**ISMG 6080 001 Project**

**Data Requirements, Business Rules, Sample Data, ERD Table Design**

**Karikalan Rajendran | 107517834**

**Office of International Affairs - CU Denver**

The Office of International Affairs (OIA) develops and advances initiatives that support the vision of the University of Colorado Denver as a leading public university with a global reputation for excellence in learning, research and creativity, community engagement, and clinical care. OIA partners with the university’s schools/colleges and with other university offices to align international student recruitment efforts and services, support academic programs, foster global educational partnerships, facilitate research collaborations, and create global learning opportunities. ​

**Problems:**

The Office of International Affairs (OIA) helps in conducting events and help organizing events for university’s schools/colleges and clubs. Students find it difficult to locate the list of events and other details related to the event. Student Organizations find it difficult to find a venue for their event. The OIA finds it difficult to track the performance of the events.

This database will act as a single source of reference for Event Co-Ordinator (Students), Venue Co-Ordinator (Professor, Staff, Outside Venue manager)

**Business Rules and Norms:**

* Student table records Student ID, Student First name, Last Name, Student Phone Number, Email address, Gender, and other details about students.
* Student ID is unique for every student and two students can have the same first name and last name but not the same student ID.
* There is Venue table, which records Room No/Venue ID, Capacity, address, Room Size, Venue Co-Ordinator ID. Where venue coordinator is a staff from staff table. Two venues can have same staff as venue coordinator.
* The staff table stores Staff ID (Employee ID), Staff First name, Last Name, Phone Number, Email address, year joined and few other details of the staff.
* There is Time-slot table which stores time slots for events, the time slots which are meticulous calculated and named for event conducting purpose. Say the time slot name is morning and the time duration is 6-8 am. Another row could be time slot name as late night and time duration is 8-10 pm
* To differentiate two events happening on the same date and time in different venue. We can have unique Upcoming event ID.
* Two-time slots can only have a one-hour time laps which is a business rule to create timeslot and we try best to leave a one-hour time gap between two-time slot.
* There is organization events table which stores event name, entry fee, maximum count for an event, event description, Category, Theme, Branch and approved by column, where it is approved by a staff and we include only the staff id
* The final table is upcoming events table which stores event name from organization events table, event venue, Hosting club, date, time slot. And there is event coordinator which is a student Id from student table.
* Two events cannot have same date and same time slot. But an two events can have same venue but different time slot.
* Membership table which only stores student id, club id, designation. That means the table stores each students membership to a club and their designation. Example president, vice president or officer.
* The club table stores the club name, Short description about club, Category, Branch, and we store club associated to each membership in the membership table. The database need to keep track of history of membership for the club.

**Detailed data requirements:**

Database needs to store information about each Student. For each student, database needs to store Student ID, Student First name, Last Name, Student Phone Number, Email address and Gender. Student ID is unique to each student.

Database needs to store information about each venue. For each venue, database needs to store Room No/Venue ID, Capacity, address, and Room Size. Room No/Venue ID is unique to each venue.

Database needs to store which staff is assigned to each venue. Each staff can be assigned to multiple venue. Each venue can have only one staff assigned to it.

Database needs to store information about each staff. For each staff, Staff ID (Employee ID), Staff First name, Last Name, Phone Number, Email address and year joined. Staff ID (Employee ID) is unique to each venue.

Database needs to store information about each Organization Events. For each Organization Events, database needs to store Event Name, Entry Fee, Maximum count, Description, Category, Theme, Branch. Event Name is unique to each Organization Events.

Database needs to store information about each upcoming event. For each upcoming event, database needs to store UpcomingeEvent#, Event Date, Time Slot. UpcomingeEvent# is unique to each upcoming event.

Database needs to store information about each Club. For each club, database needs to store Club Name and Description. Club Name is unique to each Club.

Database needs to store information about each membership. For each membership, database needs to store membership#, designation. membership# is unique to each Club.

Database needs to store information about each membership history. For each membership history, database needs to store history#, startdate, endDate. history# is unique to each membership history.

Database needs to store membership history for each student. Each student can have multiple membership history. Each membership history can have only one student associated to it.

Database needs to store history of each membership. Each membership can have multiple membership history. Each membership history can have only one membership associated to it.

Database needs to store club associated to each membership. Each membership can have only one club associated to it. Each club can be associated to multiple membership.

Database needs to store coordinator(StudentID) for each upcoming event. Each coordinator can manage multiple upcoming event. Each upcoming event can only be managed by one coordinator.

Database needs to store event for each upcoming event. Each upcoming event can have only one event name associated to it. Each event (event name) can be associated to multiple upcoming events.

Database needs to store club associated for each upcoming event. Each upcoming event can have only one club associated to it. Each club can be associated to multiple upcoming events.

Database needs to store staff for each Organization Event. Each Organization Event can only be approved by one staff. Each staff can approve multiple Organization Events.

Database needs to store staff for each venue. Each venue can have only one coordinator (StaffID). Each coordinator can manage multiple venues.

