INFO 6210 Data Management and Database Design Project – SPRING 2021

ORION – INTER-UNIVERSITY CONNECT PORTAL

TEAM DETAILS:

Team Name: **ORION**

Team members:
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SUMMARY:

Database system to connect students, professors and alumni to expand their network, connect with people with similar interests, to share knowledge, thoughts, opportunities, and information. Users can have access to all the information on one single platform. Students will have major benefit as they can connect with their as well as other Universities' professors, alumni, and fellow peers to discuss their area of interest and opportunities.

OBJECTIVES:

To design a database for an Inter University Connect Portal which will provide below features to its members –

1. Users including students, alumni and professors will be able to create and manage their profiles.

2. Portal members will be able to create and host various types of events.

3. Portal members can register and get event details.

4. Portal members can connect with other members as well based on their interests.

5. Maintain details of Open-Source Projects done by various Universities.

6. A student from one University can connect with students, professors, alumni of any other registered University.
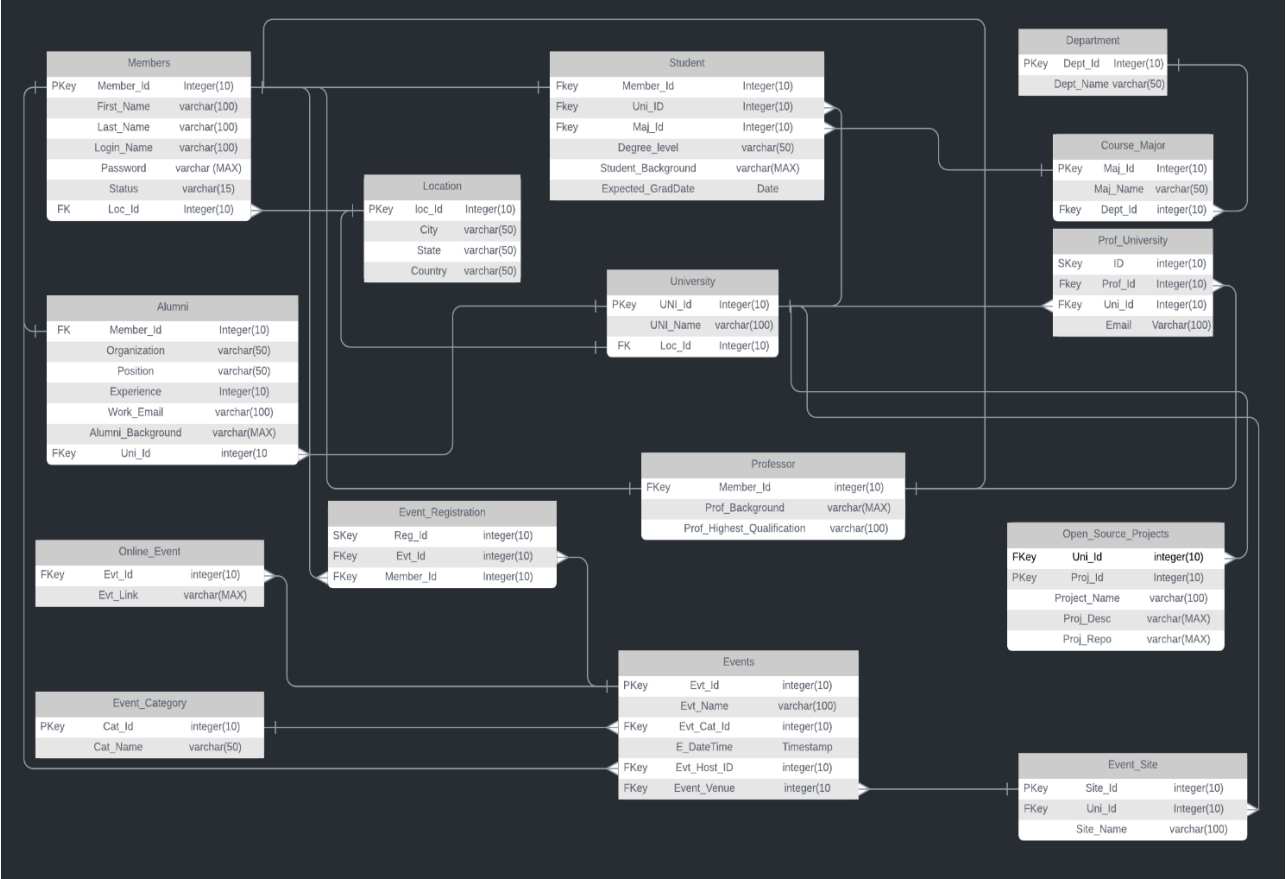
PROBLEM STATEMENT:

1. It is difficult to keep track of various social media platforms for student and alumni connect from other Universities.

