

SPL1 Project Proposal Form, 2022
Institute of Information Technology (IIT)
University of Dhaka

Student's Name:	Kamruzzaman Asif		
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<p>Project Description: I will build a software tool named Static Code Analyzer (SCA). This will analyze c source codes and determine the code metrics (such as LOC, Halstead) and code clones. Static analysis of source code is very important because it analyzes the source codes without executing them. Software developers should use static code analysis for a better understanding of the software, code simplification and sanitizing, identifying potential bugs, coding standards, improving application performance, better resource utilization, etc. I will go through several processes to build my software tool. Firstly, I will use string manipulation to generate c source code metrics of LOC (such as physical lines of code, number of comment lines and number of logical statements), Halstead metrics (such as distinct operators and operands, the total number of operators and operators), Halstead measures (such as program vocabulary, length, volume, difficulty, effort, time and number of delivered bugs) and will show the resulting metrics. Later I will try to detect code clones and show clone percentages using the concept of hashing, winnowing algorithm, and fingerprinting. For this, firstly I will generate k-grams of the file, then generate hash values of each k-grams, later I will use winnowing algorithm and fingerprinting, and then will compare the fingerprints using statistical methods to get the result.</p>			

Languages or Tools to be used:

Java

Supervisor's Name: Dr. Kazi Muheymin-Us-Sakib

Signature of the supervisor:  _____

Date: _____

Before the Midterm Presentation:

I confirm that the progress is satisfactory and I am forwarding it for midterm presentation.

Signature of the supervisor: _____

Date: _____

Midterm Presentation Feedback: