Project Report: College Event Website

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Section 1: Project Description

This project is a web application that displays information for events from multiple universities that users can view. Users can register an account with a name, password, email, phone number, and their university they are currently attending. Users are then alerted that their account has been created with a UID, which they need to remember in order to log in with their password.

Events can be public, private, or associated with a registered student organization (RSO). Events also have a name, description, date, start time, end time, location, university that is hosting it, contact phone and email address, and possibly a RSO that is hosting it. Public events are visible to all users, while private events are only visible to users that are attending the university that is hosting it. An RSO event is only visible to users that are members of that RSO. An RSO has an admin user, who manages requests to join the RSO. A normal user can request to join or create a new RSO with 4 other users. If the request to create an RSO is approved by a super admin, one of the 5 members of this new RSO is made an admin. Normal users can also view RSOs they are members of and choose to leave them if desired. Normal users can additionally add/edit/delete their own comments and leave a rating for an event. An RSO is considered active if there are at least 5 members, otherwise it is considered inactive. A super admin can create a university profile in the web application. Only admins can create events. Additionally, to create a RSO event, the admin must be a member of that RSO.

Section 2: GUI/Development Information

The platform used to develop the web application was Visual Studio code. The programming and markup languages used were Javascript, HTML, and SQL. The Database Management System used was Microsoft SQL Server Management Studio. The following screenshots are the user interfaces in the web application with labels.



Figure 2: User Registration

Register As New User

Instructions: Please fill out form as accurately as possible Name: Password: Email: Phone Number: ex: 904-123-4567 University Currently Attending:

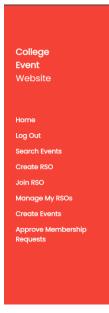
Figure 3: Normal User Home Screen

College
Event
Website

Home
Log Out
Search Events
Create RSO
Join RSO
Manage My RSOs

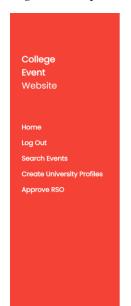
Welcome, knightsclubmember3

Figure 4: Admin User Home Screen



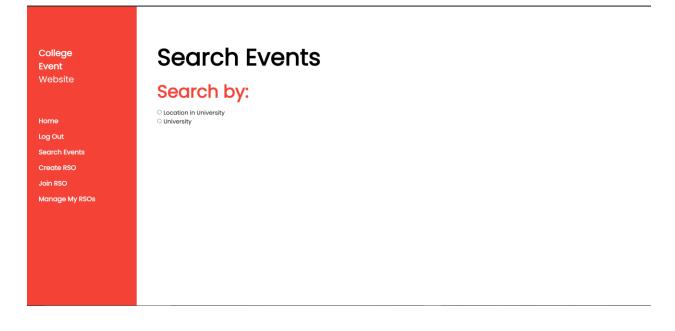
Welcome, Knights Club Admin

Figure 5: Super Admin Home Screen



Welcome, Josh

Figure 6 and 7: Search Events



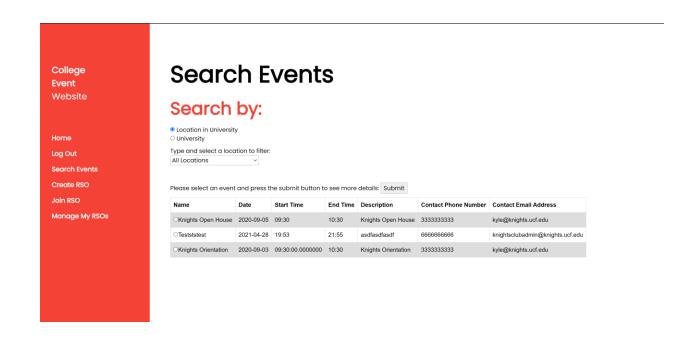
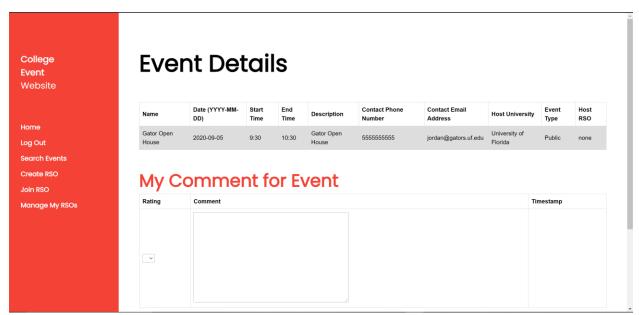


