

# Group Report

## College Event Website

COP 4710 Database Systems

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## Project Description

Our College Event Website allows for a university and its students to create events and view them. It is designed to allow for any University in the country to use and implement many of the typical characteristics found in college culture. This includes the creation of Registered Student Organizations(RSO) and events linked to the organization. An RSO includes any student body found on a campus such as a fraternity, social clubs, or major specific groups. As there are a number of different types of events that can be found on a campus, our College Event Website allows for a single place to check the calendar and keep track of what is going on in your area.

There are three major categories of events: public, private, and RSO. When creating an event, the user must enter a time, location, date, event type, and any other relevant information to the event. A public event is an event that anyone may view and attend, no matter their University or RSO affiliation. A private event is slightly more exclusive where only students of that particular University may view or attend. Lastly, the RSO event is linked to a Registered Student Organization and may only be viewed by students that are participating members of that RSO.

There are also three main types of users: Student, Admin, and Super Admin. During the creation of each account, they must all provide an email, password, phone number, and a University to which they will be linked. A student account type is just as the name implies, a student of a university. They are able to create RSOs, view public events, private events linked to their University, and any events of RSO's which they are a part of. An admin account is linked to an RSO, and manages that RSO. They are able to create RSO events and manage the students in that RSO. Finally, the super admin is the manager and creator of any university.

Our website manages and provides all this information through a number of different tools. The backend, or database, was created and managed by MongoDB. This is a modern data infrastructure used by many major corporations and as such is a desired skill for the real world. By the use of this database we have better equipped ourselves with the ability to stand out when applying for jobs.

We have also used Node.js and React.js as our front end framework. We created the front end from scratch making our own CSS page to type the application. We used React.js using hooks to handle inputs from the user and rendering to the app. We also used React's Router manager to switch between pages. Also, we used Google Maps React API to render maps when creating events and creating universities.

# GUI

Screenshot of the "Create Event" page:

The page title is "Create Event". It contains the following fields:

- Event Name:
- Event Category:
- Event Type:  
Public   
Private   
RSO
- Event RSO (only if Event Type is RSO):
- University:
- Contact Email:
- Contact Phone Number:
- Event Description:
- Date:  mm/dd/yyyy
- Time:  ::--

Buttons: **CREATE EVENT** (red), **RETURN** (yellow)

Below the form is a map of the University of Central Florida (UCF) campus, showing various buildings and parking garages.

### Create Event Page

Screenshot of the "Register" page:

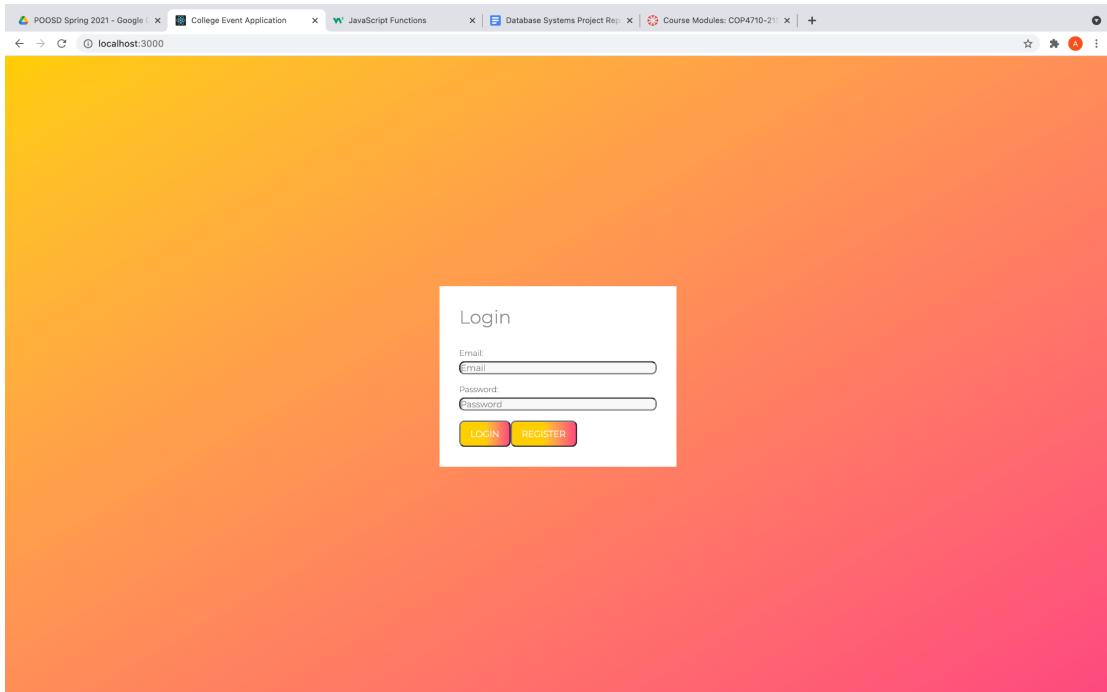
The page title is "Register". It contains the following fields:

- Email:
- Phone Number:
- Password:
- User Type:  
Super Admin   
Admin   
Student
- University:

