Fisher College Inventory Control System

DELTA TEAM: Ashley Payton, Kenzy Elmasry, Jason Martinez Morales,
Destinee Ukwuoma & Oseobulu Aigbedion

TOWSON UNIVERSITY

Project Agenda

- Project Overview- Scope
- Current Inventory Control System
- Clients' needs
- Proposed Solutions
- Chosen Solution
- Challenges Faced
- Outcome
- Next steps – Future
- Conclusion

Project Overview

Goal: Maintain an accurate inventory of the specific equipment located in labs and classrooms

Why?: Inventory was manually tracked and was inaccurate and tedious for upcoming audits

Stakeholders:

Amanda Charles, Jenn Strebb, and Josh Wilhide

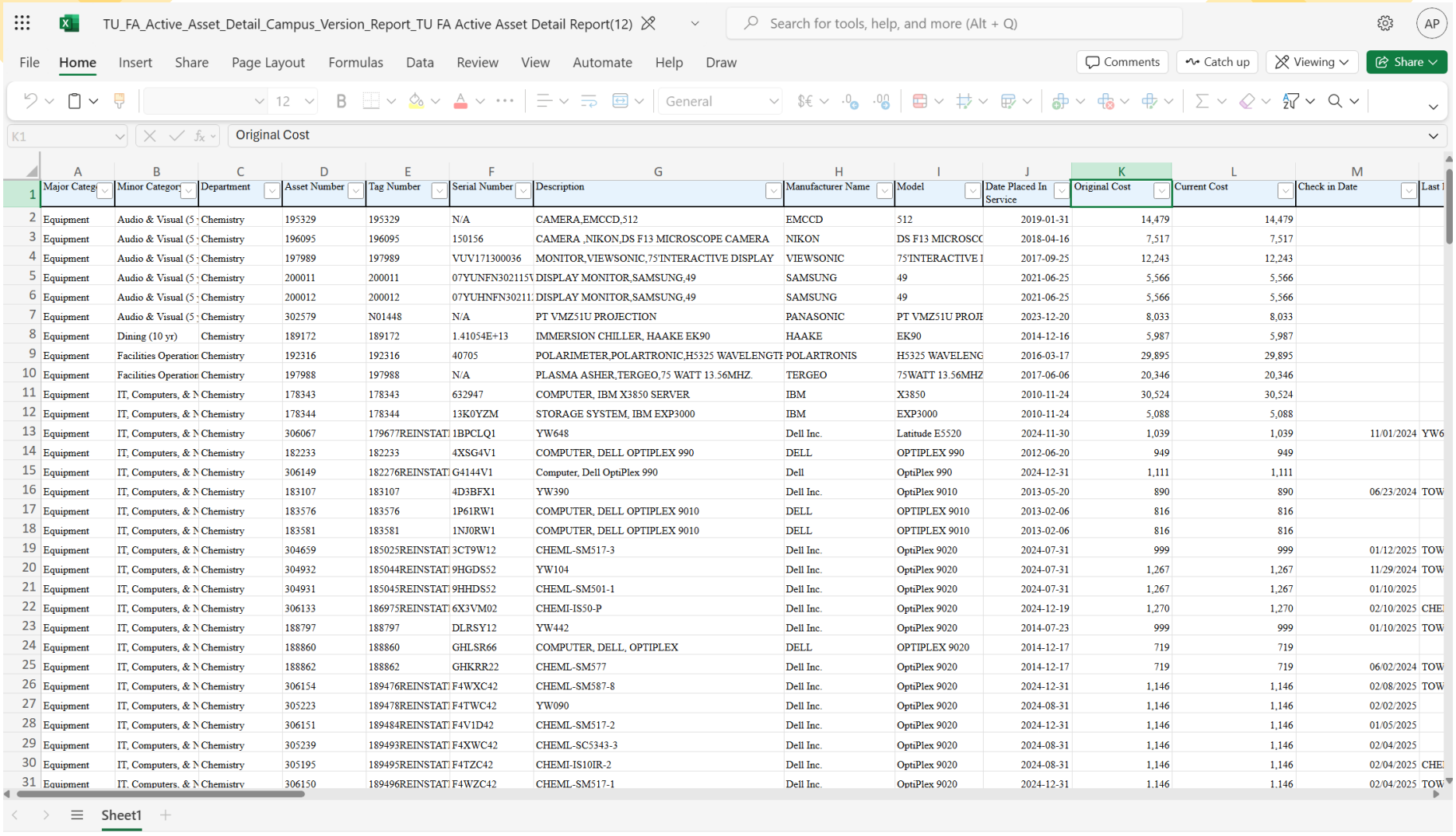
Current Inventory System

Inventory was tracked manually by Jenn Streb after receiving documentation from procurement (Stratus)

Inventory was managed through a Microsoft Excel file

Issues/Difficulties:

