

PLT Language Proposal: Scirch

(pronounced like search with a Ka sound)

Language Description

The language we would like to design would be one dealing with circuits. We would like to design a language that would allow users to program and run circuits. We would use logical gates as primitives, and users would be able to use things such as multiplexers, decoders, encoders, etc, without having to spend the time programming them themselves. Users will also be able to design their own circuit components, or complete circuits, and use them for later. This would become the user library. After a circuit has been designed, input would be given and the circuit would run itself and display the results. Perhaps we could also have the circuit be drawn and laid out, however we are not sure how feasible this would be.

The Crew

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Sample Language Code

```
circuit{demux(xor(1, 0), or(0, 0), 0)}
```

This program would simulate a circuit that contains an xor gate and an or gate performing logic on its given parameters. Then those results are passed into a demultiplexer with 0 as its selector bit. This program would run and return two things: the result of the logic and (perhaps) an image of the circuits and its components. Each of these functions demux(), xor(), and or() will potentially be part of the standard library. The implementation would require the use of if-else branch statements.