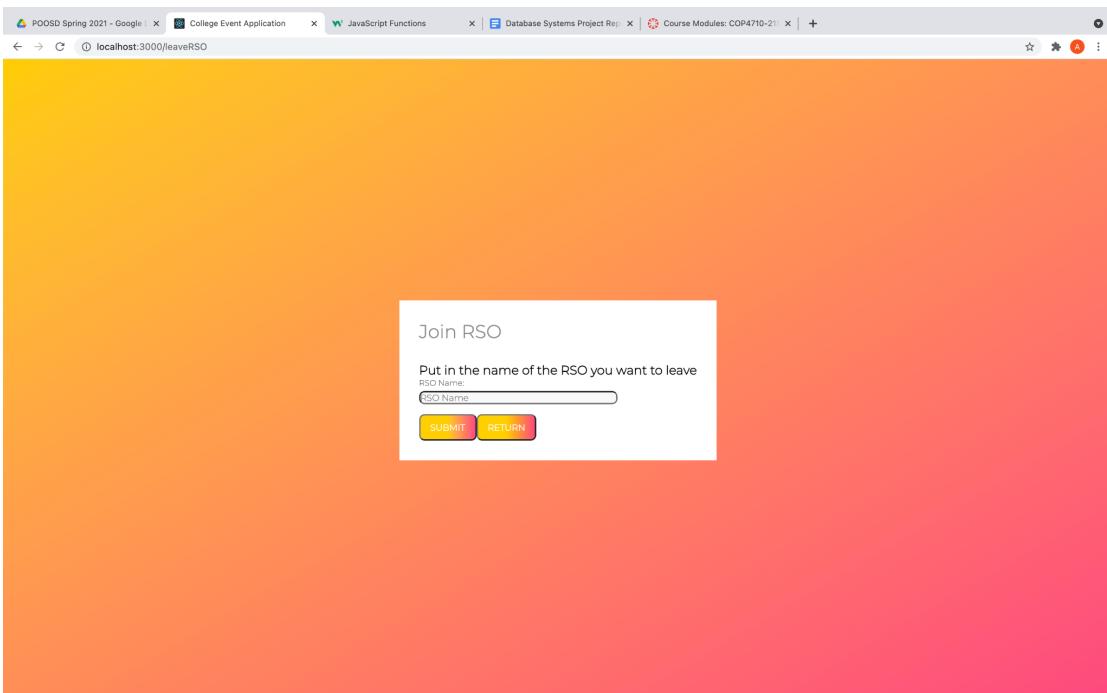
Buttons: **REGISTER** (red), **RETURN** (yellow)

The background of the main content area has a vertical gradient from yellow at the top to red at the bottom.

Register Page



Login Page



Join RSO Page

POOSD Spring 2021 - Google | College Event Application | JavaScript Functions | Database Systems Project Re... | Course Modules: COP4710-21| +

localhost:3000/createUniversity

### Create University

University Name:

Email:

University Description:

**CREATE UNIVERSITY** **RETURN**

<img alt="A map of the University of Central Florida (UCF) campus. The map shows various buildings, parking garages, and landmarks. Labeled buildings include Lake Claire Building 69, UCF Parking Garage H (PGH), Chilled Water Plant, UCF Psychology & UCF Philosophy Building II (CB2), UCF Classroom Building I (CB1), University of Central Florida - College of Arts and Humanities Annex, Lake Claire Apartments, Lake Claire HS, Lake Claire Building 63, Lake Agora Dr, Trevor Colbourn Hall, F School of Arts - Music, UCF School of Visual Arts & Design, The Burnett Honors College, UCF Campus Store & Foxtail Cafe, Chick-fil-A Fast Food S, Student Union, John C. Hitt Library, UCF College of Sciences, Computer Center II, Business Administration I, UCF Engineering Building I (ENG1), UCF CREOL The College of Optics and Photonics, UCF Harris Corporation Engineering Center, UCF Physical Sciences Building (PSB), UCF Arboretum, and UCF Arboretum Greenhouse. There are also numerous parking lots labeled P1, P2, P3, P4, P5, P6, P7, P8, P9, P10, P11, P12, P13, P14, P15, P16, P17, P18, P19, P20, P21, P22, P23, P24, P25, P26, P27, P28, P29, P30, P31, P32, P33, P34, P35, P36, P37, P38, P39, P40, P41, P42, P43, P44, P45, P46, P47, P48, P49, P50, P51, P52, P53, P54, P55, P56, P57, P58, P59, P60, P61, P62, P63, P64, P65, P66, P67, P68, P69, P70, P71, P72, P73, P74, P75, P76, P77, P78, P79, P80, P81, P82, P83, P84, P85, P86, P87, P88, P89, P90, P91, P92, P93, P94, P95, P96, P97, P98, P99, P100, P101, P102, P103, P104, P105, P106, P107, P108, P109, P110, P111, P112, P113, P114, P115, P116, P117, P118, P119, P120, P121, P122, P123, P124, P125, P126, P127, P128, P129, P130, P131, P132, P133, P134, P135, P136, P137, P138, P139, P140, P141, P142, P143, P144, P145, P146, P147, P148, P149, P150, P151, P152, P153, P154, P155, P156, P157, P158, P159, P160, P161, P162, P163, P164, P165, P166, P167, P168, P169, P170, P171, P172, P173, P174, P175, P176, P177, 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The screenshot shows a browser window with several tabs open. The active tab is titled "localhost:3000/viewEvents". The page content displays four events, each with a title, details, and three buttons: "ADD COMMENT", "VIEW COMMENTS", and "MODIFY COMMENTS".