Locations were not accurate for some items	Smaller items under $5k were not tracked	Items did not have detailed descriptions or photos as indicators



	A	B	C	D	E	F	G	H	I	J	K	L	M	
1	Major Categ	Minor Categor	Department	Asset Number	Tag Number	Serial Number	Description	Manufacturer Name	Model	Date Placed In Service	Original Cost	Current Cost	Check in Date	Last I
2	Equipment	Audio & Visual (5	Chemistry	195329	195329	N/A	CAMERA,EMCCD,512	EMCCD	512	2019-01-31	14,479	14,479		
3	Equipment	Audio & Visual (5	Chemistry	196095	196095	150156	CAMERA ,NIKON,DS F13 MICROSCOPE CAMERA	NIKON	DS F13 MICROSC	2018-04-16	7,517	7,517		
4	Equipment	Audio & Visual (5	Chemistry	197989	197989	VUV171300036	MONITOR,VIEWSONIC,75'INTERACTIVE DISPLAY	VIEWSONIC	75'INTERACTIVE I	2017-09-25	12,243	12,243		
5	Equipment	Audio & Visual (5	Chemistry	200011	200011	07YUNFN302115\	DISPLAY MONITOR,SAMSUNG,49	SAMSUNG	49	2021-06-25	5,566	5,566		
6	Equipment	Audio & Visual (5	Chemistry	200012	200012	07YUHNFN30211	DISPLAY MONITOR,SAMSUNG,49	SAMSUNG	49	2021-06-25	5,566	5,566		
7	Equipment	Audio & Visual (5	Chemistry	302579	N01448	N/A	PT VMZ51U PROJECTION	PANASONIC	PT VMZ51U PROJ	2023-12-20	8,033	8,033		
8	Equipment	Dining (10 yr)	Chemistry	189172	189172	1.41054E+13	IMMERSION CHILLER, HAAKE EK90	HAAKE	EK90	2014-12-16	5,987	5,987		
9	Equipment	Facilities Operation	Chemistry	192316	192316	40705	POLARIMETER,POLARTRONIC,H5325 WAVELENGTH	POLARTRONIS	H5325 WAVELENG	2016-03-17	29,895	29,895		
10	Equipment	Facilities Operation	Chemistry	197988	197988	N/A	PLASMA ASHER,TERGEO,75 WATT 13.56MHZ.	TERGEO	75WATT 13.56MHZ	2017-06-06	20,346	20,346		
11	Equipment	IT, Computers, & N	Chemistry	178343	178343	632947	COMPUTER, IBM X3850 SERVER	IBM	X3850	2010-11-24	30,524	30,524		
12	Equipment	IT, Computers, & N	Chemistry	178344	178344	13K0YZM	STORAGE SYSTEM, IBM EXP3000	IBM	EXP3000	2010-11-24	5,088	5,088		
13	Equipment	IT, Computers, & N	Chemistry	306067	179677REINSTAT	1BPCLQ1	YW648	Dell Inc.	Latitude E5520	2024-11-30	1,039	1,039	11/01/2024	YW6
14	Equipment	IT, Computers, & N	Chemistry	182233	182233	4XSG4V1	COMPUTER, DELL OPTIPLEX 990	DELL	OPTIPLEX 990	2012-06-20	949	949		
15	Equipment	IT, Computers, & N	Chemistry	306149	182276REINSTAT	G4144V1	Computer, Dell OptiPlex 990	Dell	OptiPlex 990	2024-12-31	1,111	1,111		
16	Equipment	IT, Computers, & N	Chemistry	183107	183107	4D3BFX1	YW390	Dell Inc.	OptiPlex 9010	2013-05-20	890	890	06/23/2024	TOW
17	Equipment	IT, Computers, & N	Chemistry	183576	183576	1P61RW1	COMPUTER, DELL OPTIPLEX 9010	DELL	OPTIPLEX 9010	2013-02-06	816	816		
18	Equipment	IT, Computers, & N	Chemistry	183581	183581	1NJ0RW1	COMPUTER, DELL OPTIPLEX 9010	DELL	OPTIPLEX 9010	2013-02-06	816	816		
19	Equipment	IT, Computers, & N	Chemistry	304659	185025REINSTAT	3CT9W12	CHEML-SM517-3	Dell Inc.	OptiPlex 9020	2024-07-31	999	999	01/12/2025	TOW
20	Equipment	IT, Computers, & N	Chemistry	304932	185044REINSTAT	9HGDS52	YW104	Dell Inc.	OptiPlex 9020	2024-07-31	1,267	1,267	11/29/2024	TOW
21	Equipment	IT, Computers, & N	Chemistry	304931	185045REINSTAT	9HHDS52	CHEML-SM501-1	Dell Inc.	OptiPlex 9020	2024-07-31	1,267	1,267	01/10/2025	
22	Equipment	IT, Computers, & N	Chemistry	306133	186975REINSTAT	6X3VM02	CHEMI-IS50-P	Dell Inc.	OptiPlex 9020	2024-12-19	1,270	1,270	02/10/2025	CHE
23	Equipment	IT, Computers, & N	Chemistry	188797	188797	DLRSY12	YW442	Dell Inc.	OptiPlex 9020	2014-07-23	999	999	01/10/2025	TOW
24	Equipment	IT, Computers, & N	Chemistry	188860	188860	GHLSR66	COMPUTER, DELL, OPTIPLEX	DELL	OPTIPLEX 9020	2014-12-17	719	719		
25	Equipment	IT, Computers, & N	Chemistry	188862	188862	GHKRR22	CHEML-SM577	Dell Inc.	OptiPlex 9020	2014-12-17	719	719	06/02/2024	TOW
26	Equipment	IT, Computers, & N	Chemistry	306154	189476REINSTAT	F4WXC42	CHEML-SM587-8	Dell Inc.	OptiPlex 9020	2024-12-31	1,146	1,146	02/08/2025	TOW
27	Equipment	IT, Computers, & N	Chemistry	305223	189478REINSTAT	F4TWC42	YW090	Dell Inc.	OptiPlex 9020	2024-08-31	1,146	1,146	02/02/2025	
28	Equipment	IT, Computers, & N	Chemistry	306151	189484REINSTAT	F4V1D42	CHEML-SM517-2	Dell Inc.	OptiPlex 9020	2024-12-31	1,146	1,146	01/05/2025	
29	Equipment	IT, Computers, & N	Chemistry	305239	189493REINSTAT	F4XWC42	CHEML-SC5343-3	Dell Inc.	OptiPlex 9020	2024-08-31	1,146	1,146	02/04/2025	
30	Equipment	IT, Computers, & N	Chemistry	305195	189495REINSTAT	F4TZC42	CHEMI-IS10IR-2	Dell Inc.	OptiPlex 9020	2024-08-31	1,146	1,146	02/04/2025	CHE
31	Equipment	IT, Computers, & N	Chemistry	306150	189496REINSTAT	F4WZC42	CHEML-SM517-1	Dell Inc.	OptiPlex 9020	2024-12-31	1,146	1,146	02/04/2025	TOW

