnsTime = 90, 0 otherwise |
| <i>Edit Rule</i> | Enter Now, Edits Allowed |
| <i>Comparisons Allowed</i> | Equal To, Not Equal To |
| <i>Operations Allowed</i> | Subtraction |

6.9 Fouls lookup table (tblFouls)

| | | | | |
|--------------------|--|----------------------|---------------------------|-----------------------------|
| tblFouls | This table lists the fouls that result in either penalties, cautions, or expulsions. | | | |
| Primary Key | foulID | | | |
| Foreign Key | Related Table | Deletion Rule | Participation Type | Participation Degree |
| — | tblPenalties | Reject | Mandatory | (1,1) |
| — | tblOffenses | Reject | Mandatory | (1,1) |

6.9.1 foulID field

| | |
|----------------------------|---|
| <i>Specification Type</i> | Unique |
| <i>Shared By</i> | — |
| <i>Description</i> | A unique number used to identify fouls that result in a booking or penalty. |
| <i>Data Type</i> | Numeric |
| <i>Character Support</i> | Numbers |
| <i>Length</i> | 2 |
| <i>Decimal Places</i> | 0 |
| <i>Input Mask</i> | ## |
| <i>Display Format</i> | 00 |
| <i>Key Type</i> | Primary |
| <i>Key Structure</i> | Simple |
| <i>Uniqueness</i> | Unique |
| <i>Null Support</i> | No Nulls |
| <i>Values Entered By</i> | System |
| <i>Required Value</i> | Yes |
| <i>Default Value</i> | — |
| <i>Range of Values</i> | 10-99 |
| <i>Edit Rule</i> | Enter Now, Edits Not Allowed |
| <i>Comparisons Allowed</i> | Equal, Not Equal |
| <i>Operations Allowed</i> | — |

6.9.2 foulDesc field

| | |
|----------------------------|---|
| <i>Specification Type</i> | Unique |
| <i>Shared By</i> | — |
| <i>Description</i> | The description of the foul that resulted in a booking. |
| <i>Data Type</i> | Character |
| <i>Character Support</i> | Letters |
| <i>Length</i> | 40 |
| <i>Decimal Places</i> | — |
| <i>Input Mask</i> | — |
| <i>Display Format</i> | Each description should start with a capital letter. |
| <i>Key Type</i> | Non-key |
| <i>Key Structure</i> | — |
| <i>Uniqueness</i> | Non-unique |
| <i>Null Support</i> | No Nulls |
| <i>Values Entered By</i> | User |
| <i>Required Value</i> | Yes |
| <i>Default Value</i> | — |
| <i>Range of Values</i> | — |
| <i>Edit Rule</i> | Enter Now, Edits Not Allowed |
| <i>Comparisons Allowed</i> | — |
| <i>Operations Allowed</i> | — |

6.10 Card lookup table (tblCards)

| | | | | |
|--------------------|--|----------------------|---------------------------|-----------------------------|
| tblCards | This table lists the type of cards that are shown during a football match. | | | |
| Primary Key | cardID | | | |
| Foreign Key | Related Table | Deletion Rule | Participation Type | Participation Degree |
| — | tblOffenses | Reject | Mandatory | (1,1) |

6.10.1 cardID field

| | |
|----------------------------|--|
| <i>Specification Type</i> | Unique |
| <i>Shared By</i> | — |
| <i>Description</i> | A unique number used to identify caution card types. |
| <i>Data Type</i> | Numeric |
| <i>Character Support</i> | Numbers |
| <i>Length</i> | 1 |
| <i>Decimal Places</i> | 0 |
| <i>Input Mask</i> | # |
| <i>Display Format</i> | 0 |
| <i>Key Type</i> | Primary |
| <i>Key Structure</i> | Simple |
| <i>Uniqueness</i> | Unique |
| <i>Null Support</i> | No Nulls |
| <i>Values Entered By</i> | System |
| <i>Required Value</i> | Yes |
| <i>Default Value</i> | — |
| <i>Range of Values</i> | 1-3 |
| <i>Edit Rule</i> | Enter Now, Edits Not Allowed |
| <i>Comparisons Allowed</i> | Equal, Not Equal |
| <i>Operations Allowed</i> | — |

