KWOC – KHARAGPUR WINTER OF CODE

A one month long program for introduction to open source community and a providing preface to budding developers to Google Summer of Code' 2017. Organised by students at Kharagpur Open Source Society (KOSS), IIT Kharagpur.

KWOC Official Website: http://kwoc.kossiitkgp.in/
KWOC Leader board Website: http://kwoc.kossiitkgp.in/leaderboard
Writer's personal Github Link: https://github.com/adityasingh11
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User's Information:

My name is Aditya Singh currently studying in Third Year (3rd) of Four year (4) program of Bachelor of Engineering degree in electronics and telecommunication branch from Army Institute of Technology, Pune under Savitribai Phule Pune University (SPPU) which is one of the premier universities in India.

Languages I learned:

- **Java 8**

- **Python**

Frameworks I worked with:

- **Selenium Webdriver**: Selenium webdriver framework is generally used for testing enterprise level software by developers. It can also be used by budding programmers like me to develop application in which we want to access the site whose end points (API) are either not public or not accessible. It is generally used for automating web – browsers like firefox / chrome using simple commands.

- **Java FX** – A more advanced tool for designing enriching graphical interfaces for java applications. Replacing Java SWIFT, it has several advantages over it.

Projects I worked upon (Included in KWOC):

BDAYBOT

An application / bot initially developed by Nitin Choudhary (Mentor of project: bdaybot) from IIT Kharagpur.

"bdaybot" is a bot created to automatically comment thank you on all your birthday posts on facebook site. In addition to that the bot will like and comment "Thank you" on all the

birthday posts posted on your timeline. The project was initially developed using python language only.

The major issue with the development of the program was the use of framework for the job, since the project could have been done using Facebook's Graph API, but only till previous version. In the current version of the API it doesn't give access to user's application to post individually. Instead it groups all the 150 or more posts together and make it a single story with one single – id. There is no individual post – ids to access them.

The issue was tackled with another framework, which does the automation of the web browser by simple commands pres set by the user itself, the framework is Selenium Webdriver.

Though I knew about this framework, but no real world application were made by me using it. My crucial introduction to Selenium Webdriver framework's applications was made by bdaybot only. My M.O for programming is Java, hence I started developing the code for bdaybot using Java programming language. My contribution to above mentioned project is still in progress; hence the project is currently in heavy development.

O.C.M.I.D

O.C.M.I.D is an acronym for On Click Multiple Image Downloader. A python application whose sole purpose is to download multiple images in a parallel thread independent of their sizes. The real reason behind the project was to automate the downloading process of images once the user has acquired the url of all the images needed to be downloaded. The project is still under development.

I also get to learn about Github and its basic functionalities like how to pull? How to form? Including that I learned about VCS (Version Control System), Github has its own version control system known as Git, My most of the code contribution to above mentioned projects were made using Git Only.

S.A.M

S.A.M is an acronym for System Automated Mail, an application developed to automate the process of the sending mail. Useful for those users who have multiple mailing services accounts and crave for a single interface which can automate their mailing process with just a single click. Initially a mail is written and then according to the user's choice the mail is sent to the concerned party using S.A.M browser automation.

My major contribution to above project S.A.M during the period of KWOC was to further include various other web mailing sites to the list of the S.A.M interface like yahoomail.com, hotmail.com and others.

The above project is still under heavy development, as its GUI tool is yet to be developed. Including that various other web mailing sites need to be included in the list going more zone / region specific.
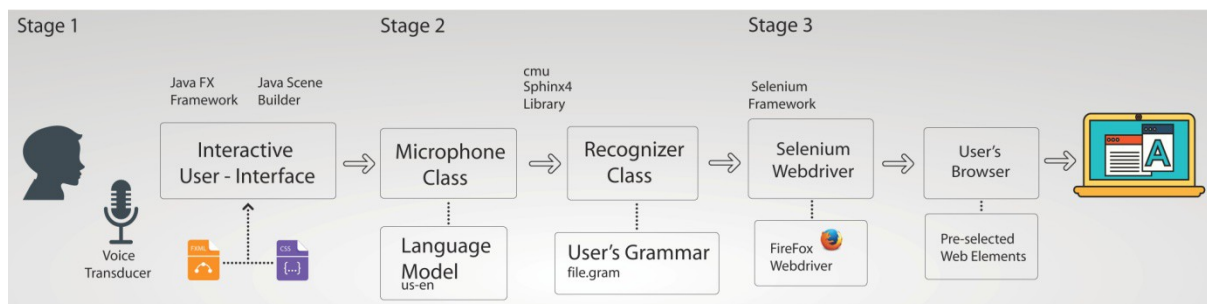
Projects I worked upon (Not included in KWOC):

S.T.R.A.W

S.T.R.A.W, an acronym for Speech to Text Recognition for Automating Web – Browser. It is an open source application for voice automation of general browsing experience for user.

To Whom it will benefit?

- Investment procedure automation

- People deprived of sight

- General public

Architecture diagram:

Architecture:

It works in three stages:

- UI Deployment: Developed upon Java FX GUI.

- Voice Command Recognition: Based on CMU sphinx 4 voice recognition library which is an open source tool.

- Selenium Framework: In the final stage the recognized command is sent to the webdriver like firefox / chrome webdriver which is further used to manipulate / interact with the web – elements of the site.

POST KWOC

With a few contributions to open source projects under my belt thanks to Kharagpur open source society, I will start preparing for Google Summer of Code 2017. Using the current momentum I will try to acquire more frameworks in my toolset like:

- **JDBC – Mysql (SQL)**: Thin layer SQL framework for SQL query definition, manipulation and control.

- **Tesseract OCR**: A well known framework for Optical Character Recognition developed by google under public (open source) license.

- **Selenium Webdriver**: browser automation for hobbyists and enterprise level software testing framework.

- **CMU Sphinx4**: A state of the art speech recognition toolkit for efficient speech recognition, support available for several languages.

- **Java FX** – A more advanced alternative to Java Swift, it is an Graphical user interface tool required to design interfaces for Java applications.

Finally, Thanks to the people at Kharagpur open source society for organising Kharagpur Winter of code especially for the students who want to get warmed up preparation for Google Summer of code' 2017 and are eager to learn how to contribute to open source community.