Figure 8 and 9: Event Information and Comments



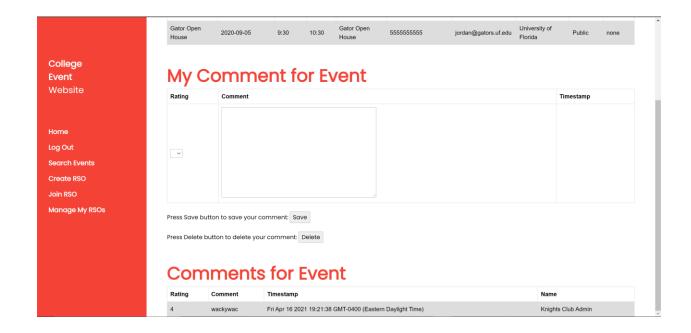


Figure 10: Create RSO

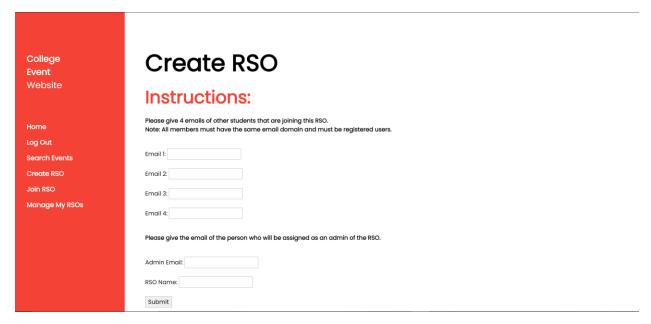


Figure 11: Join RSO

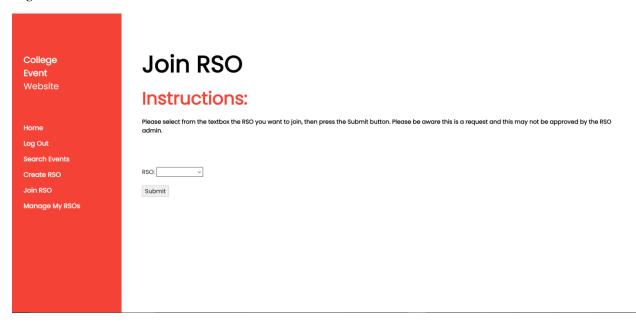


Figure 12: Manage my RSOs

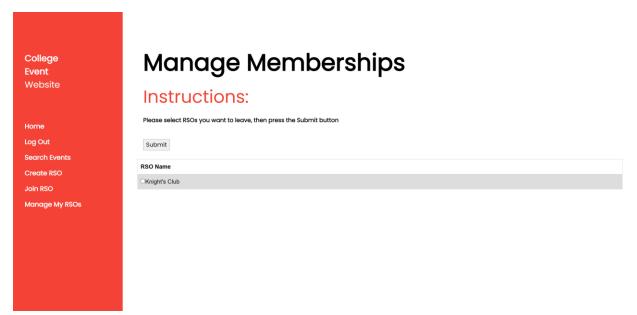
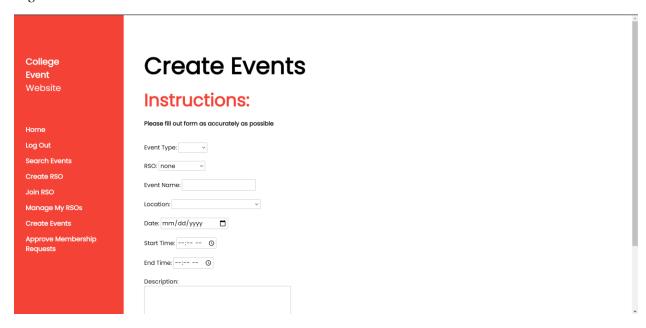


