University Events

Course: COP 4710 M/W 6:00pm Summer 2016

Group 7:

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Project Description:

We were tasked with creating a website that allowed the creation, viewing, and interaction with events affiliated with Universities. This was made possible by allowing creation/management of a University, the creation/management of RSOs, and the creation/management of individual accounts all within our website and stored on an implemented database. These accounts interact with the event functionality and management of the website to control and view the database information.

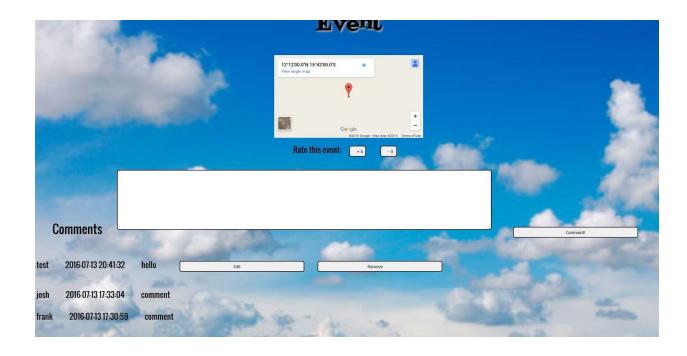
GUI: Platform, languages, DBMS, screen shots of 'Create RSO,' 'Create Event,' 'View Event,' etc.

Languages used to build the GUI include HTML, CSS, PHP, Javascript, and JQuery. Languages used to implement the functionality and database include PHP and SQL.

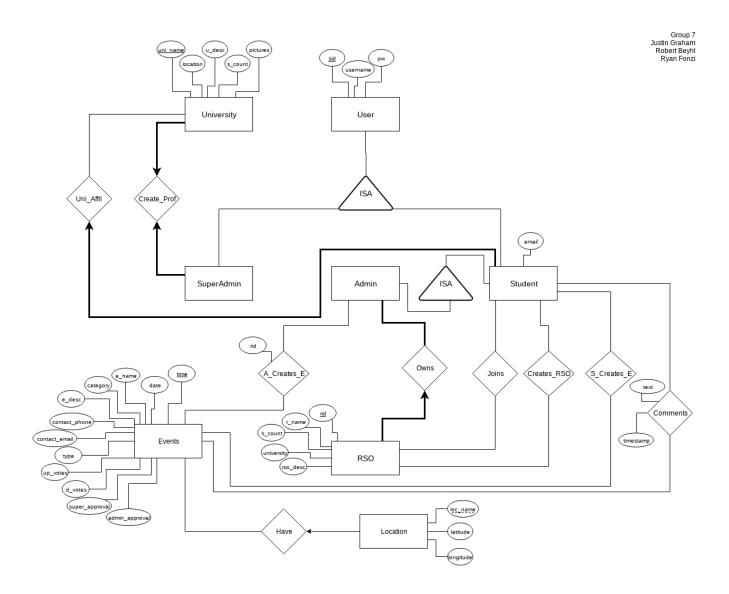
Create RSO						
	RSO Name:	_	88			
Description:	emal/givebste.com	management of				
000	emai@vebste.com emai@vebste.com emai@vebste.com	-0-4	Section .			
	emai@websle.com CREATE RSO					

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	time: HHMMSS				
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		Category Public >	Mary 1		1
The second					
Description					00/0/10
	Contact Phone			A STATE OF	
	Event Type	Aller .			
Marine Committee of the	Location Name			Mills	
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Longitu	ide		CREATE EVENT		

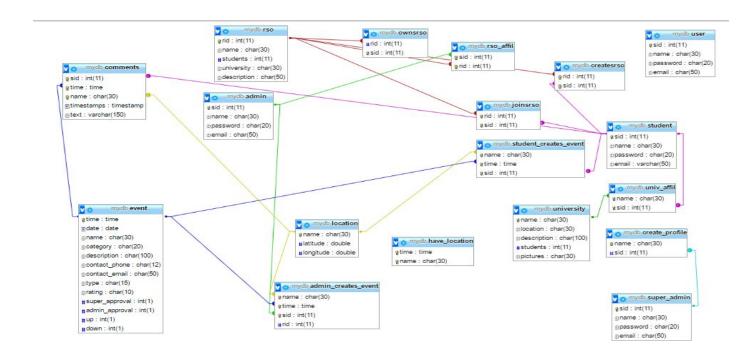
Public Events			
Event Name	Date	Event Time	
HAPPY Event	2016-07-24 2016-12-03	11:21:06 12:03:45	
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ER-Model: ER diagram, constraints captured in the ER-model and other general constraints to be enforced by other means, such as assertions, triggers... 3NF decomposition (if required)



The relational data model: SQL 'CREATE TABLE,' 'CHECK,' 'CREATE ASSERTION,' 'CREATE TRIGGER,' as required.