2. It is uneconomical to follow various Universities' individual websites for various events hosted by them.

3. Students are always keen to read about various projects done by Universities and therefore follow them on blogs and other platforms.

4. International students, especially, face these challenges connecting with domestic or other international students as well as professors.

PROPOSED SOLUTION:

To overcome the above problems and challenges faced by students, a database model can be used –

1. Using the database model, a portal can be designed which enables maintain profiles for students, alumni and professors.

2. The Event table will have details about different types of events like Career Fairs, Speaker Sessions, Cultural or technical connects.

3. The Student table will have details like AreaOfInterest, Course Major information, which will help students to connect with other students having similar interests.

4. The Professor table will have information about Professors from various Universities, therefore giving students a vast opportunity to associate with them.

5. Open Projects table will have all the data related to the open source projects led by a University or Professor. Interested students will also have the oportunity to reach out to them if it interests them.

DATA MODEL ENTITY-RELATIONSHIP DIAGRAM:

ENTITY DETAILS :

<UNIVERSITY>

Attribute	Datatype and width	Comments
UNI_ID	INTEGER (10)	PRIMARY KEY, AUTO GENERATE
UNI_NAME	VARCHAR (100)	NOT NULL
LOC_ID	INTEGER (10)	A Foreign Key which REFRENCES LOC_ID(PK) from LOCATION table

<MEMBERS>

Attribute	Datatype and width	Comments
MEMBER_ID	INTEGER (10)	PRIMARY KEY, AUTO GENERATE
FIRST_NAME	VARCHAR (100)	NOT NULL
LAST_NAME	VARCHAR (100)	NOT NULL
LOGIN_NAME	VARCHAR (100)	DERIVED attribute, will be derived from MEMBER_ID, FIRST_NAME, LAST_NAME
PASSWORD	VARCHAR (max)	NOT NULL
STATUS	VARCHAR (15)	NOT NULL
LOC_ID	INTEGER (10)	A Foreign Key which REFRENCES LOC_ID (PK) from LOCATION table

<LOCATION>

Attribute	Datatype and width	Comments
LOC_ID	INTEGER (10)	PRIMARY KEY
CITY	VARCHAR (50)	NOT NULL
STATE	VARCHAR (50)	NOT NULL
COUNTRY	VARCHAR (50)	NOT NULL

<DEPARTMENT>

Attribute	Datatype and width	Comments
DEPT_ID	INTEGER (10)	PRIMARY KEY, AUTO GENERATE
DEPT_NAME	VARCHAR (50)	NOT NULL

<COURSE_MAJOR>

Attribute	Datatype and width	Comments
MAJ_ID	INTEGER (10)	PRIMARY KEY, AUTO GENERATE
MAJ_NAME	VARCHAR (50)	NOT NULL
DEPT_ID	INTEGER (10)	A Foreign Key which REFRENCES DEPT_ID (PK) from DEPARTMENT table

<STUDENT>

Attribute	Datatype and width	Comments
MEMBER_ID	INTEGER (10)	A Foreign Key which REFRENCES MEMBER_ID (PK) from MEMBER table, UNIQUE KEY
UNI_ID	INTEGER (10)	A Foreign Key which REFRENCES UNI_ID (PK) from UNIVERSITY table
MAJ_ID	INTEGER (10)	A Foreign Key which REFRENCES MAJ_ID(PK) from COURSE MAJOR table, NOT NULL
DEGREE_LEVEL	VARCHAR (50)	NOT NULL
STUDENT_BACKGROUND	VARCHAR (50)	NOT NULL
EXPECTED_GRADDATE	DATE	NOT NULL

