



Bilkent University

Department of Computer Engineering

Senior Design Project

Snatch

Analysis Report

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Analysis Report

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Contents

1. Introduction	2
2. Current system	2
3. Proposed system	3
3.1. Overview	3
3.2. Functional Requirements	4
3.3. Nonfunctional Requirements	5
3.4. Pseudo requirements	5
3.5. System models	7
3.5.1. Scenarios	7
3.5.2. Use case model	14
3.5.3. Object and class model	15
3.5.4. Dynamic models	16
3.5.5. User interface	19
4. References	39

1. Introduction

Social clubs play an important role for our social lives since it is one of the easiest way to find someone who shares common interests with us. That is how you can find a teammate for a tennis match or opponent for a chess game. Social psychological researches also highlight that one can make easily friends if there are some common interests between them [1]. However, discovering a good social club might be tougher process than it can be imagined, especially if you are new in the town. Instead of trying your chance with old link of events on social media or not updated profiles of social clubs for some activities with quality, Snatch provides you a better option. You can find all interesting social clubs according to their locations and your location. You can look for their events and some announcements in your feed. In addition, you can receive some recommendations about them. For example, if you like playing tennis, you might like to play squash too. If you could not find a social club for yourself, try to create a new one!

On another perspective, running a social club business is also hard job. There are many WhatsApp chats such as announcement chat, board members chat, general chat with all members and department chats. In addition, there are many drive files that are updated in every year which also creates a mess for users, many survey links from SurveyMonkey on WhatsApp, and announcements on many popular social medias like Twitter, Instagram and Facebook. Instead of this messy traditional way, Snatch offers a more optimized approach for regular social club business which is one platform for all of these! You can promote your event on this platform and it will be received to users that are interested in this domain. In addition to these, Snatch's one the vital features is providing recommendations about an event that you are planning. It can provide sponsorship, partnership and some other useful contacts like a hotel for accommodation of guests for your event. These recommendations will be given according to the club's domain, the event's domain, club's budget and its location. All you need is having enthusiasm about the event, leave the rest to Snatch!

2. Current System

- Meet Up: Its aim is help to find local social clubs or create a new one. User can follow events announcements and pick one according to his/her interest [2]
- Nextdoor: It is the world's largest private social media for neighborhood. User can communicate with local community through his/her smartphone. Finding babysitter, inform people about some lost pets and exchanging some other informations. [3]
- Nearify: It notifies the events near you but has no direct link with meeting new friends with shared interest but it has personal recommendation system. There many concerts, stand up shows, plays and festivals. User can also save events for later, get tickets from this app and follow his/her favorite artists.[4]

- WhatsApp: It is a popular mobile chat application that allows users to send text, images and files without any charge. [5]
- Google Drive: It is a popular platform that allows users to create shared directories, folders and files and also allow them to work together on a file. [6]

3. Proposed System

3.1. Overview

Snatch is a platform that enables communities organize their social activities and encourage individuals to participate in a social club actively. The main purpose of the system is ,on the social clubs' side, to provide services that is provided by multiple other platforms and make people use only Snatch instead of using different platform for every different kind of business and helping them about organization of an event by recommendations about possible sponsorships, partnerships and some important contacts such as hotels, restaurants, transportation companies. On the users' side, user easily access notifications from social clubs with related topics such as photography, chess and Spanish culture and their events according to their locations. In this way, users can easily discover social clubs around them.

Group admins can invite people to groups ,there will be a daily limits for this to not allowing spam invites ,as well as individuals can see visible groups nearby or according to their interests and send request, there will be also some limitations, to participate in so that both them and communities looking for members benefit. Community admin can either approve or reject the participation applications.

For individual users, if there is no social communities that suitable for them, they can start their own. In order to create a new social club, only need is having two other participant who will be board members of the new community and they become admins of that corresponding club. Like in Bilkent, if one social club have not organized an event for three months, this club will be terminated and its participants will be notified about that.

In Snatch, there are two types of groups which are enterprises and communities. Enterprises are profit based organizations and they are willing to be sponsor for events of communities or supporting them which can be providing guest speakers as an example. Unlike communities, they have only information card in the system that includes contact number and email. As it can be guessed, individual users cannot participate these or send requests to these groups since they are corporate. Communities are groups that are willing to accept new participants. They can communicate via text message, share file in an organized file system, organize meeting, create checklist and voting. Communities will be able to create events and announce them to their participants as well as they will be able to plan their

events with the help of event organizer system. They can be join others' events as a co-organizer(partner) and also support them by providing speaker or other kind of help. Communities can organize two kind of events which are private and public. Public events are open to all guests who are willing to come. Notifications of these events can be accessible from users' feed. In these events, other communities can be partners and sponsors Other kind of event is private event. This event type is only accessible by active participants in the social club. Unlike public events, partners are now allowed in these events.

When communities are organizing an event, they will receive recommendations about possible partnerships, sponsorships and important contacts such as accommodation companies and transportation companies . For example, if accommodation is needed, available hotels are recommended according to their locations. The platform will be served as Android, IOS and web applications.

3.2. Functional Requirements

User:

- People will be able to register the system using full name, e-mail, password, date of birth and phone number.
- Users will be able to create groups by specifying a name and a type whether community or enterprise. Prerequisite of creating community is having at least 3 members who will be board members.
- If the user decides to create a community, other 2 members must be specified. After then, the request send to these members. If they accept it, group become available for other users.
- Users will be able to send request to join communities that they desire.
- Users will be able to see all the current communities in the system.
- Users will receive recommendations from the system to join groups and participate events according to their interests, location, group memberships, events participated.
- Users will be able to send text and image messages to group chats that they are a participant of.
- Users will be able to create checklist for event.
- Users will be able to create polls about many things such as events and group activities.
- Users will be able to see participants of events and notify other users about their participation.
- Users will be able to see other groups' activities from feed page to discover other communities.
- Users will be able to upload/download files to/from the file systems that they are authorized to access while also deleting them or moving among directories.

Group Admin:

- Group admins will be able to invite/expel users to/from their groups.
- Group admins will be able to approve/reject the group requests.
- Group admins will be able to create private chats or file systems inside the same community (specialized for board members etc.).
- Group admins will be able to create events in the name of their groups by specifying an explanation, date, time and place. These events may be public or private to society.
- Group admins will be able to give authentication to group members for creating events and organization teams.
- Admins of communities will be able to send request to the system for finding sponsorships for events.
- Admins of communities will be able to send request to system to find similar communities for partnership of the public events.
- Admins of enterprise groups will only need to specify contact and domain information of the enterprise.
- Admins of enterprise groups will receive recommendation about events for sponsorship that the communities wants to organize according to their domains.

3.3. Non-Functional Requirements**3.3.1. Usability**

- Application should be easy to use and to understand for all type of users with different ages
- Application should have a user-friendly interface

3.3.2. Scalability

- As the number of users and groups increments, application should meet the all the demands
- System should be powerful to meet all the functional requirements

3.3.3. Security

- The system should protect the personal information of the user
- The system should protect the shared files and chats in the groups

3.3.4. Portability

- The system can be accessible in both Android, IOS and Web.

3.4. Pseudo Requirements

3.4.1. Implementation Requirements

- Since we use Javascript and it is open source, we do not need any extra technologies.
- All the libraries and frameworks we will use are free.
- To work together for the project, we will use the Git and GitHub platform.

3.4.2. Economic Requirements

- All users can easily download Snatch from Apple Store, Play Store without any charge and also access from web.
- There is no additional content with charge such as premium accounts.
- For implementation, we will not use any paid tools.
- We might need to pay money for file server.
- We will need to pay for domain of website.

3.4.3. Ethical Requirements

- Private informations of individual users and groups should be not shared with third party companies and also protected from them.
- There will be terms and conditions that will be easily accessed by all users.
- People who are under 18 will not be allowed to sign since it can cause some ethical problems.

3.4.4. Social Requirements

- The system should be user-friendly because potential users' age are so diverse. In this way, in the implementation of user-interface, we consider popular applications and websites.

3.4.5. Sustainability Requirements

- To sustain the system's life cycle, there should be some added features.
- All users' recommendations and concerns must be listened and taken care of corresponding problem as fast as possible.

3.5. System Models

3.5.1 Scenarios

Scenario 1

Use Case: Register

Actors: User

Entry Conditions:

Snatch must be downloaded to Android/iOS or opened from the web

Exit Conditions:

User login to the system

Main Flow of Events:

- 1- User selects "register" from the Snatch entrance page
- 2- User types his/her name, surname, email, password, date of birth and interests
- 3- User selects "register"
- 4- Register request is approved by the system

Alternative Flow of Events:

- 1- Steps 1-2-3 in main flow of events
- 2- Register request is denied by the system because of the already taken email

Scenario 2

Use Case: Login

Actors: User

Entry Conditions:

User must be registered to the system

Exit Conditions:

User logout from the system

Main Flow of Events:

- 1- User enters his/her email and password
- 2- User enters the system
- 3- Feed page is shown up

Alternative Flow of Events:

- 1- User enters his/her email and password
- 2- "Wrong Password" warning is shown up

Scenario 3

Use Case: Display Menu

Actors: User

Entry Conditions:

User must be login to the system

User must be in the feed page

Exit Conditions:

User presses a menu button

Main Flow of Events:

- 1- User selects "Display Communities"
- 2- Related page is opened.

Alternative Flow of Events:

- 1- User selects "Show Notifications"
- 2- Related page is opened.

- 1- User selects "Search Community"
- 2- Related page is opened.

- 1- User selects "Create Group"
- 2- Related page is opened.

- 1- User selects "Show Settings"
- 2- Related page is opened.

Scenario 4

Use Case: Show Group Page

Actors: User

Entry Conditions:

- User must be logged in to the system
- User must select "display community" from the menu
- User must be a member of the community

Exit Conditions:

- User returns the main menu

Main Flow of Events:

- 1- User selects the community that s/he involved
- 2- User selects the file session of the community
- 3- User sends file to the other members of the community
- 4- User downloads the files that other members sends
- 5- User deletes the files

Alternative Flow of Events:

- 1- User selects the community that s/he involved
- 2- User selects the chat session of the community
- 3- User sends messages to other members of the community
- 4- User starts voting about a specific topic
- 5- User votes for the other voting
- 6- User starts poll about specific topic

- 1- User selects "show community events"
- 2- Events that user's participated groups organized are shown up

Scenario 5

Use Case: Show Community Activities

Actors: User

Entry Conditions:

User must be logged in to the system

User must be in the feed page

Exit Conditions:

User goes to the other section of Snatch

Main Flow of Events:

- 1- Current activities/events that the user's involved communities organized are shown up

Alternative Flow of Events:

- 1- "No current activities" page is shown up

Scenario 6

Use Case: Show Event Recommendations

Actors: User

Entry Conditions:

User must be logged in to the system

User must be in the feed page

Exit Conditions:

User goes to other section of Snatch

Main Flow of Events:

- 1- All the current events that communities organized and specified as public event according to user's interest, location and community memberships are shown
- 2- User sends request for an event
- 3- Community Admin approves/rejects this request

Alternative Flow of Events:

- 1- There are no any organized events
- 2- "No current events" warning shows up

Scenario 7

Use Case: Show Community Recommendations

Actors: User

Entry Conditions:

User must be logged in to the system

User must be in the feed page

Exit Conditions:

User goes to other section of Snatch

Main Flow of Events:

- 1- All the current communities according to user's interest, location and community memberships etc. are shown

- 2- User sends request to join the community
- 3- Community Admin approves/rejects this request

Alternative Flow of Events:

- 1- There are no any organized events
- 2- “No current community recommendation” warning shows up

Scenario 8

Use Case: Send Request

Actors: User, Community Admin

Entry Conditions:

- User must be logged in to the system
- User must be in the feed page or main menu

Exit Conditions:

- User returns the main page of Snatch

Main Flow of Events:

- 1- User selects “Search Community” from the main page
- 2- User sends request to the community admin to become a member of that community
- 3- Community Admin approves this request
- 4- User becomes a member of the selected community

Alternative Flow of Events:

- 1- User is in the feed page
- 2- User gets community recommendations according to their interests, location, other community memberships and events participated.
- 3- User sends request to one or more communities that are recommended
- 4- Community admin approves this request
- 5- User becomes a member of the selected community

- 1- Steps 1-2 in main flow of events
- 2- Community Admin rejects this request
- 3- User cannot be involved to the community

- 1- Steps 1-2-3 in first alternative flow of events
- 2- Community Admin rejects this request
- 3- User cannot be involved to the community

Scenario 9

Use Case: Create Group

Actors: User

Entry Conditions:

User must be logged in to the system

Exit Conditions:

User returns the main page of Snatch

Main Flow of Events:

- 1- User selects "Create new group"
- 2- User defines the group type as "Community"
- 3- User defines the group name and its domain
- 4- User sends requests to other 2 users to make this group established
- 5- Other 2 users accepts these requests
- 6- Community is created and community page is ready to use.

