CRICKET
CAMP MANAGEMENT SYSTEM

Requirement document

Data and Applications Project Phase-1

DNA_Team_TAU

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Introduction

The mini world chosen for this project is a ***"Cricket Camp Management System"***. The enthusiasm for cricket is tremendous and is increasing day by day. The time now is to search for young talents and prepare them for national and state levels. A camp will be conducted and some participants from that camp will be selected and given an offer to join the yearly club for advanced training.

The camp is being organized every year. The duration of this camp this year is 3 days, from 1st June 2021 - 3rd June 2021. It starts at 7AM in the morning and ends at 5PM in evening, transport facilities are provided for that. They are also provided with a canteen facility for food and nutrition requirements. Medical support is also given as a medical staff would be available.

The information pertaining to all the functions of this camp is stored in a database. Any new information related to the database is stored and deleted only when a person/kid leaves the Camp.

Purpose

The purpose of this database is to represent a mini world which has a focus on the creativity of an individual. This solves the purpose where one would have done all the managing stuff manually. To save this we used DBMS, to make it more organized while having a good control and systematic form of data storage.It helps to maintain an organized system of data consisting of all the players, their performance, and all the other stuff which end users can directly utilize.

Users

Following will be viewing the database for respective purposes : ***Students, parents, coaches, Administrators, Staff, transport staff, canteen staff.***

Applications

- Students, parents, coaches, transport staff use it for the updates related to camp.
- Parents can use it to keep contact with administrators in case of emergency.
- Assigning coaches slots according to age groups.

- Institute of participants can use it for their personal use to check participant stats at the camp for institute sports events.
- Parents can use it for contacting bus conductors or manager.
- Accessing details about coaches.
- Accessing canteen timings and menu for food.
- Selecting players for the yearly training camp from performance stored in the database.

Database Requirements

NOTE : - We have assigned number (1-4) for each age group:

1. 7 years - 10 years
2. 11 years - 14 years
3. 15 years - 16 years
4. 17 years - 18 years

(** is primary key for that entity)

Strong Entities :-

1. Participants

Attribute	Data type	Domain
Name (composite)	VARCHAR	At most 100 characters
Participant_ID **	INT	Any 5-digit number
Age on joining	INT	[7,18]
Age group(derived from age on joining)	INT	{1,2,3,4}
Gender	VARCHAR	{Male/Female/Others}
Date of birth	DATE	A Valid date
Address	VARCHAR	At most 200 characters

Institute name	VARCHAR	At most 50 characters
Height(in cms)	INT	At most 3 digits
Weight(in Kg)	INT	At most 3 digit
T-shirt size	VARCHAR	{XS,S,M,L,XL,XXL,XXXL}
Area	VARCHAR	At most 50 characters
Parent's Name	VARCHAR	At most 100 characters (comma separated if mother's and father's both)
Contact no. (multivalued)	INT	Any 10 digit number (comma separated for multiple)
Email ID (multi-valued)	VARCHAR	At most 150 characters, valid email ID (comma separated for multiple)

2. Coaches (Coaches is a subclass of Staff) [entity with 2 primary key attributes]

Attributes	**Data Type**	**Domain**
Coach_ID **	INT	Any 3-Digit number
Staff ID (Foreign primary key) **	INT	Any 3-digit number
Coach_name(Composite)	VARCHAR	At most 100 Characters
Date_of_Birth	DATE	A valid date
Age (Derived)	INT	Any integer value
Gender	VARCHAR	{Male, Female, Others}
Email (multi-valued)	VARCHAR	At most 150 characters, valid email ID (comma separated for multiple)
Contact_no	INT	Any 10-digit valid

(multi-valued)		contact no (comma separated for multiple)
Address	VARCHAR	At most 200 characters
Experience	VARCHAR	{<3 years, between 3 and 10 years, More than 10 years} (ONLY ONE to be selected)
Role	VARCHAR	{batting coach, bowling coach, fielding coach, head coach} (ONLY ONE to be selected)
Language	VARCHAR	Any language

3. Schedule

ATTRIBUTE	**DATA TYPE**	**DOMAIN**
Activity_ID	INT	A 2-digit number
Date	DATE	A valid date
Time	TIME	A valid time
Training_type	VARCHAR	{Batting,Bowling,Fielding ,Fitness} (ONLY ONE to be selected)
Coach_allotted_ID	INT	Any 3-digit number
Age_group	INT	{1,2,3,4} (ONLY ONE to be selected)

4. Staff

Attribute	**Data Type**	**Domain**
Staff_ID **	INT	Any 3-digit number
Staff_Name (composite)	VARCHAR	At most 100 characters

