# Group Report Eversity - College Event Website COP4710-22Spring Matthew Singh & Exdol Davy **Table of Contents**

- > Project Description
  - Page: 1
- ≻ GUI
  - Page: 2 3
- ➤ SQL Examples
  - Page 4 7
- ≻ ER-Model
  - Page: 8
- ➤ Relational Data Model
  - Page: 9
- > Constraint Enforcement
  - Page: 10 11
- ➤ Advanced Features
  - Page: 12
- > Conclusion/Observation
  - Page: 13

### **Project Description**

The Eversity Web Application is a web-based implementation of a given university's postings of events. Students are able to register using their first name, last name, university affiliated email, and a secure password of their choosing. Afterwards, the student will be able to login using their registered email and password. Upon creating a university, a super admin can provide the university's email domain. This way, there are no complications with non-existent university affiliated names.

When logged in, users are sent to the dashboard page, where they can see recent events, upcoming events, and super admins are able to see pending events in addition to the other displays. Our web application has a useful navigation bar at the top of the user's screen that gives them the option to view the dashboard page, event listing page, RSO listing page, and the option to logout if they so choose.

## **GUI & Platform**

The platform that our web-application primarily runs on is any functional html, css, and javascript supportive desktop web browser. However, we've utilized bootstrap and other dynamic css and html syntax to create functionality and usability even on mobile web browsers and/or web browsers viewed on unconventional screen dimensions.

#### Languages & DBMS

The languages used for the project were html, css, and javascript. In addition to this, interaction with our database required us to use SQL. Speaking of which, the DBMS used was PostgreSQL. Node.js, express.js, Visual Studio Code, DataGrip, and an Advanced REST client were also important tools for local testing of our project.

## **GUI Screenshots**

	Dashboard Events RSOs								
ŀ	All RSOs		Create RSD						
	• A student joining an RSO:								
	Name	Approved	Description						
	Rock Climbing Club	NO	Club for climbing and bouldering						
			2						

• Creating a new RSO:

• Creating a new Event:

Dashboard Events RSOs	
Upcoming Events	Create Event

• Creating/Modifying/Deleting a comment:

Review	
Test comment	,
★ ★ ★ ☆ Submit	
Exdol Davy - 1 seconds ago Test comment	

## • Viewing an Event:



• Viewing an RSO:



# **SQL Examples**

• SQL statement to insert a new RSO (part of the processing of the 'Create RSO' form),

show results

IN (n	SERT INTO rso ame, descript	s (n ion,	ame, descrip university_	otion, _id, us	universi ser_id)	ty_id,	ad	min_id)	) VA	LUES	5
1 🗸	INSERT INTO rsos (nam	e, desc	ription, university_id	d, admin_id)	) VALUES ('Compu	ter Club', '	-', 1	, 9);			×
2 🗸	SELECT * FROM rsos;										
										x	≎ —
<b>6</b>	Dutput 🏾 🧮 d3r9cmrsvpftn9.public	.rsos $ imes$									
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	📑 id 🗧 📰 name		🖽 description			🖽 approved	÷	created_at			÷ .
1	2 Rock Climbing Cl	ub	Club for climbing and	bouldering		false	2	022-04-08 06	:19:36	.899170	
2	20 Database Systems	Club	Talk about databases	:)		false	2	022-04-15 00	:19:21	.232200	
3	3 Coding Club		We love coding and so	lving probl	ems through c…	• true	2	022-04-08 06	:19:36	.899170	Ð
4	21 Computer Club		-			false	2	022-04-15 01	:49:47	.404206	5

• SQL statement to insert a new student to an existing RSO (part of the processing of the

'Join RSO' form), show results

INSERT INTO member\_of (user\_id, rso\_id) VALUES (req.user.user\_id, rsoId);

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1 🗸		member_of (user_:													
2 🗸		M member_of;													
🖽 m															
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<b>T-</b> W															
					J∏ name	; ∭ description			: 🌆 name		∭a email :	: I≣ password		調 aut	
1				1 0	Pock Climbing Club	Club for climbing a	nd houldening		6 Danielle	Powe	daniellenowe@kn	\$25\$10\$0001	104		
1					Detekers Outtone Oliv					1.0	uanie c cer owelukna	\$20\$10\$7931p			
2					Database systems club	Talk about database			8 Nathanie		natedavy@knight.				
3				3 3	Coding Club	We love coding and	solving proble…		7 Exdol Da		exdoldavy@knigh.	\$2b\$10\$/8MP6	gMM		
4									5 Jane Doe		janedoe@knights.	\$2b\$10\$5Sm0j			
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< ⇒															
	📲 user_id 🗧	📑 rso_id ÷													
1															
2															
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• SQL statement to insert a new event (part of the processing of the 'Create Event' form),

show results

INSERT INTO events (name, date, contact\_phone, contact\_email, rso\_id, location, description, type, creator\_id) VALUES (name, date, contactPhone, contactEmail, rsoId ? rsoId : null, '(' + location.lat + ', ' + location.lng + ')', description, type, req.user.user\_id)