Client Needs

ACCURATE INFORMATION

CAPSTONE PROJECT 1.

Inventory database

In preparation for a college wide audit, we would like to catalog scientific/electr
each lab/room in the building.

Collecting the following information using an iPad, with the ability to export the

a. Minor category
    1. Audio & Visual (5 yr)
    2. Dining (10 yr)
    3. Facilities Operations & Maint
    4. IT, Computers, & Networking
    5. Scientific, Research, Classrm
b. Department
    1. Biological Science
    2. Chemistry
    3. Mathematics
    4. Computer
    5. Environ Science & Studies Pgm
    6. OTS Networking
    7. Office Of Technology Services
    8. Physics, Astronomy & Geoscienc
    9. STEM Education
    10. SCITECH
    11. Science & Mathematics
c. photo
d. description/name
e. building
f. room #
g. location (hallway/attic and describe)
h. TU Tag #
i. TU asset #
j. Manufacturer Name
k. manufactured year (optional)
l. Model
m. Date placed in service
n. Original cost
o. Current cost
p. responsible PI
q. Notes

Client Needs

ACCURATE INFORMATION

PICTURES OF ITEMS

Client Needs

ACCURATE INFORMATION

PICTURES OF ITEMS

SIMPLICITY

Client Needs

ACCURATE INFORMATION

PICTURES OF ITEMS

SIMPLICITY

COLLABORATION

Client Needs

ACCURATE INFORMATION

PICTURES OF ITEMS

SIMPLICITY

COLLABORATION

FILTERING

Proposed Solutions

- Solution 1: Create a SQL database
- Solution 2: Create a Microsoft Form linked to a Microsoft Excel workbook
- Solution 3: Create a Power BI dashboard that populates from a Microsoft Excel workbook which is linked to a Microsoft Form

Chosen Solution

- Implemented a system using Microsoft Forms, Excel, and Power BI
- Staff submit inventory data via Forms on computers or iPads
- Data entered into a centralized Excel workbook
- Power BI dashboard visualizes the data

