



**GEBZE TECHNICAL UNIVERSITY**  
**DEPARTMENT OF COMPUTER ENGINEERING**  
**2022 FALL CSE343 SOFTWARE ENGINEERING**

**LUDOVICO**  
**PROJECT REPORT**

## Group Members

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## 1. User Stories

### Story 1: Finding an Event

Mert is a Computer Engineering student in Gebze Technical University. He wants to meet new people that shares his interests but he struggles to find, because there is not that much social activities and possibilities in his campus. Then he remembers an app called Hangout that came out lately and decides to give it a chance. He opens the app, creates an account, and sees that there are lots of people who wants to meet and do specific activities. He has a passion about playing board games, so he founds an event that looking for four people to play Monopoly. He attends the event and meets the group at the location and time that specified in the event page. They have lots of fun and finally, Mert has a group of friends that shares his board game interest.

### Scenario 1: Finding an Event in Hangout

**Initial assumption:** A user or a group of users want to meet other users to do specific activities. They have successfully downloaded the Hangout app and successfully created an account.

**Normal:** Users go through the events and examine the details of them. They check their categories, dates, times, participant numbers and descriptions to find the one that they are looking for. They find one and click the attend button to attend to the event.

When they attend to the event, the event will go to the attended events page, the event participant number will be incremented by one and the creator of the event will see the new participant in the event details that he has created.

**What can go wrong:** There are not any event that interests the user, or it is not created by someone. If this is the case, user can create an event for this purpose if he/she wishes to.

The user wants to attend an event but, there are already another event that the user has attended at the same time. The system will not let the user attend to the second event at the same time.

The event that the user wants to attend is full. In this case, the system will not show the event to the user and the user cannot attend it.

**Other activities:** Other users may be logged in to the app and create new events.

Other users may be logged in to the app and attend to an event, which might result filling an events participant limit.

**System state on completion:** User is logged on. The attended event is updated so the participants are up to date. The host can see that a new user is attended to his/her event.

## Story 2: Creating an Event

Burak is an Electronic Engineering student in Gebze Technical University. He loves jogging in the nature and wants to create a running group. His friend Mert suggests him an app called Hangout that he uses frequently. Burak downloads it and sees that he can create a variety of events. He chooses the create event option and creates an event called Running in Nature. He chooses that he is looking for ten people and wants to meet them at the campus' running track. Users who want to join Burak in his running event attends the event and they meet to run and have a quality time.

## Scenario 2: Creating an Event in Hangout

**Initial assumption:** A user or a group of users want to meet other users to do specific activities. They have successfully downloaded the Hangout app and successfully created an account.

**Normal:** The user clicks the create event button to create an event. After that, he/she chooses the category of the event, place of the event, enters event title, date, time, participant number and description and chooses not private event option.

When the event has created, the event will be shown at the main events page to everyone, and other users can attend the event if they would like to.

**What can go wrong:** The inputs might be wrong. The system will show an error and ask the user to correct the inputs.

There is already another event that the user has attended at the same time. The system will not let the user to create an event at the same time.

**Other activities:** Other users may be logged in to the app and attend to his/her event.

**System state on completion:** User is logged on. The event has created and published on the main events page and other users can attend it.

## Story 3: Creating a Private Event

Mete is a Gebze Technical University student who wants to improve himself in Tennis. He had taken Tennis courses when he was younger, but he had to stop playing because he does not have time for it due to heavy schedule of the lessons. Now he is starting again and wants to practice to get better at it. He downloads an app called Hangout that everyone talks about non-stop. He creates an event that for playing tennis and indicates that he is looking for only one person who is good at tennis. He chooses the private option which specifies that a request needed to attend the event. After a while, he sees several requests for its event and accepts the request that he wants. They meet, play tennis, and get along well. As the time goes by, they become close friends and meet every Friday to spend time and play tennis.

## Scenario 3: Creating a Private Event in Hangout

**Initial assumption:** A user or a group of users want to meet other users to do specific activities. They have successfully downloaded the Hangout app and successfully created an account.

**Normal:** The user clicks the create event button to create an event. After that, he/she chooses the category of the event, place of the event, enters event title, date, time, participant number and description and chooses the private event option.

When the event has created, the event will be shown at the main events page to everyone, and other users can request to attend to the event if they would like to. When an attend request happens, the host can see them and accept/deny them.

**What can go wrong:** The inputs might be wrong. The system will show an error and ask the user to correct the inputs.

There is already another event that the user has attended at the same time. The system will not let the user to create an event at the same time.

**Other activities:** Other users may be logged in to the app and request to attend to his/her event.

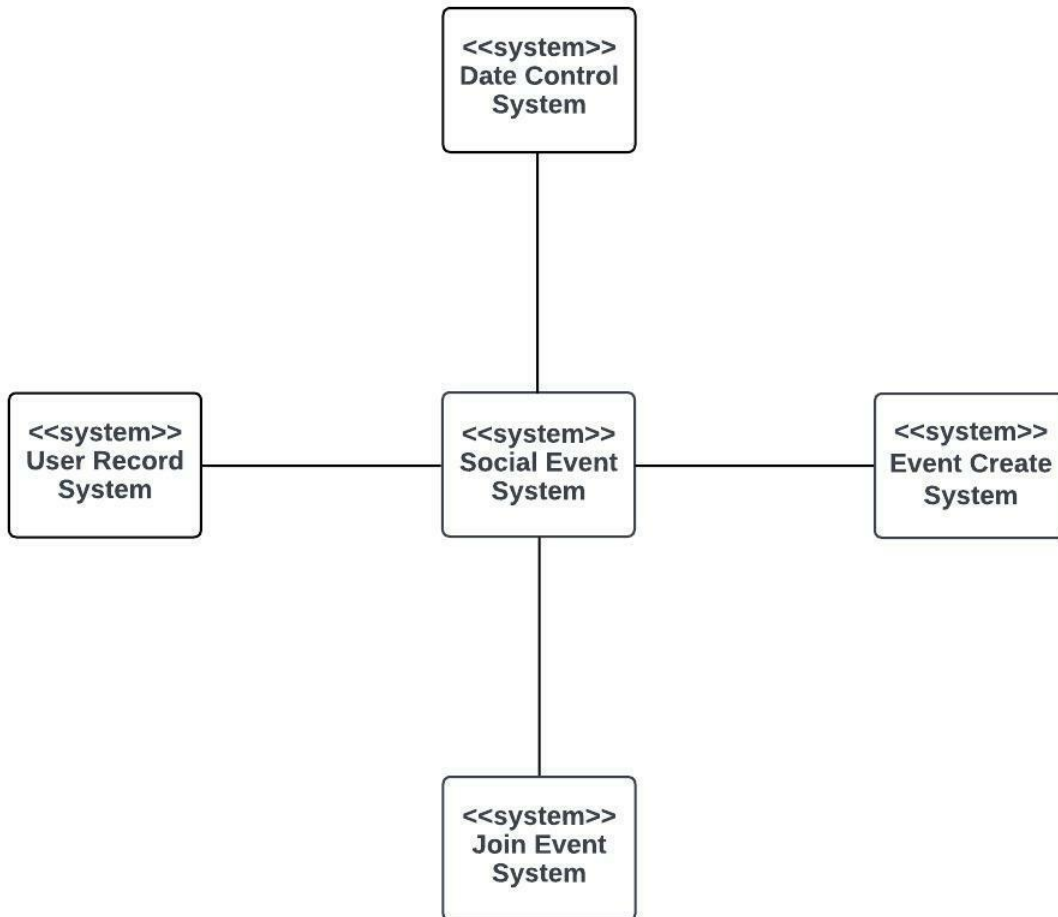
**System state on completion:** User is logged on. The event has created and published on the main events page and other users can request to attend to it.