Alternative Flow of Events:

- 1- User selects "Create new group"
 - 2- User defines the group type as "Enterprise"
 - 3- User defines the group name, its domain and contact information
 - 4- Enterprise group is created
-
- 1- Steps 1-2-3-4 in main flow of events
 - 2- Either one user or both rejects the community admin request
 - 3- System does not let this community is established

Scenario 10

Use Case: Create Event

Actors: Community Admin

Entry Conditions:

Admin must be logged in to the system

Exit Conditions:

Admin returns the main page of Snatch

Main Flow of Events:

- 1- Admin selects "Create Event"
- 2- Admin defines the event as "public" event
- 3- Admin asks for sponsorship to the system
- 4- Enterprise groups whose domains are related with this community domain are shown up
- 5- Admin sends request to enterprise group about sponsorship for this event
- 6- Admin asks for partnership to the system
- 7- Other communities whose domains are related with this community domain are shown up
- 8- Admin sends request to communities about partnership for this event

9- Admin creates checklist and authorize members for each task

Alternative Flow of Events:

- 1- Admin selects "Create Event"
 - 2- Admin defines the event as "private" event
 - 3- Admin asks for sponsorship to the system
 - 4- Enterprise groups whose domains are related with this community domain are shown up
 - 5- Admin sends request to enterprise group about sponsorship for this event
-
- 1- Admin selects "Create Event"
 - 2- Admin defines the event as "private" event
 - 3- Event does not need any sponsorships, event is created

Scenario 11

Use Case: Get Community Recommendation for Event

Actors: Enterprise Admin

Entry Conditions:

Enterprise Admin must be logged in to the system

Exit Conditions:

Enterprise Admin returns the main page of Snatch

Main Flow of Events:

- 1- Enterprise Admin selects "Get community recommendation for event"
- 2- Events that communities organized and domains related with this group are recommended
- 3- Enterprise Admin sends request to the community event to be their sponsor

Alternative Flow of Events:

- 1- Enterprise admin selects "Get Community Recommendation for Event"
- 2- There are no any organized events related to enterprise group domain
- 3- "No current events" warning shows up

Scenario 12

Use Case: Create Private Chat

Actors: Community Admin

Entry Conditions:

Community Admin must be logged in to the system

Community Admin must be in the community page

Exit Conditions:

Community Admin returns the main page of Snatch

Community Admin returns to the community page

Main Flow of Events:

- 1- Community Admin selects "Create Private Chat"
- 2- Community Admin selects the other members who will have a private chat with

- 3- Private chat is created
- 4- Selected members can communicate through this chat

Alternative Flow of Events:

-

Scenario 13

Use Case: Show Group Settings

Actors: Community Admin

Entry Conditions:

Community Admin must be logged in to the system

Community Admin must be in the community page

Exit Conditions:

Community Admin returns the main page of Snatch

Main Flow of Events:

- 1- Community Admin selects “give authentication to members”
- 2- Community Admin specifies the authority and the member name

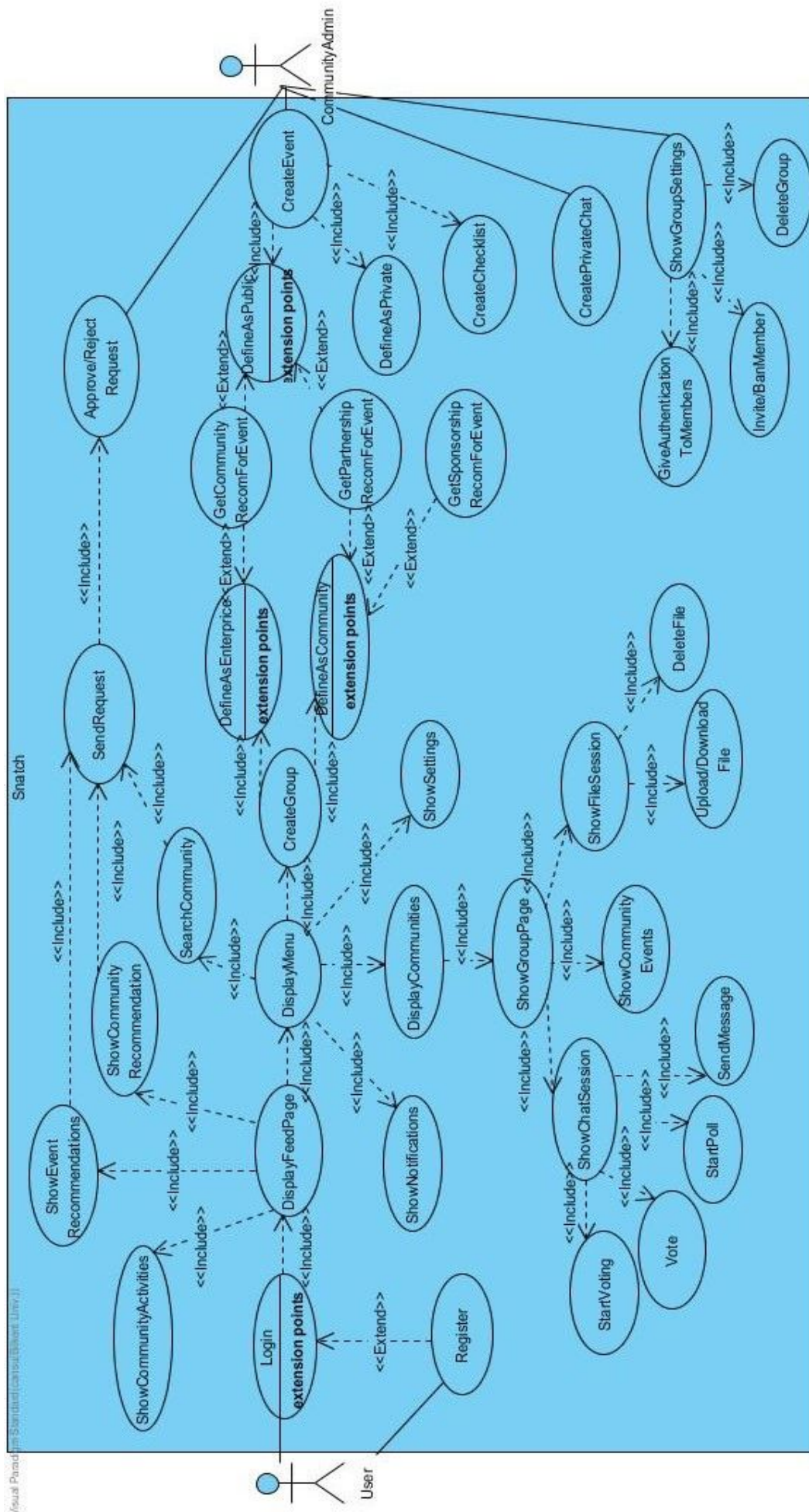
Alternative Flow of Events:

- 1- Community Admin selects “invite user to group”
- 2- Invitation link is sent to the user

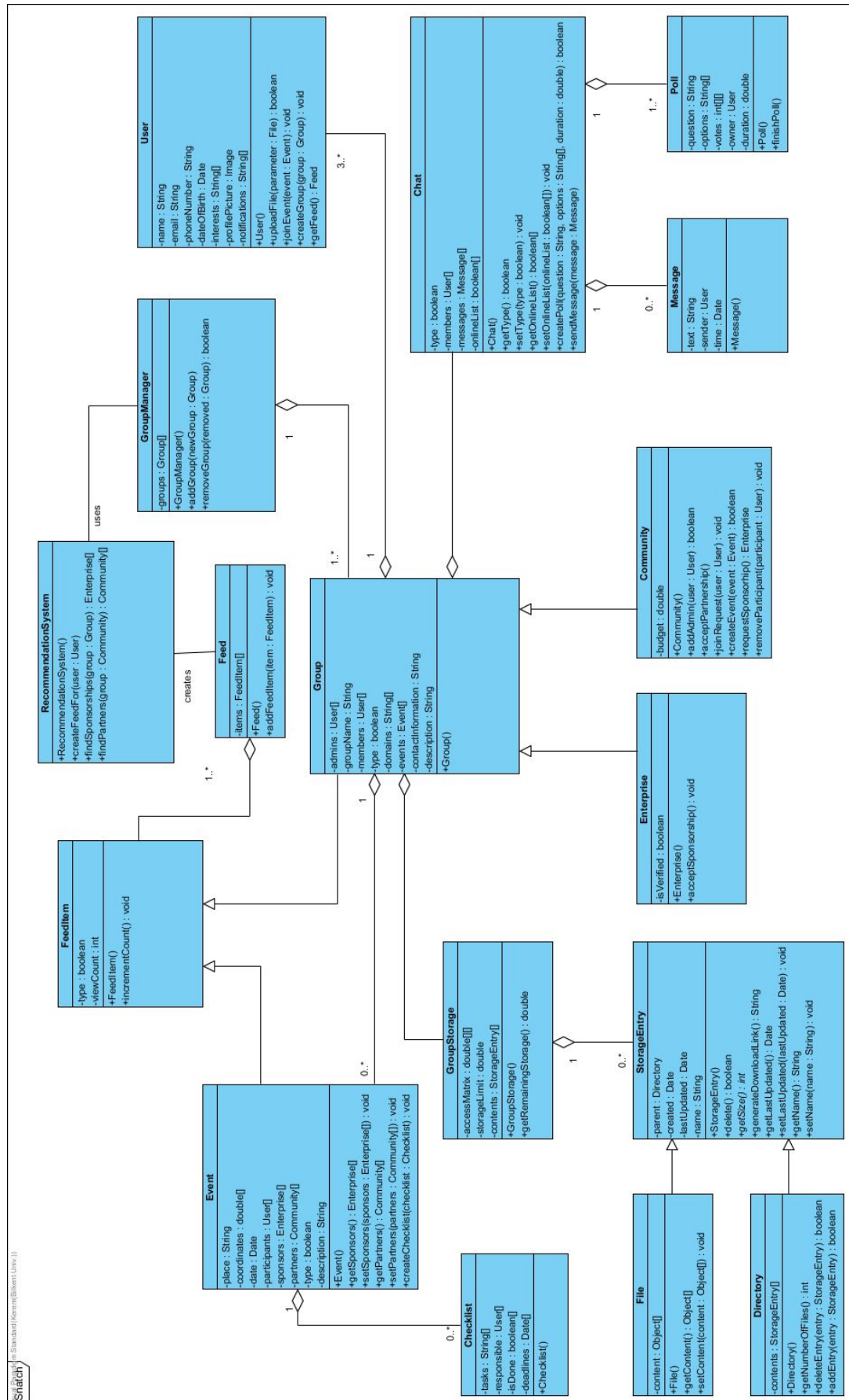
- 1- Community Admin selects “ban group member”
- 2- Specified group member is banned from the group