Figure 13 and 14: Create Events



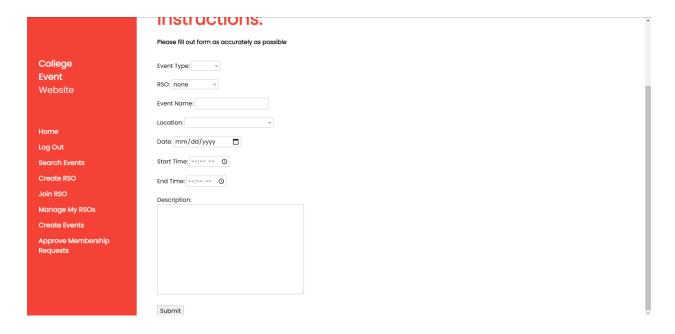


Figure 15: Approve Membership Requests

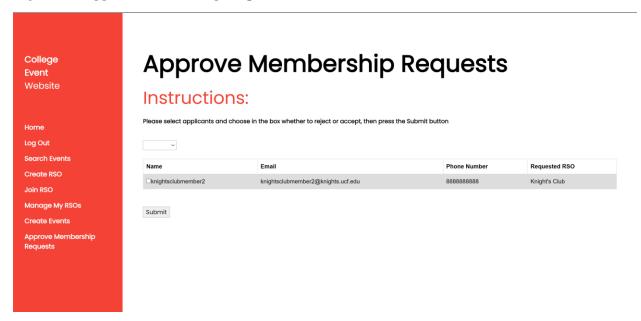


Figure 16: Create University Profiles

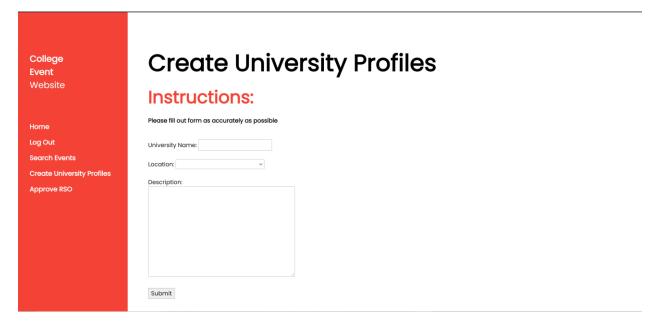
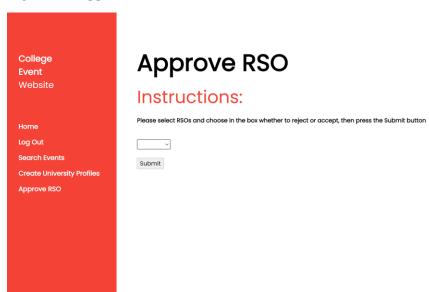
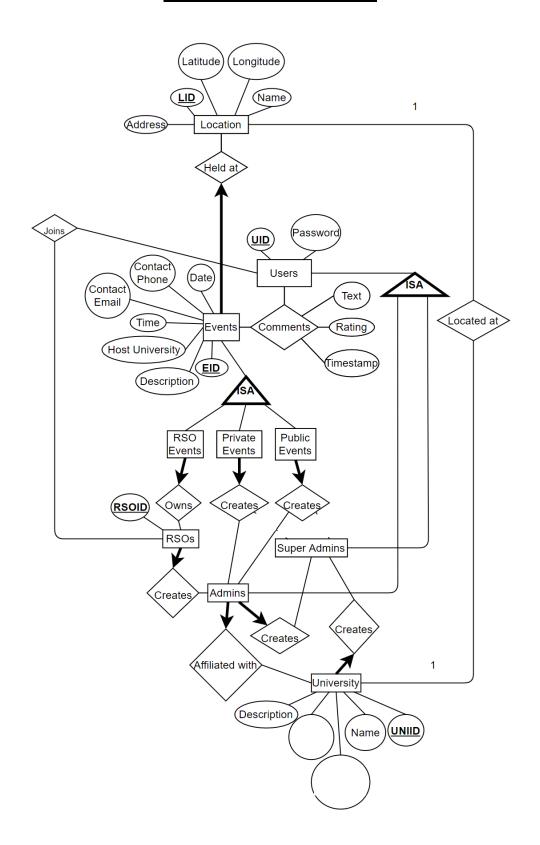


