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**East Coast Roller Hockey Division I**

Database Design Project

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CIS 353-01 - Database

Winter 2017

**Team 1:**

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# **Database Requirements**

## Introduction

This database is designed to track the players, games, teams, team statistics, and universities associated with all teams in the East Coast division of the National Collegiate Roller Hockey Association Division I.

This database records team statistics, information about each team, information about each player, information about each university that has a team in the league, and information about the games that have been played. We will collect statistics from the 2016-2017 regular season only. This season is complete and all statistics have been recorded. The database can also track team statistics from previous years so we could see if teams have gotten better or worse over the course of several years.

## Player

For each player, the database shall record: player ID (unique), first name, last name, age, weight, height (in inches), jersey number, and position(s) (a player can have multiple positions). Every player in the database must have participated in at least one game over the course of the season. Players who did not participate are left out of the database. A player’s total number of games played should be recorded. Every player plays for a single team in the league.

## Games

For each game, the database shall record: game ID (unique), home team, away team, home team score, away team score, and date the game was played. The database only records league games.

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## Team

For each team, the database shall record the team ID (unique), jersey color, mascot, and the number of players (which we can compute). Every team must have several players who play for that team. All teams must have several scheduled home and away games. All teams must be associated with a university and a given team can only be associated with a single university. Each team must have at least one year of team statistics recorded.

## University

For each university, the database shall record: name (unique), size, year founded, and the locations at which the university has campuses. A university may be associated with only one team in the league. Universities in the database do not necessarily have a roller hockey team in the East Coast of the NCRHA.

## TeamStats

For each set of statistics, the database shall record: the year (unique) in which the stats were recorded, the number of wins, the number of losses, and the number of points for a given season. Because we might want to keep track of how good the team was in previous years, we allow multiple entries of statistics for a given team as long as they are in different years. A set of team statistics can only be associated with a single team. All team statistics must be associated with a team.

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# **ER Diagram**

# RollerHockey2.0.png

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# **Basic Relational Schema**

**Player**(playerID, fname, lname, height, weight, num, position, tID)

**Games**(gameID, gDate, hscore, ascore, hTID, aTID)

**University**(uName, uSize, yearFounded)

**Team**(teamID, jerseyColor, mascot, univName)

**TeamStats**(year, tmID, wins, losses, points)

**Locations**(uniName , location)

**GamesPlayed**(pID, gID, goalsScored)

# **Integrity Constraints**

|  |  |  |
| --- | --- | --- |
| IC Name & Table(s) | IC Type | English Statement |
| HC1 | Key | The university name can’t have any ‘.’ in it i.e. only full names are allowed |
| HC2 | Foreign Key | The University name referred to by team must be present in the University table |
| HC3 | Foreign Key | A team’s university name must be updated when the university’s name is updated |
| HC4 | 1-attribute | The jersey number has to be between 0-99 inclusive |
| HC5 | 2-attribute, 1-row | Goalies may not wear a jersey number less than 30 |