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CS-340
Project Proposal

Golf Database

For my project, I'm proposing a golf database that will track player round scores and handicap. In addition to player data the databases will also store course info for various courses such as course length, slope, rating and individual hole information.

The following are the entities for the proposal:

1. Player – This will store person specific data such as name, address, handicap and home course.
2. Round – This will store golf round specific data such as individual hole scores and tees played.
3. Player_Round – This is a relationship table for the player-to-round many-to-many relationship. This table is mentioned here because it will also store info for group/team play, i.e. if more than one player owns a round.
4. Course_Location – This will be a table that stores info on where a course is located and contact info. Each Course_Location can have multiple Courses associated with it.
5. Course – This will be the data specific to a course it will store foreign keys to individual hole info and overall course info.
6. Hole – This will be data specific to one hole on a course. Each course will reference between 9 and 18 of these structures.

The following are the relationships for the proposal:

1. Player(s) Has/Have Round(s) – This is a many to many relationship. Given that golf is occasionally played in teams multiple Players can own a Round and a Round can have multiple Players.
2. Player Has Home Course – This is a one to one relationship. A Player can have one or no Home Course.
3. Course Location Has Course(s) – This is a one to many relationships. Golf courses can have multiple Courses at one venue.
4. Course Has Holes – This is another one-to-many relationship. A Course must have 9 and no more than 18 Holes.

On the following page is a working schema model added for convenience and clarity.

Player

Player_ID (int PRIMARY_KEY, AUTO_INCREMENT, NOT_NULL)
First Name (varchar(32), NOT_NULL)
Last Name (varchar(32), NOT_NULL)
City (varchar(64))
State (varchar(2))
Home_Course (FOREIGN_KEY LOCATION_ID)
Handicap (float)
Rounds Played (int)
Is Pro (boolean DEFAULT=FALSE)

1 Player has 1 or 0 Home Course

Course_Location

Location_ID (int PRIMARY_KEY, AUTO_INCREMENT, NOT_NULL)
Course Name (varchar(64), UNIQUE, NOT_NULL)
City (varchar(64))
State (varchar(2))
Street (varchar(128))
Zip Code (int)
Phone (phone number)

1 Location has M Courses

1 Player has M Rounds

Player_Round

Player_ID (FOREIGN_KEY, Player_ID, NOT_NULL)
Round_ID (FOREIGN_KEY, Round_ID, NOT_NULL)
Players (int, DEFAULT=1)

Course

Course_ID (int PRIMARY_KEY, AUTO_INCREMENT, NOT_NULL)
Course Name (varchar(64), NOT_NULL, UNIQUE)
Hole 1 (FOREIGN_KEY, Hole_ID, UNIQUE)
Hole 2 (FOREIGN_KEY, Hole_ID, UNIQUE)
Hole 3 (FOREIGN_KEY, Hole_ID, UNIQUE)
Hole 4 (FOREIGN_KEY, Hole_ID, UNIQUE)
Hole 5 (FOREIGN_KEY, Hole_ID, UNIQUE)
Hole 6 (FOREIGN_KEY, Hole_ID, UNIQUE)
Hole 7 (FOREIGN_KEY, Hole_ID, UNIQUE)
Hole 8 (FOREIGN_KEY, Hole_ID, UNIQUE)
Hole 9 (FOREIGN_KEY, Hole_ID, UNIQUE)
Hole 10 (FOREIGN_KEY, Hole_ID, UNIQUE)
Hole 11 (FOREIGN_KEY, Hole_ID, UNIQUE)
Hole 12 (FOREIGN_KEY, Hole_ID, UNIQUE)
Hole 13 (FOREIGN_KEY, Hole_ID, UNIQUE)
Hole 14 (FOREIGN_KEY, Hole_ID, UNIQUE)
Hole 15 (FOREIGN_KEY, Hole_ID, UNIQUE)
Hole 16 (FOREIGN_KEY, Hole_ID, UNIQUE)
Hole 17 (FOREIGN_KEY, Hole_ID, UNIQUE)
Hole 18 (FOREIGN_KEY, Hole_ID, UNIQUE)
Blue Rating (float, NOT_NULL)
Blue Slope (float, NOT_NULL)
White Rating (float, NOT_NULL)
White Slope (float, NOT_NULL)
Red Rating (float, NOT_NULL)
Red Slope (float, NOT_NULL)
Location_ID (FOREIGN_KEY Location_ID, NOT_NULL)

1 Round has M Players

1 Round at 1 Course

1 Course has M Holes

Round

Round_ID (INT PRIMARY_KEY, AUTO_INCREMENT, NOT_NULL)
Hole 1 Score (int)
Hole 2 Score (int)
Hole 3 Score (int)
Hole 4 Score (int)
Hole 5 Score (int)
Hole 6 Score (int)
Hole 7 Score (int)
Hole 8 Score (int)
Hole 9 Score (int)
Hole 10 Score (int)
Hole 11 Score (int)
Hole 12 Score (int)
Hole 13 Score (int)
Hole 14 Score (int)
Hole 15 Score (int)
Hole 16 Score (int)
Hole 17 Score (int)
Hole 18 Score (int)
Tee Color (varchar(16), NOT_NULL)
Team Play (boolean, DEFAULT=FALSE)
Total Score (int, NOT_NULL)
Handicap Score (int)
Date (date, NOT_NULL)
Course_ID (FOREIGN_KEY Course_ID, NOT_NULL)

Hole

Hole_ID (int PRIMARY_KEY, AUTO_INCREMENT)
Number (int)
Handicap (int)
Blue Length (int)
Blue Par (int)
White Length (int)
White Par (int)
Red Length (int)
Red Par (int)