



Sri Lanka Institute of Information Technology  
CDAP Project Proposal 2016  
MigDB Project

# Introduction

---

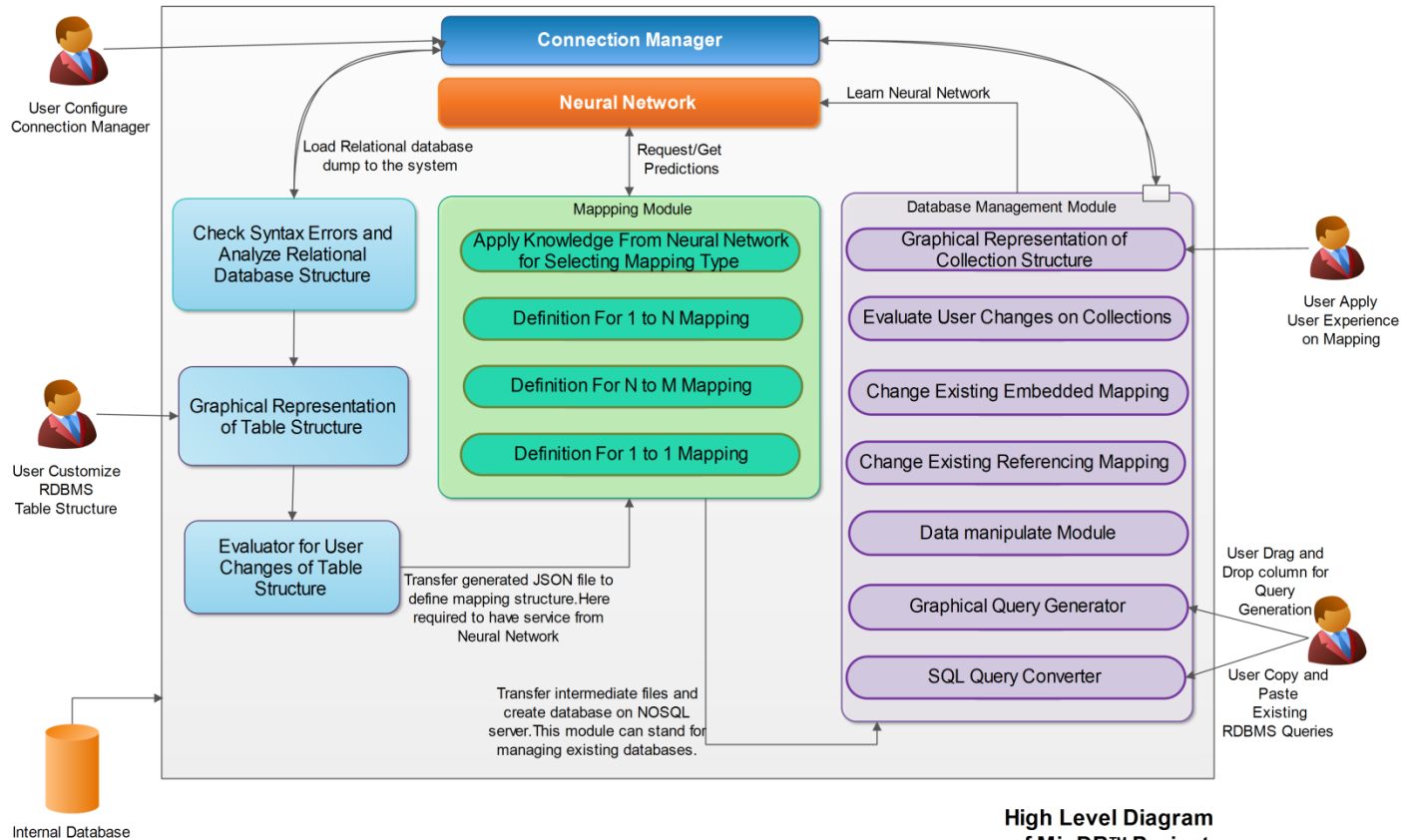
- A standalone application
- MySQL to MongoDB migration
- Supports migration of tables, relationships, data and queries
- Does not require JSON or MongoDB command knowledge

# Overview

---

- Relational Database Handling
  - Connection Manager
  - SQL DB Analyzer
  - SQL DB Modification Evaluator
- Mapping Module
  - One-to-one Mapping
  - One-to-many Mapping
  - Many-to-many Mapping
  - Semantic Network for Collection Mapping
- Management Module
  - MongoDB Collection Modifier UI
  - MongoDB Modification Evaluator
  - Conversion of Referencing to Embedding
  - Conversion of Embedding to Referencing
  - MongoDB Data Manipulator
  - Graphical Query Generator
  - SQL Query Converter

