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

**Objective 3**

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**Visual Data Exploration**
Design Space & Heuristics for Interactive Visualizations in Multi-Device Environments

**Optimizing Visualizations for Diverse Devices**

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**Incorporating Device Roles during the Data Exploration**

- 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

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**Bringing Devices and Visualizations Together**

**Manually configuring devices and arranging interface is exhausting**
- So, how can we effectively support users?
- Visualization 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

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

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**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 adaptions (e.g., semantic zoom) can maximize space usage