## 2. Project Backlog Document

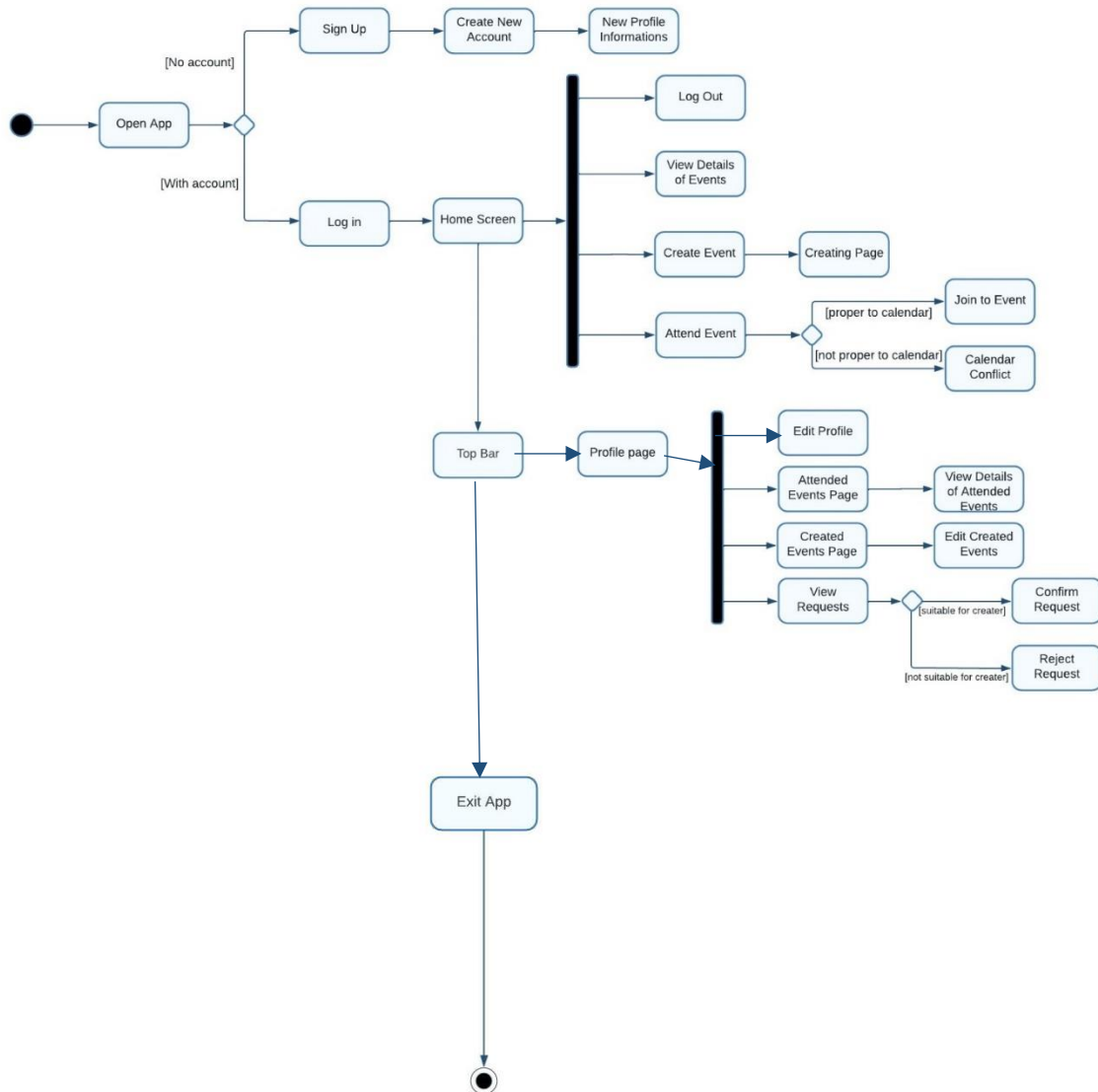
ID	Task	Description	Requirements	Priority	Sprint	Status
1	Log In and Registration Screen Implementation	Log In and Registration page for users to create an account or log in to an existing one.	Log In Screen Sign Up Screen	Medium	1	Done
2	User Authentication and Connection to Database	User can create a new account or log in to an existing account. Also, created events, joined events, profiles etc. can be saved to a database when we need.	Log In Sign Up Database Connection	High	1	Done
3	Main Menu	User can view the existing events, go to create a new event page, go to his/her profile.	Event List Profile Button Create Event Button	High	2	Done
4	Create Event	User can create a new event with the needed details.	Users detail input Save event	High	2	Done
5	Event Details	User can view the details of the event that he/she wants to attend, such as event category, date, time, and description.	Event Date/Time Event Category Description	Medium	3	Done
6	Join/Leave Event	User can send a join request to the event host or join directly (depending on the hosts choice) and also can leave an event.	View details Join directly Send request	High	4	In Progress
7	Manage Event	User can manage the event that he/she has created, which is removing an attendee, check the join requests and approve or deny them, or cancel the event.	Remove an Attendee Check Requests Approve/Deny Requests Cancel Event	Medium	4	In Progress
8	User profile	User can access their profile and view the events they have created or participated in.	View created events View attended events	Medium	3	Done
10	Overlapping Events	When a user tries to attend to an event or creates an event, the system will check if the user has another event at the same time and date.	Overlapping Control	Medium		To Be Started

### 3. UML Diagrams:

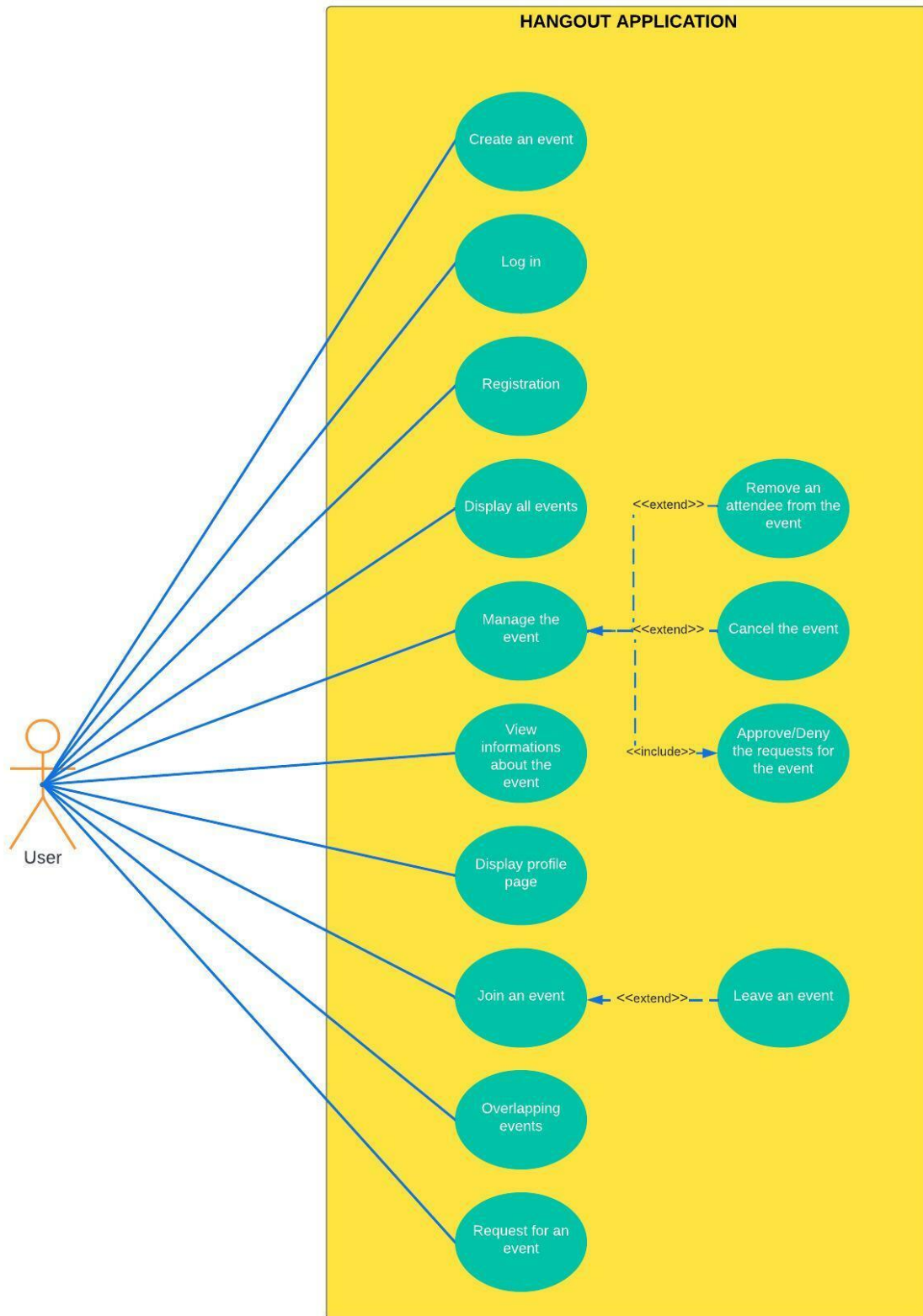
#### a) Context Model



## b) Process Model



### c) Use Case Diagram and Detailed Tables





System	Hangout Application
Use Case	Create an Event
Actors	User
Data	Event creator's information. Special information is needed about the event; category, accessibility option(private event or public event), the number of attendees, description of the event, and place where the event is going to take place.
Stimulus	The user who clicked Create event option on the main page gives the requested inputs about the event and the data is transferred. Hangout Application controls the information which is given by the creator of the event to see whether the event is creatable or not.
Response	The Event is created and put into the Event section in the application.
Comments	The system should properly check whether the place of the event is available on the given date. Otherwise, a conflict of dates with other events might occur.

System	Hangout Application
Use Case	Login
Actors	User
Data	User's mail address with gtu.edu.tr extension and password.
Stimulus	The user's mail address with the gtu.edu.tr extension is going to be verified by the system and checked whether the mail exists in the database.
Response	If the user is registered in the system, he/she will be redirected to the main page, otherwise, the application will display an error message.
Comments	Anyone who has an email with a gtu.edu.tr extension can create an account and use the Hangout application easily.

System	Hangout Application
Use Case	Registration
Actors	User
Data	User's mail address with gtu.edu.tr and the password of the email address which has gtu.edu.tr extension.
Stimulus	The system will send a verification mail to the user's mail address with the gtu.edu.tr extension to check whether the given mail belongs to the user or not.
Response	The new user's account information is going to be saved in the database and the user will be redirected to the login page.
Comments	A bot that sends a verification mail automatically must be integrated into the application to verify mail addresses with the gtu.edu.tr extension.

System	Hangout Application
Use Case	Display All Events
Actors	User
Data	All created Event information in the database.
Stimulus	When a user clicks on the event section on the main page of the application, all available data of events will be transferred through the database.
Response	Information about all events will be loaded into the event section by application.
Comments	Events that have conflicting dates must be indicated and shown to the user properly.

