PROCUREMENT DASHBOARD REDESIGN

City of Boston | Procurement Department

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Keywords:

Data Visualization, UX Design, Finance

Summary:

Ground-up redesign of the City of Boston's Procurement Dashboard, providing CoB Finance staff with an easy to use centralized hub for their contract and spending data. Utilizing **qualitative and quantitative user research** methods, including 10+ hour-long user interviews, to uncover new user needs and develop a high fidelity prototype design proposal.

PROCUREMENT DASHBOARD REDESIGN

Procurement Department

City of Boston, MA

Ryan Nicoll - Data Analyst

coding it forward > | CITY *of* BOSTON

AKHIL RAOTE
University of Washington
Industrial and Product Design

There is currently **no unified, well-designed way** for City of Boston finance staff to view their contract and spending data, despite a strong user need.

BACKGROUND

- **The only current dashboard that is able to display spending and contract information was originally not developed for this purpose.**

- It has the data available, but poor UX and graphic design has lead to low adoption rates

- As a fellow, I was tasked with redesigning this dashboard by **uncovering new user needs** and **developing a better way to display financial information.**

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RESEARCH

Finding user insights for new features

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INTERVIEWS

- Led eleven hour long interviews
- Understood how Boston financial staff currently track their contracts and spending, as well as what pain points they have when interacting with technology

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COMPETITIVE ANALYSIS

- Each interviewed department had their own bespoke internal spreadsheets for tracking
- Sheets had a variety of different features and levels of fidelity
- **A unified, internally developed tool was clearly needed**

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USABILITY STUDIES

- Led two usability studies on existing dashboard
- Confirmed it was difficult to navigate, unintuitive to use, and didn't surface the most necessary information

FINDINGS

- Clear overview of spending per business and purchase order
- Contract status data:
    - Expiration date
    - Usage by spending
    - Renewal options
- No-contract spending overview
- Ability to filter data by fund, account code, business, etc.
- Functional search feature

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FINAL DESIGN PROPOSAL

Information architecture and high-fidelity prototype

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ALL SPENDING

- Clear overview of spending per business and purchase order
- Functional search and filters
- Total spending easy to access
- Contract drill down available

ALL PURCHASE ORDERS *Office of Arts and Culture (Dept. 414)*   [CHANGE DEPARTMENT]

Keyword Search | e.g. food, event planning   Fund [Select Fund]   Fiscal Year [Select Year]   Account [Select Type]

Fiscal Year	Business Name	Short Supplier Name	Fund	Account	Amount Spent	Contract
2025	All Aces, Inc.	ALL ACES -001	200	52069 - Cont Serv Other	$81,718	View Associated Contract
2025	Anielly Camargo	ANNIELYC -001	200	52069 - Cont Serv Other	$76,483	View Associated Contract
2025	B&H Photo Group	BANDH -003	100	52069 - Cont Serv Other	$12,432	View Associated Contract
2025	B&H Photo Group	BANDH -003	100	52069 - Cont Serv Other	$2,034	View Associated Contract
2025	Blick Art Materials LLC	BLICK -002	200	52908 - Programming	$8,453	No Associated Contract
2025	Boston University	BOSTON UNI-002	200	52378 - Space Rentals	$13,432	View Associated Contract
2025	Congruence Strategies	CONGRUENCE-001	200	45367 - Consulting	$43,278	View Associated Contract
2024	Congruence Strategies	CONGRUENCE-001	101	45367 - Consulting	$12,472	View Associated Contract
2024	City Strings, Inc	CITYSTRINGS-001	200	52069 - Cont Serv Other	$19,890	View Associated Contract

No filters **TOTAL SPENDING** $2,403,234

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CONTRACTS

- Clear overview of contract status and data
- Callouts for expiring soon
- Contract details drill down available
- Filters and search function

ALL CONTRACTS *Office of Arts and Culture (Dept. 414)*   CHANGE DEPARTMENT

🔍 Keyword Search | e.g. food, event planning   **Active Only** On Off   Fiscal Year Select Year   Procurement Type Select Type

