

Project Plan

**Data Analysis with Elasticsearch (ELK) and
Grafana**

Birate Kabanza Arthur

Van Genechten Packaging

Company Background

Van Genechten Packaging (VGP) is a leading European manufacturer of sustainable and innovative packaging solutions. With a history dating back over 180 years, the company specializes in folding carton packaging for various industries, including food, beverages, and consumer goods.



Project Scope and Objectives



elasticsearch kibana



Grafana

Development of Dashboards

- Design and implement real-time Kibana and Grafana to monitor system logs and operational metrics.

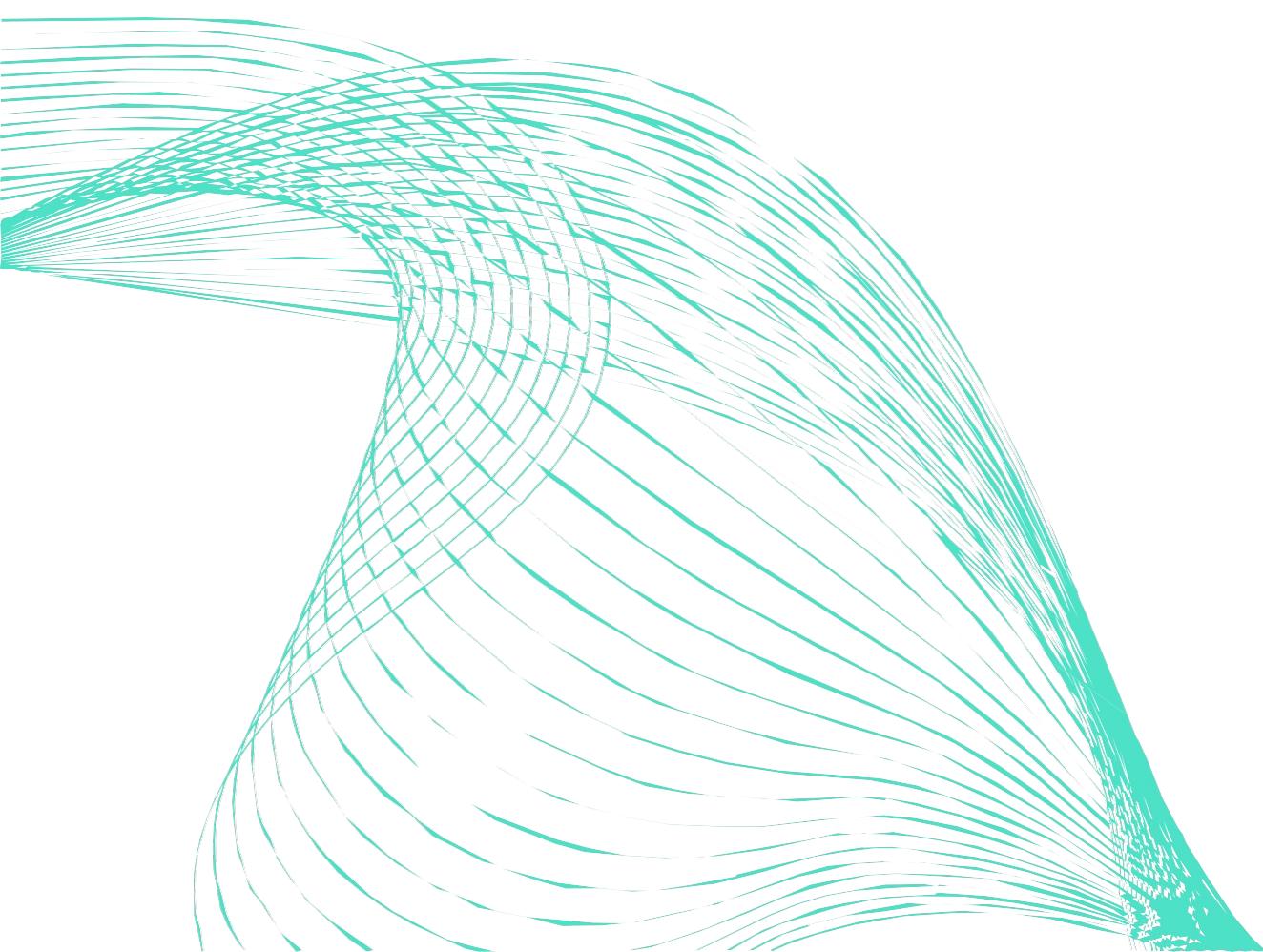
Implementation of Real-time Alerting & Reporting

- Configure automated alert for anomaly detection in logs and system performance.
- Set up scheduled reporting to provide periodic insights of dashboards.

Application of Machine Learning

- use elasticsearch built in machine learning for anomaly detection to identify abnormality in log patterns and system metrics.
- Utilize predictive analytics to anticipate potential failures and optimize system.