**Event 1:**  
Event Name: Knights rider  
Event Type: Public  
Event Phone: 2247036354  
Event Category: free  
Event Date: 2021-03-31  
Event University: UF  
Event Description: track day  
Lat: 28.60954955328606  
Long: -81.20230771815434  
Event Time: 16:02

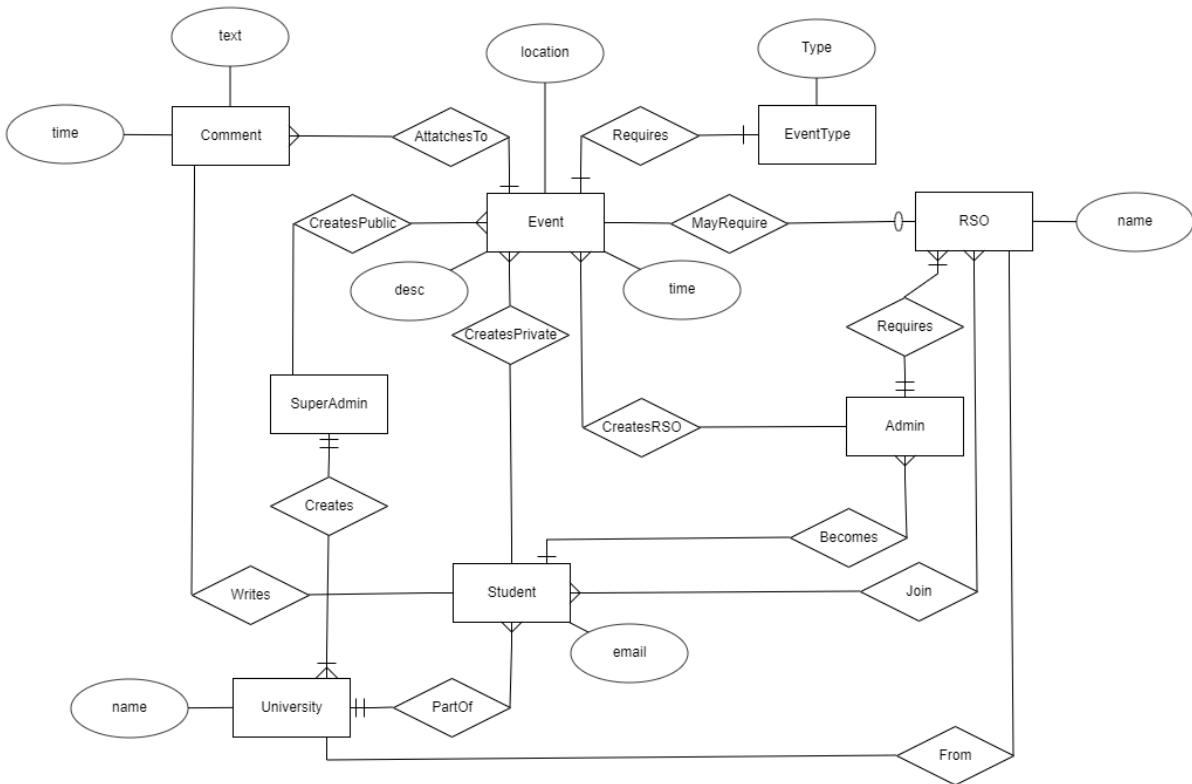
**Event 2:**  
Event Name: UCF slow ass rider  
Event Type: Private  
Event Phone: 2247036354  
Event Category: not free  
Event Date: 2021-03-31  
Event University: UCF  
Event Description: slow day coasting  
Lat: 28.60954955328606  
Long: -81.20230771815434  
Event Time: 16:03

**Event 3:**  
Event Name: Fast rider  
Event Type: Public  
Event Phone: 2247036354  
Event Category: free  
Event Date: 2021-04-04  
Event University: UF  
Event Description: fast rider  
Lat: 28.60347420048135  
Long: -81.2031982154729  
Event Time: 14:06