Challenges Faced

Microsoft Forms

- Data compatibility and reading errors

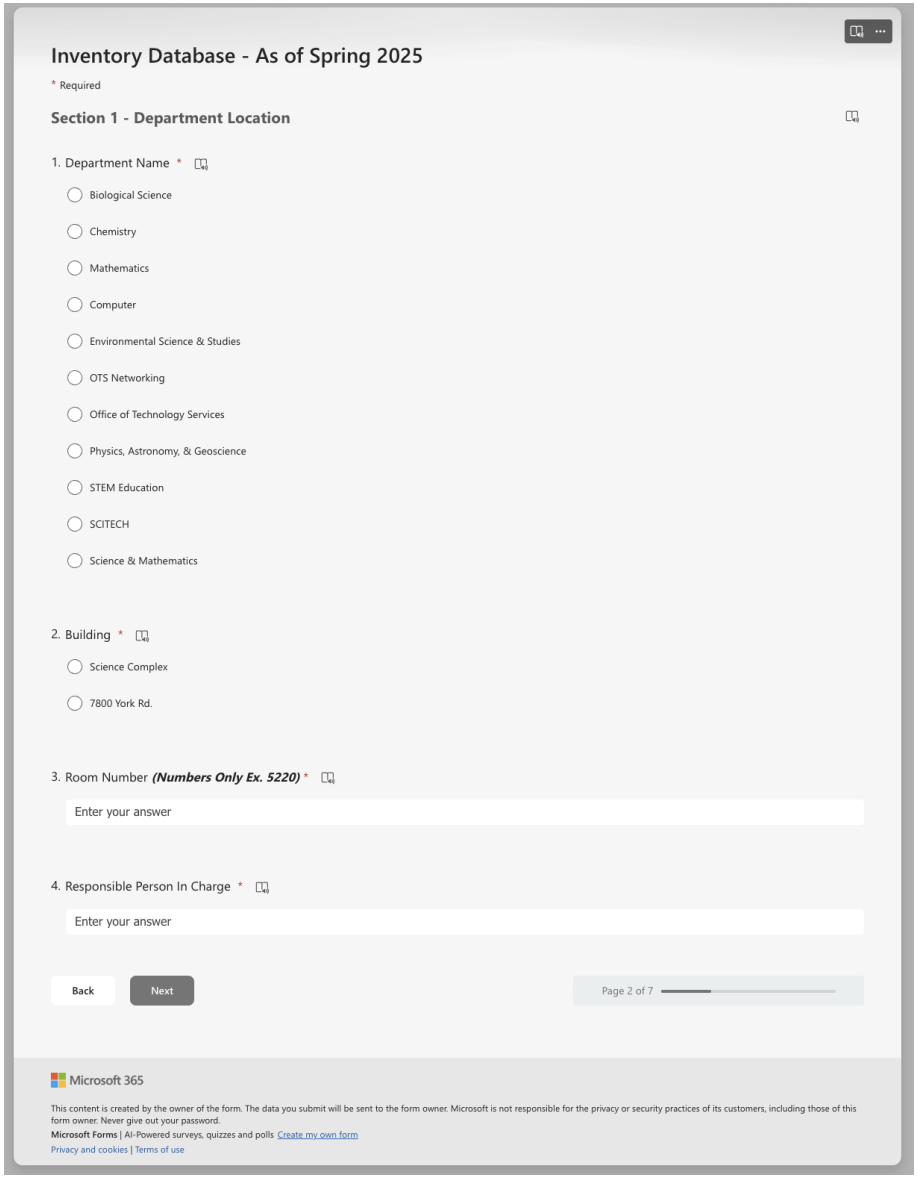
PowerBI

- The dashboard takes approximately 5 minutes to refresh the dataset
- Only one user can refresh the dataset to get live results
- Does not operate on Mac

Outcome

- Provided a foundation for inventory data collection and reporting within the Chemistry department
- Installed Microsoft Forms and Power BI on Ms. Charles' desktop system
- Created detailed use cases to guide future documentation and support system development.

Demo



Inventory Database - As of Spring 2025

* Required

Section 1 - Department Location

1. Department Name *

- Biological Science
- Chemistry
- Mathematics
- Computer
- Environmental Science & Studies
- OTS Networking
- Office of Technology Services
- Physics, Astronomy, & Geoscience
- STEM Education
- SCITECH
- Science & Mathematics

2. Building *

- Science Complex
- 7800 York Rd.

3. Room Number ***(Numbers Only Ex. 5220)*** *

Enter your answer

4. Responsible Person In Charge *

Enter your answer

Back Next

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Microsoft 365

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Demo

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U3 https://tu-my.sharepoint.com/personal/apayto4_students_towson_edu/Documents/Apps/Microsoft%20Forms/Inventory%20Database/Question/Screenshot%202025-03-

