



BILKENT UNIVERSITY

CS 353

Database Systems

FINAL REPORT

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gatherTogether

By Group 20

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Table of Contents

1. Introduction.....	3
2. Final E/R.....	4
3. Final List of Tables.....	5
4. Implementation Details.....	7
5. Advanced database components.....	7
5.1 Views.....	7
5.2 Reports.....	8
6. User Manual.....	9

1. Introduction

Our application system 'gatherTogether' is a social platform for any kind of event. People can enter the system by registering first. A user can form a group or become part of an existing group. The founder of the group is assigned as the group admin. Additionally, every user has the option of sending messages to other users. Each user on the system is able to organize an event or participate in an event. The host of an event can choose the place, the time, capacity and make it public or private. Users are able to request invitations from the host for a particular event if it is public. After an event is over, participants can review the event. After the event, participants can comment on the event as well as they can reply to comments. The user can find new groups and events according to their interests by searching. Users can see the other members that are going to attend the events.

2. Final E/R

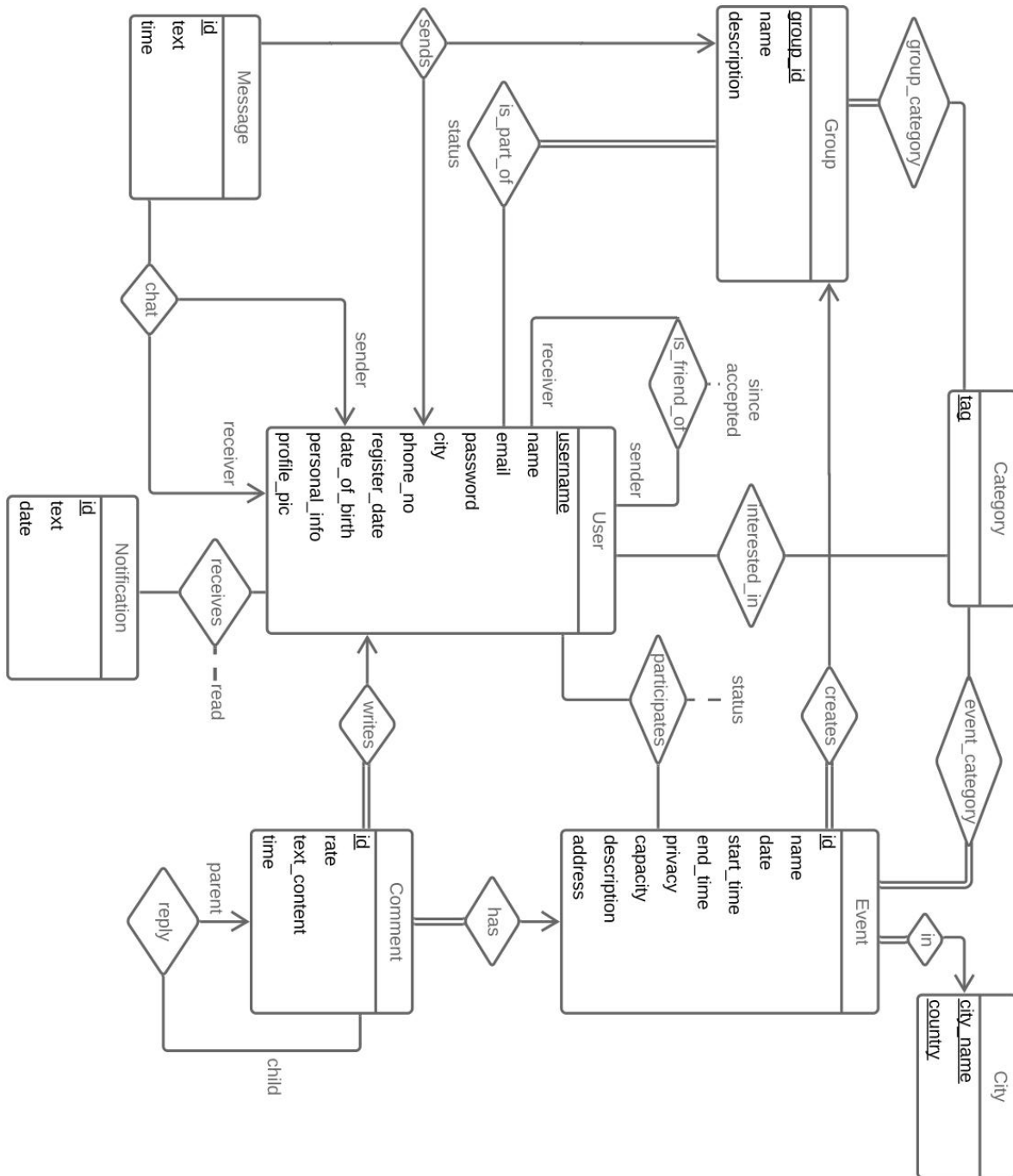


Figure 1 Revised Entity-Relationship Diagram

3. Final List of Tables

3.1 user(username, name, email, password, city, phone_no, date_of_birth, register_date, personal_info, profile_pic)

3.2 group(id, name, description)

3.3 event(id, name, date, start_time, end_time, privacy, capacity, group_id, description, address, city_name, country)

FOREIGN KEY (group_id) REFERENCES "group"(id) ,

FOREIGN KEY (city_name, country) REFERENCES city

3.4 category(tag)

3.5 participates (event_id, username, status)

