Web Based Technology in Food Processing Machines

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Marel

UT Messan 2015

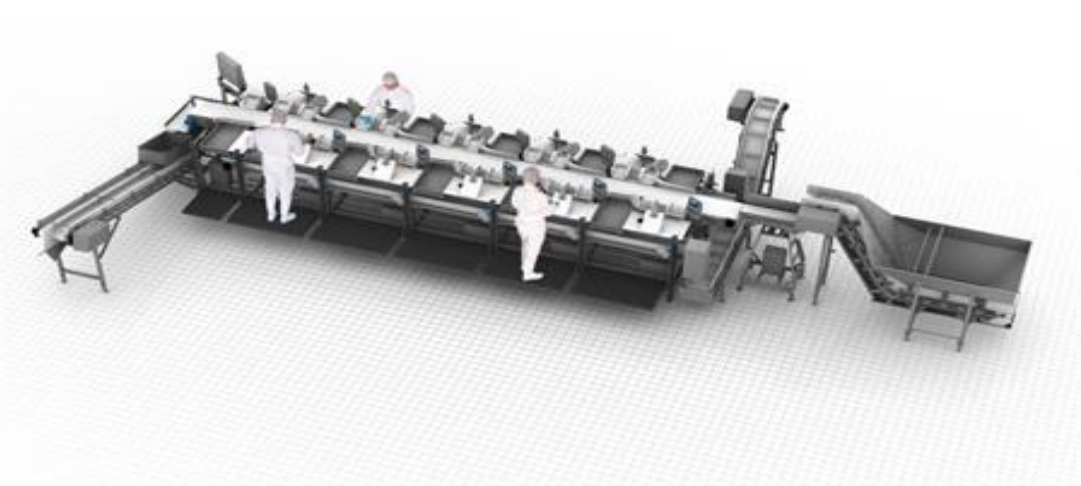


Food Processing Machines

Label Applicator

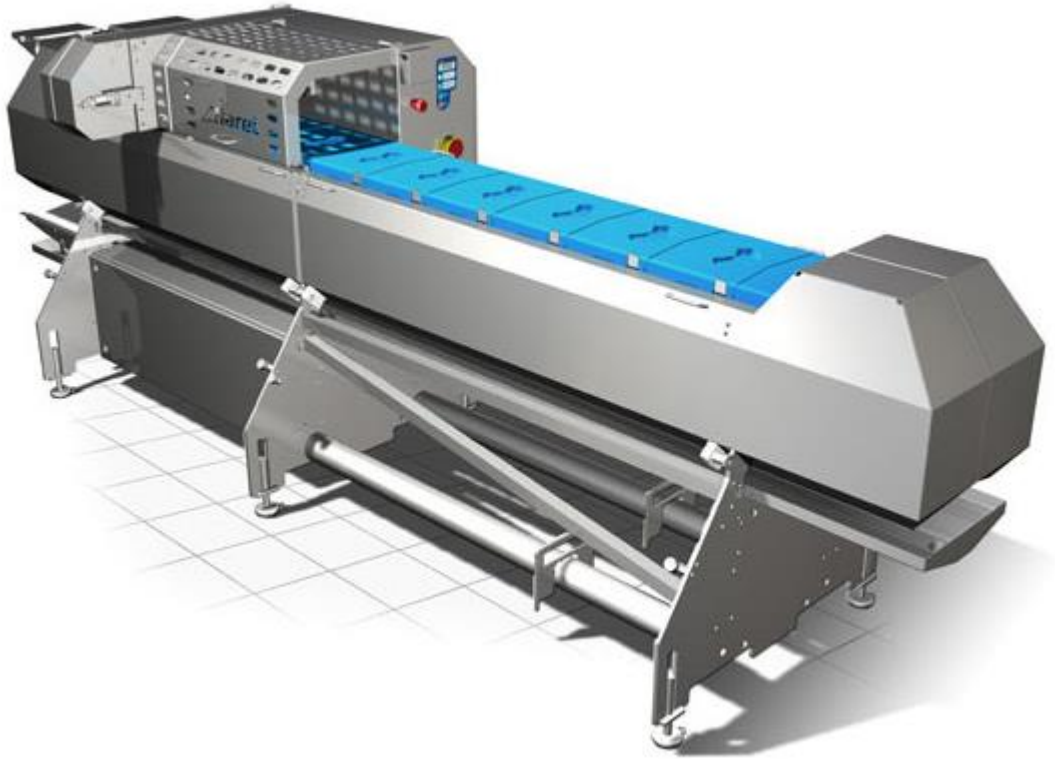
Food Processing Machines

Processing Line

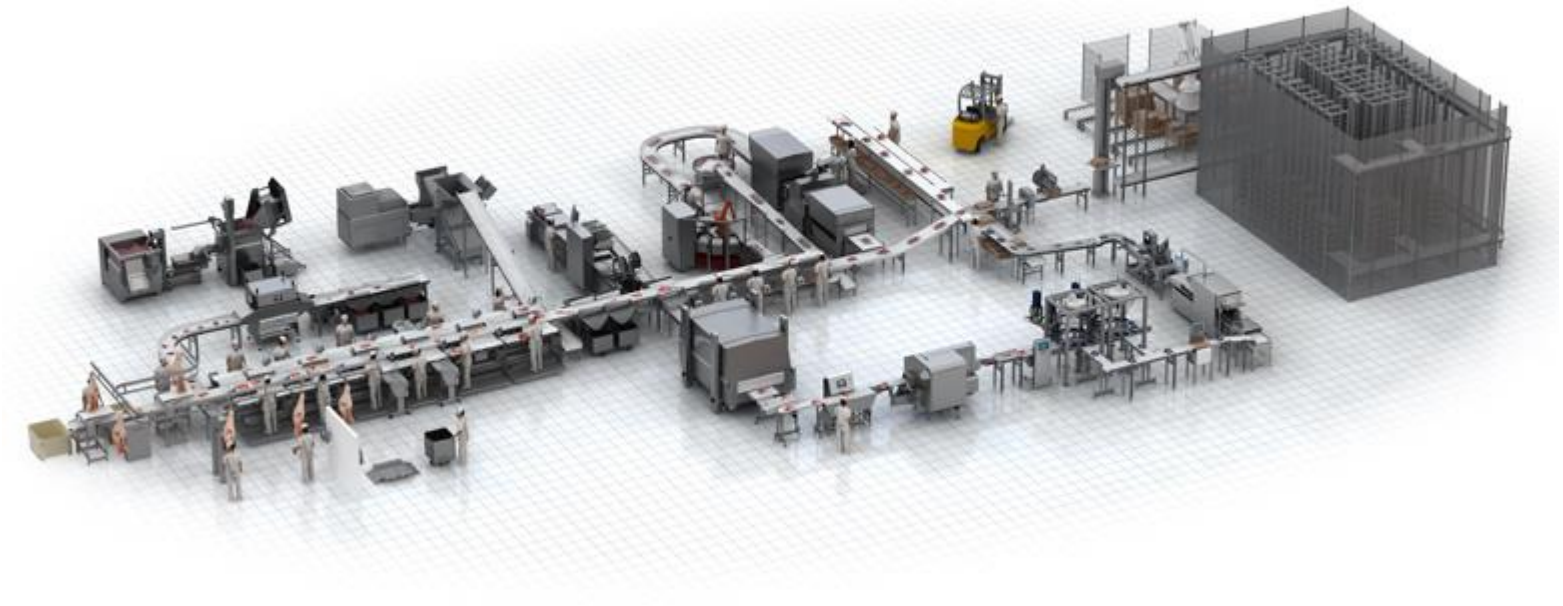


Food Processing Machines

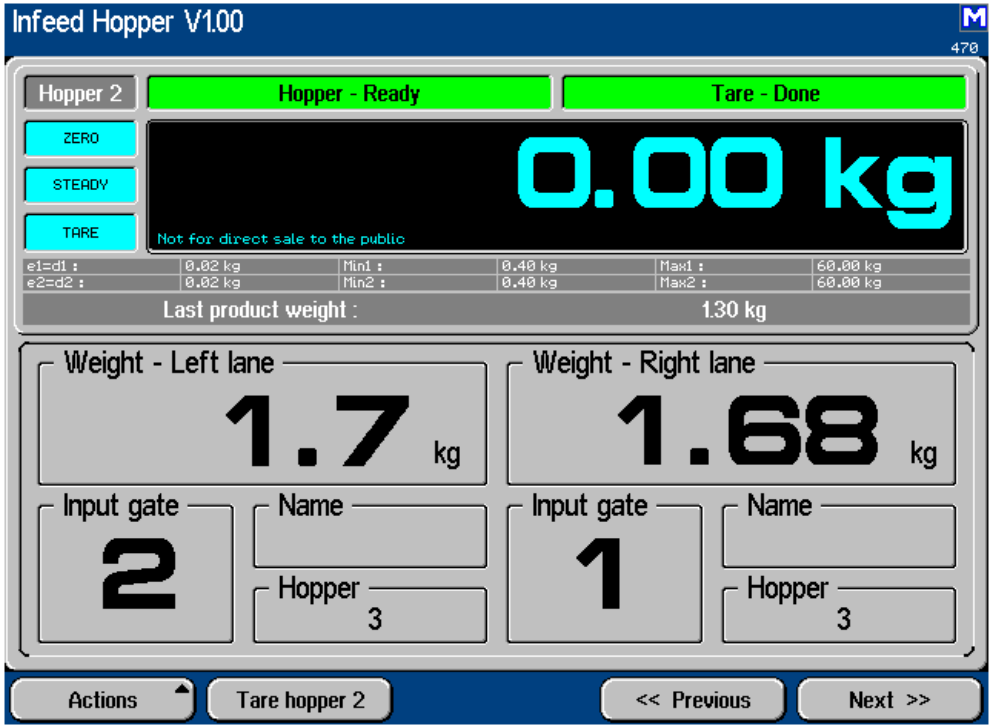
Template Slicing



Food Processing Machines



M3000 GUI – Designed 1999



Modern Interface Requirements

Tablet

Phone

Embedded Computer

Laptop

Qt or HTML5

Native programming
C++

Web programming
HTML/CSS/Javascript

Native vs. Web Application

	Native	Web
Access to hardware	★★★★★	★
Maturity of technology	★★★★★	★★
Richness of functionality	★★★★★	★★★
Freedom in GUI design	★★★★★	★★★★
