

# FIRST TERM PROJECT

---

Bernardo Moran Fernández-Trigales.

Guillermo Blanco Andrés.

## REQUIREMENTS

The purpose of this project is about creating a chat application. Users will be able to send messages in real time to each other. Also the user has the possibility of send a diffusion message to more than one destination user and use groups that are a conversation between more than two people. Also see information about the users will be allowed.

The application will allow the user to:

- Login by username and password. If the user reload the page the application will continue running. the user is also able to logout.
- See active chats
- See chats with unread messages
- See own profile information
- See other profile information
- Update own profile information
- See previous messages with other users
- Send message to every user
- Send diffusion list message
- Send message to a group
- Add user to your list to send users

For each user we want to know:

- username/code. Used to send requests to the server side.
- code.
- email of the user
- name of the user
- surname of the user
- address of the user
- picture of the user
- If we have unread message from an user

For each message we want to know:

- body of the message
- time when the message was sent
- user who sent the message

For each group we want to know:

- name of the group

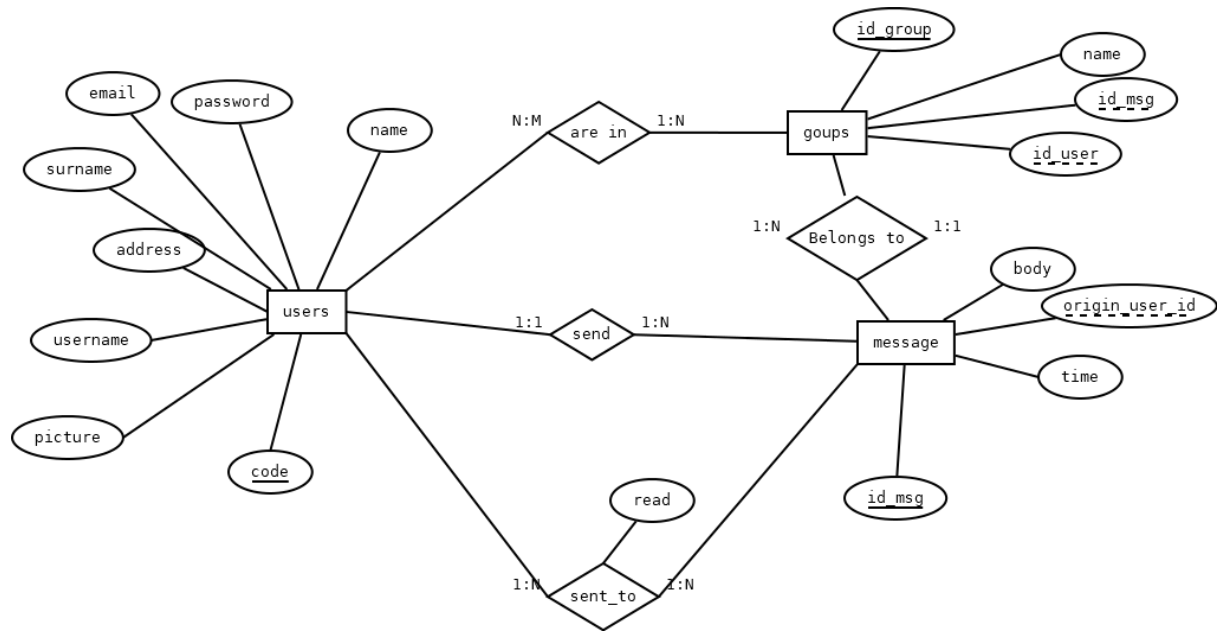
Limitations

- No admin zone
- Groups have to be inserted directly in the database
- To check new messages from users who you are not talking to immediately the user will have to refresh the page
- No friends
- No key restoring
- No file attachment
- No images as part of a send