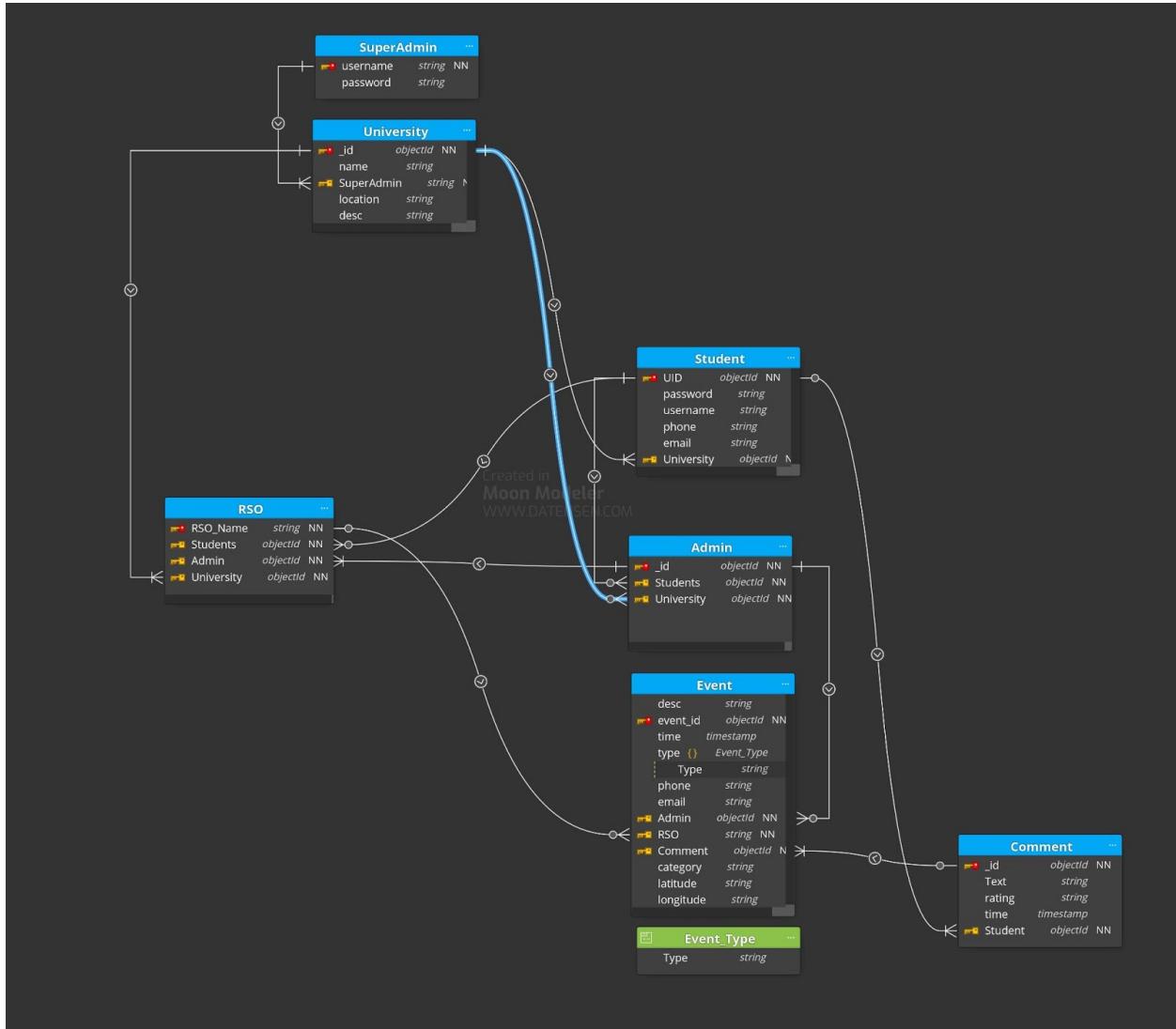
**Event 4:**  
Event Name: Official UCF Event  
Event Type: Private  
Event Phone: 3215259111  
Event Category: testing  
Event Date: 2021-05-06  
Event University: UCF  
Event Description: This is a testing event  
Lat: 28.603423335637093  
Long: -81.20246865069524  
Event Time: 19:44

## Event page

# ER-Model



# Relational Diagram



# Populating Tables with Sample Data

INSERT DOCUMENT

FILTER {"filter": "example"}

Find Reset

QUERY RESULTS 1-5 OF 5

```
_id:ObjectId("6085aecc33c7fe5391377b48")
category:"free"
name:"Knights rider"
type:"Public"
email:"Abdul@gmail.com"
date:"2021-03-31"
phone:"2247036354"
desc:"track day"
time:"16:02"
lat:28.66242974787704
lon:-81.20006918907166
rso:""
university:"UF"
> commentArray:Array
__v:0
```

```
_id:ObjectId("6085aef633c7fe5391377b49")
category:"not free"
name:"UCF slow ass rider"
type:"Private"
email:"student@test.com"
date:"2021-03-29"
phone:"2247036354"
desc:"slow day coasting"
time:"16:03"
lat:28.6954955328606
lon:-81.20230771815434
rso:""
university:"UCF"
> commentArray:Array
__v:0
```

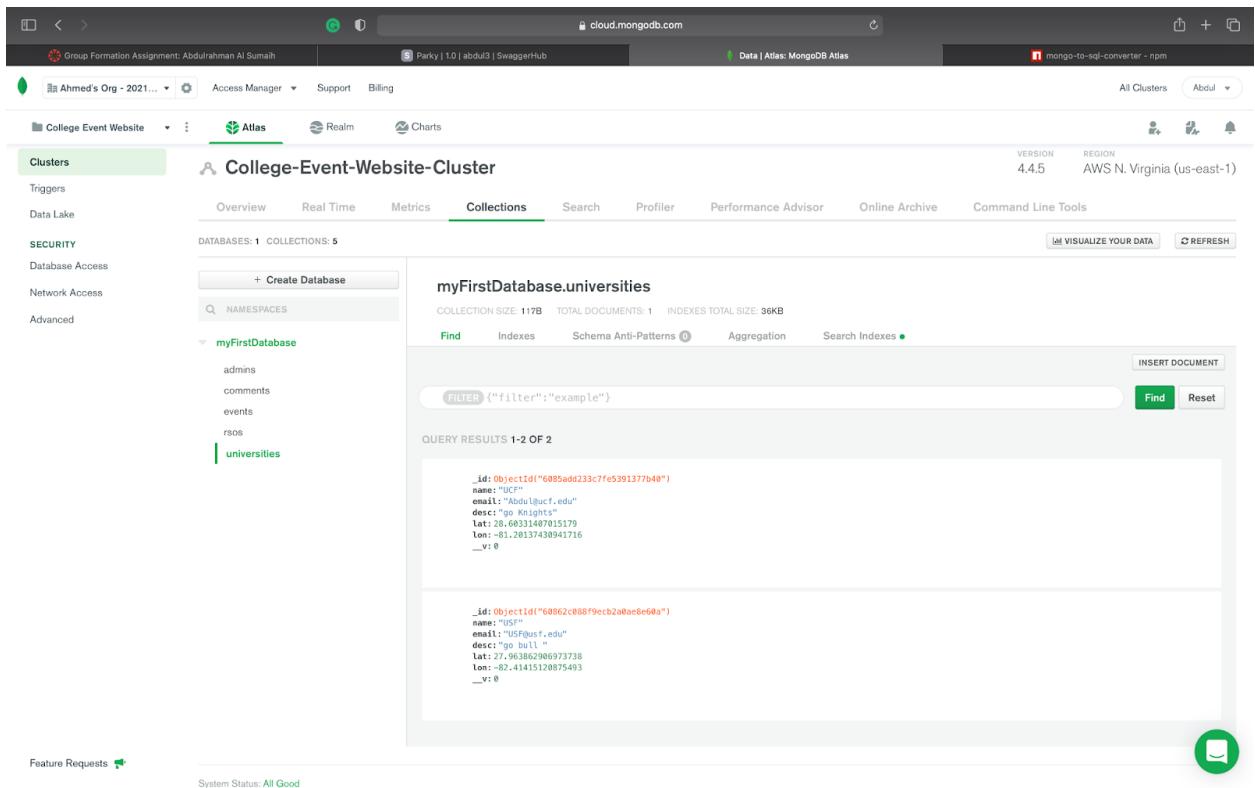
```
_id:ObjectId("6085af1e33c7fe5391377b4a")
category:"money"
name:"MTB Bike"
type:"RSO"
email:"student@test.com"
date:"2021-04-13"
phone:"2247036354"
desc:"fast rider"
time:"17:04"
lat:28.66221199008781
lon:-81.20082713877812
rso:"RSO"
university:"UF"
> commentArray:Array
__v:0
```



