An Open Scanner

An Open Scanner

by Venezuela

An Open Scanner, or AOS is

- A community-driven project for digitisation and computer-based accessibility of documents
- Open Access Hardware and Software that allows scanning almost any standard document, book, manuscript at low cost.
- An effortless design to allow the creation of scanners that releases in Machine Learning Computer Vision algorithms to manipulate and enhance the shots
- By design, it has the potential to create a community of “operators” and “editors” distributed worldwide.
    - Making much easier to go from a physical piece of paper to a digital and enhanced document thanks to Cloud Computing
- It has a dedicated business model in the spirit of “Made with Creative Commons”.

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AOS primary targets

- Whoever wants to digitise a document or book
- Small & medium educational institutions
  - Schools, universities, libraries
- Public & Private museums and other cultural associations
- Traditional publishers and other media companies
- Scientists and researchers that need mobility and flexibility to scan dedicated documents
- But also
  - Editors and others that need to enhance an already digitised book.
  - Organisations that want to distribute the workload of large documents amount personnel or volunteers.

And it is here where the community is created!

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AOS communities:

The CC Venezuela chapter ...

- The Operators
  -
- The Editors
  -

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AOS business models:

- The Operators
  -
- The Editors
  -

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AOS Hardware

AOS business models:

- The Operators
  -
- The Editors
  -

AOS Software

AOS business models:

- The Operators
  -
- The Editors
  -

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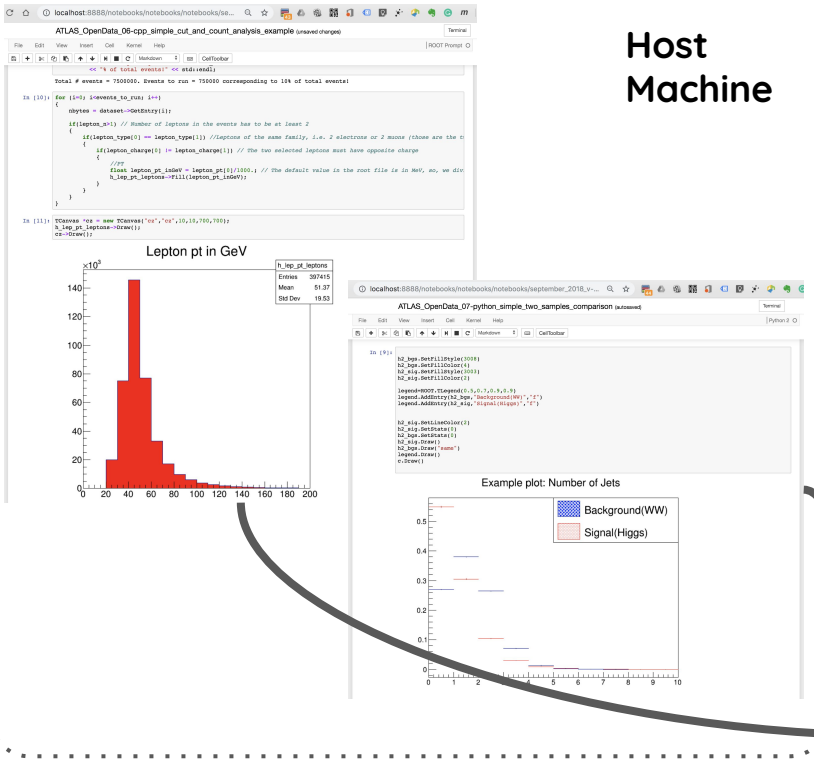
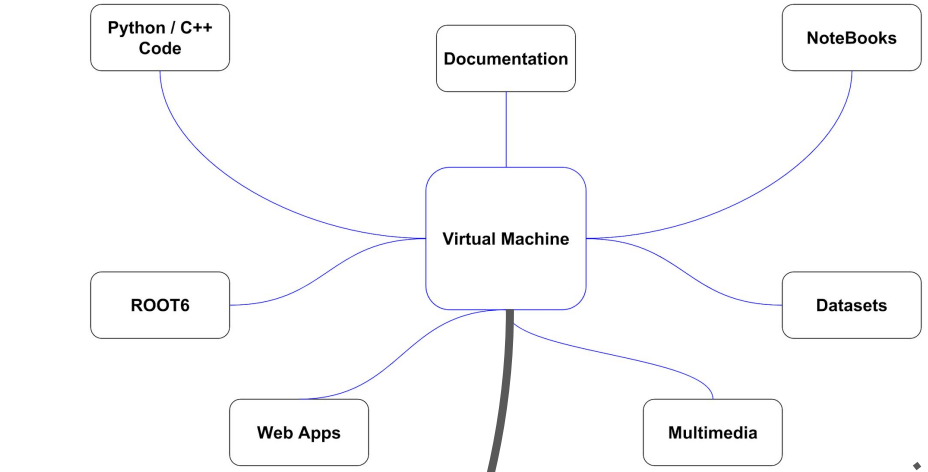
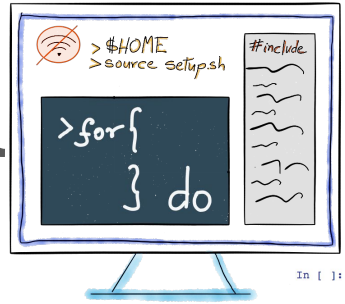
AOS Status

AOS Timeline

AOS Contacts







Uses as a Server

Jupyter notebooks can run ROOT commands and other Python libraries and tools

- The notebooks use both the Python and the C++ ROOT kernel to produce results using the VM as a server, teaching as well the principles of Cloud and Distributed Computing.

```
In [ ]: import sys
        !{sys.executable} -m pip install --upgrade --user pip
        !{sys.executable} -m pip install -U numpy pandas uproot matplotlib keras scikit-learn --user
```

```
In [ ]: import os
        import csv
        import pandas as pd
        import numpy as np
        import matplotlib.pyplot as plt
        from pandas import read_csv
        from matplotlib import pyplot
```

Quick view of the anatomy of the ATLAS Open Data VM

- Based in a Linux-kind OS with standard graphical UI
- The OS in enhanced with *all* ROOT's needed libraries and dependencies
- ROOT5 or ROOT6 analysis framework and IPython
- The Open **Datasets and Software** analysis frameworks
- Jupyter-notebook technology and Examples Notebooks
- Documentation in form of PDFs and Video tutorials.