- 1- Community Admin deletes the group

3.5.2 Use Case Model

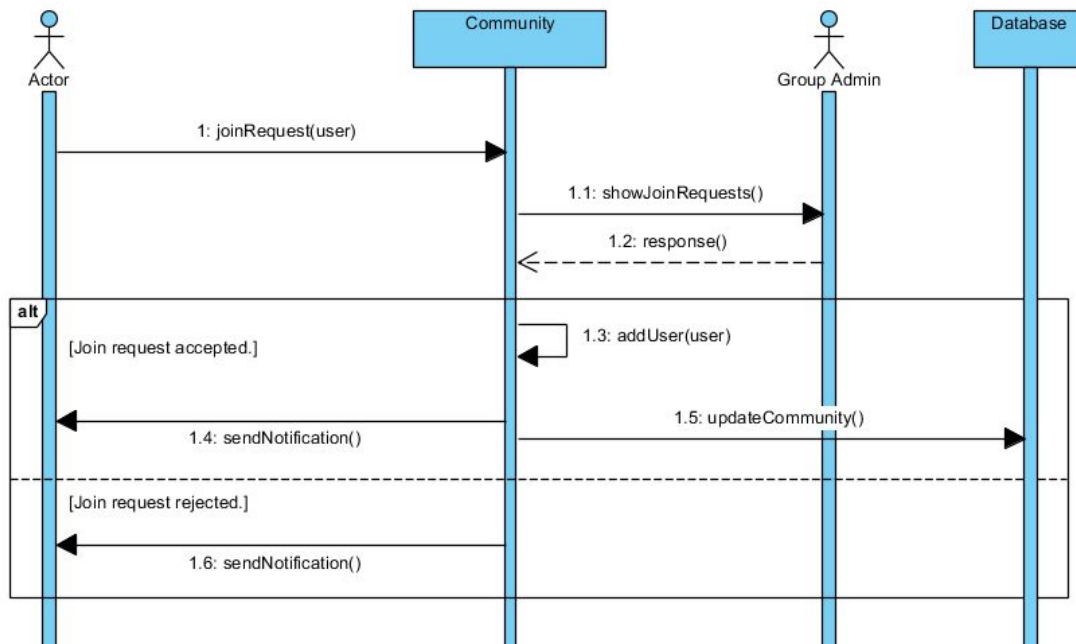


3.5.3. Object and Class Model

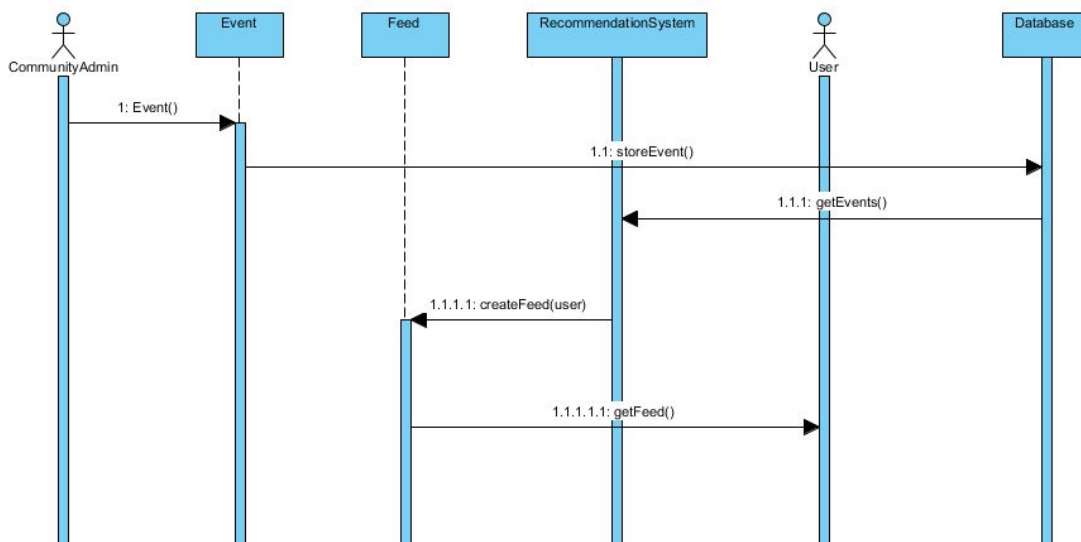


3.5.4. Dynamic Models

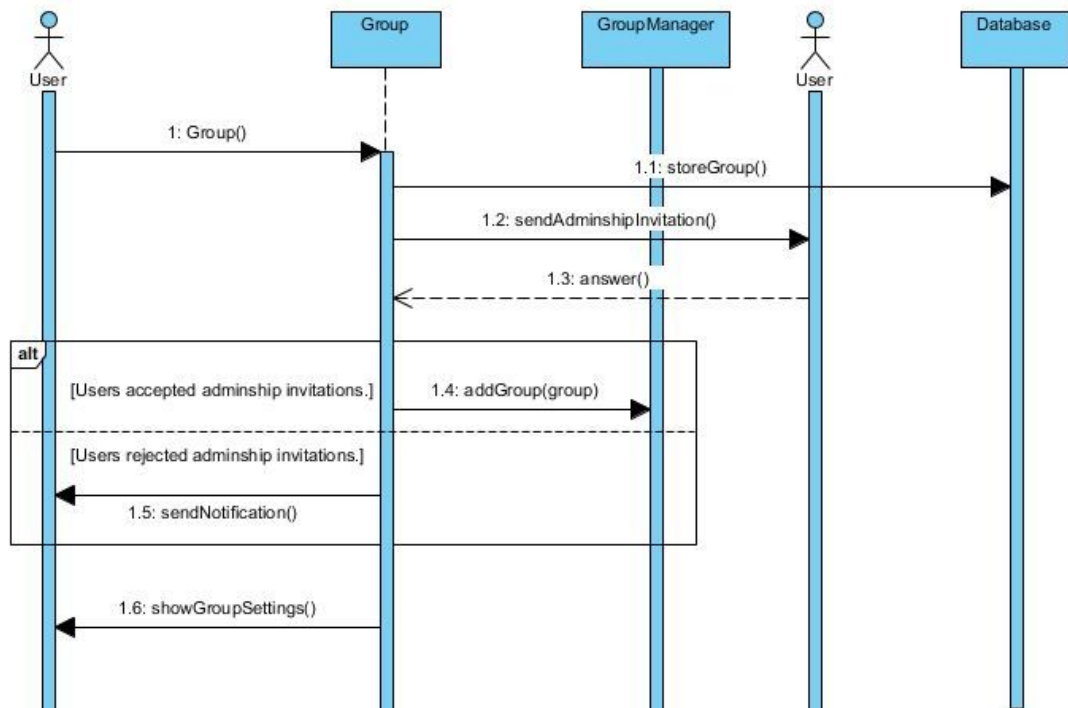
3.5.4.1 Sequence Diagrams



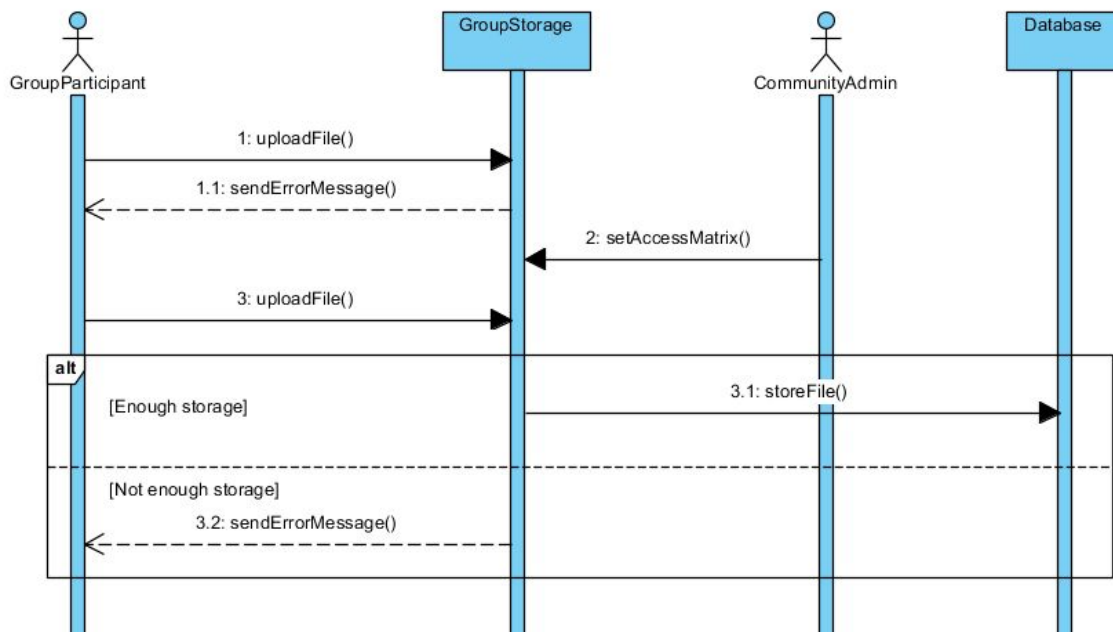
Community Join Request



Create Event

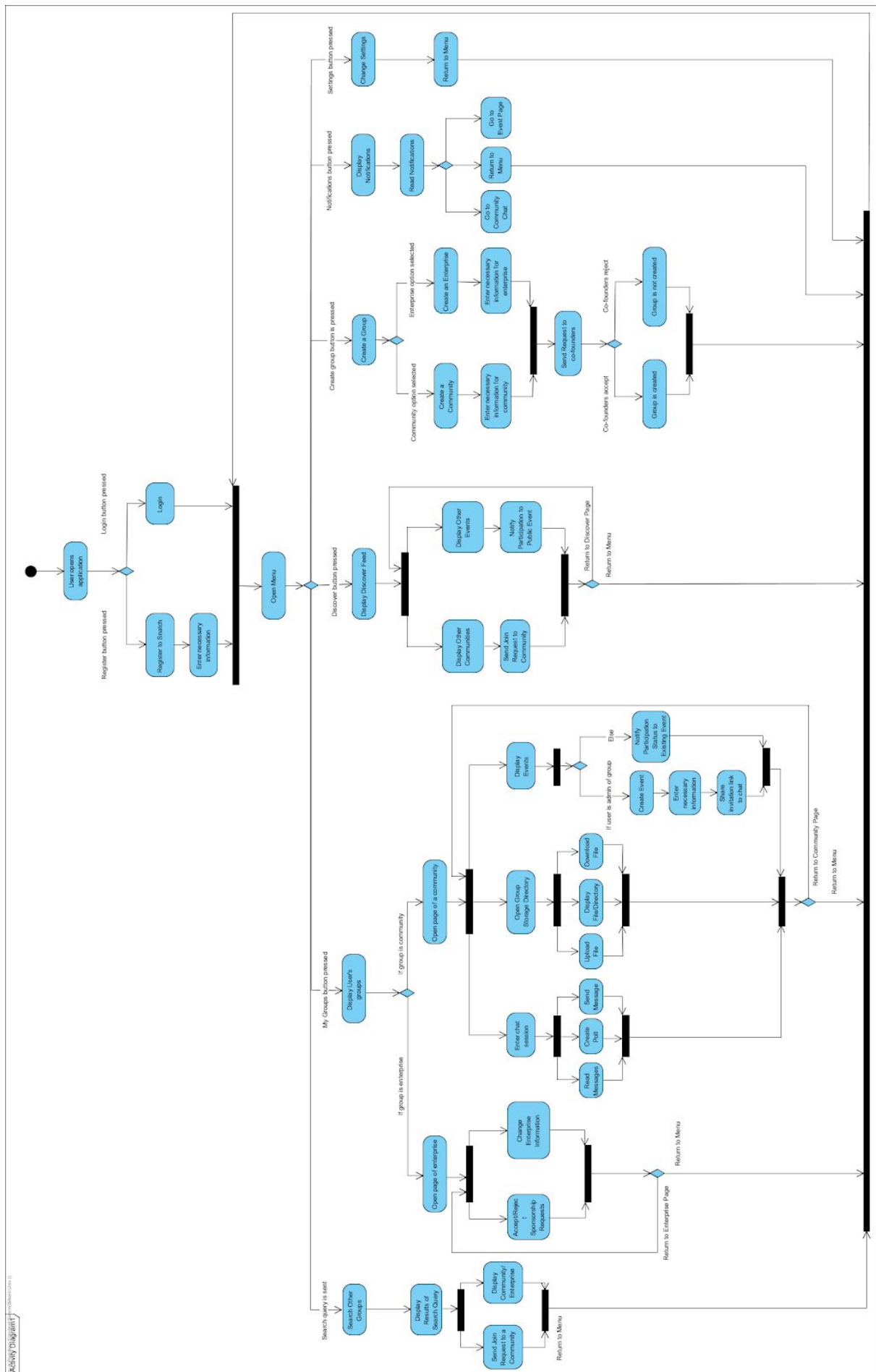


Create Group



User Uploading File

3.5.4.2 Activity Diagram



3.5.5. User interface

Mobile Application Mockups

The image displays two mobile application mockups side-by-side, representing the user interface for the SNATCH application.