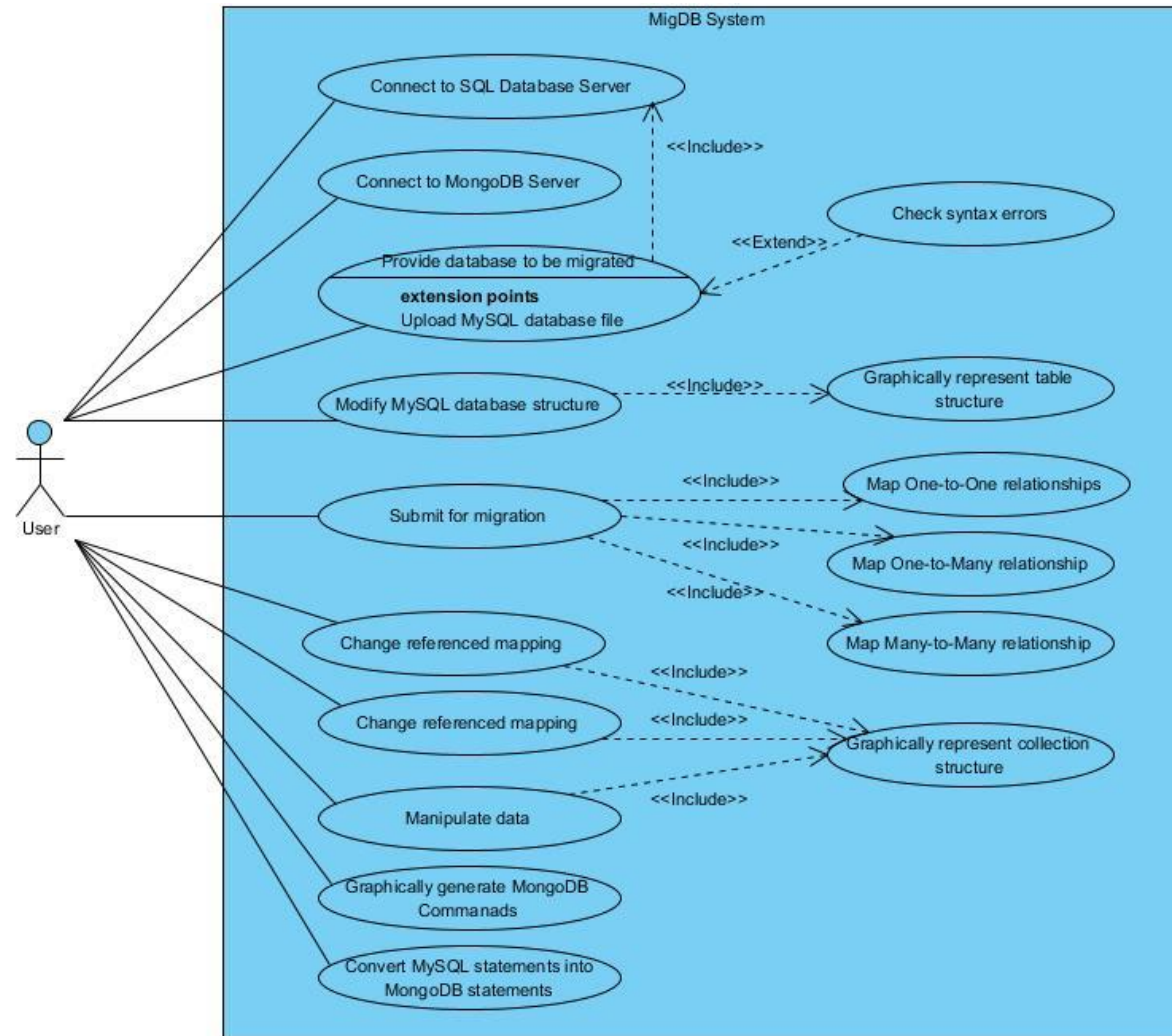
# System Diagram



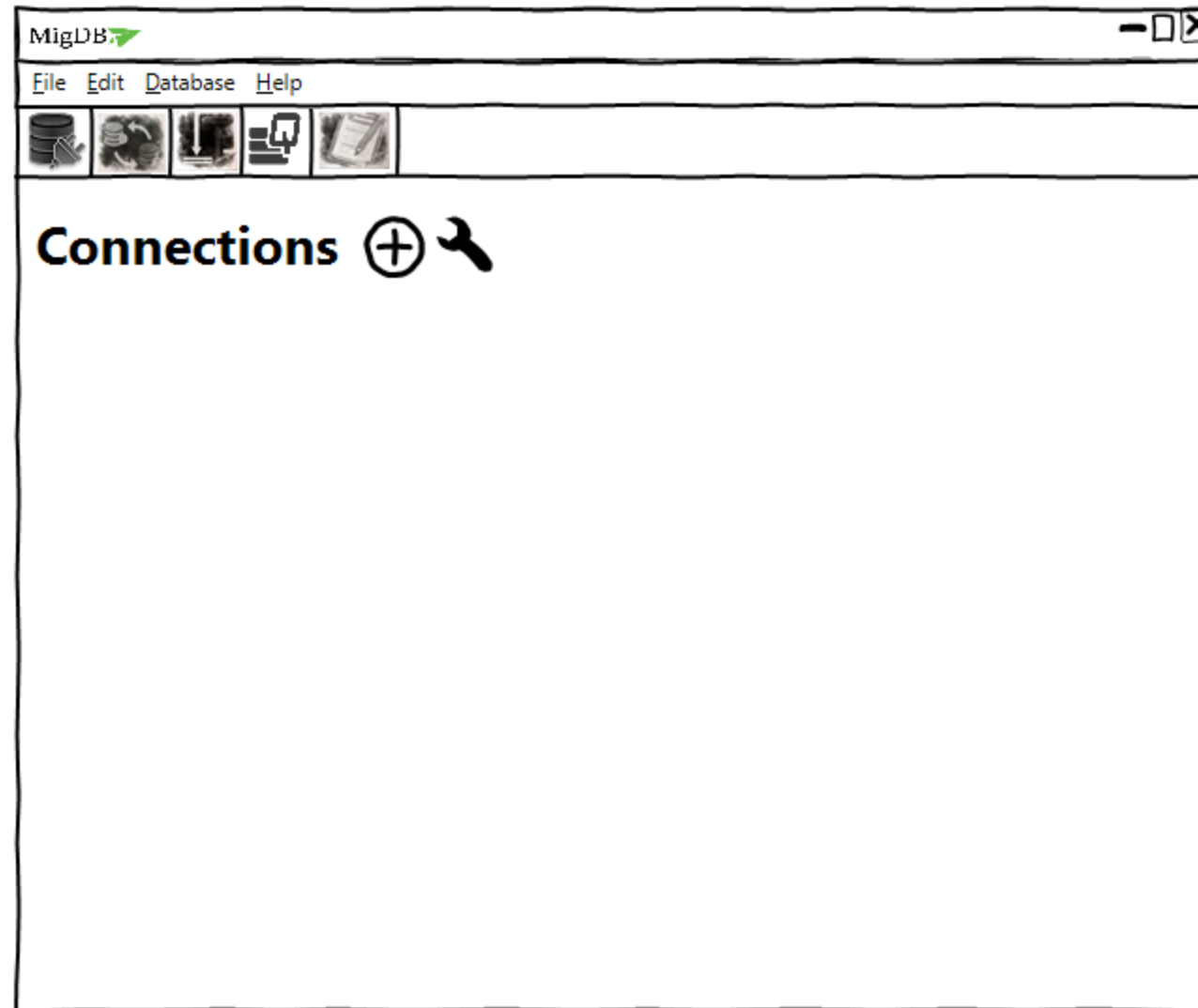
# Product Perspective

Features	Research paper	Pelica Migrator	No-SQL Manager	Robo Mongo	UMongo	Admin mongo	Query Mongo	MigDB
Evaluate data changes to the schema								✓
Migration of table structures		✓	✓					✓
Migration of data		✓	✓					✓
Selection of most appropriate relationship mapping option from embedding or referencing	(Only embedding)							✓
User interactions to mapping								✓
Graphical management tool for MongoDB				✓	✓	✓		✓
Query conversion with joining							(only select queries)	✓
Graphical query generation								✓
Does not require JSON or MongoDB knowledge		✓						✓

