

How to Use this Template

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1. After you’ve completed all the sections, download this document as a PDF [File → Download as PDF]
2. Create a new GitHub repo for the capstone. Name it **“Capstone Project”**
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Newsgroups NDY

Description

(Usenet) Newsgroups are older than the World Wide Web itself. Since decades they are used for people to meet online and discuss every possible topic you can think of. Although the use of Newsgroups has significantly decreased in the last years, they are not dead yet! Newsgroup NDY brings Newsgroups on your phone and maybe will help to revive them.

Intended User

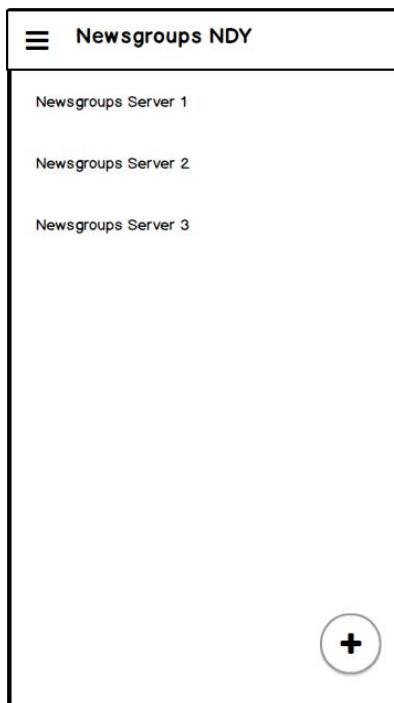
An intended user is everybody that wants to participate in Newsgroups from their phones. Also my former university still used them as their main communication between students.

Features

- Read from Newsgroups
- Write to Newsgroups
- Save Newsgroups messages on the phone for offline usage

User Interface Mocks

Main screen



The main screen shows all the Newsgroups Servers the user has added. A click on one of the servers opens the 'Group screen'. A click on the FAB opens the 'Add server screen'.

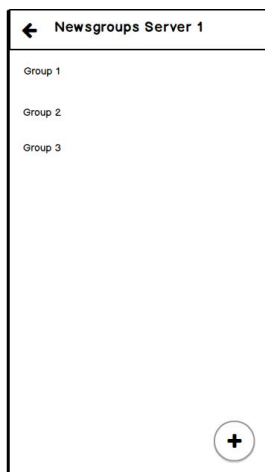
Add server screen



A dialog box titled "Add Server" with a light gray border. It contains four text input fields stacked vertically. The first field is labeled "Server Name" and contains the text "Example Server". The second field is labeled "URL" and contains the text "news.example.com". The third field is labeled "Your Name" and contains the text "Jane Doe". The fourth field is labeled "Your email" and contains the text "jane.doe@example.com". At the bottom right of the dialog box are two buttons: "OK" and "Cancel".

This screen consists of four text fields to enter the necessary data to add a new server.

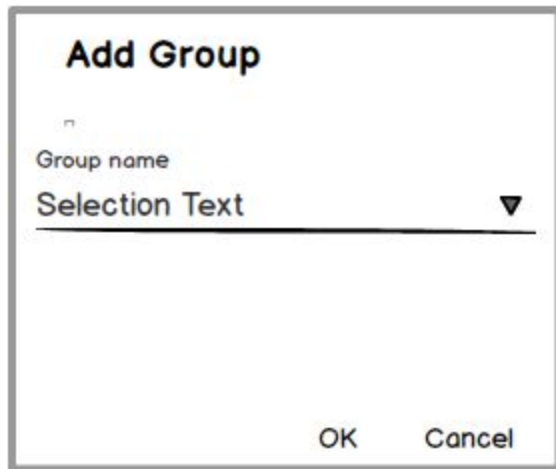
Groups screen



A screen titled "Newsgroups Server 1" with a back arrow icon on the left. The screen displays a list of three items: "Group 1", "Group 2", and "Group 3". At the bottom right of the screen is a circular button with a plus sign (+), representing the FAB (Floating Action Button).

The Groups screen shows all the subscribed groups of a Newsgroup server. A click on one of the groups opens the 'Topic screen'. A click on the FAB opens the 'Add group screen'.

