



LEAN TECHNICAL DOCUMENTATION

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1 Introduction

<Introduce the different projects that make up the entire solution to be solved over the semester. Explain what problem(s) you are trying to solve for>

This document outlines the projects for the CMPG 323 module, focusing on Agile methodologies like Scrum and Kanban to enhance project management skills. The goal is to solve issues related to efficient task management, ensuring software delivery aligns with customer needs.

Commented [A3]: Add an introduction and description of the projects to be developed throughout the semester

<Describe the solutions that should be developed>

Agile frameworks implementation
Source Control setup with GitHub
API development and integration
Application of design and architecture patterns
Testing strategies
Data visualization and reporting

Commented [A4]: Add the description and high-level business rules from each of the project briefs. Do not copy and paste. Rephrase them as you understand them.

2 Solution Design

2.1 Detailed Solution Design

<Explain the technologies that will be used and how they interact. Introduce the context flow diagram>

The solution leverages technologies like GitHub for source control and project management. Agile frameworks, including Scrum and Kanban, will guide development processes. The context flow diagram illustrates these interactions.

Commented [A5]: Add a description of the overall solution to be developed across all projects. This section will be used to document the context diagram so use this paragraph to explain which elements exist in the context diagram as well as what their purpose/role within the solution.

Figure 2-1: Context Diagram

Commented [A6]: Insert context diagram

2.2 Data Design

The context diagram is broken down into more detail to show how the different technologies will interact with one another within the developed solution. The transportation of data, across the solution, is detailed in the data flow diagram below.

Figure 2-2: Data Flow Diagram

Commented [A7]: Insert the data flow diagram that shows how the same data is transported between projects.

<Data flow diagram explanation>

Commented [A8]: Add the explanation

<Introduce the data design>

Commented [A9]: Add a paragraph explaining what data source will be used (SQL Database, SharePoint, Excel, Dataverse, etc.) and how many entities/lists/libraries/tables will be needed. Also explain any relationships between the data>

Figure 2-3: Data Design

Commented [A10]: Add an ERD-like structure that shows how the data is related.

2.3 Technical Assumptions

The following assumptions have been made while designing the solution:

- All license allocations will be done before development commences.
- <List all other assumptions, especially relating to business rules>
 - All licenses are allocated before development begins.
 - Agile practices will be consistently applied.
 - GitHub repositories are maintained privately.

Commented [A11]: Update technical assumptions with any assumptions that were made while you were designing the solutions you will be building for each project this semester.

2.4 Technical Caveats

The following caveats have been raised as part of the solution design. These caveats would need to be addressed and may have an impact on the design.

- <List all other caveats, especially relating to technical limitations>
 - Limited access to cloud resources.
 - Dependence on external APIs for data retrieval.
 - Technical constraints of chosen development tools.

Commented [A12]: Any issues you have come across with using the proposed technology stack that will impact the implementation of your project should be listed here.

2.5 Wireframes

All prototypes for the reports can be found below:

Commented [A13]: Create some basic prototypes of the reports to be created and add the screenshots below. Please do not forget to add the figure captions below the images.

3 Errors & Exceptions

Commented [A14]: Add all exceptions and errors that may occur and that your solution will cater for

3.1 Business Exceptions

The following business exceptions should be built into the solution:

Exception Name	Step	Parameters	Action To Be Taken

Table 1: Business Exceptions

3.2 Application Errors

The following application (unknown) errors may occur as part of the solution:

Exception Name	Step	Parameters	Action To Be Taken

Table 2: Business Exceptions

4 Environment Details

Commented [A15]: Complete the table below with all the relevant details.

The development of the solution would need to be executed as per the designated development strategy. The information below represents the solution and the appropriate environment(s) that will be used to implement the overall solution:

Item	Description
Environment Type	Development Testing Production
Credentials Needed	GitHub, API access
Development Technologies Used	GitHub, VSCode, Azure (optional)
Deployment Technologies Used	Docker, Kubernetes (optional)
Scalable	Yes

Table 4-1: Project Details