

SE 6356 Software Maintenance, Evolution and Re-Engineering

Fall 2015

Assignment #1 - Due date: 10/23/2015

1 Introduction

Hands-on time!

In this assignment you will be implementing (at least) four change requests: two for aTunes, a media and manager player, and two for jEdit, a text editor. You can choose the change requests to implement from the options given below. Both systems are written in Java. Instructions for opening the source code and installing aTunes are given in Section 3.1. You can follow a similar process when working on jEdit. Here, the instructions are for Eclipse but you could use any other IDE you are familiar with, such as, IntelliJ.

Read **carefully** all the assignment before proceeding!

2 JDK and Eclipse

- Regardless of your operating system, you will need to install some Java Virtual Machine (JVM). Since you intend to use Eclipse for Java development, you should install a JDK (the JDK includes—among other useful things—the source code for the standard Java libraries). Visit the Oracle Java SE download website¹ to get the latest version of the JDK.
- To install Eclipse, all you do is unpack the zip file download in the desired directory. No further work is required (other than making sure you have a Java Runtime Engine installed). When you unzip the file, it creates a subdirectory called "eclipse", with multiple subdirectories under that. Visit the Eclipse download website² to get the latest version of Eclipse IDE for Java EE Developers.

3 aTunes

3.1 Downloading and Deploying aTunes

Get the aTunes code³ and create a repository in your GitHub account. Clone your aTunes repo on your local machine. Follow the instructions below to load the aTunes project in Eclipse as a Java project:

1. Start Eclipse and open the Java Perspective (if not already open).
2. Select File » New » Java Project.

¹<http://www.oracle.com/technetwork/java/javase/downloads/index.html>

²<http://www.eclipse.org/downloads/>

³<https://utdallas.box.com/s/y23z29nsx35idwpk61ewz16cxqn3pp8j>

3. Give a name to the project.
4. Select the option **Create project from existing source** and then, using the browse button, navigate to the location where you cloned aTunes. Select the folder containing the source code.
5. Click **OK**.
6. Click **Finish**.

Now you can navigate the project and explore its classes or run the program by following the next steps:

1. Right-click on the project in the Package Explorer and selecting **Run As > Java Application**.
2. Search for the string **Main** in the text box which appears in the **Select Java Application** window and select the **Main** class in the **net.sourceforge.atunes** package.
3. Click **Ok**.

3.2 Change Request #1

In a playlist in ATunes, it is possible to sort the entries (songs) based on the columns in the playlist table (i.e., Track, Title, Artist, Album, Genre), by clicking on the corresponding column header (see Figure 1). However, it is not possible to sort the entries based on their duration. You are requested to implement the changes so that when clicking on the Duration column header, the entries in the playlist are sorted in ascending order based on their duration.

column
↓

Tr...	Title	Artist	Album	Genre	Duration
	All I Want	Susie Suh	One Tree Hill II	Adult Alternative	4:19
	Copper Moon	Tom Freund	One Tree Hill II	Alternative Co...	6:05
1	Farewell Transmission	Songs Ohia	Unknown Album		7:22
	Flight Of The Hobo	Rocket From The Crypt	One Tree Hill III	Alternative-Rock	3:28
1	Glad To Be Alive	Low Flying Owls	Unknown Album		4:44
8	Good Girl,bad Boy	Junior Senior	Unknown Album		2:37
11	He Lays In The Reins	Iron And Wine & Caléxico	The Road Mix: Music Fro...	Indie	3:38
6	He'll Be Around	Boss Martians	Unknown Album		3:48
3	Home	Sheryl Crow	Unknown Album		4:50
5	Hope	The Submarines	Unknown Album		3:54
15	Hope Springs Eternal	John Gold	One Tree Hill II	Soundtrack	3:46
11	I've Got A Dark Alley And A Ba	Fall Out Boy	One Tree Hill Volume 2: ...	AlternRock	4:56
10	It's Only Love	Sheryl Crow	Unknown Album		5:05
1	Kung-fu Fighting	Bus Stop & Carl Douglas	One Tree Hill I	Disco	3:46
8	Lucky Kid	Sheryl Crow	Unknown Album		4:02
	Mid November	Jonathan Rice	One Tree Hill II	Rock/pop	4:03
4	No Tomorrow	The Blackouts	Unknown Album		4:23
10	Please Please Please	Shout Out Louds	One Tree Hill Volume 2: ...	Indie Pop	3:29
5	Rose	Stephen Fretwell	Unknown Album		4:12
12	Runaway	Trailer Park Pam	One Tree Hill II	Rock	8:19
	Sleeping Song	Sebastien Schuller	One Tree Hill III	Indie Rock	4:15
13	The First Cut Is The Deepest	Sheryl Crow	Music From The Televisio...	Blues Rock	3:51
2	The Good Kind	The Wreckers	Music From The Televisio...	Pop	3:47
3	Trondheim	Tom Freund	Unknown Album		4:57
5	You Dance	East Mountain South	Unknown Album		3:57

← headers

Figure 1: aTunes playlist

3.3 Change Request #2

The **Options** button in aTunes allows the user to manage the content of a panel (see Figure 2). You are requested to add the **Show Duration** option to the options menu of the **Playlist** panel.

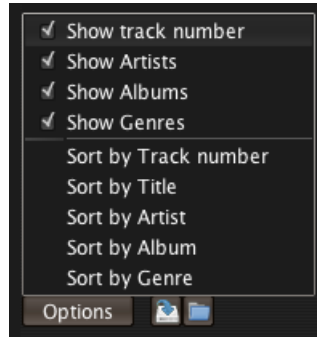


Figure 2: Options menu in the Playlist panel of aTunes

3.4 Change Request #3

You are requested to incorporate a new column in the **Playlist** panel (see Figure 1) that shows the location of the song. The column must be displayed in the Spanish version with the name “Directorio” and in the English version with the name “Path File”.

