Group 10 - Collaborative Analysts

Introduction

Nailympia is a very prestigious professional nail competition that was set up in 2001 in Las Vegas by three organizations namely IBD,Too Much Fun and Ez Flow. This competition has made it's name for being a non biased competition where results are decided only by the participant's skills and creativity.Sponsors and brands have no bearing on the placing of a competitor. All these attributes have made Nailympia the Mecca for those seeking international recognition and industry accolades.

Purpose

Several participants from all over the world participate each year and compete with each other to win the championship. Therefore, we need to record statistics such as participants' records, their scores, judges, sponsors etc. which are very helpful for the organization of the competition in an efficient manner. Hence,we require a database to organise such data and retrieve data whenever it is required.

Users

The various users of the database include the participants(for getting their details), judges(for entering score), staff(for checking their salary and other details), website designers(for maintaining real time status of the competition), sponsors(for checking their sponsorship details).

Applications

There are various applications of this database for example:

1) The database can be used by the organizer's to store information about the participants who are going to participate in the competition so that they can be contacted later if needed. They can also use this database to store info about the attendees using which they can calculate the amount of revenue generated during the competition.
2) The judges can also use the database to view the participant's list and contact them if necessary.
3) The participants and attendees can use the database to know which all events are going to be held in the year and which all places the event would be held.
4) The sponsor's can use the information about the hosts and the participant's to promote the event among the general public.

5) The staff can use the database to know in which events they have to work and on which dates.

Database Requirements

Entities

1. Participants: People participating in the nailympia events
    a. Application_No
    int(any 8 digit number), Primary Key Constraint.
    b. Name
    varchar(20), NOT NULL Constraint.
    c. DOB
    DD/MM/YYYY, NOT NULL Constraint, Check Constraint(1 <= DD <= 31 ; 1 <= MM <= 12 ; 1976 <= YYYY <= 2003)
    d. Email
    varchar(50) NOT NULL Constraint, UNIQUE Constraint.
    e. Contact_No
    char(11) NOT NULL Constraint, UNIQUE Constraint.
    f. Division
    int(1 - 5) NOT NULL Constraint, Check Constraint(1 <= Division <= 5)
    g. Age (Derived from DOB)
    int(18 - 45) Not NULL Constraint, Check Constraint(18 <= Age <= 45)
2. Judges
    a. Judge_ID
    int(any 5 digit number), Primary Key Constraint.
    b. Name
    varchar(20), NOT NULL Constraint.
    c. Contact No
    char(11) NOT NULL Constraint, UNIQUE Constraint.
3. Events
    a. Event_ID
    int(any 5 digit number), Primary Key
    b. Location
    varchar(50), NOT NULL constraint
    c. Date_Time
    DD/MM/YYYY HH:MM:SS, NOT NULL Constraint, UNIQUE Constraint, Check Constraint.
    d. Event_Name
    varchar(50), NOT NULL constraint
4. Staff
    a. Staff_ID

int(any 4 digit integer), Primary Key

   b. Salary
      int(any 5 digit integer), NOT NULL

5. Sponsors
   a. Sponsor_ID
      int(any 5 digit number),Primary Key
   b. Name
      varchar(20),NOT NULL
6. Host
   a. Host_Name
      varchar(20),NOT NULL
   b. Gender
      char(1) ,CHECK in (M/F/O)
   c. Contact_No
      char(11) , NOT NULL, UNIQUE
   d. Event_ID
      int(1-100000),Foreign key
7. Attendees
   a. Attendee_ID
      int(any 5 digit number),Primary key
   b. Attendee_Name
      varchar(20),NOT NULL
   c. Attendee_Email
      varchar(20),NOT NULL, UNIQUE
   d. Attendee_Contact
      char(11), NOT NULL, UNIQUE

Weak Entity:

Host Entity is one of the weak entities here as it is dependent on the Event entity set and it does not have any key attributes of its own.

1) Host:
   a) Host_name
   b) Gender
   c) Contact_No
   d) Event_ID (foreign key)

Relationships

1. **Result** :
   a. Degree -> 3
   b. Between Participants, Judges and Events. Add extra attribute = Judge_score
   c. Cardinality -> N : M : O . Here it’s a many to many to many relationship as Many participants can participate in a single event and vice versa. Similar argument can be made with judges as well.

d. Participation constraints : Participant (1,N) ; Judges (1,M) ; Events (1,O).

2. **Works :**
    a. Degree -> 2
    b. Between Staff and events
    c. Cardinality -> M : N
    d. Participation constraints : Staff (1,M) ; Events (1,N).
3. **Sponsored by :**
    a. Degree -> 2
    b. Between Sponsors and Events
    c. Cardinality -> M : N
    d. Participation constraints : Sponsors (1,M) ; Events (1,N).
4. **Attended by :**
    a. Degree -> 2
    b. Between Attendees and Events
    c. Cardinality -> M : N
    d. Participation constraints : Attendees (1,M) ; Events (1,N).

n>=3 Relationships:

Result : Between the entities Participants, Judges and Events. Add Extra Attribute = Judge_Score.

Functional Requirements

Modifications

1. Insert: Add Participants/Staff/Attendees
2. Delete: Remove Participants/Staff/Attendees
3. Update: Update Staff members/Participants/Attendees/Judges

Retrievals

1. Selection: Retrieve complete information of participants participating in the Nailympia competition.
2. Projection: Application_No, Name and Division of Participants
3. Aggregate: Average Age of all Participants, Average Division of all Participants, Average Salary of the Staff.
4. Search: Search for all the participants from division 1,2,3 respectively.
5. Analysis: Average division for all the Event winners in the competition.