FOREIGN KEY (event_id) REFERENCES event(id) ,

FOREIGN KEY (username) REFERENCES "user"(username)

3.6 receives (notification_id, username, read)

FOREIGN KEY (notification_id) REFERENCES notification(id),

FOREIGN KEY (username) REFERENCES "user"(username) notification (id, text, date)

3.7 city (city_name, country)

3.8 is_friend_of (sender, receiver, accepted, since)

FOREIGN KEY (sender) REFERENCES "user"(username),

FOREIGN KEY (receiver) REFERENCES "user"(username)

3.9 is_part_of (username, group_id, status)

FOREIGN KEY (username) REFERENCES "user"(username),

FOREIGN KEY (group_id) REFERENCES "group"(id)

3.10 event_category (event_id, tag)

FOREIGN KEY (event_id) REFERENCES "event"(id),

FOREIGN KEY (tag) REFERENCES category

3.11 interested_in (username, tag)

FOREIGN KEY (username) REFERENCES "user"(username),

FOREIGN KEY (tag) REFERENCES category

3.12 group_category (group_id, tag)

FOREIGN KEY (group_id) REFERENCES "group"(id),

FOREIGN KEY (tag) REFERENCES category

3.13 sends (message_id, sender, group_id)

FOREIGN KEY (group_id) REFERENCES "group"(id),

FOREIGN KEY (message_id) REFERENCES message(id),

FOREIGN KEY (sender) REFERENCES "user"(username)

3.14 chat (message_id, sender, receiver)

FOREIGN KEY (message_id) REFERENCES message(id),

FOREIGN KEY (sender) REFERENCES "user"(username),

FOREIGN KEY (receiver) REFERENCES "user"(username)

3.15 message (id, text, time)

3.16 reply (child, parent)

FOREIGN KEY (parent) REFERENCES "comment"(id),

FOREIGN KEY (child) REFERENCES "comment"(id)

3.17 comment (id, rate, text_content, time, event_id, username)

FOREIGN KEY (event_id) REFERENCES event(id),

```
FOREIGN KEY (username) REFERENCES "user"(username),
```

4. Implementation Details

The project consists of two parts: SQL Database and website. MySQL was used as our database system and it was run on Dijkstra server. In order to create the table schema and populate the tables we run a Java script with JDBC connection to the database.

For the user interface and the website functionality we used PHP embedded in HTML. To provide a better user interface we used Bootstrap Framework version 3.4.0 and CSS. The transition between pages, the login/register, storing and accessing the database, error messages are done by using PHP. Additionally, we used JavaScript to implement some more complex functionalities such as star rating and assigning categories for events and groups.

In the beginning we wrote the queries in PostgreSQL, but then we decided to use MySQL using the Dijkstra server so anyone would easily access. Since there are some minor changes between these two languages, we had some difficulties in finding the error during the execution of the queries. We also had some problems with using Javascript code, but we could resolve them.

5. Advanced Database Features

5.1 Views

```
CREATE VIEW popularEvents AS
SELECT id, COUNT(*) AS count
FROM participates JOIN event ON event_id = id
WHERE status IN ('interested', 'going')
GROUP BY id
ORDER BY count DESC
LIMIT 5;
```

5.2 Reports

List of the first 10 cities with the highest number of active users.

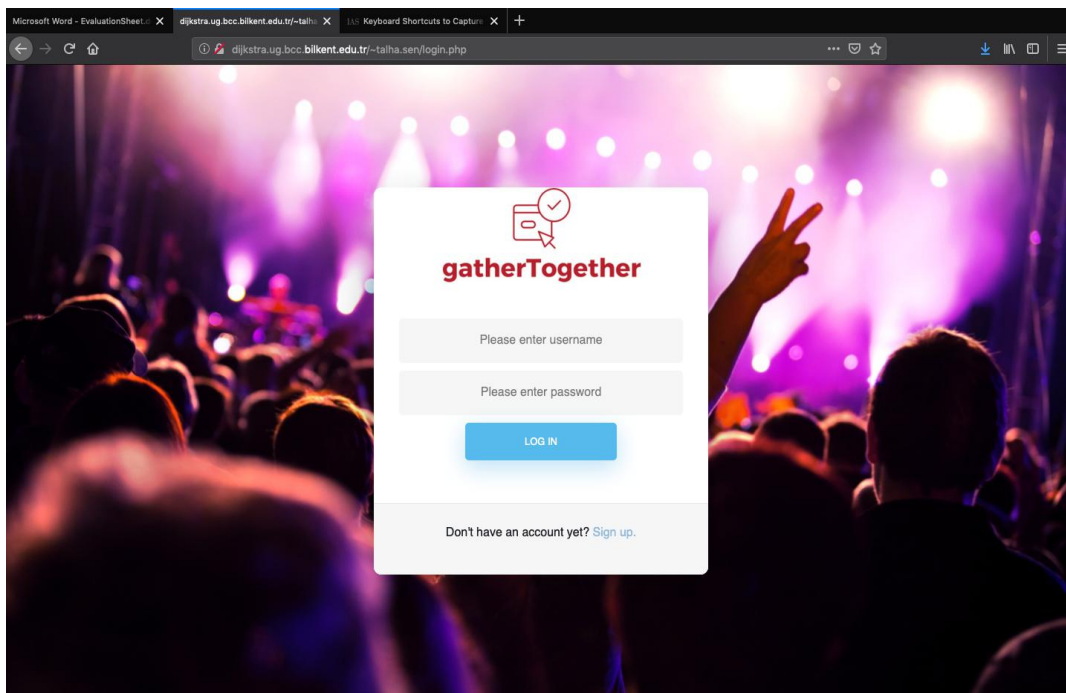
```
SELECT city_name, count
      FROM (SELECT username, count(*) AS count
            FROM comment
            GROUP BY username) AS temp, city, user
      WHERE temp.username=user.username
            AND user.city = city.city_name
      ORDER BY count DESC
      LIMIT 10;
```