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	events ×			
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<b>T</b> -				
	j∰id ÷ ∰Iname ÷		J≣ type ≑ J≣ approved ÷	I∰ rso_id ÷ I⊞ location
1	9 Eversity Project is Finished Party!	Let's all come together to celebrate the completion of this amazing pro…		3 (28.601152162357906,-81.20099731
2		Bit stressed over studying for finals? Come join us on our stress reli		<null> (28.5863865,-81.198992)</null>
3	14 NAUI Open Water SCUBA Certification	About∉∉Outdoor Adventure is proud to partner with Ranger Rick's SCUBA …		<null> (28.59902,-81.201963)</null>
4	13 Bikepacking Take Two	Explore the open road with Outdoor Adventure! We'll be taking a differe…		<null> (28.601152162357906,-81.20099731</null>
5	10 End of Spring 2022 Party	This party takes place at the end of the semester and during the event,		3 (28.601152162357906,-81.20099731
6				
7				
				* -
-				
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	🙀 id ÷ 🖽 name 🕴 ÷	III description ÷	🔢 type 🗧 🔢 approved 🗧	I鼒rso_id ÷ III location
1		Let's all come together to celebrate the completion of this amazing proj…		
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3	14 NAUI Open Water SCUBA Certification	About≓⊴Outdoor Adventure is proud to partner with Ranger Rick's SCUBA A…		<null> (28.59902,-81.201963)</null>
4	13 Bikepacking Take Two			<null> (28.601152162357906,-81.20099731620664</null>
5				
6				
7				<null> (28.601152162357906,-81.20099731620664</null>
8				

• SQL statement to insert/update a (new) comment (part of the processing of the

'Create/Delete Comment' form), show results

IN (e	INSERT INTO comments (event_id, user_id, text, rating) VALUES (eventId, user_id, text, rating)									
1 🗸	INSERT INTO comments (event_id, user_id, text, ra	ating) VALUES (	9, 9, 'Really f	un event!' <b>, 5);</b>						
2 🗸	SELECT * FROM comments;									
					\$					
Þ	Dutput III d3r9cmrsvpftn9.public.comments ×									
К	< 7 rows -> >   🕄 🔳   + - 🗇 🗠 🛧   Tx: Auto ->	DDL 🖈		CSV	-   ± ∓ +‡   @					
	jīgid ÷ j≣ text ÷	📭 user_id 🗧	📲 event_id 🗧	📲 rating 🗧 📲 created_a	at ÷					
1	1 Really fun experience		8	5 2022-04-11	21:09:01.577603					
2	2 Really good food		8	5 2022-04-11	22:47:41.756648					
3	3 I'd say this was a really good experience		8	5 2022-04-12	16:01:07.853831					
4	6 yur			5 2022-04-14	22:51:32.138632					
5	9 Looking forward to this!		14	5 2022-04-15	00:18:12.766118					
6	12 Really fun event!			5 2022-04-15	01:45:49.382500					
7	13 Really fun event!	9	9	5 2022-04-15	01:46:32.615328					

DELETE FROM comments WHERE id = commentId

1 🗸	<pre>DELETE FROM comments WHERE id = 13;</pre>							~			
2 👻	<pre>SELECT * FROM comments;</pre>										
							*	—			
6	😝 Output 🛛 🌐 d3r9cmrsvpftn9.public.comments 🛛										
<	< 6 rows < > >   😘 🔳 + - 🕤 👒 🕆   Tx: Auto <	DDL 🖈			CSV ~	± ∓ -	¢   Q	¢,			
	💀 id 🗧 🌆 text 🗘 🗘	🧗 user_id 🗧	📲 event_id 🕈	📲 rating 🗧	📲 created_a			\$			
1	1 Really fun experience		8		2022-04-11 :	21:09:01.	577603	3			
2	2 Really good food		8		2022-04-11 :	22:47:41.	.756648	3			
3	3 I'd say this was a really good experience		8		2022-04-12	16:01:07.	853831	1			
4	6 yur				2022-04-14	22:51:32.	138632	2			
5	9 Looking forward to this!		14		2022-04-15	0:18:12.	.766118	3			
6	12 Really fun event!				2022-04-15	91:45:49.	.382500	Ð			

• Several SQL queries to display events—public, private, and RSO-- (part of the

SE	SELECT * FROM events WHERE type = 0;									
1 💊	SELECT * FROM events	NHERE type = 0;								
				:						
Þ	Output 🔠 d3r9cmrsvpftn9.public	.events $ imes$								
1<	< 2 rows ~ > >  😘 🔳	+ - 5 🤤 🕇 🛛 Tx	: Auto 🗸 🛛 DDL 🖈	csv ~   ± ∓ ₊; •						
	📲 id 🗧 🔚 name		∎ description ÷	🖽 type 🗧 🖽 approved 🗧						
1	9 Eversity Project	is Finished Party!	Let's all come together to celebrate the comp	0 • true						
2	13 Bikepacking Take	Тwo	Explore the open road with Outdoor Adventure!	0 • true						

processing of the 'View Event' request by a user with a specific role), show results

