Project Plan – Group 1

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This document elaborates on the project plan devised to complete the compiler for the domain-specific language - *CoPro.* The planning had begun when the project was announced (roughly post-Aug 15 2022), and after multiple changes, delays, cutbacks, and push-throughs had finally almost achieved what it set out to achieve. The plan was also divided into phases corresponding to deadlines for each phase.

- ❖ Whitepaper - Submission deadline: 20 Aug 2022
    - ➢ The plan was to finalize the aim of our language and the roles of our team members by 17th Aug 2022, and then to iron out the features of our language, look at templates of language specification documents and then complete our language specification document by 20th Aug

- ❖ Lexical Analyzer - Submission deadline: 6th Sep 2022
    - ➢ For this phase, we first planned to look at reference material such as ANSI C's lexical analyzer and other examples of how to use flex. Then, using these references, we planned to complete our lexer using flex, and also created slides and videos explaining this phase.

- ❖ Parser - Submission deadline: 16th Sep 2022
    - ➢ For this phase, we immediately had to link our lexer to the parser. Then every member had to look at references such as ANSI C's grammar etc. and later discuss together to decide how our grammar would go about. We then worked on our grammar, fixed conflicts and wrote code for a symbol table (no scoping), and built a parser tree(not complete). We also recorded videos and made slides and pushed all of them before the deadline.

- ❖ Semantic Analysis – Submission deadline: 16th Oct 2022
  - ➢ We first discussed what we would implement in our semantic checks; once each member was assigned their roles, they had all their holidays to work on their assigned tasks. Once we returned from the semester break, we started integrating each other's work, updated our symbol table to include scoping, and finally completed the semantic analysis phase of our compiler along with slides and videos.

- ❖ Code Generation – Submission deadline: 13th Nov 2022
  - ➢ We first had to learn about code generation, and IR's, and tried demo samples of how the IR would look for a particular code. We then had to modify our AST for code generation, and then write code for code generation. We also worked on our inbuilt functions during this time.

Finally, we had completed integrating our language and started writing reports and recording videos to be submitted by 22nd Nov 2022