6.10.2 cardType field

| | |
|----------------------------|--|
| <i>Specification Type</i> | Unique |
| <i>Shared By</i> | — |
| <i>Description</i> | The description of the caution cards. |
| <i>Data Type</i> | Character |
| <i>Character Support</i> | Letters and Symbols |
| <i>Length</i> | 12 |
| <i>Decimal Places</i> | — |
| <i>Input Mask</i> | — |
| <i>Display Format</i> | Each description should start with a capital letter. |
| <i>Key Type</i> | Non-key |
| <i>Key Structure</i> | — |
| <i>Uniqueness</i> | Non-unique |
| <i>Null Support</i> | No Nulls |
| <i>Values Entered By</i> | User |
| <i>Required Value</i> | Yes |
| <i>Default Value</i> | — |
| <i>Range of Values</i> | — |
| <i>Edit Rule</i> | Enter Now, Edits Not Allowed |
| <i>Comparisons Allowed</i> | — |
| <i>Operations Allowed</i> | — |

6.11 Substitution table (tblSubstitutions)

| | | | | |
|-------------------------|---|----------------------|---------------------------|-----------------------------|
| tblSubstitutions | This table stores the substitutions that occur during a football match. The data scored here would be used to track player participation during a football competition. | | | |
| Primary Key | subsID | | | |
| Foreign Key | Related Table | Deletion Rule | Participation Type | Participation Degree |
| — | tblInSubstitutions | Reject | Mandatory | (1,1) |
| — | tblOutSubstitutions | Reject | Mandatory | (1,1) |

6.11.1 subsID field

| | |
|----------------------------|--|
| <i>Specification Type</i> | Unique |
| <i>Shared By</i> | — |
| <i>Description</i> | A unique number used to identify substitutions that occur during a football match. |
| <i>Data Type</i> | Numeric |
| <i>Character Support</i> | Numbers |
| <i>Length</i> | 6 |
| <i>Decimal Places</i> | 0 |
| <i>Input Mask</i> | ##### |
| <i>Display Format</i> | 000000 |
| <i>Key Type</i> | Primary |
| <i>Key Structure</i> | Simple |
| <i>Uniqueness</i> | Unique |
| <i>Null Support</i> | No Nulls |
| <i>Values Entered By</i> | System |
| <i>Required Value</i> | Yes |
| <i>Default Value</i> | — |
| <i>Range of Values</i> | 100000-999999 |
| <i>Edit Rule</i> | Enter Now, Edits Not Allowed |
| <i>Comparisons Allowed</i> | Equal, Not Equal |
| <i>Operations Allowed</i> | — |

6.11.2 subsTime field

| | |
|----------------------------|--|
| <i>Specification Type</i> | Unique |
| <i>Shared By</i> | — |
| <i>Description</i> | The match time at which the substitution was made. |
| <i>Data Type</i> | Numeric |
| <i>Character Support</i> | Numbers |
| <i>Length</i> | 2 |
| <i>Decimal Places</i> | 0 |
| <i>Input Mask</i> | ## |
| <i>Display Format</i> | 00 |
| <i>Key Type</i> | Non-key |
| <i>Key Structure</i> | — |
| <i>Uniqueness</i> | Non-unique |
| <i>Null Support</i> | No Nulls |
| <i>Values Entered By</i> | User |
| <i>Required Value</i> | Yes |
| <i>Default Value</i> | — |
| <i>Range of Values</i> | 0 - 90 |
| <i>Edit Rule</i> | Enter Now, Edits Allowed |
| <i>Comparisons Allowed</i> | Equal To, Not Equal To |
| <i>Operations Allowed</i> | Subtraction |

6.11.3 subsSTime field

| | |
|----------------------------|---|
| <i>Specification Type</i> | Unique |
| <i>Shared By</i> | — |
| <i>Description</i> | The match time during stoppage time at which the substitution was made. |
| <i>Data Type</i> | Numeric |
| <i>Character Support</i> | Numbers |
| <i>Length</i> | 2 |
| <i>Decimal Places</i> | 0 |
| <i>Input Mask</i> | ## |
| <i>Display Format</i> | 00 |
| <i>Key Type</i> | Non-key |
| <i>Key Structure</i> | — |
| <i>Uniqueness</i> | Non-unique |
| <i>Null Support</i> | No Nulls |
| <i>Values Entered By</i> | User |
| <i>Required Value</i> | Yes |
| <i>Default Value</i> | 0 |
| <i>Range of Values</i> | 0-15 when subsTime = 45 or subsTime = 90, 0 otherwise |
| <i>Edit Rule</i> | Enter Now, Edits Allowed |
| <i>Comparisons Allowed</i> | Equal To, Not Equal To |
| <i>Operations Allowed</i> | Subtraction |