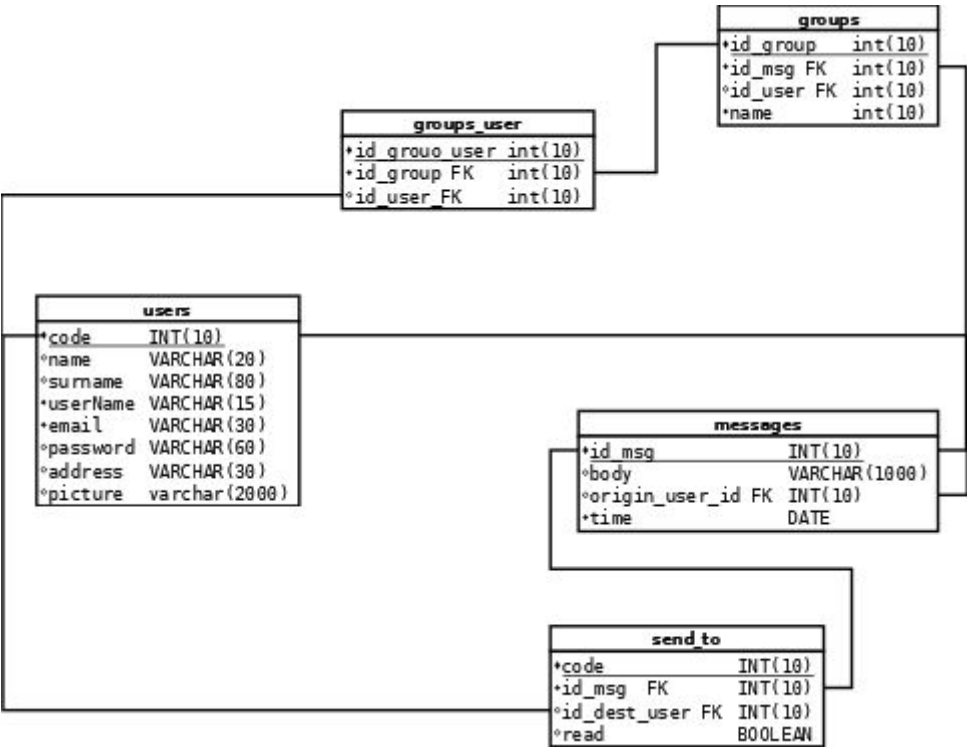
- Only jpg images can be set as profile pictures

