

CS 471: Software Engineering

Fall 2021

Homework 3 – Implementation of a Simple Maintenance Task in an Unfamiliar Open-Source Software

Software system and version: muCommander 0.9.8

Change Request:

Add my full name to the middle-top of the initial splash window of the application, and make sure the splash window is visible for at least 5 seconds. Do NOT add your name in the bottom status bar of the splash window.

Detailed Environment Description:

I used java 11.0.12 with visual studio code Version: 1.60.0 on Mac BigSur Version 11.5 for my program to be functional.

Compiling or Running Issues:

I had java 16 installed on my system and when trying to compile the program it kept failing. I was able to confirm that using this command in the terminal: `java --version`. Then I basically uninstalled the java JDK 16 from my computer. After that, I basically went into their official website to download java 11 as recommended in the assignment and thus I was able to install it and it run successfully on first attempt on cloning from github repo.

Identifying the Relevant Code Location:

I noticed a little hint given in the assignment as I read through it. It said something like somewhere in the assignment there was a phrase called '**Loading preferences...**'. I fired up my visual studio code, imported the project from the repo into my visual studio environment. After that I basically came into my visual studio left side panel where all the files are located (also called as 'explorer'), Basically I used a shortcut key there which includes, **cmd + shift + F** on mac. This gave me an input field for the word or the phrase that I was searching for, in the visual studio code.

This showed me a file called Application.java which was in:
/Users/danielrao/Desktop/mucommander/mucommander-core/src/main/java/com/mucommander/Application.java

Once I found the file, I understood that the code in there was initializing the splash object, so now I only had to look for the splash object which was named as SplashScreen in the file. Thus, I cmd + click on the SplashScreen object where it was being initialized and it quickly took me to its location which was:

/Users/danielrao/Desktop/mucommander/mucommander-core/src/main/java/com/mucommander/ui/main/SplashScreen.java

Thus, I knew these would be the two files that I would be messing around with.

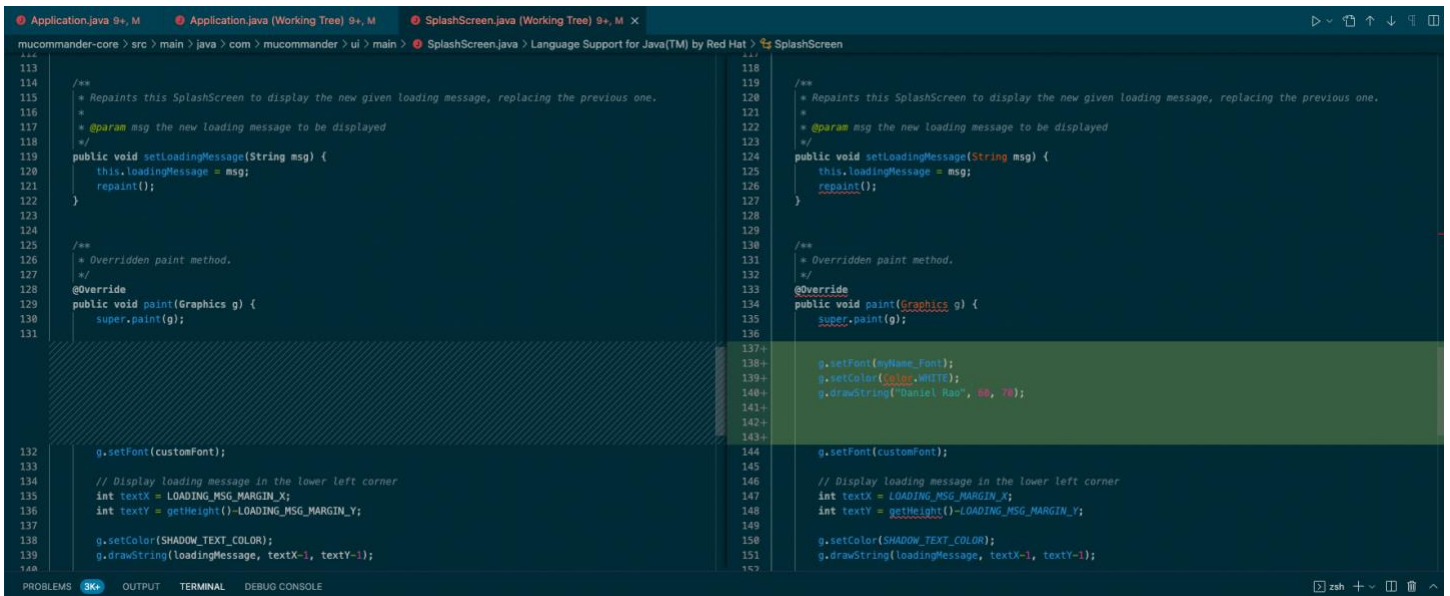
Successful Implementation Video:

<https://youtu.be/4Cg-0mY4100>

Highlighted Source Code of the Implementation:

```
Application.java 9+, M Application.java (Working Tree) 9+, M X
mucommander-core > src > main > java > com > mucommander > Application.java > Language Support for Java(TM) by Red Hat > Application > run()
390 catch(Exception e) {printFileError("Could not load toolbar description", e, activ
391
392 // Loads the CommandBar's description file
393 printStartupMessage("Loading command bar description...");
394 try {CommandBarIO.loadCommandBar();}
395 catch(Exception e) {printFileError("Could not load commandbar description", e, ac
396
397 // Loads the themes.
398 printStartupMessage("Loading theme...");
399 com.mucommander.ui.theme.ThemeManager.loadCurrentTheme();
400
401 // Starts Bonjour services discovery (only if enabled in prefs)
402 printStartupMessage("Starting Bonjour services discovery...");
403 com.mucommander.bonjour.BonjourDirectory.setActive(MuConfigurations.getPreference
404
405 // Creates the initial main frame using any initial path specified by the command
406 printStartupMessage("Initializing window...");
407
408 List<String> folders = activator.getInitialFolders();
409 if (CollectionUtils.isEmpty(folders)) {
410     WindowManager.createNewMainFrame(new CommandLineMainFrameBuilder(folders));
411 } else {
412     WindowManager.createNewMainFrame(new DefaultMainFrameBuilder());
413 }
414 // Done launching, wake up threads waiting for the application being launched.
415 // Important: this must be done before disposing the splash screen, as this would
416 // if the AWT event thread were waiting in #waitUntilLaunched .
417 synchronized(LAUNCH_LOCK) {
418     isLaunching = false;
419     LAUNCH_LOCK.notifyAll();
420 }
421 // Enable system notifications, only after MainFrame is created as SystemTrayNoti
422 // a MainFrame instance
423
424 catch(Exception e) {printFileError("Could not load toolbar description", e, activ
425
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457
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Application.java 9+, M Application.java (Working Tree) 9+, M SplashScreen.java (Working Tree) 9+, M
mucommander-core > src > main > java > com > mucommander > ui > main > SplashScreen.java > Language Support for Java(TM) by Red Hat > SplashScreen
62 private final static int LOADING_MSG_MARGIN_X = 4;
63 private final static int LOADING_MSG_MARGIN_Y = 6;
64
65 /** Number of pixels between the version information and the right side of the splash image */
66 private final static int VERSION_MARGIN_X = 5;
67 /** Number of pixels between the version information and the top of the splash image */
68 private final static int VERSION_MARGIN_Y = 3;
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Time required for completing this assignment:

Activity	Time Required (in minutes)
How much time did it take you to clone the repository, read the documentation about, etc. before being able to successfully compile and run the software? (i.e., you are not asked about the duration of the actual compilation process, which usually takes a few seconds)	20 mins
How much time did it take you to understand the code that you need to modify, to implement the change request, and to test it?	30 mins