

# PolyScripting Project

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Polyscripting Project: An engine that scrambles the grammar, syntax, and reserved keywords of the C Programming Language; translates intermediate representation into a unique binary file format that the engine itself creates. (C) Copyright. 2019. Tanveer Salim

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## **2 Introduction**

Simple goal: Make a website run on a polyscripted language and polyinterpreted bytecode. All Server-Side Languages are Rewritten in a Polyscripted Language To Make It Impossible for Hackers to Hack. PolyVerse already published the whitepaper. If RISA refuses to release their source code to GitHub, then we will simply make a polyscripted version of the Brave web-browser website, as a proof-of-concept of just how powerful polyscripting is to make online websites even safer to use. This is totally legal, as Brave released the source code for their web-browser on GitHub.

## **3 How Would You Improve PolyScripting SQL**

The Essay Question: "How Would You Improve PolyScripting SQL"

## **4 Basic Plan**

1. Master Intel Assembly: Programming From the Ground Up

In Programming From the Ground Up, you are free from worrying about

functions and floating-point-values at least for the TINY COMPILER and TINY MACHINE you are about to make.

TINY Compiler will literally be the first compiler you make.

Not only must it be bootstrapped, you must make a polyscripting engine (really, a lexical analyzer that randomly generates names and even changes the abstract syntax tree complete with an interpreter for that language). 2. Choose An Intermediate Representation And Then Master It:

Options:

1. WebAssembly

2. VEX

3. REIL: Reverse Engineering Intermediate Language

Favored: 4. WebAssembly → Javascript Bytecode

3. Design an Interpreter That Interprets the Bytecode

4. Make a polyscripted compiler for The Javascript programming language based on the TINY Compiler for Kenneth C Loudon using Option 4 for Compiler → Intermediate Representation (Web Assembly) → Bytecode. The TINY C Compiler must be bootstrapped.

The version of the compiler has to be made in C, it must then be bootstrapped into Javascript.

Since you are making a compiler for a language that ultimately interprets WebAssembly, the WebAssembly must itself be written in the unique binary file format.

When the binary file format is made with a unique opcode to instruction set key, the black-hat hacker will be unable to figure out what the meaning of the source code is. All their reverse engineering tools will fail against an unrecognized binary file format.

The general binary file format is based on UTF-8. UTF-8 was chosen as a model since it allows a computer to quickly determine how many bytes are necessary for a byt pattern to mean something. The first byte (or bytes) for an opcode will tell a computer how many bytes the opcode is.

Since we are not concerned with displaying UTF-8 characters, we are free to use as much of the maximum bytespace as possible. In Unicode code point notation, that is U+0000 to U+FFFFFF, where U+FFFFFF takes up the whole space of four bytes. Actually, this would be a disservice to 64-bit machines. 64-bit machines process as much as 8 bytes of data since pointers must store that much information. It is not as if this makes computers notoriously slow. 64-bit machines have no problems doing CPU operations with 8 bytes of data at a time. Operating systems do 8-bytes worth of pointer arithmetic math daily.

To summarize, translating normal C source code to a unique binary file format will make an executable file hack-proof, as all reverse engineering tools will be unable to recognize the binary file format, and will thus fail to operate. From hereon,

this is called: Polyexecution.

## 5 Security Flaws and Attack Vectors

1. It is not good enough that the binary executables are hack proof since source code must be translated to the binary file format.

That is where PolyVerse's idea of PolyScripting comes in. A PolyScripted language is one where all lexemes are translated into a randomly generated ASCII string. This can be extended to UTF-8 format to allow for more confusion for hackers.

To make this work with PolyExecution (generating a binary file of a unique, binary file format), the front-end of a cross-platform, cross-architecture compiler must compile the polyscripted language to an intermediate representation that is easy to translate to the correct binary file format. This makes the language system code-injection proof. There is no way the compiler will recognize source code except for its own, unique polyscripted version.

Once converted to the PolyExecution Interpreter's binary file format, it is irreversible to any reverse engineering tool that is not familiar with the opcode-to-instruction-set key.

Since WebAssembly is based on LLVM's intermediate representation, LLVM's intermediate representation will do. Actually, WebAssembly may indeed be THAT intermediate representation. But if you are not sure if the code is destined to be

executed on the web, stick to LLVM' standard intermediate representation.

But disassembling is a different matter. As stated previously in this article, it is either going to be VEX or REIL. Choose one when designing a unique

The most significant attack vector is the compiler/interpreter, whichever is responsible for translating or executing source code to final binary file format. It is absolutely possible to bootstrap the compiler/interpreter into the unique binary file format. But there is a chicken and egg problem in this. How will the computer natively run an unrecognized binary file format. It ultimately needs to use a recognized binary file format to run the compiler/interpreter in the first place. Of course, if the only potential access a malware has to the server computer that runs the interpreter/compiler has its website operating on the unique binary file format, all malware that is not written in a binary-file compliant format will obviously fail to execute.

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If the program does terminal interaction, make it output a short notice like this when it starts in an interactive mode:

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