

Potlatch

Android Capstone Project (design)

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Description

<https://class.coursera.org/androidcapstone-001/wiki/Potlatch>

Sources

Server side:
https://github.com/IlyaSergeev/Potlach_server

Client side for Android:
https://github.com/IlyaSergeev/Potlach_client

Architecture

Application has client-server architecture. Requests are sending by REST protocol on HTTP channel.

Server

Server is Spring base server application with SQL database.

SQL Database

Generate by Hibernate from Java classes with annotation.

Entities:

1. UserInfo - information about application user
 - **id**
 - **name** (unique, not null) - we can use name as key in other tables
 - **password** (not null)
 - **rating** - number of touches. Only increase, never Decrease.
2. Gift - information about gift
 - **id**

- **owner** (not null) - name of user who create gift
- **title** (not null)
- **message** - optional gift message
- **contentType** (always «image/jpg»)
- **date** (not null) - creation date in milliseconds
- **rating** - number of touches. Only increase, never Decrease.

3. Vote

- **id**
- **userName** (not null) - name of user who create vote
- **giftId** (not null) - id of voted gift
- **vote** - vote value. «1» mean like, «-1» - dislike (obscene or inappropriate), 0 - neutral vote

4. Touch

- **id**
- **userName** - name of user who touch gift
- **giftId** - id of touched gift

Roles

1. ADMIN

- Can create/change/delete user
- login = admin
- password = 12345

2. NOT_USER

- Can create new users
- login = not_user
- password = not_user

3. USER

- Can create gifts
- Can create touches
- Can create/change votes
- Has own login and password

REST API

Operations with gifts

1. /gifts/all (GET)

- for USER role
- return all gifts

2. /gifts/my (GET)

- username get from principal
- for USER role
- return all user gifts

3. /gifts (GET)

- **username** (parameter)

- for USER role
 - return all gift of user with name = username
4. /gifts/{id} (GET)
 - for USER role
 - return gift with id = {id}
 5. /gifts/search (GET)
 - **tag** (parameter) - keyword for search
 - for USER role
 - return all gifts with keyword in title
 6. /gifts/create (POST)
 - info about gift in body
 - for USER role
 - create new gift without image
 7. /gifts/{id}/data/ (POST, Multipart)
 - for USER role
 - upload image for gift with id = {id}
 8. /gifts/{id}/data (GET, Streaming)
 - for USER role
 - download image of gift with id = {id}
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Operations with users

1. /oauth/token (GET)
 - **login** (parameter)
 - **password** (parameter)
 - authorization end point
2. /users/hello (GET)
 - return «hello» string with user name
 - test method
3. /users (GET)
 - userName (parameter)
 - for ADMIN role
 - return info of user with name = userName
4. /users/register (POST)
 - username (parameter)
 - password (parameter)
 - for ADMIN and NOT_USER roles
 - register user with name = username and password
5. /users/reset_password (POST)
 - username (parameter)
 - password (parameter)
 - for ADMIN role
 - reset password for user with name = username

6. /users/delete (POST)
 - username (parameter)
 - only for ADMIN role
 - delete user from system. His gifts stay in database
 7. /users/top (GET)
 - for USER role
 - return users list ordered by rating DESC
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Operations with votes

1. /votes (GET)
 - **gift** (parameter) - voted gift id
 - userName get from principal
 - for USER role
 - return vote for gift
 2. /votes (POST)
 - **gift** (parameter) - voted gift id
 - **vote** (parameter) - vote value (-1, 0, 1)
 - userName get from principal
 - only for USER role
 - set vote for gift
 3. /votes/{id} (GET)
 - for USER role
 - return vote with id = {id}
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Operations with touches

1. /touch (POST)
 - **gift** (parameter) - touched gift id
 - userName get from principal
 - for USER role
 - set «touch» flag