A1	Y
A2	N
A3	Y
A4	Y
A5	N
A6	Y
A7	N
A8	Y
A9	N
A10	N
A11	N
A12	Y
A13	Y

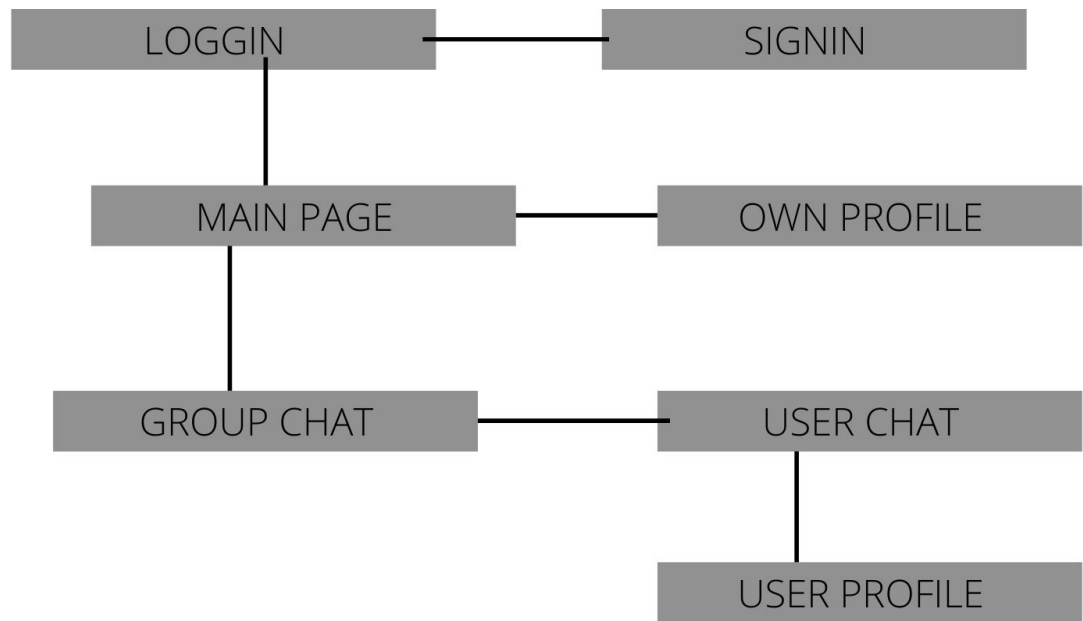
# E/R SCHEMA



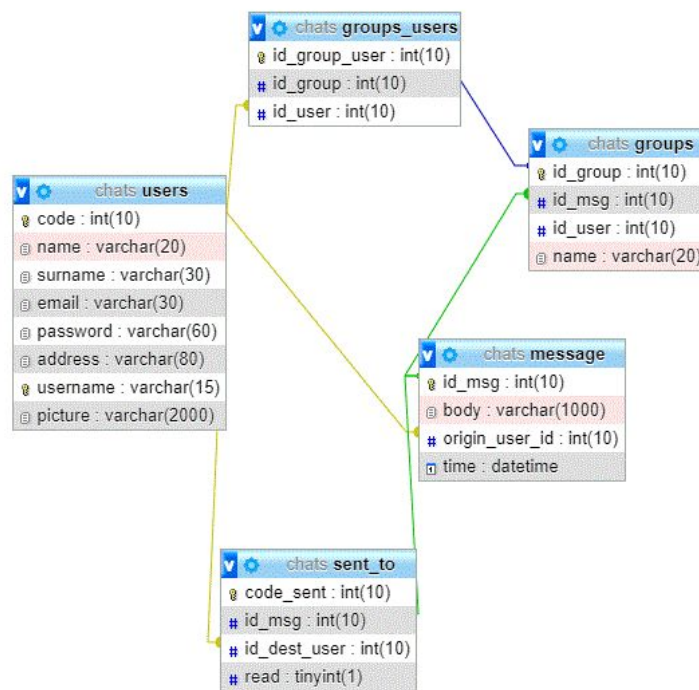
# DATABASE LOGICAL MODEL



## SCREEN MAP



## DATABASE DIAGRAM GENERATED WITH XAMPP



## FILES

login_ajax.html	<p>This is the main html in which all the applications are shown.</p> <p>It has several states: First is just the login or the option to register a new user.</p> <p>Once you do the login the appearance changes showing the chats with the users and the conversation window.</p>	
login_json.php	It's the first step in the application here checks the login information and if it is correct it displays the chat and creates the variable 'user'.	\$_POST['USER'] \$_POST[PASSWORD] \$_SESSION['USER'] \$_SESSION[PASSWORD']
logout_json.php	Deletes the user variable previously created in login_json.php and exits to the login_ajax.html.	\$_SESSION['USER'] \$_SESSION[PASSWORD']
functions.js	<p>This is the main js document of the program here are all the functions in order to preserve this as a single page application.</p> <p>The script creates all the application itself and connects with all the other files that have access to the database</p>	
db.php	It manages the connection with the database with all the json files to provide the data necessary to run the application.	
get_chats.php	It connects to the database and searches the users that have messages with you displaying them in the application.	\$_POST['USER']



