

EE/CprE/SE 491 WEEKLY REPORT 3

2/22/2021 – 3/1/2021

Group number: 26

Project title: Automated Configuration Testing Framework for KBase

Client &/Advisor: Myra Cohen

Team Members/Role:

Daulton Leach: Scrum master / Developer

Hunter Hall: Development

Sergey Gernega: Development

Caleb Meyer: Development

Jake Veatch: Development

Daniel Way: Development

- **Weekly Summary**

Finished dockerizing the application to allow more flexibility to the user. Continued working on implementing the last variables needed to complete the full FBA analysis. Cleaned up some selenium issues that resulted from KBase updating. The team began analyzing how we would implement concurrency within our jobs/narratives. We continued cleaning up the main GUI class by refactoring some of the larger methods to make it more simple and reusable. We also took the first steps towards connecting the GUI with our file reader logic to allow the user to read FBA inputs directly from a file. Lastly, we improved on the functionality of the geneKnockouts allowing the user to implement more than one knockout for their FBA.

- **Past week accomplishments**

- Daniel Way: Analysis around concurrency with narratives.
- Jake Veatch: Dockerized portions of the application to allow users to run pieces in isolation in a container. The application is no longer dependent on the browser version on the user's machine.

- Caleb Meyer: Refactored the class that controls the flow of inputting variables into the kbase website. The purpose of the refactoring was to make it so that each variable has its own method of control. This makes it easier to input future variables. Also worked on programming the control flow of remaining variables.
- Hunter Hall: Updated the Gui for and added the Custom Flux Bounds input variable
- Sergey Gernega: Was working on refactoring code, adding more functionality for geneKnockouts. Started implementing and designing media expressions variables and configuring the control flow.
- Daulton Leach: Refactored the main control flow of the GUIs main method. Added baseline logic for reading FBA parameters from a file from the GUI perspective. Started thinking about the design for parallel jobs on the frontend.

○ **Pending issues**

- Daniel Way: Determination around whether concurrency is required or not.
- Jake Veatch: Thinking and designing the use-case and usefulness of Dockerizing each portion of the application.
- Sergey Gernega: Redesign and refactor programming inputs and try to plan the best implementation of media expressions.
- Hunter Hall: Just finished a pending issue so none
- Daulton Leach: Determining how to tie in parallelism/concurrency with the frontend of the system.
- Caleb Meyer: Anything of critical importance.

○ **Individual contributions**

<u>NAME</u>	<u>Individual Contributions</u> <i>(Quick list of contributions. This should be short.)</i>	<u>Hours this week</u>	<u>HOURS cumulative</u>
Daniel Way	Continued investigation of narrative concurrency.	7	23
Jake Veatch	Dockerized web driver. Researched Docker and began thinking about architecting other portions in Docker containers.	7	26
Caleb Meyer	Refactor code and implement more variables	7	28
Hunter Hall	Updated the Gui for and added the Custom Flux Bounds input variable	7	26
Sergey Gernega	Refactor code and implement media expression variables	7	29
Daulton Leach	Refactored parts of main function of GUI, Started file reading on the GUI, Worked on	7	29

	some prototypes for parallelism on frontend		
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○ **Plans for the upcoming week**

- Jake Veatch: Continue working on Dockerizing different portions of the application. Try to get the main application bundled into a jar file that will run in a separate container.
- Caleb Meyer: Continue to implement more of the remaining variables.
- Hunter Hall: Will finish the rest of the input variables and refactor the selenium input programmer method in order to have cleaner and more loosely coupled code.
- Sergey Gernega: Finish refactoring large methods that can be modularized and broken down. Design and implement a new media expression input variable that will be fed into the GUI then into selenium to enter params into Kbase.
- Daulton Leach: Complete implementation of file reading on the front end to prepare for the demo, Fully test file reading, Begin working on analyzing file inputs to allow for the user to randomize inputs.
- Daniel Way: Take action from Dr. Cohen's direction with respect to concurrency.

○ **Summary of weekly advisor meeting**

- Covered "Dockerizing" the web driver portion of the app
- Covered the future ideas for parallelizing the narratives and concurrently running jobs
- Covered the future of implementing input variables
- Discussed presentation for next week's demo