	E	F	G	H	I	J	K
1	Name	Department Name	Building	Room Number (Numbers Only Ex. 5220)	Responsible Person In Charge	Equipment Category	Name/ Description of Equipment
2	Jason Martinez Morales	Biological Science	Science Complex	204	Jason M	Audio & Visual	Beaker
3	Destinee Ukwuoma	Biological Science	Science Complex	204	Peter Hawkins	Audio & Visual	Beaker
4	Kenzy Elmasry	Computer	Science Complex	3304	Kenzy	IT, Computers, & Networking	Computers
5	Oseobulu Aigbedion	OTS Networking	7800 York Rd.	402	CIS	IT, Computers, & Networking	Speaker
6	Ashley Payton	Mathematics	Science Complex	330	Ashley Payton	Scientific, Research, Classroom	Graphing calculator
7	Destinee Ukwuoma	Chemistry	Science Complex	212	Frank	Dining	Beaker
8	Jason Martinez Morales	Computer	7800 York Rd.	304	Jason	Dining	Beaker with 2 necks
9	Jason Martinez Morales	Biological Science	Science Complex	kjn	kjn	Facilities Operations & Maintenance	mouse
10	Destinee Ukwuoma	Biological Science	Science Complex	201	Destinee	Audio & Visual	Keyboard
11	Destinee Ukwuoma	Biological Science	Science Complex	222	Destinee	Audio & Visual	Mic