-- Table structure for table `admin_creates_event`

CREATE TABLE IF NOT EXISTS 'admin_creates_event' (`name` char(30) NOT NULL DEFAULT ", 'time' time NOT NULL DEFAULT '00:00:00', 'sid' int(11) NOT NULL DEFAULT '0', 'rid' int(11) NOT NULL, PRIMARY KEY ('sid', 'time', 'name'), KEY 'time' ('time'), KEY `name` (`name`)) ENGINE=InnoDB DEFAULT CHARSET=latin1; -- Table structure for table `comments` CREATE TABLE IF NOT EXISTS 'comments' ('sid' int(11) NOT NULL DEFAULT '0', 'time' time NOT NULL DEFAULT '00:00:00', 'name' char(30) NOT NULL DEFAULT ", `timestamps` timestamp NULL DEFAULT NULL, PRIMARY KEY ('sid', 'time', 'name'), KEY 'time' ('time'), KEY 'name' ('name')) ENGINE=InnoDB DEFAULT CHARSET=latin1; -- Table structure for table `createsrso` CREATE TABLE IF NOT EXISTS 'createsrso' ('rid' int(11) NOT NULL DEFAULT '0', `sid` int(11) NOT NULL DEFAULT '0', PRIMARY KEY ('sid', 'rid'), KEY 'rid' ('rid')) ENGINE=InnoDB DEFAULT CHARSET=latin1;

```
-- Table structure for table 'create profile'
CREATE TABLE IF NOT EXISTS 'create_profile' (
 'name' char(30) NOT NULL DEFAULT ",
 'sid' int(11) DEFAULT NULL,
 PRIMARY KEY ('name'),
 KEY 'sid' ('sid')
) ENGINE=InnoDB DEFAULT CHARSET=latin1;
-- Table structure for table 'event'
CREATE TABLE IF NOT EXISTS 'event' (
 `time` time NOT NULL DEFAULT '00:00:00',
 'date' date DEFAULT NULL.
 'name' char(30) DEFAULT NULL,
 `category` char(20) DEFAULT NULL,
 'description' char(100) DEFAULT NULL,
 'contact phone' char(12) DEFAULT NULL,
 `contact_email` char(50) DEFAULT NULL,
 `type` char(15) DEFAULT NULL,
 `rating` char(10) DEFAULT NULL,
 'super approval' int(1) DEFAULT NULL,
 `admin_approval` int(1) DEFAULT NULL,
 'up' int(1) DEFAULT NULL,
 `down` int(1) DEFAULT NULL,
 PRIMARY KEY ('time')
) ENGINE=InnoDB DEFAULT CHARSET=latin1;
-- Table structure for table 'have_location'
CREATE TABLE IF NOT EXISTS 'have_location' (
 'time' time NOT NULL DEFAULT '00:00:00',
 'name' char(30) NOT NULL DEFAULT ",
```

```
PRIMARY KEY ('time', 'name'),
 KEY 'time' ('time'),
 KEY `name` (`name`)
) ENGINE=InnoDB DEFAULT CHARSET=latin1;
-- Table structure for table 'joinsrso'
CREATE TABLE IF NOT EXISTS 'joinsrso' (
 'rid' int(11) NOT NULL DEFAULT '0',
 'sid' int(11) NOT NULL DEFAULT '0',
 PRIMARY KEY ('sid', 'rid'),
KEY 'rid' ('rid')
) ENGINE=InnoDB DEFAULT CHARSET=latin1;
-- Table structure for table `location`
CREATE TABLE IF NOT EXISTS 'location' (
 'name' char(30) NOT NULL DEFAULT ",
 'latitude' double DEFAULT NULL,
 'longitude' double DEFAULT NULL,
 PRIMARY KEY ('name')
) ENGINE=InnoDB DEFAULT CHARSET=latin1;
-- Table structure for table `ownsrso`
CREATE TABLE IF NOT EXISTS 'ownsrso' (
 'rid' int(11) NOT NULL DEFAULT '0',
 `sid` int(11) NOT NULL DEFAULT '0',
 PRIMARY KEY ('sid'),
 KEY 'rid' ('rid')
) ENGINE=InnoDB DEFAULT CHARSET=latin1;
```

```
-- Table structure for table `rso`
CREATE TABLE IF NOT EXISTS 'rso' (
 'rid' int(11) NOT NULL AUTO_INCREMENT,
 'name' char(30) DEFAULT NULL,
 `students` int(11) DEFAULT NULL,
 'university' char(30) DEFAULT NULL,
 'description' char(50) DEFAULT NULL,
 PRIMARY KEY ('rid')
) ENGINE=InnoDB DEFAULT CHARSET=latin1 AUTO_INCREMENT=1;
-- Table structure for table `rso_affil`
CREATE TABLE IF NOT EXISTS 'rso_affil' (
 'sid' int(11) NOT NULL DEFAULT '0',
 'rid' int(11) NOT NULL DEFAULT '0',
 PRIMARY KEY ('sid', 'rid'),
 KEY 'rid' ('rid')
) ENGINE=InnoDB DEFAULT CHARSET=latin1;
-- Table structure for table `student`
CREATE TABLE IF NOT EXISTS 'student' (
 `sid` int(11) NOT NULL AUTO_INCREMENT,
 'name' char(30) DEFAULT NULL,
 'password' char(20) DEFAULT NULL,
 'email' varchar(50) NOT NULL,
 PRIMARY KEY ('sid')
) ENGINE=InnoDB DEFAULT CHARSET=latin1 AUTO_INCREMENT=1;
```

```
-- Table structure for table `student_creates_event`
CREATE TABLE IF NOT EXISTS `student_creates_event` (
 `name` char(30) NOT NULL DEFAULT ",
 'time' time NOT NULL DEFAULT '00:00:00',
 'sid' int(11) NOT NULL DEFAULT '0',