Screenshot of the MongoDB Atlas interface showing the "College-Event-Website-Cluster".

The interface includes:

- Header: Group Formation Assignment, Abdulrahman Al Sumaini, Parky | 1.0 | abdul3 | SwaggerHub, Data | Atlas: MongoDB Atlas, mongo-to-sql-converter - npm.
- Left sidebar:
  - Clusters (selected)
  - Triggers
  - Data Lake
  - SECURITY
    - Database Access
    - Network Access
    - Advanced
- Top navigation bar: Overview, Real Time, Metrics, Collections (selected), Search, Profiler, Performance Advisor, Online Archive, Command Line Tools.
- Middle section:
  - DATABASES: 1 COLLECTIONS: 5
  - myFirstDatabase.universities (selected)
    - Find (button)
    - Indexes
    - Schema Anti-Patterns (link)
    - Aggregation
    - Search Indexes (link)
  - FILTER: {"filter": "example"}
  - QUERY RESULTS 1-2 OF 2
    - \_id: ObjectId("6085add233c7fe5391377b40")  
name: "UCF"  
email: "UCF@ucf.edu"  
desc: "University of Central Florida"  
lat: 28.60314947015179  
lon: -81.20137430941716  
\_\_v: 0
    - \_id: ObjectId("60862c808f9ecb2a0ae8e60a")  
name: "USF"  
email: "USF@ust.edu"  
desc: "go bull "  
lat: 27.963862906973738  
lon: -82.41415120875493  
\_\_v: 0
- Bottom status: Feature Requests (0), System Status: All Good.



Screenshot of the MongoDB Cloud interface showing the "College-Event-Website-Cluster" collection.

**Header:** cloud.mongodb.com

**Left Sidebar:**

- DATA STORAGE: Clusters (selected), Triggers, Data Lake
- SECURITY: Database Access, Network Access, Advanced
- Feature Requests:

**Middle Content:**

AHMED'S ORG - 2021-03-10 > COLLEGE EVENT WEBSITE > CLUSTERS

## College-Event-Website-Cluster

VERSION 4.4.5 REGION AWS N. Virginia (us-east-1)

DATABASES: 1 COLLECTIONS: 5

+ Create Database NAMESPACES myFirstDatabase

**Collections Tab:** Overview, Real Time, Metrics, Collections (selected), Search, Profiler, Performance Advisor, Online Archive, Command Line Tools

**myFirstDatabase.admins Collection:**

COLLECTION SIZE: 2.8KB TOTAL DOCUMENTS: 20 INDEXES TOTAL SIZE: 36KB

Find Indexes Schema Anti-Patterns Aggregation Search Indexes

FILTER: {"filter": "example"}

QUERY RESULTS 1-20 OF 20

```
_id: ObjectId("6085ab8cf0ea89524e06e11")
email: "test@test.edu"
phone: "234567890"
password: "12345678"
accountType: "SuperAdmin"
university: "UCF"
__v: 0

_id: ObjectId("6085ae0933c7fe5391377b41")
email: "test@test.com"
phone: "12345678"
password: "12345678"
accountType: "Student"
university: "UCF"
__v: 0

_id: ObjectId("608629ac8f9ecb2a0ae0e5f6")
email: "cam@gmail.com"
```

**Bottom Right:**

The screenshot shows the MongoDB Atlas interface with the 'Data' tab selected. The left sidebar shows 'myFirstDatabase' with collections: admins, comments, events, rsos, and universities. The main area displays three documents from the 'events' collection.

**Document 1:**

```
_id:ObjectId("6085ae5a33c7fe5391377b42")
> studentArray:Array
  name:"RS0"
  rsAdmin:"test@test.com"
  university:"UCI"
  active:false
  ...v:0
```

**Document 2:**

```
_id:ObjectId("60862c9fb9ecb2a8ae8e60b")
> studentArray:Array
  name:"Go Rider"
  rsAdmin:"test@test.com"
  university:"UCF"
  active:true
  ...v:0
```

**Document 3:**

```
_id:ObjectId("60862ccfb9ecb2a8ae8e611")
> studentArray:Array
  name:"Go bull"
  rsAdmin:"ahmed@gmail.com"
  university:"USF"
  active:true
  ...v:0
```

At the bottom, there are 'Feature Requests' and 'System Status: All Good'.

