Towards a more standardised PxWeb at Statistics Sweden

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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 experince



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/



Q Search

Search

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Statistics Sweden provides society with useful and trusted statistics

Number of employees in the second quarter of 2021



Coronavirus

Statistical database

Name search

Salary search

Publications

Cooperation projects

Statistical news, published weekdays at 09.30

Cloud services accounted for 24 percent of enterprises' expenditures on IT services in 2020

Enterprises' IT expenditure, 2020

06

Household consumption decreased in August 2021

Monthly indicator of household consumption, August 2021

Orders in industry decreased in August

Orders and turnover in industry, August 2021



Private sector production decreased in August 2021



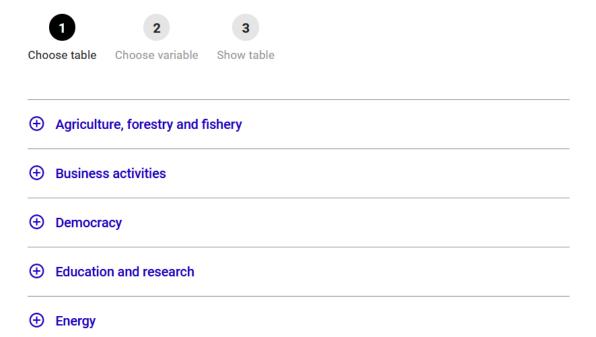
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♠ / Statistical database

Statistical database

The Statistical Database is updated Monday-Friday 9.30.

Get started with the Statistical Database



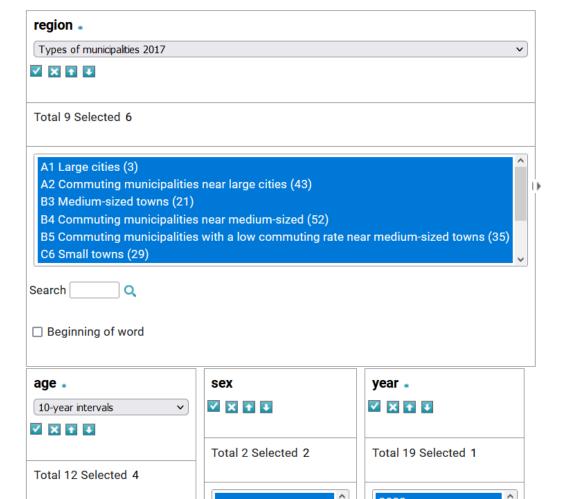
2002 - 2020

Choose variable

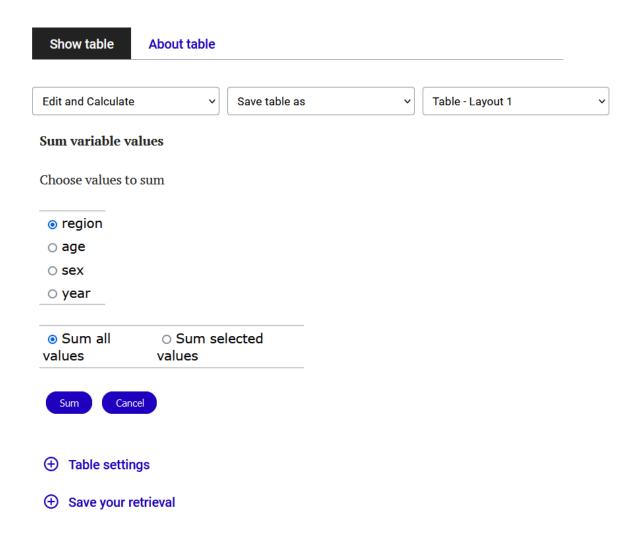
About table

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, age, sex and year



| | 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 accessibilty 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 inconsitensies 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/pxwebstyle/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, develope, 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



Adressing 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 repoistory.



Summing up

- Approxomatly 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)
- <u>7-1 Pattern</u>
- <u>SMACSS</u>
- BEM



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