Client

Specifications

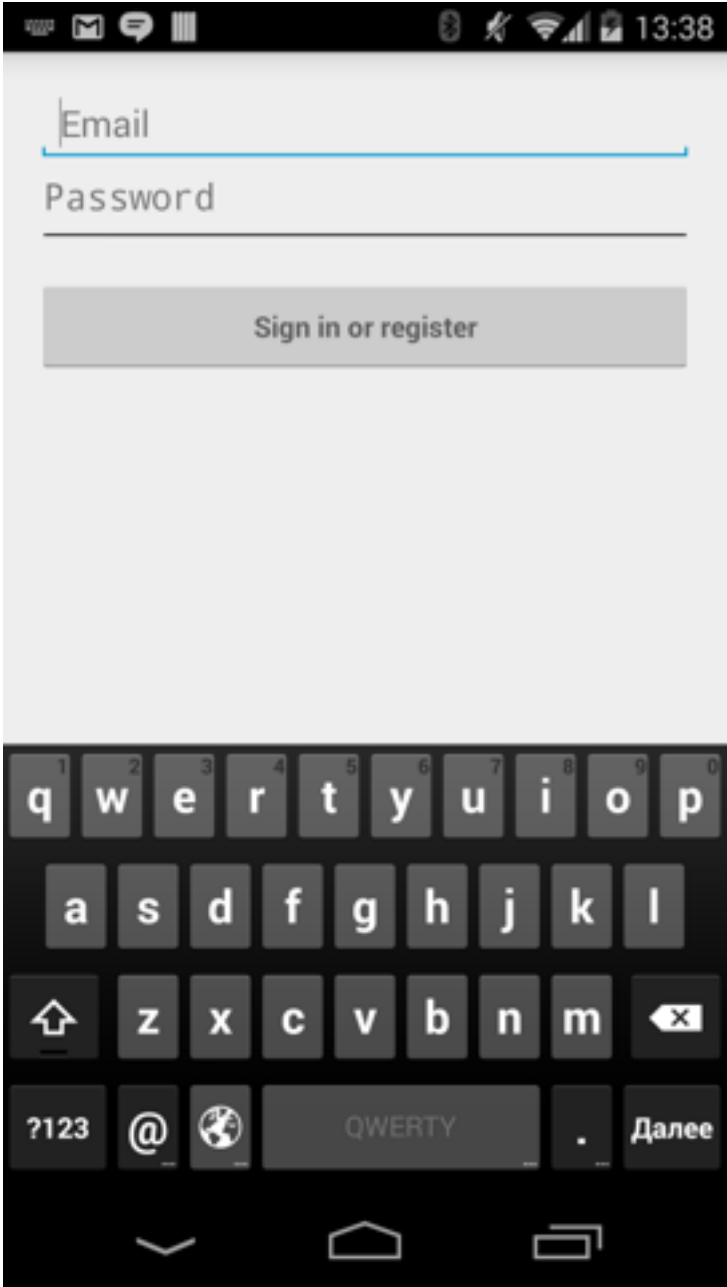
Minimum Android SDK version = 11
Target Android SDK version = 21

Require features:

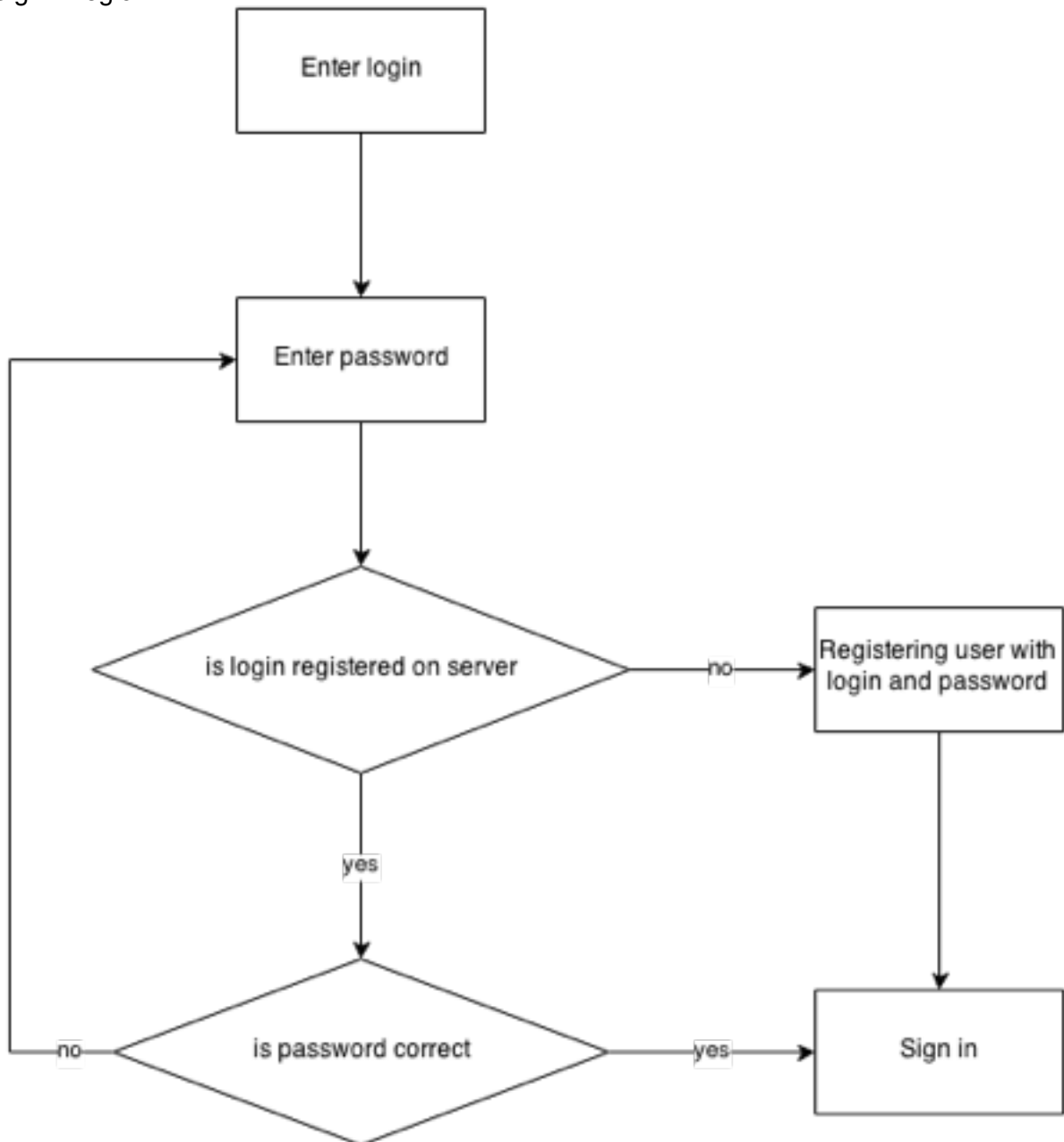
1. camera
2. internet connection

Activities

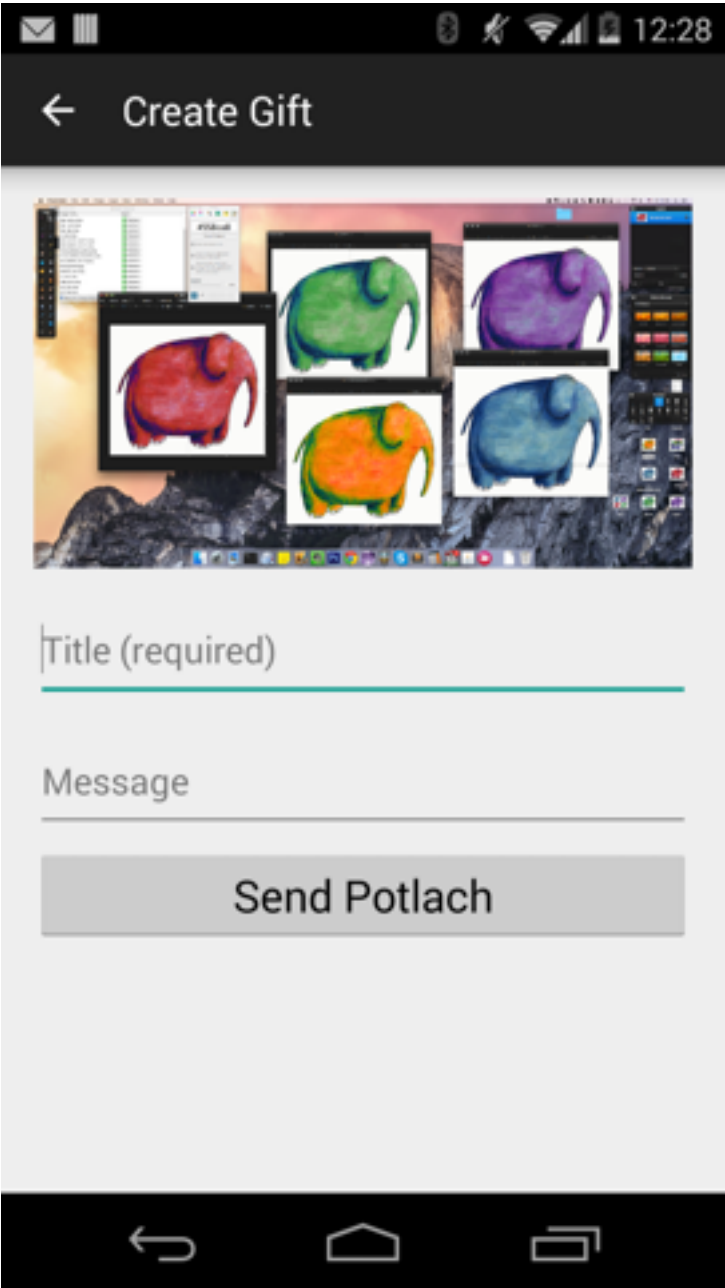
Login activity



