



Google
Summer of Code

Python Software Foundation

PyAfipWs: Library for Developers




Sub-Organization: PyAr



About Me:



Personal Details:

- Name: Utkarsh
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- GitHub: <https://github.com/chazuttu>
- Country: India 

Education:

- Institution: Birla Institute of Technology, Mesra
- Major: Computer Science & Engineering
- Program: BTech
- Current Academic Year: Sophomore (4th Semester)
- Expected Graduation Year: 2023



Personal Background and Programming Experience:

I am an undergraduate sophomore with interest in Android development, Web development, Open source software development, Machine learning, and Artificial Intelligence. I am an aspiring Python Developer, and have been using it over a year, and have used a variety of libraries - OpenCV, NumPy, Matplotlib, etc. I have also made many android apps and used python in game development and CAD applications. I mostly use Windows 10 as my operating system and VS Code, IntelliJ and sublime text as my code editor. I am also proficient in C++, java and have done a fair amount of competitive programming on platforms such as Hackerrank and Codechef. I am constantly learning new technologies. I have a good knowledge of HTML, CSS and JavaScript. I am good at using Git and Github and have been using Git as a version control for more than 4 years. I am always avid to learn new technologies. I have also worked in Girlsript Summer of Code under the Project faceX using python, cnn & opencv and Breast cancer predictor project using flask, python and ML. We are currently developing the project to make it more efficient. I have been the member of Abhyuday IIT Bombay and E-Cell IIM Calcutta. I have also worked in Facebook Developer Circles, Kolkata. I participated in Microsoft Azure Developer league and also a member of Microsoft Student Ambassador program where we discuss on developing new projects using new tools & technologies. I have also done courses from Harvard

university on Covid-19 mechanisms for scent based screening and vaccine development.

Code Contribution:

I have done following pull requests in PyAr:

https://github.com/PyAr/PyZombis/pull/65	#61
https://github.com/PyAr/PyZombis/pull/65	#22
https://github.com/PyAr/pyafipws/pull/46	#29
https://github.com/PyAr/pyafipws/pull/46	#20
https://github.com/PyAr/fades/pull/407	#237
https://github.com/PyAr/OpenLex/pull/25	#8
https://github.com/PyAr/OpenLex/pull/25	#14
https://github.com/reingart/pyafipws/pull/88 -	#57
https://github.com/reingart/pyafipws/pull/88 -	#83
https://github.com/reingart/pyafipws/pull/88 -	#14

Open Source Experience:

I have worked in GirlsScript summer of code so I knew how to make pull request , create issues. I have enough experience using Git and GitHub, as I have been using it in projects over the past 4 years. This project will also provide me a chance to learn more about Open Source Development.

Project: PyAfipWs

Organization : Python Argentina

Mentors



Mariano Reingart



Nicolas Sandoval

Mentors:Nico Sandoval , Mariano Reingart

Project Abstract:

The project PyAfipWs is a Library for Developers & tools for accountants and SMEs. It is a wide-spread standard reference implementation to communicate with Argentina's government entities, with more than +1.5K users group subscriptions, many bindings to other languages and used in modules for Open Source ERP localizations (OpenERP, Odoo, Tryton, etc.) PyAfipWs contains Python modules to operate with web services regarding AFIP and other government agencies, mainly related to electronic invoicing, several taxes and traceability. Aim is to merge back changes from previous GSoC, updation of code, add unit tests upto 85% coverage, convert script into python entry

points,resolving problems in setup.py,support for dbf tables,xml,xls sheets and possibly other libraries,Integration & deployment with github actions to upload to pypi and using pytest VCR for Unit test

My Motivation:

I have very much interest in programming and Software development, and I like to learn about new technologies and tools. I love to solve and fix issues with the help of programming. I have a keen interest in open source projects and that's why I have been working in some of my own projects which may help everyone in future , an example of it is breast cancer detector project. I worked on this project under an organisation and that gave me a boost to enhance it more. This was possible because of python and open source and that is the reason I want to be part of the Open Source Python community, and remain a contributor for a long time.



My Goals:

•Merge back changes from previous GSoC

<i>Overview</i>	<i>Deliverables</i>
Aim is to merge changes from previous GSoC	Merge back changes from previous GSoC PR#25 (replace old M2Crypto with cryptography dependency)

•Convert to UTF-8 & Fix encoding issues

<i>Overview</i>	<i>Deliverables</i>
Aim is to fix encoding issues & update code of the project	There are several unicode ex problems in wsfev1.py and it would be necessary to convert to UTF8.It is encoded by the UTF-8 character map.There is a need to fix encoding issues.Python 3's str type is meant to represent human readable text and can contain any Unicode character.

•Converting script in python entry points

<i>Overview</i>	<i>Deliverables</i>
Aim is to convert scripts in python entry points	Convert scripts in python entry points and resolve errors in setup.py. Entry-points needed: wsaa.py, rece1.py, recex1.py, recem1.py, receb1.py,pyfepdf.py,etc

•Integration & Deployment

<i>Overview</i>	<i>Deliverables</i>
Continuous Integration & Deployment	Continuous Integration & deployment with Github actions,test it and upload it to pypi /releases.