4 jEdit

4.1 Downloading jEdit

Get the jEdit code ⁴, create a repository on GitHub, and clone it on your local machine from GitHub.

4.2 Change Request #1

In the **File » Recent Files** main menu of jEdit, there is a text box at the top of the recent files list where one can write a string to filter the list of recent files (see Figure 3). The string that one writes in the text box should match all the files that contain the string anywhere in their name. However, the matching works only when the string matches the beginning of a file name. You are requested to modify this feature so that the matching occurs for the cases when the string is contained anywhere in the file name.

⁴<https://utdallas.box.com/s/vtiy17c9uh5bbioeghzxevhvjje39knc>

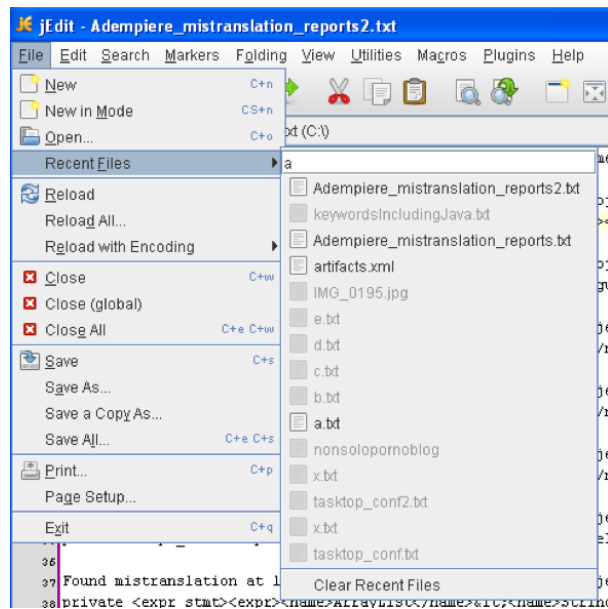


Figure 3: Recent files menu in jEdit

4.3 Change Request #2

Currently, jEdit always displays the horizontal and vertical scroll bars (see Figure 4). Implement an option in the Edit menu which, when clicked, allows hiding the scrollbars.

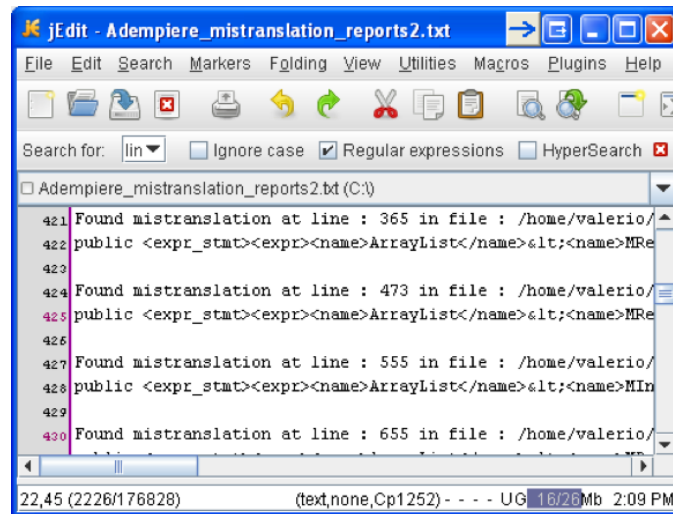


Figure 4: jEdit text editor

4.4 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 names. You are requested to add one the **creation date** column to this view, which allows for sorting when clicking on the corresponding column name.

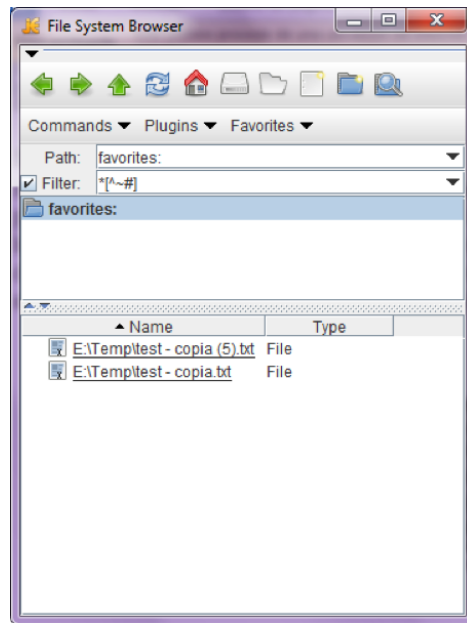


Figure 5: jEdit favorites

5 Deliverables

One of the deliverables of this assignments is the modified source code of the systems. Consider the next instructions for this:

1. Create a repository for each system into your GitHub account.
2. Clone the forked repository in your local machine.
3. Modify the source code according to the chosen change request.
4. Push the changes into your GitHub repository.
5. Fill-in the attached report for each implemented change request. Add it to your GitHub repository.
6. Add me as collaborator of your repository.

Notes:

1. While you are required to make only two change request per system, I recommend doing more all three. The main goal of the assignment is to learn about each system and to understand the effort/challenges of making changes to existing code, written by others. Hence, more changes will bring you closer to the goal.
2. You will not receive credit for this assignment if:
 - You do not fill the report.
 - Your code does not compile.
 - You do not add me as collaborator of your repository.