Figure 17: Approve RSO



Section 3: ER-Model



Section 4: Relational Data Model

Figure 1: User Table

```
USE [CollegeEventD8]
60

/******* Object: Table [dbo].[User] Script Date: 4/18/2821 2:26:42 AM ******/
SET ANSI_NULLS ON
60

SET QUOTED_IDENTIFIER ON
60

ECREATE TABLE [dbo].[User](

[UID] [int] NOT NULL,

[Password] Inchar](40) NOT NULL,

[[Password] Inchar](40) NOT NULL,

[[Phone_Number] Inchar](40) NOT NULL,

[User_Type] [nchar](20) NOT NULL,

[User_Type] [nchar](20) NOT NULL,

[Constraint [Pk_User] PRIMARY KEY CLUSTERED (

[UID] ASC

[UID] ASC

[UID] ASC

[UID] Intell ADD INDEX = OFF, STATISTICS_NORECOMPUTE = OFF, IGNORE_DUP_KEY = OFF, ALLOM_ROW_LOCKS = ON, ALLOM_PAGE_LOCKS = ON, OPTIMIZE_FOR_SEQUENTIAL_KEY = OFF) ON [PRIMARY]
60

ALTER TABLE [dbo].[User] ADD CONSTRAINT [DF_User_Phone_Numb_470BAE45] DEFAULT ('0') FOR [Phone_Number]
60

ALTER TABLE [dbo].[User] ADD CONSTRAINT [default_User_Type] DEFAULT ('User') FOR [User_Type]
60
```

Figure 2: University_Affliliation Table

```
USE [CollegeEventD8]

GO

/****** Object: Table [dbo].[University_Affiliation] Script Date: 4/18/2621 2:29:05 AM ******/

SET ANSI_NULLS ON

GO

SET QUOTED_IDENTIFIER ON

GO

SCREATE TABLE [dbo].[University_Affiliation](

[UID] [int] NOT NULL,

[UNIID] [int] NOT NULL,

[UNIID] [int] NOT NULL,

[ON [PRIMARY]

GO

SALTER TABLE [dbo].[University_Affiliation] MITH CHECK ADD CONSTRAINT [FK_University_Affiliation_University] FOREIGN KEY([UNIID])

REFERENCES [dbo].[University_Affiliation] CHECK CONSTRAINT [FK_University_Affiliation_University]

GO

ALTER TABLE [dbo].[University_Affiliation] MITH CHECK ADD CONSTRAINT [FK_University_Affiliation_University]

GO

ALTER TABLE [dbo].[University_Affiliation] MITH CHECK ADD CONSTRAINT [FK_University_Affiliation_User] FOREIGN KEY([UID])

[REFERENCES [dbo].[University_Affiliation] CHECK CONSTRAINT [FK_University_Affiliation_User] FOREIGN KEY([UID])

GO

ALTER TABLE [dbo].[University_Affiliation] CHECK CONSTRAINT [FK_University_Affiliation_User]
```