get_groups.php	It connects to the database and searches the groups you are part of displaying them in the application.	\$_POST['CURRENTUSER']
load_chats_json.php	this file is called after you click on a chat getting all the messages you have with.	\$_POST['USER'] \$_POST['CURRENTUSER']
load_groups_json.php	Displays all the messages from the group you click.	\$_POST['GROUP']
send_msg_json.php	This file connects to the database to send a message in the conversation between two users.	\$_POST['USER'] \$_POST['CURRENTUSER'] \$_POST['BODY'] \$_POST['TIME']
send_msg_group_json.php	This file connects to the database to send a message to a group conversation.	\$_POST['GROUP'] \$_POST['CURRENTUSER'] \$_POST['BODY'] \$_POST['TIME']
check_read.php	Checks if you have any new messages in any conversation with an interval.	\$_POST['USER'] \$_POST['CURRENTUSER']
check_session.php	Is used in every part of the application to check that the user is still the same in the application.	\$_SESSION['USER']
sessions_json.php	Starts the session.	\$_SESSION['USER']
sign_up_json.php	File used to create new users in the program.	\$_POST['USERNAME'] \$_POST['NAME'] \$_POST['SURNAME'] \$_POST['EMAIL'] \$_POST['ADDRESS'] \$_POST['PASSWORD']
update_read.php	This file acts when you open a chat with a new message, modifies the database so the message is no longer "Not read".	\$_POST['USER'] \$_POST['CURRENTUSER']
exist_user.php	This file checks in the database if the user exists, is used in several functions.	\$_POST['USER']
get_profile.php	When you click on the username of a user it shows all the information regarding	\$_POST['USERNAME']

	that user.	
update_profile.php	It allows you to change your information wich will be shown in your profile to all your contacts.	\$_POST['USER'] \$_POST['NAME'] \$_POST['EMAIL'] \$_POST['ADDRESS']
configuration.xml	Used to connect to the database in the liveserver.	
configuration.xsd	Used to connect to the database in the liveserver.	

## USER MANUAL

To be able to log in the application you have first to register in with Username (Required), password (Required), name, surname and email. The username has to be different from the ones already taken and the password has no requirements.

There are 10 users already created beside the ones you can create by register.

After you login with username and password it will display all the active conversations you have with the different users through a relation between the messages and the users.

To be able to establish a conversation you can either add a new conversation with a user or send a difusion message, this will seal the relation between both users by showing the messages they sent to each other.

When you enter a conversation you can see the profile of the person you are chatting with clicking in his Username, also you can see your own profile and update it by clicking in your Username.

The messages are in real time as well as the read property of the message that changes when you read the message. If you receive any difusion message it will be shown in the body of the message. The conversation with new messages will be displayed in red

Each message has a body and time along with the user who sent it and the user which will receive it. the message is written in the text area of the conversation field and is sendes with the send button.

The log out button will get you out of the application closing your session and redirecting you to the main login page.

users(code, name, surname, email, password, address, username, picture).

message(id\_msg, body, origin\_user\_id, time).

sent\_to(code\_sent, id\_msg, id\_dest\_user, read).

groups(id\_group, id\_msg, id\_user, mane)

groups\_users(id\_group\_user, id\_group, id\_user).

First data insertion is for creating 10 users. Username are generated by the name of the user (first letter uppercase) and the first letter (uppercase) of the surname. the password field is a hash generated by the BCrypt algorithm. The original password is composed by the name (letters in lowercase) followed by '1234'. Picture field is the route of the profile image. Images are in the folder 'profilePic'. the name of the image file is the same than the username in JPG format.

(null, 'David', 'López', 'davidl@gmail.com',  
'\$2y\$10\$fRoHxArYEAG74of6CV/TsuR1H0.olHyRBsLcUs4Ou.qKZ.m4/vxtW','Calle Mayor 33  
1°C 24402 Ponferrada, León, España', 'davidL', '[profilePic/davidL.jpg](#)').