12	Jason Martinez Morales	Biological Science	Science Complex	303	Jason	Dining	Cash register
13	Jason Martinez Morales	Computer	7800 York Rd.	101	Joe B	IT, Computers, & Networking	Laptop
14	Jason Martinez Morales	SCITECH	Science Complex	SC 1220	N/a	Scientific, Research, Classroom	This is a Bunsen burner
15	Jason Martinez Morales	Environmental Science & Studies	Science Complex	SC 3030	Jason M	Facilities Operations & Maintenance	This is a operational computer
16	Jason Martinez Morales	Office of Technology Services	7800 York Rd.	YR 120	Hemsin Hemmy	IT, Computers, & Networking	Mouse for the office of technology
17	Jason Martinez Morales	Physics, Astronomy, & Geoscience	Science Complex	SC 4555	Jason Me	Dining	This is a simple dining item for the sc
18	Jason Martinez Morales	STEM Education	7800 York Rd.	YR3033	JAson M	IT, Computers, & Networking	Ethernet Cable
19	Destinee Ukwuoma	Biological Science	Science Complex	220	James Barnes	Audio & Visual	Beaker
20							
21							
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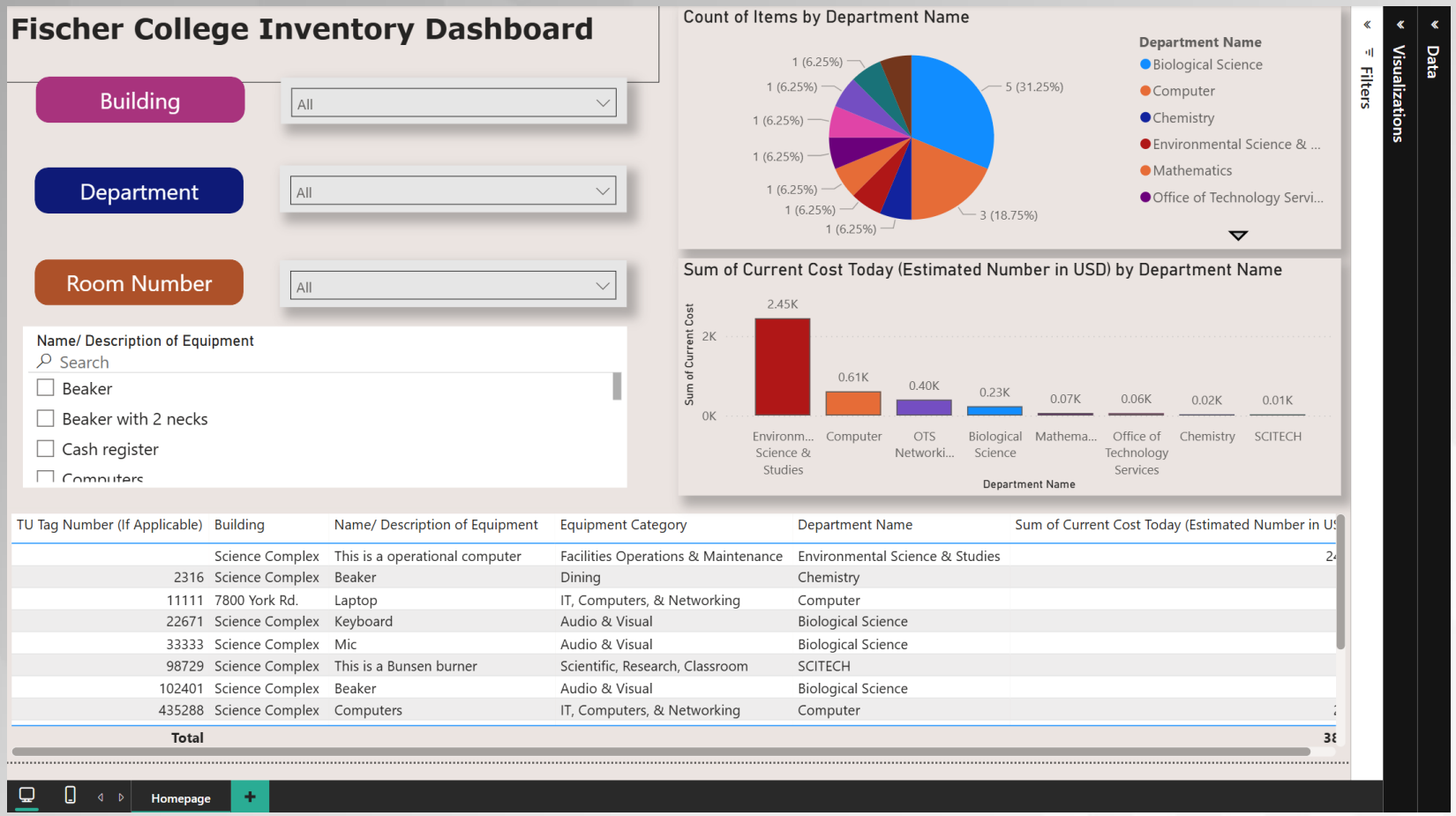
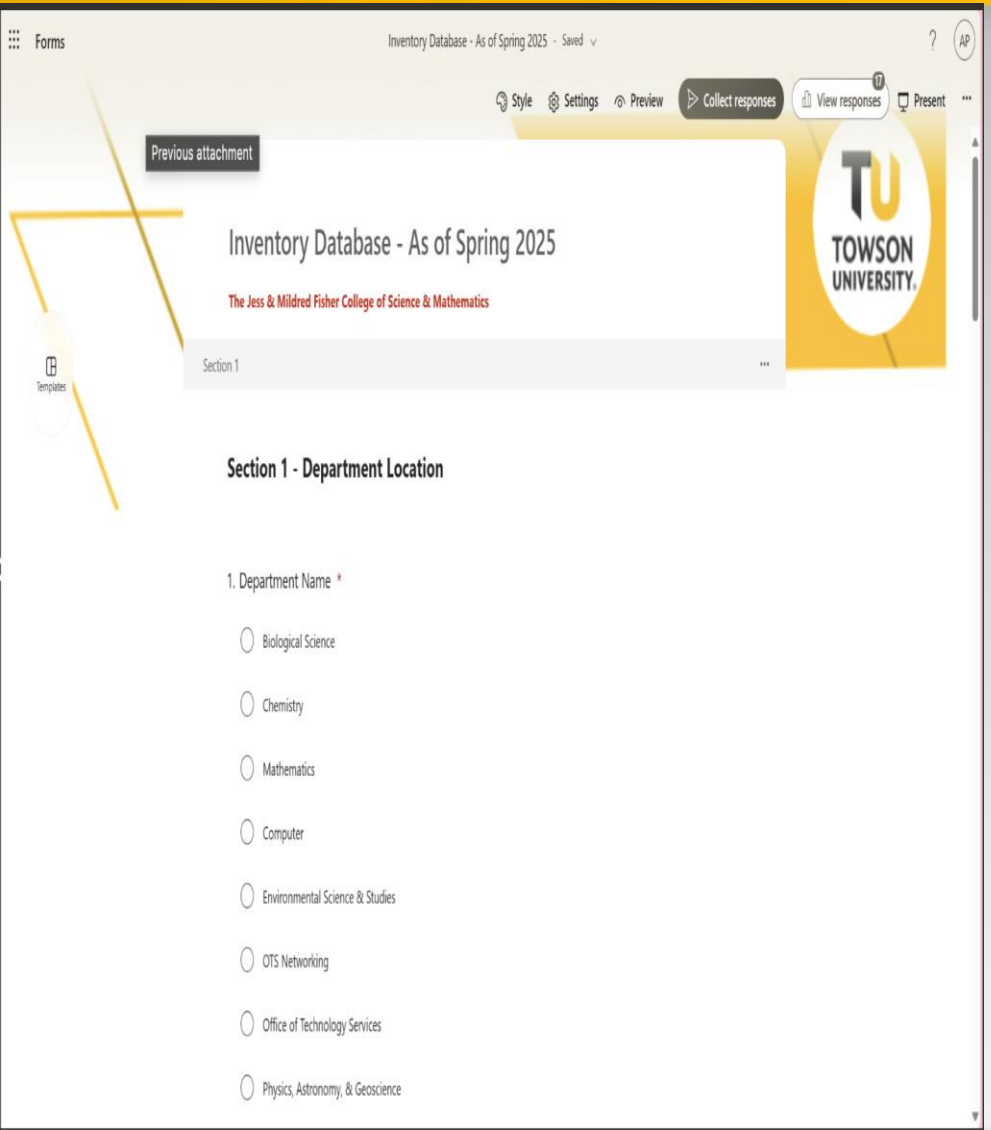
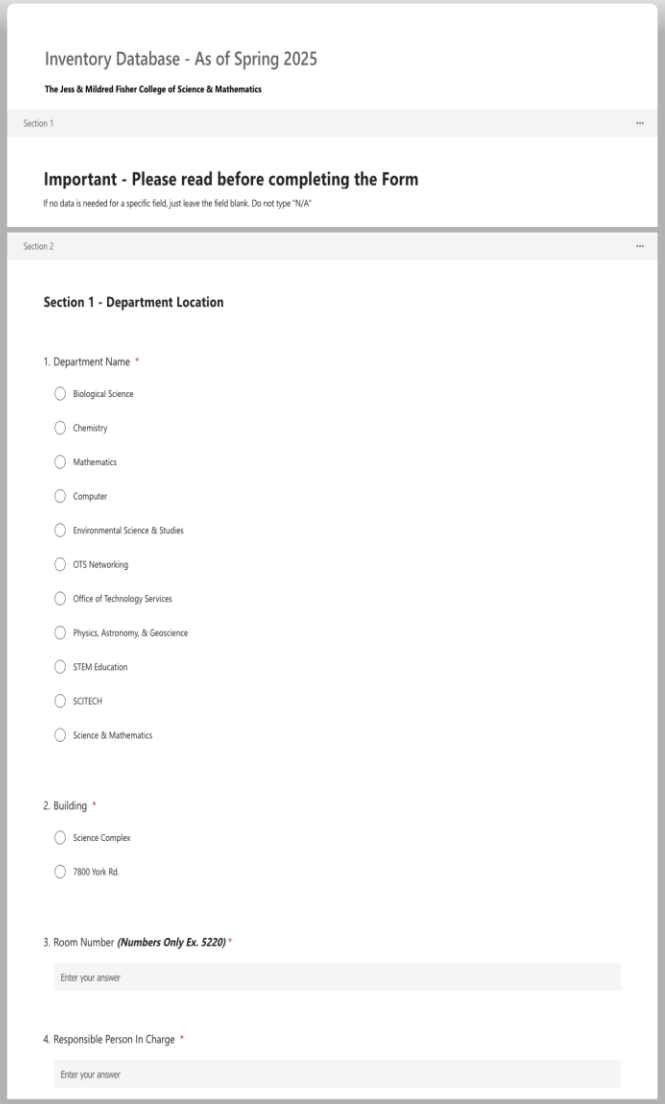
30							
31							