Figure 3: University Table

Figure 4: RSOs Table

Figure 5: RSO_Memberships Table

Figure 6: RSO_Join_Requests Table

Figure 7: RSO_Create_Requests Table

Figure 8: Location Table

Figure 9: Events Table

Figure 10: Comments Table

```
USE [CollegeEventD8]

GO

/**********Object: Table [dbo].[Comments] Script Date: 4/18/2821 2:36:25 AM ******/

SET ANSI_NULLS ON

GO

SET QUOTED_IDENTIFIER ON

GO

CREATE TABLE [dbo].[Comments](
   [UID] [int] NOT NULL,
   [EID] [int] NOT NULL,
   [EID] [int] NOT NULL,
   [Comment] [text] NULL,
   [Int] [Int] NOT NULL,
   [Int] [Int] [Int] [Int] [Int] [Int] [Int]

GO

ALTER TABLE [dbo].[Comments] MITH CHECK ADD CONSTRAINT [FK_Comments_EID_2F108078] FOREIGN KEY([EID])

GO

ALTER TABLE [dbo].[Comments] CHECK CONSTRAINT [FK_Comments_UID_29572725] FOREIGN KEY([UID])

REFERENCES [dbo].[Comments] MITH CHECK ADD CONSTRAINT [FK_Comments_UID_29572725] FOREIGN KEY([UID])

GO

ALTER TABLE [dbo].[Comments] MITH CHECK ADD CONSTRAINT [FK_Comments_UID_29572725] FOREIGN KEY([UID])

GO

ALTER TABLE [dbo].[Comments] CHECK CONSTRAINT [FK_Comments_UID_29572725]
```

Section 5: Sample Data for Relational Data Tables

Figure 1: User Data

	UID	Password	Name	Email	Phone_Number	User_Type
1	1	password	Josh	josh@knights.ucf.edu	111-111-1111	Super_Admin
2	2	password	Dylan	dylan@knights.ucf.edu	222-222-2222	User
3	3	password	Kyle	kyle@knights.ucf.edu	333-333-3333	Admin
4	4	password	Pedro	pedro@ospreys.unf.edu	444-4444-444	Admin
5	5	password	Jordan	jordan@gators.uf.edu	555-555-5555	Admin
6	6	normalpassword	Knights Club Admin	knightsclubadmin@knights.ucf.edu	666-666-6666	Admin
7	7	goodpassword	knightsclubmember1	knightsclubmember1@knights.ucf.edu	777-777-7777	User
8	8	betterpassword	knightsclubmember2	knightsclubmember2@knights.ucf.edu	888-888-8888	User
9	9	bestpassword	knightsclubmember3	knightsclubmember3@knights.ucf.edu	999-999-9999	User
10	10	supremepassword	knightsclubmember4	knightsclubmember4@knights.ucf.edu	000-000-0000	User
11	11	ultimatepassword	knightsclubmember5	knightsclubmember5@knights.ucf.edu	101-010-1010	User
12	12	joepassword	Joe	joe@ospreys.unf.edu	999-888-7777	User
13	13	shmopassword	Shmo	shmo@ospreys.unf.edu	666-555-4444	User
14	14	maxcoffee	Hachiman	hachiman@ospreys.unf.edu	333-222-1111	User
15	15	yahallo	Yui	yui@ospreys.unf.edu	111-222-3333	User
16	16	panthepanda	Yukino	yukino@ospreys.unf.edu	444-555-6666	Admin
17	17	pawnch	Shizuka	shizuka@ospreys.unf.edu	777-888-9999	Super_Admin

Figure 2: University Data

	Description	Name	UNIID	LID
1	Knights	University of Central Florida	1	1
2	Ospreys	University of North Click to	select	the
3	Gators	University of Florida	361661	J LITE V
4	Bulls	University of South Florida	4	5

