

Our Future Selves Insights

— Designing with Data



At South By Southwest this year, Topp held a workshop called “Our Future Selves” that explored how pervasive connectivity and data will impact our lives, how we will understand the world around us, and what questions designers might need to ask when creating future experiences.

Data gathered as part of a design and product development process is becoming more than an analytics medium to enable incremental improvements in digital products. Using data this way is nothing new: many organisations have become adept at using insights from tracking services, such as Google analytics, and A/B testing to evaluate new solutions. It is common practice, especially in web development. With the trend of big data, more services and products are relying on data as a decision making tool in shaping services and experiences.

We believe we should use the growing number of data sources, no matter if they are from embedded sensors in Internet of Things products or from new online services, not only as evaluation tools, but as a way to create dynamic experiences based on real time data. Instead of treating data as something that another person in a company might manage, designers need to start thinking about data as a material to work with and as an aspect in their design process.

We should be asking: Does the designed experience hold up when you use real life data from users, sensors or other sources? Do you present your generated data in an engaging and informative way? These kinds of questions are becoming crucial, as data becomes a vital element in our products and services., so we have created a design+data framework of lenses as a tool to help you evaluate your product or service with respect to how data is integrated, and the impact it has on your users.

Hopefully, in trying to answer questions from different perspectives you'll enable yourself to think about a broader set of aspects of the design, and the value data is providing for your users.

The design+Data framework looks through three lenses:

1. *Data as a material*
2. *Understanding the data*
3. *User in control*



How can you work creatively with data in your design process? We think data can be seen as a material in your design; something you can shape and play with. By combining and treating data in different ways you can spark new ideas. Data can be used in all parts of the design process, from ideation to validation.

Have you considered combining data streams to create additional value for your service?

Sometimes value can be generated by mixing unexpected data sets. In some cases data is generated that can be used to drive other aspects of a product or service, or even create new experiences altogether. If you can't get exactly the data stream that you need, try to mash up others to produce it. If that's not possible, try to find piece together an answer from many separate sets. Don't forget to consider that there might be third parties that find the data generated by your product or service useful.

— Example: GPS traffic data can be used to update inaccurate road maps.

Is it possible to include data from your data streams early in your design process?

If you have the possibility to design using real data from the start, the data might prove your initial assumptions right, or might transform your ideas. Making decisions influenced by data early on in the process will save you a lot of time down the road, which makes it worth the extra work needed upfront to find and analyse the available data.

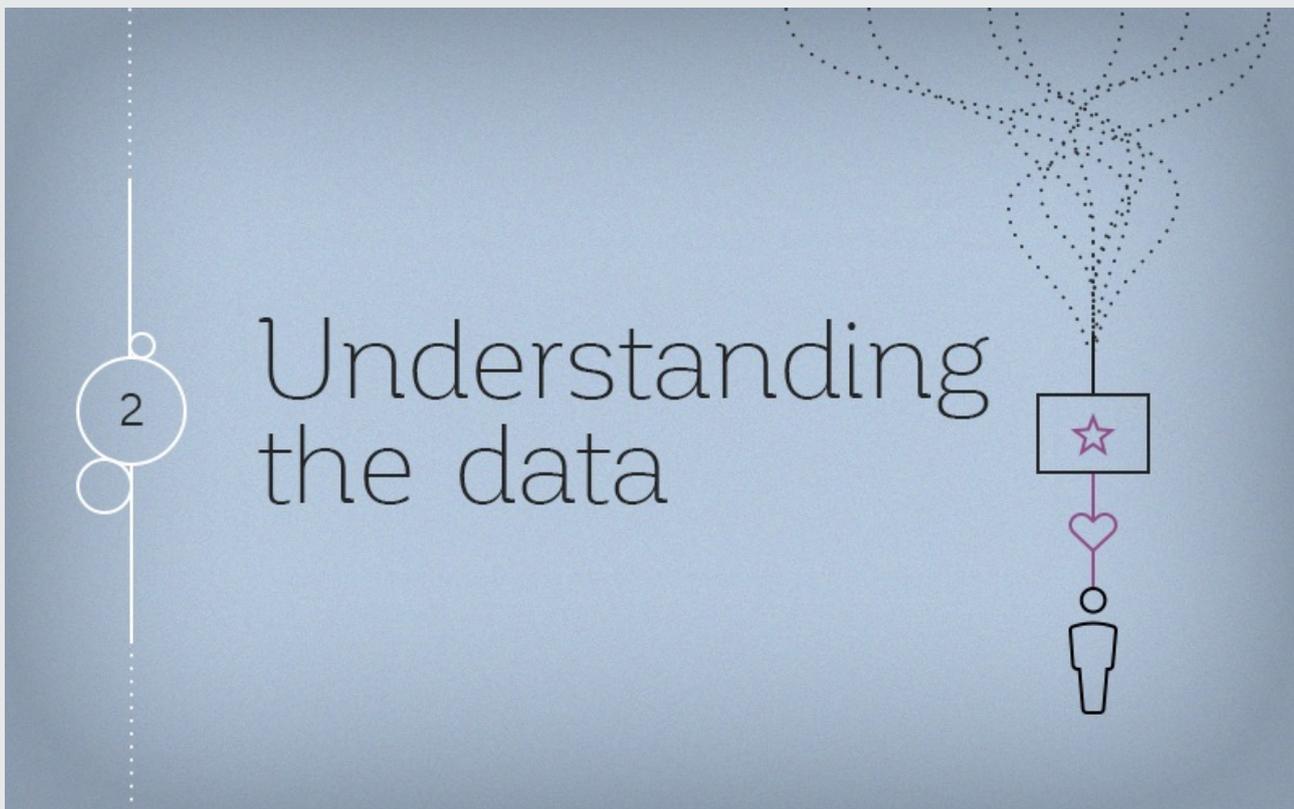
— Example: Simple visualization of data sets gets you insights fast and easy.