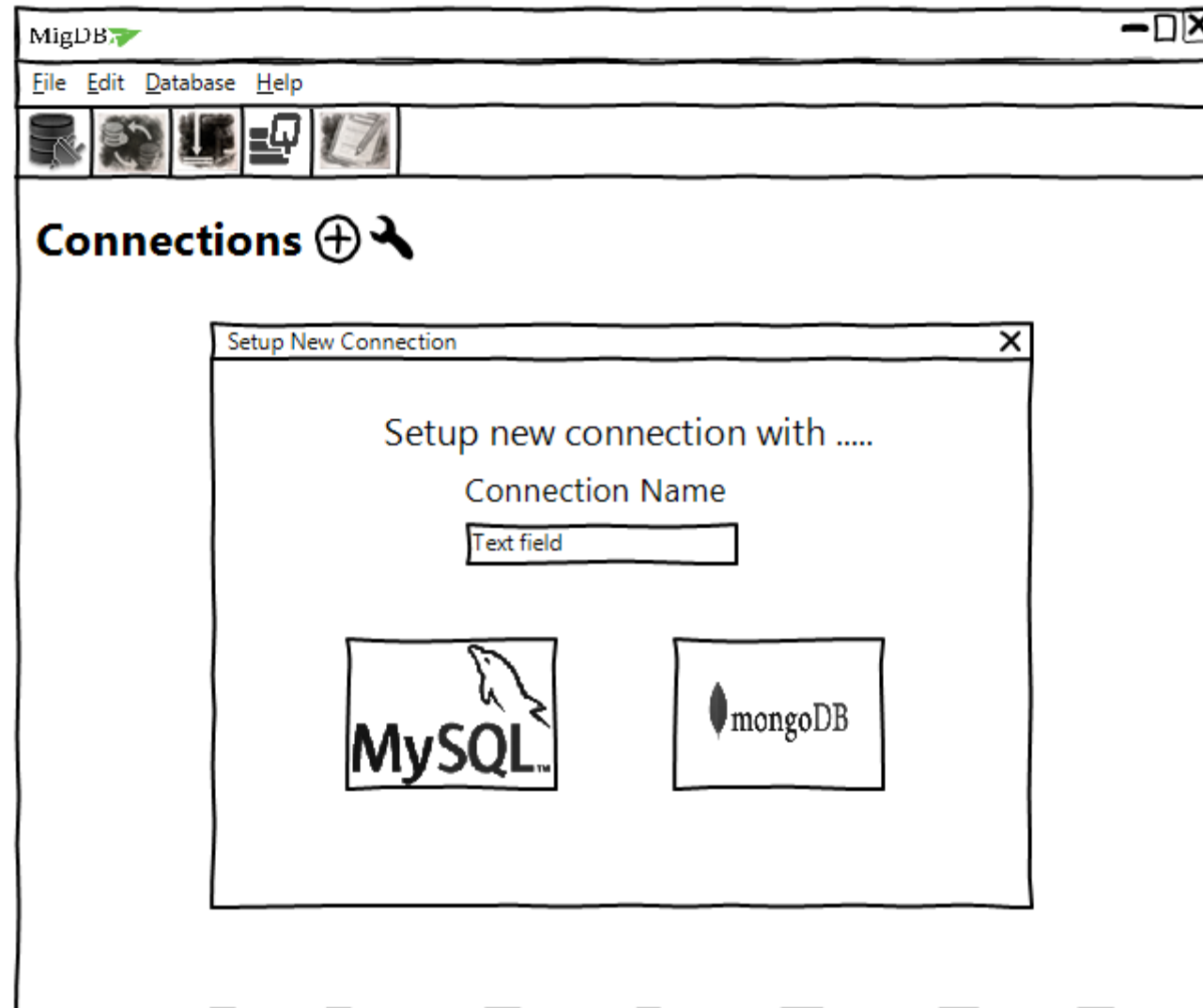
# Use Case Diagram



# User Interfaces

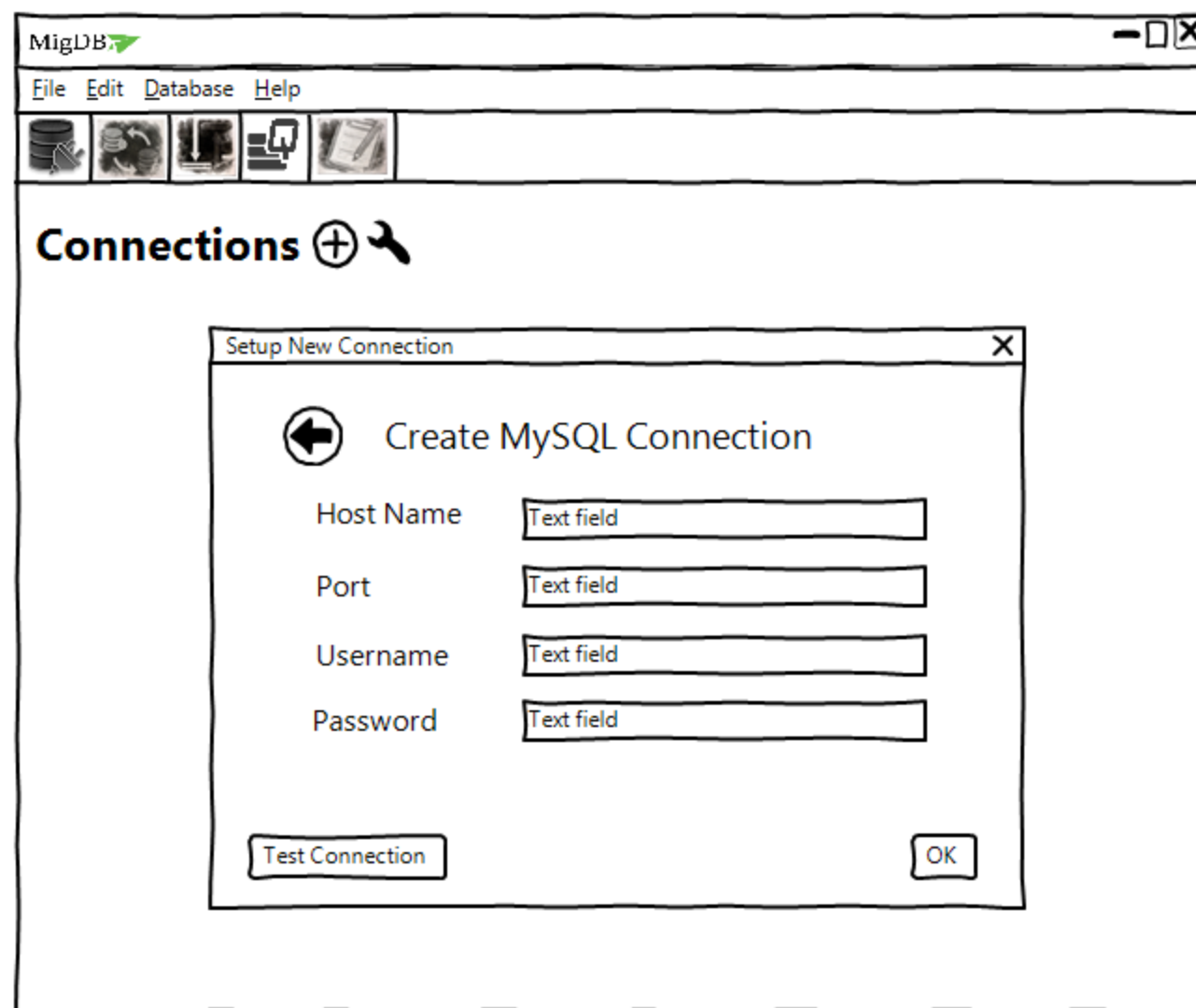


# User Interfaces

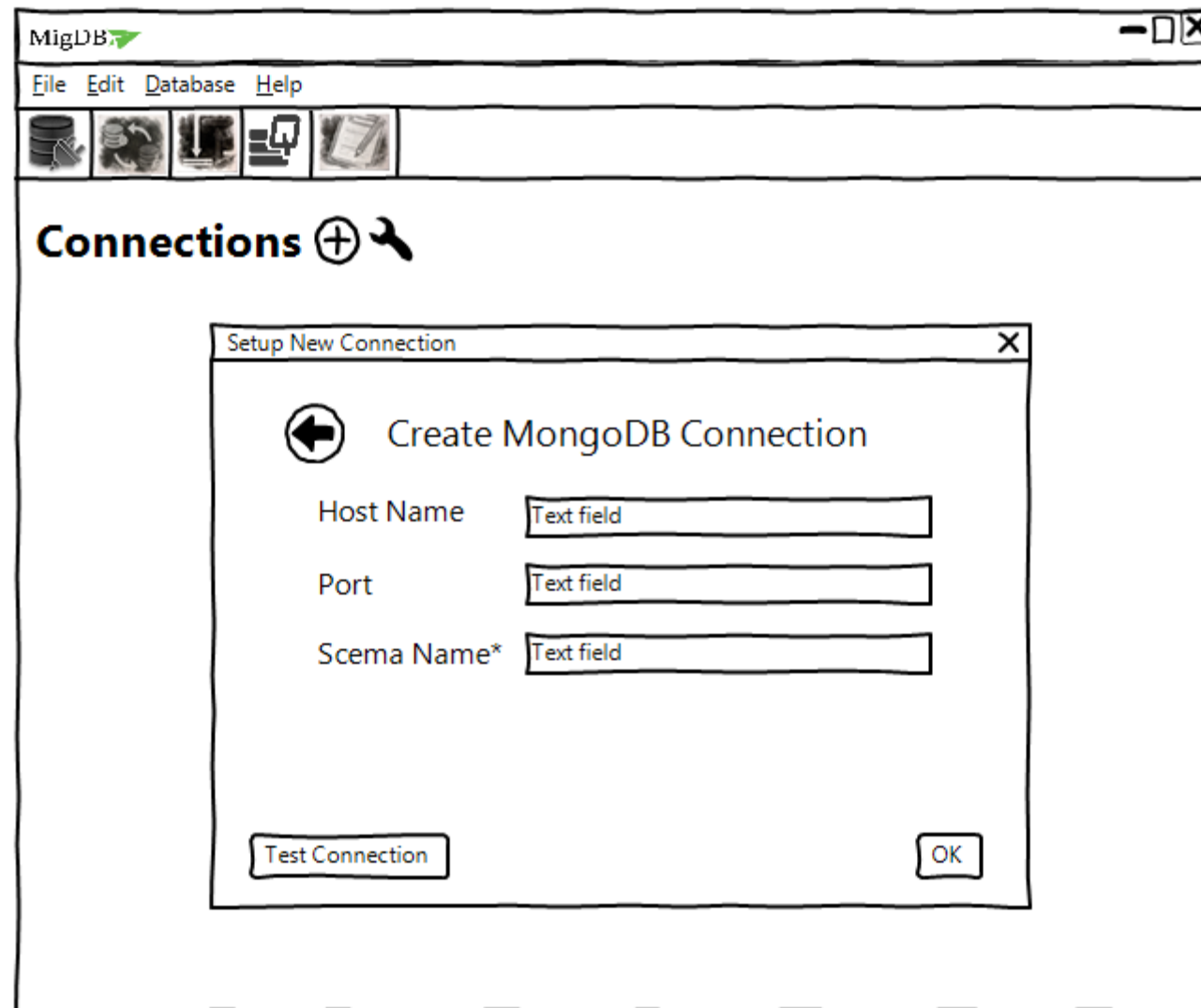




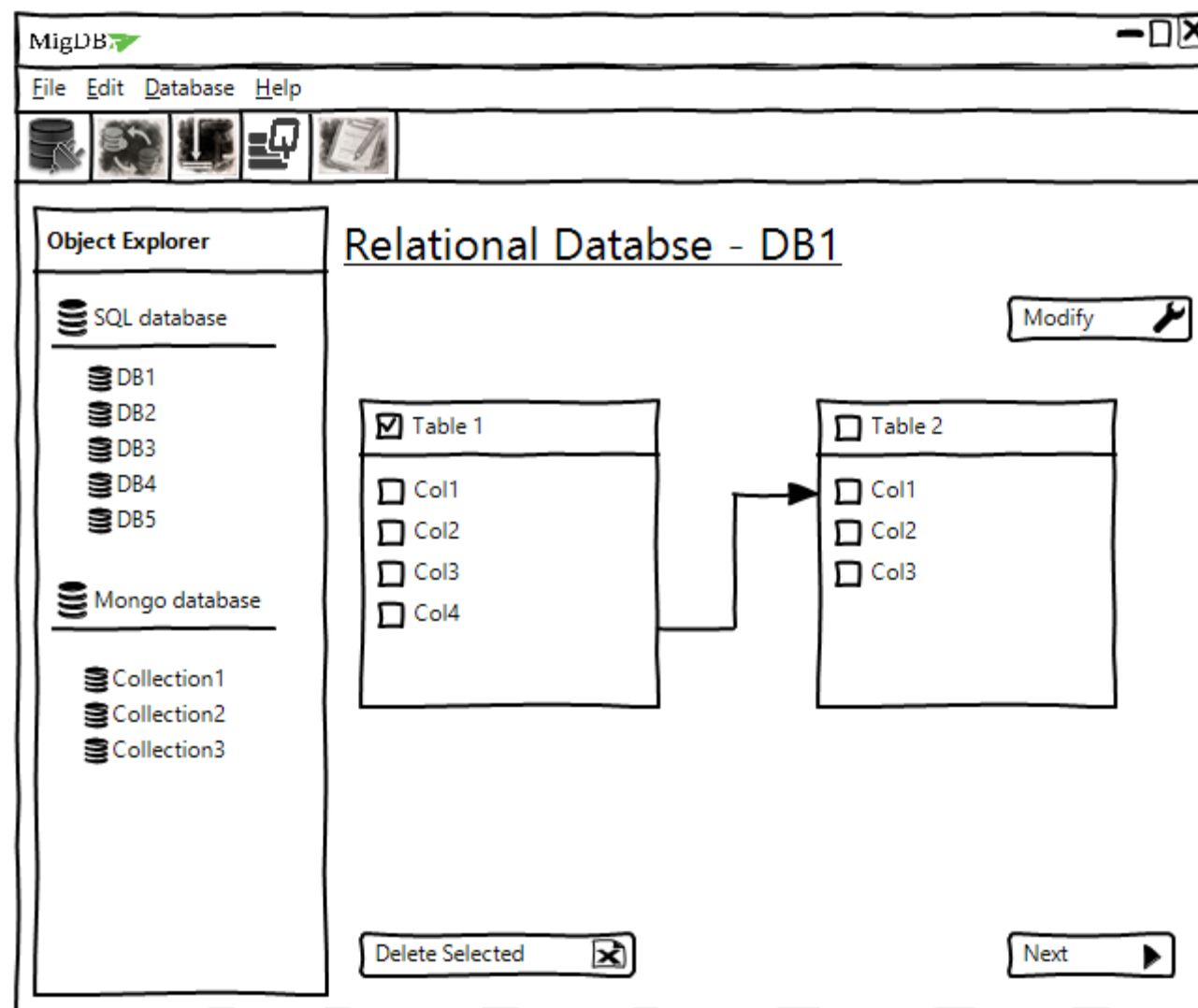