First 10 events in decreasing order whose percentage of members who are 'going' is the highest.

```
SELECT name, date, description, going/(going + notgoing)*100 as
ratio
      FROM (SELECT event_id AS id, count(*) AS going
            FROM participates
            WHERE status = 'going'
            GROUP BY event_id) AS a
      NATURAL JOIN
      (SELECT event_id AS id, count(*) AS notgoing
            FROM participates
            WHERE status = 'not going'
            GROUP BY event_id) AS b
      NATURAL JOIN
      event
      ORDER BY ratio DESC
      LIMIT 10;
```

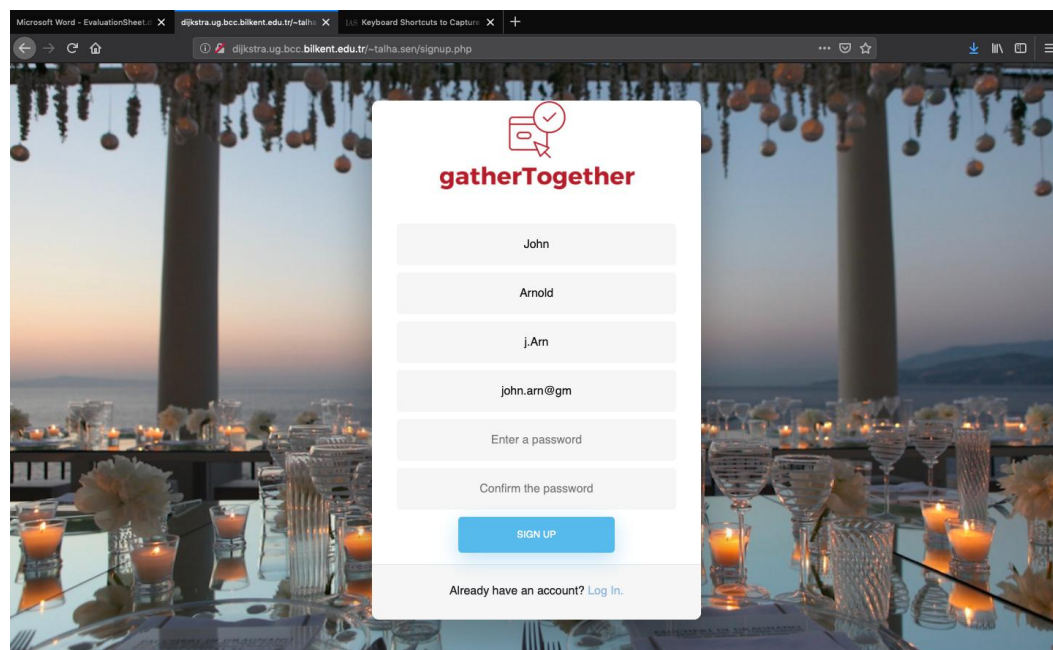

6. User Manual

6.1 Login



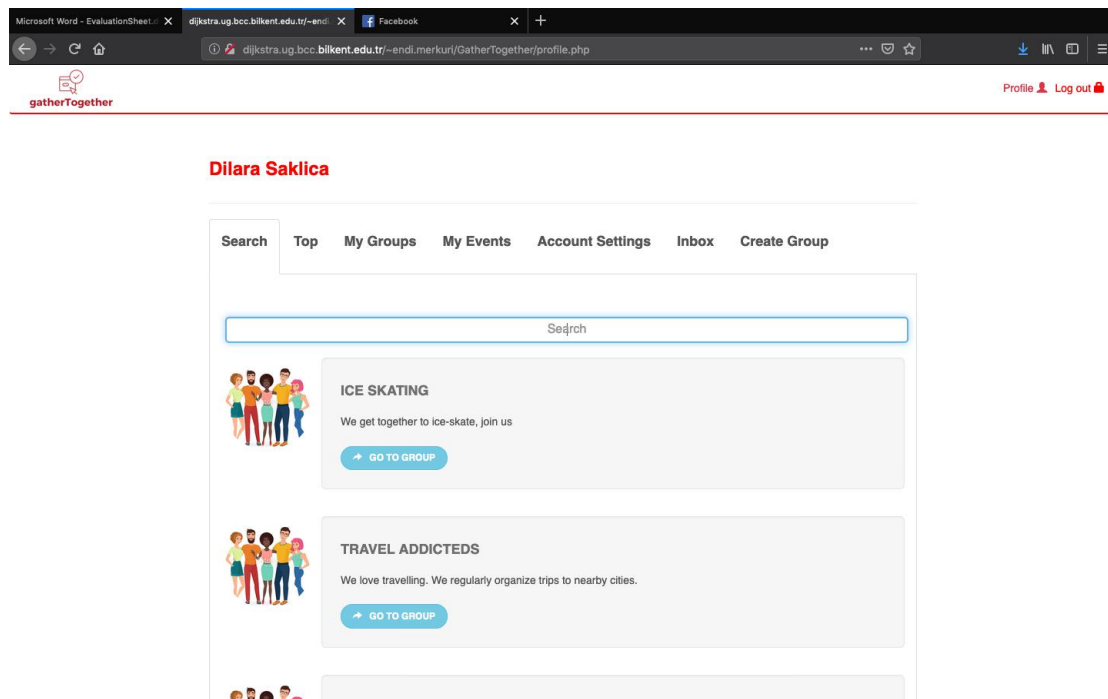
You can log in to the system by filling username and password area.