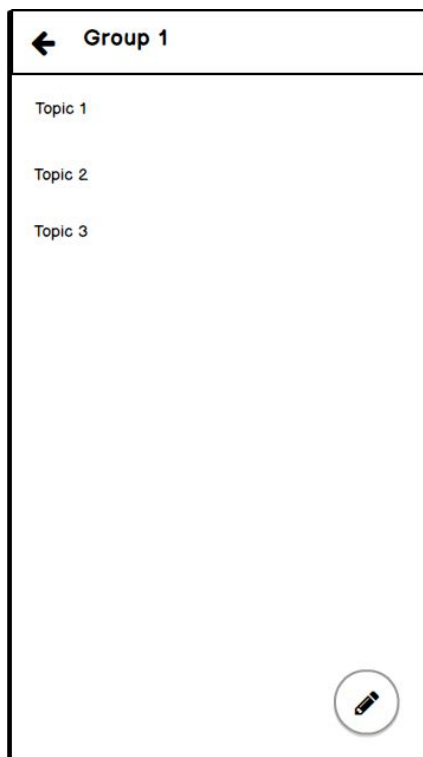
Add Group screen



The 'Add Group' screen features a title bar with the text 'Add Group'. Below the title, there is a label 'Group name' followed by a text input field containing 'Selection Text'. A downward-pointing triangle icon is positioned to the right of the input field. At the bottom of the screen, there are two buttons: 'OK' and 'Cancel'.

The groups are defined by the server and can't be changed by the user. So the user is shown a selection menu for the groups.

Topic screen



The 'Topic screen' has a header bar with a back arrow icon and the text 'Group 1'. The main content area lists three topics: 'Topic 1', 'Topic 2', and 'Topic 3'. At the bottom right corner, there is a circular floating action button (FAB) containing a pencil icon.

The Topics screen shows all the topics of a group. A click on one of the topics opens the 'Message screen'. A click on the FAB opens the 'Create topic screen'.

Create topic screen



Create New Topic

Topic name
Example Topic

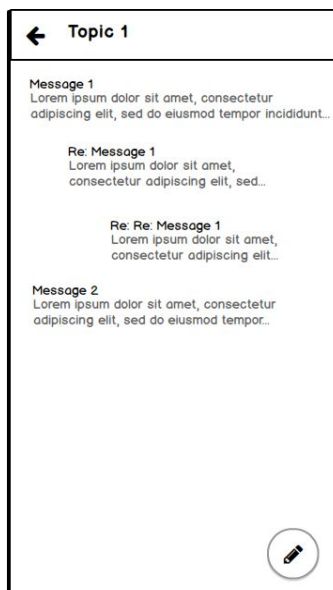
Message

Lorem ipsum dolor sit amet,
 consectetur adipiscing elit, sed do
 eiusmod tempor incididunt ut
 labore et dolore magna aliqua. Ut
 enim ad minim veniam, quis
 nostrud exercitation ullamco laboris
 nisi ut aliquip ex ea commodo
 consequat. Duis aute irure dolor in

OK Cancel

A topic can not be empty. The user has to enter a topic name and a message.

Message screen




← Topic 1

Message 1
 Lorem ipsum dolor sit amet, consectetur
 adipiscing elit, sed do eiusmod tempor incididunt...

Re: Message 1
 Lorem ipsum dolor sit amet,
 consectetur adipiscing elit, sed...

Re: Re: Message 1
 Lorem ipsum dolor sit amet,
 consectetur adipiscing elit...

Message 2
 Lorem ipsum dolor sit amet, consectetur
 adipiscing elit, sed do eiusmod tempor...



In this screen are all the messages of a topic are shown. The responses to a message are indented to the right, to visualize the hierarchy of the messages. A click on one of the messages opens the 'Message Detail screen'. A click on the FAB opens the 'New message screen'.

