DBS Project Phase 2

ER Model of a database system for student clubs in TU

Team Members:

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Phase 2 Description:

In this phase we are required to create and design an Entity-Relation model for the data requirements of our chosen case study (Student Clubs in UT), there are 3 main parts of this phase:

a) **Identifying the main entity types in our system.**
b) **Identifying the main relationship types and validating them using semantic nets.**
c) **Combining the points a & b into a single ER diagram to represent the data requirements for the case study.**

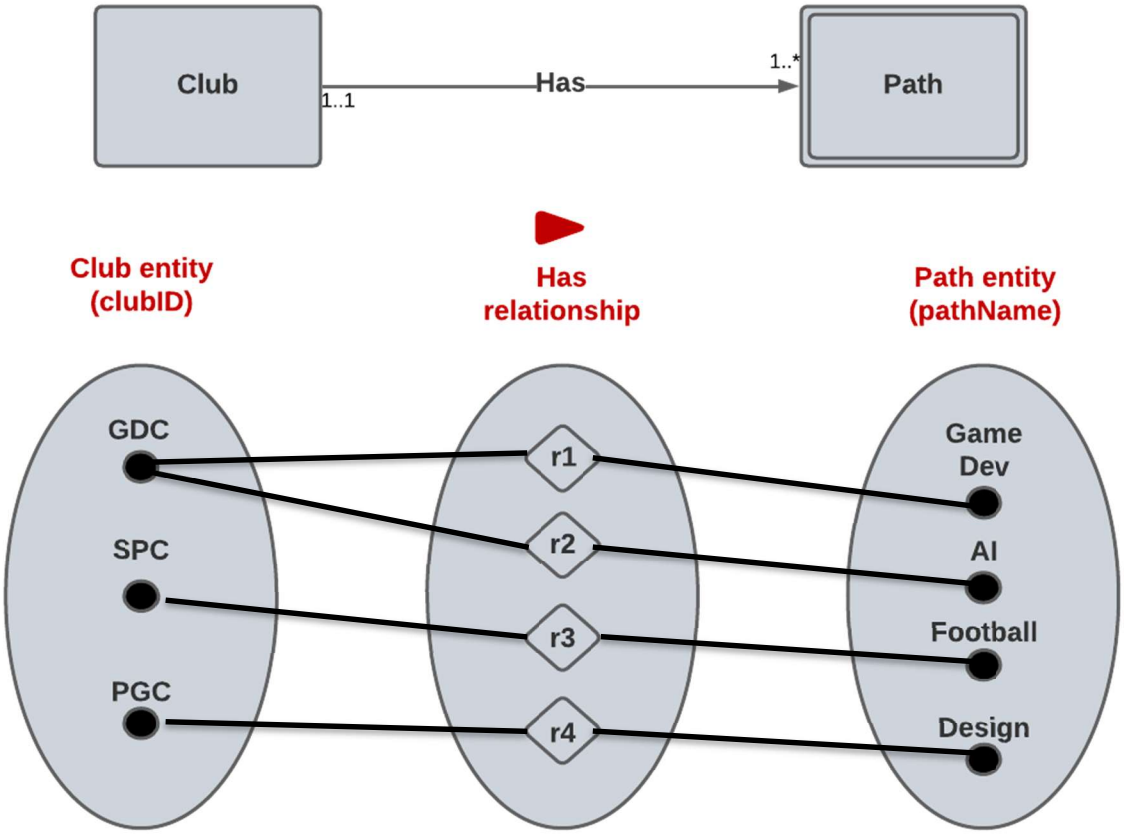
In this phase the majority of our work was done using a tool called LucidChart in the website lucid.app, which allowed us to design our ER-model easily using a set of premade UML shapes.

A. Entity Types

Club	Student Clubs in University of Tabuk
Member	Students that are members of Student Clubs
Supervaisor	Academic or teaching staff that supervise a Student Club
Orgnazation	The Organizations tha collabrate with Students Clubs
Path	Groups within Students Clubs that have specific interests
Activity	Activities done by Students Clubs
Collabration	Collaberations that are done between an organization and a Students Club