6.2 Register



You can register by entering his name, surname, email address, an appropriate username and password.

6.3 Search

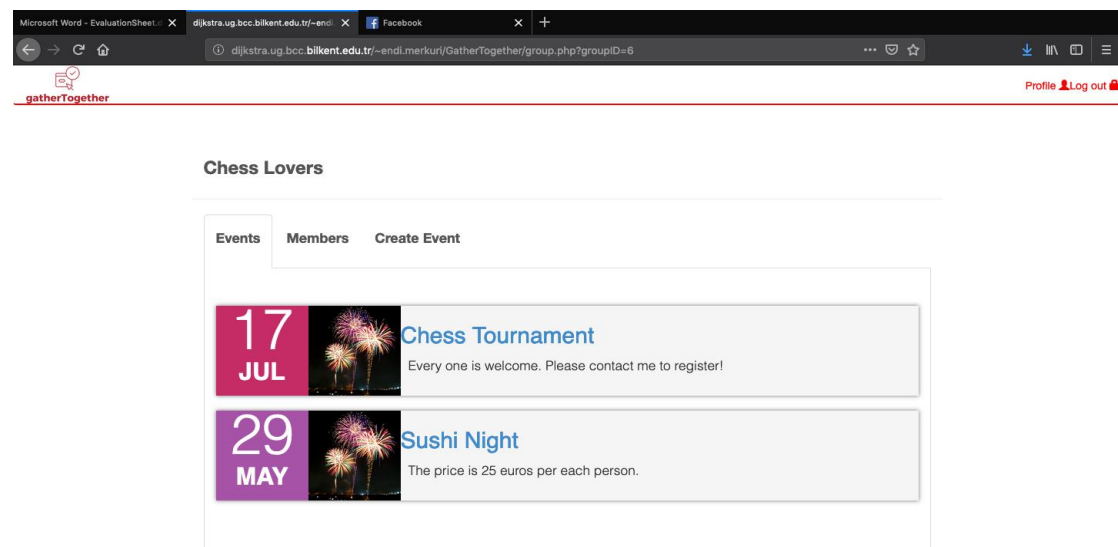


The screenshot shows a web browser window with the URL `dijkstra.ug.bcc.bilkent.edu.tr/~endi.merkur/GatherTogether/profile.php`. The page displays the profile of 'Dilara Saklica'. Below the profile, there is a navigation menu with options: Search, Top, My Groups, My Events, Account Settings, Inbox, and Create Group. A search bar is present, and below it, two search results are shown:

- ICE SKATING**: We get together to ice-skate, join us. [GO TO GROUP](#)
- TRAVEL ADDICTEDS**: We love travelling. We regularly organize trips to nearby cities. [GO TO GROUP](#)

This is the page that is displayed when you log in to the system. Your name is displayed on top of the page. You can use the search bar to find different groups. According to the searched keyword, group names together with a description and a link to go to the group will show up. The GO TO GROUP button will redirect you to the page shown in section 6.4.

6.4 Groups

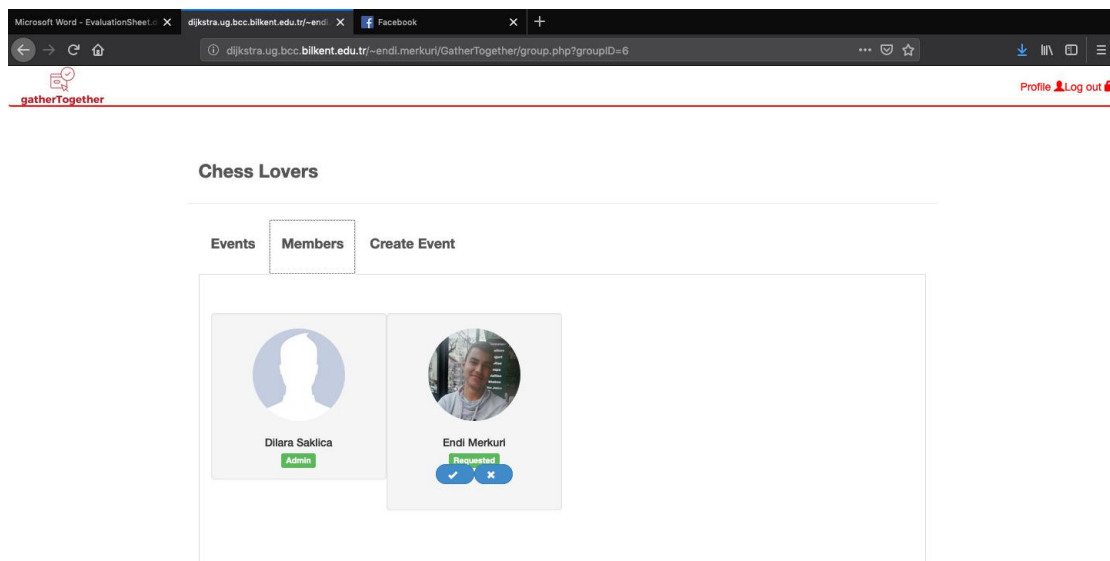


The screenshot shows a web browser window with the URL `dijkstra.ug.bcc.bilkent.edu.tr/~endi.merkur/GatherTogether/group.php?groupID=6`. The page displays the group page for 'Chess Lovers'. Below the group name, there is a navigation menu with options: Events, Members, and Create Event. Two events are listed:

- 17 JUL**: **Chess Tournament**. Every one is welcome. Please contact me to register!
- 29 MAY**: **Sushi Night**. The price is 25 euros per each person.

