Change request log

1 Team

Team Name: "ssquare"

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Roles: Concept Location, Impact Analysis and Validation - Satya Sandeep Ravipati, Siddhi Kotian
    Actualization and Processing- Siddhi Kotian

Change Request

Change request Id: #je-1

Description:
The left side of the status bar of jEdit reports: the line number containing the caret, the column position of the caret, the character offset of the caret from the beginning of the file, and the number of characters in the file. The request is to modify the status bar to show: the word offset of the caret from the beginning of the file and the number of words in the file. As a result of this change, the status bar for the example of Figure 1 should report: 216,23 (3777/775740)(536/124706).
For the sake of consistency, the new caret display options should be added to the Status Bar preference dialog as check boxes
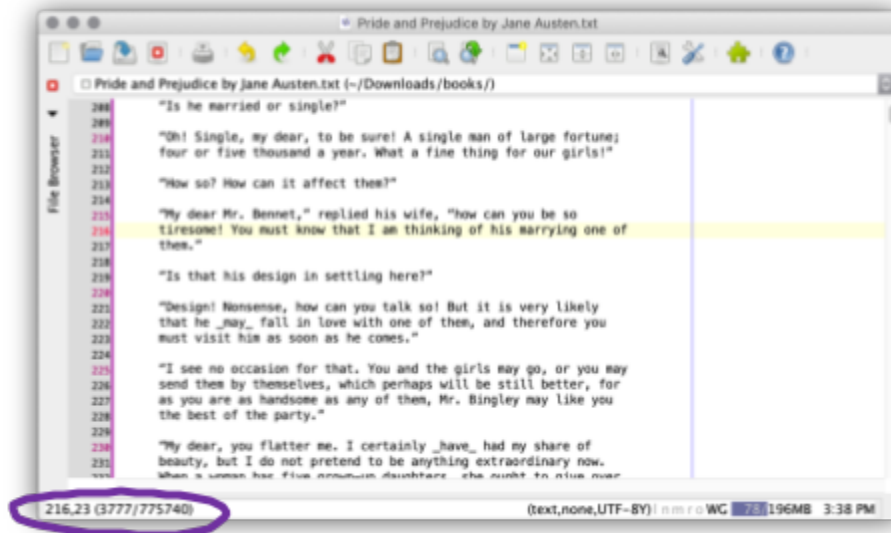

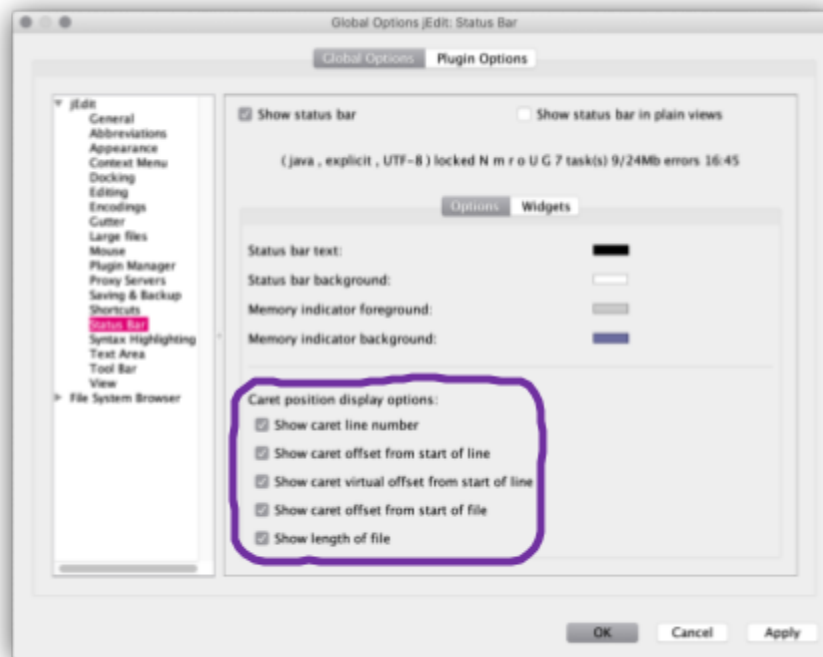*Figure 1. Caret position information in jEdit*

Figure 2. Preference dialog for Status Bar options

2   Concept Location

Step #	Description	Rationale
1	*After cloning from the repository we added a few jars as mentioned in the jEdit Readme file and also some from maven repository and ran the system.*	*When we first cloned the repository we came across a lot of errors, in order to resolve those we tried to add dependencies from maven repository*
2	*We interacted with the system: after logging in we checked the status bar for its functionality by moving the cursor on different line numbers and observed the changes being reflected on the left side of the status bar. We also noted the global options menu.*	*To get familiar with some of the features of the system and we observed the images given with the change request and wanted to get familiar with the working of the requested change*
3	*We searched for "statusbar" using the regular expression feature of the eclipse IDE's search tool.*	*We figured that since we have to modify something displaying on the status bar, we need to start from that point.*
4	*From 3 results, we clicked on the class StatusBar.java. The class was inspected using the Structure window of the IDE.*	*This class made the most sense to us.*
5	*We inspected the class View.java. We went to this class using the package explorer of the eclipse IDE editor.*	*We noticed that the class StatusBar was creating an instance of View. However, we realized that this class was not relevant for our change.*
6	*We inspected all the classes containing the keyword "StatusBar" through the package explorer*	

7	We navigated to the file StatusBarOptionPane.java	We found that this class had a `JCheckBox instance and we decided to inspect this class.`
8	We copied the line 117 and 118 just below it and ran the system again	We were not sure if this line had to be changed, therefore we decided to change and rerun the system.
9	We marked the class StatusBarOptionPane as "located".	We confirmed this class had to be modified.