Figure 3: University_Affliliation Data

UID	UNIID
2	1
3	1
4	2
5	3
6	1
7	1
8	1
9	1
10	1
11	1
12	2
13	2
14	2
15	2
16	2
17	2

Figure 4: RSOs Data

RSOID	Adm	Name	Status
1	6	Knight's Club	Active
2	16	Service Club	Inactive

Figure 5: RSO_Memberships Data

RSOID	UID
1	6
1	11
1	9
1	7
1	10
2	14
2	15
2	16

Figure 6: RSO_Join_Requests

UID	RSOID
12	2
13	2
2	1

Figure 7: RSO_Create_Requests

	Name	Admin Email	Member 1 Email	Member 2 Email	Member 3 Email	Member 4 Email	Member 5 Email
1	Max Coffee Appreciation Society	hachiman@ospreys.unf.edu	hachiman@ospreys.unf.edu	yui@ospreys.unf.edu	yukino@ospreys.unf.edu	shizuka@ospreys.unf.edu	joe@ospreys.unf.edu

Figure 8: Location Data

	Name	LID	Address
1	University of Central Florida	1	4000 Central Florida Blvd, Orlando, FL 32816
2	University of North Florida	2	1 UNF Dr, Jacksonville, FL 32224
3	University of Florida	3	Gainesville, FL 32611
4	Student Union	4	12715 Pegasus Dr, Orlando, FL 32816
5	University of South Florida	5	4202 E Fowler Ave, Tampa, FL 33620
6	Teaching Academy	6	4221 Andromeda Loop N, Orlando, FL 32816
7	Classroom Building 2	7	University of Central Florida, 12650 Gemini Blvd N, Orlando, FL 32816
8	Classroom Building 1	8	University of Central Florida, 12601 Aquarius Agora Dr, Orlando, FL 32816

Figure 9:Events Data

	LID	EID	Name	Date	Start Time	End Time	Description	Contact Phone Number	Contact Email Address	Host_University	Event_Type	Host_RSO
1	1	1	Knights Orientation	2020-09-03	9:30	10:30	Knights Orientation	333-333-3333	kyle@knights.ucf.edu	1	Private	NULL
2	2	2	Osprey Orientation	2020-09-03	9:30	10:30	Osprey Orientation	444-444-4444	pedro@ospreys.unf.edu	2	Private	NULL
3	3	3	Gator Orientation	2020-09-03	9:30	10:30	Gator Orientation	555-555-5555	jordan@gators.uf.edu	3	Private	NULL
4	4	4	Knight's Club GBM	2020-09-04	8:00	10:30	Knight's Club GBM	666-666-6666	knightsclubadmin@knights.ucf.edu	1	RSO	1
5	1	5	Knights Open House	2020-09-05	11:30	1:30	Knights Open House	333-333-3333	kyle@knights.ucf.edu	1	Public	NULL
6	2	6	Osprey Open House	2020-09-05	11:30	1:30	Osprey Open House	444-444-4444	pedro@ospreys.unf.edu	2	Public	NULL
7	3	7	Gator Open House	2020-09-05	11:30	1:30	Gator Open House	555-555-5555	jordan@gators.uf.edu	3	Public	NULL
8	6	8	Service Club Study Session	2021-04-28	19:50	21:50	Need help with finals? Come to our study session!	444-555-6666	yukino@ospreys.unf.edu	2	Public	2

Figure 10: Comments Data

	UID	EID	Rating	Comment	Timestamp
1	6	7	1	wackywac	1618615298821
2	7	1	5	GOOD STUFFFFFFF	1618615998821
3	9	1	5	YESSSS	1698615298821
4	14	2	3	Average. Did not offer Max Coffee.	1615615298821
5	15	2	4	It was so fuuunnnn! Got to meet really awesome p	1619615298821
6	16	2	1	It was awful. There was no Pan the Panda, althou	1618615298821

Section 6: SQL Examples

1. SQL statement to insert new RSO (part of the processing of the 'Create RSO')

Where allEmails is an array of 5 emails of the members of a potential RSO

2. SQL statement to insert a new student to an existing RSO (part of processing of the 'Join RSO' form)

```
queryString = 'Insert into [dbo].[RSO_Memberships] values(' + inputRSOID + ', ' +
inputUID + ')';
```

Where inputRSOID is the RSOID of the desired RSO and inputUID is the UID of the user wishing to join the RSO.