6.12 Players substituted into match linking table (tblInSubstitutions)

| | | | | |
|---------------------------|---|----------------------|---------------------------|-----------------------------|
| tblInSubstitutions | This table lists the players in the match lineup who are substituted into a football match. | | | |
| Primary Keys | subsID, lineupID | | | |
| Foreign Key | Related Table | Deletion Rule | Participation Type | Participation Degree |
| subsID | tblSubstitutions | — | Optional | (1,1) |
| lineupID | tblLineups | — | Optional | (1,1) |

6.12.1 subsID field

| | |
|-----------------------------|--|
| <i>Specification Type</i> | Replica |
| <i>Parent Table</i> | tblSubstitutions |
| <i>Source Specification</i> | subsID in tblSubstitutions table |
| <i>Description</i> | A unique number used to identify substitutions that occur during a football match. |
| <i>Data Type</i> | Numeric |
| <i>Character Support</i> | Numbers |
| <i>Length</i> | 6 |
| <i>Decimal Places</i> | 0 |
| <i>Input Mask</i> | ##### |
| <i>Display Format</i> | 000000 |
| <i>Key Type</i> | Foreign |
| <i>Key Structure</i> | Composite |
| <i>Uniqueness</i> | Non-unique |
| <i>Null Support</i> | No Nulls |
| <i>Values Entered By</i> | User |
| <i>Required Value</i> | Yes |
| <i>Default Value</i> | — |
| <i>Range of Values</i> | Any existing subsID value in tblSubstitutions |
| <i>Edit Rule</i> | Enter Now, Edits Allowed |
| <i>Comparisons Allowed</i> | Equal, Not Equal |
| <i>Operations Allowed</i> | — |

6.12.2 lineupID field

| | |
|-----------------------------|---|
| <i>Specification Type</i> | Replica |
| <i>Parent Table</i> | tblLineups |
| <i>Source Specification</i> | lineupID in tblLineups table |
| <i>Description</i> | The identification number of player participations in match lineups |
| <i>Data Type</i> | Numeric |
| <i>Character Support</i> | Numbers |
| <i>Length</i> | 7 |
| <i>Decimal Places</i> | 0 |
| <i>Input Mask</i> | ##### |
| <i>Display Format</i> | 0000000 |
| <i>Key Type</i> | Foreign |
| <i>Key Structure</i> | Composite |
| <i>Uniqueness</i> | Non-unique |
| <i>Null Support</i> | No Nulls |
| <i>Values Entered By</i> | User |
| <i>Required Value</i> | Yes |
| <i>Default Value</i> | — |
| <i>Range of Values</i> | Any existing lineupID value in tblLineups not already in tblInSubstitutions |
| <i>Edit Rule</i> | Enter Now, Edits Allowed |
| <i>Comparisons Allowed</i> | Equal, Not Equal |
| <i>Operations Allowed</i> | — |

6.13 Players substituted out of match linking table (tblOutSubstitutions)

| | | | | |
|----------------------------|---|----------------------|---------------------------|-----------------------------|
| tblOutSubstitutions | This table lists the players in the match lineup who are substituted out of a football match. | | | |
| Primary Keys | subsID, lineupID | | | |
| Foreign Key | Related Table | Deletion Rule | Participation Type | Participation Degree |
| subsID | tblSubstitutions | — | Optional | (1,1) |
| lineupID | tblLineups | — | Optional | (1,1) |

6.13.1 subsID field

See specification in Section 6.12.1.

6.13.2 lineupID field

See specification in Section 6.12.2.