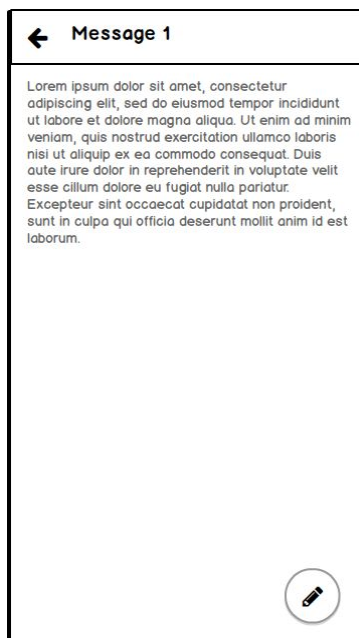
New message screen



The 'Write New Message' screen features a title bar with the text 'Write New Message'. Below the title bar is a label 'Message' followed by a large text input area containing placeholder text: 'Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur. Excepteur sint occaecat cupidatat non proident, sunt in'. At the bottom of the screen are two buttons: 'OK' and 'Cancel'.

A message can be entered and is then sent to the server.

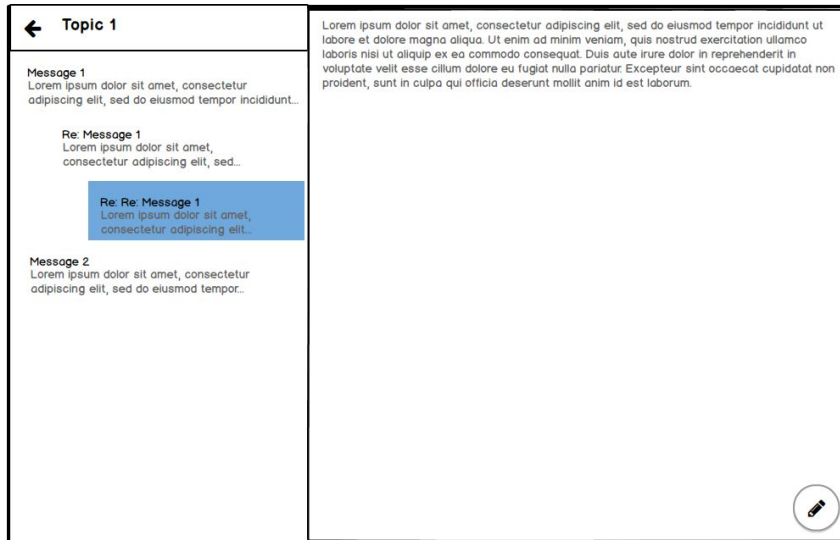
Message detail screen



The 'Message detail' screen has a title bar with a back arrow icon and the text 'Message 1'. The main content area displays the full message text: 'Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur. Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia deserunt mollit anim id est laborum.' At the bottom right corner, there is a circular icon containing a pencil, representing the 'Floating Action Button' (FAB) for replying.

The full message is shown. A click on the FAB opens the 'New message screen' to write a response to the shown message.

Message screen on a tablet



On a tablet the message screen and the message detail screen are combined in a Master-Detail-View.

Key Considerations

How will your app handle data persistence?

The data will be stored in a SQLite database and a Content Provider will be used to share data with other apps.

Describe any corner cases in the UX.

Newsgroups are similar to emails in the way that you can respond not only to the newest post, but also to every older post. So you can have a very long chain of responses (theoretically infinite). In other words the message tree can have a very big depth and breadth at the same time. To display this, the 'Message screen' must not only allow to swipe up or down, but also to swipe left and right, to see all possible responses.

Describe any libraries you'll be using and share your reasoning for including them.

- Apache Commons Net NNTP: library for the NNTP protocol, which is used to communicate with Newsgroups servers
- Butterknife: View injection
- Android design support library: Material design
- Dagger2: Dependency injection

- JUnit: Unit tests
- Mockito: Mock objects for instrumentation tests

Next Steps: Required Tasks

Task 1: Project Setup

- Create new Android project with Master-/Detail Flow
- Configure libraries

Task 2: Implement UI for Each Activity and Fragment

- Build UI for the Newsgroup Server Overview
- Build UI for the Newsgroup Groups Overview
- Build UI for the Newsgroup Topics Overview
- Build UI for the Newsgroup Messages Overview
- Build UI for the Message Details

Task 3: Fetch data from Newsgroup Server

- Write a Java class to connect to a server and receive the groups, topics and messages

Task 4: Post message to Newsgroup Server

- Post a reply to a Newsgroup server

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