

Contribution for Solving the Second Issue

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1 Issue Description

- Url: <https://github.com/federicoiosue/Omni-Notes/issues/622>
- Context: N/A
- Description:

Sometimes there are text notes with a lot of text. It would be very useful to be able to allow users to search within the text note itself. It is nice to inform users of the search result with the found words highlighted.
- Summary:

This open issue is a feature request. We identified it as one of our “interesting” open issues. This time we decided to code up this issue because it is very useful to search within a note and we thought it is among one of the most valuable unsolved issues of Omni-Notes.

2 Issue Solution

- Emulator Context:
 - Device: Pixel 2
 - OS Version: Android 8.1
 - API Version: 27
- Exploration and Solution:

We first checked the layout of the note editing interface. Although layouts for each kind of notes were a little different, the text content was always loaded by the same EditText whose id was **detail_content**. For this reason, we could simply implement one method which interacts with the EditText for text content search.

We decided to add a search bar and a search button between the title bar and the content bar. We tried to make the new component look coordinated with other existing components by imitating the layout configuration of them. After modification of the original layout, the current layout is shown below:

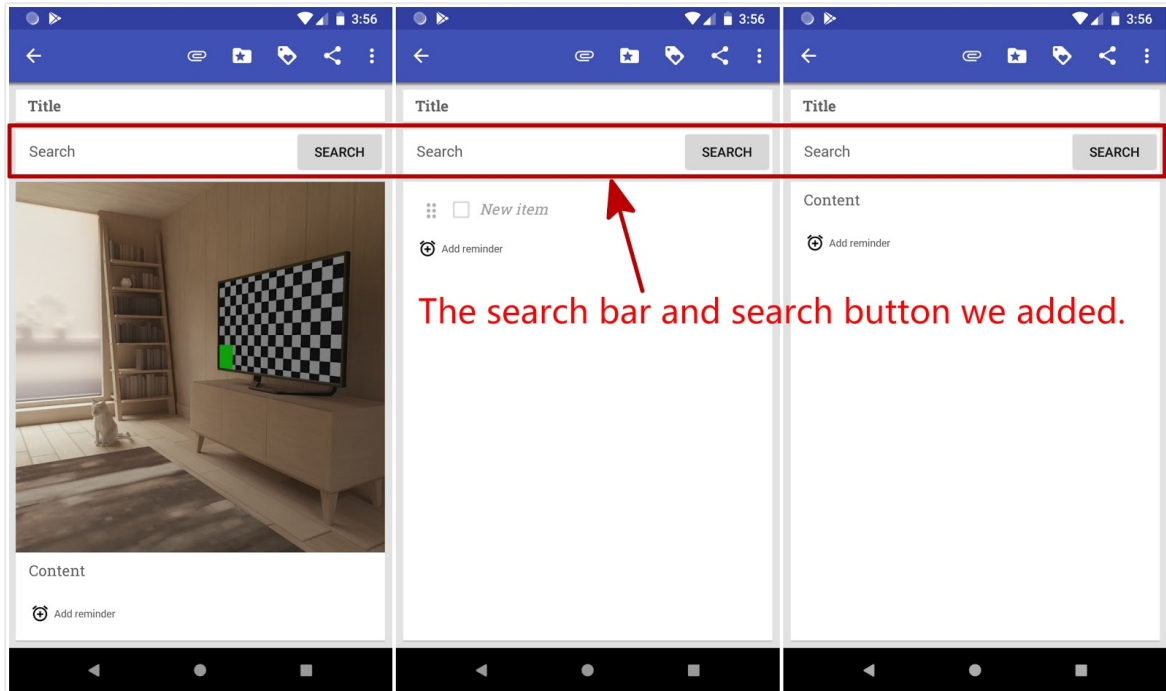


Fig. 1 The Current Layout of Note Editing Interface

Based on the description of this issue, we later decided that it is our goal to implement the search functionality by highlighting words to be searched in the text content. At the first stage of implementation, we added an `onClick` method to the search button without actually implementing the function. However, when we ran Omni-Notes again, it crashed without reporting any error. Later we figured out the reason according to online posts - `onClick` methods are not applicable in Fragments. The only way to add such a method to the button in a fragment is to make the fragment implement *OnClickListener* and override the method **`onClick()`**. Then we started implementation this way. We did not really implement all search logic in **`onClick()`**. Instead, we separated it into another method called `setHighlightedText()`. It has two parameters - the `EditText` displays text content (id: **`detail_content`**) and the text to be searched. In this method, we use a for loop to find all matching text in the text content by finding one at a time. Each time, we use *Spannable* methods to make the found result highlighted. Finally, we call this method in **`onClick()`**.

```
@Override
public void onClick(View view) {
    String searchText = search.getText().toString();
    setHighlightedText(content, searchText);
}

private void setHighlightedText(EditText et, String textToHighlight) {
    String originalText = et.getText().toString();
    int ofe = originalText.indexOf(textToHighlight);
    Spannable wordToSpan = new SpannableString(et.getText());
    for (int ofs = 0; ofs < originalText.length() && ofe != -1; ofs = ofe + 1) {
        ofe = originalText.indexOf(textToHighlight, ofs);
        if (ofe == -1)
            break;
        else {
            wordToSpan.setSpan(new BackgroundColorSpan(0xFFFFF00), ofe, ofe + textToHighlight.length(), Spannable.SPAN_EXCLUSIVE_EXCLUSIVE);
            et.setText(wordToSpan, TextView.BufferType.SPANNABLE);
        }
    }
}
```