6.14 Switch Positions table (tblSwitchPositions)

| | | | | |
|---------------------------|--|----------------------|---------------------------|-----------------------------|
| tblSwitchPositions | This table stores the instances in which field positions are switched during the match, whether required by goalkeeper expulsion or a tactical change. | | | |
| Primary Key | switchID | | | |
| Foreign Key | Related Table | Deletion Rule | Participation Type | Participation Degree |
| lineupID | tblLineups | — | Optional | (0,1) |
| positionID | tblPositions | — | Optional | (0,1) |

6.14.1 switchID field

| | |
|----------------------------|--|
| <i>Specification Type</i> | Unique |
| <i>Shared By</i> | — |
| <i>Description</i> | A unique number used to identify position switches that occur during a football match. |
| <i>Data Type</i> | Numeric |
| <i>Character Support</i> | Numbers |
| <i>Length</i> | 6 |
| <i>Decimal Places</i> | 0 |
| <i>Input Mask</i> | ##### |
| <i>Display Format</i> | 000000 |
| <i>Key Type</i> | Primary |
| <i>Key Structure</i> | Simple |
| <i>Uniqueness</i> | Unique |
| <i>Null Support</i> | No Nulls |
| <i>Values Entered By</i> | System |
| <i>Required Value</i> | Yes |
| <i>Default Value</i> | — |
| <i>Range of Values</i> | 100000-999999 |
| <i>Edit Rule</i> | Enter Now, Edits Not Allowed |
| <i>Comparisons Allowed</i> | Equal, Not Equal |
| <i>Operations Allowed</i> | — |

6.14.2 lineupID field

See specification in section 6.1.3.

6.14.3 switchPositionID field

See specification in section 5.7.4.

6.14.4 switchTime field

| | |
|----------------------------|---|
| <i>Specification Type</i> | Unique |
| <i>Shared By</i> | — |
| <i>Description</i> | The match time at which the position switch was made. |
| <i>Data Type</i> | Numeric |
| <i>Character Support</i> | Numbers |
| <i>Length</i> | 2 |
| <i>Decimal Places</i> | 0 |
| <i>Input Mask</i> | ## |
| <i>Display Format</i> | 00 |
| <i>Key Type</i> | Non-key |
| <i>Key Structure</i> | — |
| <i>Uniqueness</i> | Non-unique |
| <i>Null Support</i> | No Nulls |
| <i>Values Entered By</i> | User |
| <i>Required Value</i> | Yes |
| <i>Default Value</i> | — |
| <i>Range of Values</i> | 0 - 90 |
| <i>Edit Rule</i> | Enter Now, Edits Allowed |
| <i>Comparisons Allowed</i> | Equal To, Not Equal To |
| <i>Operations Allowed</i> | Subtraction |

6.14.5 switchSTime field

| | |
|----------------------------|--|
| <i>Specification Type</i> | Unique |
| <i>Shared By</i> | — |
| <i>Description</i> | The match time during stoppage time at which the position switch was made. |
| <i>Data Type</i> | Numeric |
| <i>Character Support</i> | Numbers |
| <i>Length</i> | 2 |
| <i>Decimal Places</i> | 0 |
| <i>Input Mask</i> | ## |
| <i>Display Format</i> | 00 |
| <i>Key Type</i> | Non-key |
| <i>Key Structure</i> | — |
| <i>Uniqueness</i> | Non-unique |
| <i>Null Support</i> | No Nulls |
| <i>Values Entered By</i> | User |
| <i>Required Value</i> | Yes |
| <i>Default Value</i> | — |
| <i>Range of Values</i> | 0-15 when glsTime = 45 or glsTime = 90, 0 otherwise |
| <i>Edit Rule</i> | Enter Now, Edits Allowed |
| <i>Comparisons Allowed</i> | Equal To, Not Equal To |
| <i>Operations Allowed</i> | Subtraction |

7 Views

This section presents specifications for virtual tables that are used to comprise views of the Football Match Result Database. These tables draw data from multiple base tables in order to provide context-specific information, preserve data security and confidentiality, and enforce data integrity.

7.1 CountriesList view

| | |
|----------------------|--|
| CountriesList | This view provides a list of the FIFA member associations. |
| Type | Aggregate |
| Base Tables | tblCountries, tblConfederations |
| Field Name | Expression |
| countryID | tblCountries.countryID |
| Country | tblCountries.ctyName |
| Confed | tblConfederations.confedName |

7.2 PlayersList view

| | |
|--------------------|---|
| PlayersList | This view provides a list of the players who are participating in the football competition. |
| Type | Aggregate |
| Base Tables | tblPlayers, tblCountries |
| Field Name | Expression |
| playerID | tblPlayers.playerID |
| FullName | tblPlayers.plyrFirstName + ' ' + tblPlayers.plyrLastName |
| Country | tblCountries.ctyName |

