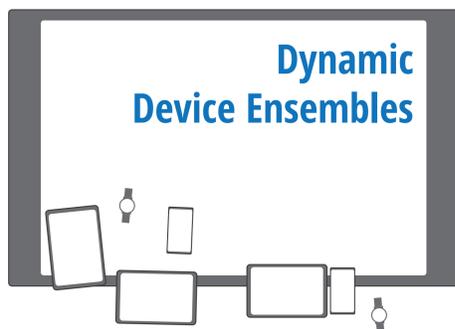
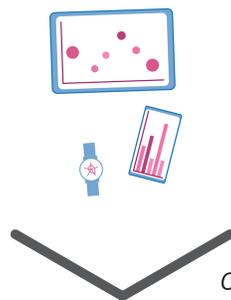


## How can we effectively work with interactive visualizations in dynamic device ensembles?

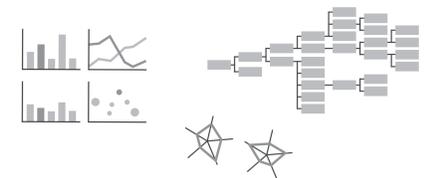


Objective 1  
Device Ensembles for  
Exploration Patterns



Objective 2  
Visualization Consistency  
across Devices

### Interactive Information Visualization



### Visual Data Exploration

Design Space & Heuristics  
for Interactive Visualizations  
in Multi-Device Environments

### Incorporating Device Roles during the Data Exploration

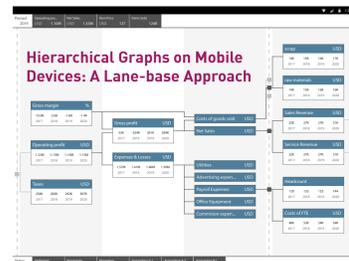


Langner et al.,  
IEEE VIS 2017

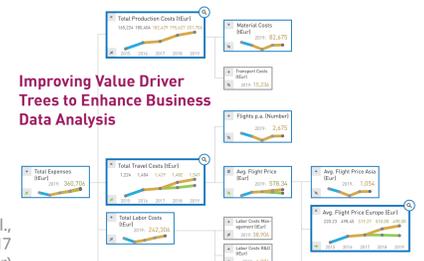


Horak et al.,  
ACM CHI 2018

### Optimizing Visualizations for Diverse Devices



Horak et al.,  
ACM CHI 2018  
(Workshop)



Horak et al.,  
IEEE VIS 2017  
(Poster)

#### We have a plethora of devices on our hand

- Each device has different strengths and shortcomings
- Device combinations allow maximizing the strengths
- *But, what are the best strategies for data exploration?*

#### Device roles can emerge from different sources:

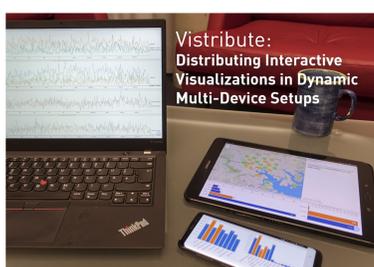
- Data exploration patterns, e.g., overview+detail or focus+context
- Multi-user constellations, e.g., personal or shared devices

#### We have a rich set of techniques to visualize data

- Visualizations differ a lot in complexity and space requirement
- Multiple visualizations can complement each other
- *So, how can we optimize visualizations for different devices?*

#### Visualizations can be adapted by varying their level of detail

- Constrained layouts can bring complex views to small devices
- Local adaptations (e.g., semantic zoom) can maximize space usage



Horak et al., ACM CHI 2019 - *join my talk!*

Session: Tuesday, 14:00, Room Hall 1, 1st talk  
Display, Devices, and Interaction for Visualization

## Bringing Devices and Visualizations Together

### Manually configuring devices and arranging interface is exhausting

- *So, how can we effectively support users?*
- Visualizations have rich body of characteristics compared to general views
- Incorporating their properties and relationships can allow to provide an automatic distribution for a given device ensemble

#### More about me



Hi, I'm Tom Horak.

- I'm interested in the area of InfoVis as well as natural user interfaces (NUIs)—and their combination
- I'm a 2nd year Ph.D. student at the Interactive Media Lab Dresden, planning to finish in late 2020
- My supervisor is Raimund Dachsel

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