

Python obfuscator

Background

Software obfuscation is the act of taking a program in some source language scrambling it so that the intent, behaviour or purpose is not clear from just looking at the program code. The hope is that this makes it much harder for potential attackers to discover security flaws by reading the source code of the program since it is near impossible to understand it.

Project goal

The goal of the project is to write an obfuscator for Python and in doing so gain a deeper understanding of not only how an obfuscator works but also the advantages of code obfuscation and it's potential disadvantages.

Relevance to language based security

Obfuscation is of relevance since it acts on the language level (directly on the source code) and it aims to improve security so it naturally of relevance to the area of language-based security.

Overview of planned work

The first step is to have a the python program in some tree like data structure. When that is accomplished we have to be able to modify the tree and convert it back into a python program. We can then proceed to reading up on obfuscation techniques begin implementing them. At the end of the course we will focus on the report and the presentation.

Schedule

Here is a rough schedule for the project

Week 1.	Project proposal
Week 2.	Work Python parser
Week 3.	Work Python parser / Make syntax tree modifications available
Week 4.	Make syntax tree modifications available / Read up on obfuscation techniques
Week 5.	Apply learnt obfuscation techniques
Week 6.	Apply learnt obfuscation techniques / Work on report
Week 7.	Work on report
Week 8.	Work on presentation

Target grade

VG

As stated on the course website software obfuscation is tricky to get right and therefore we do not believe a higher grade is out of the question. If a VG is deserved of course it depends on how well the project goes.