— Example: If you're making a contact list, use the names and profile pictures of your own contact list.

How will your product handle data not being available?

If your product or service is rendered (partially) useless by the loss of data, think about what you can do to still provide value to the user. Consider infrastructure points such as internet connections, data centers or data providers going out of business or changing APIs.

Example: Spotify is often used by people on the move. It has an easily accessible offline mode.



To the user, the world of data treatment is commonly a world of magic; hidden and unavailable. This put high demands on how your product is designed to present data. The user needs to be provided with sufficient information to make an accurate mental model of how the system handles data and how the data is relevant to them.

Have you provided enough details about how your data treatment works to let the user make accurate predictions?

The user often only see the results of your data filtering and collection. Unavoidably they'll construct mental models of how the filters and algorithms involved works. With just the right clues the user can construct a simplified, but helpful model that will set the expectations right.

— Example: The Facebook feed seems to be chronological, with newer items on top. If a friend has acted on some something that particular thing bubbles up in the list. Surely the actual algorithm is much more complex than this, but is a useful simplification.

Are you providing necessary cues to allow the user to understand the quality of the data?

Be transparent and don't promise more than you can keep. If limitations in your data processing risk the user to interpret the data you are presenting in a way that you don't intend to, make sure to find a way to be honest about it.

— Example: Google Maps location marker never claims to know exactly where you are, instead the margin of error is visualised with a blue ring,

