Production Management System

Obviously, the main purpose of a production complex is making profits through production. The profit of such a complex of course depends on the parameters of feeds, utilities, and products. So, management of the amounts of feeds and products is vital for monitoring the profit or loss of the enterprise.

Regarding this issue, we have developed a software solution by which you can manage all the data and effective variables in operation of the plant. Using this web-based application employees and managers dealing with the production control can see how the process of the plant is going on. Reading data directly from operation DCS computers or other methods depends on the instrumental design of the plant, the amounts of feeds and products are calculated. You can easily find out how much feed you lose in the production line which results in better control of the performance of the plant equipment.

In short, the benefits of this production management system can be summarized as follow:

1. Organizing the data of feed and production of the plant
2. Implementing a unique reference to monitor the amount of feed, products, and exchange with other plants
3. Increasing accessibility and quality of the key data of production process
4. Dramatically boosting preparation of production reports and charts for submitting stakeholders
5. Easing the possibility of automating the communication of data with other applications through web services or other preferred ways and as a result eliminating the risk of human factor errors when manual data entry is used.

<u>The methodology of implementation</u>

Implementing our solution is scheduled in four phases.

1. Studying the as-is situation.
2. Getting users requirements and analyzing them.
3. Design, programming, and implementation

4. Testing and making the system operational and final delivery.

Depending on the size of the plant and complexity of the data sources, regarding our experience the project could be completed in 6 to 12 months. Since the processes of every production plant is different from others, the solution should be implemented specifically to meet the special needs of a production plant. Although, overall development platform is the same in all projects, the final software product and its implementation might be inappropriate for another customer. So, the product is customized for any customer with respect to new requirements. For example, feed and products of a petrochemical plant maybe gas, liquid or solid. The storage of these materials would be different according to their physical state. Liquids are usually stored in tanks while solid materials are packed and preserved in warehouses. Finally, gas products are injected to pipelines to be transferred to other refineries or they may be exported. As a result, the methods, and units of quantity measurement for them would be different with respect to the state of each material. Hence, the software implementation scenario for one plant could not exactly be the same for another one.

The characteristics of our production management system software solution

Having a competent software development team, IYI co. can prepare and implement the desired software solution for industrial complexes in a minimum time and with a reasonable cost.

From technical point of view, IYI software solution could be run both on a Linux or windows operating system. It is fully web-based and compatible common browsers such as Mozilla Firefox, Google Chrome, and Microsoft Edge. No add-on or extra extension is needed on the front end. The system is well structured and designed in a cost-effective way, so that you could run the system using a minimum amount of hardware resources both on the server and client side. It could be run on two virtual machines so avoiding the cost of purchasing new physical servers.

From user point of view, the software system has lots of useful reports and monitoring facilities which only a few can be listed as follow:

- Quickly understanding the requirements of the user according to the invaluable experiences of our experts having both computers engineering academic background and working in oil industries processes.
- Editable table reports having the capability to calculate the results of changes in data online without even pressing the ENTER key by user.
- Single page reports which are usually demanded by managers. They can check the overall situation of the production briefly.
- All reports can be exported as excel and pdf files format, so that they can be easily transferred to third parties and stakeholders.
- The design of the software structure is flexible and scalable to future changes and developments of the plant. New requirements and reports could be easily implemented and integrated with the software.
- The most important part of our solution is simulation of the process of a production unit through which the production data is gathered and become available for building any kind of reports.
- Any miscalculation of the mass or volume of incoming feed or outgoing products may lead to considerable amount of loss in profitability of an enterprise. In IYI solution the risk of this kind of errors is minimized using cross check reports. So, the validity of the output information is guaranteed, and you can rely on them. Evidently, accepting these kinds of projects impose a heavy responsibility to the contractor. So, IYI Co. takes the full responsibility of the correctness and validity of all the numbers and output information of the software.
- IYI Co. has not any ready package of software products. Instead, in a fully systematic approach it plans the implementation of the solution by understanding the requirements of users and analyzing them. Then it designs and implement the software solution based on the specific needs of the customer.