**CEIS400 BUSINESS PROBLEM SCENARIO TEMPLATE**

**(Course Project Lab Assignment #1)**

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| **CEIS400 Business Problem Scenario Information** |
| **Company/Scenario Name: GB Manufacturing Inventory Management System**  **Date: 19JAN2025**  **Prepared By: Alfred Beam** |
| ***General Project Information:***  **Project Team: Group 1**  **Project Team Name: Alpha Coders**  **Project Leader and Team Members: Alfred Beam, Shelton Adams, Kenneth Battle** |
| ***Business Problem/Scope Statement:***  GB Manufacturing has two warehouses that they use to store tools and materials for their business maintenance activities. The company has a main warehouse about a mile from the main campus which stores the bulk of their materials, and a smaller more convenient satellite warehouse that maintains items that are more commonly used. GB manufacturing management has determined there are several issues with the current warehousing system. First there is no tracking system for the tools that employees are taking from the warehouses. This results in them being lost or stolen costing the company more than $50,000 annually. The second issue is that employees that are assigned a task with often only check the smaller more convenient warehouse for the tools and material availability. If they are not found at the satellite warehouse, they will either move onto another task or request the smaller warehouse order the materials which causes an excess amount of inventory carrying cost.  The purpose of this project is to develop an inventory management system. The system should contain a portal that allows employees to enter tasks that they need accomplished by the maintenance personal. The portal should then create a work order for the task and allow management to assign an employee. The system should allow the assigned employee to add tools and materials that will be needed to complete the task to the work order which will check them out of the system. When the employee returns the tools a member of management can mark them as returned.  The final portion of the Inventory Management System will monitor the materials at each of the two warehouses. When a work order is created and assigned to an employee it will automatically check for part availability at each location. If the parts are available but in the wrong warehouse a delivery ticket will be generated to move the materials automatically, so they are ready for the employee ahead of time. If the parts are not available, a purchase request will be generated and sent over to the purchasing team for approval and ordering. |
| ***Project Objectives:***   * Track all tasks and assign each one a unique work order number. * Allow each work order to be assigned to an employee. * Allow each work order to have tools assigned to it and track when the tool is checked out and in. * Allow each work order to have materials assigned to it. * When materials are assigned to a work order the system will check parts availability. If the parts are present in one warehouse and needed in the other the system will generate a delivery ticket to have them moved. * When materials are assigned to a work order and are not in stock in either warehouse the system will automatically generate a purchase request to have the materials team approve and generate a purchase order. |

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| ***Customers/Stakeholders:***   * GB Management * Maintenance Department Employees * Materials Department Employees * Purchasing Department Employees * General Employees (Work Order Originator) |
| ***Project Description:***  The Inventory Management System is supposed to generate work orders for each task an employee needs the maintenance department to perform. Each work order will contain a description of the task that is to be performed. The maintenance employee can use a work order to check in and out tools, order parts, and check the status of parts delivery. The system will automatically check the availability of parts at each warehouse and automatically notify materials personnel to delivery to the appropriate location if needed. If they are not available, it will notify the purchasing department that they need to be ordered.  The Inventory Management System will be a software application with a GUI interface for the employees. A high-level language such as C# or Java will be used to build the application and GUI. The database system that the program interfaces with and stores the data in will be Structured Query Language. |
| ***Software Engineering Best Practices:***   * Major Stakeholders will be encouraged to provide input on there needs for the program. * Management will schedule meetings with stakeholders to ensure adequate resource availability. * The terminology in the program will be based on stakeholder input. * A list of requirements will be developed from stakeholder input and prioritized based on their needs. * Code reviews will be scheduled at each major milestone of the project. * A project plan, requirements, specifications, test plans, and test results will all be documented. |
| ***Major Project Deliverables:***   1. Communication  * Week 1: Project Scope and High-Level Requirements  1. Planning  * Week 2: Requirements and UML-OOAD Diagrams  1. Modeling  * Week 3: Software Architecture  1. Construction  * Week 5: Software Design and Construction * Week 6: Construction and Testing  1. Deployment  * Week 7: Testing and Maintenance |