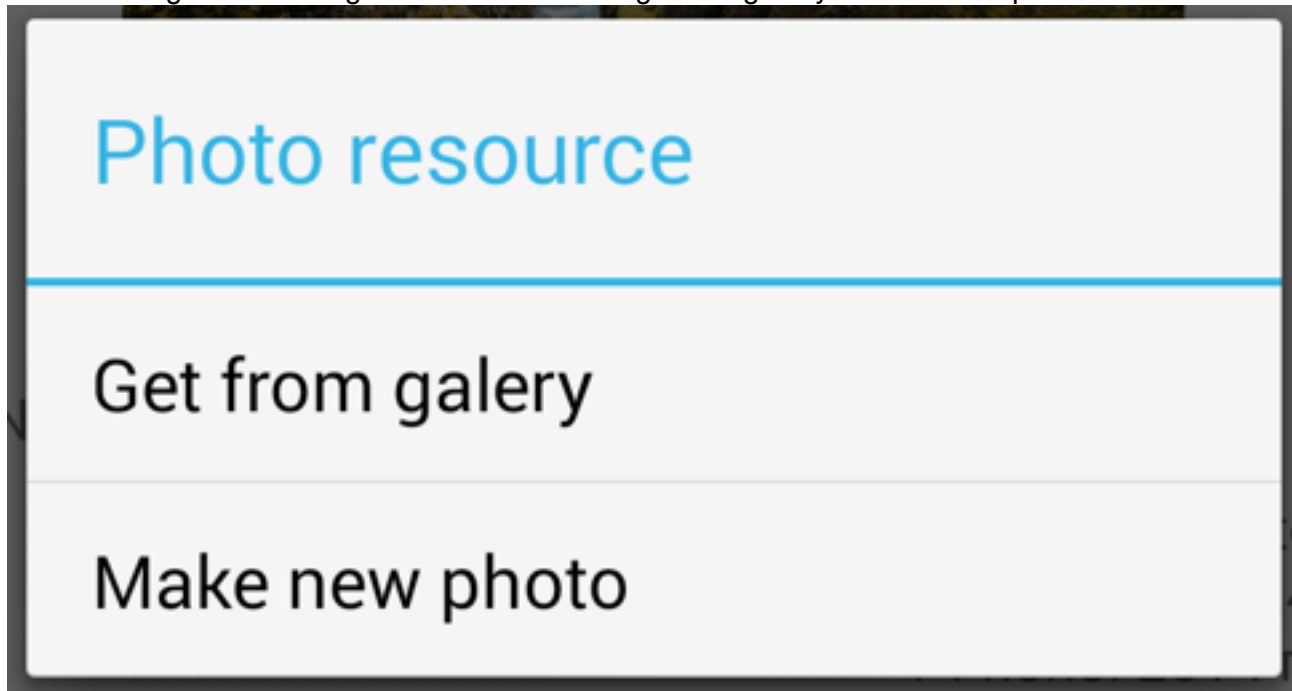
Sign in logic



Create gift activity

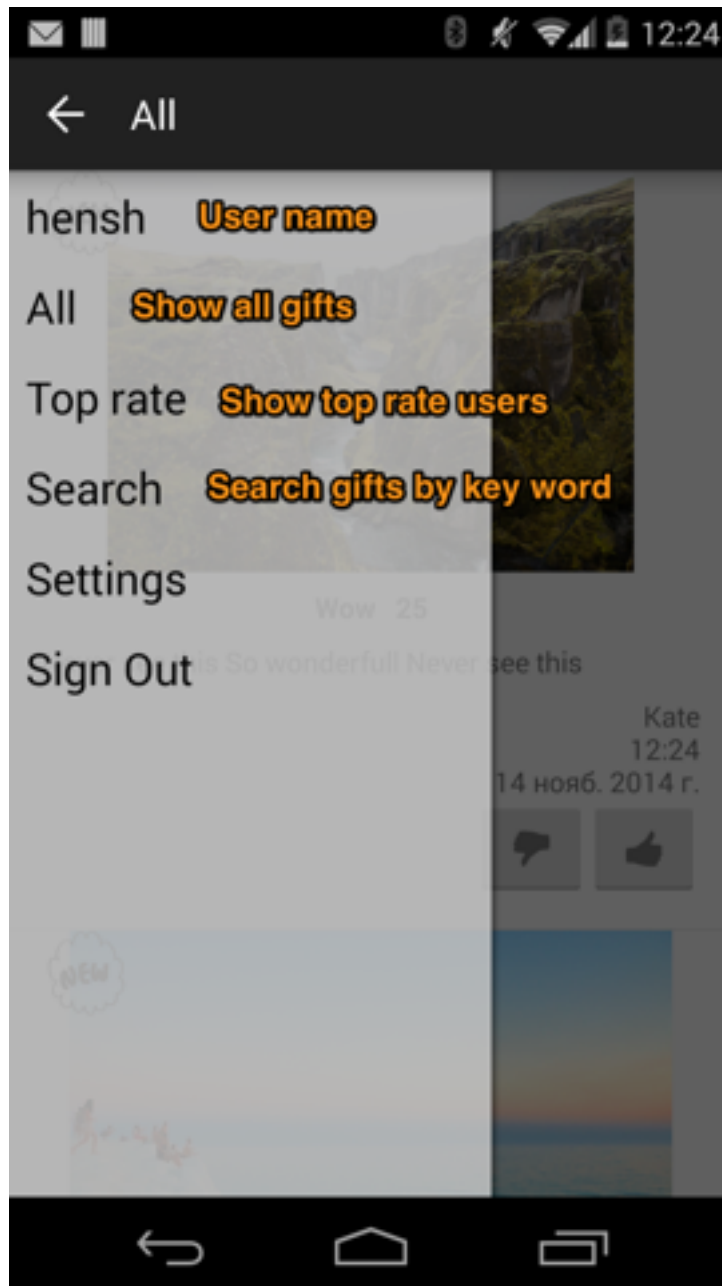


Click on image show dialog. User can select image