# Evaluation of Final Project vs. Initial Project Proposal

## Introduction

Initial Project Proposal:

The initial proposal outlines the objective of creating a logical database system for ABC Electronics, which operates through physical and online sales streams. The primary goal is to enhance data management, expedite data retrieval and modification, and support optimal inventory utilization, real-time consumer engagement, and informed decision-making.

Final Project:

The final project reiterates the objectives stated in the initial proposal but provides a more concise overview. It emphasizes the dual sales streams and the need for a robust database to handle the business processes efficiently.

## Comparison:

The final project maintains the core objectives from the initial proposal but presents them in a more streamlined manner. This concise introduction ensures clarity and sets the stage for the detailed design and implementation sections that follow.

## Logical Design

Proposed Database Model

Initial Project Proposal:

The initial proposal recommends a relational database model due to its ability to handle complex queries and ensure data integrity. It also provides a detailed table listing the entities and their attributes, establishing a comprehensive foundation for the database design.

Final Project:

The final project maintains the relational database model recommendation and includes the same detailed table of entities and attributes. However, it introduces additional explanations about primary and foreign keys, emphasizing their roles in maintaining data integrity and establishing relationships.

Comparison:

The final project expands on the initial proposal by providing more detailed explanations of primary and foreign keys. This addition enhances the understanding of how data integrity and relationships are maintained within the database.

## Relationships and Associations

Initial Project Proposal:

The initial proposal identifies and lists the relationships between entities, primarily focusing on one-to-many (1:M) and one-to-one (1:1) relationships.

Final Project:

The final project retains the same relationships and associations but presents them in a more structured and visual format, making it easier to comprehend.

Comparison:

The final project improves upon the initial proposal by providing a clearer, more visual representation of the relationships, aiding in better understanding and communication of the database structure.

Data Types and Formats

Initial Project Proposal:

The initial proposal includes a table detailing the data types and formats for each field in the database, ensuring appropriate formatting for each field.

Final Project:

The final project retains the same detailed table but includes a more explicit explanation of the importance of each data type and format.

Comparison:

The final project offers a more detailed explanation of data types and formats, ensuring a clearer understanding of their significance.

## Choosing a Database Management System (DBMS)

Initial Project Proposal:

The initial proposal recommends MySQL as the DBMS for its scalability, performance, security, and cost-effectiveness.

Final Project:

The final project reiterates the recommendation of MySQL, providing the same justifications but in a more concise manner.

Comparison:

The final project retains the same recommendation but presents it more succinctly, making the justification clearer and more direct.

Data Management Pipeline Process

Data Capturing and Source

Initial Project Proposal:

The initial proposal outlines the primary data capture sources and the ETL (Extraction, Transformation, and Loading) procedures to integrate these data sources into the database.

Final Project:

The final project maintains the same outline but emphasizes minimizing errors by using structured input methods like drop-down boxes and postcode lookups.

Comparison:

The final project adds an emphasis on minimizing errors, enhancing the initial proposal's focus on data integration.

## Methods for Cleaning Data

Initial Project Proposal:

The initial proposal lists methodologies for data cleansing, including data validation, managing missing values, eliminating duplicates, and standardization and normalization.

Final Project:

The final project retains these methodologies and provides a more detailed description of each, along with a structured process for data cleaning.

Comparison:

The final project offers a more detailed and structured approach to data cleaning, improving on the initial proposal's outline.

Normalization

Initial Project Proposal:

The initial proposal outlines the normalization process to ensure data integrity and prevent anomalies.

Final Project:

The final project retains the same outline but provides a more detailed explanation of each normalization form (1NF, 2NF, 3NF).

Comparison:

The final project offers more detailed explanations, enhancing the initial proposal's coverage of normalization.

## Critical Evaluation

Data Wrangling

Initial Project Proposal:

The initial proposal discusses the challenges of data wrangling and suggests using tools like SQL queries, Tableau, and Python's Pandas module.

Final Project:

The final project retains the same discussion but includes additional insights into managing diverse data sources and maintaining data integrity.

Comparison:

The final project provides a more comprehensive view of data wrangling challenges and solutions, improving on the initial proposal.

Methodologies and Tools

Initial Project Proposal:

The initial proposal lists the methodologies and tools to be adopted, including ETL tools, data cleaning libraries, MySQL for database management, and Tableau for data visualization.

Final Project:

The final project maintains the same list but offers a more detailed explanation of each tool and its role in the project.

Comparison:

The final project enhances the initial proposal by providing more detailed explanations of the methodologies and tools.

Legal and Compliance Requirements

Final Project Only:

The final project introduces a section on legal and compliance requirements, specifically focusing on GDPR compliance, outlining practical methods for implementation.

Comparison:

This addition addresses an important aspect not covered in the initial proposal, ensuring that the database design adheres to legal standards and enhances data protection measures.

## Conclusions and Recommendations

Initial Project Proposal:

The initial proposal concludes with a summary of the project's goals and the chosen database model, emphasizing the expected improvements in data management and decision-making.

Final Project:

The final project provides a detailed conclusion, reiterating the benefits of the proposed database design. It also includes priority recommendations for implementation, testing, and ongoing improvements.

Comparison:

The final project offers a more comprehensive conclusion and actionable recommendations, providing a clear path forward for ABC Electronics.

Graphics and Charts

Final Project Only:

The final project includes diagrams such as the Entity-Relationship Diagram (ERD) and Data Flow Diagram (DFD) to visualize the database structure and relationships.

Comparison:

The inclusion of graphics and charts in the final project enhances the understanding of the database design, making it easier to comprehend and communicate.

## Summary

Overall, the final project significantly enhances the initial project proposal by providing more detailed explanations, structured processes, and visual aids. The addition of legal and compliance requirements, detailed recommendations, and graphics ensures a comprehensive and practical approach to designing and implementing a robust database system for ABC Electronics.