(null, 'Adrián', 'Rodríguez', 'adrianr@gmail.com',  
'\$2y\$10\$8AkI98nhu494Ke.1M4S0Luah3vaIT0sDKCCpNLd49Kybb1TdgsFs2','Calle Mayor  
33 1°C 24402 Ponferrada, León, España', 'AdrianR', '[profilePic/AdrianR.jpg](#)'),

(null, 'Daniel', 'García', 'danielg@gmail.com',  
'\$2y\$10\$GU7nuhRImp/V9Yx3aPyC3e8fDI1nPyD2cWh7AEkSfKEbdhgb4PEq','Calle Mayor  
33 1°C 24402 Ponferrada, León, España', 'DanielG', '[profilePic/DanielG.jpg](#)'),

(null, 'Guillermo', 'Gil', 'guillermog@gmail.com',  
'\$2y\$10\$yCl.AV8C/gWP1CxAHXEBZeCallgrcr2.mpWI2vhAyb/mXnJFSi5jS','Calle Mayor 33  
1°C 24402 Ponferrada, León, España', 'GuillermoG', '[profilePic/GuillermoG.jpg](#)'),

(null, 'Bernardo', 'Alcántara', 'bernardoa@gmail.com',  
'\$2y\$10\$4LldhSZd2diKQbCWnKk6GOq0l6oDsERL1zK6tjzhKUyJwnNVC.U','Calle Mayor  
33 1°C 24402 Ponferrada, León, España', 'BernardoA', '[profilePic/BernardoA.jpg](#)'),

(null, 'Lu', 'Romero', 'lur@gmail.com',  
'\$2y\$10\$8fknIPWhtuVOuCNJQ4XOpO/FGLB0zCVEx7KrFuhsHgbHkWv1mGXSu','Calle  
Mayor 33 1°C 24402 Ponferrada, León, España', 'LuR', '[profilePic/LuR.jpg](#)'),

(null, 'Angélica', 'Pérez', 'angelicap@gmail.com',  
'\$2y\$10\$.5E2mH7E3ug0SGmKhbKiKeXBcjfF3BYrRikrJ.RP0z5ltMI8CuuuC','Calle Mayor 33  
1°C 24402 Ponferrada, León, España', 'AngelicaP', '[profilePic/AngelicaP.jpg](#)'),

(null, 'Jorge', 'Sánchez', 'jorges@gmail.com',  
'\$2y\$10\$5lswkizKeS2JnMoma7MvMeCFR.dnCH2XEA0OsJDFFxH1piljDjRye','Calle Mayor  
33 1°C 24402 Ponferrada, León, España', 'JorgeS', '[profilePic/JorgeS.jpg](#)'),

```
(null, 'Roberto', 'Fernández', 'robertof@gmail.com',  
'$2y$10$3UD0KOOHmVemftHVBSiXJejAo18XBHDAuryW85j3oRQcKdiZk/fCi','Calle Mayor  
33 1°C 24402 Ponferrada, León, España', 'RobertoF', 'profilePic/RobertoF.jpg'),
```

```
(null, 'Ariel', 'Martínez', 'arielm@gmail.com',  
'$2y$10$ken3dj3KmyhNcYsKTTTrP4.LL2abqL34IDQBB5KFThOTcgKZfByTmy','Calle Mayor  
33 1°C 24402 Ponferrada, León, España', 'ArielM', 'profilePic/ArielM.jpg');
```

All the password are generated using this php script

```
<?php
```

```
$array = array(  
    "david1234",  
    "adrian1234",  
    "daniel1234",  
    "guillermo1234",  
    "bernardo1234",  
    "lu123456",  
    "angelica1234",  
    "jorge1234",  
    "roberto1234",  
    "ariel1234"  
);  
  
$arrayHash = array();  
for ($i = 0; $i < 10; $i++) {  
    $arrayHash[$i] = password_hash($array[$i], PASSWORD_BCRYPT);  
}  
foreach ($arrayHash as &$valor) {  
    echo "<br>";  
    echo $valor;  
    echo "<br>";}
```

