

## Lisp in Summer Projects Submission

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| <b>Submission Date</b>             | 2013-10-20 22:36:09                                                                                                                                                                                                                                                                      |
| <b>Full Name</b>                   | Eric Gesell                                                                                                                                                                                                                                                                              |
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| <b>Country</b>                     | United States                                                                                                                                                                                                                                                                            |
| <b>Project Name</b>                | Vulture                                                                                                                                                                                                                                                                                  |
| <b>Type of software</b>            | command-line/terminal app                                                                                                                                                                                                                                                                |
| <b>General category</b>            | utility                                                                                                                                                                                                                                                                                  |
| <b>LISP dialect</b>                | Clojure                                                                                                                                                                                                                                                                                  |
| <b>GitHub URL</b>                  | <a href="https://github.com/atomic-hedgehog/vulture">https://github.com/atomic-hedgehog/vulture</a>                                                                                                                                                                                      |
| <b>Did you start this project?</b> | Yes, all the code is written by me                                                                                                                                                                                                                                                       |
| <b>Project Description</b>         | I want to describe my project in this form.                                                                                                                                                                                                                                              |
| <b>Purpose</b>                     | Vulture is designed to analyze log files. It is intended for analyzing the results of cron jobs or to be run as part of a log rotation.                                                                                                                                                  |
| <b>Function</b>                    | The configuration file allows the user to specify any number of files and regexes to perform on the file. Each line that matches a regex will increment a count for that regex match. The output is sent to std out.                                                                     |
| <b>Motivation</b>                  | I have a complex cron job that runs twice per day. The log output is rather verbose, so I needed Vulture to summarize important statistics.                                                                                                                                              |
| <b>Audience</b>                    | Anyone who needs to analyze lines in text files.                                                                                                                                                                                                                                         |
| <b>Methodology</b>                 | <p>Vulture reads its config file and creates processor functions for each regex defined in the config. The processor will increment a count for lines that match the regex. If no title is specified for a regex, each match will become a title.</p> <p>Given the following config:</p> |

```
"/var/log/nginx/access.log.1"
[{:total ".*"}
"\d{1,3}\.\d{1,3}\.\d{1,3}\.\d{1,3}"]}]
```

The output might be:

```
Scanning /var/log/nginx/access.log.1
:total 8
127.0.0.1 6
192.168.3.1 2
```

## Conclusion

Vulture makes it very easy to distill useful summaries from log files.

One critical feature of Vulture is the ability to send results via email. I was able to implement this feature, but it was too close to the deadline so I did not commit it to version control. Future enhancements will include:

- \* Command line arguments for configuration file and the files to be analyzed.

- \* Alert thresholds: only send email if counts exceed certain values.

- \* Parallelize the log line processors.

## Build Instructions

Building with Leiningen is simple:

```
lein deps
lein uberjar
```

## Test Instructions

Vulture uses midje for tests:

```
lein midje
```

## Execution Instructions

After running 'lein uberjar' to build, you can run vulture with the following command:

```
java -jar target/vulture-0.0.1-SNAPSHOT-standalone.jar
```

## Official

I have read rules and have abided by them.

I am 18 years of age or older.

I am not living in Brazil, Quebec, Saudi Arabia, Cuba, Iran, Myanmar (Burma), North Korea, Sudan, or Syria.