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| ***Individual/Team Member Job Descriptions/Responsibilities for each course project lab assignment:***  **WEEK 1**   * Step 1 - Business Problem Scenario   + Primary – Alfred Beam   + Secondary – Kenneth Battle * Step 2 – Elicit high-level requirements   + N/A (Input used for step 3) * Step 3 – Draft of SRS   + Primary – Shelton Adams   + Secondary – Alfred Beam * Step 4 – Initial List of Use Cases   + Primary – Alfred Beam   + Secondary – Kenneth Battle * Step 5 – Project Plan Work Breakdown Schedule (WBS)   + Primary – Kenneth Battle   + Secondary – Shelton Adams * Step 6 – Submit Deliverables   + Primary – Alfred Beam   + Secondary – Shelton Adams   **WEEK 2**   * Step 1 – Write basic use case descriptions   + Primary UC003 & UC004 – Alfred Beam   + Primary UC005 & UC006 – Shelton Adams   + Primary UC007 – Kenneth Battle   + Secondary – Alfred Beam * Step 2 – Create UML-OOD use case diagrams and VOPC   + Primary UC003 & UC004 – Alfred Beam   + Primary UC005 & UC006 – Shelton Adams   + Primary UC007 – Kenneth Battle   + Primary Combine diagrams into one document – Alfred Beam   + Secondary – Kenneth Battle * Step 3 – Create test plan (IEEE 829) Draft   + Primary – Alfred Beam   + Secondary – Shelton Adams * Step 4 – Update project documents   + Primary Business Problem Scenario – Alfred Beam   + Secondary Business Problem Scenario – Kenneth Battle   + Primary Software Requirements Specification – Shelton Adams   + Secondary Software Requirements Specification – Kenneth Battle   + Primary Work Breakdown Structure – Kenneth Battle   + Secondary Work Breakdown Structure – Shelton Adams * Step 5 – Submit Deliverables   + Primary – Alfred Beam   + Secondary – Shelton Adams |
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| **WEEK 3**   * Step 1 – Update SRS with Section 2.3   + Primary – Shelton Adams   + Secondary – Kenneth Battle * Step 2 – Select an Architecture and write a justification   + Primary – Brandon Beck   + Secondary – Shelton Adams * Step 3 – Create a static view of the Architecture (UML Class Diagram)   + Primary – Alfred Beam   + Secondary – Kenneth Battle * Step 4 – Create a dynamic view of the Architecture (UML Sequence Diagrams)   + Primary: #1 Logging in and Creating a Work Order – Shelton Adams   + Secondary: #1 Logging in and Creating a Work Order – Alfred Beam   + Primary: #2 Adding Tools to a Work Order – Kenneth Battle   + Secondary: #2 Adding Tools to a Work Order – Shelton Adams   + Primary: #3 Adding Materials to a Work Order – Brandon Beck   + Secondary: #3 Adding Materials to a Work Order – Alfred Beam   + Primary: #4 System Check Material / Tool Availability – Alfred Beam   + Secondary – #4 System Check Material / Tool Availability – Kenneth Battle * Step 5 – Create a Software Architecture Description   + Primary – Alfred Beam   + Secondary – Kenneth Battle * Step 6 – Submit Deliverables   + Primary – Alfred Beam   + Secondary – Shelton Adams   **WEEK 5**   * Step 1/2 – Software Design Description   + Primary – Alfred Beam, Kenneth Battle   + Secondary – Shelton Adams * Step 3/4 – Architecture Framework Source Code   + Primary – Alfred Beam, Shelton Adams   + Secondary – Kenneth Battle * Step 5 – Status and Description of program code.   + Primary – Alfred Beam, Shelton Adams   + Secondary – Kenneth Battle * Step 6 – Update Project Documents   + Primary S.R.S Document – Shelton Adams   + Secondary S.R.S Document – Alfred Beam   + Primary WBS – Kenneth Battle   + Secondary WBS – Shelton Adams   + Primary Business Problem Scenario – Alfred Beam   + Secondary Business Problem Scenario – Kenneth Battle * Step 6 – Submit Deliverables   + Primary – Alfred Beam   + Secondary – Shelton Adams   **WEEK 6**   * Step 1 – Complete Source Code   + Primary – Alfred Beam, Shelton Adams   + Secondary – Kenneth Battle * Step 2 – Test Case Document   + Primary – Kenneth Battle, Alfred Beam   + Secondary – Shelton Adams * Step 3 – Update Project Documents   + Primary S.R.S Document – Shelton Adams   + Secondary S.R.S Document – Alfred Beam   + Primary WBS – Kenneth Battle   + Secondary WBS – Shelton Adams   + Primary Business Problem Scenario – Alfred Beam   + Secondary Business Problem Scenario – Kenneth Battle * Step 4 – Submit Deliverables   + Primary: Alfred Beam   + Secondary: Shelton   **WEEK 7/8**   * Step 1 – Initial test report   + Primary – Kenneth Battle   + Secondary – Alfred Beam * Step 2 – Final version of source code   + Primary – Alfred Beam, Shelton Adams   + Secondary – Kenneth Battle * Step 3 – Updated test report   + Primary – Kenneth Battle   + Secondary – Alfred Beam * Step 4 – Update Project Documents   + Primary S.R.S Document – Shelton Adams   + Secondary S.R.S Document – Alfred Beam   + Primary WBS – Kenneth Battle   + Secondary WBS – Shelton Adams   + Primary Business Problem Scenario – Alfred Beam   + Secondary Business Problem Scenario – Kenneth Battle * Step 5 – Submit Deliverables   + Primary: Alfred Beam   + Secondary: Shelton Adams |
| ***Additional Comments (optional):*** |