B. Relationship Types

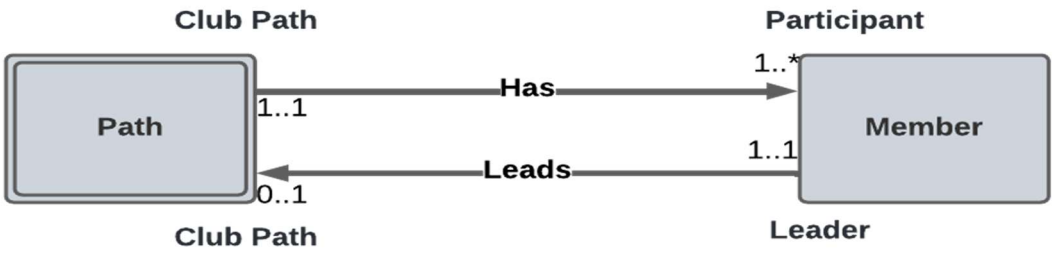
Relationships 1:

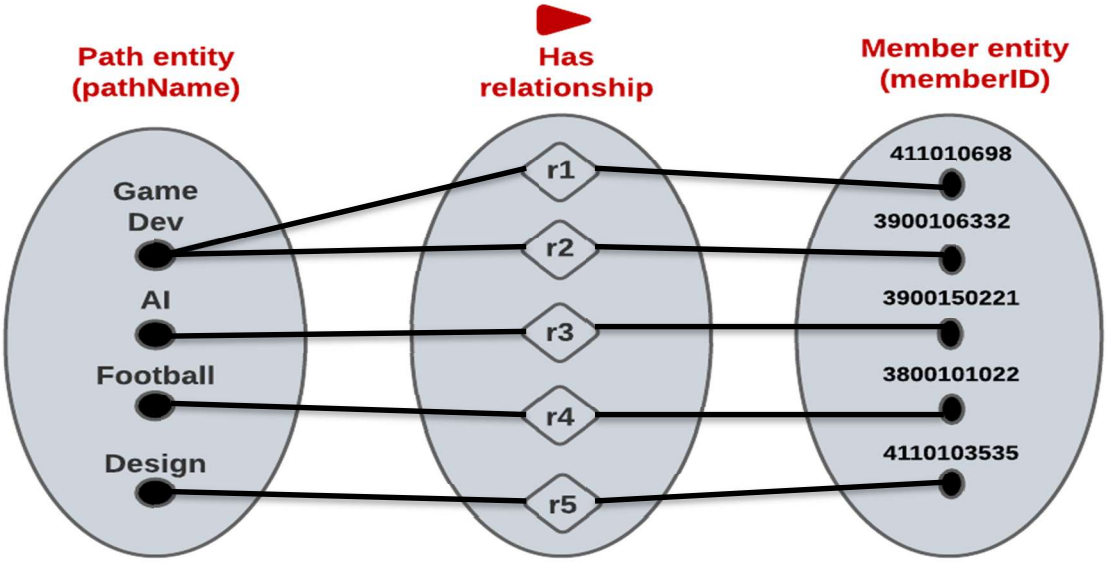


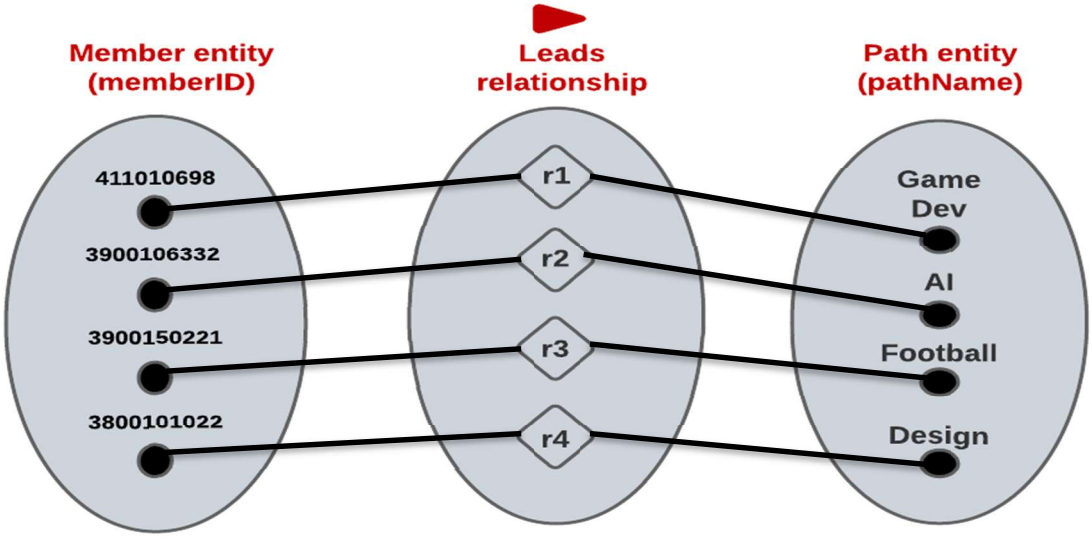
Assumption: **Each Club has at least one Path, and each Path belongs to exactly one Club.**

