Student project proposal

Project title  Synchrophasor data analytics platform

Project type  ☒ MSc thesis  ☐ BA semester project  ☒ MSc semester project

Project responsible and e-mail
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Project description and objectives
Phasor Measurement Units (PMUs) are advanced grid monitoring devices able to provide high-speed and time-synchronized measurements of voltage and current signals. PMU measurements are transmitted in real-time to a Phasor Data Concentrator that collect and store them and analyse them using advanced algorithms.
In this project, the student is asked to develop a synchrophasor data analytics platform based on an open-source time-series database and an open-source web environment for interactive data visualization applications. The solution must be capable to run both on desktop and mobile supports, display key indicators as well as advanced representations of the synchrophasor data repository and generate alarms under specific circumstances.

Tasks of the student
- Analyze and study the synchrophasor data repository integrated into Zaphiro solution
- Design and develop dashboards for both mobile and desktop users based on Grafana environment
- Configure alarms and a notification mechanism

Required skills
- Time-series and relational database technologies
- Web design (desirable)
- Basic power system knowledge (desirable)
- Experience in mobile application design (desirable)

Other benefits and/or compensation
Depending on the final project type, scope and deliverables, Zaphiro may consider providing additional adequate compensation.