3.SQL statement to insert a new event (part of the processing of the 'Create Event' form)

```
queryString = 'Insert into [dbo].[Events] values(' + LID + ', ' + newID + ', \''
+ eventName + '\', \'' + date + '\', \'' + startTime + '\', \''
+ endTime + '\', \'' + description + '\', \'' + phone + '\',
\'' + email + '\', ' + hostUniversity + ', \'' + eventType + '\', ' + hostRSO + '
)';
```

Where LID is the LID of a location an event is held at, newID is the EID of the new event, eventName is the name of the event, date is the date of the event, startTime is the start time of the event, endTime is the end time of the event, description is the description of the event, phone is the contact phone number of the event, email is the contact email of the event, hostUniversity is the UNIID of the university hosting the event, eventType is the type of event, and hostRSO is the RSOID of the RSO hosting the event.

4. SQL statement to insert/update a (new) comment (part of the processing of the 'Create/Add/Modify Comment' form)

Insert:

Where inputUID is the UID of the user wishing to join the RSO, inputEID is the EID of the event being commented on, rating is the user rating on the event, comment is the user comment text on the event, and timestamp is the timestamp of the comment.

Delete:

```
queryString = 'Delete from [dbo].[Comments] Where EID = ' + inputEID + ' AND UID
= ' + inputUID;
```

Updating a comment is the SQL statement for delete followed by the one for Insert.

5.Several SQL queries to display events—public, private, and RSO-- (part of the processing of the 'View Event' request by a user with a specific role)

Get Private events:

```
sqlQuery = 'Select * From [dbo].[Events] Where Host_University = ' + UNIID + ' AN
D Event_Type = \'Private\'';
```

Where UNIID is the UNIID of the user's university

Get Public events:

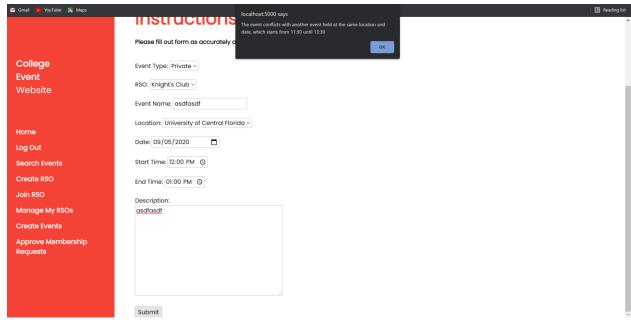
```
sqlQuery = 'Select * From [dbo].[Events] Where Event_Type = \'Public\'';
```

Get RSO events:

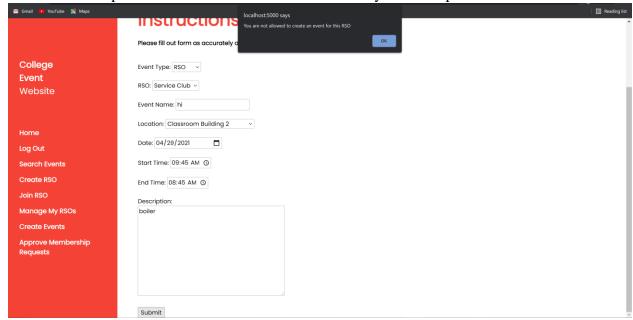
```
sqlQuery = 'Select * From [dbo].[RSO_Memberships] Where UID = ' + userData.record
set[0].UID;
        RSOMembershipData = await SQLquery.query(sqlQuery);
        RSOMembershipData = JSON.parse(RSOMembershipData);
        //console.log(RSOMembershipData);
        sqlQuery = 'Select * From [dbo].[Events] Where Host_University = ' + UNII
D + ' AND Event_Type = \'RSO\'';
        if (RSOMembershipData.recordset.length > 0)
            sqlQuery = sqlQuery.concat(' AND (');
        for (var i = 0; i < RSOMembershipData.recordset.length; i++){</pre>
            sqlQuery = sqlQuery.concat(' Host_RSO = ' + RSOMembershipData.records
et[i].RSOID);
            if (i < RSOMembershipData.recordset.length - 1)</pre>
                sqlQuery = sqlQuery.concat(' OR ');
            if (i == RSOMembershipData.recordset.length - 1)
                sqlQuery = sqlQuery.concat(')');
        // if person has no RSO memberships, this query returns empty
        if (RSOMembershipData.recordset.length == 0)
            sqlQuery = sqlQuery.concat( ' AND EID = 0');
```