7.3 ManagerList view

| | |
|--------------------|---|
| ManagerList | This view provides a list of the managers who are coaching teams in the football competition. |
| Type | Aggregate |
| Base Tables | tblManagers, tblCountries |
| Field Name | Expression |
| managerID | tblManagers.managerID |
| FullName | tblManagers.mgrFirstName + ' ' + tblManagers.mgrLastName |
| Country | tblCountries.ctyName |

7.4 RefereeList view

| | |
|--------------------|--|
| RefereeList | This view provides a list of the match referees who are participating in the football competition. |
| Type | Aggregate |
| Base Tables | tblReferees, tblCountries |
| Field Name | Expression |
| refereeID | tblReferees.refereeID |
| FullName | tblReferees.refFirstName + ' ' + tblReferees.refLastName |
| Country | tblCountries.ctyName |

7.5 HomeTeamList view

| | |
|---------------------|---|
| HomeTeamList | This view provides a list of the national football teams that are designated home teams in their matches. |
| Type | Aggregate |
| Base Tables | tblMatches, tblCountries, tblHomeTeams |
| Field Name | Expression |
| matchID | tblMatches.matchID |
| Team | tblCountries.ctyName |

7.6 AwayTeamList view

| | |
|---------------------|---|
| AwayTeamList | This view provides a list of national football teams that are designated away teams in their matches. |
| Type | Aggregate |
| Base Tables | tblMatches, tblCountries, tblAwayTeams |
| Field Name | Expression |
| matchID | tblMatches.matchID |
| Team | tblCountries.ctyName |

7.7 VenuesList view

| | |
|--------------------|--|
| VenuesList | This view provides a list of the match venues in the football competition. |
| Type | Aggregate |
| Base Tables | tblVenues, tblTimeZones, CountriesList |
| Field Name | Expression |
| venueID | tblVenues.venueID |
| Venue | tblVenues.venName |
| City | tblVenues.venCity |
| Country | CountriesList.country |
| Timezone | tblTimeZones.tzName |
| Altitude | tblVenues.venAltitude |
| Latitude | tblVenues.venLatitude |
| Longitude | tblVenues.venLongitude |

7.8 PositionsList view

| | |
|----------------------|--|
| PositionsList | This view provides a list of player positions in a football match. |
| Type | Aggregate |
| Base Tables | tblPositions, tblFieldNames, tblFlankNames |
| Field Name | Expression |
| positionID | tblPositions.positionID |
| PositionName | tblFlankNames.posFlankName + ' ' + tblFieldNames.posFieldName |

7.9 MatchList view

| | |
|--------------------|---|
| MatchList | This view provides a list of top-level information on the football match, the competitors, and the match referee. |
| Type | Aggregate |
| Base Tables | tblMatches, tblCompetitions, tblRounds, tblVenues, HomeTeamList, AwayTeamList, RefereeList |
| Field Name | Expression |
| matchID | tblMatches.matchID |
| competitionID | tblCompetitions.competitionID |
| roundID | tblRounds.roundID |
| Competition | tblCompetitions.compName |
| Round | tblRounds.roundDesc |
| Matchup | HomeTeamList.Team + ' vs ' + AwayTeamList.Team |
| Venue | tblVenues.venName |
| Referee | RefereeList.FullName |

7.10 LeagueMatchList view

| | |
|------------------------|--|
| LeagueMatchList | This view provides a list of football matches in a league competition. |
| Type | Aggregate, Validation |
| Base Tables | MatchList, tblLeagueMatches, tblRounds |
| Field Name | Expression |
| matchID | MatchList.matchID |
| Competition | MatchList.Competition |
| Round | tblRounds.roundDesc |
| Matchup | MatchList.Matchup |
| Venue | MatchList.Venue |
| Referee | MatchList.Referee |
| Filters | Condition |
| Phase | = 'League' |

7.11 GroupMatchList view

| | |
|-----------------------|---|
| GroupMatchList | This view provides a list of football matches in the group stage of a hybrid competition. |
| Type | Aggregate, Validation |
| Base Tables | MatchList, tblGroupMatches, tblGroups, tblRounds |
| Field Name | Expression |
| matchID | MatchList.matchID |
| Competition | MatchList.Competition |
| Group | tblGroups.groupDesc |
| Round | tblRounds.roundDesc |
| Matchup | MatchList.Matchup |
| Venue | MatchList.Venue |
| Referee | MatchList.Referee |
| Filters | Condition |
| Phase | = 'Group' |

