FUNDAMENTALS OF DATABASE MANAGEMENT SYSTEMS

CLUB MANAGEMENT SYSTEM FOR IIIT-DELHI

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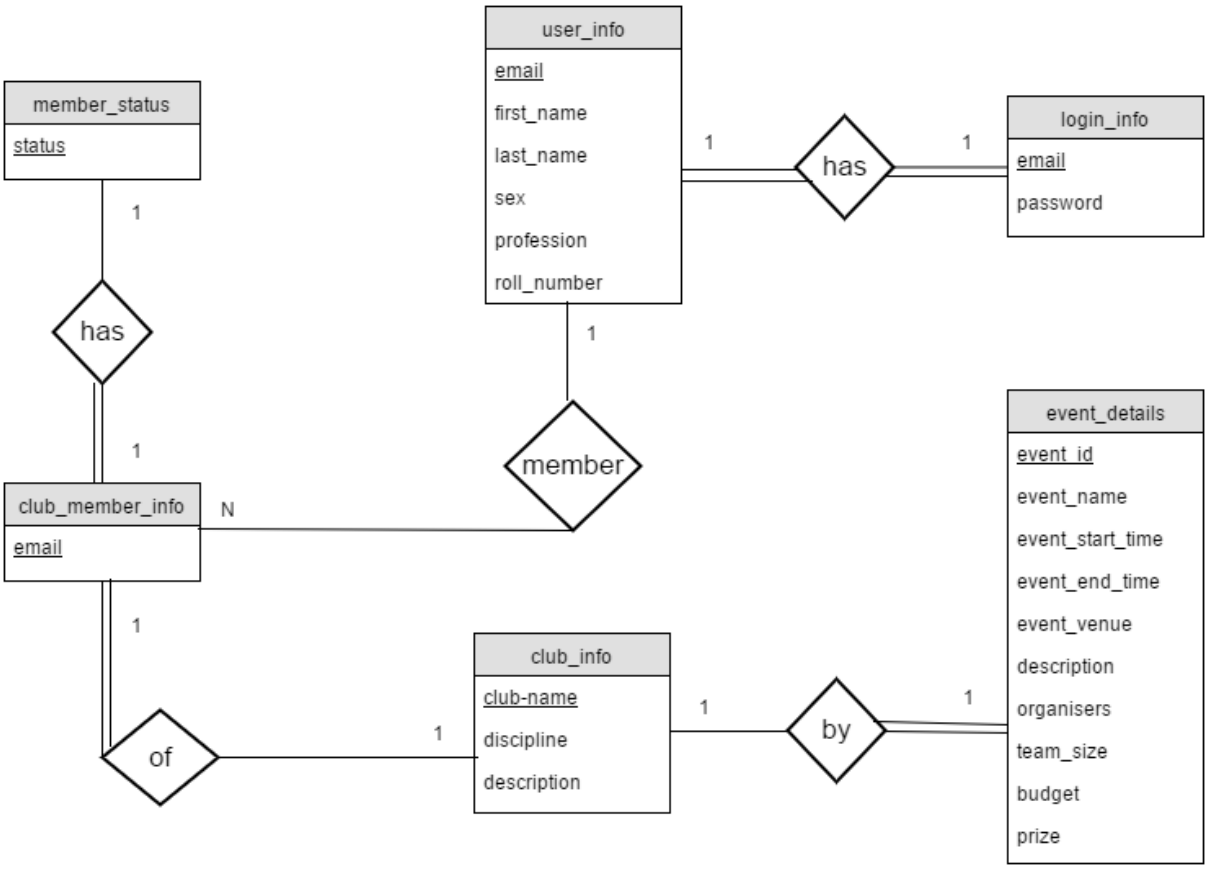
ER Diagram



Relational Schema

1. club_info (**club_name**, discipline, description)

   //club_name is the primary key

2. user_info (first_name, last_name, sex, profession, roll_number, **email**)

   //email is the primary key

3. member_status (**status**)

   // status is PRIMARY KEY

   // There will be only three values possible --> NON-MEMBER, MEMBER, ADMIN

4. club_member_info (**club_name**, status, **email**)

   //(club_name, email) is the primary key

   //status is the foreign key referencing member_status (status)

5. login_info (**email**, password)

   //email is the primary key

6. event_details (**event_id**, event_name, event_start_time, event_end_time, event_venue, description, organising_club, organisers, team_size, budget, prize)

   //event_id is the primary key

   //organising_club is the foreign key referencing club_info (club_name)

Functional Dependencies

NOTE: primary key of the relation is in bold.
NOTE: only non-trivial FDs are listed i.e. FDs of the form A → A have been omitted.

1. club_info (**club_name**, discipline, description)
   Let A = club_name, B = discipline, C = description
   °F_{club_info} = { A → BC }
   Key_{club_info} = A

2. user_info (first_name, last_name, sex, profession, roll_number, **email**)
   Let A = first_name, B = last_name, C = sex, D = profession, E = roll_number, F = email
   °F_{user_info} = { F → ABCDE, E → ABCDF }
   Key_{user_info} = E, F

3. member_status (**status**)
   Let A = status
   °F_{member_status} = {}
   Key_{member_status} = A

4. club_member_info (**club_name**, status, **email**)
   Let A = club_info, B = status, C = email
   °F_{club_member} = {AC → B }
   Key_{club_member} = C

5. login_info (**email**, password)
   Let A = email, B = password
   °F_{login_info} = { A → B }
   Key_{login_info} = A

6. event_details (**event_id**, event_name, event_start_time, event_end_time, event_venue, description, organising_club, organisers, team_size, budget, prize)

   Let A = event_id, B = event_name, C = event_start_time, D = event_end_time, E = event_venue, F = description, G = organising_club, H = organisers, I = team_size, J = budget, K = prize
   °$F_{event\_details}$ = {A → BCDEFGHIJK }
   Key = A

All the relations are in **BCNF** as all relations are in 3NF and LHS of all FDs are superkeys.