from gallery of make new photo

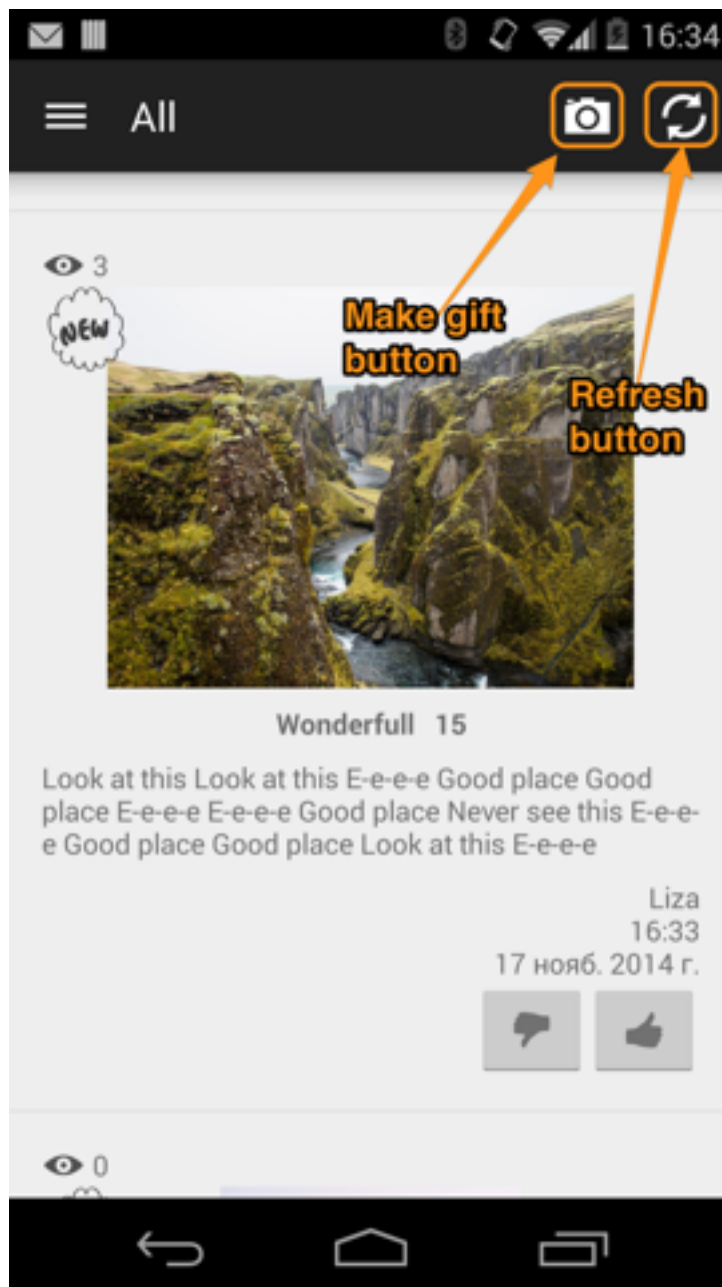


Main Activity

After success sing in user see main activity with sliding menu.



