

DESIGNING A RESPONSIVE MOBILE APPLICATION USER INTERFACE FOR SAVING WHILE PURCHASING“BUY&SAVE”

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Android runs on a wide variety of devices that offer different screen sizes and densities. For this reason, it is important for Android applications to have a responsive user interface that can be adapted to these various screens. Bad interface has a big influence on application`s success and may also cause a lot of troubles for the user. There are quite a few patterns and techniques which help make application user interface scalable and responsive, which were considered during the design and implementation of the mobile application for saving during purchases.

Android devices come in many shapes and sizes, so the layouts of application screens must be flexible. Instead of defining a layout with constant dimensions that assume a certain screen size, the layouts should adapt to different screen sizes and orientations.

In order to make the application available to as many smartphone users as possible it must support various device characteristics of different manufacturers and models at once. In addition, when the application follows the multi-screen-size standards, it automatically supports new and crucial features such as the multi-window-mode [1] and pop-up view mode.

Such standards were paid attention to when developing the mobile application for the “Buy&Save” system, which allows users to share promotional purchase offers, share the cost and therefore has different types of layouts.

There are several general responsive UI patterns which solve the problem of visual data distribution among the available screen space:

1. **Reveal.** This pattern is based on revealing hidden content when you get extra screen space. This pattern significantly improves the user experience by showing hidden information at once and therefore excluding the need for extra screen taps.

2. **Reflow.** Views can be rearranged into grids to take advantage of the bigger screen as opposed to being in a column on a smaller one. For example, a single View may usually place its content vertically, but horizontally when the available width allows it to do so.

3. **Transform.** The transformation pattern does not imply a change in the displayed elements content, but rather a change in the way it is displayed.

4. **Divide.** The idea behind this pattern is dividing the layout into fragments to take advantage of the additional space and display the UI in a logically segmented way.

5. Expand. Simply expanding the space available for the user interface (or adding some additional margin) can provide a more readable UI.

6. Position. Changing the position of important Views can make a significant difference in the responsive UI design [2].

The “Buy&Save” mobile application has the following main screens: offers list, maps and additional information, offer details, chats, profile settings, etc. Considering the features of the main screens and applying the mentioned above methods for creating an adaptive interface, we get the following result.

Reflow, expand and reveal patterns were used for the offers list screen as well as the maps with additional information screen. A simple offer cards list displayed in a one column on a small screen reflows into a grid to fill multiple columns when the width of the screen is big enough (e.g. when in landscape mode or displayed on a tablet). Also, these cards expand revealing more information.

Looking into the portrait orientation of fragments containing maps, the map itself is positioned in the top part of the screen, the additional information following it at the bottom. However, the landscape orientation provides the screen with extra width, allowing the app to position the map and information side by side. Therefore, the same methods were applied as in previous screens.

Considering layouts mostly with a simple sequence of text fields and buttons, such as offer details, adding and editing offers, profile settings – reflowing and expanding the content by displaying fields in a few columns and increasing the View size was applied.

And the last type of layout – chats are simply expanded depending on width of the user’s screen and in the landscape mode. However, there is an option to display additional information regarding the offer which initiated the chat and the user details (status, avatar, rating). When this option is enabled, the interface transforms revealing this panel side-by-side in landscape orientation and hidden behind a pull-curtain in portrait orientation.

All in all, patterns of designing responsive user interface were considered during the initial design stages and implemented in the mobile application for saving while purchasing “Buy&Save”.

List of contents:

1. Support different screen sizes. URL: <https://developer.android.com/training/multiscreen/screensizes>

2. Building a Responsive UI in Android. URL: <https://medium.com/androiddevelopers/building-a-responsive-ui-in-android-7dc7e4efcbb3>.