

XKCD Reader Executive Summary

Summary

The XKCD Reader app allows the user to browse comics from the website <https://www.xkcd.com>. By default, the app will cache the comics onto the user's device storage, allowing the user to browse the comics while offline.

Comics Tab

On the main homepage of the app, the user can browse through the comics. If the comic text is too small, the user can use a pinch gesture to zoom into the comic. They can favorite a comic, allowing the user to refer back to this comic at any time. The user can favorite a comic by either double tapping the comic or by clicking the ♥ icon in the top bar. The top bar provides several utilities for the user – the user can view comic details such as release date and alt text, share comics, and shuffle to a random comic.

Favorites Tab

In the “Favorites” tab, the user can browse through and manage their favorited comics. By clicking on a comic, the user will be brought back to the “Comics” tab, where they can view the comic. They can also manage their favorited comics and remove favorited comics by tapping on the ♥ icon to the right of each favorited comic.

Search Tab

If the user wishes to search for a specific comic, they can do so through the “Search” tab. By default, the app will do a regular search, which will search only the comic's title and number for the keyword. If “Deep Search” is toggled on, the app will do an additional search through the comic's transcript and alt text.

Settings Tab

In the “Settings” tab, the user can manage app settings and data. The user has the option to set Dark Mode appearances and also make “Deep Search” the default search behavior. For user data, the user can clear all of their favorites at once and manage the cache. If the user clears the cache, all saved comics will be removed from memory and device storage. The user also has the optional to disable disk caching, which will prevent comics from being saved to device storage.

Why XKCD Reader?

Browsing through XKCD comics through the website on mobile is cumbersome – zooming into comics means you can't easily move to another comic, and loading up an entire webpage for each comic is slow. Furthermore, mobile users are unable to view the alt text entirely, as the alt text only appears when a cursor is hovering over the comic.

XKCD Reader aims to solve this issue by providing a way for users to easily browse the comics without having to load a webpage and grants them access to the alt text as well. Furthermore, users are now able to save their favorite comics for easy access instead of clumsily searching through the browser bookmarks. In addition, XKCD Reader provides a powerful search tool that allows the users to make in-depth searches through the comics with the “Deep Search” feature.

All in all, XKCD Reader makes browsing XKCD comics on mobile an enjoyable experience for fans of Randall Munroe's work. This sort of application fits neatly into the Entertainment category of the iOS App Store.

Technical Overview of Data Usage

As mentioned in the summary, XKCD Reader streamlines and augments the browsing experience by caching all of the comics to device storage. This not only allows for smoother browsing, but also grants users the ability to browse comics while offline.

The app uses a two-tiered caching system. When a comic is requested, the device first makes a query to the app memory cache, where it attempts to load the cache from memory. If the comic is not found in memory, it then checks device storage, and if it finds the comic, saves it to memory for faster access.

If the comic cannot be found through the two-tiered caching system, the app then makes an API call to the XKCD API, where it fetches a JSON representation of the comic. The result of the API call is then saved to the two-tiered caching system and shown to the user.

Other than using device memory for storage and tracking user app preferences, XKCD Reader does not use any other data from the user.