GSOD 2021 Proposal [NumPy]

Abstract :

An user documentation is intended for the use of a product or service by end users. Good user documentation is very important since it allows users to learn how to use a software or a package , its features, tips, tricks, and solve common software problems. It also reduces the costs of support and forms part of the product's business identity: A good user documentation is a sign of product health, the development team . Without a good user documentation, the use of the product cannot have an optimal influence as intended. Good communication is and will always be the core of all companies or products, and great documentation simply takes the communication and puts it into an accessible format for everyone.
When a beginner starts his journey to advance the software or a package the document is the only thing that will take him from ground to top .
NumPy, which stands for Numerical Python, is a library in python language which is used in different fields like Big data , data science and Machine learning uses the Numpy library . It is a very popular library used nowadays when it comes to AI and Data science . In simple terms it is used in every field of engineering and also in business for calculations .
According to me, documentation is a key to knowledge , Knowledge through which we can develop many more things that may help society . A technical writer job is not easy , It is thought then a programmer , A programmer only writes and a code . But a technical writer has to explain the full process in a way that every person who reads the document should be able to understand the code .

Current state of a document .

Numpy document structure is :

What is NumPy?
Who uses it and why

NumPy: the absolute beginner's guide

Installation

NumPy quickstart

Aimed at domain experts or people migrating to NumPy

NumPy for MATLAB users

NumPy Tutorials

Learn about concepts and submodules

NumPy How Tos

How to do common tasks with NumPy

NumPy fundamentals

Building from source

Using NumPy C-API

F2PY Users Guide and Reference Manual

Documentation

Glossary

Current Problems:

About the high quality of the tutorials, some improvements to the existing documentation framework might make it better. Simply stated, certain sections of the documents need rewriting and the addition of critical information.

1. Accessible language
    - We can form sentences in english in a way that it can be understand by a persons whose first language is not english

    - We can write the sentence in the present tense and the positive language . So that it can be easy for the person to understand its meaning .

    - When we are explaining some method like range in the numpy we can give a heading **Range** , Then below its definition , Then we can provide a like that will lead us to the range formula . Then we can show two or three examples of how range is used .

    - In Numpy there are many functions and methods , A person who is newton numpy may not know which function to use. In Numpy quick start we can mention all the functions and methods and also add the navigation tool .

2. Design
    - We can use the proper color contracts , because proper color contracts can help people with visual disabilities .

    - In Numpy documents no image or a video is included . We can add images or a flow chart that can help people to understand .

- We can use Alt text , If an image is not visible at least we will come to know what that image is about .

- Some people cannot see. We can add audio at a top of every numpy document , so that they can understand the document by hearing the audio .

3. Tutorial
    - We provide some explanation and tutorial of random and ufunc functions .

    - We can take some examples of random and ufunc from W3 School .

    - We can add some opencv and data science tutorials that use Numpy .
4. If possible we can add translators for some languages , So that a person who doesn't understand english language can translate it into another language which they can understand .

Project Goals:

The main project goal for the GSOD timeline is to create engaging documentation to increase the exposure of the programming kit. To change the document in a way that can be understood by any person from any country or any disability state . To evaluate the data, a variety of qualitative and quantitative assessment metrics will be used.

These are the project objectives that must be met within the project's time frame:

1. Using simple words in the document that can be understood by everyone . Writing sentences in present tense and positive language , Which can make people read documents curiously like

how curious and happy will be waiting for the next episode in a series .

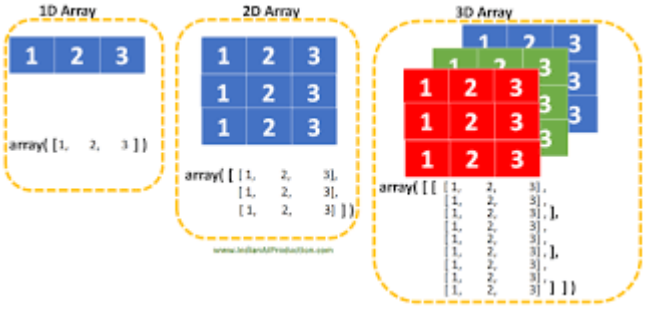
To create sequences of numbers, NumPy provides the arange function which is analogous to the Python built-in range, but returns an array.

```
>>> np.arange(10, 30, 5)
array([10, 15, 20, 25])
>>> np.arange(0, 2, 0.3)  # it accepts float arguments
array([0. , 0.3, 0.6, 0.9, 1.2, 1.5, 1.8])
```

In a Numpy quickstart document . As above sentences many people may not know what the meaning of analogous is .

To create sequences of numbers .Numpy provides the arange function which is analogous to the python built-in range, but returns an array .

2. We can add some images and videos in Numpy , So that it will make the numpy document more interesting to read .



3. We can add a better font size and color contracts and to show some important key points we can use different font colors .

