

Smooth Sailing: Automated Dock and Berth Scheduling for Hassle-Free Operations

Introduction

The client is among the world's top oil and gas producers. They are engaged in almost all operations of the oil and gas industry - developing, producing, and selling oil, gas, and petroleum products including petrochemicals, etc.

Need

Our client is concerned about, scheduling and planning incoming ships and vessels on docks or berths. Since the demurrage cost is very high, it's prudent that they plan their incoming and outgoing cargos well ahead so that the operations on the dock remain hassle-free and without any penalties.

Dock scheduling is a key aspect even before we can think of pipeline or terminal scheduling. There could be various business use cases that need to be considered before we allocate a berth to an incoming vessel.

Solution

Our experts go deep down into this problem and built a product that provides automatic dock scheduling by factoring all use cases in its core design.

a) Product lastly used – Automatically detects which dock-line was used for black oil vs. white oil, and takes a run-time decision on dock-line allocation based on the cargo of the incoming vessel. It also factors in any cleaning and maintenance time in case no clean dock line is available for immediate delivery of any product.

b) Terminal location – Solution clubs multiple delivery terminals based on common properties and groups them into a common location group. All the deliveries are done at the location group level and then based on the ullage and line fill availability our solution decides the final delivery terminal.

c) LOA (length overall) – Software will automatically pick the most optimized berth for the incoming vessel based on length analysis. If vessel LOA > berth, the system discards the current berth and searches for the next suitable berth.

d) Current berth availability – The application will incorporate ETA and ETD factors in order to pick the optimum berth for the incoming vessel.

Industry

Oil and Gas

Our Services

Upstream Services

Midstream Services

Technology Stack

C#

WPF

WCF

Proprietary DB

DevExpress

Advantages

- Demurrage cost reduced by 60%
- Operators now can focus on their prime task hence increasing the customer satisfaction
- Reduce the scheduling time by 31%
- Boosted the speed of information about delivery of products last used