Next insertion is about creating messages between the three first users and some messages to a group.

```
(null,'Lorem ipsum dolor sit amet','1','2020-11-12 10:10:10'),  
(null,'Lorem ipsum dolor sit amet','2','2020-11-13 10:10:30'),  
(null,'Lorem ipsum dolor sit amet','1','2020-11-13 10:11:10'),  
(null,'Lorem ipsum dolor sit amet','2','2020-11-13 10:10:20'),  
(null,'Lorem ipsum dolor sit amet','1','2020-11-14 10:10:10'),
```

```
(null,'Lorem ipsum dolor sit amet','2','2020-11-15 10:10:30'),
(null,'Lorem ipsum dolor sit amet','1','2020-11-15 10:11:10'),
(null,'Lorem ipsum dolor sit amet','2','2020-11-15 10:10:20'),
(null,'Lorem ipsum dolor sit amet','1','2020-11-16 10:10:10'),
(null,'Lorem ipsum dolor sit amet','2','2020-11-17 10:10:30'),
(null,'Lorem ipsum dolor sit amet','1','2020-11-17 10:11:10'),
(null,'Lorem ipsum dolor sit amet','1','2020-11-17 10:10:20'),
(null,'Lorem ipsum dolor sit amet','3','2020-11-12 10:10:10'),
(null,'Lorem ipsum dolor sit amet','2','2020-11-13 10:10:30'),
(null,'Lorem ipsum dolor sit amet','3','2020-11-13 10:11:10'),
(null,'Lorem ipsum dolor sit amet','2','2020-11-13 10:10:20'),
(null,'Lorem ipsum dolor sit amet','3','2020-11-14 10:10:10'),
(null,'Lorem ipsum dolor sit amet','2','2020-11-15 10:10:30'),
(null,'Lorem ipsum dolor sit amet','3','2020-11-15 10:11:10'),
(null,'Lorem ipsum dolor sit amet','2','2020-11-15 10:10:20'),
(null,'Lorem ipsum dolor sit amet','3','2020-11-16 10:10:10'),
(null,'Lorem ipsum dolor sit amet','2','2020-11-17 10:10:30'),
(null,'Lorem ipsum dolor sit amet','3','2020-11-17 10:11:10'),
(null,'Lorem ipsum dolor sit amet','3','2020-11-17 10:10:20'),
(null,'Lorem ipsum dolor sit amet','3','2020-11-17 10:10:20'),
(null,'Primer mensaje de el grupo soria','1','2020-11-17 10:10:20'),
(null,'Segundo mensaje de el grupo soria','2','2020-11-17 10:10:20'),
(null,'Tercer mensaje de el grupo soria','3','2020-11-17 10:10:20');
```

After this it is necessary to relate the messages with the destination users. It relates a message with the destination user. All messages will be read at the beginning.

```
(null,'1','2','1'),
(null,'2','1','1'),
(null,'3','2','1'),
(null,'4','1','1'),
(null,'5','2','1'),
(null,'6','1','1'),
(null,'7','2','1'),
(null,'8','1','1'),
(null,'9','2','1'),
(null,'10','1','1'),
(null,'11','2','1'),
(null,'12','2','1'),
(null,'13','2','1'),
(null,'14','3','1'),
(null,'15','2','1'),
(null,'16','3','1'),
(null,'17','2','1'),
(null,'18','3','1'),
(null,'19','2','1'),
(null,'20','3','1'),
```

```
(null,'21','2','1'),  
(null,'22','3','1'),  
(null,'23','2','1'),  
(null,'24','2','1');
```

A group is created with three users.

```
(null,'25','1','soria'),  
(null,'26','2','soria'),  
(null,'27','3','soria');
```

The group is related with the users who can send messages to the group.

```
(null,'1','1'),  
(null,'2','2'),  
(null,'3','3');
```