

**Subject:** Phase 1 — Walls: C to WebAssembly Compiler

**Phase 1 Project Selection Status Report**

**Name:** Martin Walls

**College:** Churchill

**CRSID:** mrw64

**Director of Studies:** Dr John K Fawcett

Please complete 1, 2 and 3 below.

1. *Please write 100 words on your current project ideas.*

I plan to write a compiler to compile a subset of the C language to WebAssembly, which will allow simple C programs to be run in a web browser.

I will use a lexer and parser generator to transform the source code to an abstract syntax tree for me, and will focus on generating target code from the AST.

I will implement some optimisations to the code before generating the output, and as time allows I can extend the project by implementing further optimisations.

I plan to write the compiler in C++, because there exist well-established lexer and parser generators for it.

2. *Please list names of potential project supervisors, indicating any interactions you have had with them, for example: not contacted, awaiting reply, in discussion, agreed to supervise.*

Timothy Jones - agreed to supervise

3. *Is there any chance that your project will involve any computing resources other than the Computing Service's MCS and software that is already installed there, for example: your own machine, machines in College, special peripherals, imported software packages, special hardware, network access, substantial extra disc space on the MCS. If so indicate below what, and what it is needed for.*

I will primarily use my own machine for development.