Time spent (in minutes): 180 minutes approximately

3   Impact Analysis

Step #	Description	Rationale
1	We made a list of all the properties the JCheckbox was using around that code block.	We found that it was setting attributes of the StatusBar instance in the view instance.
2	We inspected the StatusBar class once again. Such a class was marked as "to change" as well	We realized this class had to be changed because the class StatusBar had a method `updateCaretStatus` to update the cursor and it was lined with the StatusBarOptionPane..
3	We inspected the TextArea class.	StatusBarOptionPane had an instance of TextArea. However, this class did not seem relevant to our change request.
4	We inspected HoverSetStatusMouseHandler class	We found that there was no need to change this class as of now, however we were unsure about it.
5	We inspected the actions.xml file	We figured that in order to add the checkbox and integrate it well with the system However we found that we do not need to edit the actions.xml file

Time spent (in minutes): 480 minutes approximately

4   Actualization

Step #	Description	Rationale
1	We modified the class StatusBar.	We added another if statement in the updateCaretStatus displaying the word count and the word count of where the cursor was pointing as mentioned in the change request.
2	We modified the StatusBarOptionPane class	We modified the previously replicated lines in the impact analysis stage according to our needs.
3	We ran the system and checked for the functionality of the newly added feature manually.	To make sure everything works.

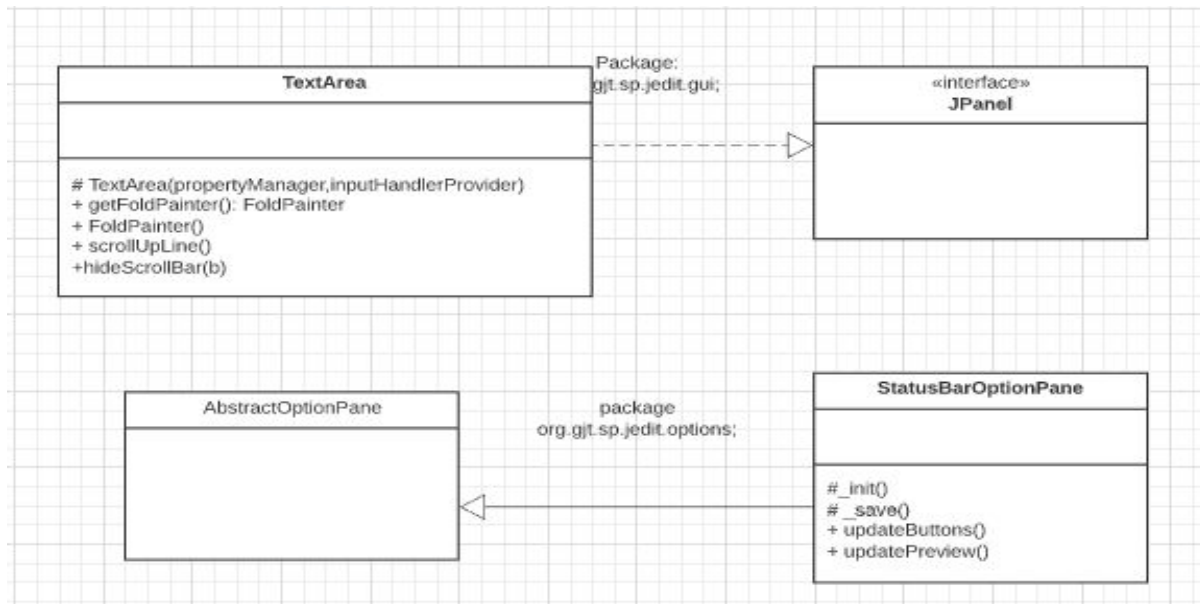Time spent (in minutes): 240 minutes approximately

5   Validation

Step #	Description	Rationale
1	*Test case 1:* *Inputs: Placed cursor at the start of the file* *Expected output: (1/320)*	*This is the regular expected behavior.* *The test passed.*
2	*Test case 2:* *Inputs: Placed cursor at the end of the file* *Expected output: (320/320)*	*This is regular expected behavior* *The test passed.*
3	*Test case 3:* *Inputs: Cleared output and placed cursor at the beginning* *Expected output: (0/0)*	*This is exceptional behavior. Output was (1/1).* *The test is failed.*
4	*Test case 4:* *Inputs: Placed cursor at the beginning on a file with 10 words.* *Output: (1/10)*	*This is regular expected behavior* *The test passed.*

Time spent (in minutes): 30 minutes

6   Timing

Phase Name	Time (in minutes)
Concept location	180
Impact Analysis	240
Actualization	240
Verification	30
Total	690

7   Reverse engineering

8   Conclusions

For this change concept location was not difficult as we found the class StatusBar by searching the system source code. Impact analysis phase was tricky as we were not sure about which files would be impacted due to this change as the status bar was referenced by a number of other classes. Actualization took some time but we managed to find the word count. The testing done was manual and the results are stated above. The key thing here was impact analysis phase; the rest was comparatively easier.

- org/gjt/sp/jedit/gui/StatusBar.java
- org/gjt/sp/jedit/options/StatusBarOptionPane.java