Project Phases and Tasks



Phase 1: data exploration and Understanding

- Understanding data fields, indices and fenics data
- Identify relevant KPIs and metrics for analysis
- Validate data completeness and correctness

Phase 3: Machine Learning in Elasticsearch & Documentation

- Anomaly detection : detect irregular system behavior
- Predictive maintenance : Forecast potential production issues

Phase 2: Dashboard development & Machine Learning Integration

- Machine Learning: Anomaly detection in logs.
- Kibana Dashboards: Log analysis : error trends , system performance, user activity.
- Grafana Dashboards Time-series trends (e.g. machine performance over time)



3. Timeline and Milestone

Week 1-2

Data exploration

Week 3-5

Dashboard creation and ML implementation

Week 6-7

Alerting and Reporting

Week 8-10

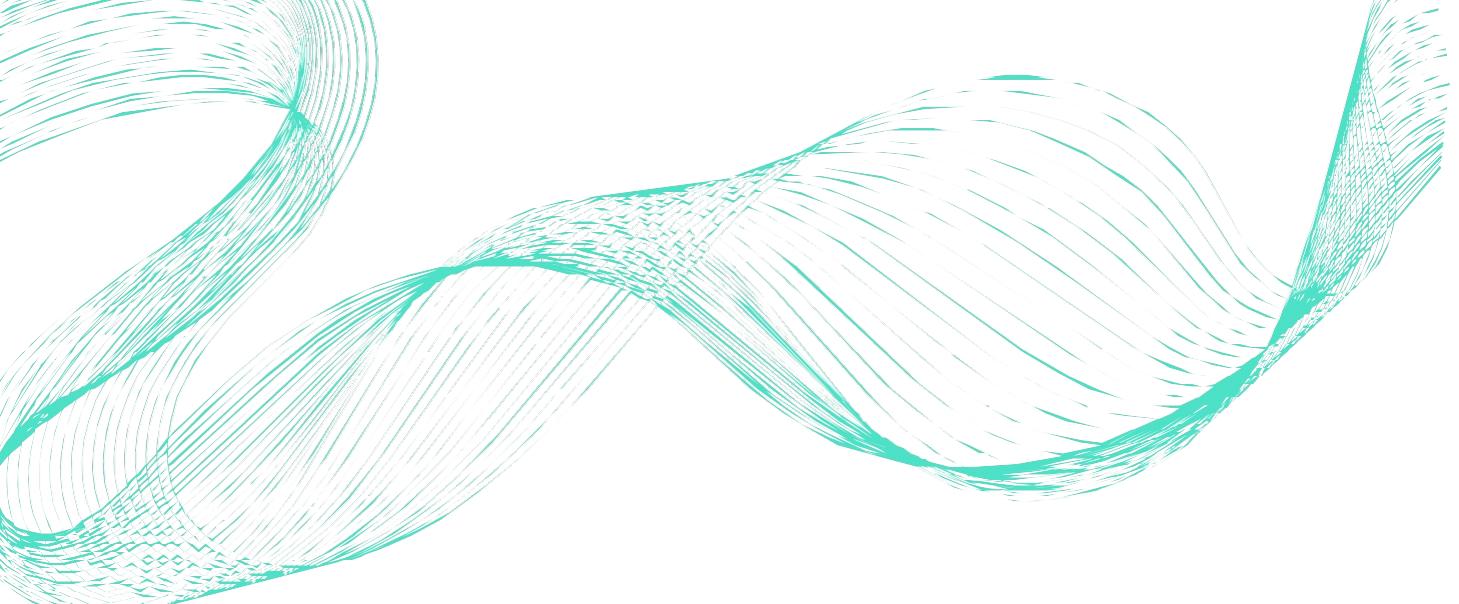
ML implementation

Week 11- 12

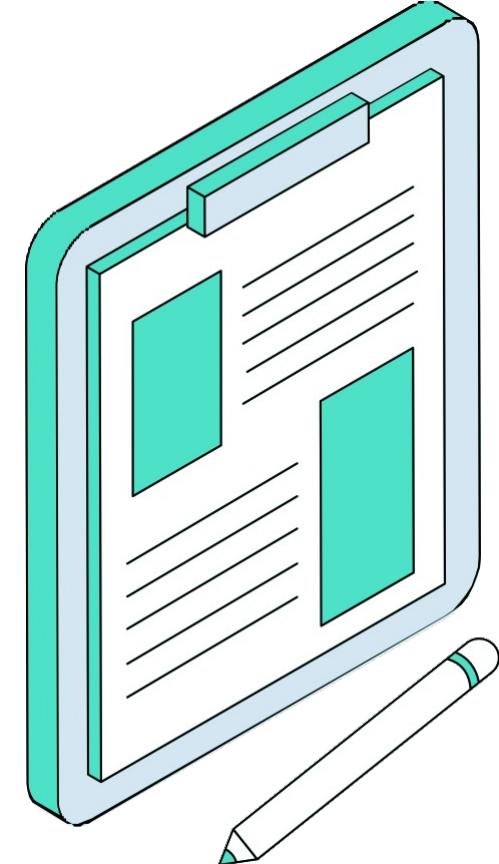
Testing and Optimization

Week 13

Final report and presentation



3. Follow up and Progress



- A weekly progress on Monday and Wednesday (Was later changed to Friday)