

First design notes

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From: "Robert Griesemer" <gri@google.com>
To: "Rob 'Commander' Pike" <r@google.com>, ken@google.com
Subject: prog lang discussion

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*** General:

Starting point: C, fix some obvious flaws, remove crud, add a few missing features

- no includes, instead: import
- no macros (do we need something instead?)
- ideally only one file instead of a .h and .c file, module interface

should be extracted automatically

- statements: like in C, though should fix 'switch' statement
- expressions: like in C, though with caveats (do we need ',' expressions?)
- essentially strongly typed, but probably w/ support for runtime types
- want arrays with bounds checking on always (except perhaps in 'unsafe mode'-see section on GC)
- mechanism to hook up GC (I think that most code can live w/ GC, but for a true systems programming language there should be mode w/ full control over memory allocation)
- support for interfaces (differentiate between concrete, or implementation types, and abstract, or interface types)
- support for nested and anonymous functions/closures (don't pay if not used)
- a simple compiler should be able to generate decent code
- the various language mechanisms should result in predictable code

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