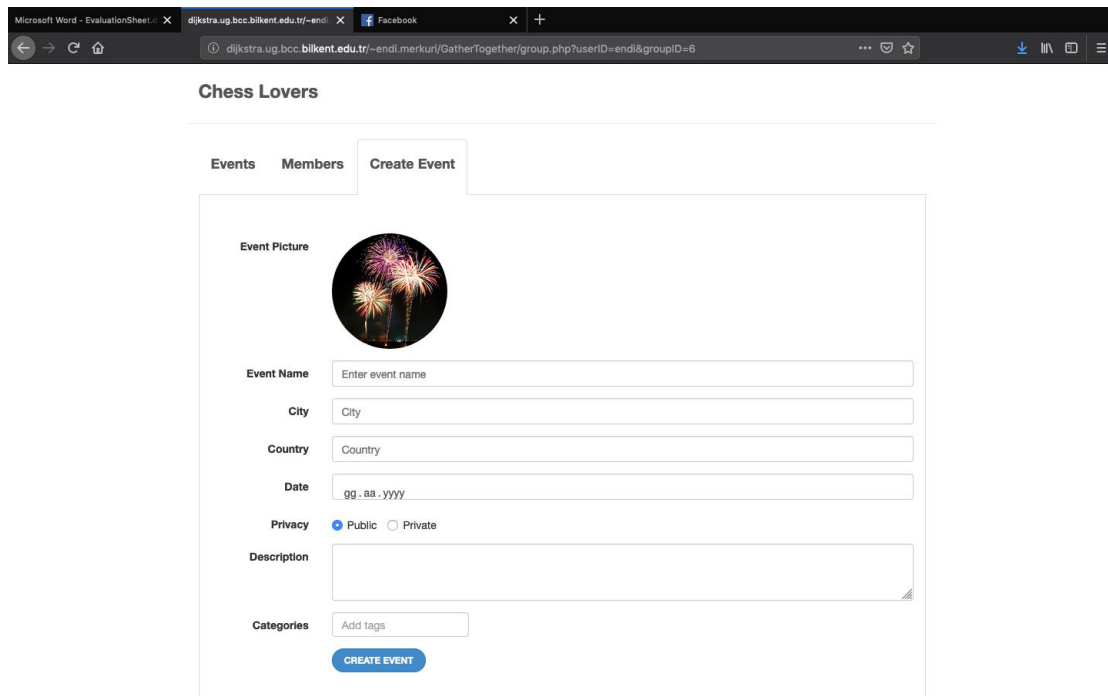
In this page you can see group's related information. Every user can see Events created by this group and members of this group. If you enter to the 'Members' section you are redirected to the page shown in section 6.5. If you are an admin of this group you are displayed a Tab named 'Create Event' in which you can create a new event for the group. In this case, you are redirected to the page shown in section 6.6.

6.5 Members



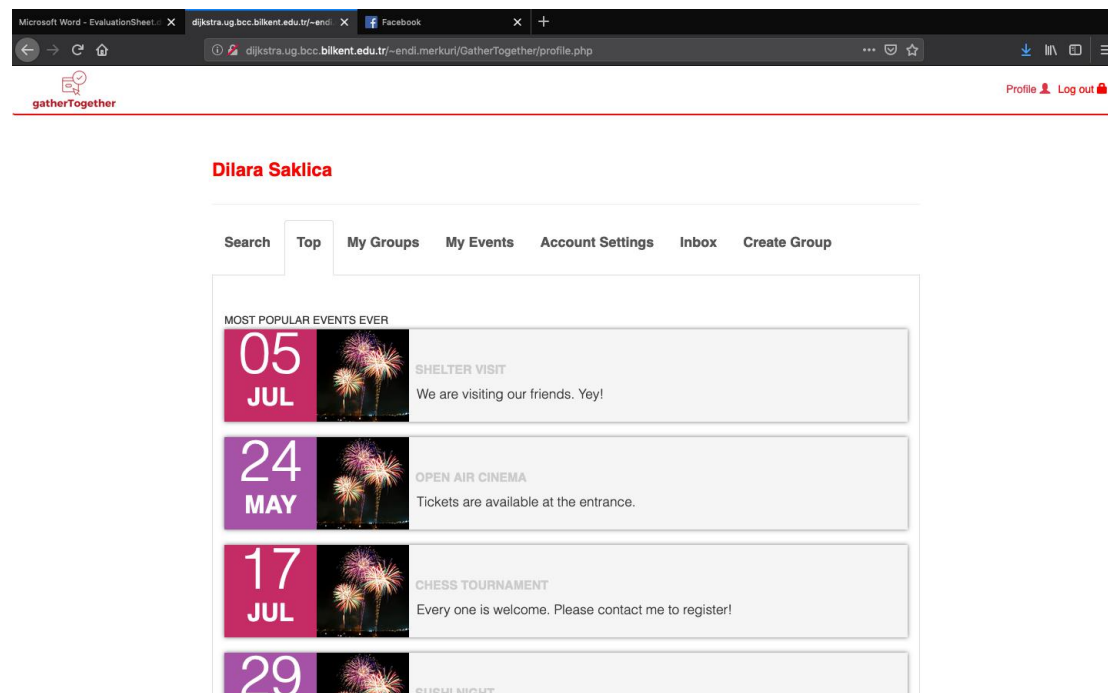
This is the member's page for a particular group. If you are the admin of the group you can choose to accept or decline requests of other users that want to join the group.

