Computer Science Capstone Topic Approval Form

The purpose of this document is to help you clearly explain your capstone topic, project scope, and timeline. Identify each of these areas so that you will have a complete and realistic overview of your project. Your instructor cannot sign off on your project topic without this information.

Note: You must fill out and submit this form. Space beneath each number will expand as needed.

Note: Any costs associated with developing the application will be the responsibility of the student.

INFORM INSTRUCTOR:

Potential use of proprietary company information: (Y/N)

N

ANALYSIS:

1. Project topic and description: A book recommendation system for a fictional online bookstore. The system will use a Kaggle dataset of books and ratings to suggest titles to readers based on similarity and popularity.

2. Project purpose and goals: To provide a tool for readers to find new books and for the business to improve sales. Goals include cleaning the dataset, implementing a descriptive method to summarize the data trends (most popular, average ratings). Implementing a predictive method to generate book recommendations, and providing a simple but useable dashboard.

3. Descriptive method: Statistical summaries and data visualizations of ratings (bar charts, top authors).

4. Predictive or prescriptive method: Collaborative filtering or content based recommendation algorithm.

DESIGN and DEVELOPMENT:

1. Computer science application type (select one):
    - ~~Mobile (indicate Apple or Android)~~
    - **Web**
    - ~~Stand-alone~~

2. Programming/development language(s) you will use:
   Python with libraries like Pandas, Scikit-learn, Streamlit/Flask for the dashboard.

3. Operating system(s) or platform(s) you will use:
   Windows

4. Database Management System you will use:
   SQLite

5. Estimated number of hours for the following:
    i. Planning and design: 10
    ii. Development: 40
    iii. Documentation: 10
    iv. Total: 60

6. Projected completion date:
   November 1, 2025

IMPLEMENTATION and EVALUATION:

1. Describe how you will approach the execution of your project.

The project will be executed by using a Kaggle dataset, cleaning the data, and exploring descriptive statistics. A recommendation system will be built using collaborative filtering and similarity metrics. A simple dashboard will be used to allow basic interactions like search and visualizations. The system will be evaluated by checking whether the suggestions align with the user preferences and by showing correct functionality.

□ ☑ **This project does not involve human subjects research and is exempt from WGU IRB review.**

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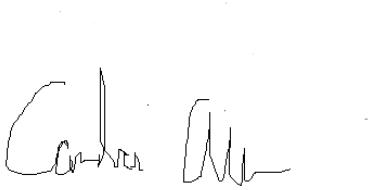
STUDENT'S SIGNATURE

_____Christian Devine_____

By signing and submitting this form, you acknowledge that any costs associated with the development and execution of the application will be your (the student's) responsibility.

INSTRUCTOR'S SIGNATURE:



INSTRUCTOR APPROVAL DATE: 10/01/2025