

## IPRO 313

### **BAR-CODE AND FIFO SYSTEMS IMPLEMENTATION AT SHURE®**

Shure® is a global leader in audio electronics. Shure® makes microphones and audio electronics to help amplify, process, and mix your sound. They make Microphones, Wireless microphones, wireless guitar systems, Digital signal processors, feedback eliminators, personal (in-ear) monitor systems, Hi-Fi phono cartridges, DJ needles, Portable mixers and digital signal processors. Shure® makes products that help you define your sound, and takes equipment issues out of the audio equation. Shure® products have been everywhere and seen it all.

As an important company, Shure® runs **SAP**. SAP is the leader ERP (Enterprise Resource Planning) in business.

#### **Goals:**

- Improve Inventory Control – raw materials and finished goods
- Error Proofing
- Ease Shipping and Receiving
- Find a better way to handle storage and retrieval of Work-In-Process components
- Minimize loss, excess handling, potential damage
- Make it easy so anyone could use the system to locate and retrieve components

#### **Initial Requirements:**

- Investigate and develop detailed plans to integrate a bar-code system throughout operations including both Wheeling and Niles facilities
- The system must tie seamlessly into existing **SAP**
- Develop first in first out (FIFO) system to avoid old items stay too long in inventory

#### **Organization / Tasks:**

- Bar-Coding:
  - Visit the company, map the process
  - Find out specific requirements
  - SAP Interface requirements
  - Research on alternative systems:
    - Software compatible with SAP
    - Hardware requirements including computer, scanner capability, range, accuracy, etc.
    - Visit system suppliers/integrators and possibly system purchasers if within the area
- First In First Out (FIFO):
  - Develop first in first out system
  - Research on alternative systems:
    - Detailing advantages and any disadvantages
    - Determine if any type of RFID recommendation should be part of the solution
  - Prepare proposal for review by company (presentation)

**Critical Issues:**

- Bar-Coding:
  - Track items start to finish
  - Cut time, costs, paperwork, ease phase-out, reduce errors, increase customer satisfaction
  - Choose between external application or SAP solution
  
- First In First Out (FIFO):
  - Size of space will vary. There is no fixed storage space. Storage locations can move
  - Components can easily get lost, mixed with other products or damaged

**Future Goals:**

- Possible expansion into other production facilities including Juarez and Suzhou

**Faculty Advisor:**

Professor Will Maurer

**Student Members:**

Bieberich, Amanda - Mechanical Engineering, Senior  
Bin Nassir, Hassaan – Computer Science, Senior  
Blasco Comeche, Abel - Mechanical Engineering, Senior  
Cieszynski, Samuel - Mechanical Engineering, Senior  
Kim, Martin - Information Technology and Management, Senior  
Larsen, Erika - Mechanical Engineering, Senior  
Lee, Hei Chang - Electrical Engineering, Junior  
Lim, Dong Chul - Computer Science, Senior  
Mataruke, Bachum Y - Information Technology and Management, Senior  
Ovadia, Baroukh E - Information Technology and Management, Senior  
Taher, Tanim – Computer Science, Senior

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For more information come see our presentation from 10:15-10:30am in the Armour Faculty Dining Room located in the basement of the Herman Union Building.

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