System	Hangout Application
Use Case	Manage the event
Actors	User
Data	Information about the event, and information of the users who have joined the event.
Stimulus	On the user's profile page there will be modification options for created events and joined events. Through the profile page, the user will be able to modify the event status.
Response	The modification will be performed in the event and event information will be updated.
Comments	When the modification is made by the creator, the users who have joined the event must be informed immediately.

System	Hangout Application
Use Case	Remove an attendee from the event
Actors	User
Data	Information of users who have joined the event.
Stimulus	The creator of the event will be able to display the list of users who have joined the event on the profile page. By clicking remove an attendee from the event option creator of the event will be able to remove a user from the event.
Response	An attendee is removed from the event by the creator.
Comments	It would be better to inform the attendee about why he/she has been removed.

System	Hangout Application
Use Case	Cancel the event
Actors	User
Data	All the Information about the event(category, date, place, attendees)
Stimulus	The creator of the event can cancel an event through the events created button on the profile page. All information about the event will be transferred from the database and be visible in the events created button on the profile page of the event creator.
Response	The event will be removed from both creator's event-created page and the attendee's events-attended page.
Comments	The reason for event cancellation might be asked by the attendees. Later, information about cancellation might be added to the application to enlighten attendees.

System	Hangout Application
Use Case	Approve/Deny the request for the event
Actors	User
Data	Information of the user who sends a request to join the event. The number of attendees for the event.
Stimulus	Users must send a request for private events. Event creators can display requests and either approve or deny them through the event-details section on the profile page.
Response	The user either will be added to the event attendees list or denied according to the event creator's decision.
Comments	As it was mentioned in all manage the event options, an information box might be added later to notify the user about the reason for the request denial. (This information will be given by the event creator optionally not compulsorily)

System	Hangout Application
Use Case	View informations about the event
Actors	User
Data	All information about the event that is given by the event's creator
Stimulus	Both creators of the event and the attendee can view the information about the event by clicking on the event on the events-created or events-attended page.
Response	Even information will display on the event details page.
Comments	When the conflict of dates occurs, this must be indicated somehow on the event-details page.

System	Hangout Application
Use Case	Display profile page
Actors	User
Data	User's personal information, created events information, attended events information
Stimulus	Users can view his/her status from the profile page. Users can also view the created events and attended events from the profile page and perform modifications about events or their status.
Response	The user will be redirected to the profile page. The user's information and created/attended event buttons will display on the screen.
Comments	Users can make all the necessary modifications about created/attended events on the profile page.

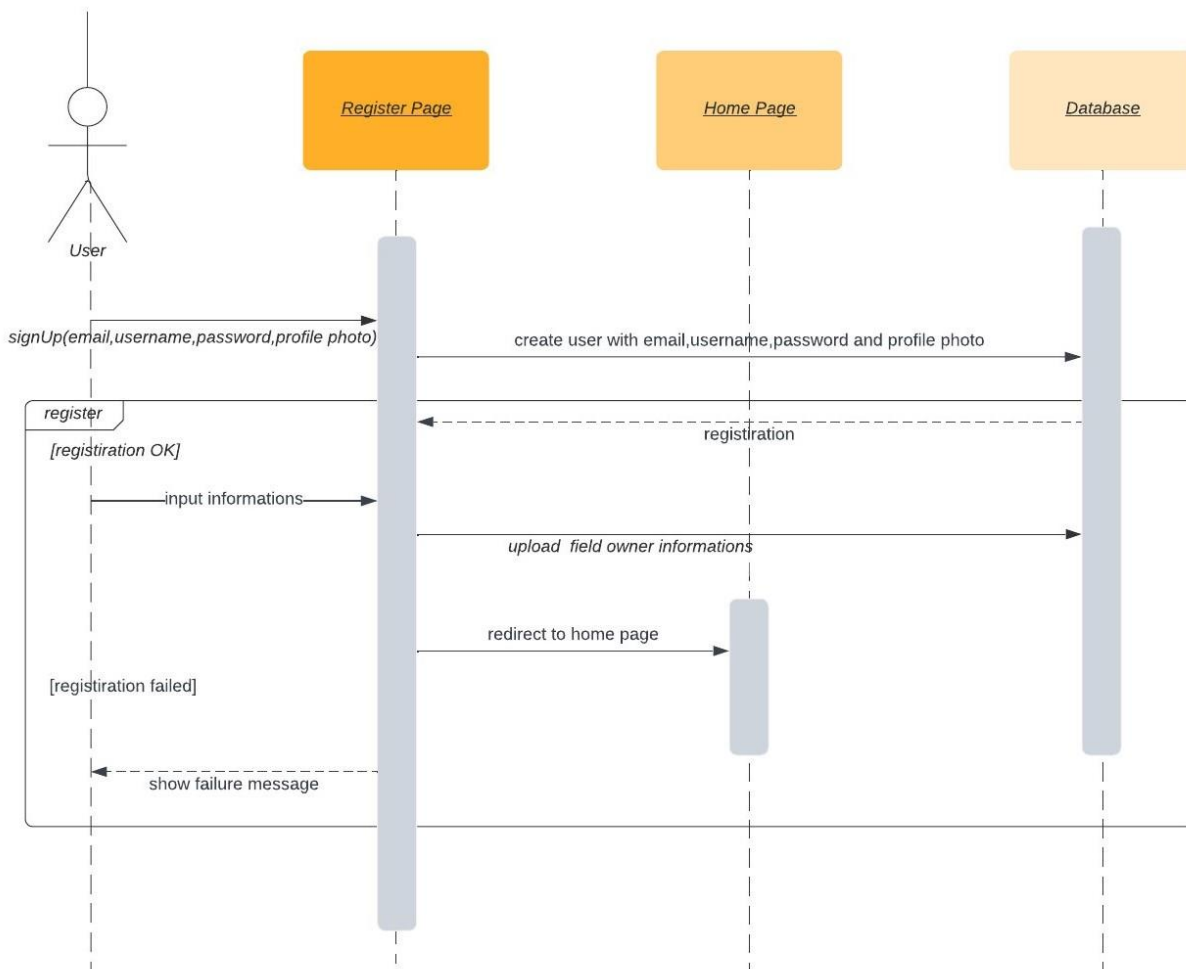
System	Hangout Application
Use Case	Join an event
Actors	User
Data	Details about the event, event's creator information, number of attendees and the maximum capacity, accessibility of the event(private event or public event)
Stimulus	Users can join an event by clicking attend button on the main page. Information about private and public events can be viewed through the information box. Users can also see the number of attendees and the accessibility of the event.
Response	Users will attend the event directly and the status of event will be updated.
Comments	The creator of the event should indicate the special requirements for private events through the information box.

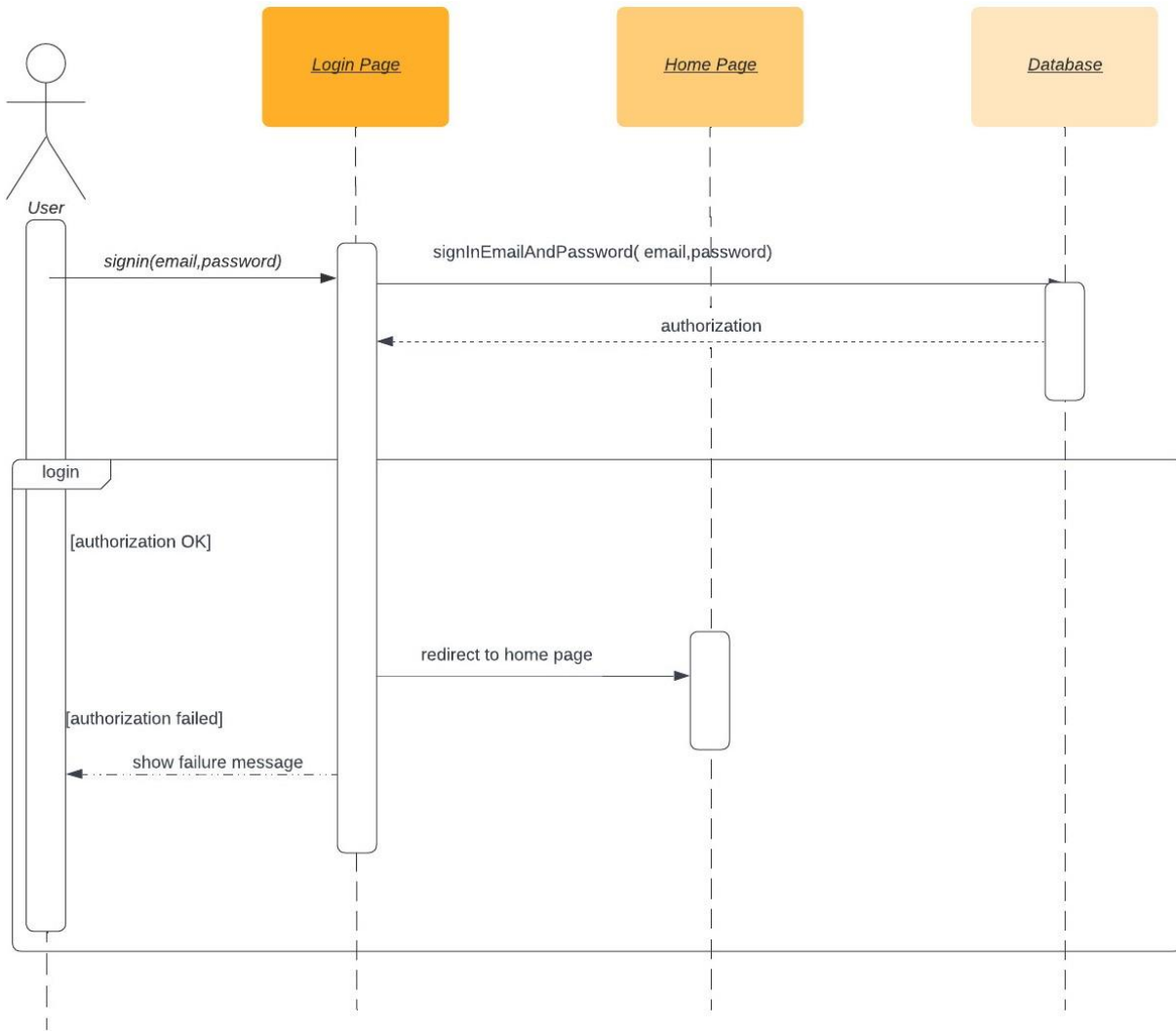
System	Hangout Application
Use Case	Leave an event
Actors	User
Data	Details of the event, user information, information of creator of the event
Stimulus	Users can leave the event from the events-attended section on the profile page.
Response	The user will be removed from the event, modification will be made to event details.
Comments	Leaving an event when it is close to the deadline could lead to problems. There could be a queue for other users who tries to attend the event but can't because of the limitation of attendees. When someone leaves the event first one in the queue automatically joins. This feature can be added later.

