Sprint 1: Blue Devils - Software Requirements

Target Issue: "Show Gunicorn workers errors in error file and stdout"
https://github.com/chaoss/augur/issues/946

Issue Description:

- The Augur server is powered by Gunicorn workers handling requests in the background. Currently, when any of these workers encounter an error, it is not shown in the terminal/stdout, and it is not shown in either the logs/augur.log or logs/augur.err files, where all regular errors will always show up. Instead, it only gets written to logs/gunicorn.log, which isn't useful unless one knows to look in that file.
- This behavior should be changed, either to surface the Gunicorn error directly in those files, or explicitly state that Gunicorn encountered an error and notify the user to check the Gunicorn log file.

Development Process: Agile
Server URL: http://ec2-44-203-169-194.compute-1.amazonaws.com:5000/api/unstable
Augur Fork: https://github.com/tubs06/augur

Proposed Augur Changes/Extention Description: While the original issue is simple, we propose an overhaul to the worker error logging system to fix current issues and add functionality which will allow better user interaction with generated error logs.

Plans for specific modules:

- Consolidate GUnicorn.log to augur.log
- Create a tagging system to tag log entries
- Create a read API to search logs based on tags
- Change logging to write logs to stdout and/or stderr as appropriate
- Add and consolidate verbosity options for what is output to these streams

Use Case 1:

- **Title:** Notify and Log Error
- **Description:** GUnicorn workers output their errors in the gunicorn.log file, and do not notify developers of errors in stdout This should be changed so the error is logged in the augur.log or augur.err files, and the developer should be notified in stdout.
- **Triggers:** Triggered when a worker powered by GUnicorn encounters an error.
- **Actors:** Augur Developers / Debuggers

- **Preconditions:** Augur is running, and a GUnicorn worker is running.
- **Main Success Scenario:** GUnicorn workers output their errors in the logs/augur.log or logs/augur.err files, and the developer is notified in stdout.
- **Failed End Condition:** GUnicorn workers do not output their errors in the logs/augur.log or logs/augur.err files, or the developer is not notified in stdout.
- **Steps of Execution:**
    - Augur begins running.
    - A GUnicorn worker starts working.
    - The worker encounters an error.
    - The error is logged in either the augur.log or augur.err file.
    - The developer is notified in stdout/stderr of the issue.
- **Use case diagram:**
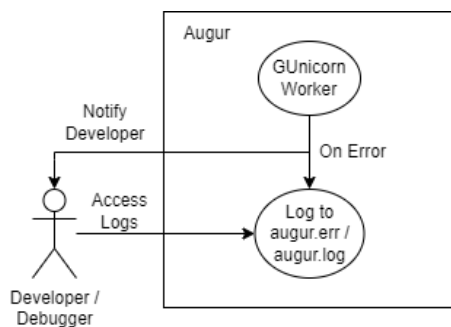
Use Case 2:

- **Title:** Query existing worker logs
- **Description:** Logs aren't useful if you cannot easily read through them; Allow user to search through the consolidated log file for specific tags/keywords to pull up relevant logs.
- **Triggers:** Triggered when a user conducts a log search
- **Actors:** Augur Developers / Debuggers
- **Preconditions:** Augur is running
- **Main Success Scenario:** User is able to locate specific groupings of logs for worker(s) and/or subjects they are looking for.
- **Failed End Condition:** User is not able to properly query the worker logs.
- **Steps of Execution:**
    - Augur begins running.
    - User begins a log search
    - User provides query parameters (i.e. tags, keywords) and conducts search
    - Query results of found related logs displayed in list form to user
- **Use case diagram:**
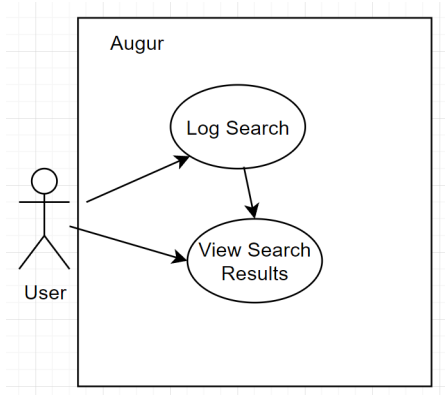
Requirements List:

Component	Priority 1-10 (1 is highest)	Requirement Name	Requirement Description
Logging System	1	Log error to file	When an error occurs, log specific details to the main augur log file instead of the GUnicorn log file.
Logging System	1	Notify Developer on error	When an error occurs, notify the developer in stdout.
Logging System	2	Assign Error Tags	Whenever an log is to be entered from a worker into the logging system, assign a relevant tag to it for querying
Logging System	2	Modify Log Verbosity	Allow user to modify the verbosity of the logs in a single location
Logging System	2	Conduct log search	Allow user to search for specific logs in log file with provided tags and keywords