Left Mockup (Register Screen):

- Header: "Register"
- Form Fields:
 - name surname
 - e-mail
 - phone number
 - password
 - date of birth (with a calendar icon)
 - interests (with a note: "Separate with commas.")
- Buttons: "Create Account" and "Cancel"

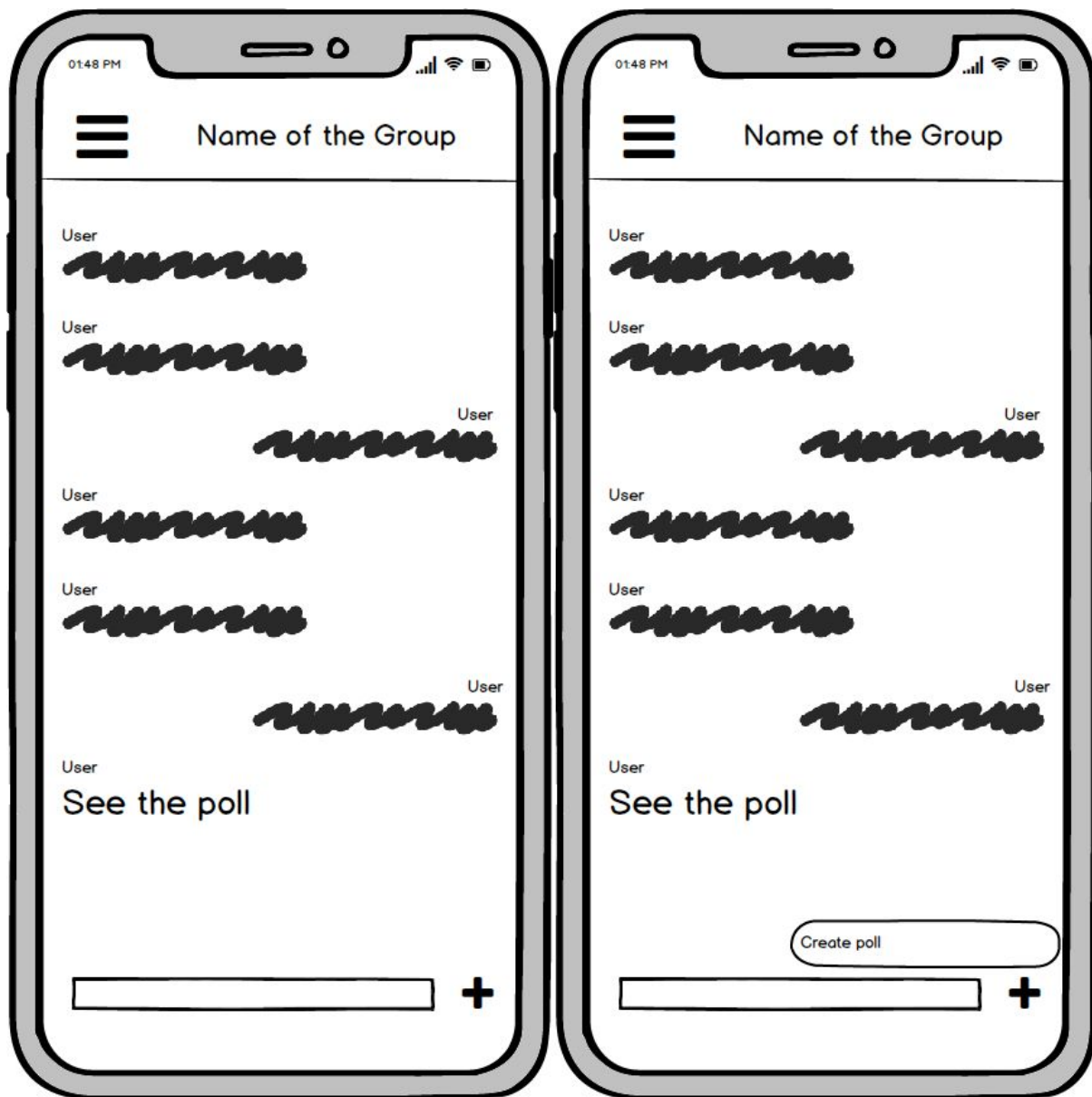
Right Mockup (Login Screen):

- Header: "SNATCH" (with a red dot pattern logo above the text)
- Form Fields:
 - e-mail
 - password
- Buttons: "Login" and "Register"

This is the main page. User sees the page, if they do not have account, they open a new account.



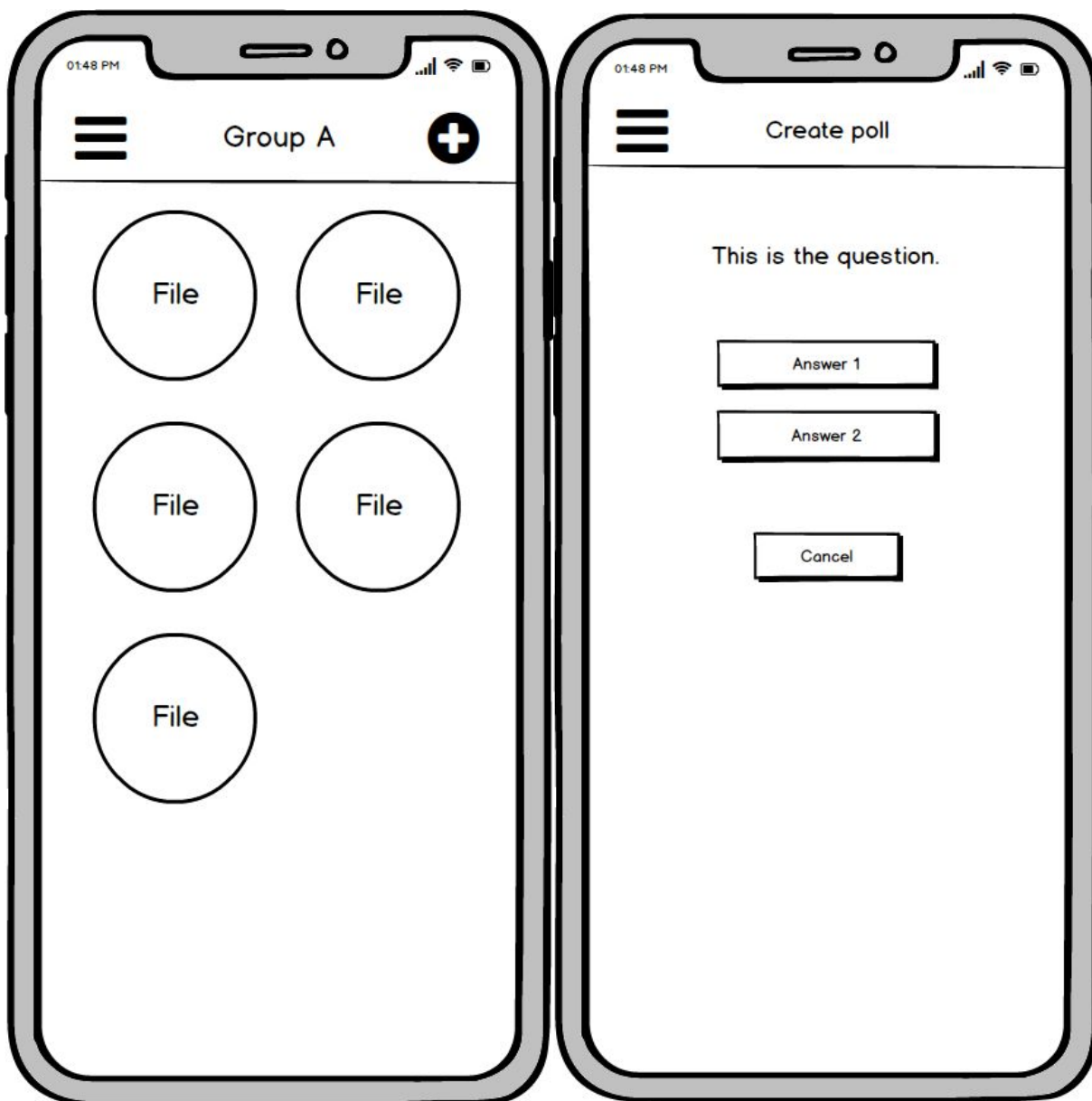
User can access the menu in every screen. User can create polls in group chat.



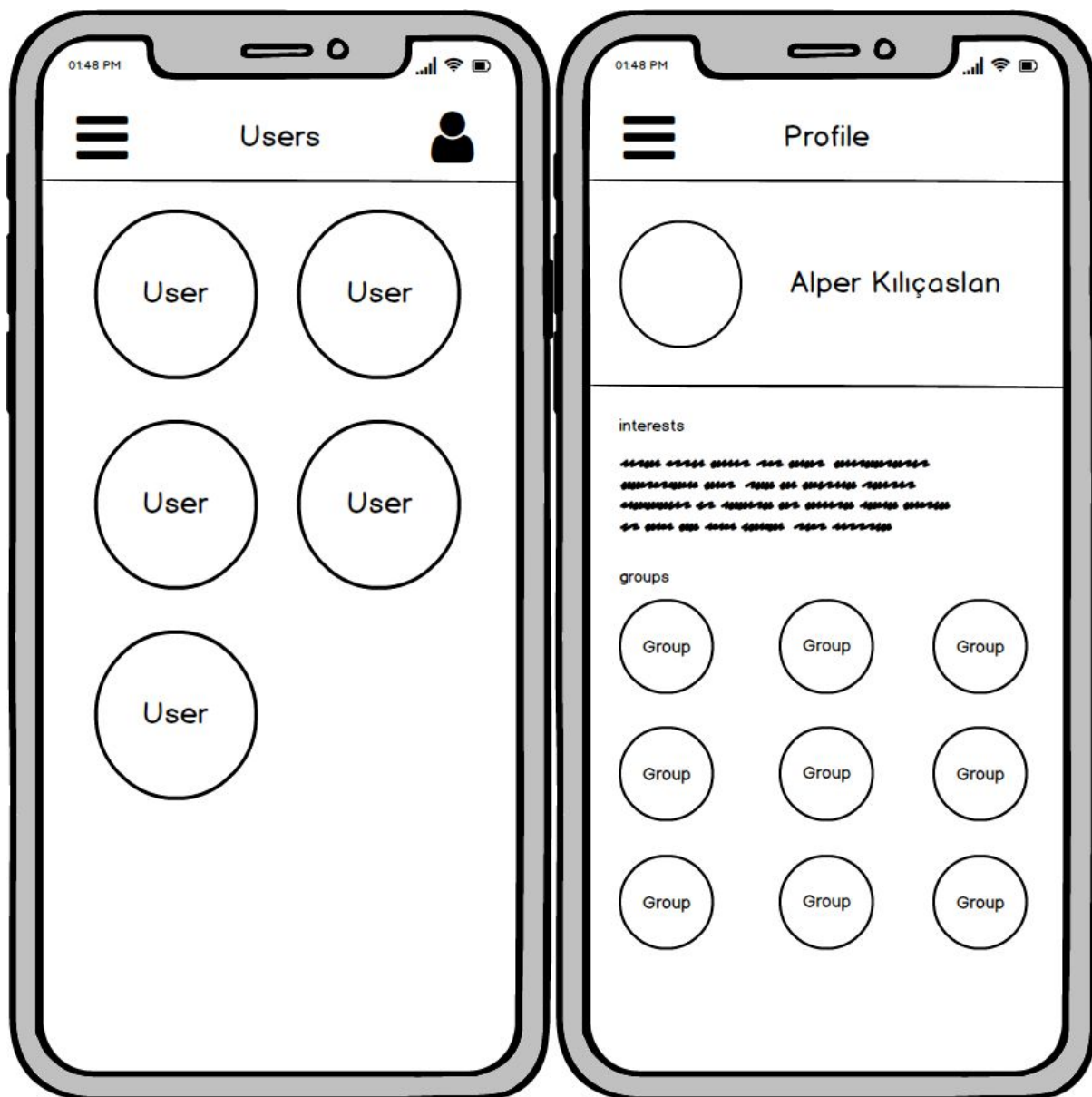
This is the group chat. User can send and receive messages, and create polls.