Demo


Fischer College Inventory Dashboard
Building
All
Department
All
Room Number
All
Name/ Description of Equipment
Search
Beaker
Beaker with 2 necks
Cash register
Computers
Count of Items by Department Name
1 (6.25%)
1 (6.25%)
1 (6.25%)
1 (6.25%)
1 (6.25%)
1 (6.25%)
1 (6.25%)
5 (31.25%)
3 (18.75%)
Department Name
Biological Science
Computer
Chemistry
Environmental Science & ...
Mathematics
Office of Technology Servi...
Sum of Current Cost Today (Estimated Number in USD) by Department Name
Sum of Current Cost
2K
0K
2.45K
0.61K
0.40K
0.23K
0.07K
0.06K
0.02K
0.01K
Environm... Science & Studies
Computer
OTS Networki...
Biological Science
Mathema...
Office of Technology Services
Chemistry
SCITECH
Department Name
Filters
Visualizations
Data
TU Tag Number (If Applicable) | Building | Name/ Description of Equipment | Equipment Category | Department Name | Sum of Current Cost Today (Estimated Number in US
Science Complex | This is a operational computer | Facilities Operations & Maintenance | Environmental Science & Studies | 24
2316 | Science Complex | Beaker | Dining | Chemistry
11111 | 7800 York Rd. | Laptop | IT, Computers, & Networking | Computer
22671 | Science Complex | Keyboard | Audio & Visual | Biological Science
33333 | Science Complex | Mic | Audio & Visual | Biological Science
98729 | Science Complex | This is a Bunsen burner | Scientific, Research, Classroom | SCITECH
102401 | Science Complex | Beaker | Audio & Visual | Biological Science
435288 | Science Complex | Computers | IT, Computers, & Networking | Computer
Total
Homepage

