UX ARCHITECTURE FOR DATA COLLABORATION

Stibo Systems Case Presentation

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June 19, 2023

Outline

- UX research process
- Results and observations
- Information design
- Interaction design

As a newly hired UX architect, your initial task is to create an outline for the UX work in a project aimed at improving the UX of the **collaboration tooling**[1] in an existing online Excel-like table system.

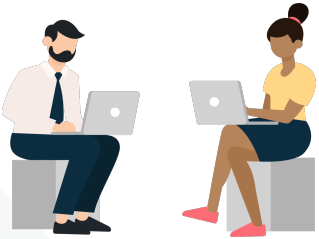
…assume that you have the necessary budget for it.

[1] Ida Larsen-Ledet, and Henrik Korsgaard. Territorial functioning in **collaborative writing**. CSCW 2019
Ida Larsen-Ledet, Henrik Korsgaard, and Susanne Bødker. **Collaborative writing** across multiple artifact ecologies.CHI 2020

UX Research - key questions

Why, how, and when do users collaborate?

- What are the primary tasks and objectives?
- What are the different roles and responsibilities in collaboration?
- How do remote work impact the user experience?
- What other tools do they use to support the tasks – communication, analysis etc.?



Discover → Define → Prototype → Evaluate → Integrate

UX Research

Discover

1. Observe collaborative session
2. Contextual interviews
3. Internal/external research
4. Analytics and in-app surveys
5. Workshops

Define

- Collaborative task objectives
- Scenarios, personas and user journeys
- Information concepts and architecture
- UX quality criteria and KPIs

UX Research – iterate where needed

Prototype

- User- and collaborative flow
- Information architecture and UI design
- Key interfaces and technical features

Evaluate

- Internal review and testing
- User feedback (informal/think aloud)
- Review UX quality criteria and KPIs

Results: Collaborative scenarios

1. Collaborative projects

- Peers collaborate on a larger project
- Different responsibilities and expertise
- Mixed focus collaboration with a high degree of coordination
- Multiple data views

2. Real-time collaboration

- Peers collaborate on smaller (urgent) tasks
- Real-time collaboration
- Shared task focus
- Few data views

3. Training

- Expert user provide training and onboarding of novices
- Focused on learning the application and/or data
- Tailored data views and exercises

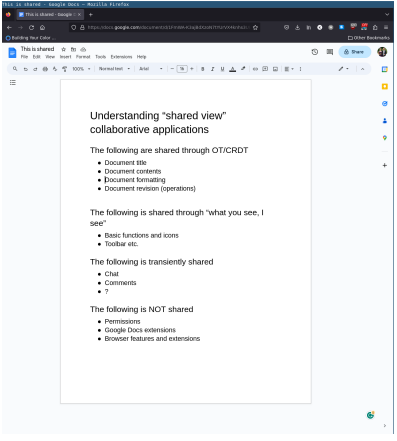
Results: Key UX qualities

- Sharing with collaborators should be easy and include task assignment and notes
- Important to know who did what in a shared view (awareness, track changes, accountability etc.)
- Support sandbox experimentation and analysis before publishing
- Collaborative features should not overshadow existing task features

Results: State-of-the-art collaborative UX

- Work object is shared by replication (content and formatting)
- Communication is transient (chat)
- Tools are individual, but similar across users (‘what-you-see-I-see’)
- Environment is not shared (browser/extensions)

- Not perfect, e.g. ‘the jumping text problem’ and ‘cursor wars’