7.12 KnockoutMatchList view

| | |
|--------------------------|--|
| KnockoutMatchList | This view provides a list of football matches in the knockout stage of a football competition. |
| Type | Aggregate, Validation |
| Base Tables | MatchList, tblKnockoutMatches, tblKnockoutRounds, tblMatchdays |
| Field Name | Expression |
| matchID | MatchList.matchID |
| Competition | MatchList.Competition |
| Round | tblKnockoutRounds.koroundDesc |
| Match | tblMatchdays.matchdayDesc |
| Matchup | MatchList.Matchup |
| Venue | MatchList.Venue |
| Referee | MatchList.Referee |
| Filters | Condition |
| Phase | = 'Knockout' |

7.13 LineupList view

| | |
|--------------------|--|
| LineupList | This view provides a list of player appearances in a football match. |
| Type | Aggregate |
| Base Tables | tblCountries, tblLineups, MatchList, PlayersList, PositionsList |
| Field Name | Expression |
| lineupID | tblLineups.lineupID |
| Matchup | MatchList.Matchup |
| Team | tblCountries.ctyName |
| Player | PlayersList.FullName |
| PositionName | PositionsList.PositionName |
| Starter | tblLineups.lpStarting |
| Captain | tblLineups.lpCaptain |

7.14 GoalsList view

| | |
|--------------------|--|
| GoalsList | This view provides a list of goals scored from open play in a football match, not including own-goals. |
| Type | Aggregate |
| Base Tables | MatchList, LineupList, tblGoals, tblGoalStrikes, tblGoalEvents |
| Field Name | Expression |
| goalID | tblGoals.goalID |
| Matchup | LineupList.Matchup |
| Team | LineupList.Team |
| Scorer | LineupList.Player |
| Strike | tblGoalStrikes.gtsDesc |
| Play | tblGoalEvents.gteDesc |
| Time | tblGoals.glsTime + ' "' if tblGoals.glsSTime = 0, tblGoals.glsTime + '+' tblGoals.glsSTime + ' "' if tblGoals.glsSTime > 0 |
| Filters | Condition |
| matchList.matchID | IN (matchID FROM tblLineups WHERE tblLineups.lineupID = tblGoals.lineupID) |
| LineupList.Team | IN (ctyName FROM tblCountries WHERE tblCountries.countryID = tblGoals.countryID) |

7.15 OwnGoalsList view

| | |
|---------------------|--|
| OwnGoalsList | This view provides a list of own-goals scored in a football match. |
| Type | Aggregate |
| Base Tables | MatchList, LineupList, tblGoals, tblGoalStrikes, tblGoalEvents |
| Field Name | Expression |
| goalID | tblGoals.goalID |
| Matchup | LineupList.Matchup |
| Team | LineupList.Team |
| Scorer | LineupList.Player |
| Strike | tblGoalStrikes.gtsDesc |
| Play | tblGoalEvents.gteDesc |
| Time | tblGoals.glsTime + ' ' ' if tblGoals.glsSTime = 0, tblGoals.glsTime + '+' tblGoals.glsSTime + ' ' ' if tblGoals.glsSTime > 0 |
| Filters | Condition |
| matchList.matchID | IN (matchID FROM tblLineups WHERE tblLineups.lineupID = tblGoals.lineupID) |
| LineupList.Team | NOT IN (ctyName FROM tblCountries WHERE tblCountries.countryID = tblGoals.countryID) |

7.16 PenaltiesList view

| | |
|----------------------|--|
| PenaltiesList | This view provides a list of penalty kick decisions and their outcomes in a football match. |
| Type | Aggregate |
| Base Tables | tblPenalties, LineupList, tblFouls, tblPenOutcomes |
| Field Name | Expression |
| penaltyID | tblPenalties.penaltyID |
| Matchup | LineupList.Matchup |
| Taker | LineupList.Player |
| Foul | tblFouls.foulDesc |
| Outcome | tblPenOutcomes.poDesc |
| Time | tblPenalties.penTime + ' ' ' if tblPenalties.penSTime = 0, tblPenalties.penTime + '+' tblPenalties.penSTime + ' ' ' if tblPenalties.penSTime > 0 |