# User Interfaces



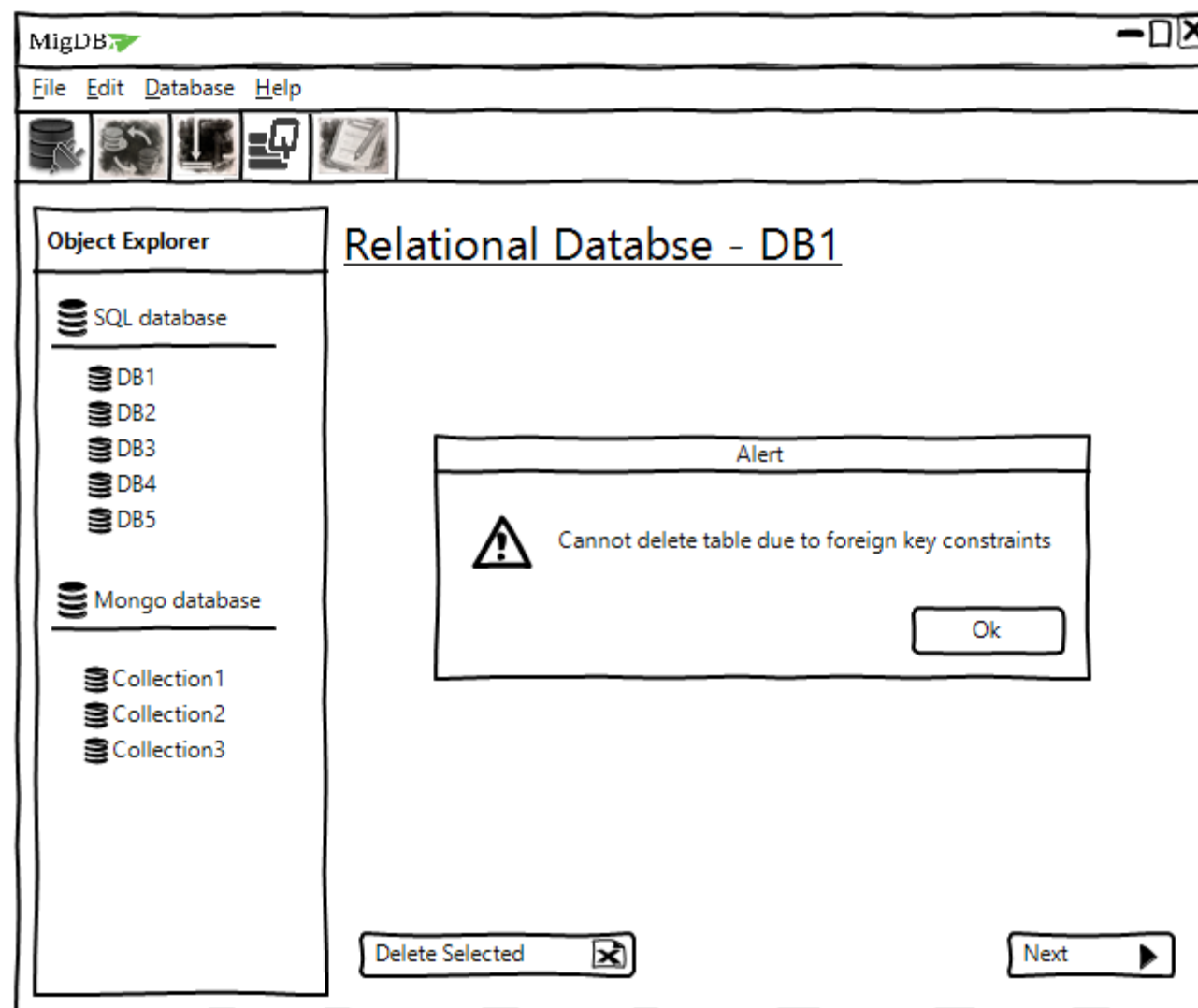
# User Interfaces



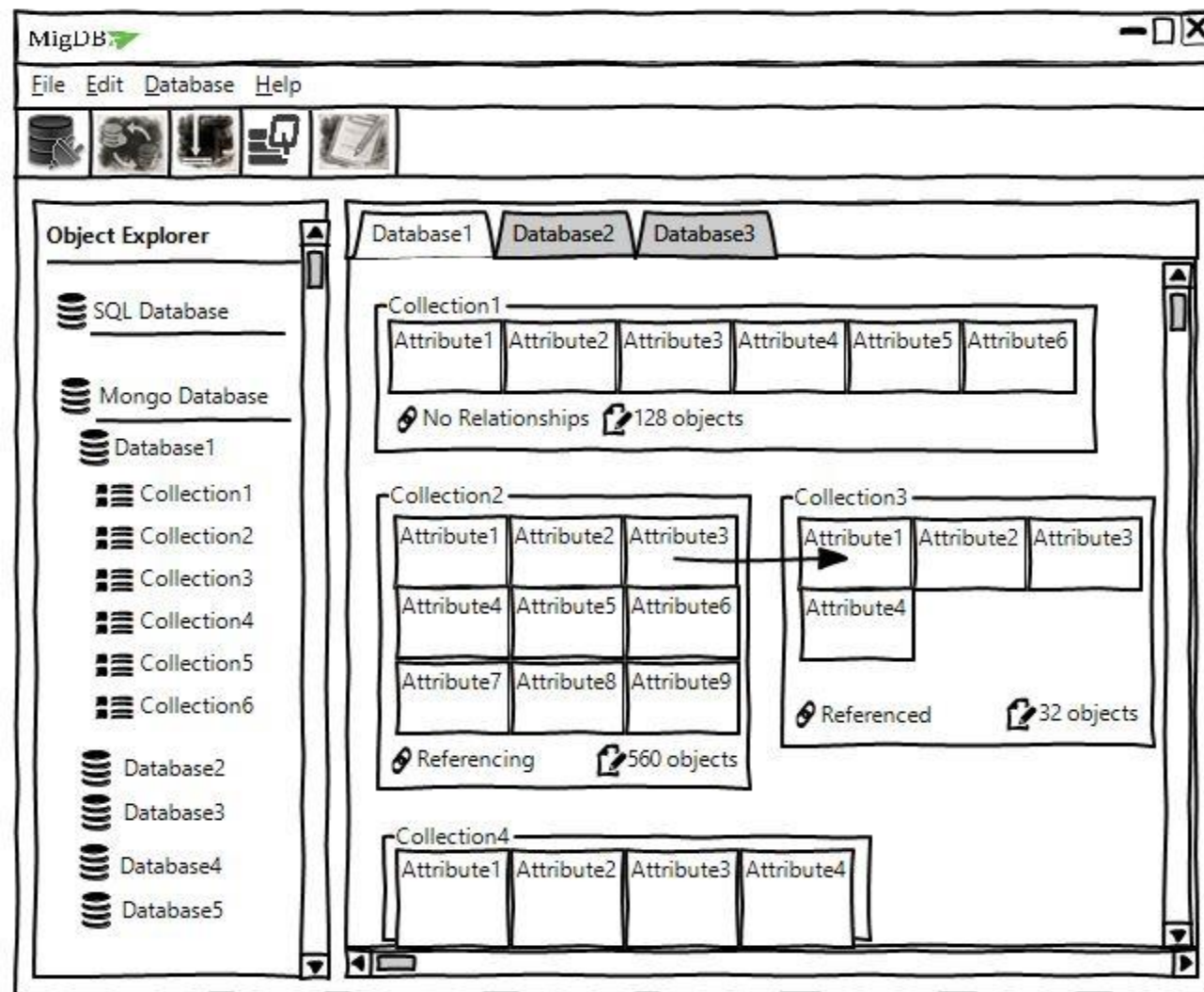
# User Interfaces



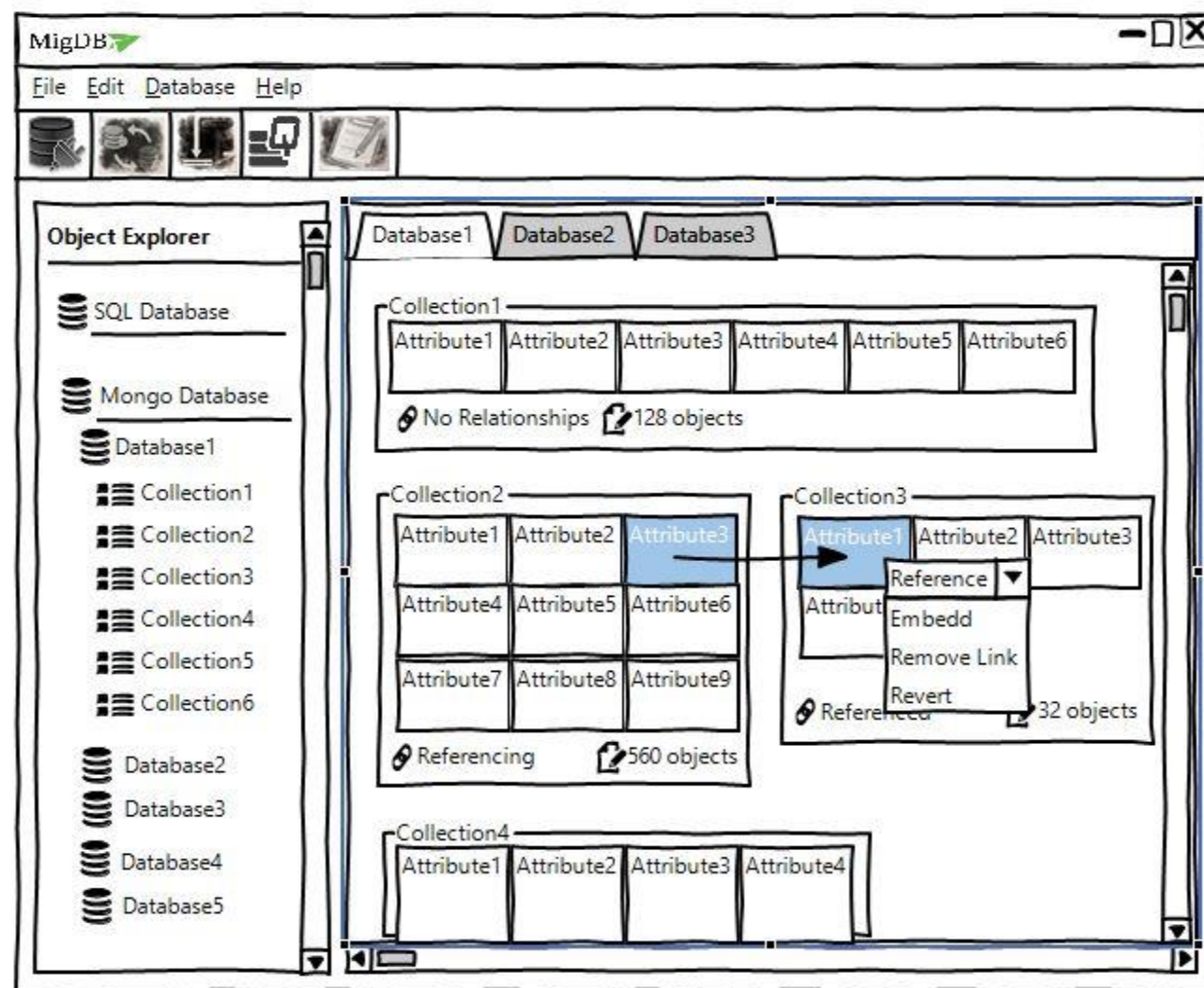
# User Interfaces



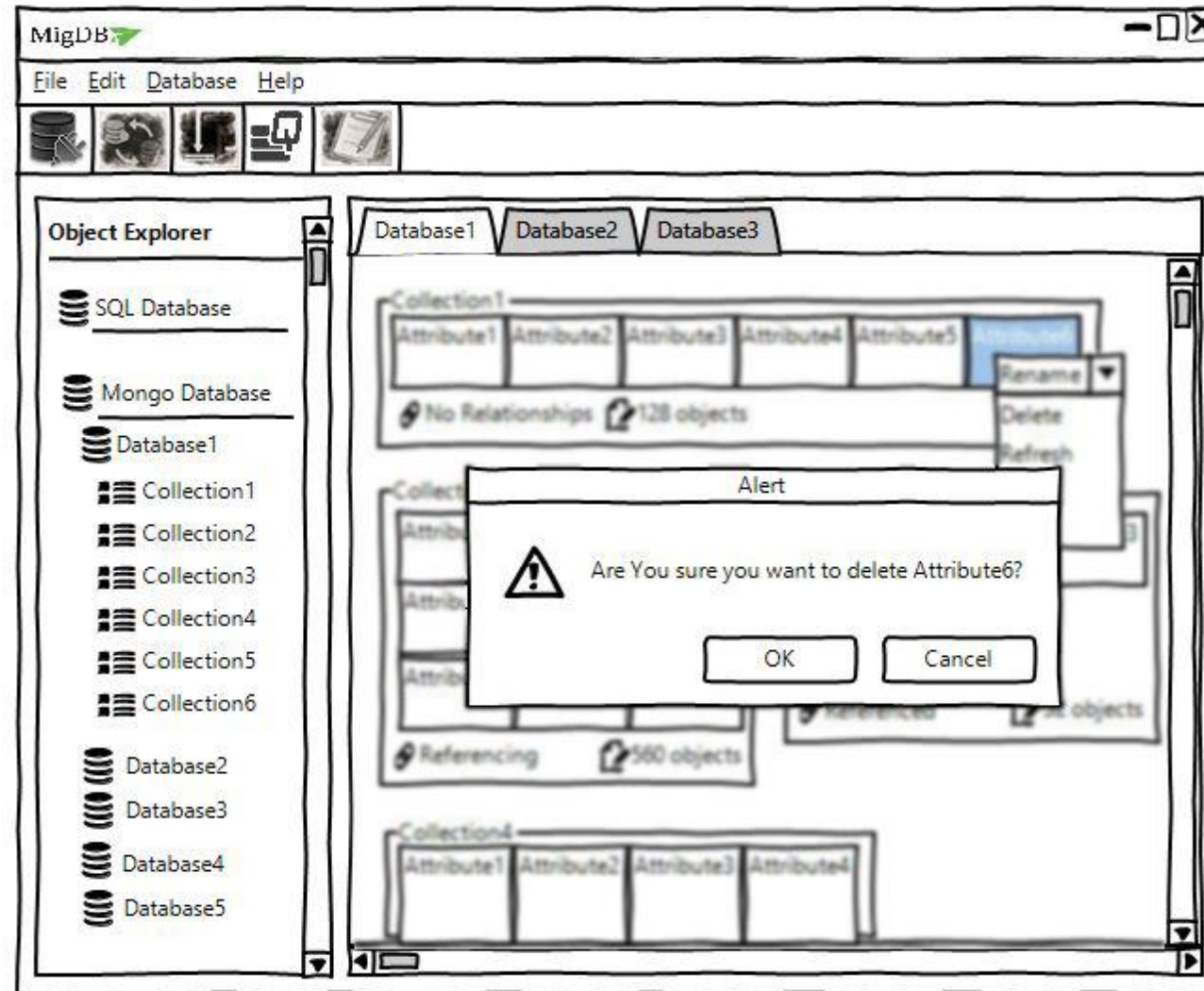
