FRONT-END MONITOR AND CONTROL WEB APPLICATION FOR LARGE TELESCOPE INFRASTRUCTURES: A COMPARATIVE ANALYSIS

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M&C Front-End Web Application: a key feature

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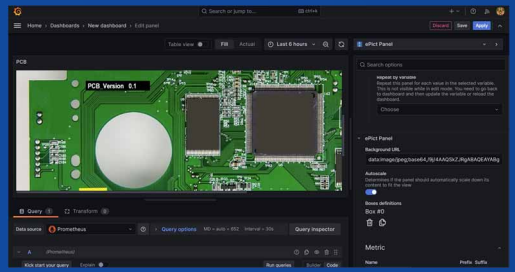
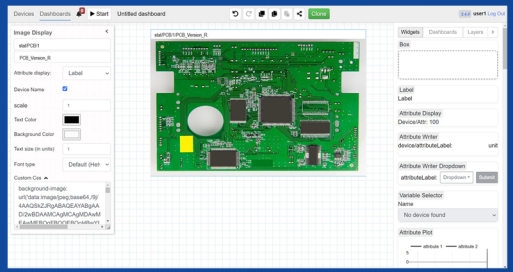
- A robust monitor and control front-end application is a crucial feature for large and scalable radio telescope infrastructures such LOFAR and SKA.
- Two state-of-the-art web applications such Grafana® and Taranta are taken into account, developing a comparative analysis between the two software suites.
- Choice is motivated mostly because of their widespread use together with the TANGO Controls Framework.
- The main objective is to offer the stakeholders a basis for future choices.

Use Case: create and monitor a dashboard

- Use Case: create and monitor a dashboard that shows the image of a Printed Circuit Board (PCB) which represents a real hardware device of the observing station.
- The main attributes of the device are placed upon the image with the possibility by the operator to read and/or modify them.
- In both cases data are retrieved from Tango DB
  - **Grafana** -> through Prometheus which interfaces with Tango DB, but acts as an autonomous data source
  - **Taranta** -> directly from Tango DB through TangoGQL





Comparative Analysis and Conclusions

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- We are aware that we are comparing two open-source apps which rely on a different scale of community developers (~2100 vs ~40) -> inevitable imbalance.
- Both apps meet the needs of a complex monitor and control front end framework, suitable for large infrastructures, and in particular for those who rely on the Tango Controls.
- **Grafana** is perfectly suitable for any kind of systems and organization, especially if an on-the-fly setup is needed or if the system relies on several different data sources.
- **Taranta**, on the other hand, even if it is a younger and smaller competitor, makes its integration and compatibility with Tango its strength point, allowing direct control features not present in Grafana.

P.S. for a detailed comparative analysis table, please refer to the paper/poster

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Thanks for the attention

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