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Final Project Proposal

[CSCI-6622-01](https://canvas.newhaven.edu/calendar?event_id=222371&include_contexts=course_33494) [Database Systems](https://canvas.newhaven.edu/courses/33494)

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**Project Proposal: University Research Paper Management System**

**1. Selected Topic:** University Research Paper Management System

**2. Reason for Selection:** The research paper management system is essential for universities and research institutions to keep track of academic publications, collaborations, and citation records. This project will allow me to apply database concepts to a real-world academic setting while ensuring the scope remains achievable within the given timeframe.

**3. Data Population Approach:** To populate the database, I will use a combination of publicly available research paper metadata from sources like Google Scholar and IEEE, along with synthetic data that I will generate manually to ensure compliance with project requirements. The synthetic data will include sample researchers, conferences, and citations that simulate realistic academic publishing scenarios.

**Implementation Plan:** The implementation will begin with designing the ER diagram, ensuring all required relationships and attributes are correctly modeled. The database schema will be derived from this ER model, ensuring proper normalization and integrity constraints.

A DDL script will create tables with primary keys, foreign keys, and populate them. Three triggers will be implemented for data validation and automation. Three views will be created to generate reports.

A DML script will include SQL queries such as basic SELECT statements, aggregate functions and various joins. Grouping operations be included to generate reports on research trends.

This structured approach ensures that all project requirements are met while maintaining efficiency and scalability.