Fig. 2 The Essential Logic of Searching within a Note

After the implementation, we did successful tests. The test results are shown below:

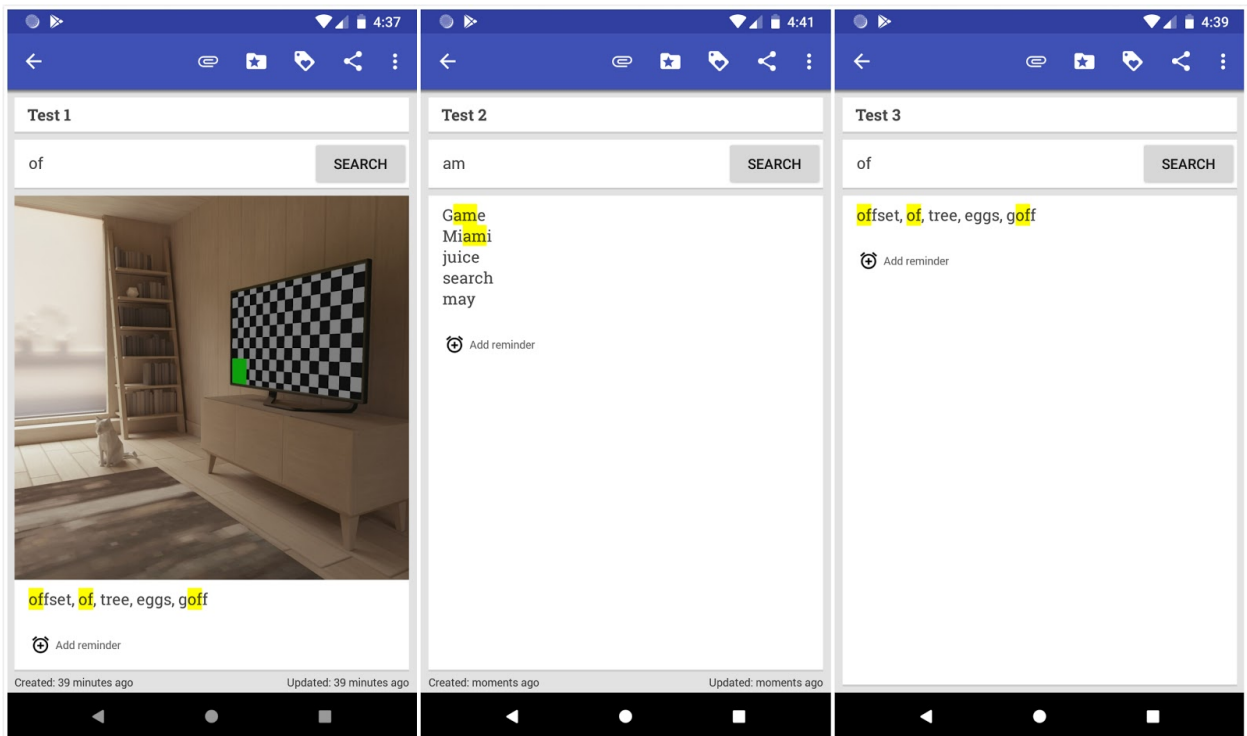


Fig. 3 Test Results for Searching within a Note

3 Pull Request

After the implementation and tests, we submitted a pull request to the Omni-Notes repo. The process is shown below in Fig. 4 - Fig. 8.

```

188 192     public class DetailFragment extends BaseFragment implements OnReminderPickedListener, OnTouchListener,
189 193         OnAttachingFileListener, TextWatcher, CheckListChangedListener, OnNoteSaved,
190 193 -     OnGeoUtilResultListener {
194 194 +     OnGeoUtilResultListener, OnClickListener {
191 195
192 196     private static final int TAKE_PHOTO = 1;
193 197     private static final int TAKE_VIDEO = 2;
194 197
195 197 @@ -201,6 +205,10 @@
201 205     ViewGroup root;
202 206     @BindView(R.id.detail_title)
203 207     EditText title;
204 208 +     @BindView(R.id.detail_search)
205 209 +     EditText search;
206 210 +     @BindView(R.id.button_search)
207 211 +     Button searchButton;
208 212     @BindView(R.id.detail_content)
209 213     EditText content;
210 214     @BindView(R.id.detail_attachments_above)
211 214
212 214 @@ -351,6 +359,7 @@ public void onResume () {
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```

Fig. 4 Modification on DetailFragment (1)