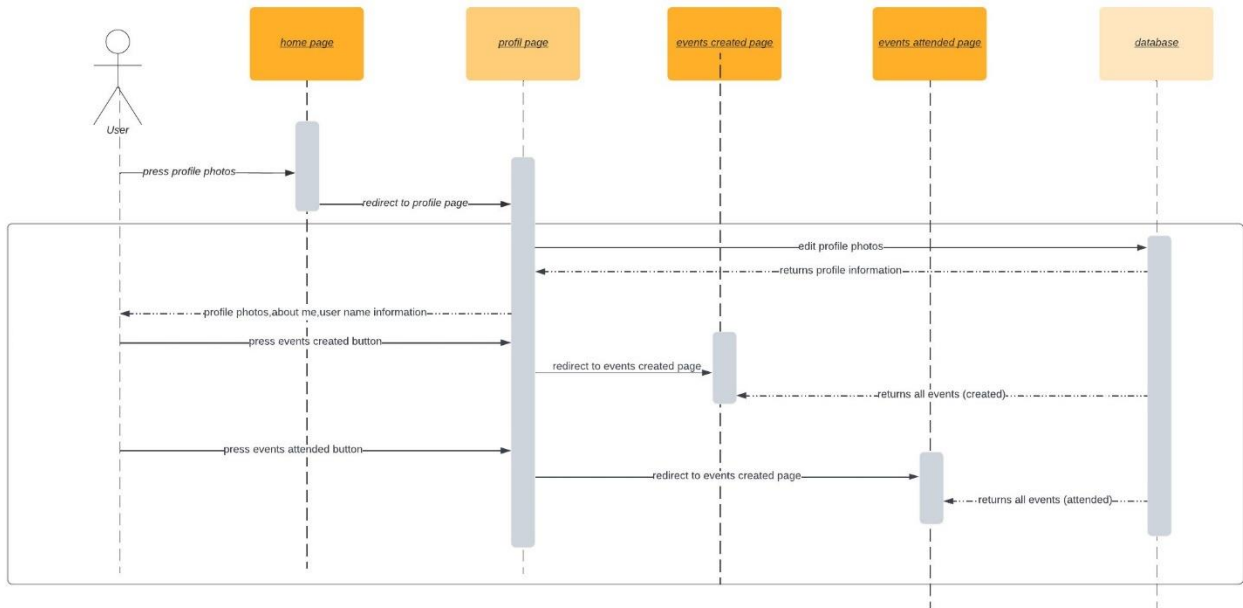
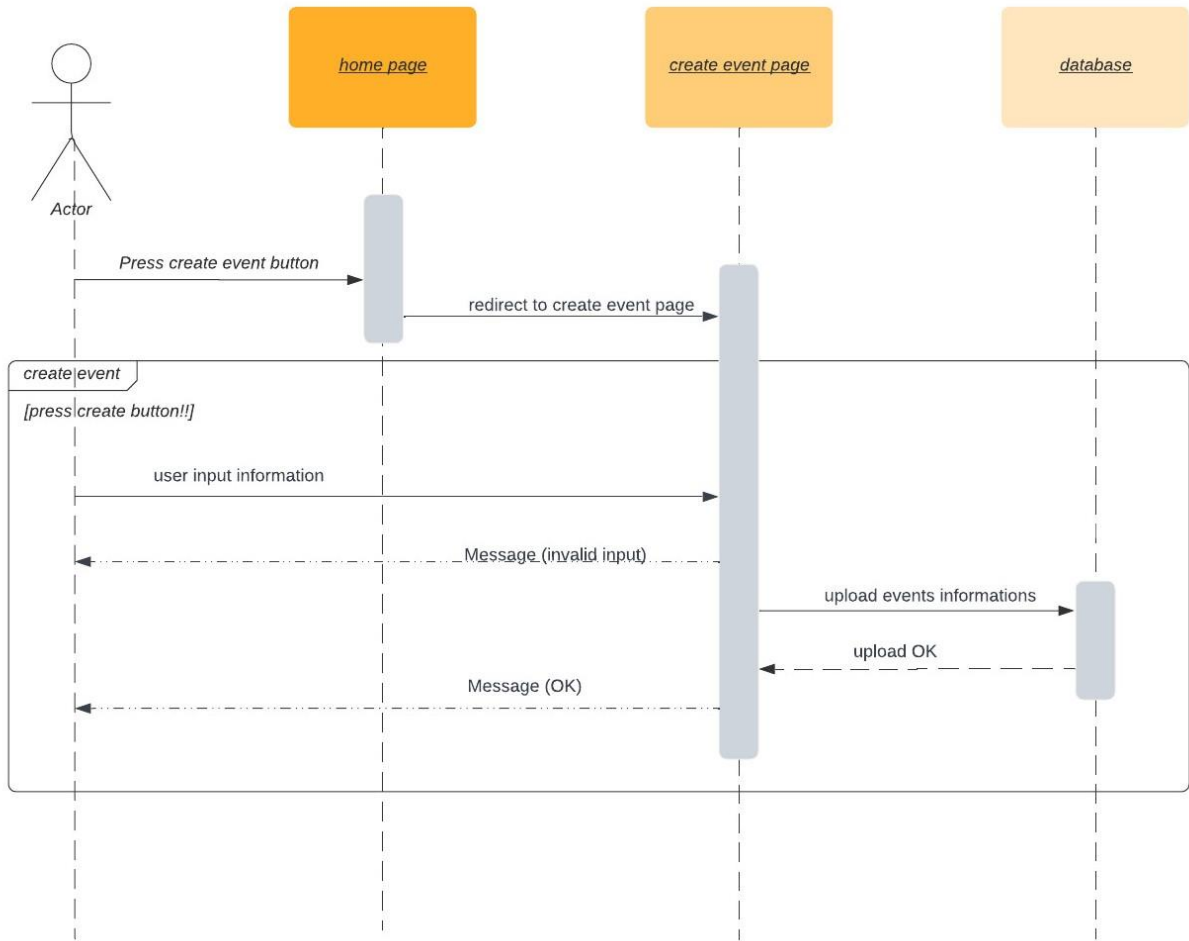
System	Hangout Application
Use Case	Request for an event
Actors	User
Data	Details about the event, event's creator information, number of attendees and the maximum capacity, accessibility of the event (private event or public event)
Stimulus	There are some events that require the approval of the event creator. In these cases, the user should check the requirements from the information box and send a request accordingly.
Response	A request for an event will be sent to the event creator by the user.
Comments	It would be better to add other options to display all requests.

System	Hangout Application
Use Case	Overlapping events
Actors	User
Data	Details about the event, date and time of it
Stimulus	There are some users that attend the event but that event is conflicts with the date or time of the other event.
Response	User should not be able to attend to the event. An error message will be displayed.
Comments	Conflicting event dates and/or times should be caught and proper message should be shown to the user.

