# INSY 661 Group Project

# MMAConnect

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# Project Overview

Our project aims to create a comprehensive and user-friendly online platform tailored to the needs of MMA students. This dynamic hub will empower students to provide valuable course ratings and reviews, while also enabling active participation from faculties, alumni, and students in threaded discussions enriched by relevant tags. By focusing on course reviews and fostering targeted discussions, our platform aims to foster an engaged community where members can connect, share insights, and exchange knowledge.

# Mission Statement

MMAConnect's mission is to forge an innovative and inclusive online platform catered to MMA students' unique needs. Our aim is to craft a comprehensive database application enabling students to review courses, participate in focused discussions, and connect with peers, faculties, and alumni. By fostering collaboration, networking, and shared experiences within the MMA domain, our platform creates a vibrant ecosystem that benefits students, faculties, and alumni alike. Committed to enhancing educational journeys and professional growth, MMAConnect's database application seeks to be the central hub for dynamic interactions and meaningful connections, thereby enriching the MMA student experience.

# Mission Objective

**Empowering Course Selection**

* To develop an efficient data entry system for MMA students to input ratings and feedback on their courses.
* To design a user-friendly interface for students to explore and access detailed reviews and insights about past courses.

**Cultivating Alumni and Faculty Connections**

* To implement a mechanism for students to discover alumni and faculties who are relevant to topics of interest.
* To develop a system where all users can post threads on the interested topics, fostering engaging discussions and knowledge exchange.

**Engaging in Industry Discourse**

* To set up topic-centric discussion boards and groups for students, faculties, and alumni to engage in industry-related conversations.

**Nurturing a Unified Community**

* To implement connection tools that allow students to work together on projects and initiatives.

# ERD

# Data Dictionary

**Description of Entities**

|  |  |  |  |
| --- | --- | --- | --- |
| **Entity Name** | **Description** | **Aliases** | **Occurrence** |
| Students | Contains the information needed to identify a particular student in the MMA program. |  | A student can belong to one and only one MMA cohort. A student can take multiple courses and at least one course. A student can rate zero to many faculties (professor and TA). A student can join zero to many topics. A student can be interested in zero to many industries. |
| Faculty | An entity that contains the name, contact information, and job position of faculties. |  | A faculty can teach zero to many courses. A faculty can receive ratings from zero to many students. A faculty can join zero to many topics. A faculty can belong to multiple departments and at least one department. |
| Courses | An entity that contains the information of courses, including course name. |  | A course can have zero to many students (zero for past and future courses). A course can be offered by one and only one department. A course can be taught by one-to-many faculties (professor and TA). |
| MMA\_Cohorts | An entity that records the cohort of students and alumni. |  | A cohort can have zero to many students and alumni. |
| Thread | An entity that holds the title of the thread and the time when the thread was created. |  | A thread can contain zero to many students, faculties, and alumni (can be understood as a question in Quora). A thread can have one to many tags as categories. A thread can hold zero to many posts. |
| Post | An entity that contains post content and the time when it was posted. |  | A post can be posted by one and only one student, faculty, and alumni. A post can belong to one and only one thread. |
| Tag | An entity that contains the name of the tags. |  | A tag can be used by zero to many threads. |
| Alumni | This entity holds information about students graduated from previous MMA cohorts. When a student graduate, their student account will be deleted and their alum account will be created. This entity records information including industry, company, location, position, etc. |  | An alum can belong to one and only one MMA cohort. An alum can join zero to many topics. |
| Department | This entity contains the department name. |  | A department can offer one to many courses. A department can have one to many faculties. |
| Industry | This entity contains a list of industries. |  | An industry can have zero to many aspiring students and zero-to many alumni who have previous experience in it. |

