

# CSS 497 Abstract Form

# Name: Phung Vo

**Faculty Advisor:**  Yang Peng

**Quarter/Year:** Summer/2023

**Title**: Automated API Validation at Starbucks

The abstract should be limited to 200‐400 words describing the nature of the project and the results obtained. The abstract is due prior to submission of your final report to your faculty advisor.

There are many required components to run a Starbucks store. Making sure that there's enough coffee beans, enough milk, or enough cups is obviously a must. But there is another component that most people don't think of, and that is workforce scheduling. Workforce scheduling is crucial to operate a Starbucks store efficiently and economically. A shortage of baristas during rush hours will cause a revenue loss due to customer leaving after a long waiting time. On the other hand, when there is a surplus of baristas, the company also loses money to pay for the baristas that don't necessarily need to be there. Therefore, if schedules were as optimized as possible, it would not only increase revenue but also save operational costs. At Starbucks, workforce management (WFM) is dedicated to making optimized schedules.

Every day, Starbucks WFM sends hundreds of API requests to a *3rd party* database with the help of *3rd party* Labor Demand API and *3rd party* Earned Hours API. However, whenever the Labor Demand API and Earned Hours API have a system update or monthly maintenance, there was no way to verify that they perform the same functionalities after the changes. My project solves this problem by validating labor demand API and earned hours API functionalities.

My internship work started by manually testing the APIs with Postman and identify test functionality scenarios that can be automated. Then, I set up a local workspace where I imported libraries, such as REST Assured and TestNG to help with testing REST APIs. After designing and implementing the framework, I integrated it into Jenkins to create parameterized schedule for running it in different regions. Lastly, I integrated the job status notification to Slack. As a result of this project, the functionality validation of Labor Demand API and Earned Hours API is now automated. With my contribution, the automated process reduces the testing time of 40 API functionalities by 90%, from 15 minutes of manual work down to 1.5 minutes of computer work.

Overall, this API validation allows my team to send API requests with full confidence that all API functionalities work as intended, improving the project timeline speed, and decreasing the debugging time.

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Student Name: Phung Vo Signature: Phung Vo

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