```

2177 + @Override
2178 + public void onClick(View view) {
2179 +     String searchText = search.getText().toString();
2180 +     setHighlightedText(content, searchText);
2181 + }
2182 +
2183 + private void setHighlightedText(EditText et, String textToHighlight) {
2184 +     String originalText = et.getText().toString();
2185 +     int ofs = originalText.indexOf(textToHighlight);
2186 +     Spannable wordToSpan = new SpannableString(et.getText());
2187 +     for (int ofs = 0; ofs < originalText.length() && ofs != -1; ofs = ofs + 1) {
2188 +         ofs = originalText.indexOf(textToHighlight, ofs);
2189 +         if (ofs == -1)
2190 +             break;
2191 +         else {
2192 +             wordToSpan.setSpan(new BackgroundColorSpan(0xFFFFF0), ofs, ofs + textToHighlight.length(), Spannable.SPAN_EXCLUSIVE_EXC
2193 +             et.setText(wordToSpan, TextView.BufferType.SPANNABLE);
2194 +         }
2195 +     }
2196 + }
2197 +

```

Fig. 5 Modification on DetailFragment (2)

```


84 +         <LinearLayout
85 +             android:layout_width="match_parent"
86 +             android:layout_height="wrap_content"
87 +             android:animateLayoutChanges="true"
88 +             android:layout_marginBottom="6dp"
89 +             android:background="@drawable/bg_card"
90 +             android:paddingStart="8dp"
91 +             android:paddingEnd="0dp"
92 +             android:paddingBottom="2dp">
93 +
94 +         <com.neopixl.pixlui.components.edittext.EditText
95 +             android:id="@+id/detail_search"
96 +             android:layout_width="0dp"
97 +             android:layout_height="wrap_content"
98 +             android:layout_weight="3"
99 +             android:background="@null"
100 +             android:hint="@string/search"
101 +             android:inputType="textCapSentences"
102 +             android:linksClickable="false"
103 +             android:paddingBottom="6dp"
104 +             android:paddingStart="6dp"
105 +             android:paddingEnd="6dp"
106 +             android:paddingTop="6dp"
107 +             android:textAppearance="@style/Text.Big"
108 +             android:textColorHint="@color/text_color_lighter"
109 +             android:textColor="@color/text_color"
110 +             android:textCursorDrawable="@null"
111 +             pixlui:typeface="Roboto-Regular.ttf"/>
112 +
113 +         <Button
114 +             android:id="@+id/button_search"
115 +             android:layout_width="0dp"
116 +             android:layout_height="wrap_content"
117 +             android:layout_weight="1"
118 +             android:text="@string/search"
119 +             pixlui:typeface="Roboto-Regular.ttf"/>
120 +
121 +     </LinearLayout>

```


Fig. 6 Modification on the layout of DetailFragment

Open a pull request

Create a new pull request by comparing changes across two branches. If you need to, you can also [compare across forks](#).


base repository: **federicoisue/Omni-Notes**


base: develop



head repository: **oscarli97/Omni-Notes**

compare: develop

 **Able to merge.** These branches can be automatically merged.



implemented search in note feature

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


Leave a comment

Attach files by dragging & dropping, selecting or pasting them.

☒ **Allow edits from maintainers.** [Learn more](#)

Create pull request





Helpful resources


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Fig. 7 Pull Request for Fixing Open Issue #622


implemented search in note feature #749


 Open


oscarli9 wants to merge 1 commit into [federicoiosue:develop](#) from [oscarli97:develop](#)



 Conversation 0

 Commits 1




 Checks 0

 Files changed 2





oscarli9 commented now
 



No description provided.




 implemented search in note feature
  95cacef

Add more commits by pushing to the **develop** branch on **oscarli97/Omni-Notes**.




Some checks haven't completed yet
[Hide all checks](#)



continuous-integration/travis-ci/pr Pending — The Travis CI build is in p...
 [Details](#)


This branch has no conflicts with the base branch

Only those with [write access](#) to this repository can merge pull requests.

Fig. 8 Pull Request After Submission

4 New Understandings about Omni-Note

From our experience of coding up the second open issue, we gained deeper understandings of Omni-Notes.

Firstly, we met techniques that we never met before. Omni-Notes uses the `BindView` annotations to bind layout components to corresponding variables in *DetailFragment* upon their declarations. Later we learned that the `BindView` annotations are from Butterknife - an Android library for view injections. The system also applies the `SuppressWarnings` annotations, which are used by the Android Lint tool, to suppress all warnings that would tell you if you are using any API introduced after your `minSdkVersion`.

In addition, it is really important to follow all the rules such as the coding style to make acceptable modifications to the system. Some contributors actually made valuable contributions to the system but their pull requests could not easily get merged because they somehow violated rules, which we explored in detail in homework 4. Code is maintainable and readable only when all of it follows a standard.

Finally, Omni-Notes itself is already a good note-taking app that offers various note-related features, but it still has a lot of issues that should be solved and improved and that is why its creator, Isoue, keeps releasing new versions of Omni-Notes all over these years. The newly implemented feature - searching in a note - is a convincing example. This feature makes it possible for users to find valuable information from long notes efficiently and make Omni-Note more powerful.