***SERVICE9***

**FUNCTIONAL REQUIREMENTS DEFINITION**

Version *0.0.4*

*03/06/2020*

**VERSION HISTORY**

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| **Version #** | **Implemented**  **By** | **Revision**  **Date** | **Approved**  **By** | **Approval**  **Date** | **Reason** |
| 0.0.1 | *Erik Nelson* | 03/04/2020 | *N/A* | 03/04/2020 | Alpha version created. No previous version existed |
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# INTRODUCTION

## PURPOSE OF THE FUNCTIONAL REQUIREMENTS DEFINITION

The Functional Requirements Document is to provide an unambiguous list of requirements that Service9 will fulfill. The intended audience of this document the project manager, project team, and the project sponsor. This document does not prescribe the method of implementation nor will this document be an exhaustive list of everything the Service9 can do. The Functional Requirements Definition merely prescribes everything Service9 must do.

# BUSINESS REQUIREMENTS OVERVIEW

## 2.1: REQUIREMENTS

2.1.1: Service9 will be completed and delivered by May 6th, 2020.

2.1.2: Service9 will be a user on the IRC network as a Local Operator

2.1.3: Service9 will operate on IRC networks without passwords

***2.2:* ASSUMPTIONS / CONSTRAINTS**

2.2.1 It is assumed that all members on the development team will remain on the development team for the duration of the project

2.2.2 It is further assumed that funds allocated to Service9 are final.

2.2.3 Product development will finish at least a week before May 6th to be tested for functionality and quality assurance.

# FUNCTIONAL REQUIREMENTS

## USABILITY REQUIREMENTS

3.1.1: Text based configuration: This service should be easy for a IRC operator to use. To ensure ease of use for people with varied backgrounds, once installed and connected, service configuration should take place entirely in specific configuration files that are stored in text format and editable with any editor.

## PERFORMANCE REQUIREMENTS

3.2.1: Security defaults: Configuration defaults should always prioritize security over convenience. Control should be kept as local as possible. As an example, this service should not be controllable by any user- administrator or otherwise- over IRC itself unless explicitly requested, with the default being local commands only.

3.2.2: Reliability: Service9 should achieve a minimum of 99.9% uptime on tests, and when an exception is encountered the service should have the correct logic to recover

3.2.3: Precision: Service9 should properly censor, kick, silence, or otherwise take action on a minimum 90% of “bad actor” test cases.

3.2.4: Scalability: Service9 must be configurable to operate on an entire IRC server, or some subset of channels within a server. If multiple instances of Service9 are running on a server, they should not conflict in any way, and should be able to be configured separately, or if running with the same ruleset will be able to access a master configuration file for applicable configurations.

3.2.5: Capacity: Service9 should be capable of processing and taking action on any IRC message or event on our test setup within 2 seconds. Further optimization is not a strict requirement due to a limited test setup time and monetary budget.

## SUPPORTABILITY REQUIREMENTS

## 3.3.1:Supportability: Service9 shall not have a support setup in place beyond a developer contact email with no SLA or guarantees.

3.3.2: Documentation: Service9 documentation and configuration file comments should be sufficient for an IRC operator to understand, setup, and use Service9 with no further resources. This shall be determined by beta testers with an outside consultant chosen by the development team rendering a final verdict if this requirement has been fulfilled or not.

## SECURITY REQUIREMENTS

3.4.1: Authentication:

3.4.1.1: Support standard IRC authentication protocols.

3.4.2: Access Control:

3.4.2.1: System shall block users from accessing different parts of the log files unless they have the necessary security credentials. (Log Files are further explained in section 3.5). Remote access is to be disabled by default.

3.4.3: Wrong Password lockout:

3.4.3.1: A user attempting to login will be given 4 chances at logging in with a select account before being temporarily locked out of that account.

3.4.3.2: Once locked out an email will be sent to the address registered with said account. The email will contain a security warning and the ability to undo this lock out.

## INTERFACE REQUIREMENTS

3.5.1: Text based configuration: Refer to 3.1.1

3.5.2: Log files: Service9 shall have a built in logging functionality with a minimum of 3 verbosity levels. The lowest level shall log only basic runtime information of when the service is started, mode changes, crashes and errors, and when the service terminates. This level will contain no usernames, no chat history, no action history, or other such information. The highest level shall log everything Service9 sees, every action taken, and any other information useful for debugging. The middle level(s) shall log actions taken but with less verbosity than the full debugging log level.

## ASSUMPTIONS / CONSTRAINTS

3.6.1: Time: due to the student run nature of the project, additional time is unavailable even if required.

**Functional Requirements Definition Approval**

The undersigned acknowledge they have reviewed the **Functional Requirements Definition** and agree with the approach it presents. Any changes to this Requirements Definition will be coordinated with and approved by the undersigned or their designated representatives.

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