Change request log

1. Team
Aishwarya and Lance

2. Change Request
ID: 3

Currently, jEdit displays the horizontal and vertical scroll bars (see Figure 3) whenever the content of the opened document exceeds the size of the editor. Implement an option in the View menu that allows to hide the scrollbars.

3. Concept Location

Step #	Description	Rationale
1	We made a search for "scroll" in the github repository	To find the files that relate to scrollbar display
2	We found many java and non-java related files	
3	We inspected the TextArea class in the org/git/sp/jedit/textarea package	The text area seemed to refer to the area where the text is displayed in jEdit, so we figured the scroll bars would also be contained here
4	We also found non-java files actions.xml and jedit_gui.props and thought that these may also need to be changed	The actions xml file contains actions for the user to take to change the layout, and props contains the actual layout elements being changed, so we thought they may relate to the scrollbars

Time spent (in minutes): 60

4. Impact Analysis

Step #	Description	Rationale
1	We inspected all classes that have relations to the classes we found previously	To track the classes that could be impacted by the change.
2	We concluded that changes to these classes would not have an effect on any other classes	

Time spent (in minutes): 20

5. Actualization

Step #	Description	Rationale
1	We created methods toggleVerticalScrolbar and toggleHorizontalScrollbar in TextArea.java and gave them actions	
2	We created actions "toggle-horizontal" and "toggle-vertical" in actions.xml to display the prompt to toggle the scrollbars	Adds the action of toggling the scrollbars

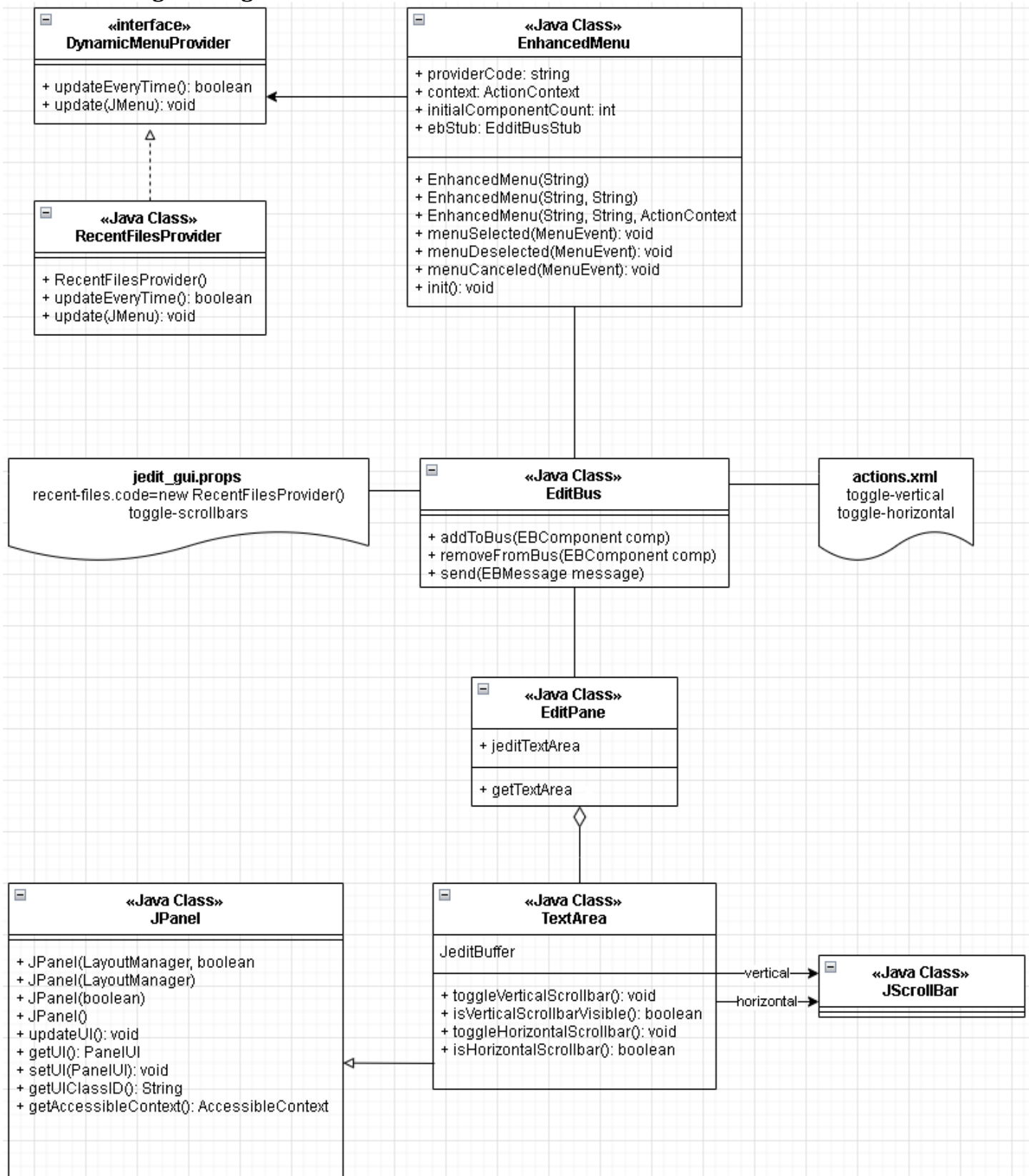| 3 | We also added horizontal and vertical scrollbar menus to jedit_gui.props, along with their labels | Displays the prompts to toggle the scrollbars in jEdit |

