**The Course Compass**Course Performance Analytics Database Management System

# **Work in Progress Report**

## **Review of Concepts, Techniques, and Principles**

In this project, we are utilizing a variety of concepts, techniques, and principles related to database management, including entity relationships and normalization techniques. Additionally, we are focusing on establishing strong foundations for data quality during the creation of the database. To ensure that the final product meets the needs of our stakeholders, specifically Udemy business executives, we are also applying the principles of user-centered design.

## **Plan for Target Final Product**

Our target final product is an information product that is a database management system. The end users of the DBMS are primarily data analysts and executives. Data analysts use the DBMS to perform a range of tasks including querying, generating reports, and creating data visualizations. The DBMS integrates course performance data, such as ratings, reviews, completion rates, and instructor engagement, as well as other data from sources like marketing campaigns and user demographics. With this integrated data, the team can make data-driven decisions about content, marketing, and pricing strategies based on the insights gained from the DBMS.

## **Data Sets**

The dataset on Kaggle comprises 10,000 business-related courses available on Udemy's website. The goal of the information product is to create a robust database that improves the quality, relevance, consistency, and completeness of the data. To achieve this, we propose that Udemy adopt a comprehensive database model that aligns with the organization's needs.

We are also exploring additional data sources to gain insights into course performance, engagement, and user/instructor metrics. By integrating these data sources, we aim to identify patterns and trends that can guide decision-making in areas such as content creation, marketing, and pricing strategies. The proposed database model and additional data sources will enable Udemy to gain deeper insights into their business and make data-driven decisions to improve their offerings and enhance the user experience.

## **Analysis and Additional Tasks**

We have a roadmap for creating and deploying the database management system as our primary information product. However, our next step is to integrate dashboards and visualizations into the software package. Therefore, our additional tasks include creating mocked-up graphs and a dashboard for the same purpose.

## **Work Status**

We have identified the essential entities and attributes needed to capture the information required for a robust course performance analysis. Before proceeding, it's crucial to verify the data's normalization form and attribute dependencies to avoid any potential issues in the future. Once this verification is complete, we can proceed with creating graphs and dashboard mock-ups. These visuals will be instrumental in effectively communicating your findings and insights.

## **Challenges and Learning**

Ensuring the databases’ robustness, the data quality, and identifying the absolute cardinalities and attributes necessary for each of the entities were some initial hiccups. However, one of the biggest challenges was deciding the stakeholders for the project, as there were various options, including the business executives, users, and instructors. We had to carefully consider each option as the database design would differ based on the stakeholders. Ultimately, we decided to go with the business executives as the stakeholders.

However, working on this project also allows us to improve our communication and collaboration skills, learn new technologies and tools, and develop our project management and problem-solving skills. By anticipating and addressing the challenges and learning from the experience, we can gain valuable benefits from creating and designing a database management system.

This project challenged us to think beyond our traditional roles and learn new skills from a business perspective. We are thrilled to work on it and committed to delivering the best possible outcome to help our organization make informed decisions based on data.