Assignment 2: To-Do List

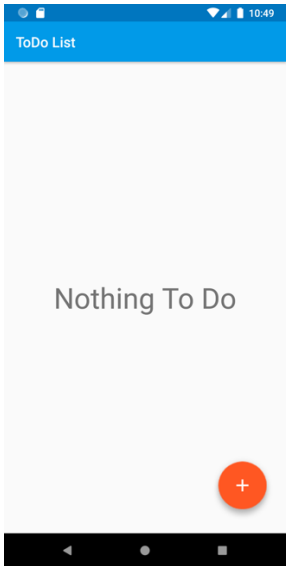
Pablo Guerra

I. Introduction

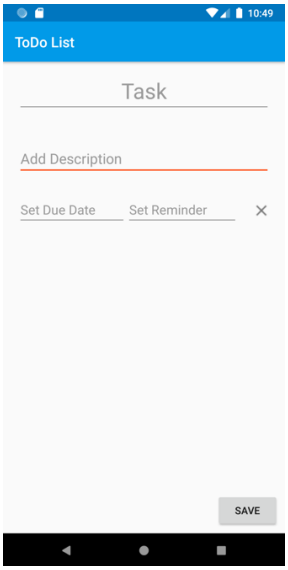
For our second assignment we were tasked with the job of developing a To-Do List application. This application would allow users the ability to create tasks with the option to add notes, a due-date and a reminder. The user must also be able to edit the task and its contents as well as deleting the task or marking it complete. A notification will be displayed to remind the user that a Task is due if a reminder date and time is set.

II. Application Design

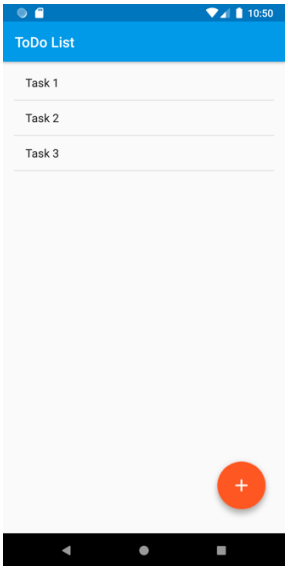
The first step taken for developing the app was to come up with a template design for how the app would look and how the user would be able to view and update individual tasks. This was done in Adobe XD which allowed for easy designing and also being able to export assets which could be used directly in Android Studio. This made the design process go very quickly as supposed to my previous method used in the first assignment where I had to recreate the UI designed in photoshop in Android Studio. Below are some photos of the final application screens.



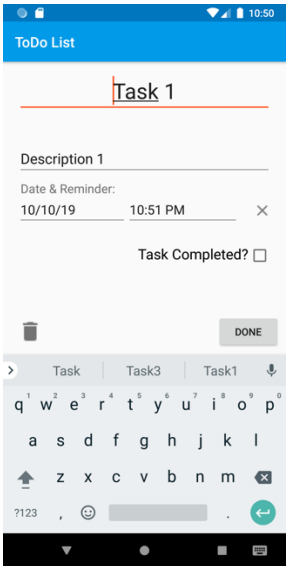
Main Page



New Task Page



Populated Main Page



Edit Task Page

The UI was intended to be as minimalistic as possible to provide an easily understandable and simple application. This is an application that users only interact with for a couple seconds at a time; adding a task, setting a reminder and completing or deleting tasks. Therefore, the app was designed in a way to not distract the user from their other activities.

After completing the design, the next step was to program the core functionality of the application. The most important part of this is to be able to create, update, save and delete tasks. This was handled by using a Content Provider class and a database to store and retrieve information from the phones storage. Some of this code was provided to us and we needed build upon it to incorporate the remaining features. Date picker and Time picker widgets were also implemented to allow for easy user input of date and time. This also helps to ensure that the right format is used by the application and the user. Using this date and time we can schedule reminders for each task by using the alarm manager service. It is also important to be able to update alarms if the user changes the date or time and also cancel alarms if the user removes the reminder or completes/deletes a task.

III. Results

After finishing the design and implementation, several cases were tested to discover any bugs or potential errors that could cause unwanted behaviors or cause the application to crash. These bugs were immediately fixed as they were found so the application works as it is intended to. There is one issue that currently exists which is in reference to the notifications. The

notifications are generated successfully even for multiple tasks. However, the notification content, which is the Task Title, shows the last set Task alarm title for all Notifications. I tried to remedy this by changing the ID of the alerts, so the content would not update for all alerts, but this still did not fix this issue. I was unable to discover the reason for this issue and was therefore unsuccessful at solving this problem.

IV. Discussion

Overall the To Do List application works nicely, it is simple to use, and the features work as intended. The user can add tasks with descriptions, due dates and set reminders. They can also update, delete and complete these tasks. This assignment was a great introduction to using a database, content providers and system services.