## SQL Examples and Results

### 1. SQL statement to insert a new RSO

```
CREATE TABLE rsos (
    id MEDIUMINT NOT NULL
        AUTO_INCREMENT,
    FROM studentArray.student,
    name char(30),
    rsoAdmin char(30),
    university char(30),
    PRIMARY KEY (id)
)
```

### 2. SQL Statement to insert a new student to an existing RSO

```
ALTER TABLE rsos
FROM studentArray.student
ADD student char(30)
```

### 3. SQL statement to insert a new event

```
CREATE TABLE event (
    id MEDIUMINT NOT NULL
        AUTO_INCREMENT,
    category char(30)
    name char(30)
    type char(30)
    email char(30)
    date char(30)
    phone char(30)
    desc char(30)
    time char(30)
    lat char(30)
    lon char(30)
    rso char(30)
    university char(30)
)
```

4. SQL statement to insert a new comment

```
CREATE TABLE comment (
    id MEDIUMINT NOT NULL
        AUTO_INCREMENT,
    commentEvent char(30)
    text char(30)
    time char(30)
)
```

5. SQL queries to display public events

```
SELECT *
FROM people
WHERE type = "Public"
```

6. SQL to display private events

```
SELECT *
FROM people
WHERE type = "Private"
```

7. SQL to display RSO events

```
SELECT *
FROM people
WHERE type = "RSO"
```

# Constraint Enforcement

1. A new event to be held at the same location and overlapping times with an existing event

Create Event

Event Name: Testing Event

Event Category: Test

Event Type: Public  Private

RSO O

Event RSO: (only if Event Type is RSO)

Event.RSO

University: UCF

Contact Email: skazzoun2000@knights.ucf.edu

Contact Phone Number: 621525911

Event Description: This will be a test event

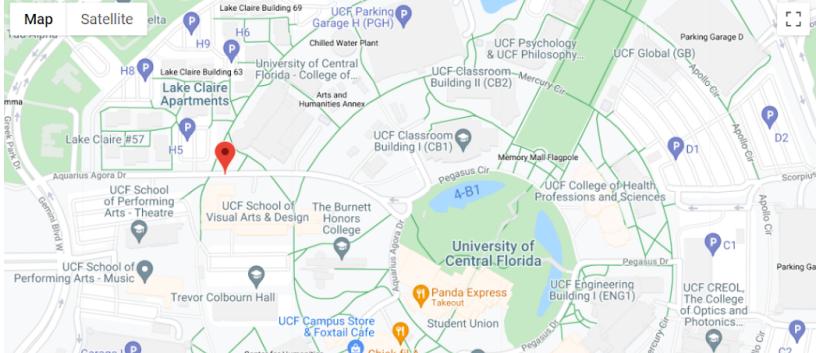
Date: 05/08/2021

time: 04:40 PM

Cannot create event because you have a conflicting time and/or location with another event!