4. For every function when we can explain in the format

   Arange

   arange() is an inbuilt **numpy function** that returns an ndarray object containing evenly spaced values within a defined interval. For instance, you want to create values from 1 to 10; you can use **numpy**.

```
>>> np.arange(10, 30, 5)
array([10, 15, 20, 25])
>>> np.arange(0, 2, 0.3)  # it accepts float arguments
array([0. , 0.3, 0.6, 0.9, 1.2, 1.5, 1.8])
```

Explain the above code .

3. Add some Tutorials from W3Schools website .

Generate Random Number

NumPy offers the `random` module to work with random numbers.

Example

Generate a random integer from 0 to 100:

```
from numpy import random

x = random.randint(100)

print(x)
```

4. Adding Formulas for every function by providing links and some data science and Machine Learning numpy tutorials .

LINK

Evaluation Metrics:

Plan to use the Qualitative and Quantitative measures as described on the proposal page. As a result, I intend to refer to the feedback provided by the members throughout the project's timeline. Meanwhile, progress will be tracked based on user activity in the GitHub repository. I also intend to post details about my work on other social media platforms, such as Twitter, and to email my mentor on a regular basis.

Project Timeline:

The season of docs timeline suggests a monthly evaluation, but I intend to provide the organisation with two weeks' worth of updates about the course of action at a time.

Timeline Details :

Month Planned Work Planned Evaluation Dates [All in correspondence to the year 2021]. The dates here are in the UTC zone.

Present - 17 May :

→ Keep contributing in different ways such as resolving issues on GitHub and on other platforms .

→ Participate in discussions .

→ Getting to know the organisation and the mentors better and understanding various functionalities.

→ Setting up an environment .

→ To create and schedule a detailed timeline to keep my work and progress on track .

17 May - 15 June :

→ Auditing the existing documentation for any kind of errors.

→ Making the required changes in the current tutorials and examples.

→ In Numpy quickstart document adding all the functions and methods of the starting and adding the navigation too. To every function and method . So that it can redirect to that particular function .

→ Resolve queries on different platforms.

→ Blog about the progress which will keep the users updated about the changes brought in the documentation.

----------1st Evaluation : 16 June - 23 June----------

24 June - 15 July :

→ Framing the sentences in a way which is understandable by every person who reads the document .

→ Adding links to certain hard words .

→ Framing sentences using positive language .

→ Resolve queries on different platforms.

→ Blog about the progress which will keep the users updated about the changes brought in the documentation.

----------2nd Evaluation : 16 July - 23 July----------

24 July - 15 Aug :

→ Import the documentation to GitLab .

→ Formatting every function in
    Header (Function name)
    Content (Function definition)
    Link (Function formula explanation)
    Example (Adding examples for that particular function)

→ Resolve queries on different platforms.

→ Start adding W3Schools tutorial .

→ Blog about the progress which will keep the users updated about the changes brought in the documentation.

----------3rd Evaluation : 16 Aug - 23 Aug----------

24 Aug - 15 Sept :

→ Import the documentation to GitLab .

→ Adding the color contracts .

→ Adding images and videos in the document .

→ Resolve queries on different platforms.

→ Adding different font colors for key points in the document .

→ Blog about the progress which will keep the users updated about the changes brought in the documentation.

----------4th Evaluation : 16 Sept - 23 Sept----------

24 Sept - 14 Oct :

→ Import the documentation to GitLab .

→ Adding Alt text .

→ Adding some data science , ML numpy base projects .

→ Adding the audio at the beginning of the document .

→ Make final changes in the documentation.

→ Make final changes in the documentation.

→ Resolve queries on different platforms.

→ Blog about the progress which will keep the users updated about the changes brought in the documentation.

----------5th Evaluation : 15 Oct - 22 Oct----------

Motivation:

I am currently in my 2nd year doing my BTech in Computer Science Engineering (Specialization in AI). I have learned Numpy as a part of a Machine learning course in the third semester . I was really excited to learn more about the numpy package in python .Then I started

researching it and I have learned many things about numpy . But many things have to be learned in numpy . As I came across the GSOD which gives the opportunity for students to improve the documentation of the particular , I was very much excited and happy . I really want to try by applying in the organization of numpy , so that I can learn more about the Numpy .
This project presents me with tremendous opportunities for self-development and technical exposure. I also hope to remain involved with the community after the project's completion date. All of these factors persuade me to give this project my all.

I like learning new things which makes me curious about that particular subject . For me When I start learning something new it just gives the feeling of a blossom flower or beautiful nature .

Why would I be appropriate for the Project:

I believe myself to be the right person for this project because

- I have experience in writing a research paper , I have also written a blog . In my college every semester we have projects so for that we have to write a project report about how we have approached our project and how we have done the code .

- I believe that If you want someone to do something in the most efficient way possible, you document it. By documenting your processes, you ensure efficiency, consistency, and peace of mind for anyone involved.

- As a learner myself, I understand how each guide should be written for beginners to get the most out of it.

- I have used and researched numpy , when I was learning it in my third semester .

- I know what numpy beginners need the most .

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