Repositories Virtual Key Application

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**GitHub:** <https://github.com/xxmelar-ksaxx>

**Project Repository Link:** [**Project code in GitHub**](https://github.com/xxmelar-ksaxx/java_STP/blob/9f5311c6e9b95ea937f7f31b7c947ae335dd803c/Assigment_1/src/prototype_1/RVK.java)

**NOTE:** for the code to run properly, you have to create a folder in your eclipse project folder by the name “DemoRepository”, because the app needs a repository to manipulate the files created by it.

# 1 - Sprint planning and tasks achieved

## 1.1 - Sprint goal

The goal is the create a simple small repository application. The quality is the main requirement in this project.

## 1.2 - Planning meeting

The meting will discuss the following points:

* Define the project goal
* List project main requirements
* List project features
* Discover initial sprint backlog

## 1.3 - Planning meeting II

* Discover detailed sprint backlog
* Estimating the stores
* List task to do
* Agree of the sprint plan

# **2- Algorithms**

The used algorithms are the following:

## 1.0 - A constructer

Constructer by the name ”RVK”.

To initialize the application by calling two algorithms:

* + One to print the welcome massage
  + And another to print the main menu options

## 1.1 - Three print algorithms

Three algorithms for printing txt in the console:

* + First one for the welcome massage.

By the name “welcomeMsg”.

* + And the second one for the main menu options

By the name “mainOptions”.

* + The last one for file manipulation options

By the name “filesMOptions”.

## 1.2- Two option selection algorithms

Two algorithms to deal with user option selection in the main and file manipulation menus.

* + One method for the Main menu option list, by the name “MOSelector”.
  + The other one is for File Manipulation Option list, by the name “FMOSelector”.

## 1.3 - Two file manipulation algorithms

Two algorithms to deal with files:

* + One for crating new file, by the name “addFile”
  + Another one for deleting a file by a specified name, by the name “deleteFile”

## 1.4 - A search algorithm

An algorithm to search for a specific file by a specified name, by the name “showFiles”.

## 1.5 – Flow chart

Flow of the application. First, the user will see the welcome massage, then the following will appear:

1- The application shows the main options menu.

2- Option to return the file names. Then, return to (1.0).

3- Show the file manipulation options.

3.1- Add file. Then, return to (3).

3.2- Delete file. Then, return to (3).

3.3- Search for a file. Then, return to (3).

3.4- Return to the Main Menu (1).

4- Exit the program.



# **3- Core concepts used**

* Polymorphism, used in the list selectors. The same code structure is repeated in both of them (Main and File Manipulation menus), but slightly different results are returned.
* Recursion, used many times in this project. For example, it is used to call the two menu lists over and over, instead of using the for loop.
* The Switch concept, also is used to determine the user desired operation.
* Exception handling. With try-catch block, is used to handle the user unexpected inputs, such as, out-of-range menu option, and file manipulation operations.

# Conclusion

Simple application for listing and manipulating local repository files. Planning and implementing such an application, provides a good training knowledge for beginner developers. This kind of project let the developer applies various kinds on OOP concepts.