This is the feed page. User can see the events of their groups or user can see the recommended groups and events. If user is an admin of their group, they can create a new Snatch and inform their followers.



This is the group's file page. User can add files. Also user can answer the poll after clicking see the poll button.



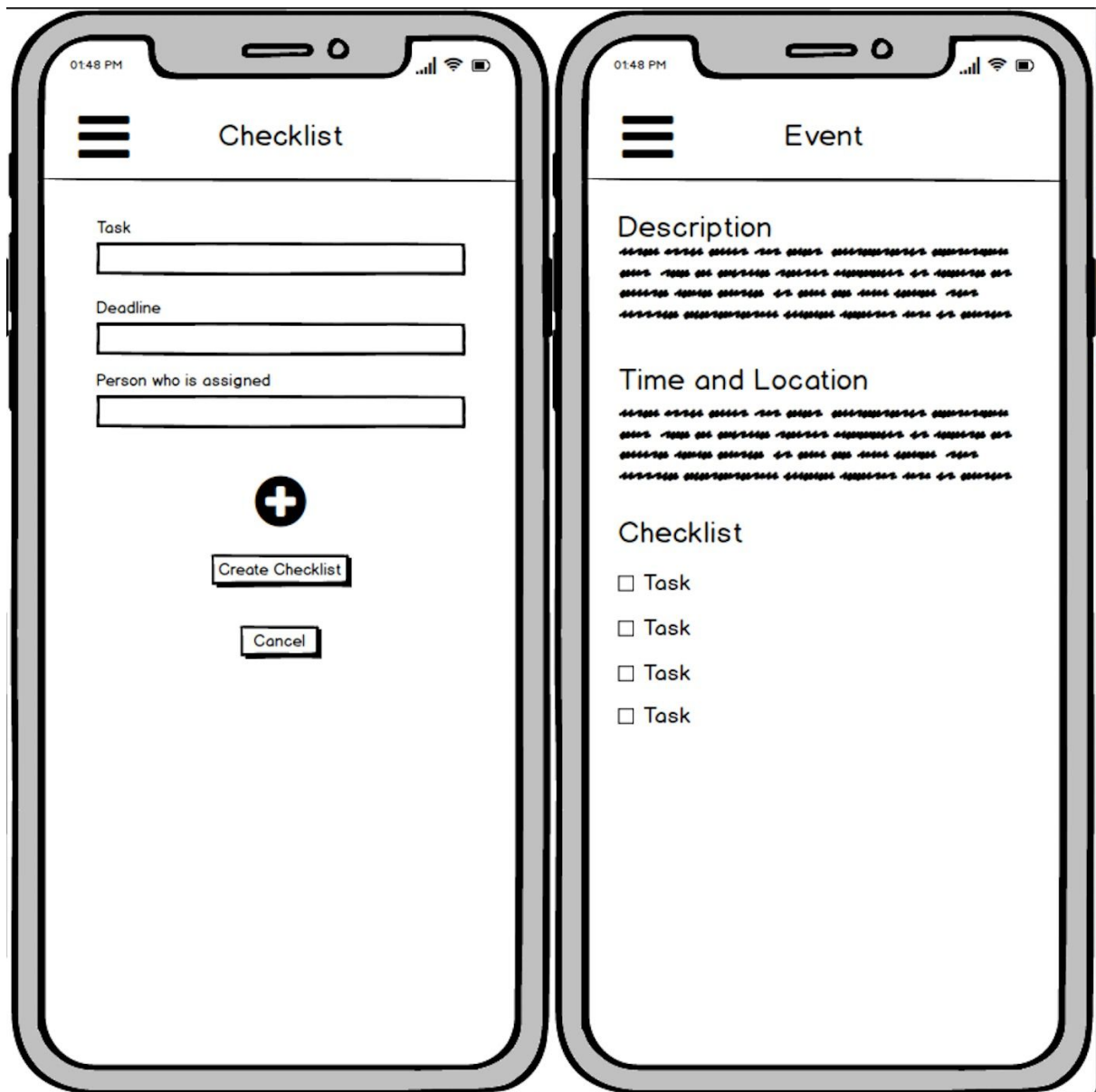
This is the group's members page. User can see the other users in that page.



These pages are setting pages. User can manage settings from here.



This is the notification page. User can see the notifications using this page.



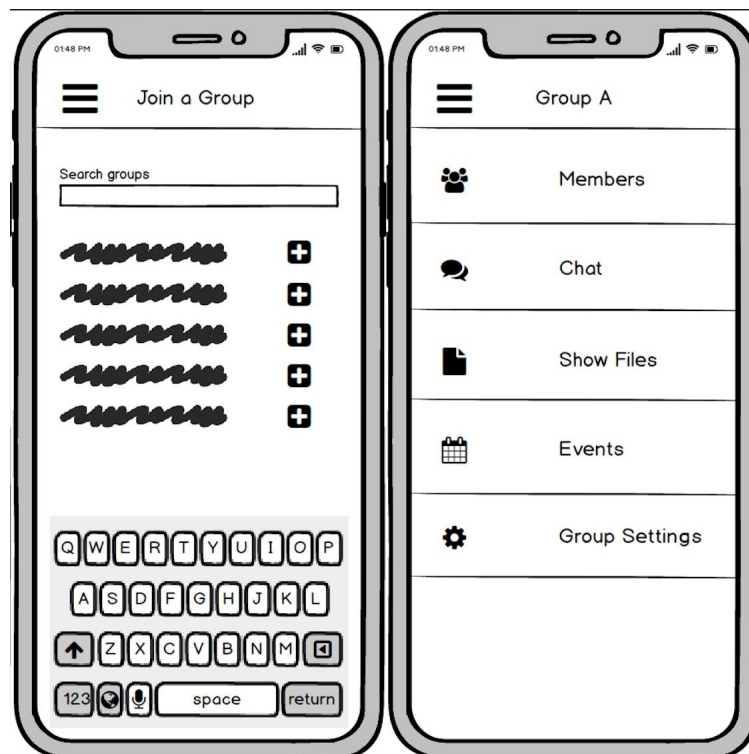
First screen is used to create checklist for an event. Second screen shows users the event details.



User can see events using this page. Also user can create events if they have admin privileges.



User can see their groups, create new groups, and join a group.



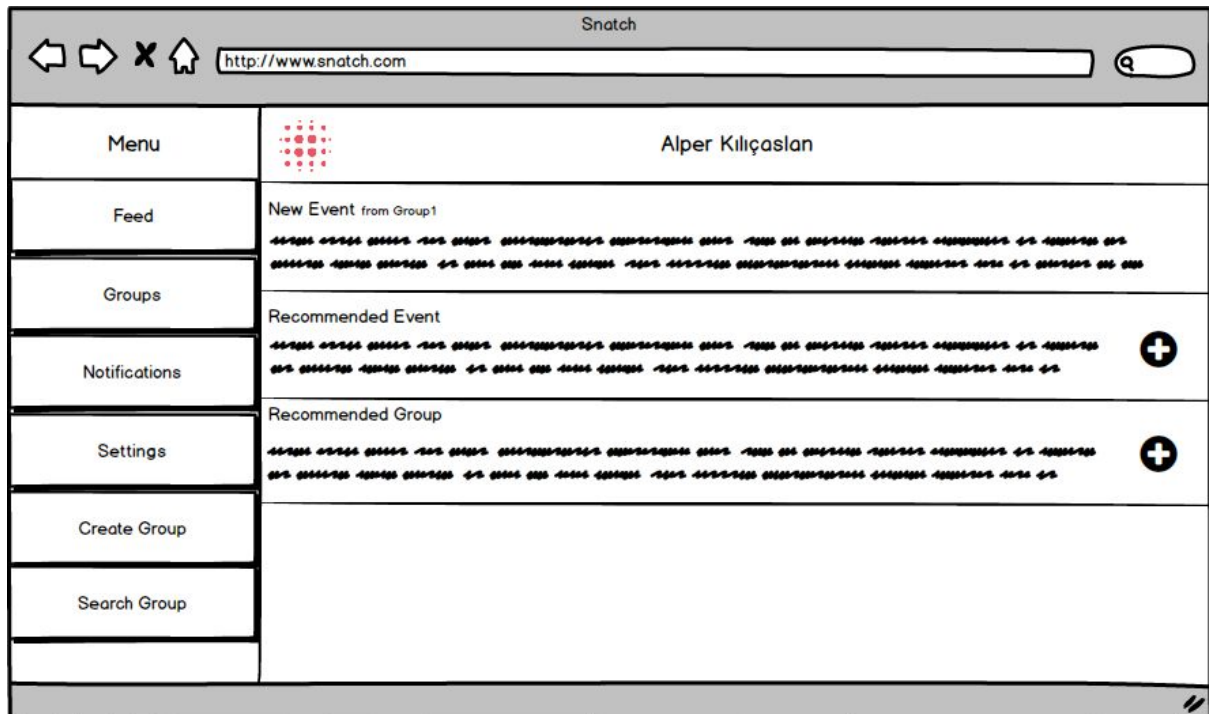
Web Application Mockups

A web browser window titled "Snatch" with the address bar showing "http://www.snatch.com". The page features a red logo consisting of a grid of dots. Below the logo, there are several form fields: "e-mail", "date of birth" (with a calendar icon), "name surname", "phone number", "password", and "interests" (a large text area). A note "Separate with commas." is positioned below the "interests" field. At the bottom, there are two buttons: "Create Account" and "Cancel".

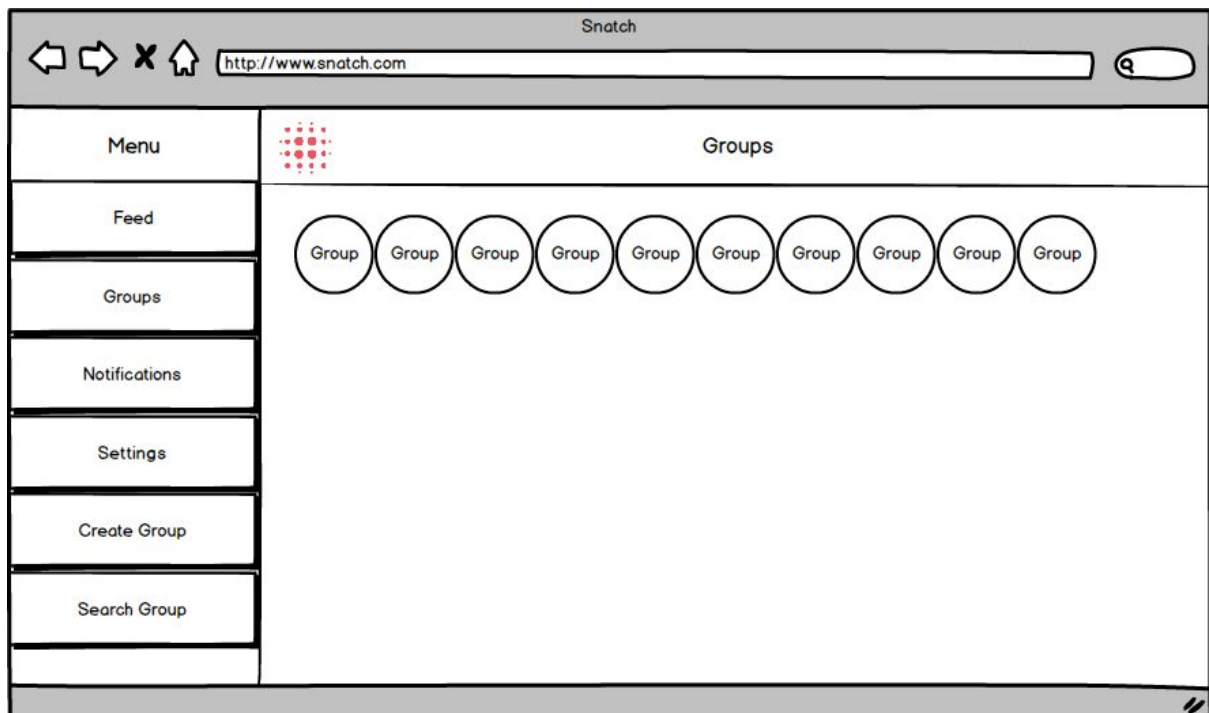
User registers the system using this page.