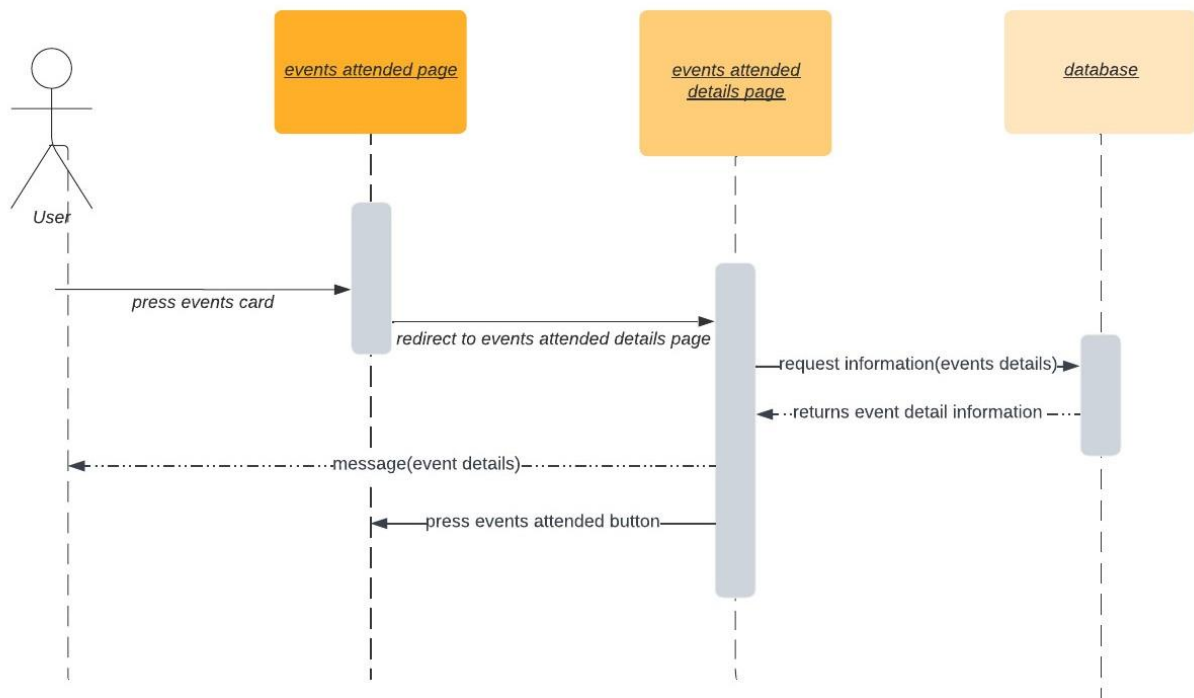
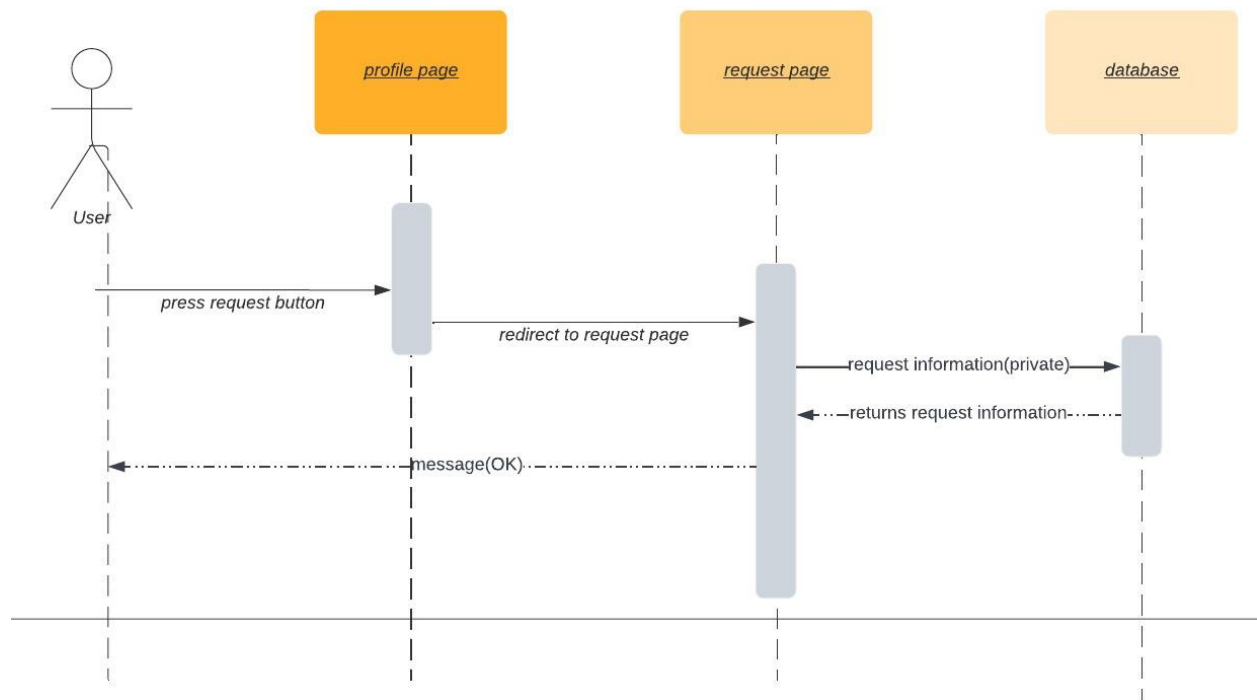
## d) Sequence Diagrams