6.6 Create Event



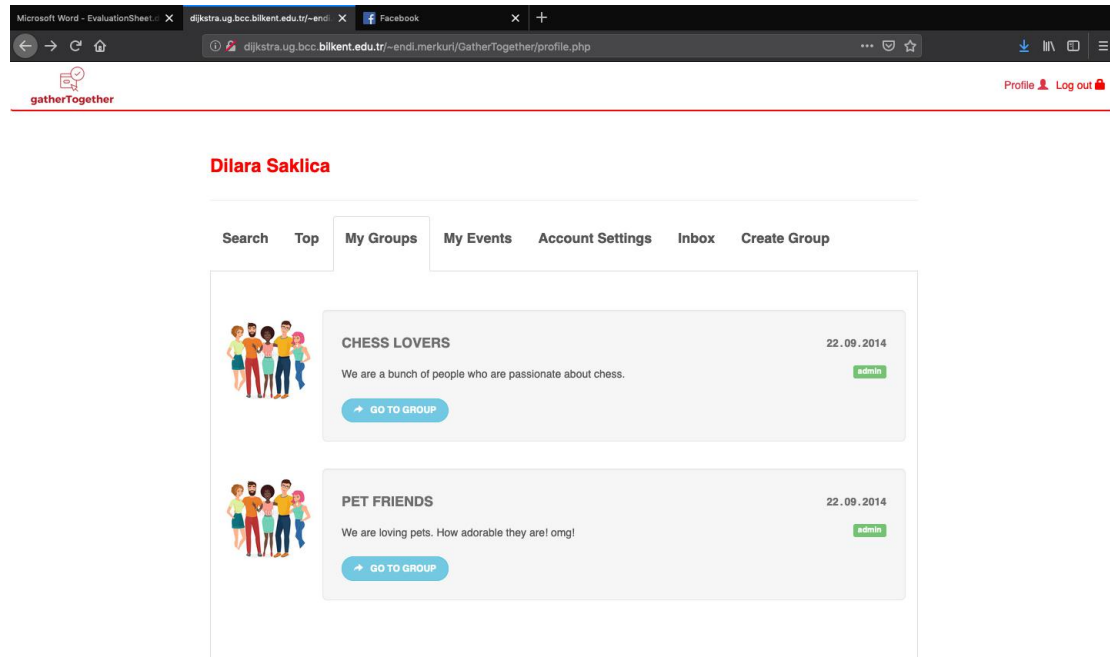
This is the 'Create Event' Tab under a group. In order to create an event you have to fill the input boxes such as Event Name, City, Country, Date, Private/Public, Description and category tags. If you choose to make an event private, it can not be visible for other users to see the event by searching in the search bar. By pressing the 'Create Event' the event is created.

6.7 Top Events



In this section, we offer you the top picks. There are displayed only the events that have the highest number of participants who are either 'going' or 'interested'. You can still click on the events and you will be redirected to the clicked event's page.

