INFX 543 Seattle Storm Attendance Database

Database Specification: Purpose, Business Problems Addressed and Business Rules

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Database Purpose:

The purpose of this database is to maintain the data used to track and report on Seattle Storm game attendance; merchandise and concessions sales related to game attendance; and factors possibly affecting both. The database will be used by the team's administrative, marketing, and sales staff.

Business Problems Addressed:

- Allow Seattle Storm administrative, marketing, and sales staff to generate descriptive reports.
- Provide information to enhance or improve game scheduling (e.g., consideration of competing events when negotiating the season schedule with the Women's National Basketball Association).
- Supply insight to drive targeted marketing initiatives (e.g., to cater to specific market segments such as geographic regions, age- or gender-based populations or other demographic-based campaigns).
- Allow sales staff to anticipate concession and merchandise inventory needs for games.
- Permit sales staff to analyze and refine sales quarterly objectives.

Business Rules:

- Each game may have zero or more competing events.
- Each game may have zero or more promotions.
- Each game may have zero or more ticket sales.
- Each game will have one opposing team.
- Each game will have five or more players from the Storm roster.
- Each ticket buyer will have one or more sale events.
- A sale event will have one or more ticket sales.
- A ticket sale will have one or more games.

Design Requirements (Credit to Professor Simon Wang):

- Use Crow's Foot Notation.
- Specify the primary key fields in each table by specifying PK beside the fields.
- Draw a line between the fields of each table to show the relationships between each table. This line should be pointed directly to the fields in each table that are used to form the relationship.
- Specify which table is on the one side of the relationship by placing a one next to the field where the line starts.
- Specify which table is on the many side of the relationship by placing a crow's feet symbol next to the field where the line ends.

Design Decisions:

Entity Name	Why Entity Included	How Entity is Related to Other Entities
game	One of the primary purposes of the database is to collect information about game factors related to attendance. The important game data to collect include attendance information as well as who the team played, and a measure of both teams performance to date (rank). Official attendance for season and package tickets that are redeemed at a game can be determined from ticket table data. The total game day attendance is also estimated, therefore single-game ticket sales may be derived. The sales for concessions and merchandise are also collected.	As the core entity in the database, the game entity's primary key, game_id, relates it to ticket sales, promotions, competing events and the team roster so that insight may be gained about these factors in relationship to game attendance. As there are many-to-many relationships with these entities, several associative entities are created as described for each entity..
ticket_sale	Another key function of the database is to understand attendance data with the purpose of increasing revenues based on ticket sales. It is important to gain information about the types of tickets sold, the amount paid for each ticket, the point of purchase and whether or not each ticket was used (redeemed) for actual attendance. The team is interested to know who shows up to games from its ticket purchases.	The ticket_sale entity is related to the game entity as a crucial factor in game attendance. It ties the actual sale event as well as a ticket_buyer to each game. The ticket_sale entity is related to the game entity through an associative entity due to the many-to-many relationship. Many ticket sales occur per game and each game has many ticket sales. Because date information may be acquired through the sale_event, the ticket_sale does not contain this attribute.
promotion	The team is interested in tracking the impact of promotions on ticket sales and attendance as they relate to other factors, such as day of week, competing events and demographics.	The promotion entity is directly related to the game entity through an associative entity due to the many-to-many relationship. Multiple promotions may be offered for a game and there are many games for which a particular promotion may apply.
competing_event	The team will monitor how other local events occurring at the same time, same day or same week/weekend affect attendance. The team will track how far away competing events are from the Seattle Storm game location to understand how that may be a factor.	The competing_event entity is directly related to the game entity through an associative entity due to the many-to-many relationship. Many competing events can occur and there are many games for which they can occur.
storm_roster	The team is interested in tracking the impact of the game-day roster on ticket sales, and especially future sales if a particular roster has performed well together in prior games. The organization is also interested in leveraging player performance for merchandise sales.	The storm_roster entity is directly related to the game entity through an associative entity due to the many-to-many relationship. Many versions of a roster may be created which can relate to more than one game.
sale_event	This sale_event entity tracks each transaction for ticket sales along with the data and time. The team's staff may be interested in capturing information about when tickets are purchased related to other factors such as the team record, specific game performances or promotional campaigns.	The sale_event is directly related to the ticket sale as well as the ticket buyer. While it is not designed as an associative entity, it provides this function as multiple ticket sales may be transacted by multiple ticket buyers
ticket_buyer	Capturing details through the Ticketmaster interface or other ticket purchasing points gives visibility to who is buying tickets as well as their geographic location. The ticket buyers may be statistically different than the actual game attendees. This entity also provides the franchise with email addresses and phone numbers for direct marketing campaigns.	Information about the ticket_buyer comes through the sale_event which is then tied to the ticket_sale.
date	The date entity provides an atomic decomposition of the date, so that fine-grain analysis may be performed related to pre- and post- game-day analysis.	
time	The time entity provides an atomic decomposition of the time, so that fine-grain analysis may be performed related to pre-, during-, and post- game sales.	