

IN4MATX 232: Research in HCI

Class 2:
Research Contribution Types

Daniel Epstein

Why are empirical and artifact contributions so prominent?

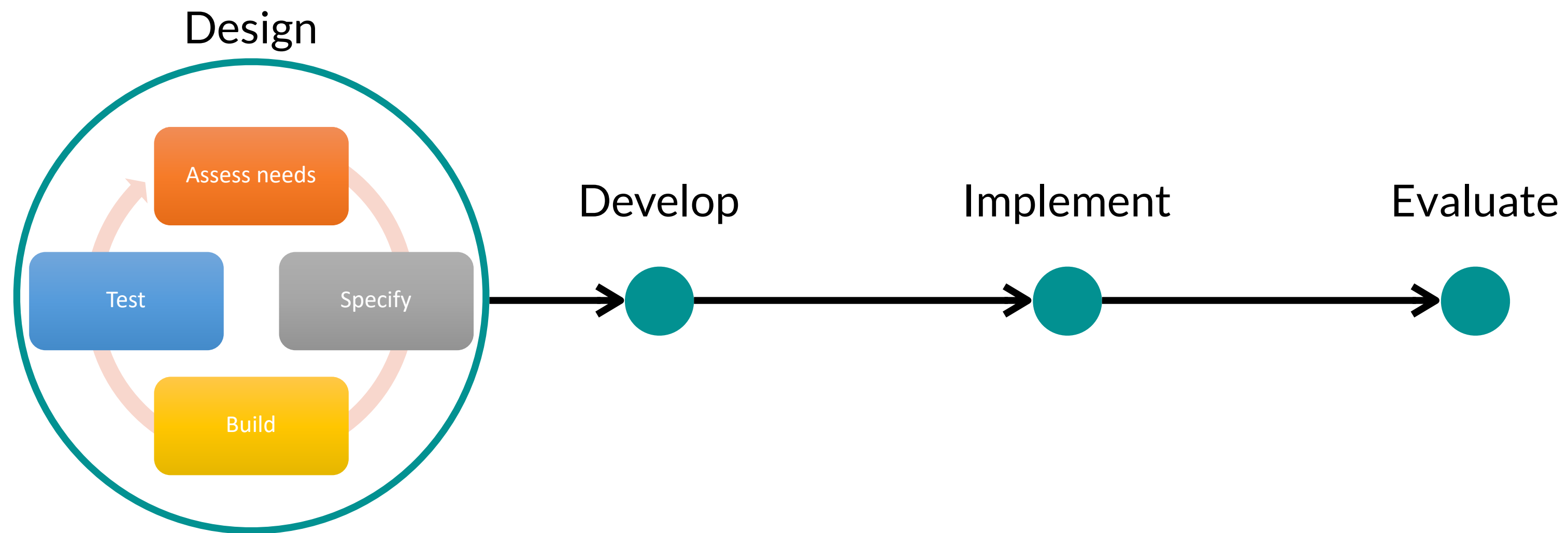
Applying Human-Centered Design

Information technology lifecycle



