**Software Engineering**

**Capstone Topic Approval Form**

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

**STUDENT NAME and ID:**

Student name: Adam Barham

Student ID: 012306215

**INFORM INSTRUCTOR:**

Potential use of proprietary company information: No proprietary company information will be used. Potentially open-source data stores will be used and cited with the project.

**LANGUAGE(S): ASP.NET, C#, HTML, CSS, Blazor, JavaScript, JSON**

**Application Type (select one):**

* Web

**ANALYSIS:**

1. Project topic AND description: This project will use ASP.NET and Blazor to build a web application for inventory and order management.
2. Project purpose AND goals: The business purpose of the project is to provide an inventory and order management system for small to medium size manufacturing companies.

**DESIGN and DEVELOPMENT:**

1. Explain why the problem and software product you have proposed are worthy of study: In my final class at WGU, I wanted to study something that I had seen in demand in the job field while still focusing on .NET and C#, my chosen track. ASP.NET, Blazor and Azure were not classes offered during the degree program, and I feel gaining competency and confidence in these fields will make me a more competitive candidate in the .NET development field.
2. Projected outcomes and deliverables: This project will deliver an Azure hosted web application in Blazor and ASP.NET capable of tracking inventory products, orders, and customers using a hosted Azure SQL database. It will use SQL and ASP.NET C# for back end data and processing, and Blazor for front end UI. It will process CRUD commands for Products, Orders and Customers, have a search and filter function for products, report generation and export, user roles and secure authentication, and implement inheritance and good software design principles. The project will include relevant documentation including a class and design diagram and user guides.
3. Estimated number of hours for the following:

From 5/2 – 6/15 to give extra time for task 3 and 4 and task grading. 30 working days, 8 hours/day 240 hours not including any overtime.

* + 1. Planning and design: 40 hours (1 week
    2. Development: 180 hours (including research and learning, 4 ½ weeks)
    3. Documentation: 20 hours (1/2 week, some will be completed during P&D)
    4. Total: 240 Hours, not including overtime hours

1. Projected completion date: 6/15/25 for deliverable application, 6/22 for final task 4 submission

**IMPLEMENTATION and EVALUATION:**

1. Describe how you will approach the execution of your project: For the first week of development I will begin using core project management principles, develop a timeline, and map out ERD, Class and other diagrams for implementation. I will develop UI wireframes and do initial UI testing before beginning implementation.
2. For the next 4 ½ weeks I will begin implementation beginning with the back end database and setting up connection strings and access. I will load the database with test data and begin building classes and logic, finishing with front-end in Blazor Server for rapid page response and securing data on the back-end without page reloads.
3. For ½ week I will finish writing documentation, specifically the user guides for business deployment and for the end user.
4. Task 4 will only take a short time as deployment to hosting will be taking place during development and will require a minimal amount of finish time. I will record the Panopto video to showcase and finish the capstone!

**INFORM INSTRUCTOR OF:**

Potential use of human subjects (Y/N): No human subjects will be used except for consensual usability testing re: UI/UX Design classes, as permissible by WGU ethics standards.

Potential use of proprietary company information (Y/N): No proprietary information will be used. Potentially open-sourced data stores will be used and cited

**STUDENT NAME: Adam J Barham**

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**By submitting this form, you acknowledge** **all information provided is accurate and that any changes to the topic, proposal, or goals must be discussed with your assigned instructor prior to continuing.**

**INSTRUCTOR SIGNATURE: **

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**INSTRUCTOR APPROVAL DATE: 5/4/2025**

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