SEI	SELECT * FROM events WHERE type = 1;									
1 🗸	SELECT * FROM events WHERE type =									
			\$							
Þ	Output III d3r9cmrsvpftn9.public.events ×									
K	< 4 rows < > >   🕄 🔳   + - 🕤 @	Tx: Auto 🗸 🛛 DDL 🛛 🖈	csv 🗸 🛨 🛧 🗲 🔍							
	📭 id 🗧 🔚 name	🗧 🎝 description	🗧 📰 type 🗧 🖽 approved 🗧							
1	12 Stress Relief Hike	Bit stressed over studying for	finals? Come … 1 • true							
2	14 NAUI Open Water SCUBA Certif:	ication About⇔eOutdoor Adventure is pro	ud to partner… 1 • true							
3	10 End of Spring 2022 Party	This party takes place at the en	d of the seme 1 • true							
4	8 Block Party	Really fun block party	1 • true							
SE	LECT * FROM events WHERE	type = 2;								

1 🗸	SELECT * FROM events WHERE type = 2			
				<b>\$</b> -
<b>&gt;</b> Ou	tput 🔄 🧮 d3r9cmrsvpftn9.public.events 🛛			
	1row 🗸 👌 🗏 🔓 🗧 🕇 🕂 🗇 👰 1	Tx: Auto 🗸 DDL 🖈	csv ~ 🛛 🛨 구 🔸	<b>⊙</b> ¢
	çid ≑ 🎚∄ name		🗧 📑 type 🗧 📑 approved	÷ 📭 n
1	11 Bikepacking	Explore the open road with Outdoo	or Adventure!… 2 false	

• SQL statements of interest (optional), e.g., advanced SQL queries

SELECT comments.id, comments.text, comments.rating, comments.created\_at,users.name, users.id as user\_id FROM comments INNER JOIN users ON comments.user\_id = users.id WHERE comments.event\_id = event\_id;

1 🗸	SELECT	comments.id	, comments.text	, comments.	rating,	comments.created_at,	users.	name, users.i		user_id	FROM	comme
<b>§</b> C	Output 🏾 🏢	Result 12 $ imes$										
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	🔳 id 🗘	🖪 text		🔳 rating 🗧	🔳 cre	ated_at		🔳 name			user_:	id ‡
1	6	yur		Ę	5 2022-0	94-14 22:51:32.138632		Jane Doe				
2	12	Really fun	event!	Ę	5 2022-0	04-15 01:45:49.382500		Matthew Sing	h			

# ER Diagram



During the early stages of the project, the ERD was constructed to be the image to the left. However, after simplifying the requirements, the ERD in the image below was deemed a better fit/representation.



## **Relational Data Model**



# **Constraint Enforcement**

o A new event to be held at the same location and overlapping times with an existing event: Show error message with enough detail such as the conflicting event, time, location, etc.



o An admin who is not the Admin of the RSO attempts to create an event for that RSO: Show an error message.



o An INSERT of a member of an RSO with 4 members: Show the status of the RSO changing to 'Active.' A DELETE of a member of an RSO with 5 members: Show the status of the RSO changing to 'Inactive.'



●●●         ③ Eversity         ×         +         ✓           ←         →         C         △         (0) http://locallhost.8080/rsos         △         ∞         (0) ★         (0) ★         (0) ★         (1) ↓			
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			Join
	Name	Approved	Description
	Database	NO	Talk about databases :)
	Systems Club		
	Name	Approved	Description
	Coding Club	YES	to be one.

#### **Advanced Features**

#### JWTs (Javascript Web Tokens)



#### Password Hashing



Reverse Geocoding (Obtaining location string from pair of coordinates)



#### Remote SQL Database (Heroku PostgreSQL)



#### Conclusion

In conclusion, the project went 89% in the direction that the "Eversity" team expected. The database performance was as enhanced as it could be, reducing any unnecessary query response times. For desired features, passwords were appropriately and irreversibly hashed to be stored in the database, event feeds from universities were simulated by hand, and social networking was supported as our web based application allowed users to screenshot events however they'd like, in addition to the location of their desired events.

Problems that were encountered during the project were but not limited to lack of sufficient time for perfection and meeting scheduling, repository code push conflicts, and typical bugs and errors to meet constraint requirements. Things needed to help master this would be proper week-by-week project planning, funding, and a way to do code reviews among team members.

One thing that the "Eversity" team appreciated during this project was the ability to compromise. For example, having done the ERD before the correct ERD was released, the team members were sure that the artificial ERD was optimal, but according to the course, it was not. The team was able to quickly rethink how the project would be conducted and carried on. It's because of this lack of dwelling why testing and debugging was as fluid as it was. Compromising is definitely in the job description of the Software Development Engineering title.