

Developing and maintaining a dynamic, scalable and automatic processing platform.

Internship at Space Applications Services

December 17, 2018

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1. **Introduction of the company** team and project
2. **Internship content** pedagogical content and objectives
3. **Results**
4. **Technical skills and soft skills** What have I used and learned
5. **Conclusion** retrospective

SPACE APPLICATIONS SERVICES



Description

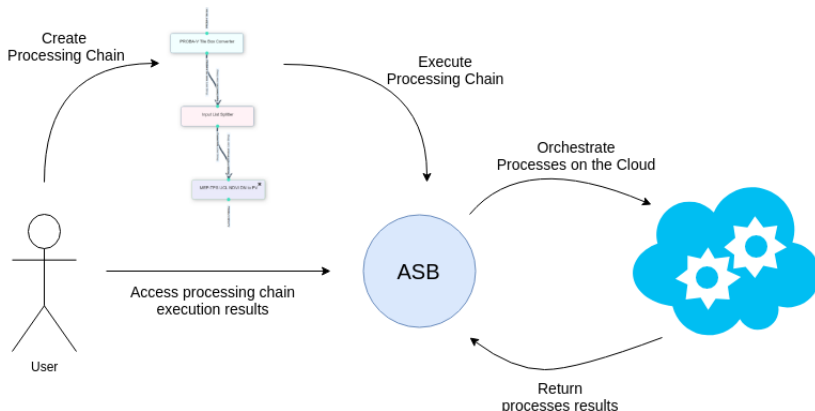
- ▶ Independant Belgian company
- ▶ Focus on research and develop innovative systems and products
- ▶ Mainly in Space, Security and related industries

Earth Observation Systems Team

- ▶ Team that focus on systems and products for Earth Observation
- ▶ Main product: Automated Service Builder, generic platform to execute processing chains
- ▶ Focus on ASB customization for processing algorithm using EO data

Joined the team as Software Engineer on July 2018

Automated Service Builder



Development

- ▶ Web applications: Python, Django, Go, Javascript
- ▶ Git, Gitlab, JIRA
- ▶ Container technologies

System administration

- ▶ Linux systems
- ▶ Shell scripting
- ▶ Network setup and administration
- ▶ Cloud infrastructure (using Mesos/Marathon)

Development

- ▶ Single Sign-On: Centralized login and user informations
- ▶ Common library to share between components
- ▶ Improve deployment of the platform
- ▶ Provide a way to customize the platform by means of project *plugins*

System administration

- ▶ Deploy operational platform for customers
- ▶ Maintain the cloud environment used by the platform

Single Sign-On

- ▶ Implemented by extending the platform with a new service

Shared library, assets and plugins

- ▶ Shared library: implemented and integrated in all core components
- ▶ Implemented in the shared library: configuration module to choose a deployment mode
- ▶ Implemented in common library: plugin module to customized to component

System administration

- ▶ Operation services are running and available to customers

Programming

- ▶ Python, and programming in general, was a big part of the internship
- ▶ Capability of learning new programming languages (Go, etc)
- ▶ Frontend development learned during school projects

System administration

- ▶ *Administration Système* and *Réseaux* were very helpful
- ▶ *Système d'exploitation* for bash scripting and OS comprehension

Useful skills acquired while being a student:

- ▶ Research to solve problems
- ▶ Writing documentation in English
- ▶ Reporting problem solutions

Time Management

- ▶ Write everyday about the work done, and how many hours
- ▶ Time tracking allow to make prediction for the future

Project Management

- ▶ Documentation is a big part of the job
- ▶ Daily meeting/discussion are important

European Projects participation:

- ▶ Worked on European projects with International Consortium
- ▶ Each partner is responsible for Work-Packages
- ▶ I participated in a meeting with all partners in Athens

Time management is important:

- ▶ Small team (2 of us) and a lot of projects (4/5)
- ▶ Deadlines were met, but with overtime..
- ▶ Predication are hard to make

Emphasize the fact that project management and prioritization is very important

Integration in the company

- ▶ Already worked 2 years as a student for the System Administration team
- ▶ Easier to integrate in the team and getting worked done
- ▶ Small team: easier to interact and discuss

Downside

- ▶ Internship was very technical
- ▶ I wrote documentation only for the team
- ▶ No *real* presentation made during the internship

Computer scientist ?

- ▶ Broad field, with different finalities
- ▶ Software Engineer, DevOps, Developer, etc: can mean the same thing or be completely different depending on the company
- ▶ Work can be completely different depending on the Team/Project

Impact on the company

- ▶ Worked on a product that is used for production
- ▶ Small team, so responsible very fast
- ▶ Still in the company after the internship, still working on ASB!

Thank you!

