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| Project Proposal | CPSC 471 – Group 2   |  |  | | --- | --- | | Project title: | A Database System for an industrial and hazardous location outdoor LED lighting solutions company | | Project Time-frame: | January 8, 2018 – April 15, 2018 | | Prepared by: | Jason De Boer  Vishaal Bakshi  Hassan Chaudhry  Sladana Kovacevic |   Introduction   |  |  | | --- | --- | | Definitions | Company – A company designing and manufacturing industrial and hazardous location outdoor LED lightning solutions.  Customers – Company’s clients.  Vendors – Suppliers from whom the Company orders necessary parts and inventory needed for the new products.  Project & Engineering Department – Company Department responsible for project management, design and manufacturing.  Risk Management Department (RMD) – Company Department responsible for quality control and risk minimization | | Detected problem | The Company requires a database management system that tracks and updates its inventory, projects and final products between departments. Privileged access to certain employees who have overview of critical features. | | Proposed solution | Building a Database System that will ensure effective and operative inventory management, prompt customer order request handling (including issuing of quotes, followed by the final invoicing) and a project management system that will respond to Customer’s requests in a timely and efficient manner |   Problem Definition   |  | | --- | | The Company primarily requires an efficient and effective inventory management system. Maintaining excessive inventory is costly and not desirable for the Company.  This problem is creating a database system that tracks inventory and products along the value chain. A database that is able to support the company’s sales and manufacturing of diverse LED products, with up-to-date (not real-time) data on manufacturing components and finished fixtures. An efficient quote system that handles and tracks orders within the company. The R&D ,Engineering and Sales department involves integration of complex tasks and requires employees from various departments to coordinate their project inventory needs efficiently with Vendors. At the same time Customer needs must be met in a timely manner or the company risks losing business. Vendors must be provided with orders so that the inventory is optimized. |   Proposed Solution   |  | | --- | | Currently, Data systems exist where employees and suppliers use relational models to manage inventory according to their project and customer needs. The smaller improvements to the current solution would not bring a substantial added value to the company. Therefore, the company is looking forward to a new, functionally improved, user friendly system that will connect all the business process parties and ensure a smooth process.  The project shall produce a Database System that enables the company to manage inventory efficiently. The company will have a working database system that ensures cost effective inventory management.  Collaboration with vendors will be supported by managing timely order placements to vendors, which will ensure having available inventory for Customers, as well as for the R&D, Engineering and Sales department when manufacturing and building new solutions for customers.  In addition, as the large part of the company’s business is to come up with the innovative solutions for the new or existing customers, involvement of the R&D and Engineering department in the inventory management process is critical.  Users:   * Sales * Management * Engineering/Research and Development * Administration   Features:   * Ability to track inventory from raw materials to in-progress manufacturing and finally from sales to the customer * Inventory reports * Sales reports * Direct materials and labour costs for manufacturing products |   Motivation   |  | | --- | | The prime motivation for this database is efficient inventory management which is a critical part of maintaining a successful business process and workflow.  The database system we are planning to develop and implement will solve a complex problem tracking inventory in a made-to-order manufacturing company. This Database System will not cover the standard customer order processing and supplies procurement in everyday fashion, but will be unique in having the R&D, Engineering department and Sales involvement in the Customer order processing and generating of quotes and price estimates.  The solution can potentially afterwards be offered, customized and implemented in other similar industry companies that manufacture made-to-order parts. |   Conclusion   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | As the Company requires efficient database management system, we are committed to developing the Database System that will enable and ensure the cost-effective inventory management.  Co-operation with Vendors is one of the important features that will ensure maintaining sufficient inventory.  Involvement of the R&D, Engineering and Sales team in order-processing and quote generating, which affects the inventory management at the same time, is the unique feature that we are planning to incorporate.  If effectively implemented, the solution can be later tailored to and adopted by other comparable industry companies.   |  |  |  | | --- | --- | --- | | ***Description*** | ***Due Date*** | ***Details*** | | *Project Proposal due* | *2 Feb 2018* |  | | *Project Proposal Presentation* | *8 Feb 2018* |  | | *Progress Report 1* | *18 Feb 2018* | *Detailed ERD Diagram* | | *Progress Report 2* | *4 Mar 2018* | *Relational Model* | | *Progress Report 3* | *25 Mar 2018* | *Draft of Functional Part* | | *Demonstration* | *9-13 Apr 2018* |  | | *Final Report* | *15 Apr 2018* |  | |  |  |  | | |