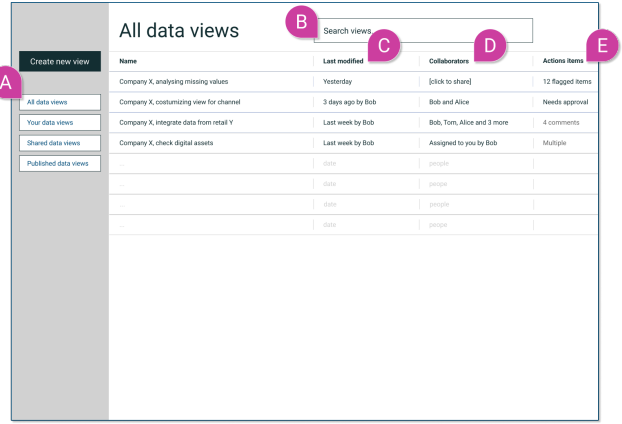


Interaction Design features

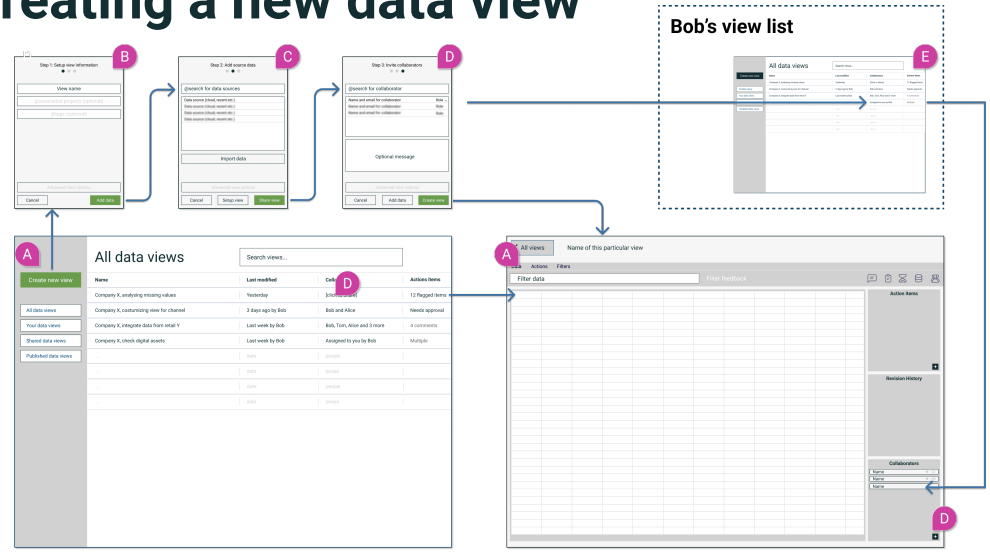
- The user can save changes as individual **views** (sheets) of data
- **The user can share their saved views with other users**
  → The user can add or remove columns from the **view**
  → Users can filter and order the table content
- **Multiple users must be able to work on the same views simultaneously**
  → The users of the system may be located on multiple locations

Making data views first class objects

- Data views are the main work objects – they are what we share when collaborating
- Views can be published in formats fitting the consumer needs
- A data view encapsulate a data source, users, and the revision history

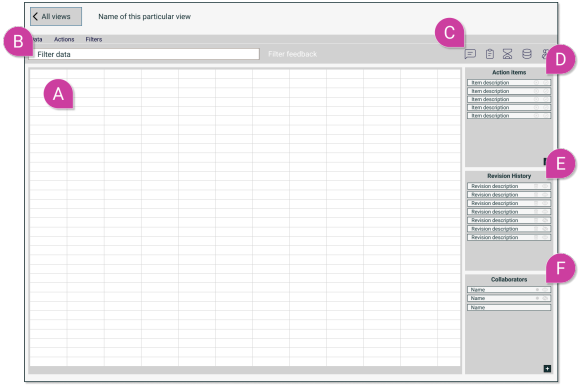


Creating a new data view



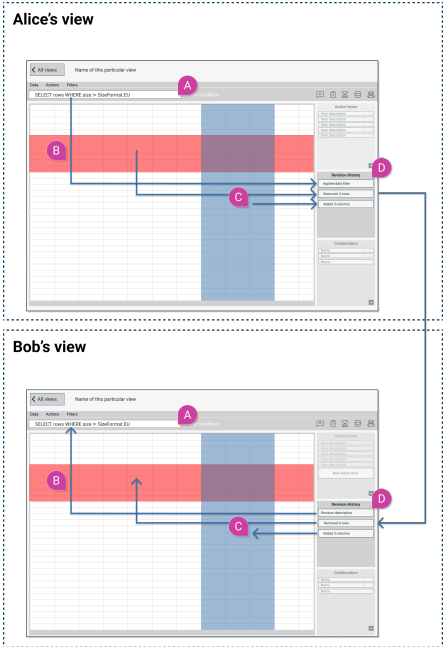
Collaborative tooling with tabular data

- Tabular view is the primary synchronized/shared object
- …filters cannot be shared until operationalized
  - **Action items** to support different roles
  - **History** to support track changes and accountability
  - **Collaborator** pane for navigation, awareness and mute

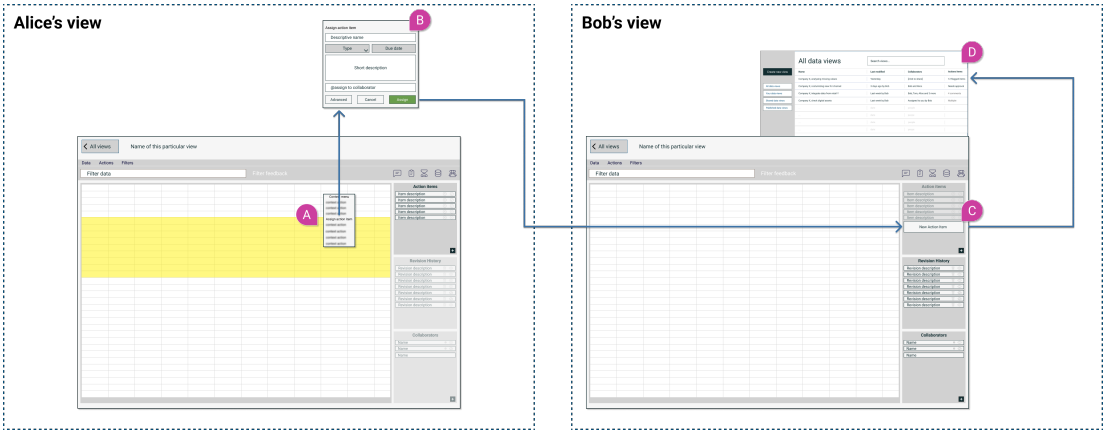


Revision history as key collaboration support

- Data operations as the replicated objects (CRDT)
- Support task resumption, accountability and finding stuff
- Support experimentation – you can always roll back changes
- A set of operations can be applied to other data views (macros)



Collaborating on common tasks: Assign action item



THANK YOU