On click «user name» menu item app show gifts of user (1)



Gifts list image (1)

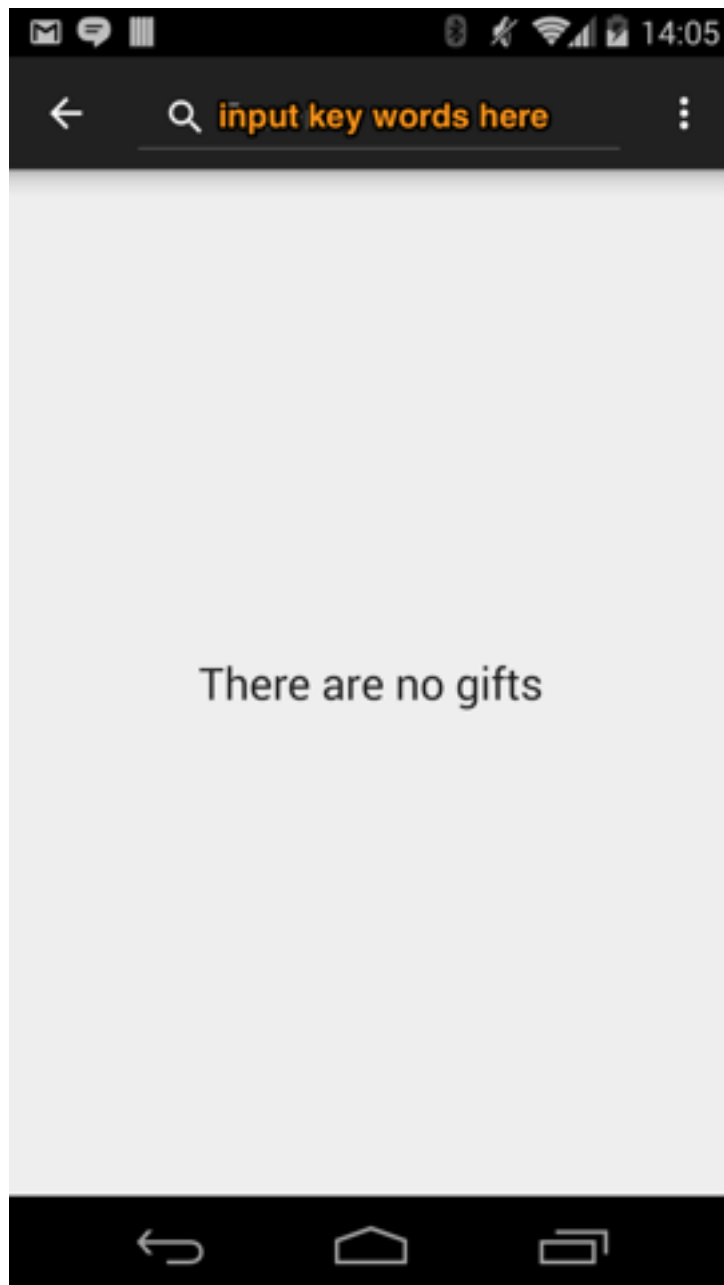
On click «All» menu item app show all gifts (1)

