

MICHIGAN STATE

UNIVERSITY

Beta Presentation

Product Lifecycle Tracing System

The Capstone Experience

Team MillerKnoll

Keshav Babu

Ashley Jarria

Felix Liang

David Xiong

Mohammad Zaman

Department of Computer Science and Engineering

Michigan State University

Spring 2024



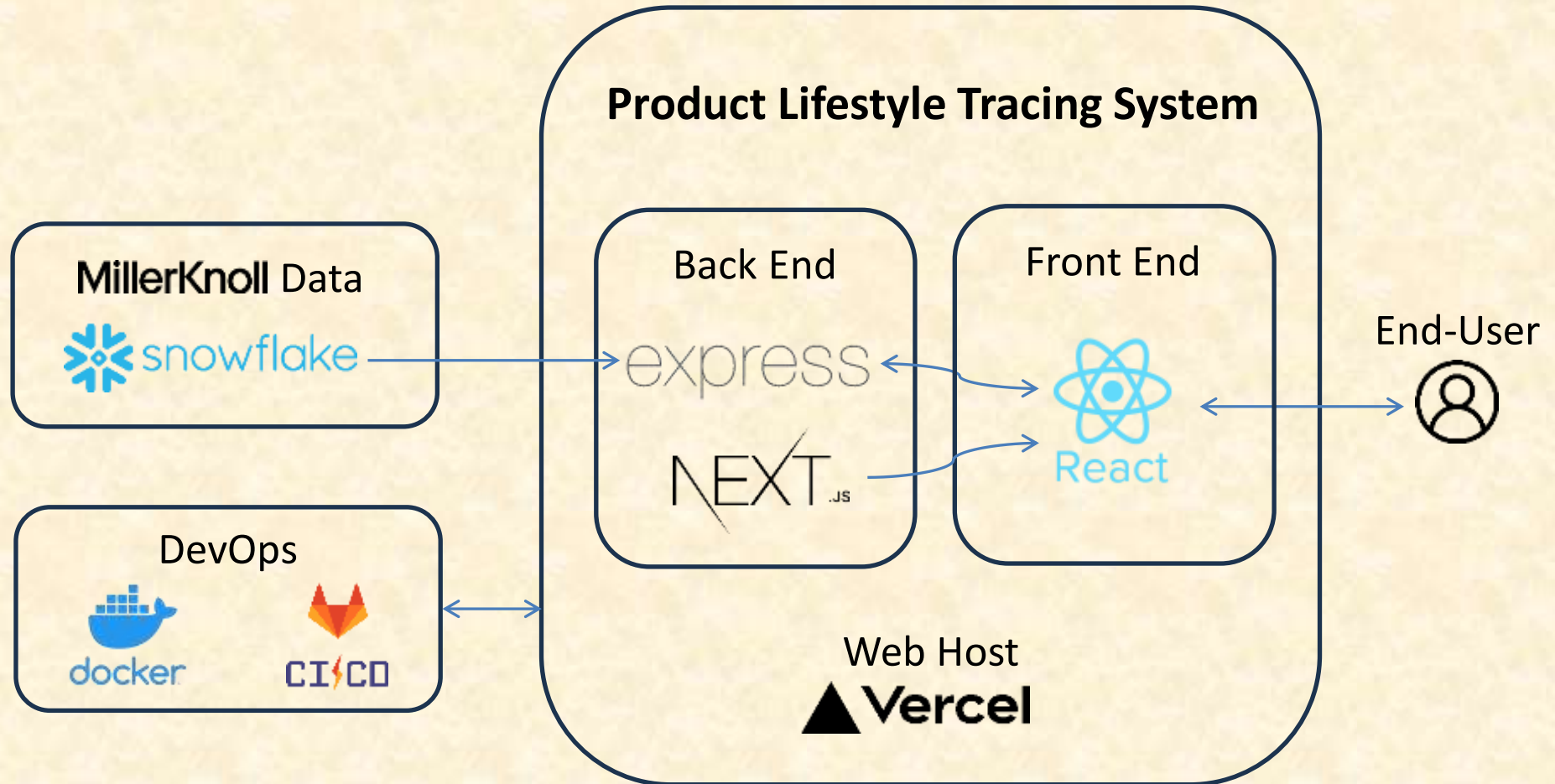
*From Students...
...to Professionals*

Project Overview

- MillerKnoll is a made-to-order furniture company with a lot of unique data
- Software provides insight into product to part relationships and effects of discontinuation
- Supports supply and product in making informed decisions regarding production volumes



System Architecture



Product Reference Lookup

The screenshot shows a web browser window at localhost:3000 displaying the MillerKnoll product dashboard. The search bar contains the product ID "M16-1518-BFSSHFT2KAH1C" and a "Search" button. The results section displays the product name "M16-1518-BFSSHFT2KAH1C" and "Standard-Pull Mobile Pedestal" along with item, project ID, line, and type information. A 3D model of the pedestal is shown in a rounded rectangle. Below the model are three buttons: "Back", "View Components", and "View Discontinuable Parts". The left sidebar contains navigation links for "Product Lookup Tool", "Product to Parts", "Part to Products", "Product Flowchart", and "Help".

