Warehouse-Movement-Capture System and Reader System

CS 119.2

Enterprise Systems Programming

Project

**DMF (Define Manage Function)**

Cruz, Raymond **|** Fajardo, Francis **|** Luces, Paolo **|** Valeña, Manolo

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A.      Executive Summary

The OUTDOORS Company, a leading outdoor equipment provider worldwide presented its current processes which exposed its weaknesses and points for improvement. Along with the current process, the company has proposed their way of improving the system promoting reliable and error-free information. The group DMF (Define Mange Function) was assigned to work on the company’s proposed two-step design, to develop an interface program that produces an XML output which will then be posted to the SYSPRO Program and generate a detailed output file which includes the transaction of the day. DMF identified critical areas to work with to reach the company’s goal of ensuring properly recorded high priced transactions. With the help of SYSPRO, an integrated business software solution, the company will have greater control over their inventory in terms of planning, managing the warehouse, and distributing the products.

B.      High-Level Business Case

The OUTDOORS Company is one of the leading outdoor equipment providers worldwide. Comprised of different leading brands such as The North Face, Columbia, etc., branches of the OUTDOORS Company spans throughout the globe. The branches where the products of these brands can be purchased are found in various locations. The branches can be located in malls, town centres, and on occasion, products are sold directly from the company’s warehouses.

With their products ranging from tents, to camping gear and other heavier equipment, the OUTDOORS Company bases some of their warehouses onsite. Some of their warehouses are situated on mountains and several remote locations so that there is minimal cost on shipping products. However, some products must be moved across warehouses depending on the location where the items are needed.

Being geographically dispersed, inventory movements and transaction histories are consistently updated in real time directly to the main office through an internet connection. However, for the remote warehouses, unreliable network connections prevent the full realization of this method. As such, the remote warehouses record these transactions into an Excel file and send them to the head office of the company.

C.      Goals and Objectives

With high-priced transactions coming from these rural warehouses, the OUTDOORS Company has identified the need to ensure that these transactions are properly recorded when the network is up. As such, they want to replace the method of manually encoding the movements and transactions within the warehouses. These data are to be stored into an XML file which will be sent to the main office at the end of the day. All the transactions will then have to be processed and fed into SYSPRO.

The Company has identified 2 major goals for the solution that they want:

1. An application that records inventory movements into an XML file and then sent to the main office.
2. The XML files in the main office must be inputted into SYSPRO.

D.      Pain Areas and Priorities

In the company’s current situation, the group has identified 3 pain areas:

**Error prone process:** the company repeatedly and manually encodes data for all inventory movements. Given the number of transactions per day, it will be exhaustive for the assigned encoder for the job. Also, the risk of human error is higher. It is crucial that transactions are correct, especially in encoding because errors in input could cost the company a lot of money. Time to correct certain errors also requires the company to shell-out money.

**Different formatting issues:** Given the situation of the company, that requires information from different locations in the country, the company would be receiving multiple Excel files that could possibly have different kinds formatting. This is an issue recognized by the group because information must be clearly read and understood. With different formats, the head office would have a difficult time of interpreting the data which could lead them to encode it for the second time for each Excel file to be ‘cleaned’.

**Delay of data/ failure to receive data:** The company has different locations around the country. Therefore, network problems could possibly be a major issue since inventory is an initial transaction for the company. They would want to have the information given to them as soon as possible for the company to keep the business operating smoothly. The immediate acquisition of updated information will also allow the company to make better business decisions and to gain more profit.

In assessing the possible pain areas, priorities of the process emerged. One of the priorities of the current process is that the data sent to and received by the company must be a clear, understandable, and error-free Excel file. The current process demands the travel of data to be faster.  With the addition of the integrated interface which dumps an XML file, the stakeholders are assured that the data that will be received are clean, clear and understandable. The proposal of the new application will reduce the possibility of human error. Finally, the output text file provides a way of presenting gathered information to the stakeholders that would be easy for them to interpret and help them make efficient and effective decisions for the company.

E.       Deliverable Scope

Having identified the company wants and business needs, DMF has decided to develop 2 interconnected systems. A Warehouse-Movement-Capture System (WMCS), and a Reader System (RS).

The WMCS will be replacing the manual Excel input process so that the captured movements will be recorded and saved as XML files instead of .xlsx files. This application will be deployed in all of the warehouses of the OUTDOORS Company. The Reader System will then be responsible for reading the XML files sent to the main office. The inventory movements in the XML files must be put into SYSPRO. This partner app to the WMCS will be installed at the head office where the XML files are sent.

F.       Risk Management

**Risk Management**

These are the identified risks of the project:

1. Project deliverables and requirements are behind schedule.
2. Data needed for the project are not provided or are lacking.
3. There is a conflict in schedule between the client and the project team.
4. Learning curve of the technologies to be used is steep.
5. Academic-related activities prevent the project team from accomplishing the tasks.
6. Software, hardware, and other technologies to be used are unavailable.
7. Software, hardware, and other technologies to be used are incompatible.
8. The Company may back-out from the project.
9. There may be last minute changes to the group project.
10. The system developed might be unstable due to it being a new technology.
11. The quality of the project might not meet the client’s expectations.

**Risk Assessment Matrix**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Risks Event** | **Chance** | **Impact** | **Detection Difficulty** | **Trigger point / When** | **Risk-**  **Severity** |
| Project deliverables and requirements are behind schedule | High | High | Medium | At any point near the deadline | High |
| Data needed for the project are not provided or are lacking | High | High | Medium | During write-ups and system development | High |
| There is a  conflict in schedule between the client and the project team | Medium | Medium | Low | When a meeting is scheduled | High |
| Learning curve of the technologies to be used is steep | Medium | High | Medium | During the start of the development stage | High |
| Academic-related activities prevent project team from accomplishing the tasks | High | Medium | High | During the entire project | High |
| Software, hardware, and other technologies to be used are unavailable | Low | High | Medium | During the development and implementation phase | Medium |
| Software, hardware, and other technologies to be used are incompatible | Low | High | Medium | During the development and implementation stage | Medium |
| The company may back-out from the project | Low | High | Medium | At any point before deployment | Medium |
| There may be last minute changes to the group project | Medium | Medium | High | At any point during systems analysis and development | High |
| The system developed might be unstable due to it being a new technology | Medium | Medium | Low | During implementation | High |
| The quality of the project might not meet the client’s expectations | Medium | Medium | Medium | During implementation | High |