THESIS

To obtain the diploma of **Engineer**
Field: **Computer Science**
Specialty: **SIW**

Theme

Geographic Information System (GIS) for Managing and Monitoring Oil and Gas Pipelines Network

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Submission Date: **Juillet, 2024**
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Academic Year : 2023/2024

Abstract

The efficient management and monitoring of oil and gas pipelines is critical for ensuring the safety and reliability of energy infrastructure. This thesis presents a comprehensive Geographic Information System (GIS) designed to oversee and maintain the extensive network of oil and gas pipelines. The system integrates real-time data, geographic information, and advanced analytics to provide a robust platform for pipeline management. Key features include real-time monitoring, automated inspection scheduling, and user-friendly visualization tools. Through this GIS, companies can achieve enhanced operational efficiency, improved safety protocols, and optimized resource allocation, ultimately contributing to the sustainable management of pipeline networks.

Keywords— GIS, oil, gas, pipeline management.