

Towards a more standardised PxWeb at Statistics Sweden

Anders Olsen, Kom Design



The talk

How we went about to find a way to:

- Keep our OWN PxWeb installation brand aligned
- While keeping it in sync with latest version
- Create a better design- and developer experience



Background

- Intended as a minor CSS job to align Norwegian version with our design
- Design and UX not involved with PxWeb on a regular basis
- Usually a short dev/design co-op
- This time we found more time
- And were a full team



Challenges

Preview of website and our PxWeb installation

- <https://www.scb.se/en/>
- <https://www.statistikdatabasen.scb.se/pxweb/en/ssd/>
- <https://pxwebdemo.scb.se/pxweb/en/Example/>

Statistics Sweden provides society with useful and trusted statistics

Number of employees in
the second quarter of
2021

4.85^M

[Coronavirus](#)[Statistical database](#)[Name search](#)[Salary search](#)[Publications](#)[Cooperation projects](#)

Statistical news, published weekdays at 09.30

07
Oct

[Cloud services accounted for 24 percent of enterprises' expenditures on IT services in 2020](#)

Enterprises' IT expenditure, 2020

06
Oct

[Household consumption decreased in August 2021](#)

Monthly indicator of household consumption, August 2021

06
Oct

[Orders in industry decreased in August](#)

Orders and turnover in industry, August 2021

06
Oct

[Private sector production decreased in August 2021](#)

Statistical database

The Statistical Database is updated Monday-Friday 9.30.

[Get started with the Statistical Database](#)

1

Choose table

2

Choose variable

3

Show table

[⊕ Agriculture, forestry and fishery](#)

[⊕ Business activities](#)

[⊕ Democracy](#)

[⊕ Education and research](#)

[⊕ Energy](#)

region, age and sex. year 2002 - 2020

Choose variable

[About table](#)

Mark your selections and choose between table on screen and file format. [Marking tips](#)

For variables marked * you need to select at least one value


region *

Types of municipalities 2017

☒ ☐ ☐ ☐ ☐

Total 9 Selected 6

A1 Large cities (3)
A2 Commuting municipalities near large cities (43)
B3 Medium-sized towns (21)
B4 Commuting municipalities near medium-sized (52)
B5 Commuting municipalities with a low commuting rate near medium-sized towns (35)
C6 Small towns (29)

Search 

☐ Beginning of word

age *

10-year intervals

☒ ☐ ☐ ☐ ☐

Total 12 Selected 4

sex

☒ ☐ ☐ ☐ ☐

Total 2 Selected 2

year *

☒ ☐ ☐ ☐ ☐

Total 19 Selected 1

region, age, sex and year

Show table

About table

Edit and Calculate

Save table as

Table - Layout 1

Sum variable values

Choose values to sum

☒ region

☐ age

☐ sex

☐ year

☒ Sum all
values

☐ Sum selected
values

Sum

Cancel

+ Table settings

+ Save your retrieval

	2020
A1 Large cities (3)	
0-4 years	
Men	58 421

Summarizing our challenges

- Updating PxWeb requires lot of manual labour
- Hard to keep PxWeb and website design in sync
- Time and resources are scarce
- We haven't managed to follow regular release cycles



Summary continued..

- Far from our UX goals
- Not a coherent design
- The codebase for the frontend has a steep learning curve
- Not organized to handle the changes



Goals



Goals

- Easier deployment of new PxWeb version
- Follow regular release cycles
- Design and user experience that aligns with website and brand



Goals continued

- Good design- and developer experience
- Allow experimentation
- Easy to test
- Move towards UX visions that has been part of web development project



UX and design goals

- Great accessibility and usability
- Clean and uncluttered
- Content first
- Tools and operations are secondary
- But all tools should be easily accessible



UX and design goals continued

- Coherent form design
- Coherent interactions
- Support UX patterns from our regular web
- Brand aligned and themable
- Floats are OK, popups are no



Development goals

- Easy to grasp codebase
- Faster load of CSS, fonts and resources
- Easy to theme
- Proper buttons, get away from images
- Reveal and fix inconsistencies instead of making hacks



Development goals continued

- Prepared for changes in PxWeb code
- Prepare for page optimized CSS
- Use locally hosted variable font, fallback to system fonts
- Only do minor adjustment to PxWeb HTML



Strategy and solution



Discovery phase

- Analyse codebase and design
- Assessment of complexity
- Early prototype to test workflow



Investigating

- <https://pxwebdemo.scb.se/pxweb/en/Example/>
- <https://github.com/privatemonkey/pxweb-style/blob/main/docs/cleanup.md>

**Take care of your CSS like
it is a precious garden**



Strategy

- Prototype first
- Start clean with no strings attached
- Design, develop, test, experiment, start over
- Setup a new SASS build with better design tokens
- Work in the open



Strategy continued

- Variable and free base font
- Do one component at a time
- Embrace side effects
- Shame.scss
- Replace all icons with SVG backgrounds



Setup and work

- Prototyped on Netlify with static HTML/CSS pages to test interaction and design ideas
- Connected repository to PxWeb demo site to get live preview when coding
- Refactored the prototype CSS into SASS code.
- One view, one element at the time
- Tools menu the most work



Addressing why we didn't use the design of the latest version

- We didn't believe we had the resources to do it within the timeframe
- We wanted to be free in how we redesigned the UX
- We wanted to free the design and frontend of regular release cycles
- We wanted to be very agile in the way we did it
- We wanted to test boundaries of how far we could take PxWeb
- We wanted to try out how we could better work together



It's time for a demo

- Statistikdatabasen
- No CSS version
- <https://github.com/privatemonkey/pxweb-style/>
- Sadly only internal links to the demo. I'll put some screenshot into the repository.



Summing up

- Approxomatlly 5 weeks of development within 3 months
- Only minor adjustment to PxWeb HTML
- Media, fonts and CSS requests from ca 50 to **3**
- Total size from 470kb to **135kb**
- Used and tested internally from late June



Summing up continued

- We got to push the design and UX to a level we're happy with
- Much better developer experience
- We didn't play it safe but it payed of
- The iterative approach made the quality scale to effort



Next steps (short term)

- Cleanup shame.scss
- Create a better print.css
- More extensive browser tests
- Structure repository to go with PxWeb build
- Move to production



Next steps continued

- More testing
- Hopefully adjust more of the PxWeb HTML and create better classes
- Work on our design tokens
- Even better focus management
- Create better documentation



The future

- It's a standalone repo so possible to develop into an alternative design
- A chance to create common design tokens and use those in the regular build
- We want to bring PxWeb it into our UX and design process
- Serve as inspiration for next steps of PxWeb development
- Improve even more on the developer experience



Inspiration

- [Salesforce design tokens](#) (The origins of design tokens)
- [7-1 Pattern](#)
- [SMACSS](#)
- [BEM](#)



Anders Olsen
Kom Design/SCB
anders.olsen@scb.se

