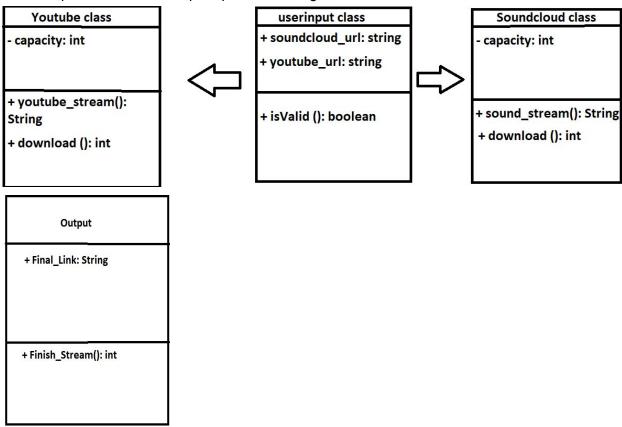At the moment for my project I have been working on a program to lookup any youtube or soundcloud link saved in the url attribute and output a downloadable mp3/mp4 file to the user.

I was inspired to do this because there were many times that i would like a song that came from youtube or soundcloud and would end up having to lookup a site in order to legally download it, so i decided for this project i would make a program to do just that in java. I was always left in wonderment as to how people actually made things like this so I wanted to give it a try and see how i can use my newly learned java skills to create it.

The system will work like this, first the user will be prompted to enter a link from either youtube or soundcloud, once entered the program will search the link and ensure that the link is valid, after this it will be passed on to either the youtube or soundcloud file where it will then go through and download the song from the selected website afterwards it will be saved and sent to the output file where the mp4/mp3 file will be given to the user.

Youtube class
- capacity: int
+ youtube_stream(): String + download (): int

userinput class
+ soundcloud_url: string + youtube_url: string
+ isValid (): boolean

Soundcloud class
- capacity: int
+ sound_stream(): String + download (): int

Output
+ Final_Link: String
+ Finish_Stream(): int

Above is a UML Diagram of what I'm planning to do for my project essentially what's going to happen is in the first file the user will input a link and then methods will check to see if it is valid and if so whether it should be sent to the soundcloud or youtube file based on what the string contains. After this it will be sent to the respective file where another method will begin to download the input stream of the website until the file is done and everything is included. Then lastly the file will send the information into the input class file where the stream will be closed

and a download in mp3 or mp4 format will be available to the user. This program will mainly be addressing the problem of downloading music through conventional means and every day use. This is not an uncommon issue as there are many link converters online that take input from the user and then download and output a file for the user to listen to in-fact it's been done so much with java there are even many imports to make this job a bit easier.

The system should only be used to convert youtube and soundcloud links if the user inputs any other link the program will stop and alert them, it is also only used for downloading mp3/mp4 files meaning that there will be no video display to watch so the user should also only input links with the intention of listening to them afterwards and not watching.

This system should accomplish: ability to input a song url found on youtube or soundcloud and download it for later listening purposes.

Currently I have created the four files for the project and have an idea of the types of libraries i'll need to use but i am having difficulty with the soundcloud and youtube files mainly on how i should further edit these files so they work.

The main sites i used to help me accomplish this and guide me are listed below.
- https://www.codejava.net/java-se/networking/use-httpurlconnection-to-download-file-from-an-http-url
- https://www.youtube.com/watch?v=rd6m-6l2xQQ
- https://stackabuse.com/how-to-download-a-file-from-a-url-in-java/

Please note that everything above is only halfway and things may change drastically depending on what i discover while making this program, thank you for your time.