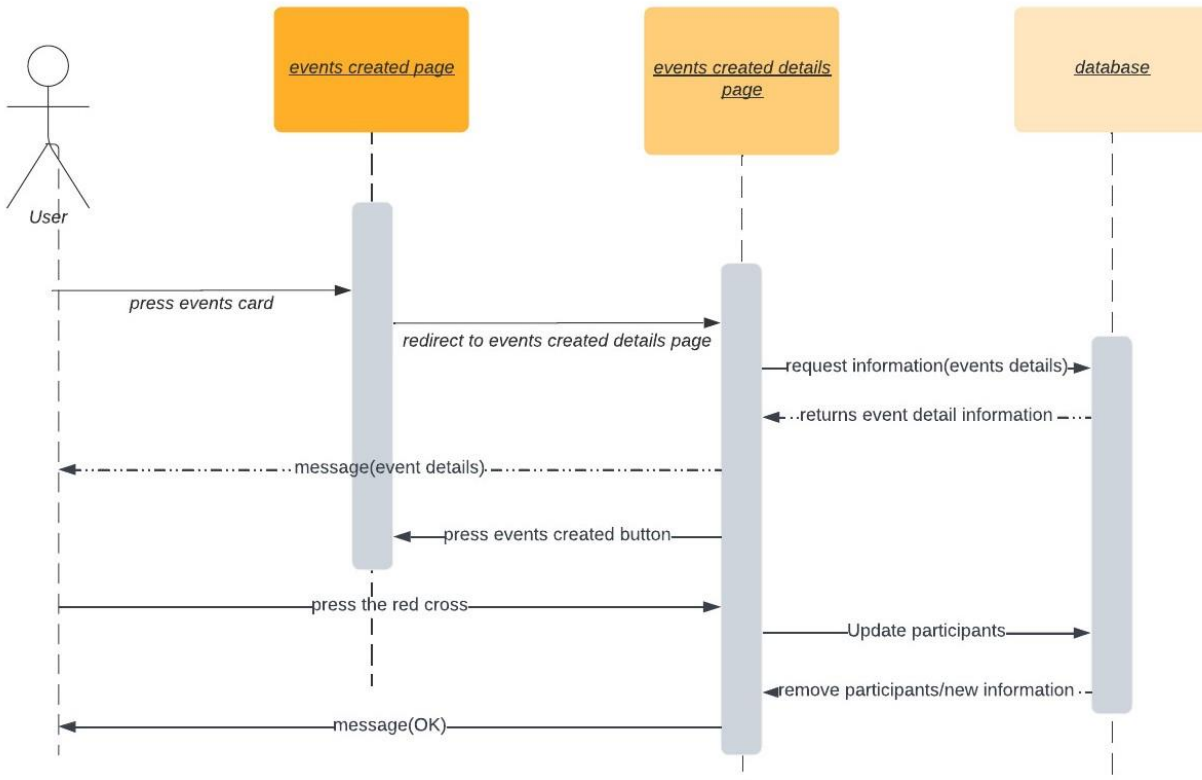




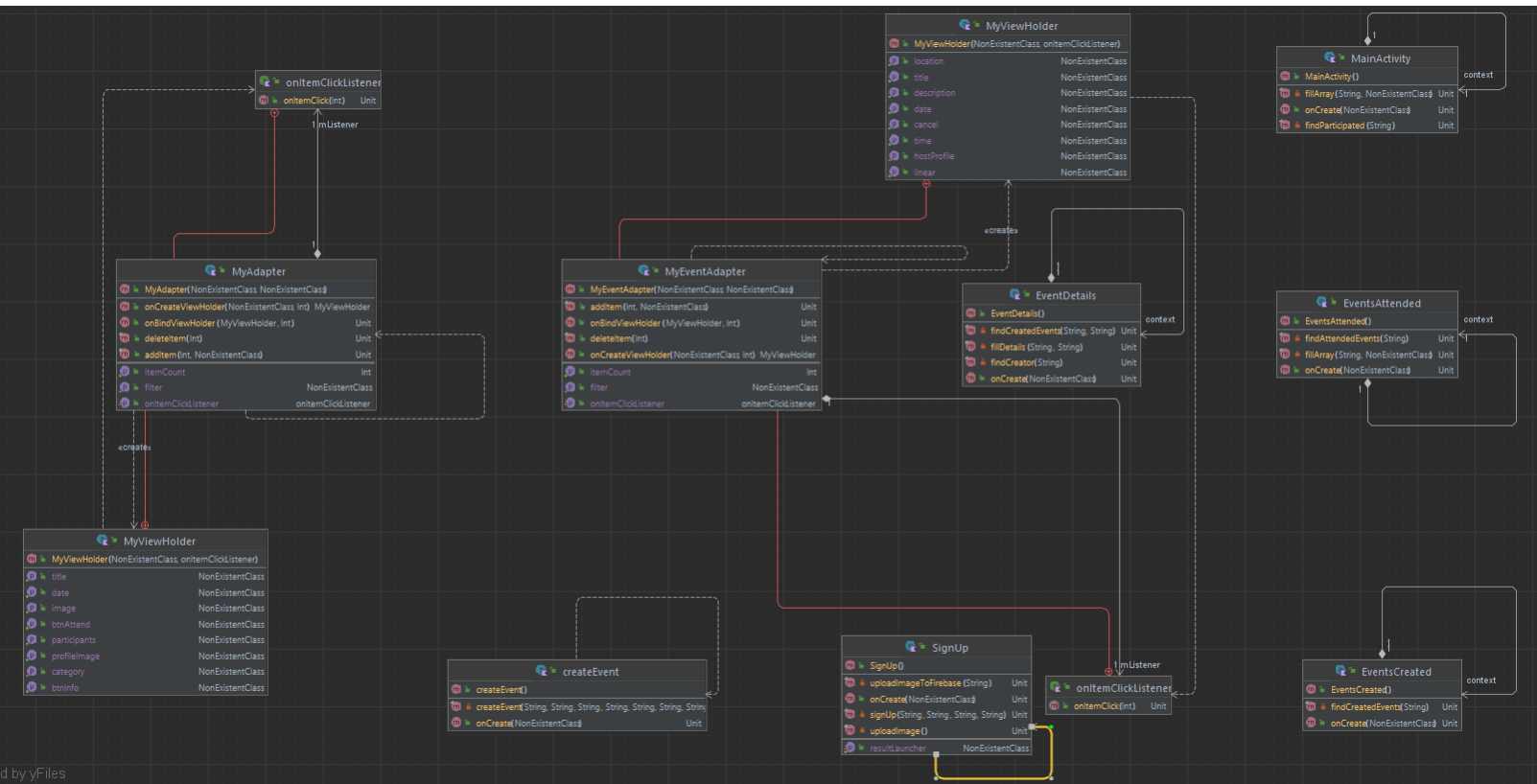


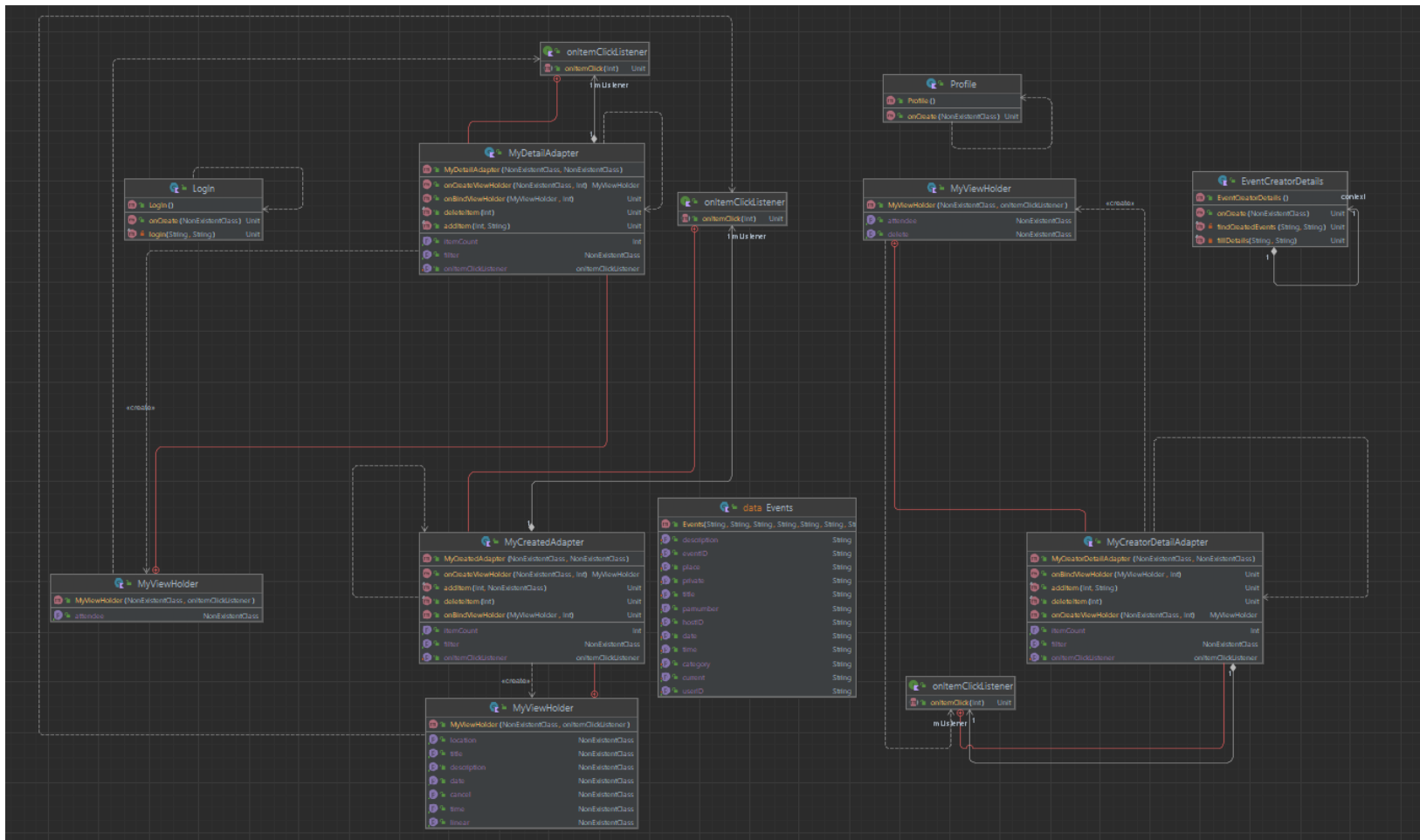






## e) Class Diagrams



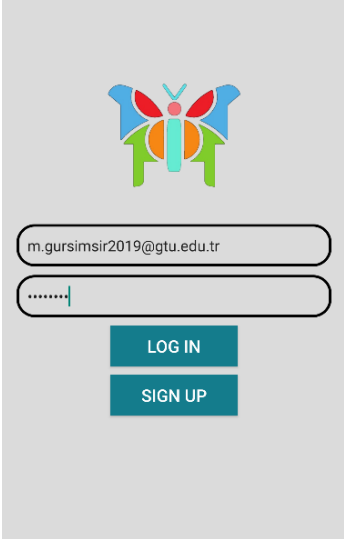
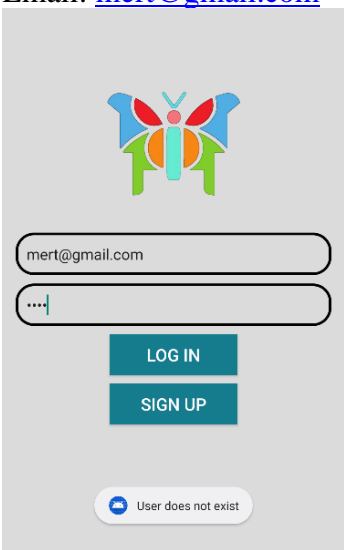


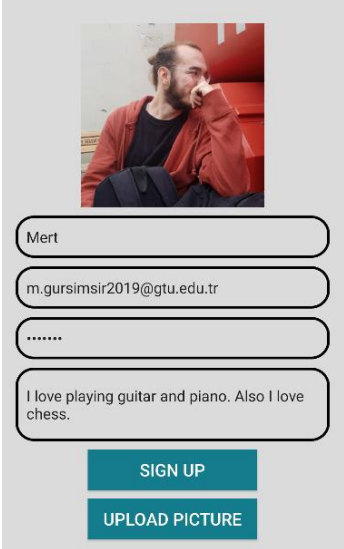
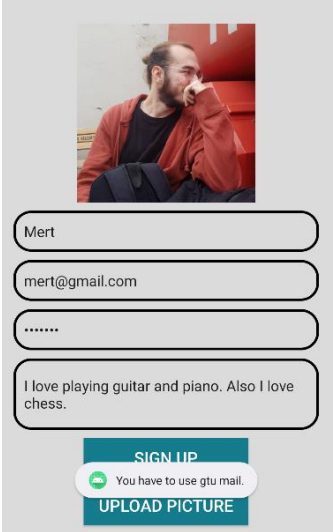
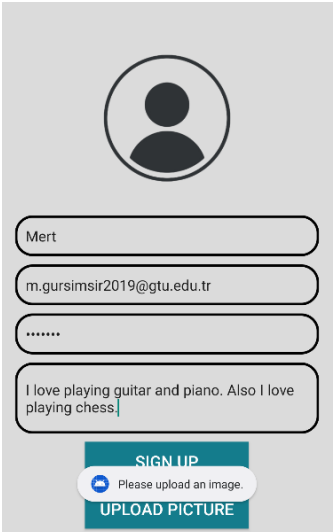
More HD versions of the class diagrams are added to the zip.