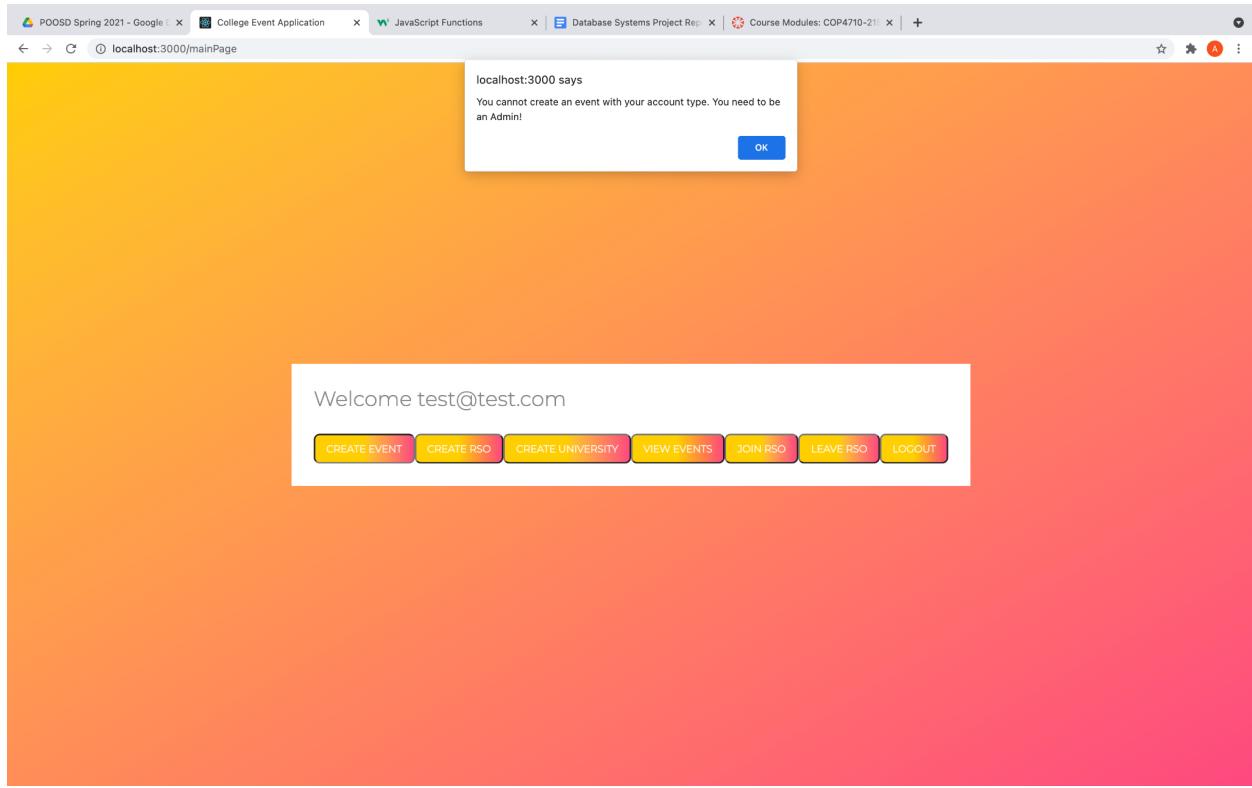
OK

**CREATE EVENT** **RETURN**



The map displays the University of Central Florida campus with several buildings labeled: Lake Claire Building 69, Lake Claire Building 63, Lake Claire Apartments, Lake Claire #57, Lake Claire Building 65, Lake Claire Building 68, Chilled Water Plant, University of Central Florida - College of Arts and Humanities Annex, UCF Classroom Building I (CB1), UCF Classroom Building II (CB2), Memory Mall Flagpole, UCF Psychology & UCF Philosophy, UCF Global (GB), Apollo Ctr, Apollo Dr, Scorpions, Pegasus Dr, Pegasus Ctr, Pegasus Agora Dr, Trevor Colbourn Hall, Center for Interdisciplinary Research, UCF School of Visual Arts & Design, The Burnett Honors College, UCF School of Performing Arts - Theatre, UCF School of Performing Arts - Music, Chick-fil-A, Panda Express Takeout, UCF Campus Store & Foxtail Cafe, Student Union, UCF Engineering Building I (ENG1), UCF CCREOL, The College of Optics and Photonics, and various parking garages (P1, P2, P3, P4, P5, P6, P7, P8, P9, P10, P11, P12, P13, P14, P15, P16, P17, P18, P19, P20, P21, P22, P23, P24, P25, P26, P27, P28, P29, P30, P31, P32, P33, P34, P35, P36, P37, P38, P39, P40, P41, P42, P43, P44, P45, P46, P47, P48, P49, P50, P51, P52, P53, P54, P55, P56, P57, P58, P59, P60, P61, P62, P63, P64, P65, P66, P67, P68, P69, P70, P71, P72, P73, P74, P75, P76, P77, P78, P79, P80, P81, P82, P83, P84, P85, P86, P87, P88, P89, P90, P91, P92, P93, P94, P95, P96, P97, P98, P99, P100, P101, P102, P103, P104, P105, P106, P107, P108, P109, P110, P111, P112, P113, P114, P115, P116, P117, P118, P119, P120, P121, P122, P123, P124, P125, P126, P127, P128, P129, P130, P131, P132, P133, P134, P135, P136, P137, P138, P139, P140, P141, P142, P143, P144, P145, P146, P147, P148, P149, P150, P151, P152, P153, P154, P155, P156, P157, P158, P159, P160, P161, P162, P163, P164, P165, P166, P167, P168, P169, P170, P171, P172, P173, P174, P175, P176, P177, P178, P179, P180, P181, P182, P183, P184, P185, P186, P187, P188, P189, P190, P191, P192, P193, P194, P195, P196, P197, P198, P199, P200, P201, P202, P203, P204, P205, P206, P207, P208, P209, P210, P211, P212, P213, P214, P215, P216, P217, P218, P219, P220, P221, P222, P223, P224, P225, P226, P227, P228, P229, P220, P221, P222, P223, P224, P225, P226, P227, P228, P229, P230, P231, P232, P233, P234, P235, P236, P237, P238, P239, P230, P231, P232, P233, P234, P235, P236, P237, P238, P239, P240, P241, P242, P243, P244, P245, P246, P247, P248, P249, P240, P241, P242, P243, P244, P245, P246, P247, P248, P249, P250, P251, P252, P253, P254, P255, P256, P257, P258, P259, P250, P251, P252, P253, P254, P255, P256, P257, P258, P259, P260, P261, P262, P263, P264, P265, P266, P267, P268, P269, P260, P261, P262, P263, P264, P265, P266, P267, P268, P269, P270, P271, P272, P273, P274, P275, P276, P277, P278, P279, P270, P271, P272, P273, P274, P275, P276, P277, P278, P279, P280, P281, P282, P283, P284, P285, P286, P287, P288, P289, P280, P281, P282, P283, P284, P285, P286, P287, P288, P289, P290, P291, P292, P293, P294, P295, P296, P297, P298, P299, P290, P291, P292, P293, P294, P295, P296, P297, P298, P299, P2910, P2911, P2912, P2913, P2914, P2915, P2916, P2917, P2918, P2919, P2910, P2911, P2912, P2913, P2914, P2915, P2916, P2917, P2918, P2919, P2920, P2921, P2922, P2923, P2924, P2925, P2926, P2927, P2928, P2929, P2920, P2921, P2922, P2923, P2924, P2925, P2926, P2927, P2928, P2929, P2930, P2931, P2932, P2933, P2934, P2935, P2936, P2937, P2938, P2939, P2930, P2931, P2932, P2933, P2934, P2935, P2936, P2937, P2938, P2939, P2940, P2941, P2942, P2943, P2944, P2945, P2946, P2947, P2948, P2949, P2940, P2941, P2942, P2943, P2944, P2945, P2946, P2947, P2948, P2949, P2950, P2951, P2952, P2953, P2954, P2955, P2956, P2957, P2958, P2959, P2950, P2951, P2952, P2953, P2954, P2955, P2956, P2957, P2958, P2959, P2960, P2961, P2962, P2963, P2964, P2965, P2966, P2967, P2968, P2969, P2960, P2961, P2962, P2963, P2964, P2965, P2966, P2967, P2968, P2969, P2970, P2971, P2972, P2973, P2974, P2975, P2976, P2977, P2978, P2979, P2970, P2971, P2972, P2973, P2974, P2975, P2976, P2977, P2978, P2979, P2980, P2981, P2982, P2983, P2984, P2985, P2986, P2987, P2988, P2989, P2980, P2981, P2982, P2983, P2984, P2985, P2986, P2987, P2988, P2989, P2990, P2991, P2992, P2993, P2994, P2995, P2996, P2997, P2998, P2999, P2990, P2991, P2992, P2993, P2994, P2995, P2996, P2997, P2998, P2999, P29100, P29101, P29102, P29103, P29104, P29105, P29106, P29107, P29108, P29109, P29110, P29111, P29112, P29113, P29114, P29115, P29116, P29117, P29118, P29119, P29110, P29111, P29112, P29113, P29114, P29115, P29116, P29117, P29118, P29119, P29120, P29121, P29122, P29123, P29124, P29125, P29126, P29127, P29128, P29129, P29120, P29121, P29122, P29123, P29124, P29125, P29126, P29127, P29128, P29129, P29130, P29131, P29132, P29133, P29134, P29135, P29136, P29137, P29138, P29139, P29130, P29131, P29132, P29133, P29134, P29135, P29136, P29137, P29138, P29139, P29140, P29141, P29142, P29143, P29144, P29145, P29146, P29147, 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P291911, P291912, P291913, P291914, P291915, P291916, P291917, P291918, P291919, P291920, P291921, P291922, P291923, P291924, P291925, P291926, P291927, P291928, P291929, P291910, P291911, P291912, P291913, P291914, P291915, P291916, P291917, P291918, P291919, P291920, P291921, P291922, P291923, P291924, P291925, P291926, P291927, P291928, P291929, P291930, P291931, P291932, P291933, P291934, P291935, P291936, P291937, P291938, P291939, P291910, P291911, P291912, P291913, P291914, P291915, P291916, P291917, P291918, P291919, P291920, P291921, P291922, P291923, P291924, P291925, P291926, P291927, P291928, P291929, P291930, P291931, P291932, P291933, P291934, P291935, P291936, P291937, P291938, P291939, P291940, P291941, P291942, P291943, P291944, P291945, P291946, P291947, P291948, P291949, P291910, P291911, P291912, P291913, P291914, P291915, P291916, P291917, P291918, P291919, P291920, P291921, P291922, P291923, P291924, P291925, P291926, P291927, P291928, P291929, P291930, P291931, 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2. A admin who is not the admin of the RSO attempts to create an event for that RSO



