Public Static Boys

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Abstract

The goal of our project is to apply our software development skills to a free, open-source, humanitarian project with remote collaborators. We are choosing to work on Sahana Eden, a platform designed to provide solutions for Disaster Management, Development, and Environmental Management sectors. Specifically, we aim to fix several open issues present in the source code on Github in order to transition our theoretical knowledge into real-world applications.

Introduction

We are three computer science majors at the College of Charleston seeking to contribute to a free, open-source, humanitarian software. Collectively, we decided to work on Sahana Eden.

> "Eden is a flexible humanitarian platform with a rich feature set which can be rapidly customized to adapt to existing processes and integrate with existing systems to provide effective solutions for critical humanitarian needs management either prior to or during a crisis."
> -Sahanafoundation.org

SAHANA EDEN

wiki: WikiStart
SAHANA EDEN PROJECT

Experiences

Over the course of the semester we have applied software engineering principles taught in our class to effectively contribute to a free open source software project. Initially, we each came up with an option for a project we would like to contribute to. We chose Sahana Eden because the project has a very large and active community. One thing we learned is that not every contribution has to be an improvement in code. Our first contribution was minor documentation fix.

One of our earlier contribution attempts exposed us to Amazon Simple Storage Service (Amazon S3).

amazon S3

Amazon S3 is an object storage service that offers data scalability, availability, and security.

GDAL

Geospatial Data Abstraction Library (GDAL). a library that reads geospatial vector data and interprets it to render an image.

Another technology we were exposed to was the GDAL library used with Python. The Python GDAL library is used to read a shapefile containing the vector data of a country and produce an image of that country.

Contributions

Our first contribution was fixing formatting issues in the default template configuration file, "config.py". This issue had been open for over two years.

Our second attempt at contributing was to migrate a shapefile export to GDAL python bindings. Fortunately, this was already being done via the OS.System. The necessary changes were to complete the shapefile export using python bindings instead of the OS.system. By doing this, the software becomes compatible with any operating system running python, instead of the OS.System operations that are on linux machines only.

Conclusion

This project has strengthened our command of Python as well as exposed us to technologies not taught in the classroom such as AWS and GDAL. One surprising experience was the rapid response we received from one of the main developers. They responded to our first inquiry within minutes and were instrumental in the installation and on-boarding process. Facilitating this transition is crucial for an open-source project to attract new contributors.Even with a global shutdown, the contributors of Sahana Eden continue to flourish and produce humanitarian software in this trying time and we are truly humbled to be a part of its community.