Design Changes – Microsoft Form





Design Changes – Power BI

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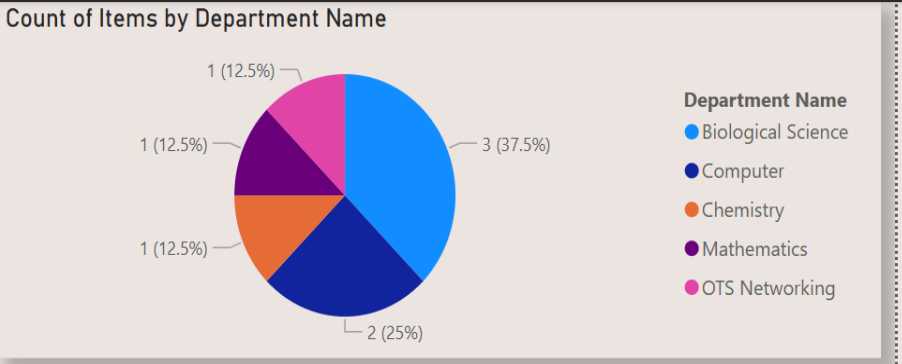
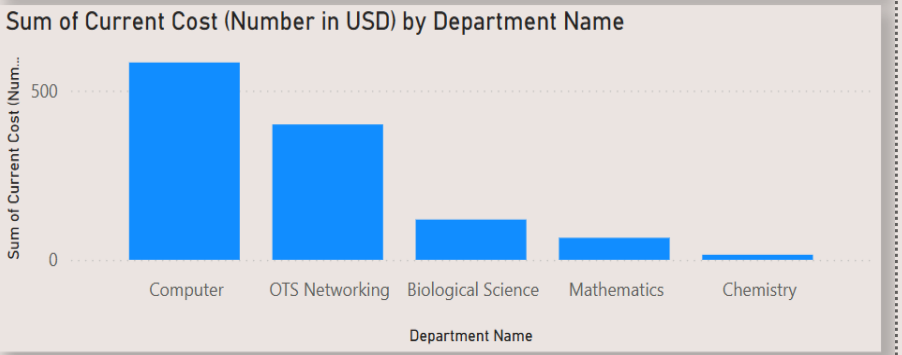
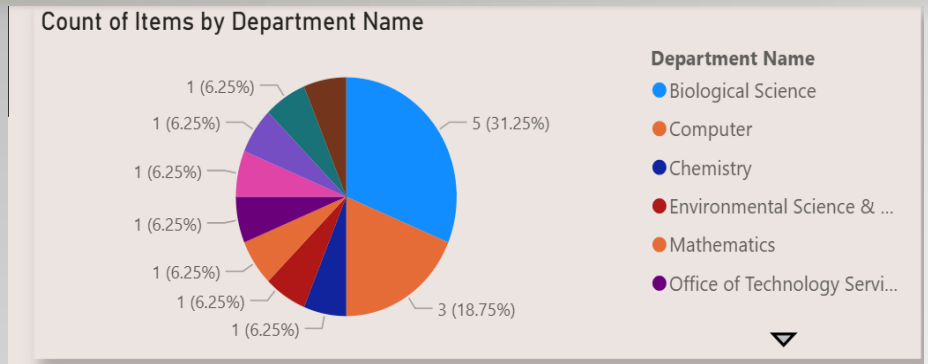
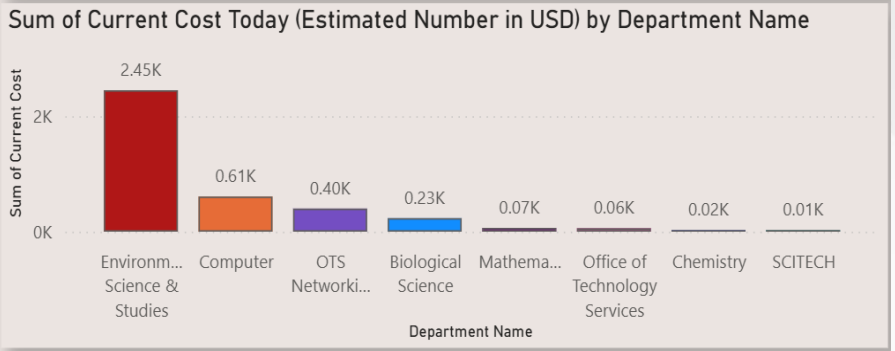




Department Name	Sum of Original Cost (Number in USD)	Sum of Current Cost (Number in USD)	Year	N
Computer	80.00	383.00	2025	N
OTS Networking	200.00	400.00	2025	F
Chemistry	10.00	15.00	2025	N
Biological Science	50.00	55.00	2025	N
Biological Science	20.00	30.00	2025	N
Computer	650.00	200.00	2025	N
Biological Science	20.00	34.00	2025	N
Mathematics	60.00	65.00	2024	N
	1,090.00	**1,182.00**		





gory	Department Name	Sum of Current Cost Today (Estimated Number in US
ions & Maintenance	Environmental Science & Studies	24
	Chemistry	
& Networking	Computer	
	Biological Science	
	Biological Science	
rch, Classroom	SCITECH	
	Biological Science	
& Networking	Computer	
		38

Next Steps

Extend inventory tracking system to other departments such as Biology, Physics, and Environmental Science.

Facilitate a coordinated audit of inventory and equipment across the entire Fisher College of Science and Mathematics

Conclusion

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The Delta Team successfully designed and implemented a scalable Inventory Control System for Fisher College. This project enhanced our skills in teamwork, problem solving, and real-world systems development, leaving room for future growth.

Thank You!