Report 1: Initial Report

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1 General information

The team dubbed: "Me, Myself & I" - reference to a song by the same name - has been assigned the *Onion Module*. The team (further *we*) consists of only me, hence the team name. We will further focus on *Onion Forwarding* and take *Onion Authentication* as given.

2 Programming environment

For programming this module, we will be using the language **Rust**. This language offers very low level programming access, but at the same time the promise of thread & memory safety - both very important aspects for our module. The other reason for this choice was my curiosity about this language as I do not have much experience with it, but I see this project as a challenge to learn & better understand it in the end.

Apart from plain rust, we'll make use of Rust's package manager **Cargo**, which will provide us with a simple & straightforward build pipeline and access to many useful packages.

3 Available libraries

3.1 Minor packages

- **getops**: Get arguments from command line
- **ini**: Read configuration file
- **error_chain**: Facilitate error handling of Result

3.2 Major packages

- **bit_field**: Working with bits on Rust data types
- **mio/tokyo**: Rust networking
- **capnproto-rust**: Cap'n Proto underlying P2P Protocol

4 Project & licensing

This project - code named **garlic** (obvious pun on onion intended) - will be made available under the standard MIT license often used for open source projects. This module will be published to Github after the course end if I deem it worthy enough.

5 Previous experience disclaimer

I do not have almost any experience in programming either P2P systems nor VoIP applications - this is the challenge.