On Click «Top rate» menu item app show top rate screen

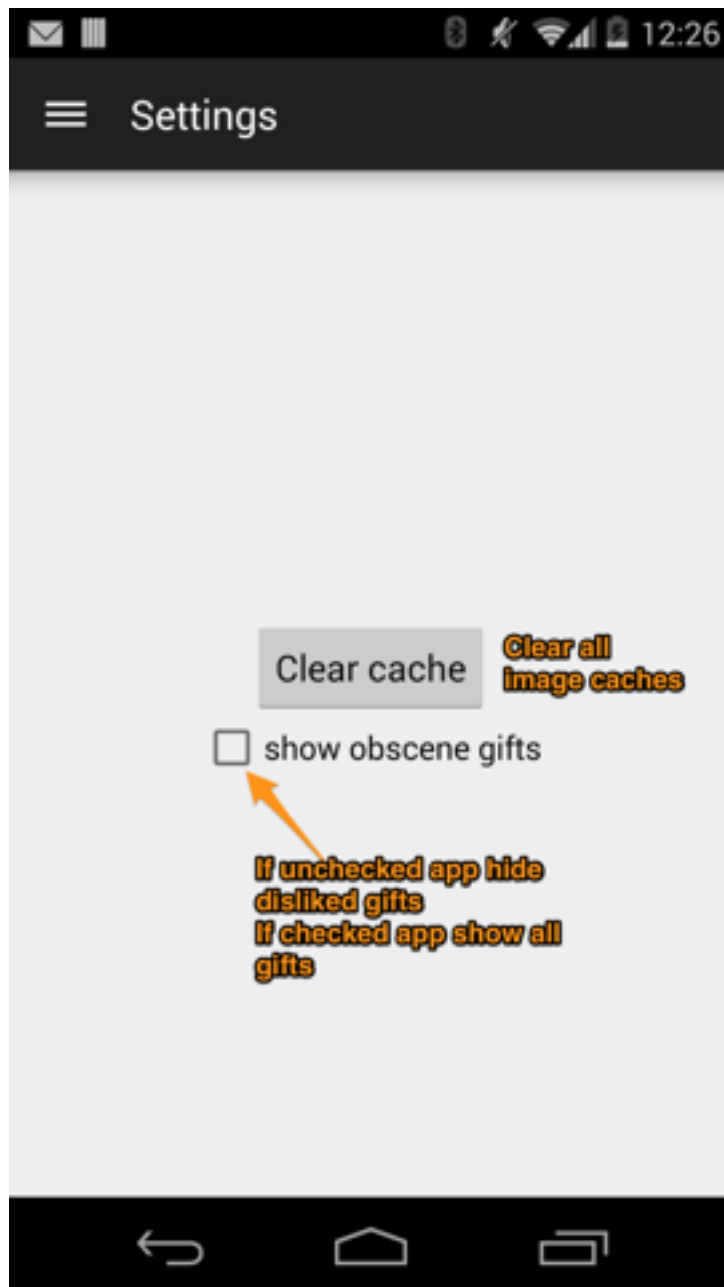
Author	Touches
Kate	21
Anne	7
hensh	0

On click show gifts of concrete user

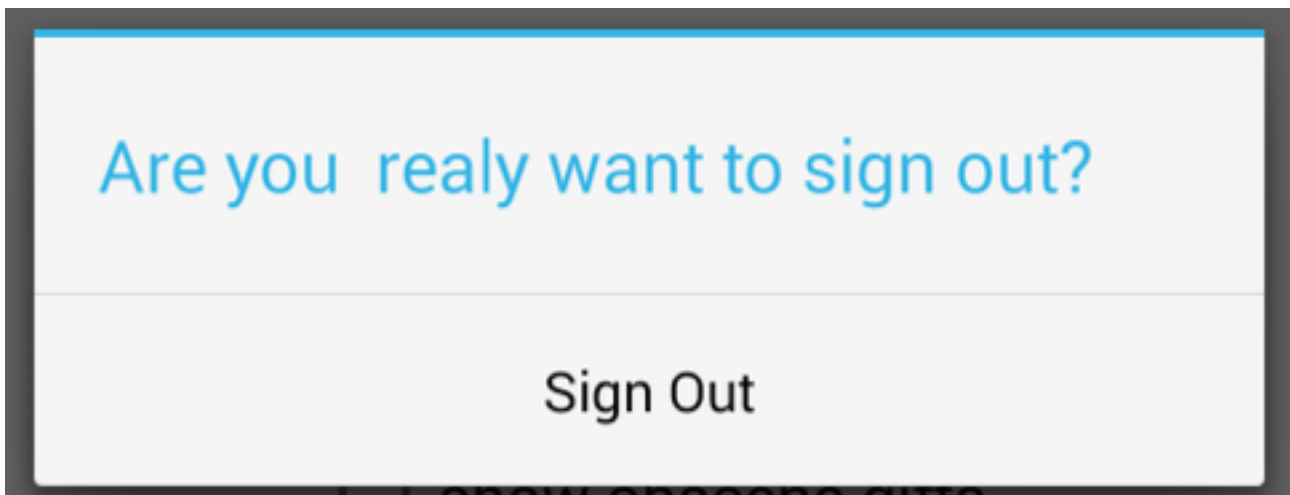
On Click «Search» menu item app show search screen