 PRIMARY KEY ('sid', 'time', 'name'),
 KEY 'time' ('time'),
 KEY `name` (`name`)
) ENGINE=InnoDB DEFAULT CHARSET=latin1;
-- Table structure for table `super_admin`
CREATE TABLE IF NOT EXISTS 'super_admin' (
 'sid' int(11) NOT NULL,
 'name' char(30) DEFAULT NULL,
 'password' char(20) DEFAULT NULL,
 `email` char(50) DEFAULT NULL,
 PRIMARY KEY ('sid')
) ENGINE=InnoDB DEFAULT CHARSET=latin1;
-- Table structure for table `university`
CREATE TABLE IF NOT EXISTS 'university' (
 'name' char(30) NOT NULL,
 'location' char(30) DEFAULT NULL,
 'description' char(100) DEFAULT NULL,
 `students` int(11) DEFAULT NULL,
 'pictures' char(30) DEFAULT NULL,
 PRIMARY KEY ('name')
) ENGINE=InnoDB DEFAULT CHARSET=latin1;
```

```
-- Table structure for table `univ_affil`
CREATE TABLE IF NOT EXISTS 'univ_affil' (
 'name' char(30) NOT NULL DEFAULT ",
 'sid' int(11) NOT NULL DEFAULT '0',
 PRIMARY KEY ('name', 'sid'),
 KEY 'sid' ('sid')
) ENGINE=InnoDB DEFAULT CHARSET=latin1;
-- Table structure for table `user`
CREATE TABLE IF NOT EXISTS 'user' (
 'sid' int(11) NOT NULL AUTO_INCREMENT,
 `name` char(30) DEFAULT NULL,
 'password' char(20) DEFAULT NULL,
 'email' char(50) DEFAULT NULL,
 PRIMARY KEY ('sid')
) ENGINE=InnoDB DEFAULT CHARSET=latin1 AUTO_INCREMENT=2;
-- Dumping data for table 'user'
INSERT INTO 'user' ('sid', 'name', 'password', 'email') VALUES
(1, 'test', 'test', 'testemail');
-- Constraints for dumped tables
-- Constraints for table `admin_creates_event`
ALTER TABLE `admin_creates_event`
```

```
ADD CONSTRAINT `admin_creates_event_ibfk_1` FOREIGN KEY (`sid`) REFERENCES
`admin` (`sid`),
 ADD CONSTRAINT `admin_creates_event_ibfk_2` FOREIGN KEY (`time`) REFERENCES
'event' ('time'),
ADD CONSTRAINT 'admin creates event ibfk 3' FOREIGN KEY ('name') REFERENCES
'location' ('name');
-- Constraints for table `comments`
ALTER TABLE `comments`
ADD CONSTRAINT `comments_ibfk_1` FOREIGN KEY (`sid`) REFERENCES `student`
(`sid`),
 ADD CONSTRAINT `comments_ibfk_2` FOREIGN KEY (`time`) REFERENCES `event`
ADD CONSTRAINT `comments_ibfk_3` FOREIGN KEY (`name`) REFERENCES `location`
(`name`);
-- Constraints for table 'createsrso'
ALTER TABLE 'createsrso'
ADD CONSTRAINT `createsrso_ibfk_1` FOREIGN KEY (`sid`) REFERENCES `student`
(`sid`),
 ADD CONSTRAINT `createsrso_ibfk_2` FOREIGN KEY (`rid`) REFERENCES `rso` (`rid`);
-- Constraints for table `create profile`
ALTER TABLE `create_profile`
 ADD CONSTRAINT `create profile ibfk 1` FOREIGN KEY (`sid`) REFERENCES
`super_admin` (`sid`);
-- Constraints for table 'joinsrso'
ALTER TABLE 'joinsrso'
 ADD CONSTRAINT 'joinsrso_ibfk_1' FOREIGN KEY ('sid') REFERENCES 'student' ('sid'),
 ADD CONSTRAINT 'joinsrso ibfk 2' FOREIGN KEY ('rid') REFERENCES 'rso' ('rid');
-- Constraints for table 'ownsrso'
```

```
ALTER TABLE 'ownsrso'
 ADD CONSTRAINT 'ownsrso ibfk 2' FOREIGN KEY ('rid') REFERENCES 'rso' ('rid');
-- Constraints for table 'rso affil'
ALTER TABLE `rso_affil`
 ADD CONSTRAINT `rso_affil_ibfk_1` FOREIGN KEY (`sid`) REFERENCES `admin` (`sid`),
 ADD CONSTRAINT 'rso affil ibfk 2' FOREIGN KEY ('rid') REFERENCES 'rso' ('rid');
-- Constraints for table 'student creates event'
ALTER TABLE `student_creates_event`
ADD CONSTRAINT `student_creates_event_ibfk_1` FOREIGN KEY (`sid`) REFERENCES
`student` (`sid`),
 ADD CONSTRAINT 'student creates event ibfk 2' FOREIGN KEY ('time') REFERENCES
'event' ('time'),
ADD CONSTRAINT `student_creates_event_ibfk_3` FOREIGN KEY (`name`) REFERENCES
'location' ('name');
-- Constraints for table 'univ affil'
ALTER TABLE `univ_affil`
 ADD CONSTRAINT `univ_affil_ibfk_1` FOREIGN KEY (`name`) REFERENCES `university`
(`name`),
ADD CONSTRAINT 'univ affil ibfk 2' FOREIGN KEY ('sid') REFERENCES 'student' ('sid');
/*!40101 SET CHARACTER SET CLIENT=@OLD CHARACTER SET CLIENT */;
/*!40101 SET CHARACTER SET RESULTS=@OLD CHARACTER SET RESULTS */;
/*!40101 SET COLLATION_CONNECTION=@OLD_COLLATION_CONNECTION */;
```