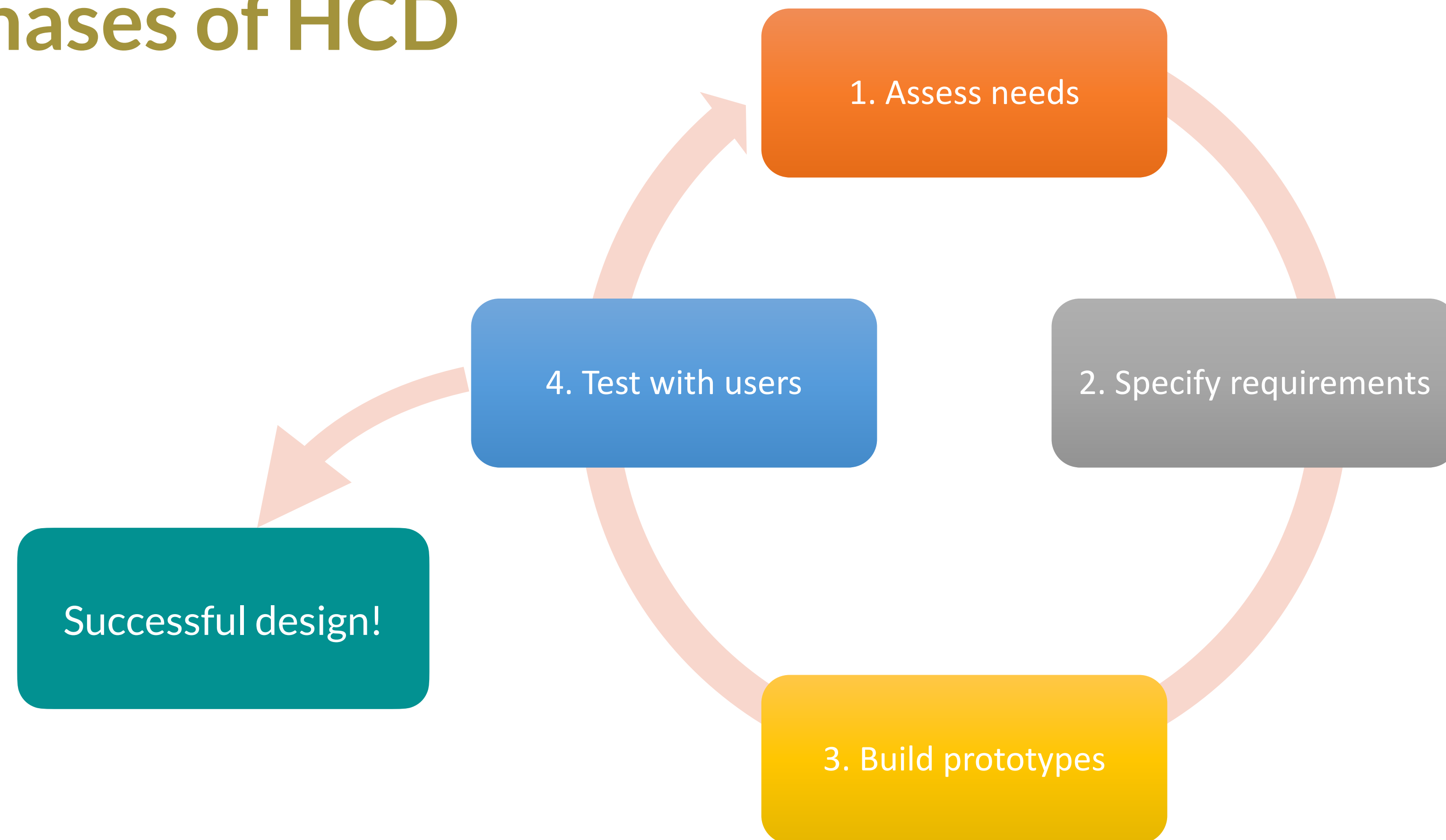
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Information technology lifecycle



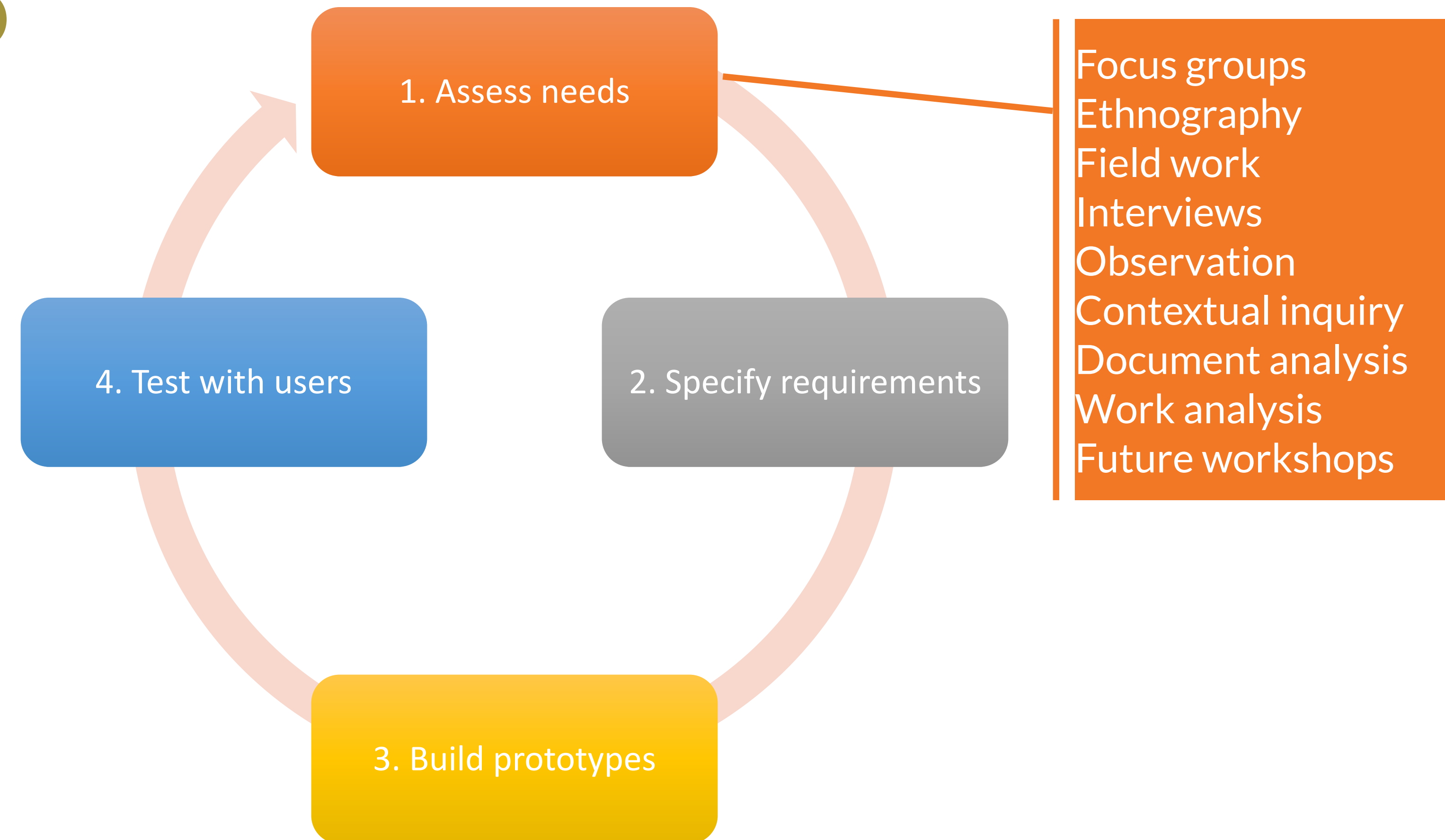
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Phases of HCD