# User Interfaces



# User Interfaces

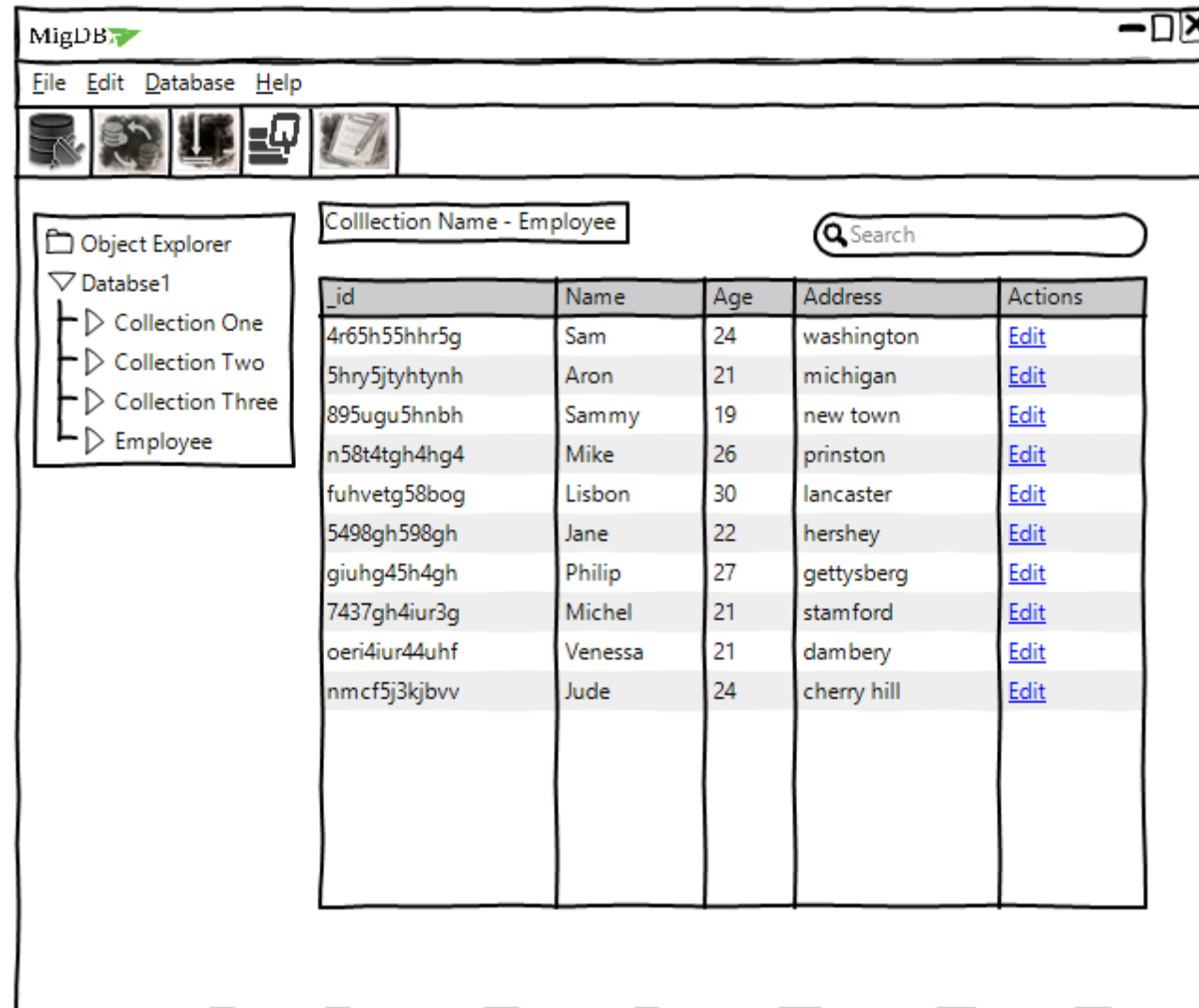


# User Interfaces



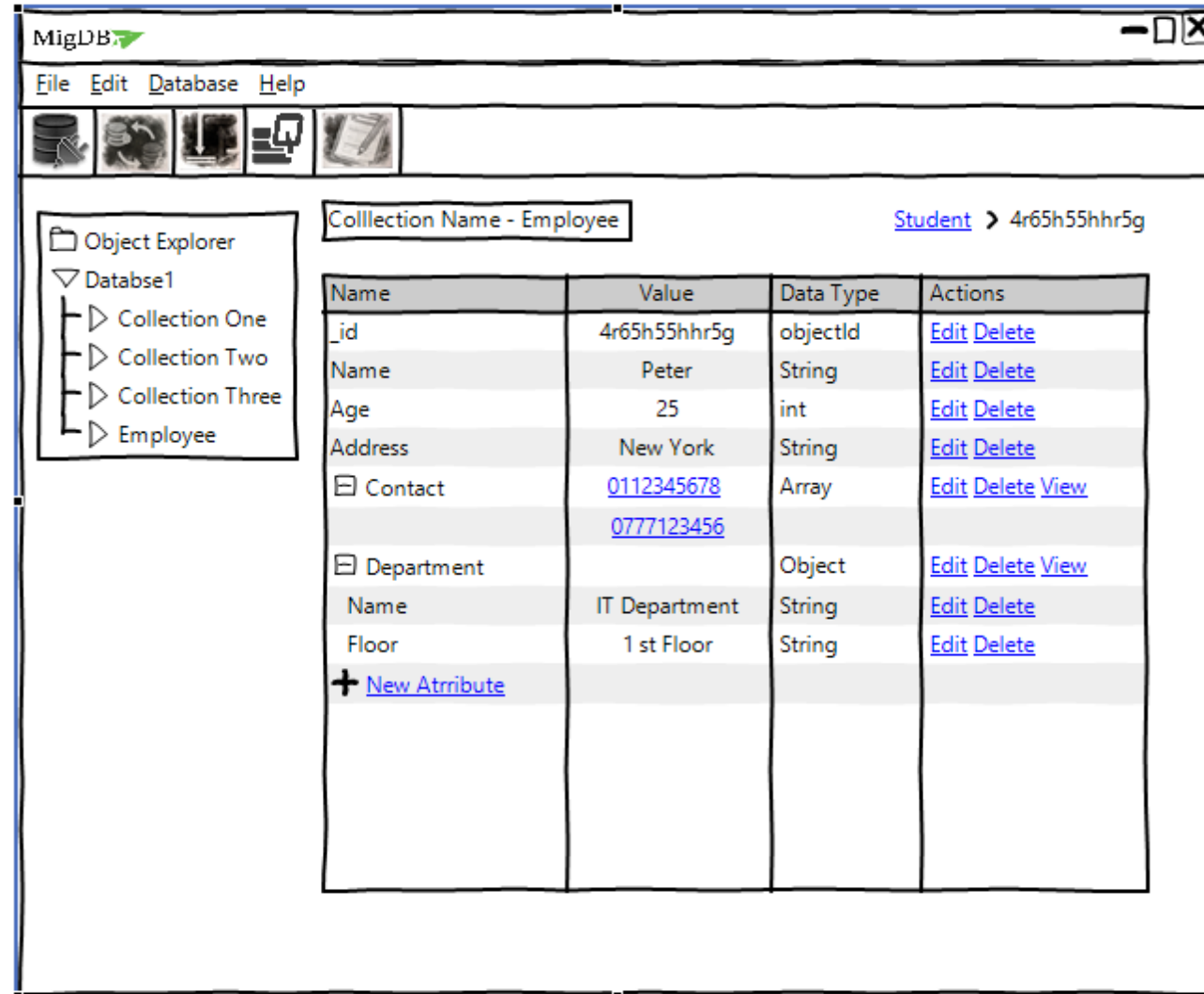


# User Interfaces

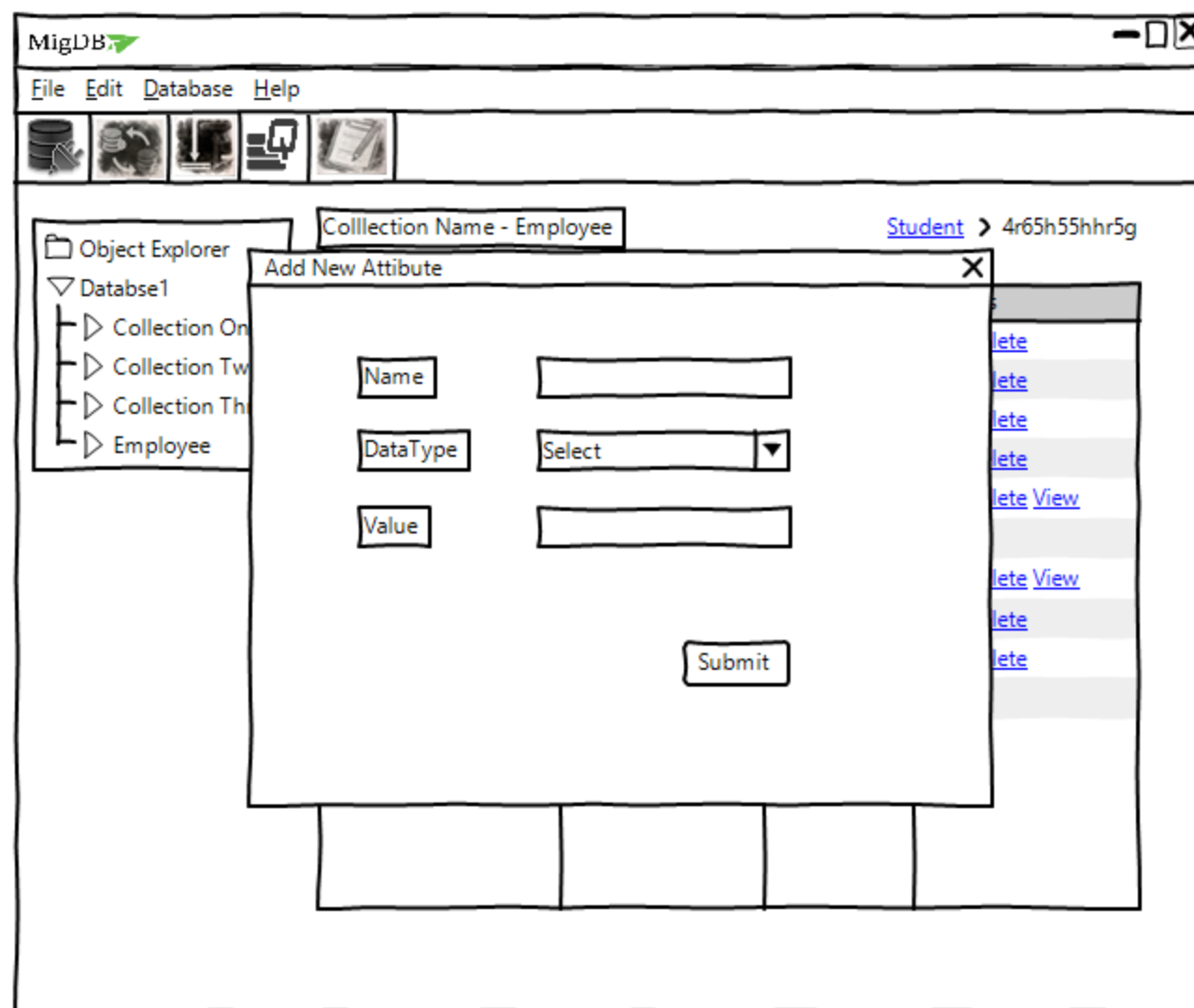




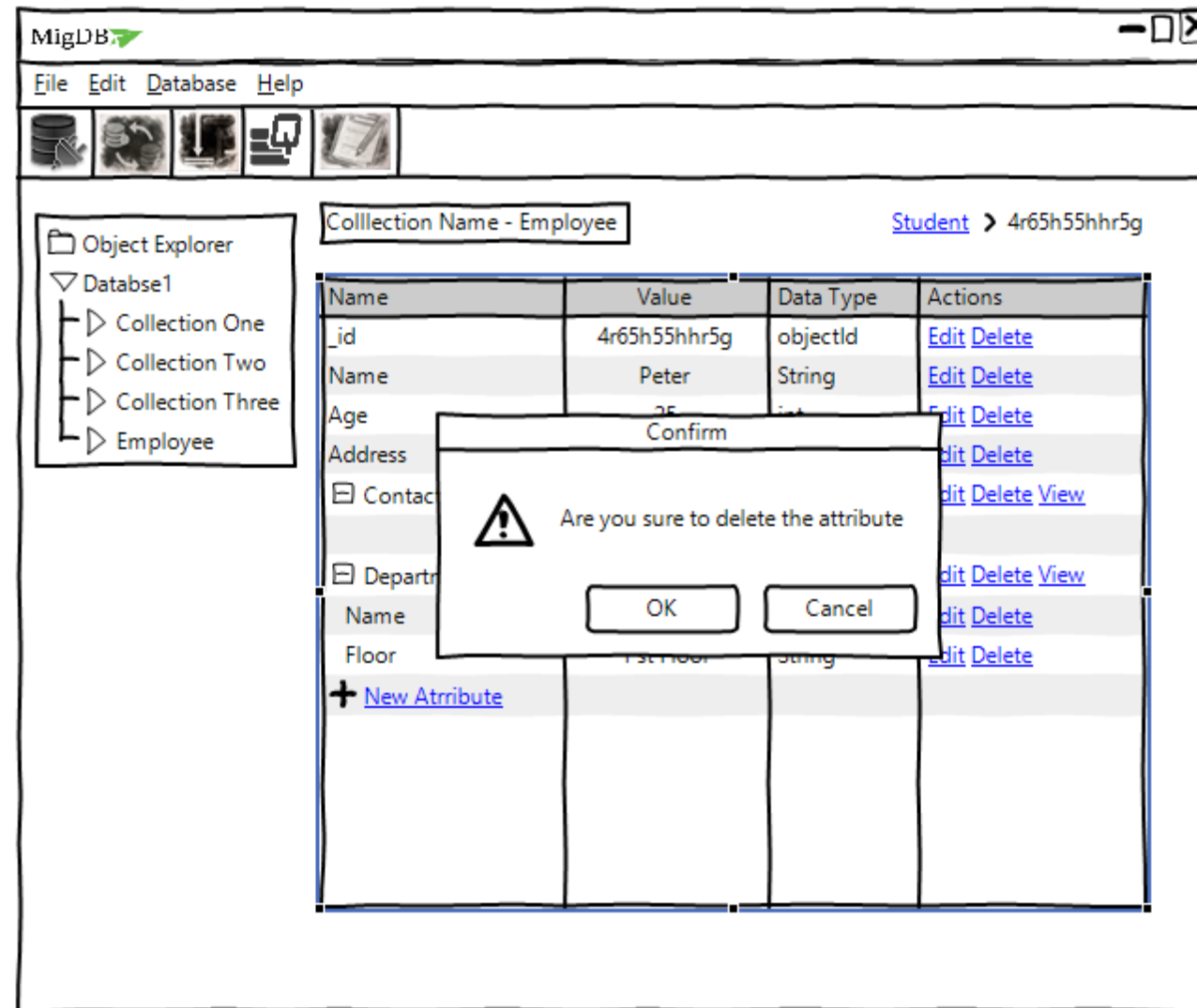
# User Interfaces



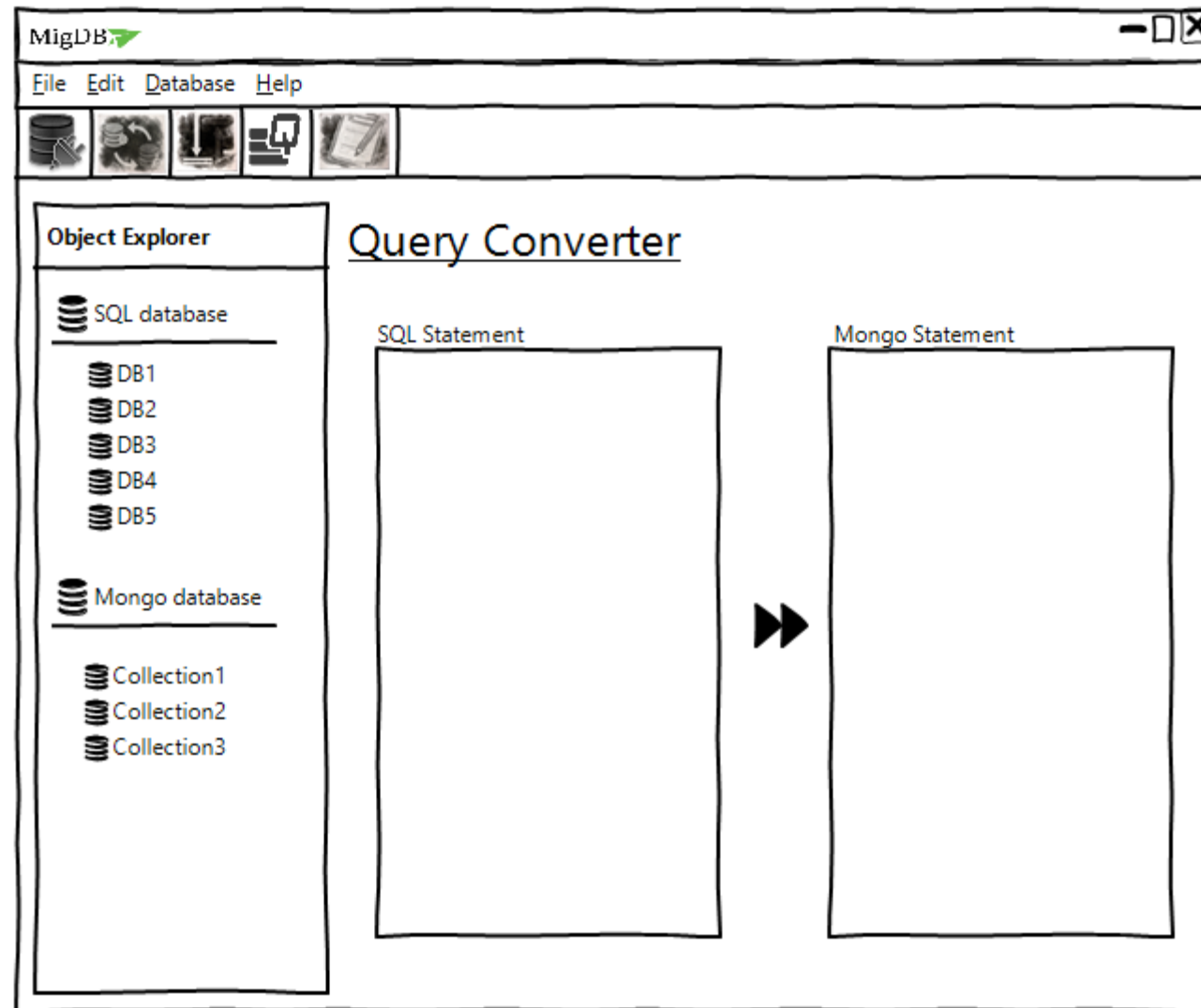