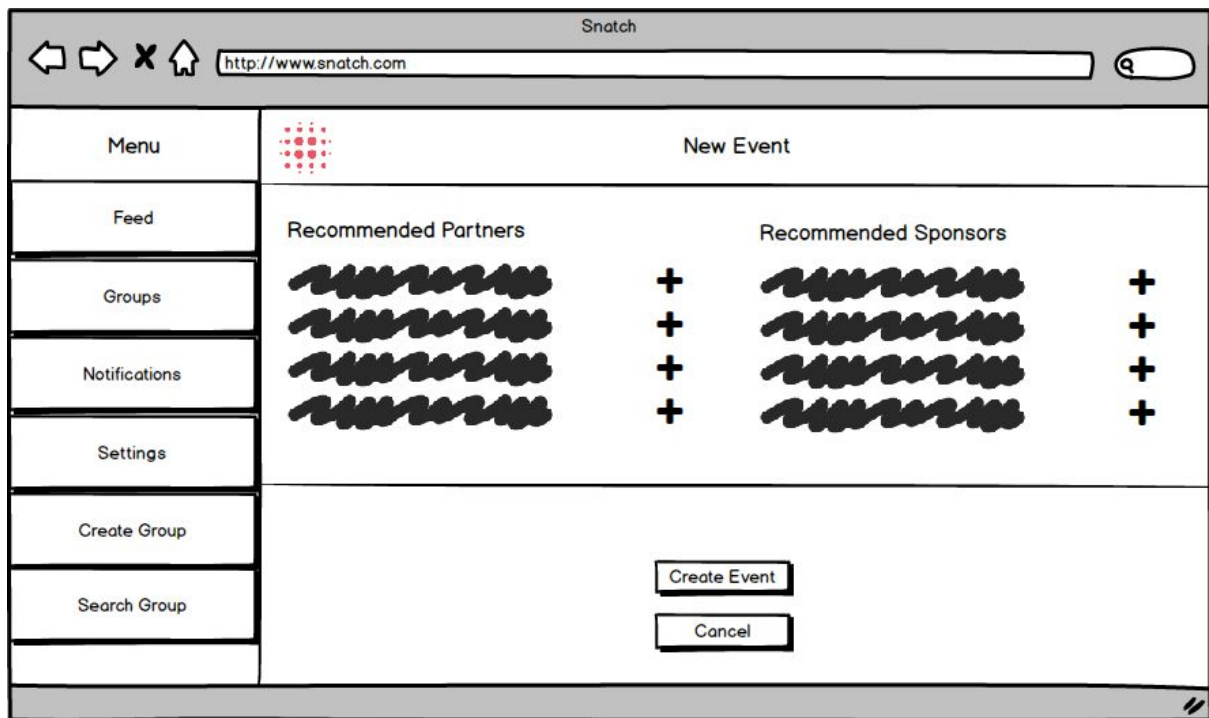
A web browser window titled "Snatch" with the address bar showing "http://www.snatch.com". The page features a red logo consisting of a grid of dots, with the word "SNATCH" in blue text below it. Below the logo, there are two form fields: "e-mail" and "password". At the bottom, there are two buttons: "Login" and "Register".

User can login to the system using this page.

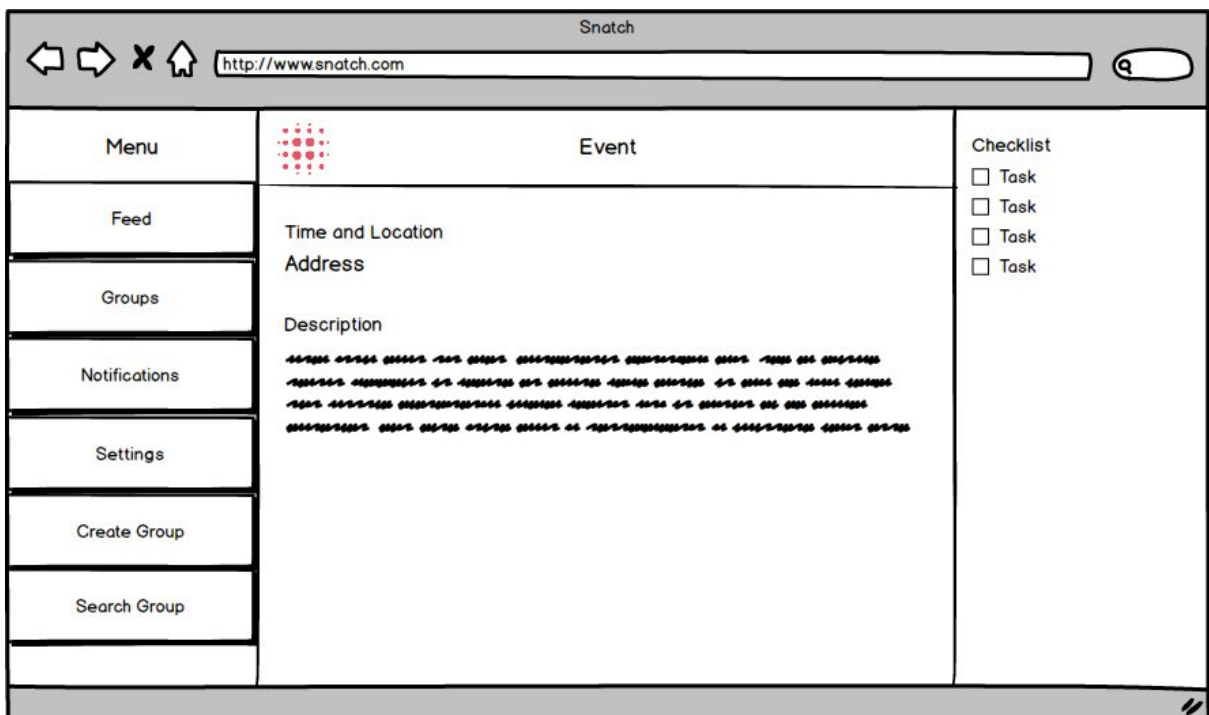


This is the feed page. User can see the events of their groups or user can see the recommended groups and events.

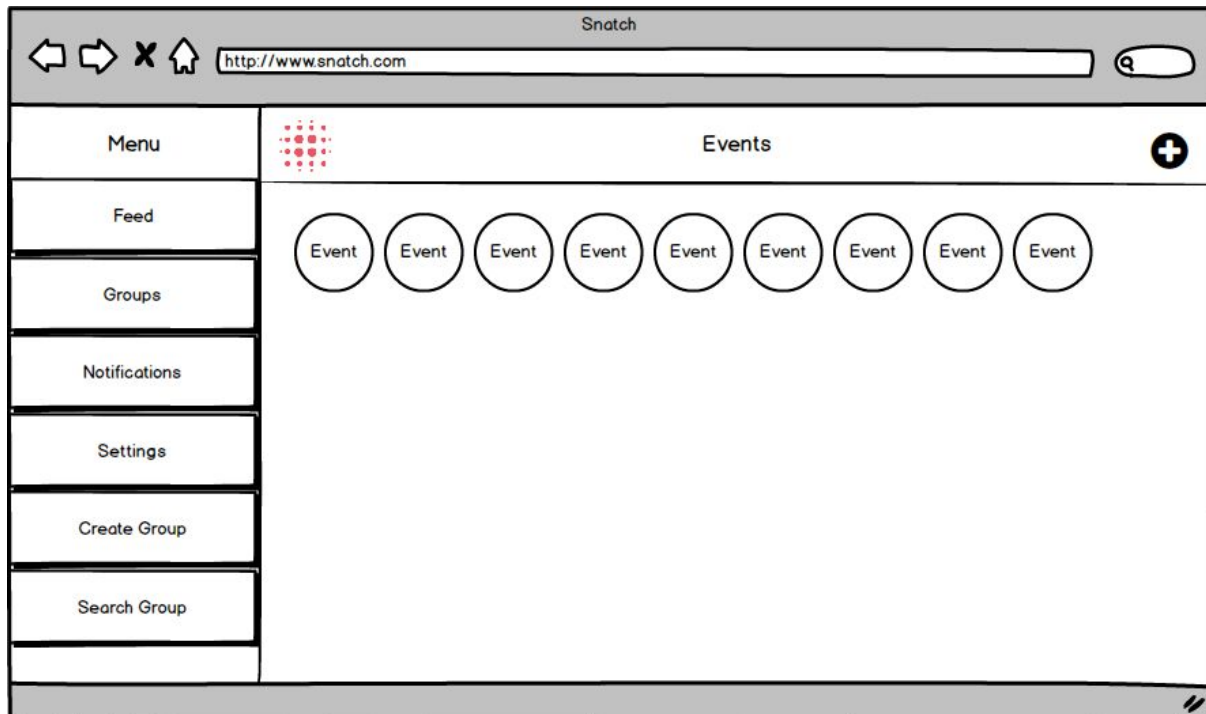




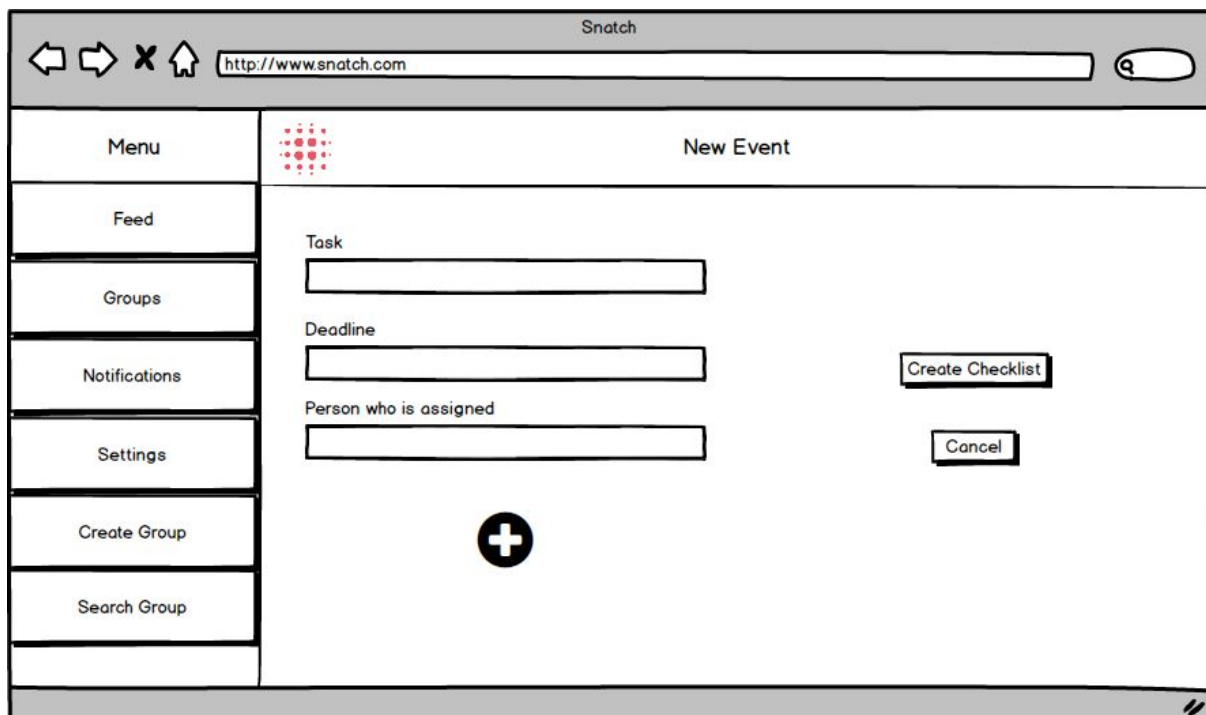
User can see their groups, create new groups, and join a group.