Relationship Type: **Binary (1:*) Relation.**

Relationships 2 & 3:





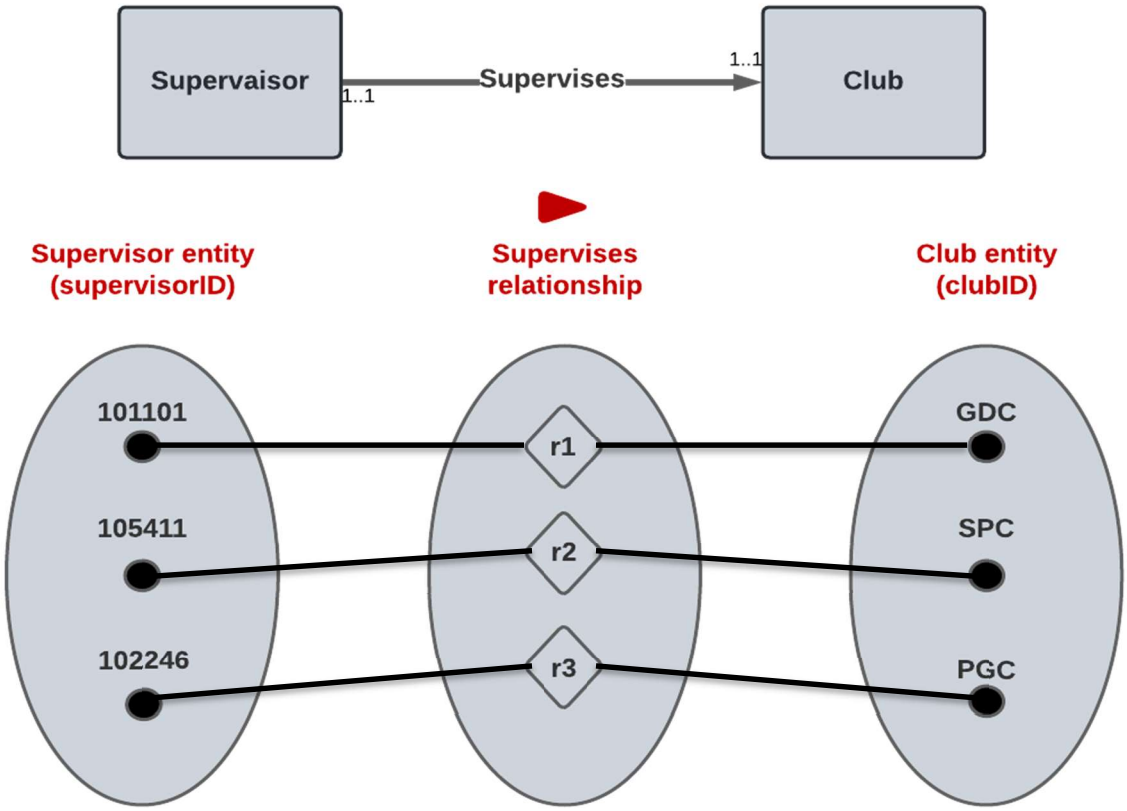


Assumption: **Each Path has 1 or more Members, and each Member belongs to exactly 1 Path.**
Each Member Leads zero or 1 Path, and each Path is led by exactly 1 Leader.