3. An Insert of a member of an RSO with 4 members changes the RSO status to active

COLLECTION SIZE: 383B TOTAL DOCUMENTS: 1 INDEXES T

Find Indexes Schema Anti-Patterns 0

FILTER {"filter": "example"}

QUERY RESULTS 1-1 OF 1

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_id: ObjectId("6085ae5a33c7fe5391377b42")
studentArray: Array
> 0: Object
> 1: Object
> 2: Object
> 3: Object
> 4: Object
name: "RSO"
rsoAdmin: "test@test.com"
university: "UCF"
active: true
__v: 0
```

4. The deletion of a member of an RSO with 5 members changes the RSO status to active

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_id: ObjectId("6085ae5a33c7fe5391377b42")
> studentArray: Array
  name: "RSO"
  rsoAdmin: "test@test.com"
  university: "UCF"
  active: false
  __v: 0
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## Conclusion/Observation

After working on this project for some time, the number one thing we learned from this is that we are not graphic designers. We believe the most challenging portion of this project was the visuals and front end. Being computer science students, we do not have an eye for visual appeal nor do we know how to create good visuals with editing software. While giving it our best, there is still room for some to be desired.

We also would have liked to include some more advanced features such as a scrolling feed of all the events which have been added and are upcoming. This would allow for the user to quickly look at what they may or may not want to attend and participate in. We also believe that a feature that allows for the viewing of past events would be a nice touch.

As we are currently in a global pandemic, we also found that having everything online created its own set of problems and did not allow for the same natural communication and creative process as being face to face creates. This was a struggle for us to overcome as we were only able to meet online and never got to experience the same connection that one gets when in person. We believe that if we were able to meet one another, the project would have turned out very differently.

Another struggle which we had was simply all meeting and finding a time as to which we were all able to work together and brainstorm. As we all have our own schedules, we often had conflicts where only 2 out of the 3 of us would meet. This created a number of problems as one person would no longer be on the same page as the other two. With 2 of us working during the weekdays and being free on the weekends while the other is free on the weekdays and works on the weekends it never seemed as if we were all together online at the same time. As 2 of the group members observed Ramada, this created yet another conflict of interest and required us to request an extension.

We believe our biggest takeaway from this project was the first hand experience we had with working in mongoDB, NodeJS, and ReactJS. This hands on work is invaluable to our progress in both Computer Science as a whole and resume building. While we struggled to keep the team together at times, it also taught us some very critical team building and management skills.