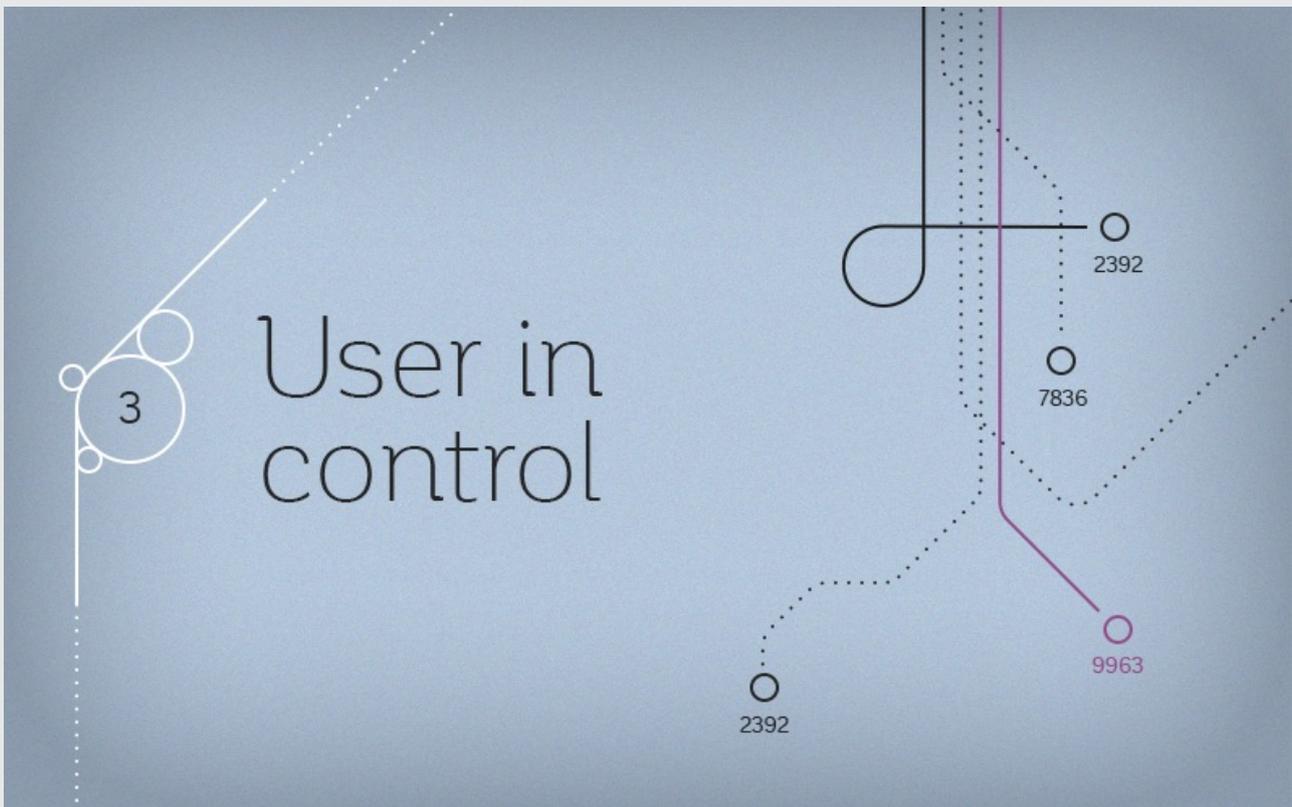
— Example: SMHI provides by-the-hour forecast images on their web-page. This allows the

user to understand the general behaviour of the forecasted weather and thereby the quality of the forecast

Are you presenting your data to the user in an engaging and interpretable way?

It can be tempting to show off data only because it is available. If your system can draw conclusions without relying on the user to interpret the data (and it should), provide those conclusions instead. Make sure the data you are presenting serves a purpose within the context that it is presented, that the user understands that data (how much is 750 kWh?) and that the representation is informative and interesting. Surprisingly few data streams make for visually intriguing graphs.

— Example: The app Moves shows the number of steps taken and what places you visited, but doesn't include a map overview.



Automatically providing the right information at the right time helps users make smart decisions. However, by having the users rely too heavily on your assistance, you also strip away control of their actions. Make sure you don't accidentally invert the control relationship between the user and your product and think about how you implicitly control the user by the suggestions you make and the information you provide.

To what degree do you prepare automated actions for the user?

Data can allow algorithms to suggest contextually accurate and more complex actions. Lowering the barrier for the user to take action based on these suggestions from your product or service intuitively sounds like a good thing. Do a cost/benefit analysis for the user for every action you intend to automate. Actions that seem to originate from the user, should be extra carefully considered.

- Example: The Google Inbox auto reply feature prepares short replies for the users. The replies are short enough to act as cues and often needs to be fleshed out by the user.
- Example: OS security updates are often installed without the user even being aware of their existence.

Do you allow the user to be who they want to be, or do you let data analysis decide who they are?

It's well known that people's aspirational self doesn't always match how others perceive them. Even if your data filtering makes for a more accurate image, maybe there's a point in letting the user decide for themselves.

- Example: The Amazon store recommends new products based on your previous purchases. It lets you exclude whatever products you like from the recommendation algorithm.

Do you risk shifting the personal norm?

By presenting the user with choices based on her and other's previous choices you might eventually begin to shift her perception of what's normal. As a system with many users you might even risk shifting the perception of the society at large. Keep in mind that sometimes people don't know what they want.

— Example: Netflix mixes personal recommendations with what's trending and curated lists.



Topp is constantly exploring new fields and will continue to adjust this tool as we apply it to future projects. We'd like to invite you to also try this tool in your next project. Feel free to make it your own, and don't forget to share your findings.

TACK!

We like to thank representatives from Samsung, IBM, E.ON, SVT, TV4, ICA, The Conference, Swedish Games Industry, Malmö University and OMD who participated in the SXSW workshop or contributed to the discussions before and after.

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