UI/UX AUTOMATION USING LLM
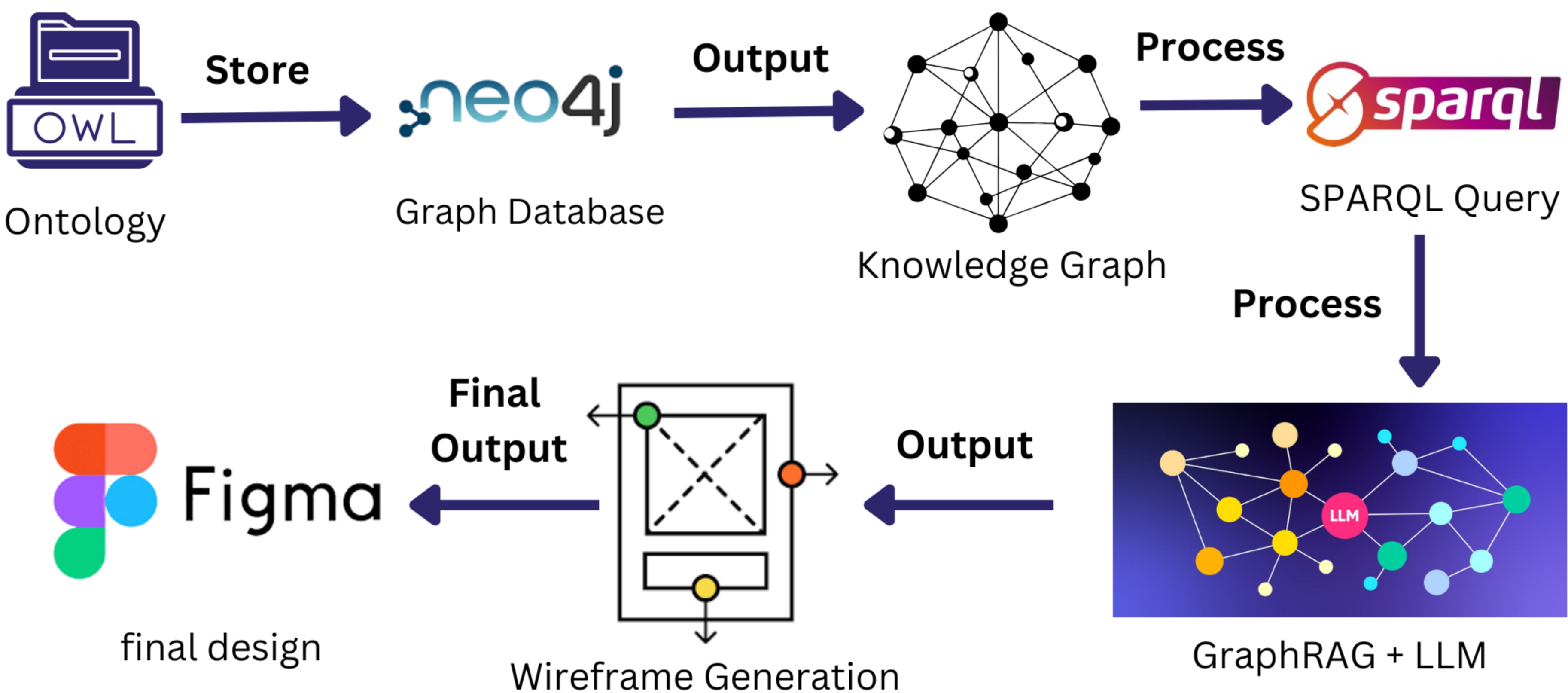
DEPARTEMENT OF COMPUTER SCIENCE

ABSTRACT

This project automates UI/UX design workflows using Large Language Models (LLMs), Neo4j-based knowledge graphs, and OWL ontologies. By integrating GraphRAG for context-aware querying, it automates wireframe generation and design validation, producing high-fidelity Figma designs.

ARCHITECTURE

Ontology **Store** → neo4j **Output** → Knowledge Graph **Process** → sparql

Graph Database

SPARQL Query

Process

final design Figma ← **Final Output** — Wireframe Generation ← **Output** — GraphRAG + LLM

TIMELINE

Phase 1

Ontology Creation

- Define OWL Ontologies
- Establish relationships
- Prepare a structured representation

Phase 2

Knowledge Graph Creation in Neo4j

- Map ontology data
- Define nodes and relationships
- Enable semantic querying

Phase 3

Contextual Design Assistance

- Integrate GraphRAG
- Leverage LLM
- Facilitate automated reasoning

Phase 4

Wireframe to Final Design

- Generate wireframes
- Export wireframes to Figma
- Deliver ready-to-use UI designs

TOOLS

protégé | | Figma | sparql

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