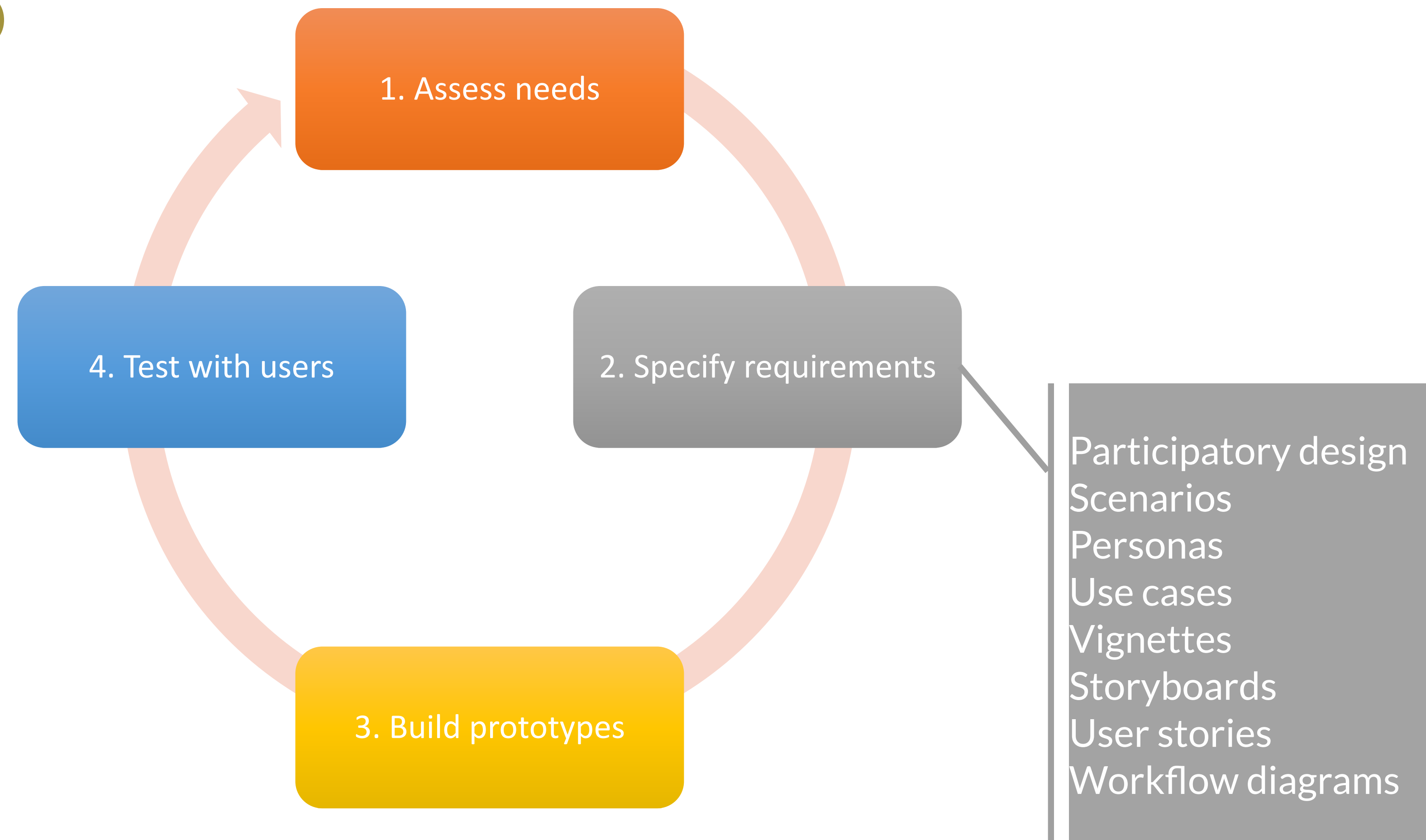
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Phases of HCD