Populating tables with sample data:

Table with added student info



Table with added university info



Table with RSO info added

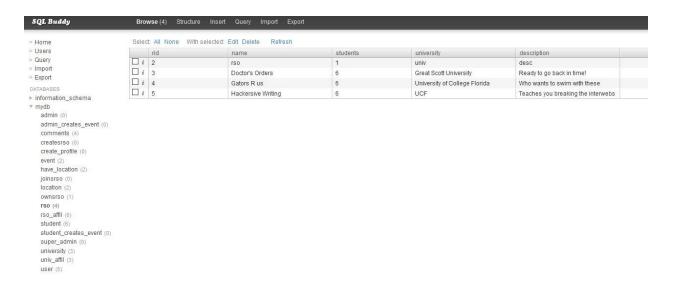


Table with added event info

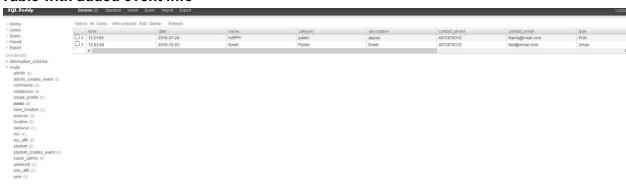
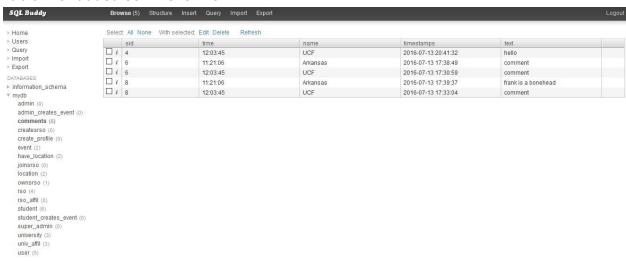