# User Interfaces



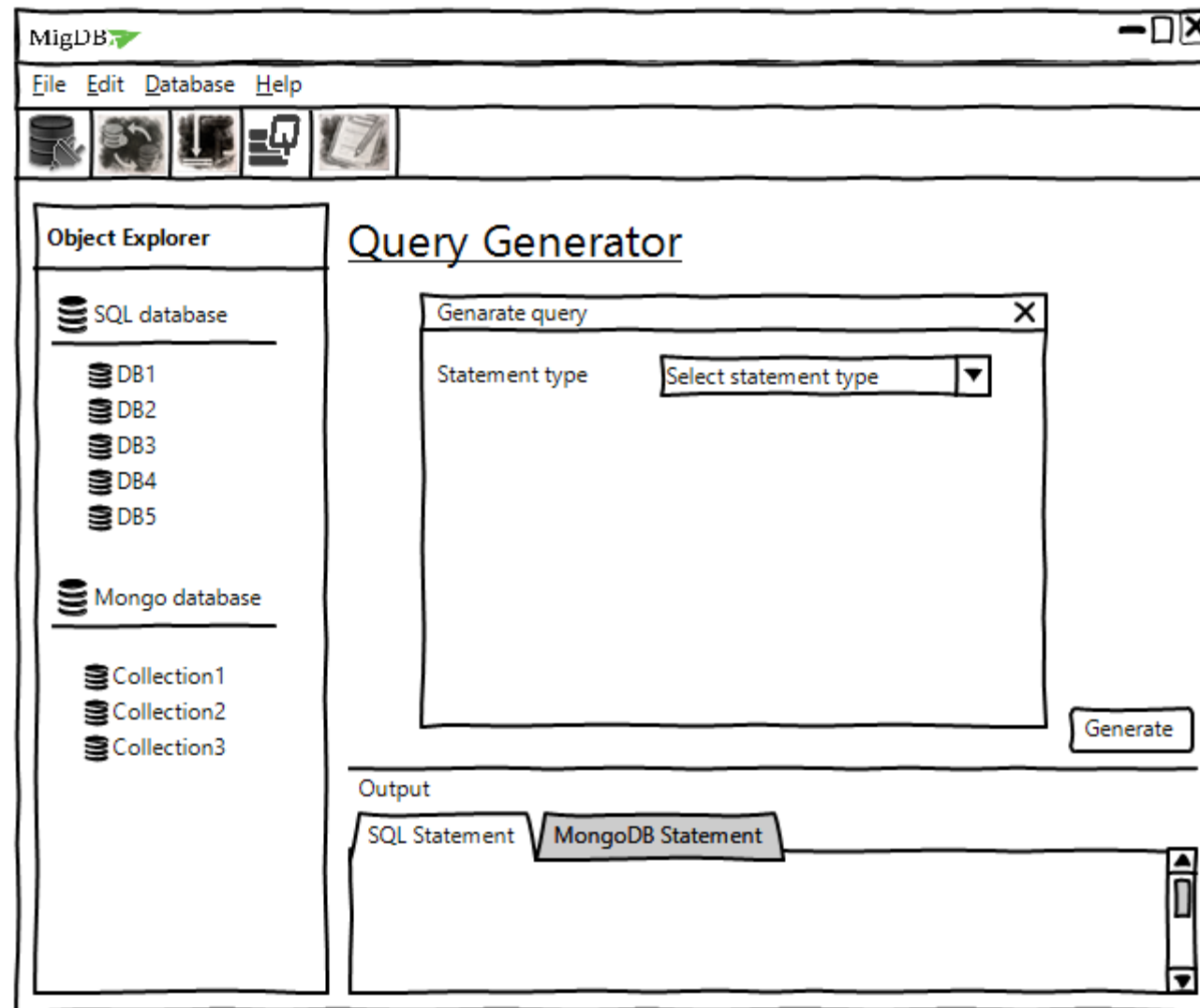
# User Interfaces



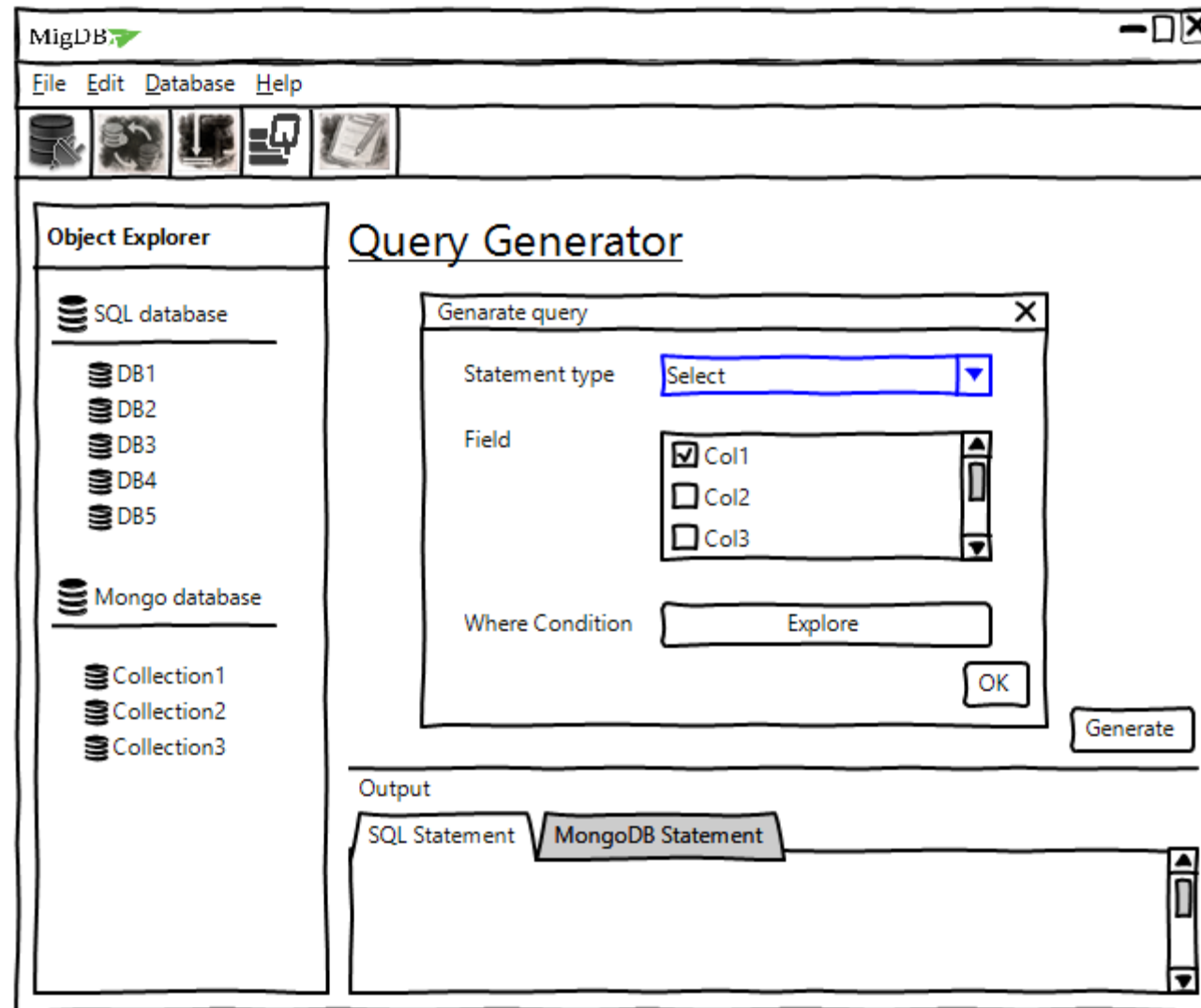
# User Interfaces



# User Interfaces



# User Interfaces



# Hardware Interfaces

---

- Desktop/ Laptop Computer
- Apache Server
- Router / Dongle

# Software Interfaces

---

- Eclipse IDE v4.5.2
- Java8
- Apache Tomcat 8
- Scene builder
- Git
- Spring MVC
- HTML Bootstrap CSS



# Communication Interfaces

---

- Internet via Modem or Router

# Research problem and solution

---

- In existing tools,
  - No mapping of table relationships
  - Need of MongoDB or JSON knowledge
  - Query conversion only supporting select queries
- Why relationships?
  - Application performance
  - Database capacity

# Thank You