

Initial Report

Gossip-10 Team

May 18, 2023

1 Team Information

- Team Name: Gossip-10
- Team Members: Yueqi Zhang (03780241) & Boning Li (03659664)
- Chosen Module: Gossip Module

2 Programming Language and Operating System

- Chosen Programming Language: JavaScript (JS) with Node.js runtime
- Operating System: Any OS compatible with Node.js
- Reasons for Choosing JS with Node.js:
 - Excellent asynchronous performance, well-suited for handling large concurrency.
 - No need for compilation, allowing for faster development iterations.
 - Better performance compared to Python.
 - Cross-platform compatibility.
 - Availability of database support.

3 Build System

- Build System: Webpack (optional: Docker)
- Reason for Choosing Webpack: Webpack is a popular build tool that helps manage dependencies, bundle and optimize JavaScript code, and enhance the development workflow. Docker is optional but can be used to containerize the application for easier deployment and scalability if needed.

4 Measures to Guarantee Software Quality

- Test Case Writing: We will use MochaJS as our testing framework to write test cases for various functionalities and components of the project. It provides a robust and flexible testing environment for JavaScript applications.
- Quality Control: We will utilize tools like DeepScan for static code analysis to catch potential bugs and code quality issues early in the development process. It helps ensure code correctness, maintainability, and adherence to best practices.

5 Available Libraries

- net: A built-in Node.js module for network-related operations, which will be useful for implementing networking functionalities in the Gossip Module.
- crypto: A built-in Node.js module for cryptographic operations, which will be beneficial for ensuring secure communication and data integrity.
- randombytes: A library that generates cryptographically secure random bytes, which can be used for various security-related purposes in the project.

6 License

- License: MIT
- Reason for Choosing MIT License: MIT License is a permissive open-source license that allows users to freely use, modify, and distribute the software while providing limited liability. It aligns with our goal of encouraging collaboration and openness.

7 Previous Programming Experience

- Boning: Boning has several years of JavaScript development experience and is proficient in full-stack development. He has previous experience working with a DHT assignment in GAD using Java.
- Yueqi: Yueqi does not have previous programming experience relevant to this project.

8 Planned Workload Distribution

- Boning:
 - Framework setup
 - Gossip Announce implementation
 - Gossip Notify implementation
- Yueqi:
 - Gossip Notification implementation
 - Gossip Validation implementation
 - Testing

This workload distribution is subject to adjustment based on the project's progress, requirements, and individual team members' capabilities.