A Reddit App for Android

Background

Reddit is a social networking and news website, which allows users to submit links to content such as news articles and image galleries, and provides a forum for discussion. Reddit offers a RESTful API, which is used by third-party developers to create browser add-ons and smartphone clients. A number of clients are available for Android devices through the Google Play Store. The most popular ones are closed-source, and usually provide a free ad-supported version and a paid version. In my personal experience, these clients implement the full functionality of Reddit and utilize some of the latest features of Android, but suffer from a number of bugs and poor user experience decisions. For example, Reddit Sync reloads a linked webpage if the screen is rotated, which resets the scroll position within the page and introduces unnecessary wait times. There are also some less popular open-source clients, such as RedReader. Those are generally incomplete or outdated, as they were made for older versions of Android.

Goals

The goal of this project is to develop a free and open source Reddit client for Android phones, with a particular focus on user experience and testing.

The application will provide the following features:

- User sign-in
- Viewing and submitting links (filtered by different “subreddits” (categories) or by submitter)
- Website links will open in an internal web browser, instead of a separate browser such as Chrome
- Direct image links will be displayed as images instead of links
  - Viewing and submitting comments for each link
  - Deleting, editing, saving and voting on links/comments
  - Subscribing and unsubscribing to subreddits
  - Searching (filtered by subreddit and time)
  - Sending and receiving private messages between users

In designing the application, I will pay particular attention to making the user interface rich and intuitive, through use of touch gestures and animations. For example, the swipe gesture will be used to hide links. Animations will be used to provide feedback when the user interacts with the application. E.g. button clicks will trigger a ripple effect originating at the point of touch.

The latest version of Android (Lollipop) introduced a number of libraries that I will use to deliver a better user experience. Activity Transitions allow developers to create natural transitions between two screens, by performing transformations on shared elements. For example, clicking an item on a list would normally “teleport” the user to the detailed view of that item, but with Activity Transitions, the elements that are shared between the two screens (such as the title and the thumbnail image) can gradually change their size and position to create the second screen. This provides a more continuous experience for the user. Lollipop also introduced the palette library, which extracts dominant colors from images. These colors can be used to accentuate specific elements and create a vibrant and dynamic appearance.

Finally, I will try to optimize the layout of the application for the smaller screen size. One way in which I plan to achieve this is through an innovative way of displaying Reddit’s comment trees. With the conventional approach, when there are many replies to a comment, the parent comment disappears from the view as the reader scrolls down. The reader then loses the context of the discussion. I plan to implement a dynamic system in which the ancestors of the
bottom-most visible comment remain visible for as long as possible during scrolling, at the expense of non-ancestor comments in the tree, which decrease in size.

**Implementation details**

The application will be developed in Java using version 21 of the Android SDK (Lollipop). I will test the application using the Android testing framework, which is based on JUnit.

**Deliverables**

The final deliverables for this project will include the application source code and a final report detailing the results and the development process.