GitHub Username: avitaker

Readit for Reddit

Description

This app provides a more immersive implementation of Material design for browsing Reddit content than most popular Reddit apps.

It allows users to view Reddit posts in subreddits as well as Reddit search results, view comments on those posts, add local subscriptions to subreddits and switch between distinct and attractive themes, while offering Material animations and attractive visual themes.
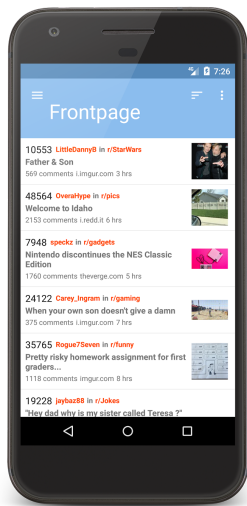
Intended User

This app is intended for Reddit "lurkers", who prefer to view content and comments over participating in discussions themselves.

Features

- View any available subreddit on Reddit
- View comments on every post
- Search posts on Reddit
- Add subreddit subscriptions to local storage
- Change between a number of available visual themes
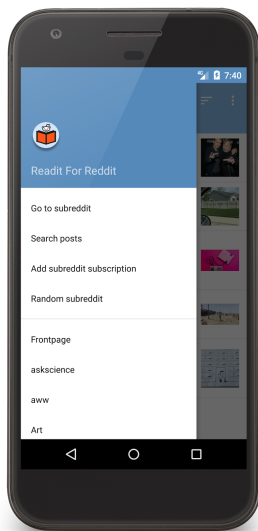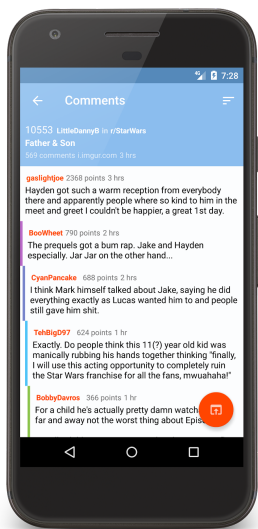
User Interface Mocks

Screen 1

MainActivity with a collapsing toolbar layout for the subreddit name, a recyclerview populated by Reddit posts, and sort options
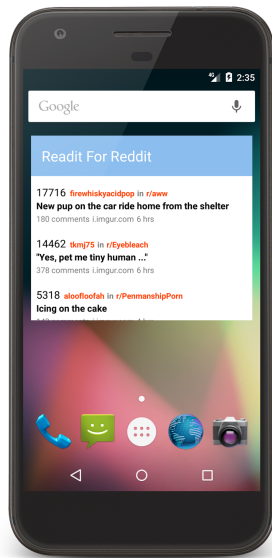
Screen 2

MainActivity navigation drawer with a big header and navigation options

Screen 3

CommentsActivity with a collapsing toolbar layout for the post info, a recyclerview populated by comments and sort options

Screen 4

Homescreen widget with a collection of recently loaded posts

Key Considerations

How will your app handle data persistence?

The app will handle data persistence in two ways: shared preferences and custom local storage solutions.
- Shared preferences will be used to store theme preferences as well as subreddit subscriptions.
- Custom ORM storage will be used to as a temporary cache of Reddit posts and comments to reduce biolerplate code.
- Content Provider will be created and exported for the sole purpose of sharing Reddit posts or comments on demand.

Describe any corner cases in the UX.

- In the case that the user navigates away from the app, or doesn't use it for an extended period of time, locally stored posts and/or comments will be displayed till the user triggers a refresh or navigates to a different subreddit or search

- When adding a subreddit subscription, MainActivity will be restarted to force invalidation of the navigation drawer

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

- Picasso will be used for displaying post thumbnails where available, because image handling is notoriously difficult and time consuming to do correctly without fixed images.
- Timber will be used for logging because of the increased ease and flexibility it affords.
- Android Volley will be used to handle HTTP requests, due to the ease that it affords in implementing network queues and response errors.
- SugarORM will be used to store Reddit posts and comments, because it allows storage of objects directly rather than requiring large amounts of code to translate between SQLite storage and usable objects.

Describe how you will implement Google Play Services.

- Google AdMob will be implemented to load a banner ad in the MainActivity of a free product flavor. This ad will not be loaded in the paid flavor.
- Google Analytics will be implemented to keep track of screen view changes. This will be implemented for both product flavors.

Next Steps: Required Tasks

Task 1: Project Setup

To configure this project, two basic steps are required: Setting up the Android project in Android Studio, and learning the Reddit API, specifically when it comes to listings and comments.

For the first part, the following steps will be necessary:
- Configure libraries
- Configure paid and free flavors in Gradle and Android Manifests
- Design SugarORM classes to store Reddit posts and comments
- Configure a URI Generator class to gather methods that will generate URLs for use with the Reddit API

For the second part, the following steps will be necessary:
- Note all the kinds of URLs that will be useful to pulling Reddit posts and comments

- Note the keys in the returned data that hold values that are going to be displayed or will be otherwise useful for object classification

Task 2: Implement UI for Each Activity and Fragment

Main Activity:
- Build UI for MainActivity with a recyclerview to hold Reddit listings
- Build UI for individual Reddit listings, and a custom adapter to populate them
- Add a navigation drawer to main activity to display all currently subscribed subreddits, and to open dialogs for navigating to a user-entered subreddit, search posts and go to a random subreddit
- Add options menu to main activity to sort posts, change the app theme and add a subscription for the currently displayed subreddit
- Implement a tablet UI with master-detail flow by using two recyclerviews side by side, one for the posts, and the other for comments
- Build loader to load posts in UI once they are retrieved from the API

Comments Activity:
- Build UI for CommentsActivity with a recyclerview to hold comments of a post, a collapsing toolbar layout to hold the post details
- Build UI for individual comment objects, and a custom adapter to populate them
- Add options menu to comments activity to sort comments
- Disable in tablet layout
- Build loader to load comments in UI once they are retrieved from the API

Other:
- Implement shared element transition between MainActivity and CommentsActivity

Task 3: Create Network Intent Services

Make intent services for each of the following:
- Pull Reddit listings of a particular subreddit, with available functionality to add sorting options
- Pull comments on a particular Reddit post, with available functionality to add sorting options
- Pull the list of default subreddits, which will be used to initially populate the subreddit subscriptions
- Check whether a subreddit exists with a specific name, to be used when user wants to add a subreddit subscription

Each of these services will also translate JSON responses to respective SugarORM objects, and will notify the UI of completion or error status via system broadcasts

Task 4: Build Widget

Build collection widget to display the posts in the last loaded subreddit or search results
- Create widget provider that updates widget every 4 hours, and requires at least 4 cells width to prevent text overflow
- Create layout for a widget item that is effectively identical to a listing item in MainActivity, and a layout for the overall widget with a ListView to hold widget items.
- Extend AppWidgetProvider to update widget view when required, and open MainActivity as the default onClick action.
- Extend RemoteViewsService to populate ListView with filled out widget items, and set their onClick to open CommentsActivity for the respective post of each widget item

Task 5: Handle Error Cases

Handle cases of network unavailability, erroneous HTTP requests, and user error
- Create broadcast receivers in each activity that will listen for relevant broadcasts
- Use Snackbars to communicate error messages to the user
- Prevent the user from subscribing to invalid or banned subreddits and search results

Task 6: Implement Google Play Services

- Implement AdMob for this app, will be used in free variant
- Implement Google Analytics

Task 7: Create Build Variants

Create free and paid build variants
- Free variant will display a banner ad in MainActivity
- Paid variant is ad free