**Description of Attributes**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Entity Name** | **Attributes** | **Description** | **Data Type** | **Nulls** | **Multi-valued** | **Derived** | **Default** |
| Students | stud\_id | Unique ID for each student | INT | NO | NO |  | None |
| stud\_dob | Student date of birth | DATE | YES | NO |  | None |
| stud\_fname | First name of students | VARCHAR(255) | NO | NO |  | None |
| stud\_lname | Last name of students | VARCHAR(255) | YES | NO |  | None |
| stud\_ phone | Student phone number | VARCHAR(20) | YES | NO |  | None |
| stud\_ email | Student email address | VARCHAR(255) | YES | NO |  | None |
| stud\_city | City of residence | VARCHAR(255) | YES | NO |  | None |
| stud\_province | Province of residence | VARCHAR(255) | YES | NO |  | None |
| stud\_country | Country of residence | VARCHAR(255) | YES | NO |  | None |
| stud\_linkedIn\_url | Student’s linkedin URL | VARCHAR(255) | YES | NO |  | None |
| stud\_gender | Student’s gender | VARCHAR(10) | YES | NO |  | None |
| Faculties | fact\_id | Unique ID of each faculty | INT | NO | NO |  | None |
| fact\_ fname | Faculty first name | VARCHAR(255) | NO | NO |  | None |
| fact\_ lname | Faculty last name | VARCHAR(255) | YES | NO |  | None |
| fact\_ phone | Faculty phone number | VARCHAR(20) | YES | NO |  | None |
| fact\_ email | Faculty email address | VARCHAR(255) | YES | NO |  | None |
| fact\_jobPosition | Can be professor, instructor, career advisor, teaching assistant, etc. | VARCHAR(255) | NO | YES |  | None |
| fact\_city | City of residence | VARCHAR(255) | YES | NO |  | None |
| fact\_province | Province of residence | VARCHAR(255) | YES | NO |  | None |
| fact\_country | Country of residence | VARCHAR(255) | YES | NO |  | None |
| fact\_linkedIn\_url | Faculty's linkedin URL | VARCHAR(255) | YES | NO |  | None |
| fact\_gender | Faculty's gender | VARCHAR(10) | YES | NO |  | None |
| fact\_dob | Faculty date of birth | DATE | YES | NO |  | None |
| Courses | dept\_id | Unique department ID for each department | VARCHAR(10) |  |  |  |  |
| course\_id | Unique Course ID for each course | INT | NO | NO |  | None |
| course\_name | Course name | VARCHAR(255) | NO | NO |  | None |
| MMA\_Cohort | mmaCo\_id | Unique MMA cohort number | INT | NO | NO |  | None |
| Threads | thread\_id | Unique thread ID for each thread | INT | NO | NO |  | None |
| thread\_title | Thread title | VARCHAR(255) | NO | NO |  | None |
| thread\_timestamp | Thread creation time | TIMESTAMP | NO | NO |  | None |
| Posts | post\_id | Unique post ID for each post | INT | NO | NO |  | None |
| post\_content | Post content | TEXT | NO | NO |  | None |
| post\_timestamp | Post creation time | TIMESTAMP | NO | NO |  | None |
| Tags | tag\_id | Unique ID for each tag | INT | NO | NO |  | None |
| tag\_name | Tag name | VARCHAR(255) | NO | NO |  | None |
| Alumni | alum\_id | Unique ID for each alumnus | INT | NO | NO |  | None |
| alum\_fname | Alumni’s firat name | VARCHAR(255) | NO | NO |  | None |
| alum\_lname | Alumni’s last name | VARCHAR(255) | YES | NO |  | None |
| alum\_companyName | Alumni’s employer name | VARCHAR(255) | YES | NO |  | None |
| alum\_position | Alumni Job Position/Title | ENUM('Associate','Supervisor' ,'Manager','Director') | YES | NO |  | None |
| alum\_country | Alumni current country of residency | VARCHAR(255) | YES | NO |  | None |
| alum\_province | Alumni current province of residency | VARCHAR(255) | YES | NO |  | None |
| alum\_city | Alumni current city of residency | VARCHAR(255) | YES | NO |  | None |
| alum\_email | Alumni email address | VARCHAR(255) | YES | NO |  | None |
| alum\_phone | Alumni phone number | VARCHAR(20) | YES | NO |  | None |
| alum\_linkedin\_URL | Alumni LinkedIn URL | VARCHAR(255) | YES | NO |  | None |
| alum\_dob | Alum date of birth | DATE | YES | NO |  | None |
| alum\_gender | Alum gender | VARCHAR(10) | YES | NO |  | None |
| Industries | industry\_id | Unique ID for each industry | INT | NO | NO |  | None |
| industry\_name | Industry name | VARCHAR(255) | NO | NO |  | None |
| Departments | dept\_id | Unique department ID for each department | VARCHAR(10) | NO | NO |  | None |
| dept\_name | Department name | VARCHAR(255) | NO | NO |  | None |
| Attributes in relationships | rate\_score | The evaluation score done by a student for a course | INT | NO | NO |  | None |
| rate\_comment | The comment made by a student for a course | TEXT | YES | NO |  | None |
| stud\_gpa | A student’s GPA for a specific course | DECIMAL(3, 2) | NO | NO |  | None |
| sem\_year | The semester and year of a course teach by a professor | VARCHAR(10) | NO | NO |  | None |
| fact\_join\_date\_time | The datetime that a faculty member joins a topic | TIMESTAMP | NO | NO |  | None |
| alum\_join\_date\_time | The datetime that an alumnus joins a topic | TIMESTAMP | NO | NO |  | None |
| stud\_join\_date\_time | The datetime that a student joins a topic | TIMESTAMP | NO | NO |  | None |

# Relational Schema

**Students (stud\_id, stud\_fname, stud\_lname, stud\_phone, stud\_email, stud\_city, stud\_province, stud\_country, stud\_linkedIn\_url, stud\_dob, stud\_gender, mmaCo\_id)**