MillerKnoll

> Product Lookup Tool

Product to Parts

Part to Products

Product Flowchart

Help

M16-1518-BFSSHFT2KAH1C Search

Results for "M16-1518-BFSSHFT2KAH1C"

M16-1518-BFSSHFT2KAH1C

Standard-Pull Mobile Pedestal

Item: 0000698345

Project ID: Z40281

Line: MP

Type: Manufactured

Back View Components View Discontinuable Parts

Product to Parts

The screenshot shows a web browser window with the URL `millerknoll.com/productdashboard`. The page features a dark sidebar on the left with the MillerKnoll logo and navigation options: "Product Lookup Tool", "> Product to Parts", "Part to Products", "Product Flowchart", and "Help". The main content area displays a search bar with the input "M16-1518-BFSSHFT2KAH1C" and a "Search" button. Below the search bar, the results are titled "Results for 'M16-1518-BFSSHFT2KAH1C'" and include an "Export to CSV" button. A search filter "Search Any Field" and a status "64 Results - Fetched in 1.241 seconds" are also visible. The results are presented in a table with the following columns: ID, PARENT, COMPANY, DESCRIPTION, ITEM_TYPE, ITEM_GROUP, SUPPLIER, and SUPPLIER_NAME. The table contains five rows of data.

ID	PARENT	COMPANY	DESCRIPTION	ITEM_TYPE	ITEM_GROUP	SUPPLIER	SUPPLIER_NAME
1B0DXM	M16-1518-BFSSHFT2KAH1C	107	DRW COMPRESSOR ASY(15)11.9*8.5	Purchased	150000	88127	ROYAL TECHNOLOGIES CORPORATION
0104/1088	M16-1518-BFSSHFT2KAH1C	107	BLACK NYLON WASHER-HAND GRIP	Purchased	180000	40081	ENDRIES INTERNATIONAL INC
101/016	M16-1518-BFSSHFT2KAH1C	107	10-16*1/2 PH PAN #2 TEK-BLACK	Purchased	180000	40081	ENDRIES INTERNATIONAL INC
1B2K8G	M16-1518-BFSSHFT2KAH1C	107	#8*5 PH TYPE A SCREW	Purchased	150000	40081	ENDRIES INTERNATIONAL INC
1BPDJO	M16-1518-BFSSHFT2KAH1C	107	SCREW - 10-32, RELAY PULL	Purchased	020000	40081	ENDRIES INTERNATIONAL INC

Simulating Product Discontinuation

The screenshot shows a web browser at localhost:3000 with the URL millerknoll.com/productdashboard. The page features a dark sidebar with navigation options: Product Lookup Tool, Product to Parts, Part to Products, and Product Flowchart. A modal window titled 'Listed Components' is open, displaying a table of parts. The table has columns for ItemID and Description. Two rows are highlighted in green: PK-0006484671 (HMI Paint Kit) and 1B64K1 (PAD - HONEYCOMB 19.3125). The modal also includes a search bar and a close button.

ItemID	Description
1BH5V4	10-16X1/2" TAPPING SCREW
1B0DXM	DRW COMPRESSOR ASY(15)11.9*8.5
0104/1088	BLACK NYLON WASHER-HAND GRIP
101/016	10-16*1/2 PH PAN #2 TEK-BLACK
1B2K8G	#8*5 PH TYPE A SCREW
1BPDJ0	SCREW - 10-32, RELAY PULL
PK-0006484671	HMI Paint Kit
1B233H	RIVET
101/058	6-32*1/4 PH PAN-SEMS W/NYLOCK
1B64K1	PAD - HONEYCOMB 19.3125

Part to Products

The screenshot shows a web browser window at localhost:3000 displaying the MillerKnoll Product Lookup Tool. The search bar contains the part number "1BH5V4" and a "Search" button. The results section shows "Results for '1BH5V4'" with a summary of "30411 Results - Fetched in 1.425 seconds" and an "Export to CSV" button. A table lists the following data:

CFG_DESC	COMPANY	ITEM	QTY
LW400.4226SSLUKA	107	0000994136	11
46-3615-OB-68SSWLT1NS4B2	107	0000389039	9
4LT.K152042LSS98NTCHMSKAB2	107	0018766483	4
LQ400D.3026XS91KANH	107	0002316218	11
F16-1522-BBFSS8QT1KAB2NOC	107	0002722350	4
M16-1518-BBFSS1210T1KDHI1DC	107	0001796797	4
4LH.K30202RXS98NTBKKAB2	107	0002984520	16
SA876477	107	0002982438	4
LW400.4226SSCNKA	107	0000968687	11
26-3020-3NSS98T1KAB2CB9P	107	0002984939	5
LG500.4264XSG1	107	0000954593	9

The interface also includes a sidebar with navigation options: "Product Lookup Tool", "Product to Parts", "Part to Products" (highlighted), and "Product Flowchart". A "Help" link is located at the bottom of the sidebar.

Flowchart

The screenshot shows a web browser at localhost:3000 displaying the MillerKnoll Product Lookup Tool. The main content area is titled "Product Flowchart" and shows a hierarchical tree structure for the product ID "AO260.57F8QZ2701".

Product ID: AO260.57F8QZ2701

Product Flowchart Structure:

- Product ID: AO260.57F8QZ2701
 - 214213
 - 175039-10
 - 1B9KPV-8Q
 - 1B75XC-4
 - 121484
 - 121268-1
 - 121268-2

The sidebar on the left contains the following navigation items:

- MillerKnoll
- Product Lookup Tool
- Product to Parts
- Part to Products
- > Product Flowchart
- Help

What's left to do?

Stretch Goals

- Replace Bynder Images
- Combine Product Flowchart / Product to Part Tabs
- Generate Reports for Discontinuable Products

Other Tasks

- Clean up/Refactor Code
- Stress Testing
- Integrate with Sponsor System



Questions?

?

?

?

?

?

?

?

?

?

