Change request log

1. Team

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2. Change Request

PDFsam Change Request #3

In the list of favorites in jEdit (Utilities » Favorites » Edit Favorites), there are two columns (i.e., Name and Type) that allow for sorting by clicking on the corresponding column headers. The Name column, however, displays the full path of the files, instead of their name. You are requested to modify this view to display three columns: Path, Name, and Type. As an example, for the first file shown in Figure 3, the Path column would display ~/Desktop/books-txt/, the Name column would display Pride and Prejudice by Jane Austen.txt, and the Type column would display File. The three columns are required to allow for sorting when clicking on the corresponding column header.

3. Concept Location

Step #	Description	Rationale
1	Found ConversionUtils.toPageRangeSet() with text search "range"	
2	Traced it back to SelectionTableRowData.toPageRangeSet( ) with function usages search	
3	Traced that to MergeSelectionPane.apply()	
4	By examining this function and the error logs from reproducing the problem, it was determined that the actual error was being thrown by the external library being called.	

5	By examining the input to the external library, it was determined that MergeSelectionPane.apply() could be modified to fix the issue by modifying the input to builder.addInput()	

Time spent (in minutes): 60

4. Impact Analysis

Step #	**Description**	**Rationale**
1	*The only code that would be modified is the input to a call to an external library. Therefore, changes were determined to not propagate to any other classes.*	

Time spent (in minutes): 10

5. Prefactoring

Step #	**Description**	**Rationale**
1	*No classes were modified or methods changed in the prefactoring step.*	*It was determined that the changes would be minimal and that no other areas needed to be modified.*

Time spent (in minutes): 0

6. Actualization

Step #	**Description**	**Rationale**

1	*Rather than sending each file as an input to builder.addInput(), MergeSelectionPane.apply() was changed so each page range was sent as an individual input.*	*This circumvented the intersecting page range error by making sure any intersecting page ranges are sent to the library as separate requests.*

Time spent (in minutes): 15

7. Postfactoring

Step #	**Description**	**Rationale**
1	*No classes were modified or methods changed in the postfactoring step.*	

Time spent (in minutes): 0

8. Validation

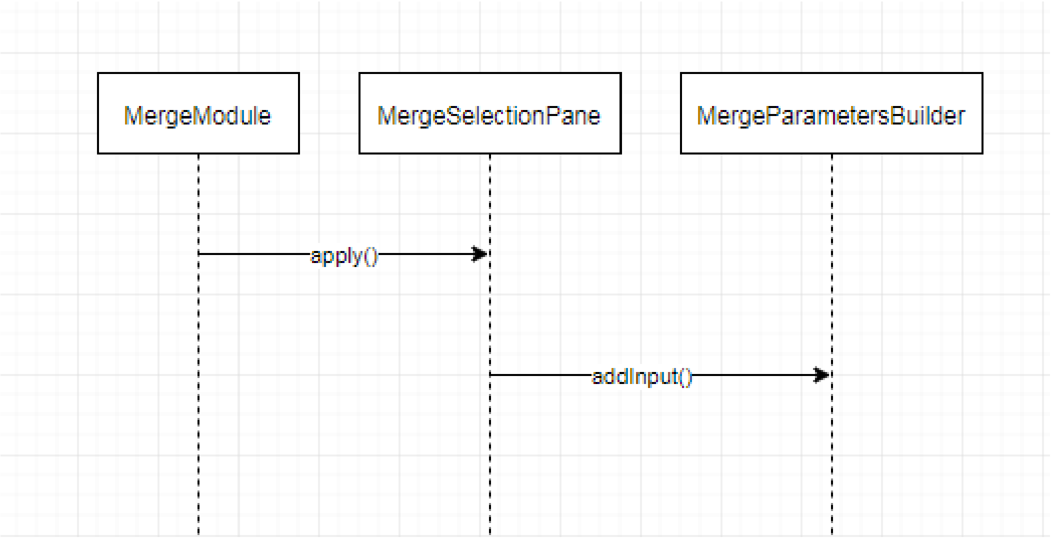
Step #	**Description**	**Rationale**
1	*All tests provided with PDFsam were run as a regression test.*	*This is the regular expected behavior. The test passed.*
2	*Manual tests were done by creating merge requests with many files and using intersecting page ranges. The files were then viewed to verify the correctness of the merge operation.*	*This was to verify the changes made had the expected result, which was the case in all manual tests.*

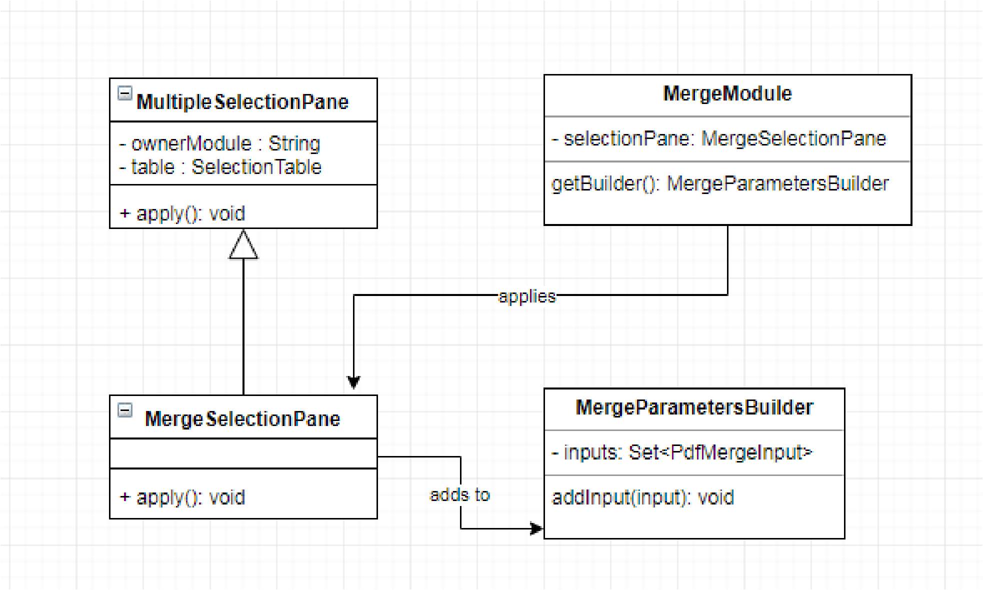
Time spent (in minutes): 40

9. Timing

Phase Name	**Time (in minutes)**
Concept location	60
Impact Analysis	10
Prefactoring	0
Actualization	15
Postfactoring	0
Verification	40
Total	125

10. **Reverse engineering**





11. Conclusions

This was certainly the most difficult of the changes to implement. Not due to complexity of the code that needed to be changed, but due to the difficulty of finding the concept and figuring out how to modify the input to the external library. Finding the actual concept location was relatively easy, however. The Impact Analysis was straight-forward as very little needed to be changed or was effected. Rewriting the merge input section was trivial in concept, and testing the changes was easy and rewarding. Many manual tests were done to make sure the change was implemented correctly and the behavior was as expected.

Classes and methods changed:

- org/pdfsam/merge/MergeSelectionPane
  - Modified apply(MergeParametersBuilder builder, Consumer<String> onError)

Final Notes

Nick Lawrence implemented the changes in the code and Satya Kalyan handled the documentation.

In the PDFsam repository all the changes are implemented in the v3.3.5-branch branch, this was due to editing the code from the v3.3.5 Tag.