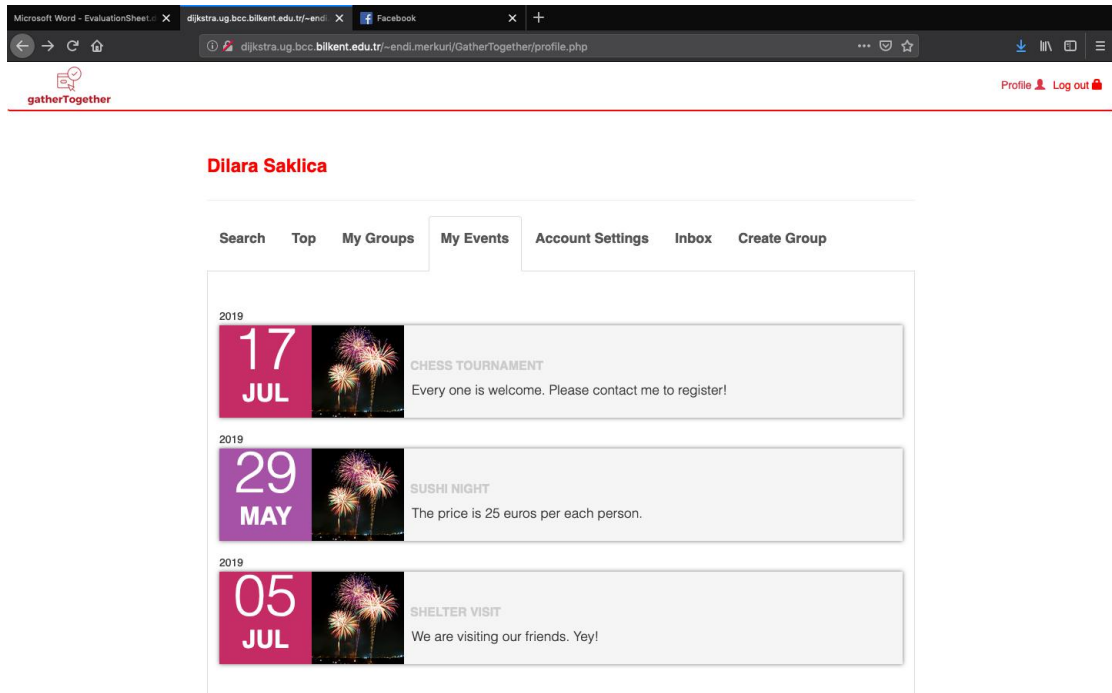
6.8 My Groups



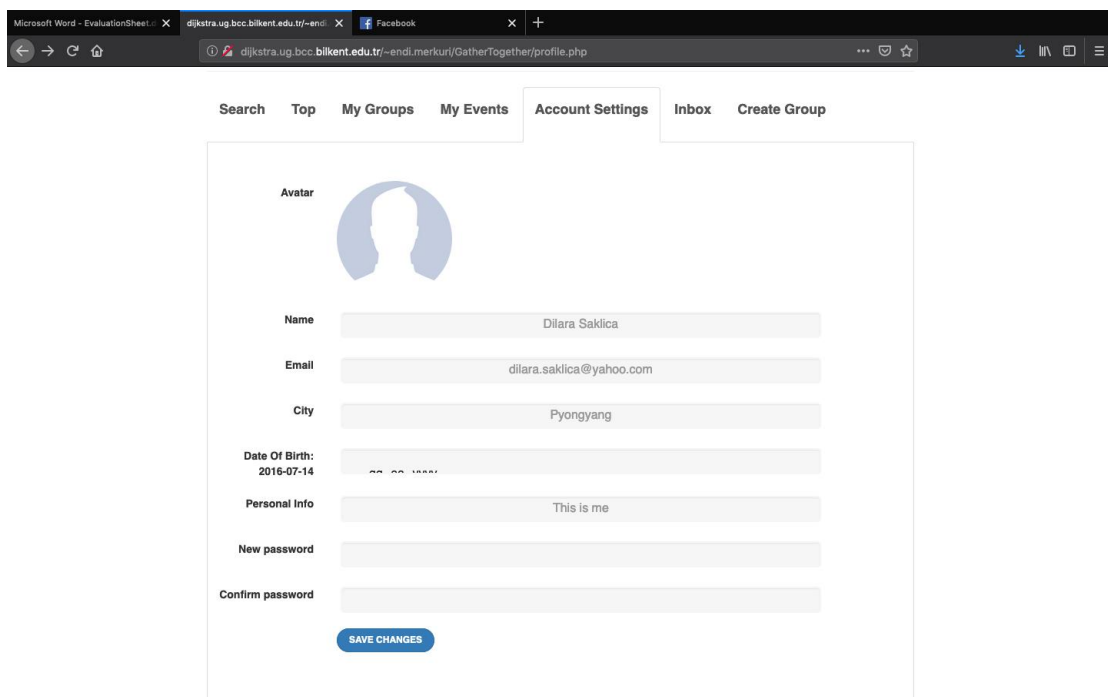
The application also provides you with a section that lists all the groups that you are a member in. Together with the name of the group you can see the date of creation of group, a brief description of the group, your status and a button to go the group's page which is described on section 6.4.

6.9 My Events

Similar to 'My Groups', there is also a Tab where you can see all the events that you are participating.

