**Software Requirements Specification**

*Project: CHAOSS*

1. Introduction to CHAOSS
   1. This document is a brief specification of the software requirements for the metrics software CHAOSS. It is intended to cover the purpose, use, and required resources, both physical and non-physical to successfully implement CHAOSS, as well as the limitation and boundaries of what it may be able to accomplish
2. Software Product Overview
   1. In a time when open source software is becoming ever more popular and available, individuals, businesses and corporations alike have started to turn to it for solving particular problems they have. However not all open source software projects are reliable and/or updated frequently, or have a strong enough community behind them to keep them going for a reasonable length of time. This is where CHAOSS comes in, not necessarily to directly improve or sustain the health of an open source project, but to help users of the open source software to be able to make judgements and considerations on whether the project will meet their need long-term and be sustainable
3. System Use (including actor survey)
   1. Company
      1. A company should be able to see all metrics about any given project analyzed by CHAOSS in order to make an informed decision about if the company should become involved in a project and to what extent
   2. Individual
      1. An individual should be able to analyze metrics from CHAOSS about a project in order to evaluate the project for personal use and see if it would be something they would want to get involved in
   3. Researcher
      1. A researcher should be able to access the metrics for one or more projects in order to summarize and conclude the status of different projects and be able to compare projects to one another in a meaningful way
4. System Requirements (2 use cases, sys func spec, list non-func req’s)
   1. Use Cases
      1. A company has an potential interest in implementing a technology. They have an employee research the project metrics in CHAOSS. The employee accesses a webpage with CHAOSS metrics for the specific project. The employee can see visually the number of people who have worked on the project, the timeline of commits, and the size of each of those commits, and make an informed decision as to whether the project is sustainable for use over a specified time
      2. A researcher is interested in comparing the health of two different projects with similar functionalities. The researcher can access CHAOSS metrics from a webpage. They can then search for two different projects and select an option to compare them side-by-side with metrics about the dates of different commits, including the start date, the number of people who have used the project (forks), the number of total commits alongside lines of code deleted.
   2. System Functional Specification
      1. Metrics are to be displayed on a webpage accessible by all browsers
      2. Metrics should be updated frequently
      3. All tracked project names and metrics stored in database
   3. Non-function requirements
      1. All tracked projects can be searched for
5. Design Constraints (5)
   1. Metrics must be accessible from webpage
   2. Must provide accurate information
   3. Must not reveal private information about projects or users
   4. Must be maintainable by a core team of individuals
   5. Must be updatable for future generations
6. Purchases Components (1)
   1. Database server to store metrics information
   2. Server to calculate different metrics
7. Interfaces (1)
   1. Web page
   2. CLI to get specific metrics for projects