NANYANG TECHNOLOGICAL UNIVERSITY SINGAPORE

School of Computer Science and Engineering
College of Engineering

Privacy-Preserving Data Mining on Encrypted Graphs

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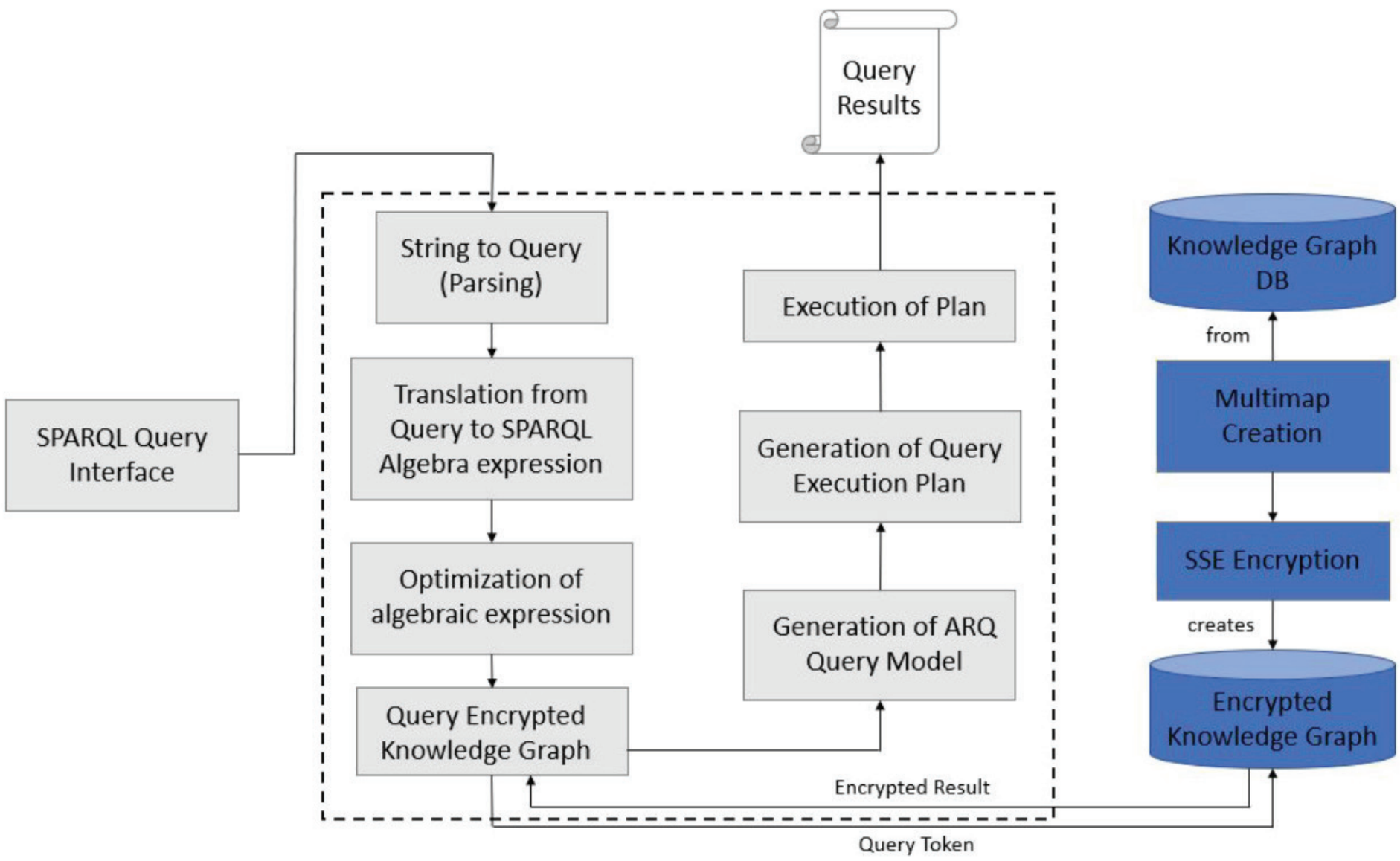
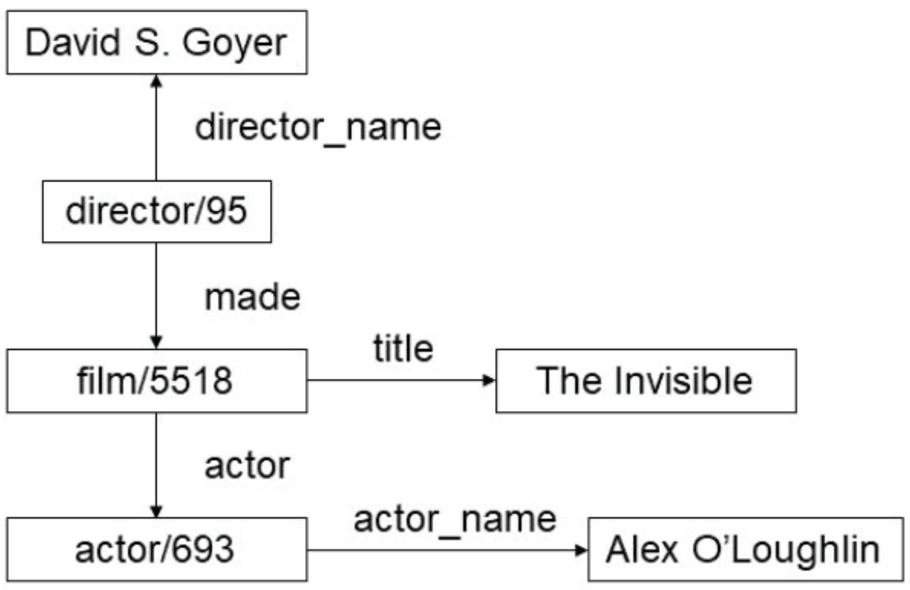
OBJECTIVE

This project aims to explore privacy-preserving data mining methods on encrypted graphs using Searchable Symmetric Encryption. Its application is tested on knowledge graphs through integration with SPARQL using real-world datasets.

ARCHITECTURAL MODEL OF APPLICATION



REAL-WORLD APPLICATION



Example Knowledge Graph Representation of Movie Data

Fifteen common queries based on two real-world datasets, movie and crime data, are passed into the application. Accurate query results proved feasibility of model with potential areas for further development.