Time spent (in minutes): 150

6. Validation

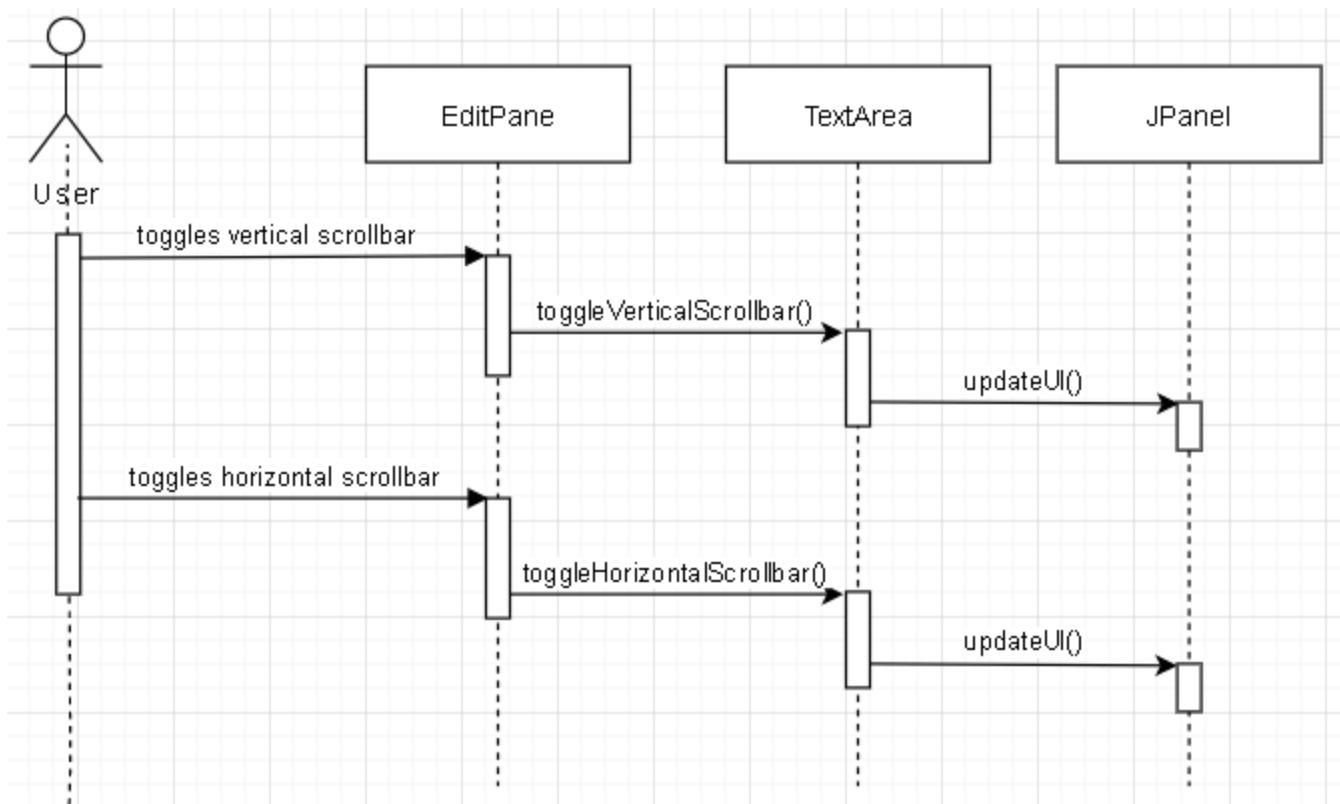| Step #	Description	Rationale
1	We opened the jEdit context menu and added the option to toggle horizontal and vertical scrollbars, after enabling both they were able to successfully turn off the scrollbars	This is the regular expected behavior. The test passed.
2	We also checked the Edit section to make sure the option to toggle scrollbars was present there	