Contract ID	Business Name	Short Supplier Name	Procurement Subcategory	Begins	Ends	Amount Spent	Amount Awarded	
0000000112 ● Active	All Aces, Inc.	ALL ACES -001	Competitive	06.31.23	06.31.25	$34,299	$50,000	Contract Details
0000000113 ● Active	Anielly Camargo	ANIELLYC-001	Limited competition	06.31.23	06.31.25	$34,299	$50,000	Contract Details
0000000134 ● Expiring Soon	Submittable Grant Mgmt	SUBMTBLE-003	Limited competition	06.31.23	**02.31.25**	$19,876	$20,000	Contract Details
0000000121 ● Active	Blick Art Materials, LLC	BLICK-002	Competitive	03.24.23	06.31.25	$343,234	$100,000	Contract Details
0000000113 ● Active	Congruence Strategies	CONGRUENCE-001	Competitive	09.17.24	06.31.25	$12,289	$13,000	Contract Details
0000000111 ● Inactive	City Strings	CITYSTRINGS-001	Competitive	06.31.22	06.31.24	$14,237	$24,000	Contract Details
0000000167	Boston University	BOSTON UNI-002	Competitive	06.31.23	06.31.25	$12,465	$26,999	

No filters | **NO. CONTRACTS** 14 | **TOTAL $ AWARDED** $2,403,234

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CONTRACT DRILL DOWN

- All necessary information about contract
- Easy to scan
- Time remaining and % usage clearly visualized
- All purchase orders on contract easy to access

CONTRACT INFO *Office of Arts and Culture (Dept. 414)*

← Back to All Contracts

Contract 00000000000112 - All Aces, Inc ● Active

VIEW IN BAIS FN

Short Supplier Name	Description	Contract Subcategory	Procurement Type	M/WBE or SLBE Certification	Account
ALL ACES -001	Tech. Assistance and Prof. Dev	Competitive	Written Quote Contract (Chapter 30B S4)	No Certification	54670 - Cont Serv Other
	Learn more			Doesn't seem right?	

Contract Usage

Spending

54% *Spent through*

Total amount spent $34,899
Total amount awarded $60,000

Time

4 mo 12 d *Time remaining*

Initiated Jun 12, 2024
Ending Sep 13, 2025

Purchase Orders

Date	Fund	Description	Amount Spent
05/03/24	100	Programming	$12,343
05/03/24	100	Programming	$12,343
05/03/24	100	Programming	$12,343
05/03/24	100	Programming	$12,343
05/03/24	100	Programming	$12,343
05/03/24	100	Programming	$12,343
05/03/24	100	Programming	$12,343
05/03/24	100	Programming	$12,343
05/03/24	100	Programming	$12,343
05/03/24	100	Programming	$12,343
05/03/24	100	Programming	$12,343

View All Purchase Orders

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SUB $10K SPENDING

- Clear callout when spending limit is approaching
- Split by business or by individual purchase order

SUB-$10,000 SPENDING *Office of Arts and Culture*   CHANGE DEPARTMENT

| 🔍 Keyword Search | e.g. food, event planning | | **Fund** Select Fund | **Fiscal Year** Select Year | **Project Type** Select Type |

Fiscal Year	Business Name	Short Supplier Name	Fund	Account Type	Amt. Spent This FY	Alerts
2025	B&H Photo Group	BANDH -003	100	52069 - Cont Serv Other	$9,234	Contract Needed Soon
2025	All Aces, Inc	BANDH -003	100	52069 - Cont Serv Other	$345	
2025	Arman, Stacy	BANDH -003	100	52069 - Cont Serv Other	$2,944	
2025	Blick Art Materials, LLC	BANDH -003	100	52069 - Cont Serv Other	$23	
2025	Boston Art Review	BANDH -003	100	52069 - Cont Serv Other	$3,456	
2024	Boston Art Review	BANDH -003	100	52069 - Cont Serv Other	$2,345	

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BEFORE V. AFTER

- Graphic design and information clarity improvements
- Improved fit within branding guidelines

NEXT STEPS

- Continued user testing after
- Implementing design recommendations in Power BI

THANK YOU!