Table with added comment info



SQL examples and results:

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

```
INSERT INTO rso (name, students, university, description)

VALUES('$rname', 1, '$uni_name', '$rso_desc')
```

Returns true or false based on if the query was completed successfully or not.

SQL statement to insert a new student to an existing RSO (part of the processing of the 'Join RSO' form), show results

```
INSERT INTO joinsrso (rid, sid)

VALUES('$rid', '$user->sid')
```

Inserts user into relational table for joining the RSO. Returns true if query was completed successfully.

UPDATE rso set students = students + 1 WHERE rid = '\$rid'

Increments the number of students for the RSO the student joined. Returns true if query was completed successfully.

SQL statement to insert a new event (part of the processing of the 'Create Event' form), show results

INSERT INTO event (time, date, name, category, description, contact_phone, contact_email, type, super_approval, admin_approval, up, down)

```
VALUES('$time', '$date', '$e_name', '$category', '$e_desc', '$contact_phone', '$contact_email', '$type', 1, 1, 0, 0)
```

Inserts event into event table. For demonstration purposes they are pre approved. Returns true if query was completed successfully.

```
INSERT INTO location (name, latitude, longitude)

VALUES('$loc_name', '$latitude', '$longitude')
```

Inserts into location table. Returns true if query was completed successfully.

```
INSERT INTO have_location (time, name)

VALUES('$time', '$loc_name')
```

Inserts into have_location relational table. Returns true if query was completed successfully.

```
INSERT INTO student_creates_event (name, time, sid)

VALUES('$loc name', '$time', '$user->sid')
```

Inserts into student_creates_event relational table. Returns true if query was completed successfully.

For RSO events, queries are the same except instead of inserting into the student creates event table we insert into the admin creates event table

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

```
INSERT INTO comments (sid, time, name, timestamps, text) VALUES ('$sid', '$time', '$name', now(), '$text')
```

Inserts into the comments relational table. Returns true if query was completed successfully. The now() function created a timestamp with the current time and date.

UPDATE comments SET text = '\$text' WHERE sid = '\$sid' AND name = '\$name' AND time = '\$time'

Updates the comments relational table. Returns true if query was completed successfully.

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), show results

PUBLIC EVENTS

SELECT *

FROM event WHERE category = 'public'

We then match up place name with time in the relational table, returns true if query was completed successfully.

SELECT *

FROM event WHERE time ='\$timehelper

And put the data into objects, returns true if query was completed successfully.

```
$final[] = new Event_Location ($row["time"], $row["date"], $row["name"], $row["category"],
$row["description"], $row["contact_phone"],
              $row["contact_email"], $row["type"], $row["up"], $row["down"],
$row["super approval"], $row["admin approval"], $row2["name"],
              $row2["latitude"], $row2["longitude"]);
PRIVATE EVENTS
SELECT *
       FROM event WHERE category = 'private'
Gets all private events.
SELECT *
              FROM have location
Gets all entries in the relational table.
for(\$i = 0; \$i < count(\$locations); \$i++)
              $timehelper2 = $locations[$i]->time;
              $namehelper2 = $locations[$i]->name;
              $sql = "SELECT sid
              FROM student_creates_event WHERE name = '$namehelper2' AND time =
'$timehelper2'";
              $result = $conn->query($sql);
              $row3 = $result->fetch_assoc();
              $searchsid = $row3["sid"];
              $result->close();
              $sql = "SELECT name
              FROM univ_affil WHERE sid = '$searchsid'";
              $result = $conn->query($sql);
              $row3 = $result->fetch_assoc();
              //return $row3["name"];
              if($row3["name"] != $student_uni)
                     unset($locations[$i]);
```