Debugging	★★★★★	★★★★★
Platform coverage	★	★★★★★
Savings in development costs	★	★★★★★
Ease of maintenance	★	★★★★★

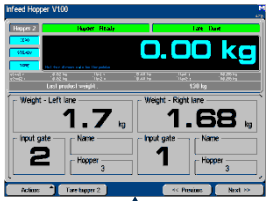
Web Interface - Downsides

- Hardware issues
- Browsers
  - Browser availability
  - Hardware limitations
  - Browser compatibility
- Bandwidth issues

Websocket

Server Side

Client Side



Page loaded from web server

Web Server

Websocket connection

Hardware

Websocket Server

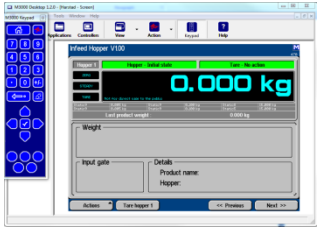
Data transfer

Browser

Remote Access Comparison

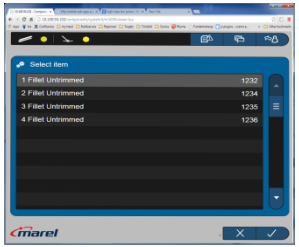
Native

Native Remote Viewer

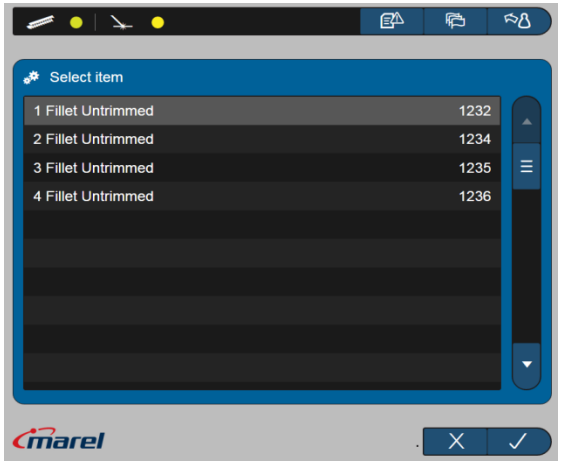


Web

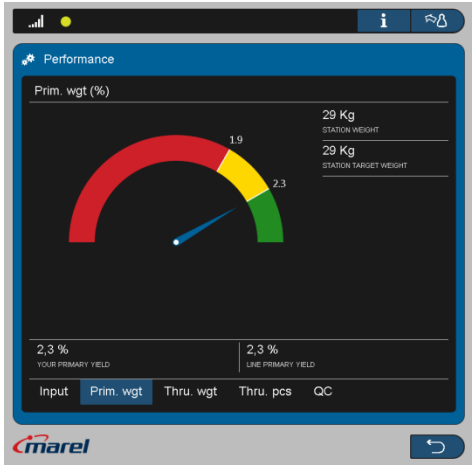
Browser



Example GUIs Written in HTML


Select item
1 Fillet Untrimmed 1232
2 Fillet Untrimmed 1234
3 Fillet Untrimmed 1235
4 Fillet Untrimmed 1236
marel


Performance
Input
You: 1 Pcs
Total: 1 Pcs
Input pieces
You: 7.0 Kg
Total: 7.0 Kg
Input weight
Input
Prim. wgt
Thru. wgt
Thru. pcs
QC
marel


Performance
Prim. wgt (%)
1.9
2.3
29 Kg
STATION WEIGHT
29 Kg
STATION TARGET WEIGHT
2,3 %
YOUR PRIMARY YIELD
2,3 %
LINE PRIMARY YIELD
Input
Prim. wgt
Thru. wgt
Thru. pcs
QC
marel

Final Thoughts

- Performance in web applications is still far behind the native solution
- Web apps have a huge advantage when it comes to platform coverage
- Today's CPU's are low power but high performance – can run browsers
  - Time is working with us, the trend is better performance / watt
- Risks
  - Performance of browsers
  - Web technology constantly changing

Thank you / Dank u wel / Mange tak / Takk fyrir