Primary Key: stud\_id

Foreign Key: mmaCo\_id references MMA\_Cohorts(mmaCo\_id)  
  
**Faculties (fact\_id, fact\_fname, fact\_lname, fact\_phone, fact\_email, fact\_city, fact\_province, fact\_country, fact\_linkedIn\_url, fact\_dob, fact\_gender, fact\_jobPosition)**

Primary Key: fact\_id  
  
**Alumni (alum\_id, alum\_fname, alum\_lname, alum\_phone, alum\_email, alum\_city, alum\_province, alum\_country, alum\_linkedIn\_url, alum\_dob, alum\_gender, alum\_companyName, alum\_position, mmaCo\_id)**

Primary Key: alum\_id

Foreign Key: mmaCo\_id references MMA\_Cohorts(mmaCo\_id)  
  
**MMA\_Cohorts (mmaCo\_id)**

Primary Key: mmaCo\_id  
  
**Threads (thread\_id, thread\_title, thread\_timestamp)**

Primary Key: thread\_id  
  
**Tags (tag\_id, tag\_name)**  
Primary Key: tag\_id

**Posts (post\_id, post\_content, post\_timestamp, stud\_id, fact\_id, alum\_id, thread\_id)**

Primary Key: post\_id

Foreign Key: stud\_id references Students(stud\_id)

Foreign Key: fact\_id references Faculties(fact\_id)

Foreign Key: alum\_id references Alumni(alum\_id)

Foreign Key: thread\_id references Threads(thread\_id)

**Departments (dept\_id, dept\_name)**

Primary Key: dept\_id  
  
**Courses (dept\_id, course\_id, course\_name)**

Primary Key: dept\_id, course\_id

Foreign Key: dept\_id references Departments(dept\_id)  
  
**Industries (industry\_id, industry\_name)**

Primary Key: industry\_id,  
  
**Rates (stud\_id, dept\_id, course\_id, rate\_score, rate\_comment)**

Primary Key: stud\_id, dept\_id, course\_id

Foreign Key: stud\_id references Students(stud\_id)

Foreign Key: dept\_id references Courses(dept\_id)

Foreign Key: course\_id references Courses(course\_id)

**Study (stud\_id, dept\_id, course\_id, stud\_gpa, sem\_year)**

Primary Key: stud\_id, dept\_id, course\_id

Foreign Key: stud\_id references Students(stud\_id)

Foreign Key: dept\_id references Courses(dept\_id)

Foreign Key: course\_id references Courses(course\_id)  
  
**Teach (dept\_id, course\_id, fact\_id, sem\_year)**

Primary Key: dept\_id, course\_id, fact\_id, sem\_year

Foreign Key: dept\_id Courses(dept\_id)

Foreign Key: course\_id references Courses(course\_id)

Foreign Key: fact\_id references Faculties(fact\_id)

**Offerred\_by (dept\_id, course\_id, sem\_year)**

Primary Key: dept\_id, course\_id, sem\_year

Foreign Key: dept\_id Courses(dept\_id)

Foreign Key: course\_id references Courses(course\_id)

**Belongs\_to (fact\_id, dept\_id)**

Primary Key: fact\_id, dept\_id

Foreign Key: fact\_id references Faculties(fact\_id)

Foreign Key: dept\_id references Departments(dept\_id)  
  
**Fact\_join (fact\_id, thread\_id, fact\_join\_date\_time)**

Primary Key: fact\_id, thread\_id

Foreign Key: fact\_id references Faculties(fact\_id)

Foreign Key: thread\_id references Threads(thread\_id)  
  
**Alum\_join (alum\_id, thread\_id, alum\_join\_date\_time)**

Primary Key: alum\_id, thread\_id

Foreign Key: alum\_id references Alumni(alum\_id)

Foreign Key: thread\_id references Threads(thread\_id)  
  
**Stud\_join (stud\_id, thread\_id, stud\_join\_date\_time)**

Primary Key: stud\_id, thread\_id

Foreign Key: stud\_id references Students(stud\_id)

Foreign Key: thread\_id references Threads(thread\_id)

**Worked\_in (industry\_id, alum\_id)**

Primary Key: industry\_id, alum\_id

Foreign Key: industry\_id references Industries(industry\_id)

Foreign Key: alum\_id references Alumni(alum\_id)

**Interested\_in (industry\_id, stud\_id)**

Primary Key: industry\_id, stud\_id

Foreign Key: industry\_id references Industries(industry\_id)

Foreign Key: stud\_id references Students(stud\_id)  
  
**Categorize\_by (thread\_id, tag\_id)**

Primary Key: thread\_id, tag\_id

Foreign Key: thread\_id references Threads(thread\_id)

Foreign Key: tag\_id references Tags(tag\_id)