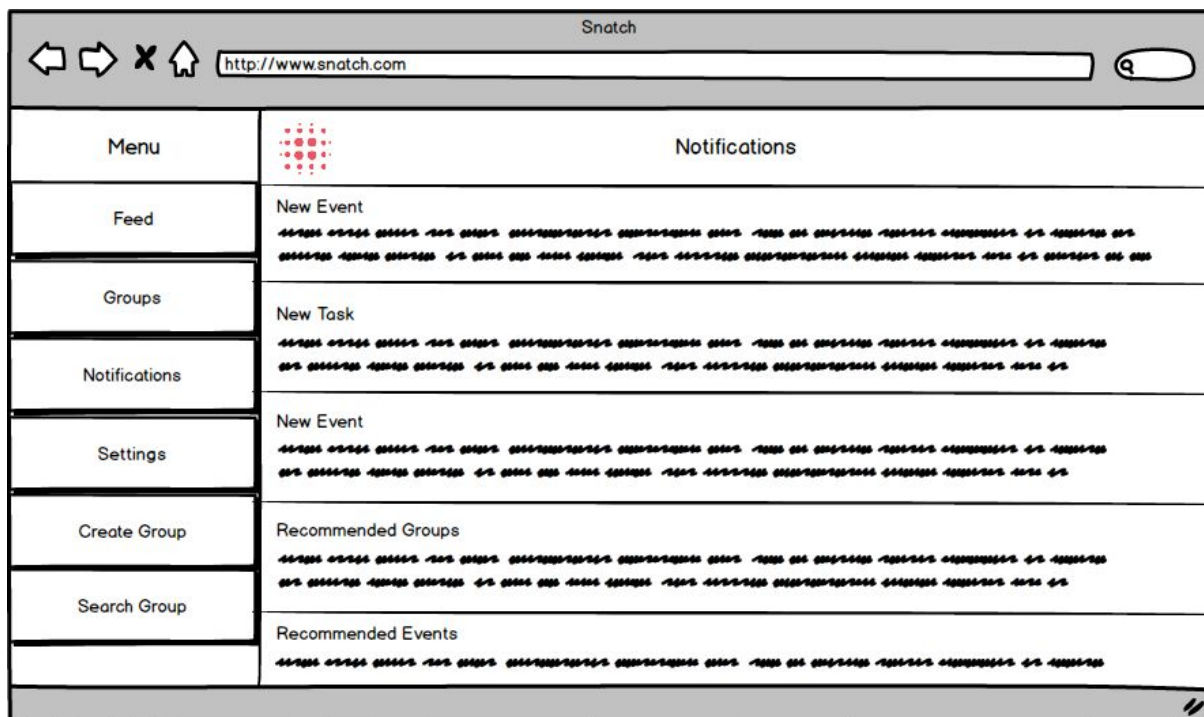
User can see the event details.



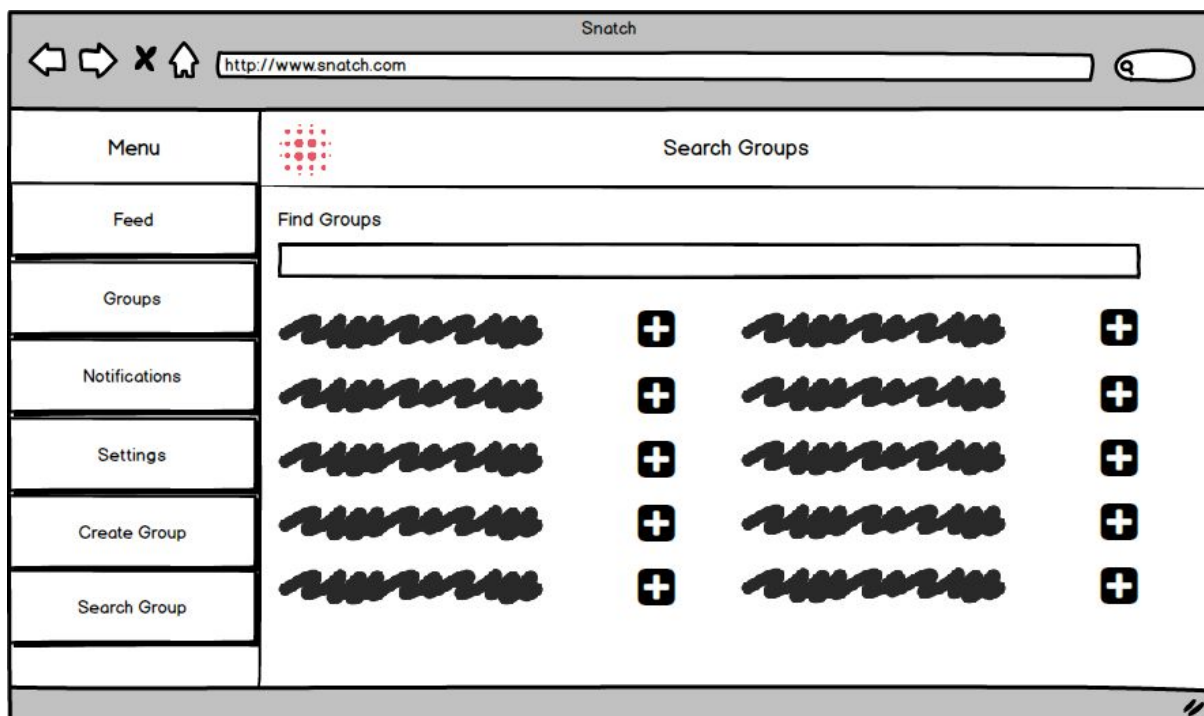
User can see the events.



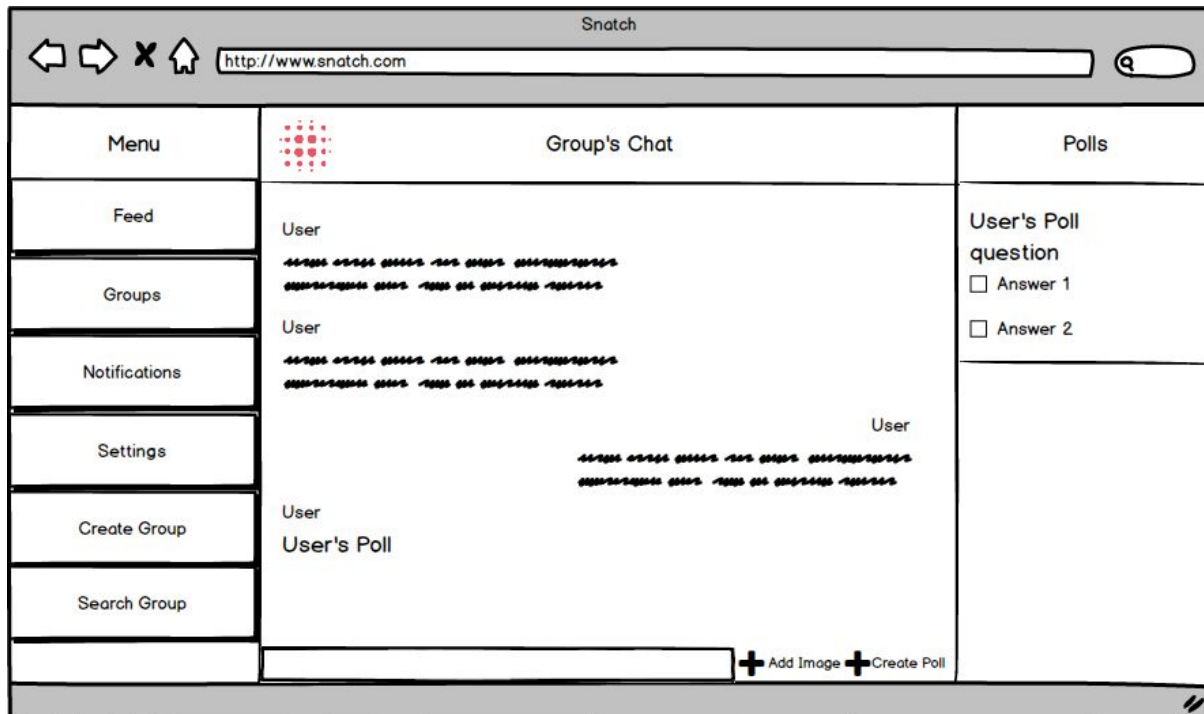
If user has admin privileges, they can create new events.



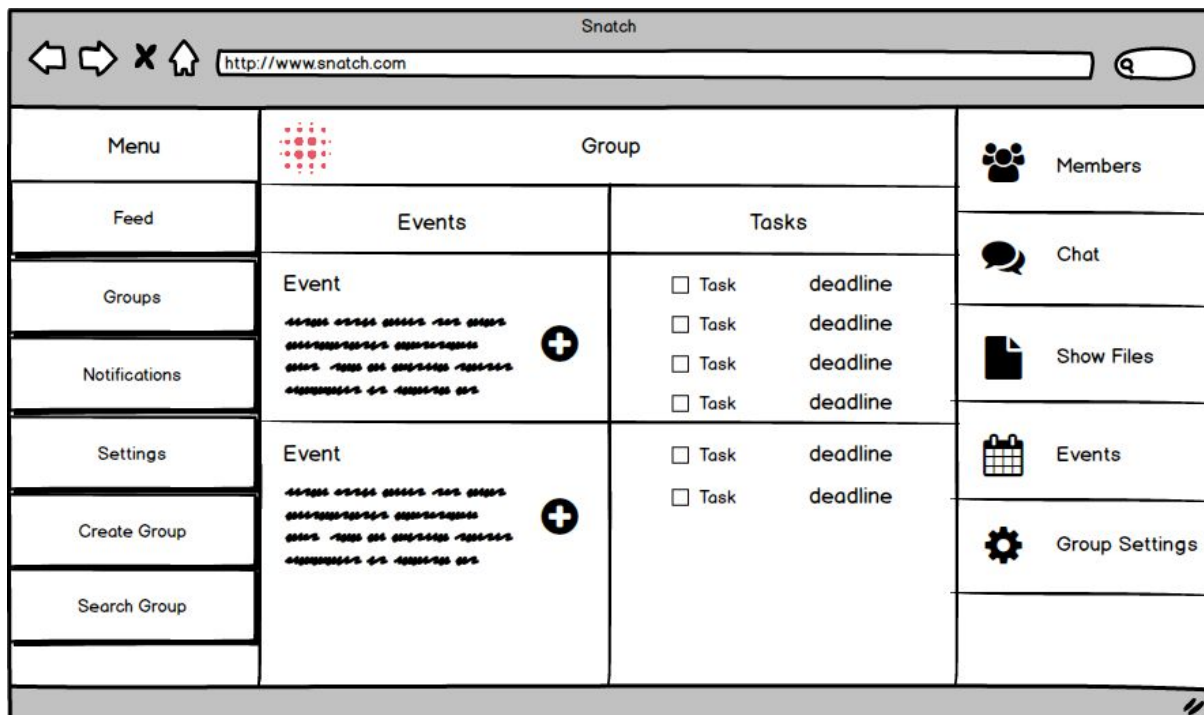
User can see the notifications about the groups and events.



