Federal Reserve Bank of Cleveland
Research Opportunities

Position One: *Continuous Delivery Dashboard Overview*

CWRU faculty mentor: Vincenzo Liberatore

As we move our eGov applications toward a more continuous delivery model—with code changes initiating continuous integration builds, deployment automation across the delivery pipeline, and shorter and more frequent agile release cycles—visibility into the viability of a given release candidate as it makes its way through the deployment pipeline becomes increasingly more crucial to the success of a release.

A continuous delivery dashboard would provide key participants in the software development lifecycle (SDLC) insight into the history of a release candidate as it makes its way through the continuous delivery (CD) pipeline. The dashboard would present visual confirmation of the success/failure of inspections performed against a given release candidate—starting with a commit build and associated unit tests, and passing through various hosting environments and checkpoints, until the go/no-go call is made to release it to production. Through one portal, a user could verify successful passage through various gating processes—like acceptance testing, quality inspection, security scanning, etc.—to arrive at an informed decision on whether a release candidate should progress through the pipeline.

Goals of this active project
Movement of our eGov applications toward a continuous delivery model necessitates that visibility into the viability of a given release candidate becomes increasingly more crucial to the success of a release.

- The primary objective of this project is to provide key participants with a continuous delivery dashboard.
- The dashboard will provide key stakeholders visual confirmation of the success/failure of inspections performed against a given release candidate, starting with a commit build through production deployment.

Role

This project provides an opportunity to a student to assist with this initiative and actively participate with the analysis and delivery of the project work with the team working on this effort.

 The student will be able to observe various IT roles in action as well as perform some of the various activities to help expose them to different positions within Treasury Services.

Position Two*: Transforming Tax Collections Overview*

CWRU faculty mentors: Vincenzo Liberatore and Harold Connamacher

The T2C initiative will deliver a transformed and modernized tax collections service that includes process workflow improvements and technological renewal. The product delivered will replace the Electronic Federal Tax Payment System (EFTPS), which went live in 1996 as the first federal electronic tax payments platform. As a legislatively mandated system developed by the U.S. Department of Treasury Bureau of the Fiscal Service (Fiscal Service) and the Internal Revenue Service (IRS), EFTPS quickly became the largest tax collection service in the United States. EFTPS delivers a free, 24/7/365 service to collect federal tax revenue, allowing payments from anywhere, anytime via phone or internet connection.

Goals of this active project

Modernizing tax collections includes the following key goals:

- Ensure secure, resilient, and reliable electronic collection of taxes.
- Modernize and improve the user experience.
- Reduce operating costs.

Role

This opportunity will expose a student to a highly visible and complex project environment. With this project, the student will have an opportunity to:

- Observe and participate in technical analysis, design, and execution.
- Gain insight into the workings of Agile product delivery environment.
- Experience a cross-discipline development effort, by working with subject matter experts in Software Development, QA, DevOps, UX/UI, Infrastructure, and Data Analysis and Reporting.
- Gain exposure to newer technologies, tools, and methodologies.

This opportunity is designated as a High Value Asset (HVA) and will have additional security requirements for the applicant prior to being eligible to participate.