}

```
}
Filters out events from other universities.
Events are then returned as objects.
for(\$i = 0; \$i < count(\$locations); \$i++)
       {
              //events
              $timehelper = $locations[$i]->time;
              $sql = "SELECT *
              FROM event WHERE time ='$timehelper'";
              $result = $conn->query($sql);
              //locations
              $namehelper = $locations[$i]->name;
              $sql = "SELECT *
              FROM location WHERE name = '$namehelper'";
              $result2 = $conn->query($sql);
              $row = $result->fetch_assoc();
              $row2 = $result2->fetch_assoc();
              $final[] = new Event_Location ($row["time"], $row["date"], $row["name"],
$row["category"], $row["description"], $row["contact_phone"],
              $row["contact_email"], $row["type"], $row["up"], $row["down"],
$row["super_approval"], $row["admin_approval"], $row2["name"],
              $row2["latitude"], $row2["longitude"]);
              $result->close();
              $result2->close();
       }
RSO
SELECT *
       FROM event WHERE category = 'RSO'
Gets all RSO events
```

\$sql = "SELECT *

FROM have location";

\$result = \$conn->query(\$sql);

```
//get all place names
       while($row = $result->fetch_assoc())
       {
               for(\$i = 0; \$i < count(\$times); \$i++)
                      if($row["time"] == $times[$i])
                              $locations[] = new EventHelper($row["name"], $times[$i]);
                      }
               }
       }
Gets all place names
//filter
       for($i = 0; $i < count($locations); $i++)
       {
               $timehelper2 = $locations[$i]->time;
               $namehelper2 = $locations[$i]->name;
               $sql = "SELECT rid
               FROM admin_creates_event WHERE name = '$namehelper2' AND time =
'$timehelper2'";
               $result = $conn->query($sql);
               $row3 = $result->fetch_assoc();
               //$searchrid = $row3["rid"];
               $result->close();
               for(\$j = 0; \$j < count(\$studentrso); \$j++)
                      if($row3["rid"] == $studentrso[$j])
                              $rso_loc[] = $locations[$j];
                      }
               }
       }
```

Filters out data from RSOs not joined by the user.

Software installation: one folder (directory) contains source code and required libraries to run the app, and installation instructions. A '*.sql' file containing SQL statements to set up the environment (database name, user, password, etc.) and create the database (CREATE TABLE, but no sample data needed, i.e., no INSERT statements) is to be included here.

- 1. Install and set up (if necessary) your *AMP stack (WAMP for Windows, LAMP for Linux).
 - a. Make sure Apache and MySQL database services are running
- 2. Move all files pertaining to the app to C:\path\to\wamp\www\ in WAMP, or /path/to/lamp/apache2/htdocs/ in LAMP.
- 3. Open up a browser and go to localhost/phpmyadmin if using WAMP, or localhost:8080/phpmyadmin if using LAMP.
- 4. Log in as root without a password if on WAMP. On LAMP, you should have set up a password during installation (or manually disabled needing to log in with one), so use that instead.
- 5. Click "new" on the lefthand panel and create a new database.
- 6. Click on the new database you created on the lefthand panel, and navigate to the import tab.
- 7. Click on "Choose File" and navigate to the "mydb.sql" file which was included in our project files. Click on "Go"
- 8. You're done with phpmyadmin for now. Click on the address bar on your browser and navigate to localhost/index.html if using WAMP, or localhost:8080/index.html if using LAMP.
- 9. The website should be displaying now.

Conclusion/Observation: o Database performance: query response time, suggested indexes o Desired features/functionalities: security (login), event feed from university websites (e.g., XML feeds from http://events.ucf.edu/), social network integration (Facebook, Twitter, etc.) o Problems encountered, things that have been learned from the project, more things/skills needed to master to build a more advanced database app

Our database queries were quick and responsive for the number of entries we tested. In order to scale our database up for thousands of users, we would be required to make more intricate measurements pertaining to response time at different server loads with large numbers of entries, which is outside the scope of this project.

Our login system has basic security, but more care would need to be given before this app could be deployed. Relying on session tokens and encryption instead of keeping track of the user object between pages would need to be implemented. Event feeds from university websites was a planned feature, but we did not have enough experience to implement such a

feature in the timeframe we were given. With enough time though, an event feed could be implemented. More social network integration in general was planned, such as the ability to log in via Facebook or Google, and posting events to your wall on Facebook. Other social media features such as posting to twitter could also be implemented.

Most of the problems we encountered stemmed from our inexperience with web development before this project. There are several things we now know we can implement to make development simpler, such as integrating frameworks like Bootstrap for the UI, taking advantage of AJAX for running PHP scripts for SQL queries via Javascript, and implementing AngularJS for more dynamic webpages.