Time spent (in minutes): 10

7. Timing

Phase Name	Time (in minutes)
Concept location	60
Impact Analysis	20
Actualization	150
Verification	10
Total	240

8. Reverse engineering

«interface»
DynamicMenuProvider

+ updateEveryTime(): boolean
+ update(JMenu): void

«Java Class»
RecentFilesProvider

+ RecentFilesProvider()
+ updateEveryTime(): boolean
+ update(JMenu): void

«Java Class»
EnhancedMenu

+ providerCode: string
+ context: ActionContext
+ initialComponentCount: int
+ ebStub: EdditBusStub

+ EnhancedMenu(String)
+ EnhancedMenu(String, String)
+ EnhancedMenu(String, String, ActionContext)
+ menuSelected(MenuEvent): void
+ menuDeselected(MenuEvent): void
+ menuCanceled(MenuEvent): void
+ init(): void

jedit_gui.props
recent-files.code=new RecentFilesProvider()
toggle-scrollbars

«Java Class»
EditBus

+ addToBus(EBComponent comp)
+ removeFromBus(EBComponent comp)
+ send(EBMessage message)

actions.xml
toggle-vertical
toggle-horizontal

«Java Class»
EditPane

+ jeditTextArea

+ getTextArea

«Java Class»
JPanel

+ JPanel(LayoutManager, boolean)
+ JPanel(LayoutManager)
+ JPanel(boolean)
+ JPanel()
+ updateUI(): void
+ getUI(): PanelUI
+ setUI(PanelUI): void
+ getUIClassID(): String
+ getAccessibleContext(): AccessibleContext

«Java Class»
TextArea

JeditBuffer

+ toggleVerticalScrollbar(): void
+ isVerticalScrollbarVisible(): boolean
+ toggleHorizontalScrollbar(): void
+ isHorizontalScrollbar(): boolean

vertical

horizontal

«Java Class»
JScrollBar

9. Conclusions

For this change, concept location was particularly difficult because there were many different types of classes that we couldn't recognize immediately, so we didn't know exactly which we should change. After taking a closer look at the classes and their functions, it became a lot easier to understand which file types were used for what, so we could figure out what we needed to use. The actualization was particularly difficult because we weren't entirely familiar with implementation of GUI buttons and actions. We also weren't entirely sure what actually needed to be added to the classes until a bit further into the process.

Classes and methods changed:

- org/gjt/sp/jedit/textarea/TextArea.java
    - void toggleVerticalScrollbar()
    - void toggleHorizontalScrollbar()
    - boolean isVerticalScrollbarVisible()
    - boolean isHorizontalScrollbarVisible()
- org/gjt/sp/jedit/actions.xml
- org/gjt/sp/jedit/jedit_gui.props