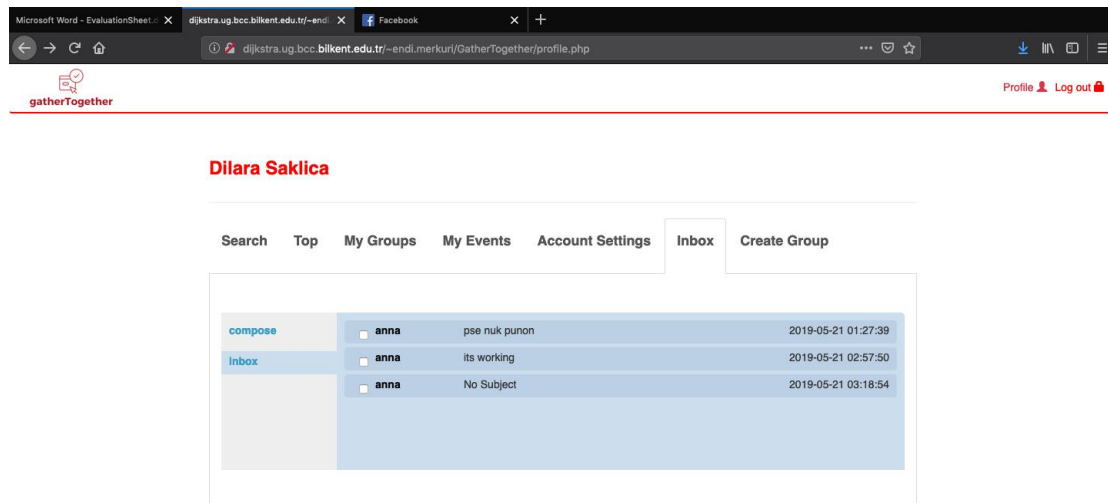


6.10 Account Settings



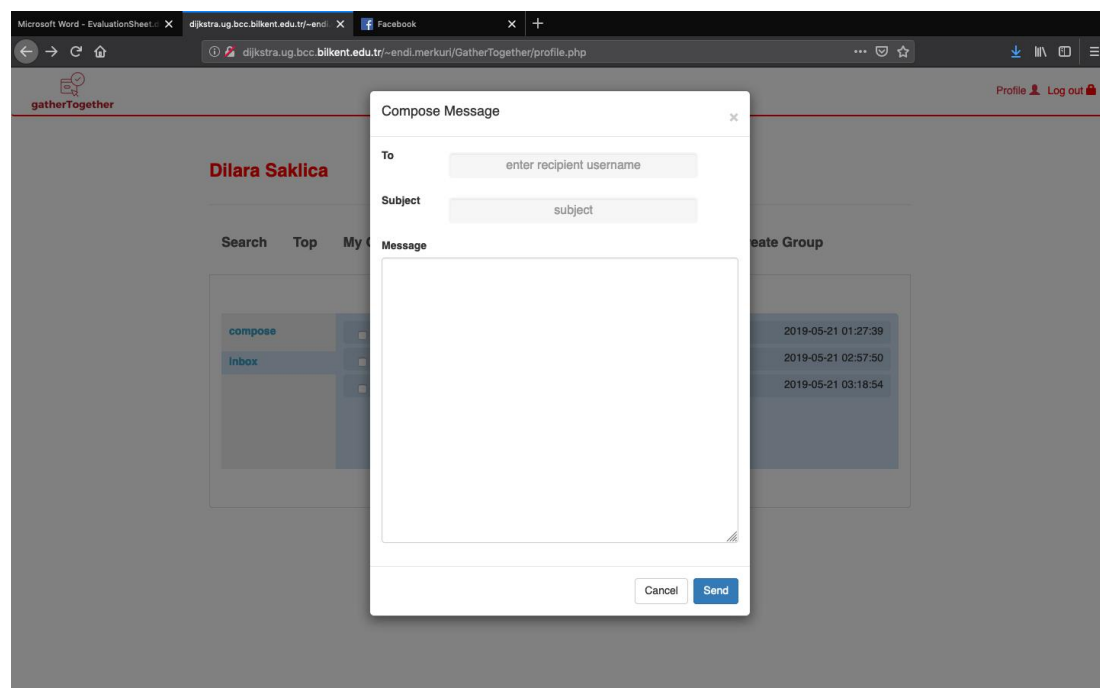
If you want to modify your account information, you go to 'Account Settings' section where you can enter in the input boxes your new information and press the 'Save Changes' button.

6.11 Inbox

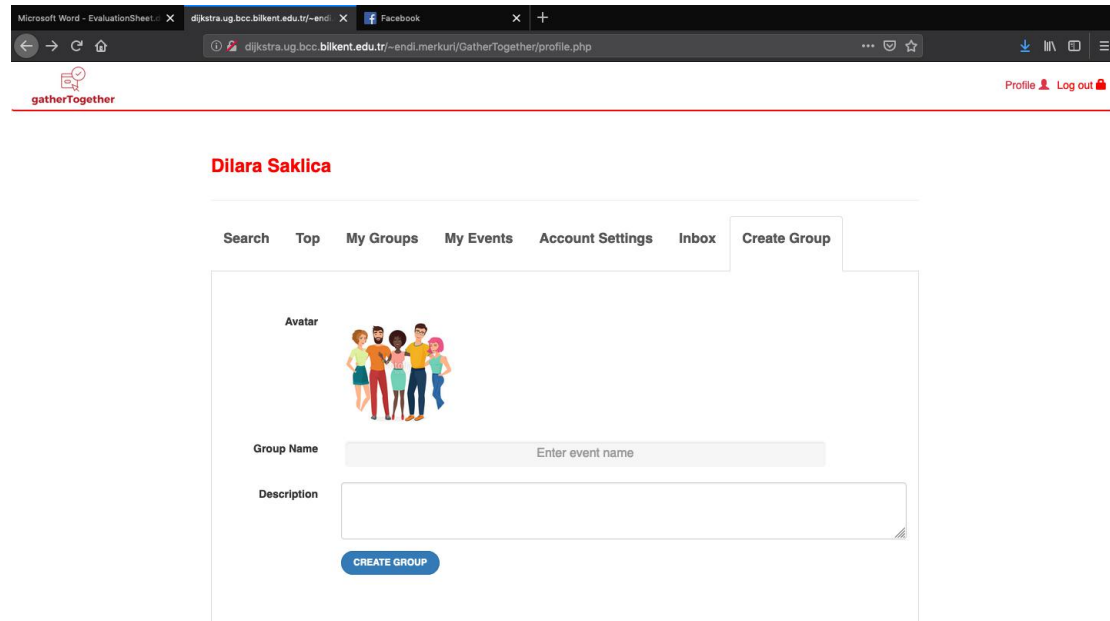


This is your mailbox, where you can see all the messages that have been sent to you by other users. The username of the sender is displayed, together with the subject and time of receiving the message. If you click on the message, the content will also be shown. If you want to send an email, you click on the 'Compose' button on the top left corner and a pop-up window will appear as shown in section 6.12.

6.12 Compose Message



In the 'Compose Message' window you have to enter the recipient username, the subject of the mail and the content of the message. The system will not allow you to send the message without entering the recipient username and if the subject is left blank, it automatically becomes a 'No subject' message. To send the message the button 'Send' at the bottom right corner should be pressed. If you press 'Cancel' the message is not delivered and you are redirected back to inbox.



6.13 Create Group

The final tab of the main page is 'Create Group'. Everyone can create a group and choose a group name and a description. The action can be finalized by pressing the 'Create Group' button.