**Sample Data:**

Students Sample Data:

![A screenshot of a social media post

Description generated with very high confidence]()

![A screenshot of a cell phone

Description generated with very high confidence]()

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **StudentID** | **StudentFN** | **StudentLN** | **Phone Number** | **Email,** | **Gender** |
| 1075 | Rajkumar | Raghu | 304-232-133 | Rajkumar. Raghu@ucdenver.edu | M |
| 1034 | Gopinath | Singh | 456-678-234 | Gopinath. Singh @ucdenver.edu | M |
| 1045 | Ranbir | Kapoor | 723-293-670 | Ranbir. Kapoor @ucdenver.edu | M |
| 1035 | Frida | Silva | 450-679-234 | Frida. Silva@ucdenver.edu | F |
| 1067 | Umar | Patel | 456-785-546 | Umar. Patel @ucdenver.edu | M |
| 1078 | Amanda | Armani | 730-456-234 | Amanda. Armani @ucdenver.edu | F |
| 1056 | Hussain | Abdulla | 980-453-234 | Hussain. Abdulla @ucdenver.edu | M |

Membership Sample Data:

![A screenshot of a cell phone

Description generated with very high confidence]()

Membership (Membership#, Designation, Club Name)

|  |  |  |
| --- | --- | --- |
| Membership# | Designation | Club Name |
| 100020020202 | Officer | ISA |
| 100020020203 | Member | Indians Association |
| 100020020204 | President | Gama Beta |

Membership History (History #, StartDate, Enddate, Membership#, StudentID)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| History# | StartDate | Enddate | Membership# | StudentID |
| H1234 | 03/03/15 | 03/03/17 | 100020020203 | 1034 |
| H1235 | 23/03/15 |  | 100020020204 | 1078 |
| H1236 | 13/03/15 |  | 100020020202 | 1038 |

Clubs Sample Data:

![A screenshot of a social media post

Description generated with very high confidence]()

|  |  |  |  |
| --- | --- | --- | --- |
| Club Name | Description | Branch | Category |
| ISA | Club 1 does this | Information Technology | IT |
| Hawai | Club 2 does this | Geology | Travel |
| Gonzalaz | Club 3 does this | Entertainment | Music |

Upcoming Events and Organization Events Sample Data:

![A screenshot of a cell phone

Description generated with very high confidence]()

Organization Events (EventName, Entry Fee, Maximum Count, Description, Theme, Category, Branch, ApprovedBy)

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **EventName** | **Entry Fee** | **Maximum Count** | **Description** | **Theme** | **Category** | **Branch** | **ApprovedBy** |
| Holi | Free | 50 | Holi celeb | culture | entertainment | Social science | ER12345 |
| holanu | 65 | 160 | Celebration | culture | dance | Social Justice | DA34567 |
| Business Connect | Free | 45 | Internships | Professional | Career | ISMG | MG5673 |

Upcoming Events (EventDate, Timeslot, Co-ordinator, EventName, VenueID)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **EventDate** | **Timeslot** | **Co-Ordinator** | **EventName** | **VenueID** |
| 13/07/16 | Morning1 | 1035 | Holi | CUDN4567 |
| 18/08/16 | Morning 2 | 1034 | holanu | CUDN4567 |
| 22/02/17 | Evening3 | 1078 | Business Connect | NRTH1235 |

Staff Sample Data:

![A screenshot of a social media post

Description generated with very high confidence]()

Students (StudentID, StudentFN, StudentLN, Phone Number, Email, Gender)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **StaffID** | **StaffFN** | **StaffLN** | **Phone Number** | **Email** | **Year Joined** |
| ER12345 | Jiban | Kuntiyala | 464-789-890 | Jiban. Kuntiyala @ucdenver.edu | 2008 |
| DA34567 | Jahangir | Kareeme | 234-556-890 | Jahangir. Kareeme @ucdenver.edu | 2012 |
| MG5673 | Rose | Marry | 123-325-678 | Rose. Marry @ucdenver.edu | 2017 |
| GM4424 | Harish | Sekar | 678-345-907 | Harish. Sekar @ucdenver.edu | 2001 |

Venue Sample Data:

![A screenshot of a cell phone

Description generated with very high confidence]()

Venue (VenueID, Capacity, Size, Address)

|  |  |  |  |
| --- | --- | --- | --- |
| **VenueID** | **Capacity** | **Size** | **Address** |
| NRTH1235 | 200 | LARGE | 456 WEST ST |
| PLZA2345 | 80 | MEDIUM | 678 GALWAY AVENUE |
| CUDN4567 | 45 | SMALL | 67 west 14th avenue |
| KING2347 | 105 | MEDIUM | 78 east denver |

**ER-Diagram:**

**A picture containing text, map

Description generated with very high confidence**

**Tables:**

**Final Conversion Result:**

Students (StudentID, StudentFN, StudentLN, Phone Number, Email, Gender)

Staff (StaffID, StaffFN, StaffLN, Phone Number, Email, Year Joined)

Organization Events (EventName, Entry Fee, Maximum Count, Description, Theme, Category, Branch, ApprovedBy)

Upcoming Events (UpcomingEvent#, EventDate, Timeslot, StudentID, EventName, VenueID)

Venue (VenueID, Capacity, Size, Address)

Clubs (Club Name, Description, Branch, Category)

Membership (Membership#, Designation, Club Name)

Membership History (History#, StartDate, Enddate, Membership#, StudentID)

**Normal Form Determinations:**

All Tables are in BCNF.