<ALUMNI>

Attribute	Datatype and width	Comments
MEMBER_ID	INTEGER (10)	A Foreign Key which REFRENCES MEMBER_ID (PK) from MEMBER table
ORANIZATION	VARCHAR (50)	DEFAULT VALUE- NOT SET
POSITION	VARCHAR (50)	DEFAULT VALUE- NOT SET
EXPERIENCE	INTEGER (10)	DEFAULT VALUE- NOT SET
WORK_EMAIL	VARCHAR (100)	DEFAULT VALUE- NOT SET, UNIQUE
ALUMNI_BACKGROUND	VARCHAR (max)	DEFAULT VALUE- NOT SET
UNI_ID	INTEGER(10)	A Foreign Key which REFERENCES UNI_Id (PK) from UNIVERSITY table

<PROFESSOR>

Attribute	Datatype and width	Comments
MEMBER_ID	INTEGER (10)	A Foreign Key which REFRENCES MEMBER_ID (PK) from MEMBER table, UNIQUE KEY
PROF_BACKGROUND	VARCHAR (max)	NOT NULL
PROF_HIGHEST_QUAL	VARCHAR (100)	NOT NULL

<PROF_UNIVERSITY>

Attribute	Datatype and width	Comments
ID	INTEGER (10)	SURROGATE KEY
PROF_ID	INTEGER (10)	A Foreign Key which REFRENCES MEMBER_ID (PK) from MEMBER table, UNIQUE KEY
UNI_ID	INTEGER (10)	A Foreign Key which REFRENCES UNI_ID (PK) from UNIVERSITY table
EMAIL	VARCHAR (100)	NOT NULL

<EVENT>

Attribute	Datatype and width	Comments
EVT_ID	INTEGER (10)	PRIMARY KEY, AUTO GENERATE
EVT_NAME	VARCHAR (100)	NOT NULL
EVT_CAT_ID	INTEGER (10)	A Foreign Key which REFRENCES EVT_CATEGORY_ID (PK) from EVENT_CATEGORY table
EVT_DATETIME	TIMESTAMP	NOT NULL
EVT_HOST_ID	INTEGER (10)	A Foreign Key which REFRENCES MEMBER_ID (PK) from MEMBER table
EVT_VENUE	INTEGER (10)	A Foreign Key which REFRENCES SITE_ID (PK) from EVENT_SITE table

<EVENT_CATEGORY>

Attribute	Datatype and width	Comments
CAT_ID	INTEGER (10)	PRIMARY KEY, AUTO GENERATE
CAT_NAME	VARCHAR (50)	NOT NULL

<EVENT_REGISTRATION>

Attribute	Datatype and width	Comments
REG_ID	INTEGER (10)	SURROGATE KEY, AUTO GENERATE. Since there are TWO COMPOSITE KEYS (MEMBER_ID, EVT_ID)
EVT_ID	INTEGER (10)	A Foreign Key which REFRENCES EVT_ID (PK) from EVENT table
MEMBER_ID	INTEGER (10)	A Foreign Key which REFRENCES MEMBER_ID (PK) from MEMBER table

<ONLINE_EVENT>

Attribute	Datatype and width	Comments
EVT_ID	INTEGER (10)	A Foreign Key which REFRENCES EVT_ID (PK) from EVENT table, UNIQUE
EVT_LINK	VARCHAR (max)	NOT NULL

<EVENT_SITE>

Attribute	Datatype and width	Comments
SITE_ID	INTEGER (10)	PRIMARY KEY, AUTO GENERATE
UNI_ID	INTEGER (10)	A Foreign Key which REFRENCES UNI_ID (PK) from UNIVERSITY table
SITE_NAME	VARCHAR (100)	NOT NULL

<OPEN_SOURCE_PROJECTS>

Attribute	Datatype and width	Comments
PROJ_ID	INTEGER (10)	PRIMARY KEY, AUTO GENERATE
PROJ_NAME	VARCHAR (100)	NOT NULL
PROJ_DESC	VARCHAR (max)	NOT NULL
PROJ_REPO	VARCHAR (max)	DEFAULT VALUE- NOT SET