## 4. Working Graphical Interface with Backend Service

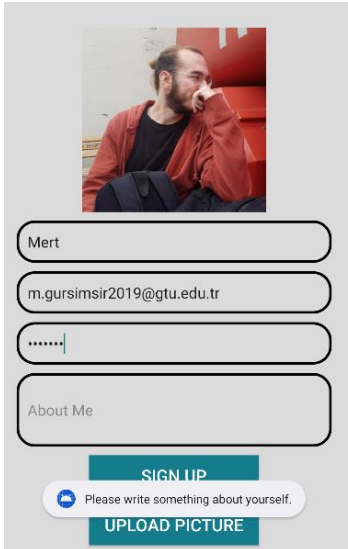
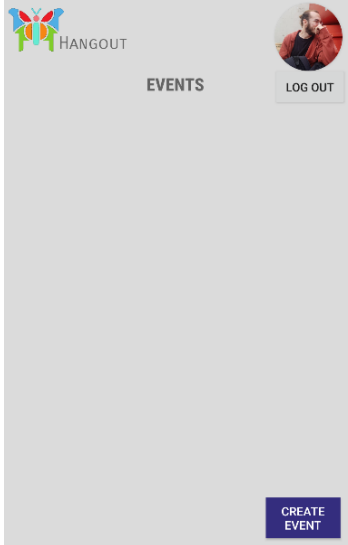
Video showing the graphical interface with backend services is added to the zip.

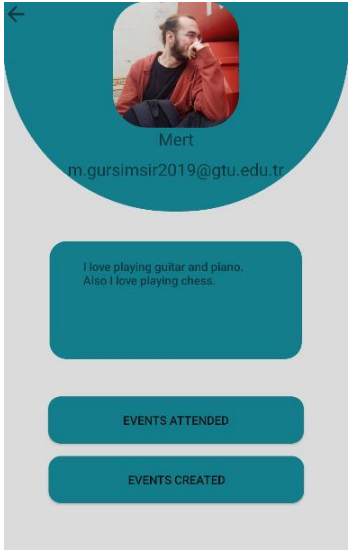

## 5. Test Cases

I D	DESCR PTION	STEPS TO EXECUTE	TEST DATA / INPUT	EXPECTE D RESULTS
T-01	Check customer log in with valid data	<ol style="list-style-type: none"> <li>Go to the log in page</li> <li>Enter e-mail with <a href="mailto:gtu.edu.tr">gtu.edu.tr</a> extension that is signed up</li> <li>Enter password</li> <li>Log in</li> </ol>	Email: <a href="mailto:mertgursimsir16@gmail.com">mertgursimsir16@gmail.com</a> 	User should log in successfully  <b>PASSED</b>
T-02	Check customer log in with invalid data	<ol style="list-style-type: none"> <li>Go to the log in page</li> <li>Enter any e-mail</li> <li>Enter password</li> <li>Log in</li> </ol>	Email: <a href="mailto:mert@gmail.com">mert@gmail.com</a> 	User should not log in into application  <b>PASSED</b>
T-03	Check customer sign up with proper mail	<ol style="list-style-type: none"> <li>Go to the sign up page</li> <li>Enter name</li> <li>Enter e-mail with <a href="mailto:gtu.edu.tr">gtu.edu.tr</a> extension</li> </ol>	Email: <a href="mailto:m.gursimsir2019@gtu.edu.tr">m.gursimsir2019@gtu.edu.tr</a>	User should sign up successfully  <b>PASSED</b>

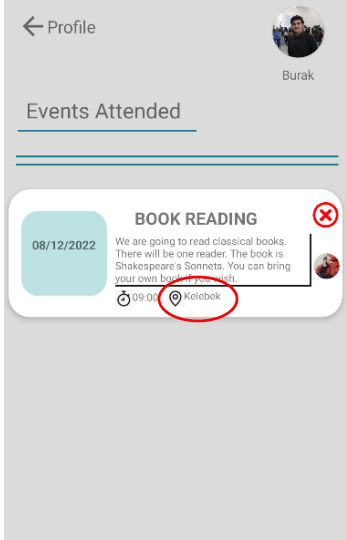
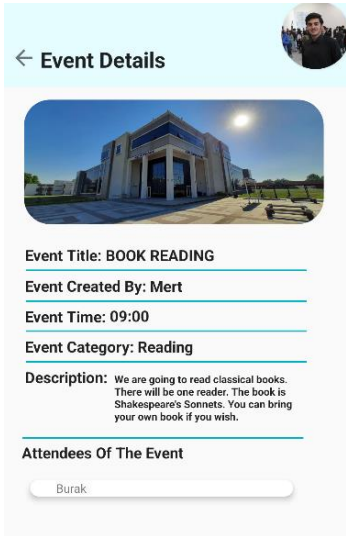
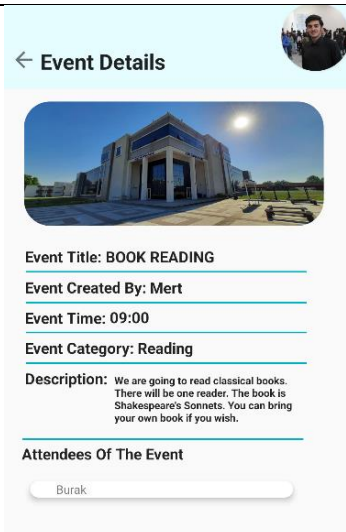
		<ol style="list-style-type: none"> <li>Enter password</li> <li>Fill other inputs validly – Don't leave them empty</li> <li>Sign up</li> </ol>		
T-04	Check customer sign up with invalid data	<ol style="list-style-type: none"> <li>Go to the sign up page</li> <li>Enter name</li> <li>Enter any e-mail</li> <li>Enter password</li> <li>Try invalid inputs too</li> <li>Sign up</li> </ol>	<p>Email: <a href="mailto:mert@gmail.com">mert@gmail.com</a></p>  	<p>User should not sign up into application.</p> <p><b>PASSED</b></p>

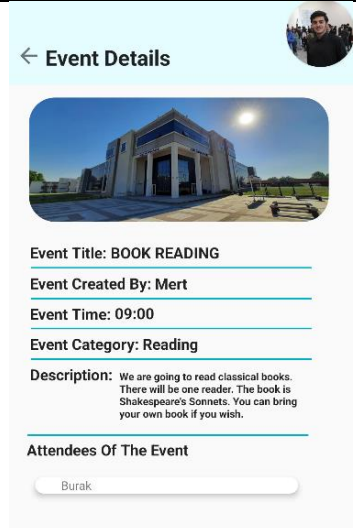
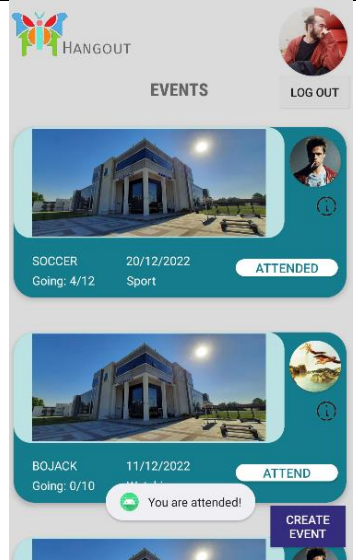
			<div><div><div>Name</div><div>m.gursimsir2019@gtu.edu.tr</div><div>*****</div><div>I love playing guitar and piano. Also I love playing chess.</div><div><div>SIGN UP</div><div> Name cannot be empty.</div><div>UPLOAD PICTURE</div></div></div></div> <div><div><div>Mert</div><div>m.gursimsir2019@gtu.edu.tr</div><div>Password</div><div>I love playing guitar and piano. Also I love playing chess.</div><div><div>SIGN UP</div><div> Please enter stronger password.</div><div>UPLOAD PICTURE</div></div></div></div>	
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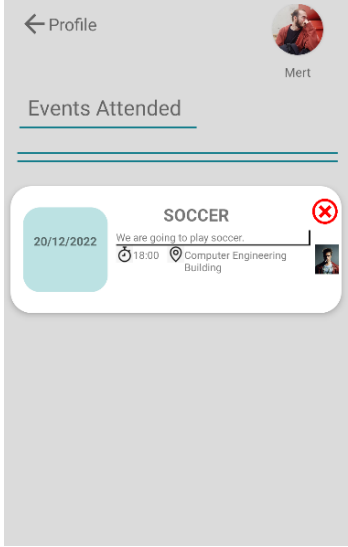
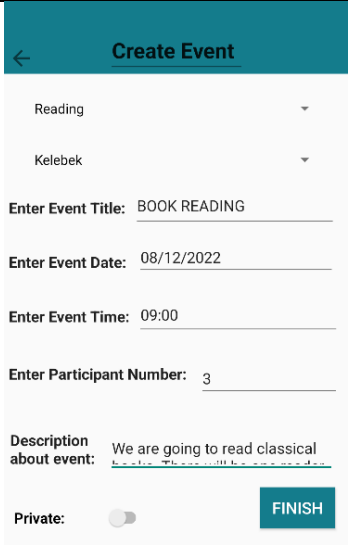
				
T-05	Check if user is directed to proper home page	<ol style="list-style-type: none"> <li>1. Enter proper e-mail and password</li> <li>2. Click log in button</li> </ol>	<p>Email: <a href="mailto:mertgursimsir16@gmail.com">mertgursimsir16@gmail.com</a></p> <p>Password: {user's password he/she gave while signing up}</p> 	<p>User should see the home page</p> <p><b>PASSED</b></p>