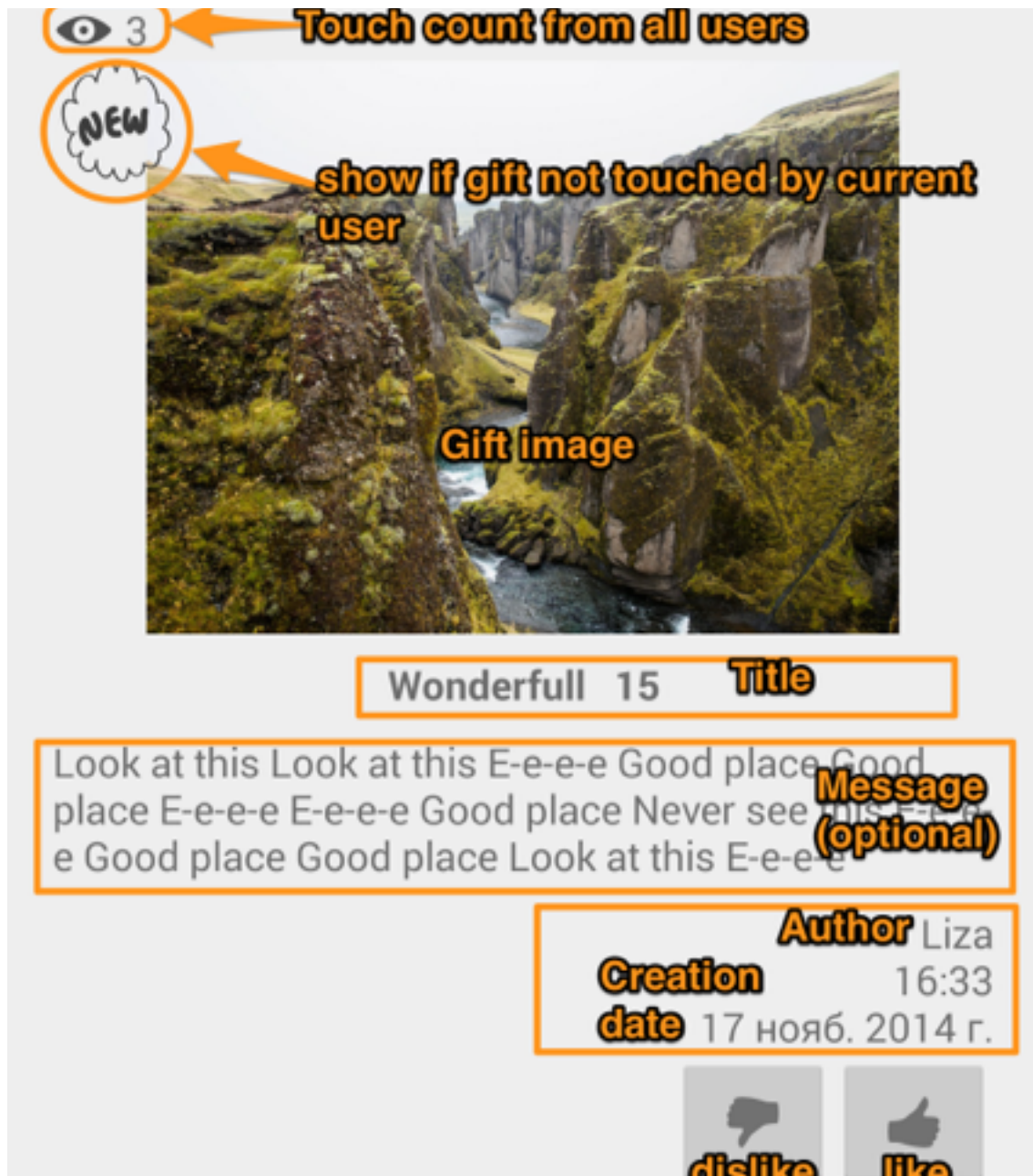
On Click «Settings» menu item app show settings screen



On Click «Sign out» menu item app show dialog



Gift structure



Broadcasts

- «Sign Out» - sending when access token invalidate
- «Refresh» - sending when user press button «Refresh»
- «Search» - sending when user input new key work for search
- «Show user gifts» - sending when user click any user in «Top rate» screen

Image cache

All images loading in background thread using `ExecutorService`. Also images save in local memory.

Server requests

All server requests are make in background thread using `AsyncTask` or `IntentService`. Results not cached.

Services

`TasksMaker` - `IntentService`, used for sending «touch» or «vote» requests to server.