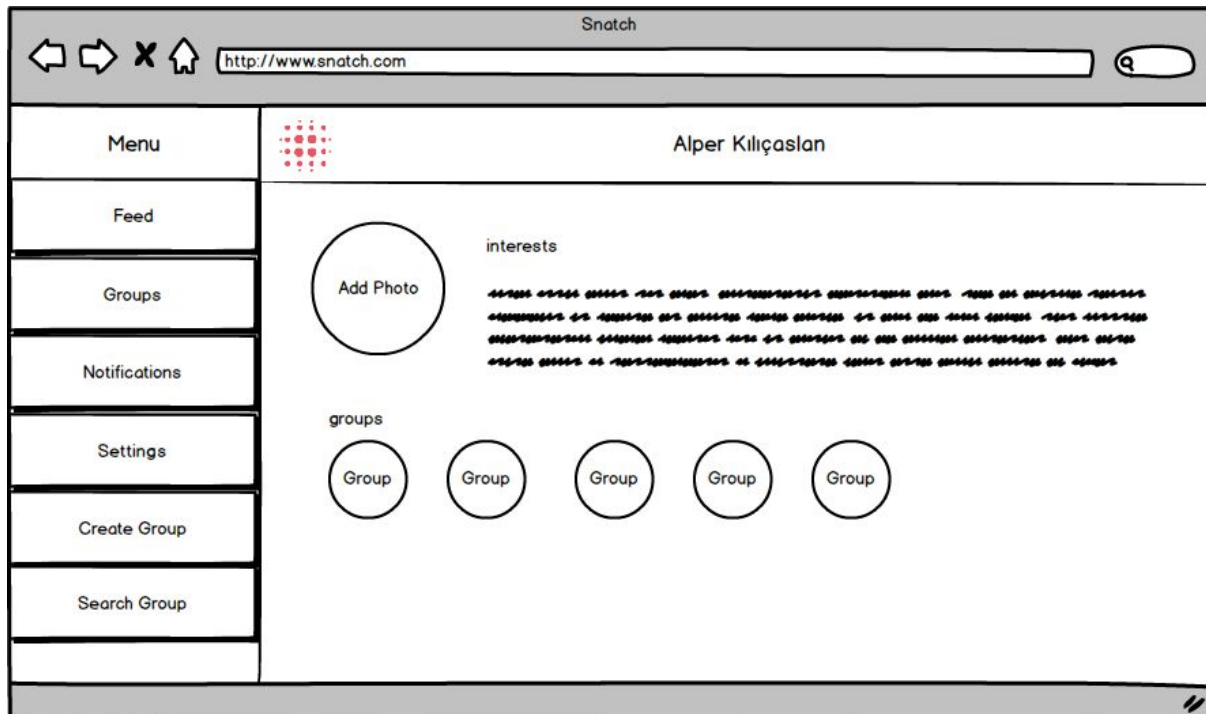
User can search for new groups.



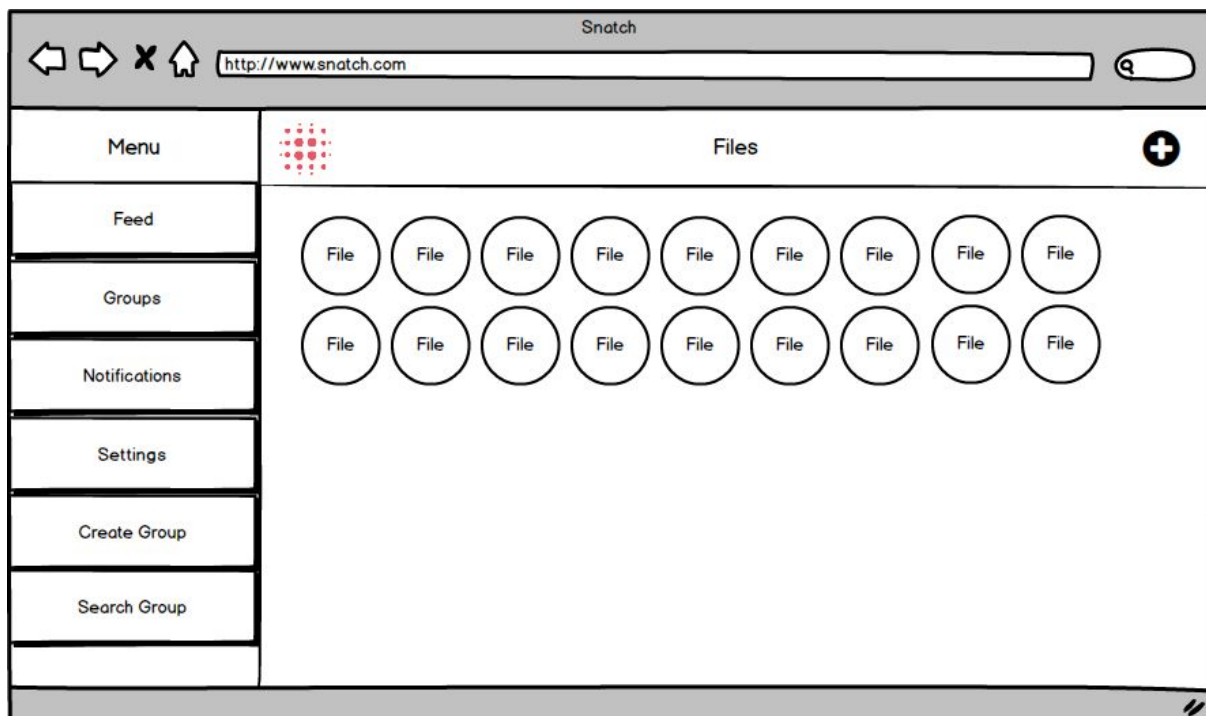
This is the group's chat. User can send, receive, and create polls.



This is the group's page.



This is the user's page.



This is the group's files. User can add files to here.

The screenshot shows a web browser window titled "Snatch" with the URL "http://www.snatch.com". The page has a left sidebar menu with the following items: Menu, Feed, Groups, Notifications, Settings, Create Group, and Search Group. The main content area is titled "New Event" and contains the following form fields and buttons:

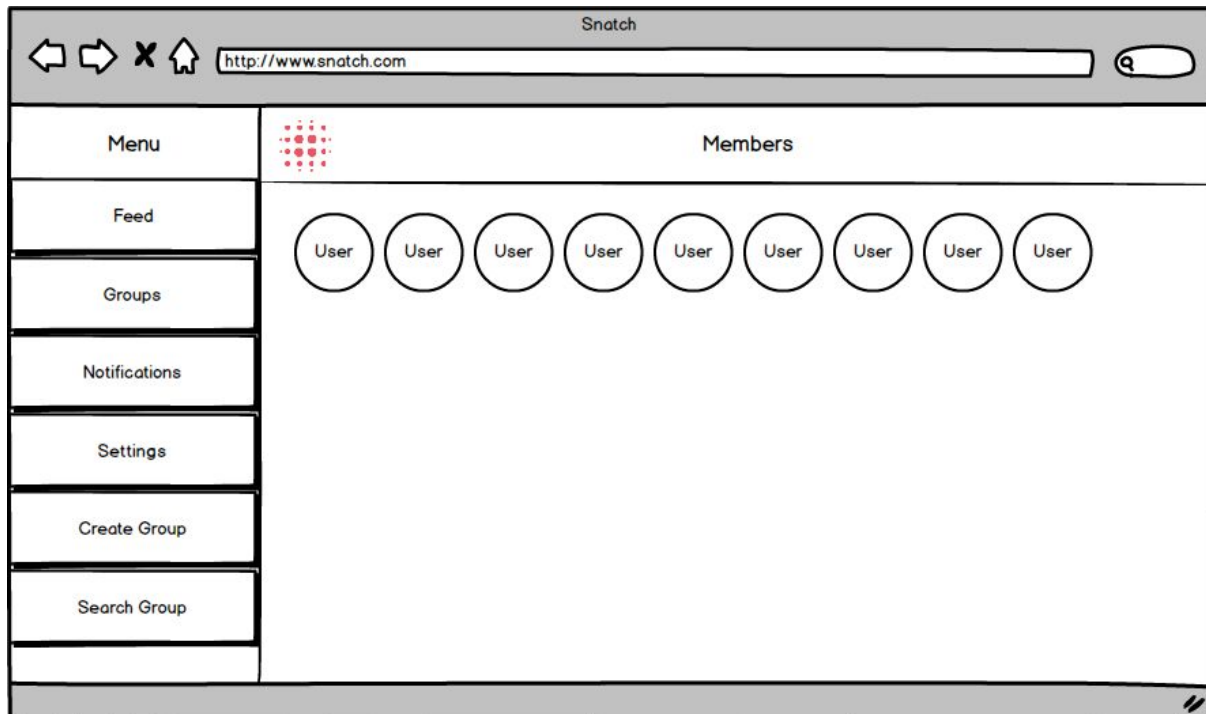
- Event Name:** A text input field.
- Event Description:** A large text area.
- Location:** A text input field.
- Time:** A text input field.
- Privacy:** A dropdown menu currently set to "Public".
- Buttons:** "Add Checklist", "Find Sponsors and Partners", and "Cancel".

User can create new events.

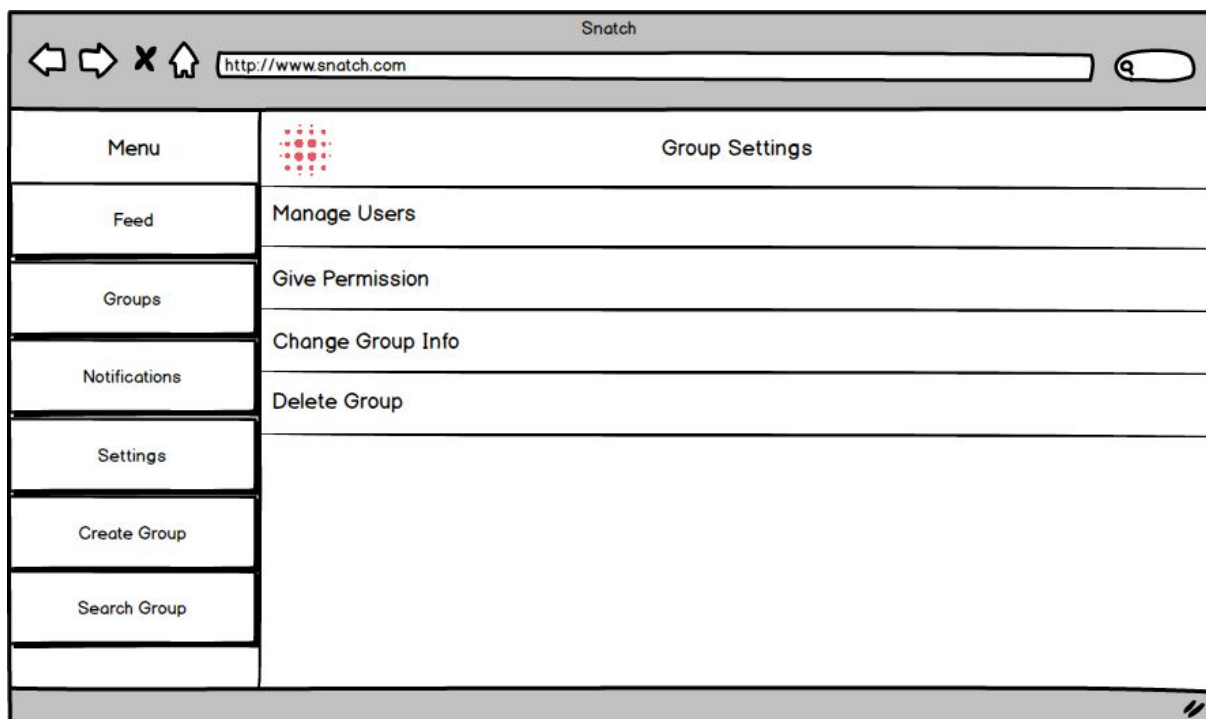
The screenshot shows a web browser window titled "Snatch" with the URL "http://www.snatch.com". The page has a left sidebar menu with the following items: Menu, Feed, Groups, Notifications, Settings, Create Group, and Search Group. The main content area is titled "New Group" and contains the following form fields and buttons:

- Name of the group:** A text input field.
- Group type:** A dropdown menu currently set to "Community".
- Domain:** A text input field.
- Admin 1:** A text input field.
- Admin 2:** A text input field.
- Buttons:** "Create Group" and "Cancel".
- Text:** "Your group invite link will be here".

User can create new group.



This is the group's members page. User can see the members.



This page is used to change groups settings.

4. References

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