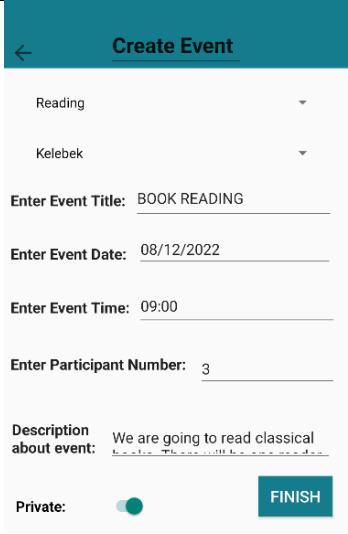
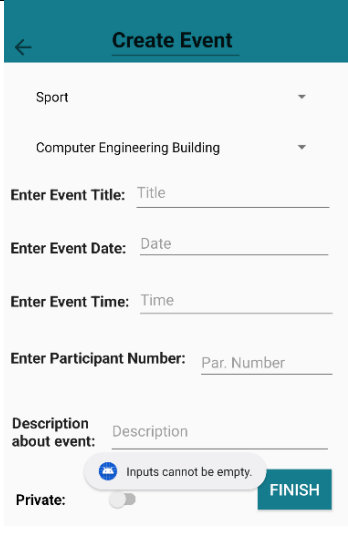
T-06	Check if user can be directed to the profile from the home page	<ol style="list-style-type: none"> <li>1. Go to the home page</li> <li>2. Click profile icon</li> </ol>		<p>User should access to his/her profile successfully</p> <p><b>PASSED</b></p>
T-07	Check if user can see all the events at the home page	<ol style="list-style-type: none"> <li>1. Go to the home page</li> </ol>		<p>All events should be listed at the home page</p> <p><b>PASSED</b></p>
T-08	Check if user can see the information about the events at the home page	<ol style="list-style-type: none"> <li>1. Go to the home page</li> <li>2. Click to “view more info” button</li> </ol>	N/a	<p>Informations should be successfully accessed</p> <p><b>TO BE TESTED</b></p>

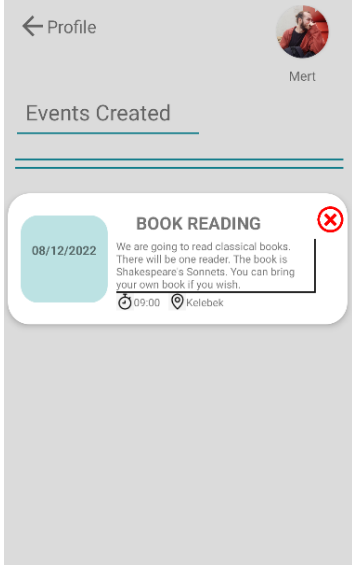


T-09	Check if user can see the location of the event	<ol style="list-style-type: none"> <li>1. Go to the profile page</li> <li>2. Click to “events attended” button</li> <li>3. Click on the event</li> </ol>	 	<p>User should see location of the event</p> <p><b>PASSED</b></p>
T-10	Check if user can see the attendees of the event	<ol style="list-style-type: none"> <li>1. Go to the profile page</li> <li>2. Click to “events attended” button</li> <li>3. Click on the event</li> </ol>		<p>User should see attendees of the event</p> <p><b>PASSED</b></p>

T-11	Check if user can see time of the event	<ol style="list-style-type: none"> <li>1. Go to the profile page</li> <li>2. Click to “events attended” button</li> <li>3. Click on the event</li> </ol>		<p>User should see time of the event</p> <p><b>PASSED</b></p>
T-12	Check if user can send request to an event that needs requests to attend	<ol style="list-style-type: none"> <li>1. Go to the home page</li> <li>2. Find an event that needs a request</li> <li>3. Click to “send request” button</li> </ol>	N/a	<p>User should send request to the creator of the event</p> <p><b>TO BE TESTED</b></p>
T-13	Check if user can attend directly to an event that needs no requests to attend	<ol style="list-style-type: none"> <li>1. Go to the home page</li> <li>2. Find an event that needs no request</li> <li>3. Click to “attend” button</li> </ol>		<p>User should see information that indicates he/she attended the event.</p> <p><b>PASSED</b></p>

T-14	Check if user can see the event that he/she is attended with no request at his/her profile	<ol style="list-style-type: none"> <li>1. Go to the home page</li> <li>2. Click “attend” for an event that needs no request</li> <li>3. Go to the profile page</li> <li>4. Click to “Attended events” button</li> </ol>		<p>User should be able to see the attended events</p> <p><b>PASSED</b></p>
T-15	Check if user can see the event that he/she is attended with request at his/her profile	<ol style="list-style-type: none"> <li>1. Go to the home page</li> <li>2. Click “attend” for an event that needs request</li> <li>3. Go to the profile page</li> <li>4. Click to “Attended events” button</li> </ol>	N/a	<p>User should be able to see the attended events</p> <p><b>TO BE TESTED</b></p>
T-16	Check if user can create an event with no request needed	<ol style="list-style-type: none"> <li>1. Go to the home page</li> <li>2. Click to the “Create Event” button</li> <li>3. Fill the informations about the event</li> <li>4. Don’t click “private” radio button</li> <li>5. Finish event</li> </ol>		<p>User should create an event successfully</p> <p><b>PASSED</b></p>

T-17	Check if user can create an event with request needed	<ol style="list-style-type: none"> <li>1. Go to the home page</li> <li>2. Click to the "Create Event" button</li> <li>3. Fill the informations about the event</li> <li>4. Click "request" radio button</li> <li>5. Finish event</li> </ol>		<p>User should create an event succesfully with request needed</p> <p><b>PASSED</b></p>
T-18	Check if application can detect empty inputs while creating the event	<ol style="list-style-type: none"> <li>1. Go to the home page</li> <li>2. Click to the "Create Event" button</li> <li>3. Leave empty the informations about the event</li> <li>4. Finish event</li> </ol>		<p>User should not be able to create the event</p> <p><b>PASSED</b></p>
T-19	Check if inputs are valid while user creating the event	<ol style="list-style-type: none"> <li>1. Go to the home page</li> <li>2. Click to the "Create Event" button</li> <li>3. Fill inputs invalidly</li> <li>4. Finish event</li> </ol>	N/a	<p>User should not be able to create the event</p> <p><b>TO BE TESTED</b></p>

T-20	Check if user can see the event that he/she created at his/her profile	<ol style="list-style-type: none"> <li>1. Go to the profile page</li> <li>2. Click to “Created events” button</li> </ol>		<p>User should be able to see the created events</p> <p><b>PASSED</b></p>
T-21	Check if user can accept the request that is sent to one of his/her events	<ol style="list-style-type: none"> <li>1. Go to the profile page</li> <li>2. Click to the requests button</li> <li>3. Check if there is a request</li> <li>4. If there is a request, accept it. Otherwise wait for it.</li> </ol>	N/a	<p>User should accept the request come to him/her</p> <p><b>TO BE TESTED</b></p>
T-22	Check if user can reject the request that is sent to one of his/her events	<ol style="list-style-type: none"> <li>1. Go to the profile page</li> <li>2. Click to the requests button</li> <li>3. Check if there is a request</li> <li>4. If there is a request, reject it. Otherwise wait for it.</li> </ol>	N/a	<p>User should reject the request come to him/her</p> <p><b>TO BE TESTED</b></p>

T-23	Check if user can attend the event which requires a request	<ol style="list-style-type: none"> <li>1. Go to the profile page</li> <li>2. Click to the requests button</li> <li>3. Check if there is a approval for the request, otherwise wait for approval.</li> <li>4. Go to the profile page</li> <li>5. Click to “Attended events” button</li> <li>6. See the event there</li> </ol>	N/a	<p>User should be able to see the attended events</p> <p><b>TO BE TESTED</b></p>
T-24	Check if user can remove an attendee from the event that he/she created.	<ol style="list-style-type: none"> <li>1. Go to the profile page</li> <li>2. Go to the “Created events” page</li> <li>3. Click on the event</li> <li>4. Click to the “X” button next to an user</li> </ol>	N/a	<p>User should be able to remove an attendee that he/she wants.</p> <p><b>TO BE TESTED</b></p>
T-25	Check if user can cancel the event that he/she created.	<ol style="list-style-type: none"> <li>1. Go to the profile page</li> <li>2. Go to the “Attended events” page</li> <li>3. Click to the “X” button on the event</li> </ol>	N/a	<p>User should be able to cancel the event.</p> <p><b>TO BE TESTED</b></p>
T-26	Check if user can leave an event that he/she attended.	<ol style="list-style-type: none"> <li>1. Go to the profile page</li> <li>2. Go to the “Created events” page</li> <li>3. Click to the “X” button on the event</li> </ol>	N/a	<p>User should be able to leave the event.</p> <p><b>TO BE TESTED</b></p>

T-27	Check for the date conflicts	<ol style="list-style-type: none"> <li>1. Go to the home page</li> <li>2. Click to the "Create Event" button</li> <li>3. Fill informations correctly other than date and time</li> <li>4. Enter date and time such that user has an event at that time</li> <li>5. Finish event</li> </ol>	N/a	<p>User should not create the event.</p> <p><b>TO BE TESTED</b></p>
T-28	Check for the date conflicts	<ol style="list-style-type: none"> <li>1. Go to the home page</li> <li>2. Find an event that's time conflicts with the event that user has already</li> <li>3. Try to attend</li> </ol>	N/a	<p>User should not be able to attend to event.</p> <p><b>TO BE TESTED</b></p>

These cases are for indicating the functionality and backend services. UI may change.