**SPL1 Project Proposal Form, 2022**

**Institute of Information Technology (IIT)**

**University of Dhaka**

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| **Student’s Name:** | **Swadhin Pal** | | |
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| **Project Description:**  The aim of this project, named CodeToImage, is to generate a corresponding image vector file of a source code. This will open developing new applications on software engineering, inspired by image processing such as identifying similar codes by comparing image vectors. The program will take **C source code** as input. First task is to build a **Control Dependency** **Graph (CDG)** (execution sequence of code statements)and a **Data Dependency Graph (DDG)** (inter-statement dependency based on variables) using the inputted source code. Then we will merge the CDG and DDG to create a **Program Dependency Graph (PDG)**. PDG will be required to build the **Centrality vector** (how a node of a graph is connected to other nodes of that graph). Next **Sentence Embedding** (storing the information of a sentence/statement into a vector) will be done from each line of source code. The output of Sentence Embedding will be another vector. Finally, from scalar multiplication of embedded vector and centrality vector the **Image vector** would be generated. | | | |
| **Languages or Tools to be used:**  C, C++, Visual Studio, Git, Github | | | |
| **Supervisor’s Name: Prof. Kazi Muheymin-Us-Sakib**  **Signature of the supervisor:**  **Date: 03 January 2023** | | | |