Section 7: Constraints

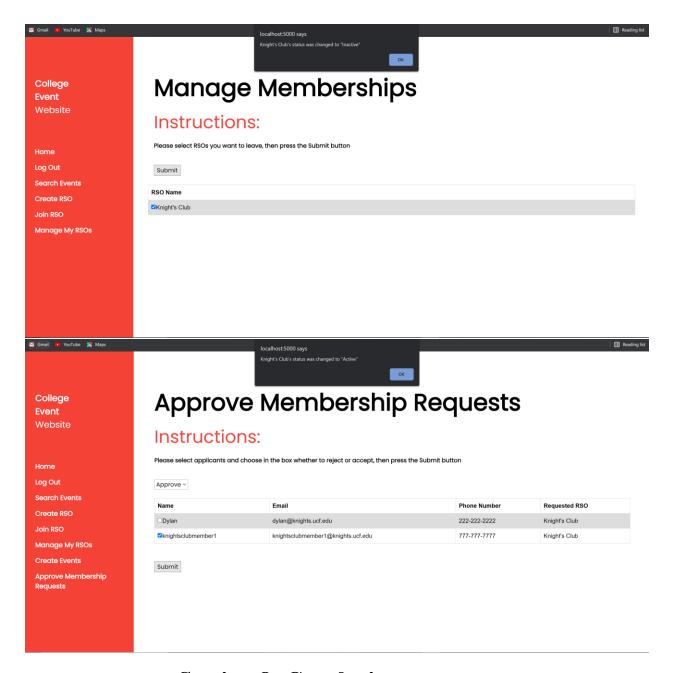
1. New event held at the same location and has an overlapping duration with an existing event: error.



2. An admin attempts to create an event for an RSO that they are not a part of: error.



3. Status of club changes between active and inactive.



Section 8: Conclusion

Since there were not much data stored in the tables, the query speeds were fast, so the default searching implementation that MS SQL Server offered was used. Since all IDs used in the tables that needed it were unique and of small magnitude, search indexing could be based on that.

Some desired future implementation would be to load data in xml from external sources to populate tables with data, like the Location table, as I had to manually input the data. Additionally, there were not many options for the kinds of data one could input into event information, such as pictures. I would want to add additionally functionality where videos, pictures, and other media could be uploaded. There were many problems encountered, and some

of which are still present. For example, it was not mentioned until now that the web application cannot handle some special character inputs, like apostrophes, due to the use of the ejs template for html. Additionally, the data type nchar(some number) sent data with trailing spaces, which made results from select statements inaccurate to some degree. This was easily fixed with Javascript's .trim() method. Also, the choice of how a web server was going to be hosted was difficult as well, since I had no prior experience. I had to decide between using Node.js or Internet Information Services Manager to handle this, which I ended up choosing the former since it was nicely integrated into Visual Studio code. Also, this was the first time I have coded in Javascript and HTML, so concepts like asynchronous functions were new to me, which would later be needed in the development. This web application was by no means advanced; however, if I had other people to work with that had expertise in specific areas like xml and web hosting, the website could have had more advanced features.