Age	INT	Any integer value
Date_of_Birth	DATE	A valid date
Gender	VARCHAR	{Male/Female/Others}
Role	VARCHAR	{Coach,security guard, pitch curator,cleaner,ground staff, medical staff} (ONLY ONE to be selected)
Contact_no (multi-valued)	INT	Any 10 digits valid number(comma separated for multiple)
Address	VARCHAR	At most 200 characters
Email (multi-valued)	VARCHAR	At most 150 characters, valid email ID (comma separated for multiple)

5. Administration

ATTRIBUTE	**DATA TYPE**	**DOMAIN**
Administrator_ID **	INT	Any2-digit number
Name (composite)	VARCHAR	At most 100 characters
Gender	VARCHAR	{Male/Female/Others}
Email_ID (multi-valued)	VARCHAR	At most 150 characters, valid email ID (comma separated for multiple)
Contact_no (Multi-valued)	INT	Any 10 digits valid number(comma separated for multiple)
Designation	VARCHAR	{Director,Camp Manager, Assistant manager Receptionist, Cashier,Canteen manager,Transport Manager, Registrar} (ONLY ONE to be selected)
Address	VARCHAR	At most 200 characters

Age	INT	Any integer value

6. Progress card

ATTRIBUTE	**DATA TYPE**	**DOMAIN**
Participant_ID **	INT	Any 5-digit no.
Batting_Marks (Multi-valued)	INT, INT, INT	[1,10]
Bowling_Marks (Multi-valued)	INT, INT, INT	[1,10]
Fielding_Marks (Multi-valued)	INT, INT, INT	[1,10]
Fitness_Marks (Multi-valued)	INT, INT, INT	[1,10]
Reward	VARCHAR	Any award/cash prize/achievement during the camp

NOTE : -

Marks for all 4 categories are in format of (1st day marks, 2nd day marks, 3rd day marks)

Weak Entity:

1. Canteen
2. Transportation
3. Equipments

Relationships

1. *Participants → Equipments*

   This is a partial many to many, 2 degree relationship as many participants can use more than one equipment.

2. *Administration → Staff*
   This is a 2 degree one to many relationship as one administrative office will supervise many staff members.

3. *Participants→ Coaches*
   This is a many to one , 2 degree relationship. Based on the age of participants, particular coaches will be assigned to them. A specific coach will train a particular age group of participants.

4. *Administration → Administration [Bonus part, same participating entity]*
   This is a one to many, 2 degree relationship. Here, The Higher/Deciding Authority would be handling and ordering the below lying members of administration.

n>3 Relationship:

Participant → Schedule → Coaches → Progress card:
The participant will play according to the age group mentioned in the schedule and a coach is assigned to that age group at a particular time of the day in the schedule. The respective coach will update the progress report for the allotted task everyday after completion of that activity.

Bonus part :- (creating and explaining n (= 4) binary relationships from 4 degree relationship)
1. **Participant and schedule :-** A participant would be accessing the schedule to plan his activities for the day and the schedule would have different age categories having participants in it.
2. **Schedule and coaches :-** Schedule would be guiding coach which is their slot according to age groups.

3. **Coaches and progress card :-** Coaches would be updating the marks and performance of the participant.
4. **Participant and progress card :-** Each participant would have a progress report having the marks based on the performance.

Functional Requirements

Modifications :-

1. <u>Insert</u>:

   Adding the participant's database on new registration; Adding the database on recruitments of new staff/ coaches /admin members.

2. <u>Delete</u>:

   Deleting the database on withdrawal by participant; Deleting the corresponding database on resignation by admin member/ staff/ coach.

3. <u>Update</u>:

   Timely update of the progress report of the student by the coach; update details of participant/ staff / admin member / coaches; any changes in schedule.

Retrievals :-

1. <u>Selection</u> : We can obtain data of all participants with specific age categories (like category 1 (7 to 11 yrs)).
2. <u>Projection</u>: We can retrieve Name, Height, Age of participants with weight >= 50kgs from the participant table.
3. <u>Aggregate</u>: We can find sum marks obtained by participants in batting, bowling etc.
4. <u>Search</u>: We can search the participants on the basis of their ID by some specific indexed digit or set of digits/letters . Search "Abh" in the names of participants and get all of the matched names.

5. <u>Analysis</u>: A report having all player names under an age group who scored >=5 marks in batting_marks.

> This would be helpful to analyze the batting skills in a particular age group and how much improvement is needed.

- A fitness report having all player names whose BMI(Body Mass Index) is under control and fitness_marks >= 5.

> This would help in analyzing fitness levels of participants in the camp.

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