

IT Interview Presentation Exercise

Inventory Tracking & Stock Adjustment Automation

Background

As part of this interview process, we would like you to prepare and present a short PowerPoint presentation outlining how you would approach automating an existing manual inventory tracking process within our manufacturing environment.

Current Process

The current process for recording component usage during assembly is largely paper-based and involves several manual steps:

1. A conveyor assembly drawing is generated from Creo, our design software and output as a PDF see attached sample
2. The drawing contains a bill of Materials (BOM) - see page 1 top right complete with stock coding i.e. 2014-xxx-yyy.
3. A printed copy of the drawing is issued to the Assembly Team
4. As assembly progresses, operators manually mark the document to indicate:
 - Parts used
 - Parts not used
 - Parts unavailable in stock
 - Alternative parts used in place of specified components
5. Once assembly is complete, the marked-up paper document is passed to the Stock Controller
6. The Stock Controller manually creates inventory adjustment journals within Exchequer based on the handwritten annotations
7. In many cases, documentation is not returned for several days, resulting in delays in inventory updates and limited visibility of actual stock movements.
8. The process is open to human error and often results in incorrect entries.

Turmec Teoranta

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Directors: G Bailey, J Connor, R Thornton, P Casey, C Reid, J Birmingham

Business Challenge

The current process creates several operational challenges, including:

- Delayed inventory updates
- Reduced stock accuracy
- Lack of real-time visibility of component consumption
- Significant manual administration
- Risk of transcription errors
- Difficulty tracking substitute parts and material variances

Desired Future State

We would like to move towards a more automated solution that:

- Captures component usage electronically/live
- Provides timely or real-time inventory transactions
- Reduces manual data entry
- Improves stock accuracy and traceability
- Integrates, where possible, with existing systems
- Provides a scalable solution for future growth

Your Task

Prepare a short presentation outlining:

1. Your proposed solution for automating this process
2. The technologies, systems, or tools you would consider using
3. How information would flow from engineering through assembly to inventory control
4. How inventory transactions would be captured and updated
5. Any assumptions you have made
6. Key benefits, risks, and implementation considerations

Presentation Format

- Powerpoint or other medium
- Max 10-minute presentation
- Followed by a discussion and Q&A session

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What We Will Be Assessing

We are interested in understanding your:

- Process analysis capability
- Problem-solving approach
- Understanding of manufacturing and inventory control processes
- Ability to identify automation opportunities
- Practicality of the proposed solution
- Communication and presentation skills

There is no single correct answer, we are more interested in your thought process, assumptions and how you would approach solving the challenge.

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