7.17 CautionsList view

| | |
|---------------------|---|
| CautionsList | This view provides a list of yellow-card offenses in a football match. |
| Type | Aggregate |
| Base Tables | tblLineups, LineupList, tblOffenses, tblFouls |
| Field Name | Expression |
| offenseID | tblLineups.lineupID |
| Matchup | LineupList.Matchup |
| Player | LineupList.Player |
| Foul | tblFouls.foulDesc |
| Time | tblOffense.ofnsTime + ' "' if tblOffenses.ofnsSTime = 0, tblOffenses.ofnsTime + '+' tblOffenses.ofnsSTime + ' "' if tblOffenses.ofnsSTime > 0 |
| Filters | Condition |
| tblOffenses.cardID | IN (cardID FROM tblCards WHERE cardType = 'Yellow') |

7.18 ExpulsionsList view

| | |
|-----------------------|--|
| ExpulsionsList | This view provides a list of second yellow-card offenses or direct red-card offenses in a football match. |
| Type | Aggregate |
| Base Tables | LineupList, tblOffenses, tblFouls |
| Field Name | Expression |
| lineupID | tblLineups.lineupID |
| Matchup | LineupList.Matchup |
| Player | LineupList.Player |
| Foul | tblFouls.foulDesc |
| Time | tblOffenses.ofnsTime + ' "' if tblOffenses.ofnsSTime = 0, tblOffenses.ofnsTime + '+' tblOffenses.ofnsSTime + ' "' if tblOffenses.ofnsSTime > 0 |
| Filters | Condition |
| tblOffenses.cardID | IN (cardID FROM tblCards WHERE cardType IN ('Yellow/Red', 'Red')) |

7.19 InSubList view

| | |
|--------------------|---|
| InSubList | This view provides a list of players substituted into a football match. |
| Type | Aggregate |
| Base Tables | tblInSubstitutions, LineupList |
| Field Name | Expression |
| subsID | tblInSubstitutions.subsID |
| Player | LineupList.Player |

7.20 OutSubList view

| | |
|--------------------|---|
| OutSubList | This view provides a list of players substituted out of a football match. |
| Type | Aggregate |
| Base Tables | tblOutSubstitutions, LineupList |
| Field Name | Expression |
| subsID | tblOutSubstitutions.subsID |
| Player | LineupList.Player |

7.21 SubstitutionsList view

| | |
|--------------------------|--|
| SubstitutionsList | This view provides a list of player substitutions in a football match. |
| Type | Aggregate |
| Base Tables | LineupList (a1, a2), tblSubstitutions |
| Field Name | Expression |
| subsID | tblSubstitutions.subsID |
| Matchup | a1.Matchup |
| InPlayer | a1.Player |
| OutPlayer | a2.Player |
| Time | tblSubstitutions.subsTime + ' ' ' ' if tblSubstitutions.subsSTime = 0, tblSubstitutions.subsTime + '+' ' ' ' if tblSubstitutions.subsSTime > 0 |
| Filters | Condition |
| tblSubstitutions.subsID | tblSubstitutions.subsID = tblInSubstitutions.subsID, tblSubstitutions.subsID = tblOutSubstitutions.subsID |
| a1.lineupID | IN (tblInSubstitutions.lineupID) |
| a2.lineupID | IN (tblOutSubstitutions.lineupID) |

7.22 SwitchPosList view

| | |
|----------------------|--|
| SwitchPosList | This view provides a list of major tactical position changes during a match. |
| Type | Aggregate |
| Base Tables | tblSwitchPositions, LineupList, PositionsList |
| Field Name | Expression |
| switchID | tblSwitchPositions.subsID |
| Matchup | MatchList.Matchup |
| Player | LineupList.Player |
| OldPosition | LineupList.PositionName |
| NewPosition | PositionsList.PositionName |
| Time | tblSwitchPositions.subsTime + ' ' ' ' if tblSwitchPositions.subsSTime = 0, tblSwitchPositions.subsTime + '+' ' ' ' if tblSwitchPositions.subsSTime > 0 |

7.23 PenaltyShootout view

| | |
|----------------------------|---|
| PenaltyShootoutList | This view provides a list of penalty kick shootout events. |
| Type | Aggregate |
| Base Tables | tblPenaltyShootouts, LineupList, PlayersList, tblRounds, tblPenOutcomes |
| Field Name | Expression |
| penaltyshootoutID | tblPenaltyShootouts.penaltyshootoutID |
| Matchup | LineupList.Matchup |
| Round | tblRounds.roundDesc |
| Taker | PlayersList.FullName |
| Outcome | tblPenOutcomes.poDesc |