Relationship Type:

- **Has is a (1:*) Relation.**
- **Leads is a (1:1) Relation.**

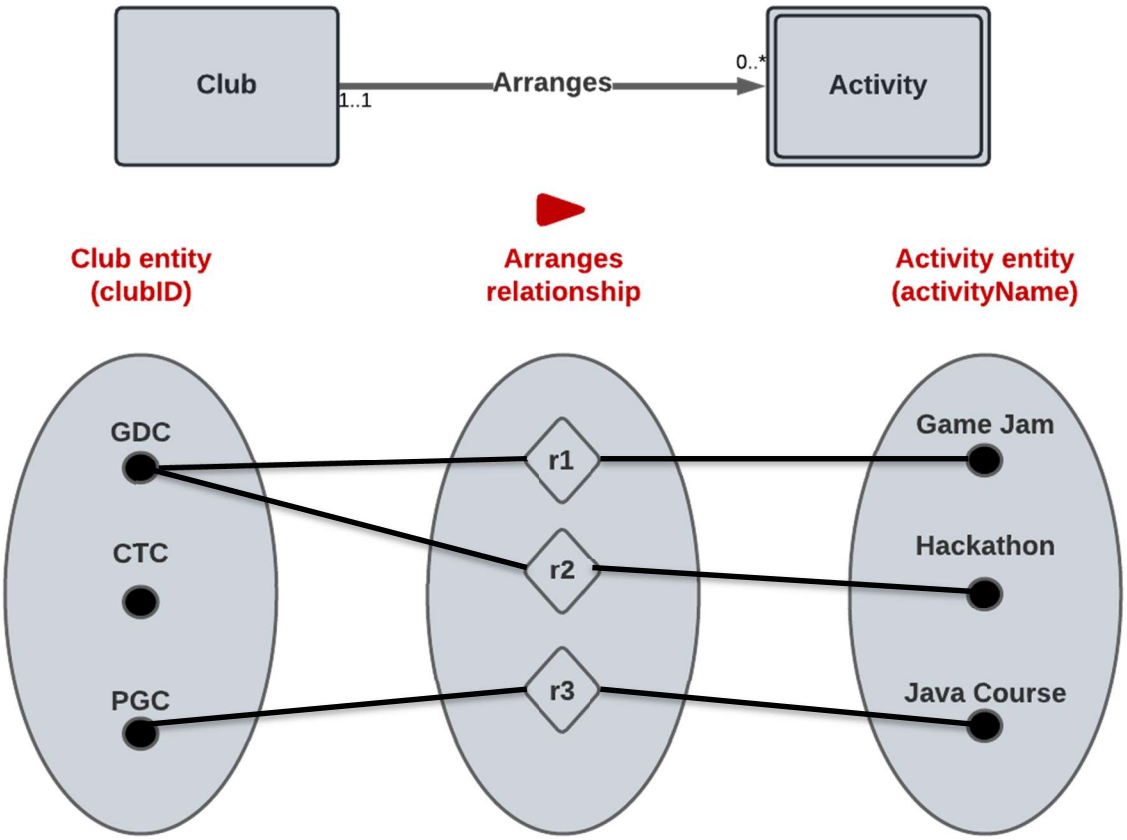
Relationship 4:



Assumption: **Each Supervisor supervises exactly one Club, and each Club is supervised by exactly one Supervisor.**

Relationship Type: **Binary (1:1) Relation.**

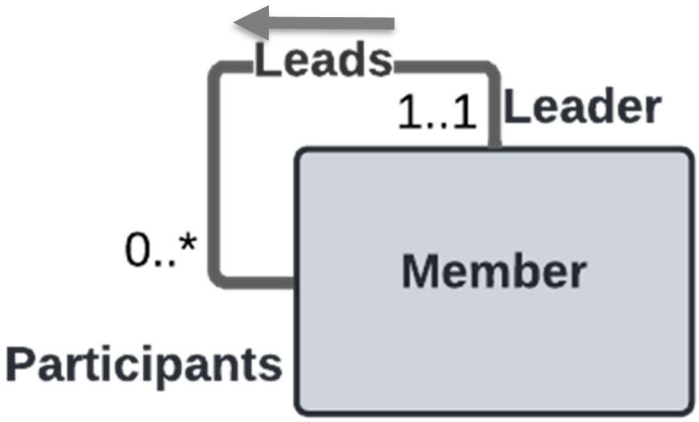
Relationship 5:

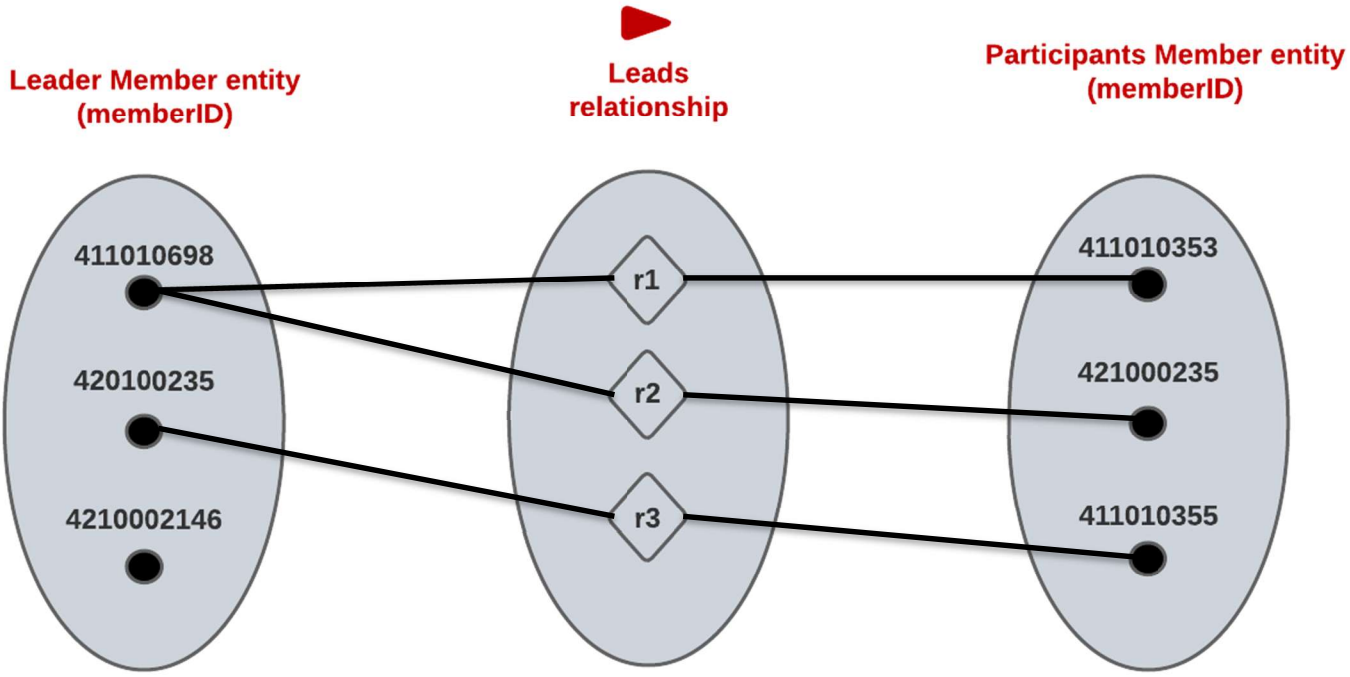


Assumption: **Each Club could arrange zero or more Activities, and each Activity is arranged by exactly one club.**

Relationship Type: **Binary (1:*) Relation.**

Relationship 6:

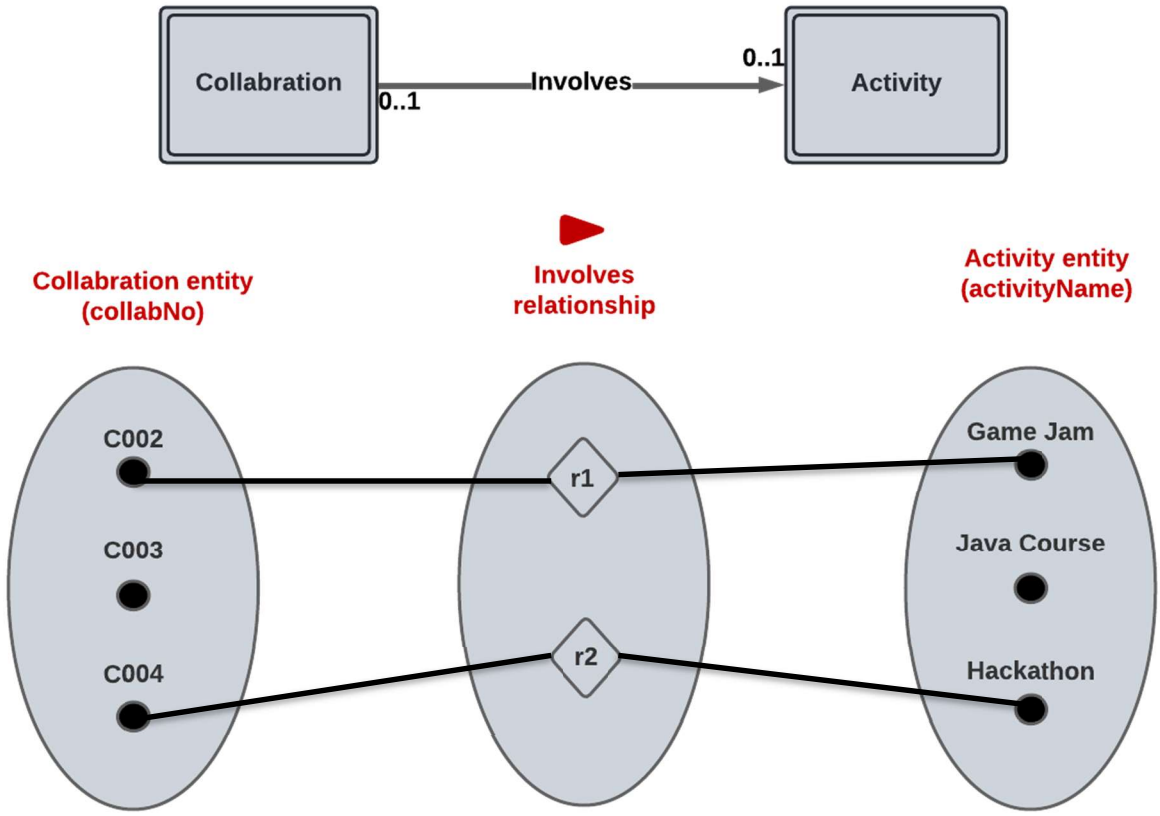




Assumption: **Each Member with a Leader role Leads zero or more Participants, and each member with a Participant role is led by exactly one Leader.**

Relationship Type: **Special Recursive (1:*) Relation.**

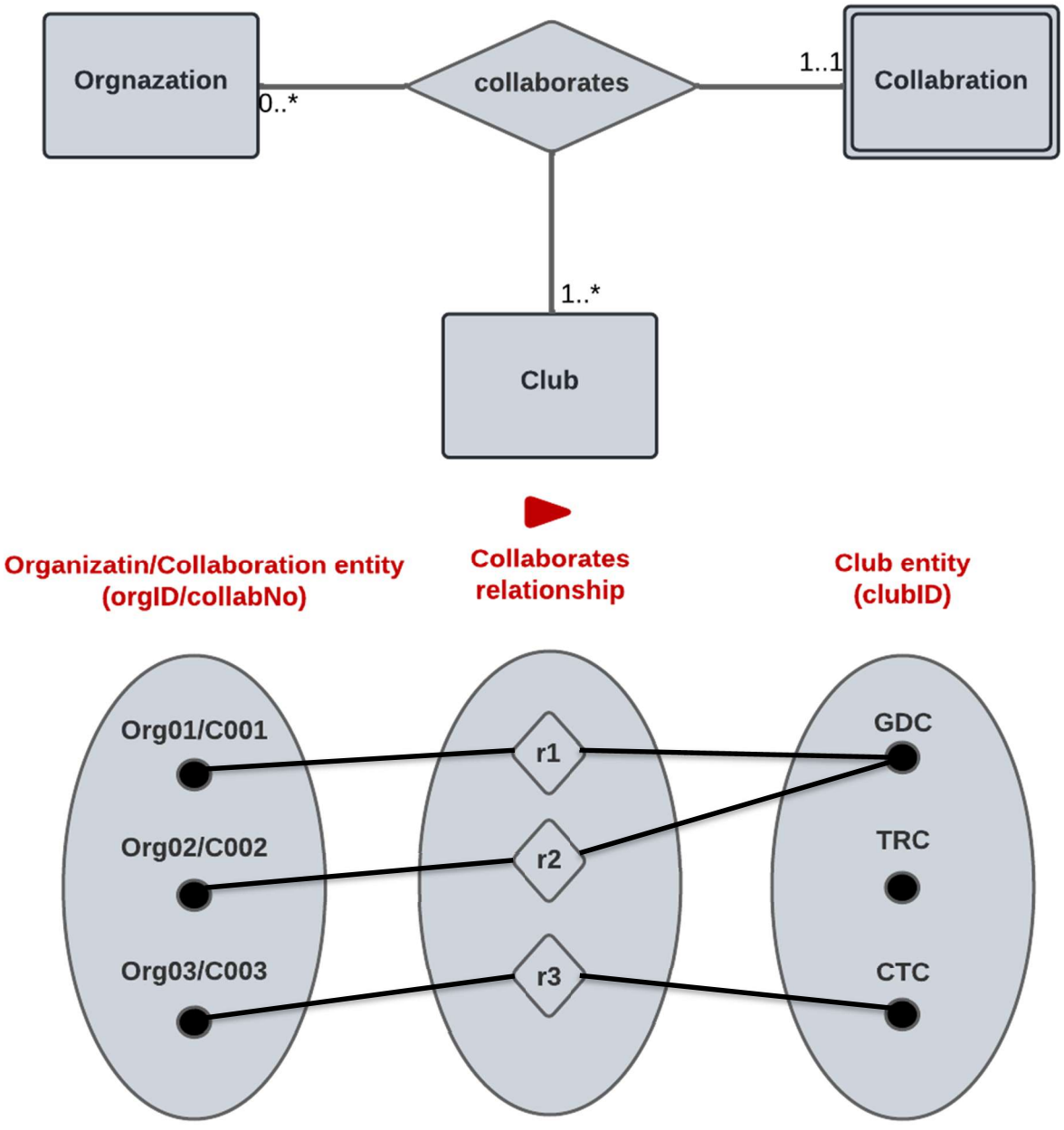
Relationship 7:



Assumption: **Each Collaboration Involves zero or one Activity, and each Activity could be Involved in zero or 1 Collaboration.**

Relationship Type: **Binary (1:1) Relation.**

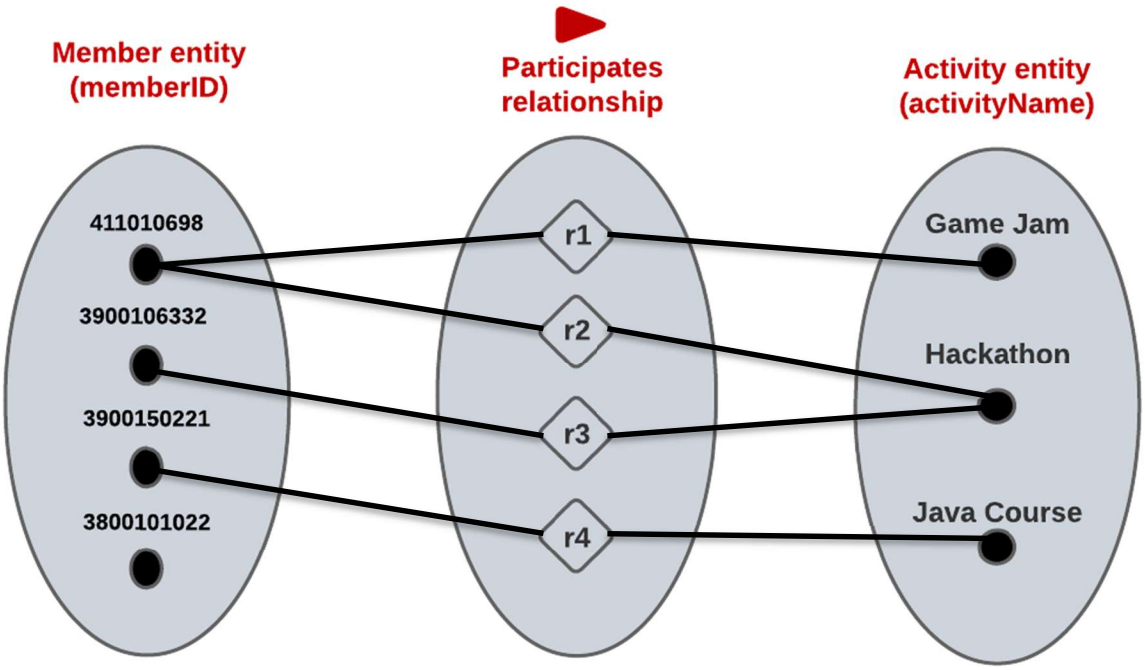
Relationship 8:



Assumption: **Each Organization Collaborates with 1 or more clubs in a Collaboration, and each Club Collaborates with zero or more Organizations.**

Relationship Type: **Ternary (*:*) Relation using (n-1) rule.**

Relationship 9:



Assumption: **Each Member Participates in zero or more Activities, and each Activity involves 1 or more Members.**

Relationship Type: **Binary (*:*) Relation.**

C. Entity-Relation Diagram