●Merge Back Unit Tests & Add Unit Tests

<i>Overview</i>	<i>Deliverables</i>
Aim is to merge back Unit tests & add Unit tests	Merge back Unit Tests developed in previous GSoC, PR#32 , PR#44 & PR#45 and complete adding unit tests from previous GSoC PR#36 to PR#43 & increment coverage to 85%

●Using Pytest VCR to achieve Unit Test coverage

<i>Overview</i>	<i>Deliverables</i>
Aim is to use pytest vcr for Unit test	Using Pytest VCR to record/replay http to achieve Unit test coverage could be 85% or up

●Complete automated deployment to PyPI

Weekly Timeline:

•May 17 – June 7:

- ❖ Read the Documentation
- ❖ Preparation of a work plan
- ❖ Communicate with the mentors and discuss about ideas. Get involved with the PyAr community & know about preferred medium of communication, Mentors timezone ,etc

•Week - 1 (June 7 - June 13):

- ❖ Merge back changes from previous GSoC [PR#25](#) (replace old M2Crypto with cryptography dependency)
- ❖ Check for errors

•Week - 2 (June 14 - June 20):

- ❖ Complete merging from previous GSoC, check for errors and do updation in code, fix encoding issues. There are several unicode ex problems in wsfev1.py and it would be necessary to convert to UTF8. It is encoded by the UTF-8 character map. Python 3's str type is meant to represent human readable text and can contain any Unicode character.

●Week - 3 (June 21 - June 27):

- ❖ Convert scripts in python entry points. The most popular kind of entry point is the **console_scripts** entry point, which points to a function that we want made available as a command-line tool. Entry-points needed: wsaa.py, rece1.py, recex1.py, recem1.py, receb1.py, pyfepdf.py, etc. (Similar to console entry points for windows)
- ❖ Modify & upgrade setup.py.

●Week - 4 (June 28 - July 4):

- ❖ Continuous Integration & deployment with Github Actions.
- ❖ Complete deployment and check for any testing failure.

●Week - 5 (July 5 – July 11):

- ❖ Complete testing and deployment
- ❖ Merge back Unit Tests developed in previous GSoC, atleast [PR#32](#) , [PR#44](#) & [PR#45](#)
- ❖ Check for errors and updations & run the project for trial basis.

●Week - 6 (July 12 – July 16):

❖Phase 1 Evaluation

●Week - 6(July 17 – July 18):

- ❖ Complete adding unit tests from previous GSoC [PR#36](#) to [PR#43](#) & increment coverage to 85%
- ❖ Complete and run trial of the project for second time to check for errors and updation.

●Week - 7(July 19 – July 25):

- ❖ Support for dbf tables,xml,xls sheets and possibly other libraries need to be updated.**dbfread** is the library available in python to read dbf files.This library reads DBF files and returns the data as native Python data types for further processing.
- ❖ Openpyxl & xlswriter supports xls sheets.The Python standard library provides a minimal but useful set of interfaces to work with xml. The two most basic and broadly are the SAX and DOM interfaces. defusedxml is a pure Python package with modified subclasses to work with xml. Support for this libraries would be updated.

●Week - 8(July 26 – August 1):

- ❖ Use pytest VCR to record/replay http request/responses, to achieve Unit Test coverage could be 85% or up
- ❖ Check for errors and fix it.

●Week - 9(August 2 – August 8):

- ❖ Checking for any errors & complete automated deployment to PyPI and finishing up the project.
- ❖ Creating documentation and a complete manual.

●Week - 10(August 9 – August 16):

- ❖ Wrapping up and submitting the project.



Will I be able to complete this project?

Yes, I am very much sure that I will be able to complete the project successfully. I have been working on this project and have been in constant contact with the mentors. I know that I will get to learn a lot of new stuff while working on it. I will strictly adhere to the timeline I have proposed. With my skills and experience on working open source project, I believe will surely help me in completing this project on time.

How will this benefit the community?

The aim of the project is to provide library & tools for developers, accountants and SMEs. It is a wide spread standard reference implementation to communicate with Argentina's government entities, with more than +1.5K users group subscriptions, many bindings to other languages and used in modules for Open Source ERP localizations. Customizable PDF generation and visual designer (CSV templates), Email, barcodes (PIL), installation (NSIS), configuration (.INI), debugging and other misc utilities. It is a free software interface to the AFIP Electronic Invoice Web Services, developed in

Python, to be used from other programs or applications. With all these features it would definitely help developers, accountants, banking sector to a great extent.

Other Commitments:

I am applying to Google Summer of Code for the first time but I participated in other open source projects before. In summer I will work on this project only. I have no other vacation plans or internships in the summer, and I will be fully concentrating on this project. I will be able to devote 60 to 65 hours of work per week. If emergency situations arise, then I will take measures to make up for the lost time.

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