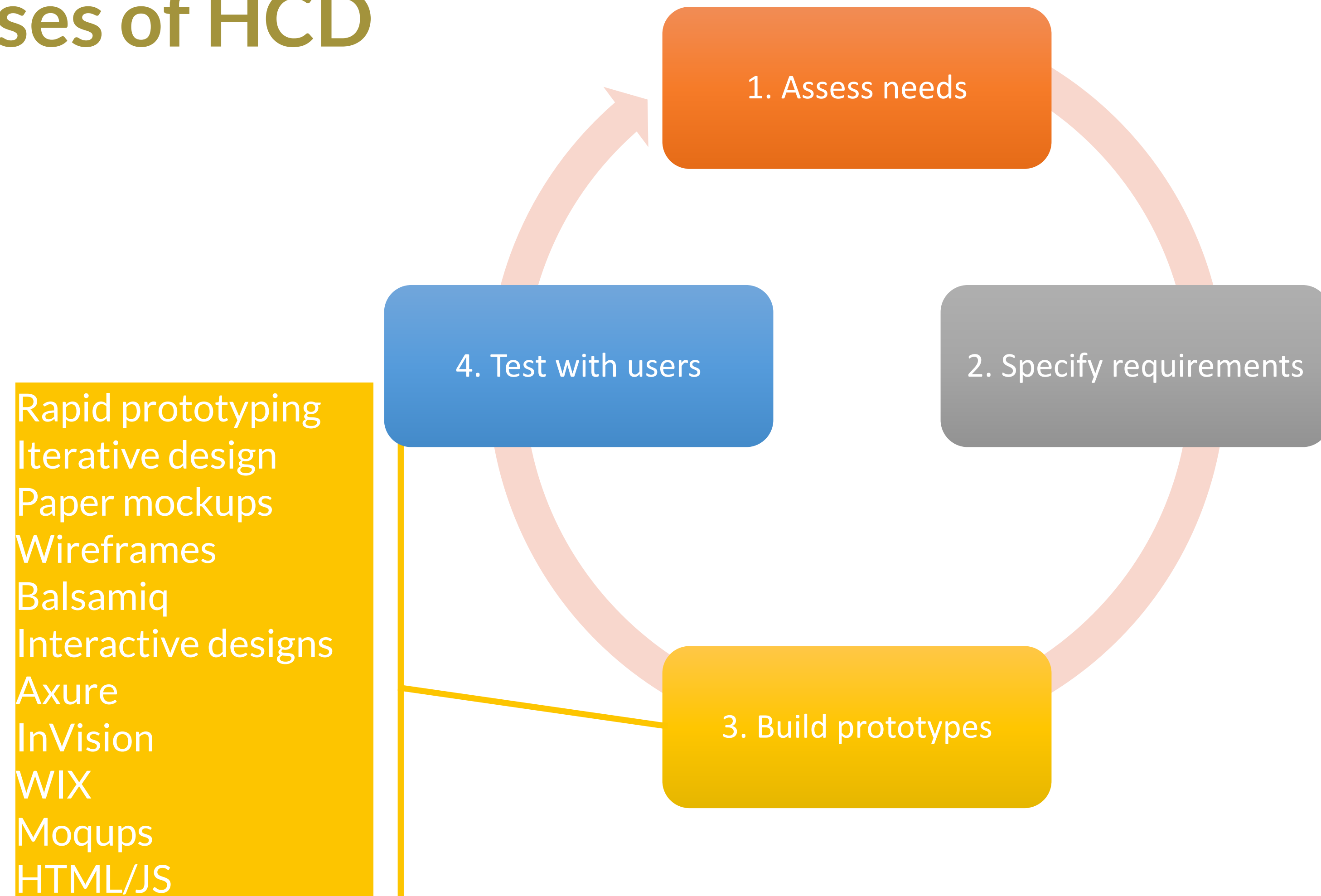
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Phases of HCD



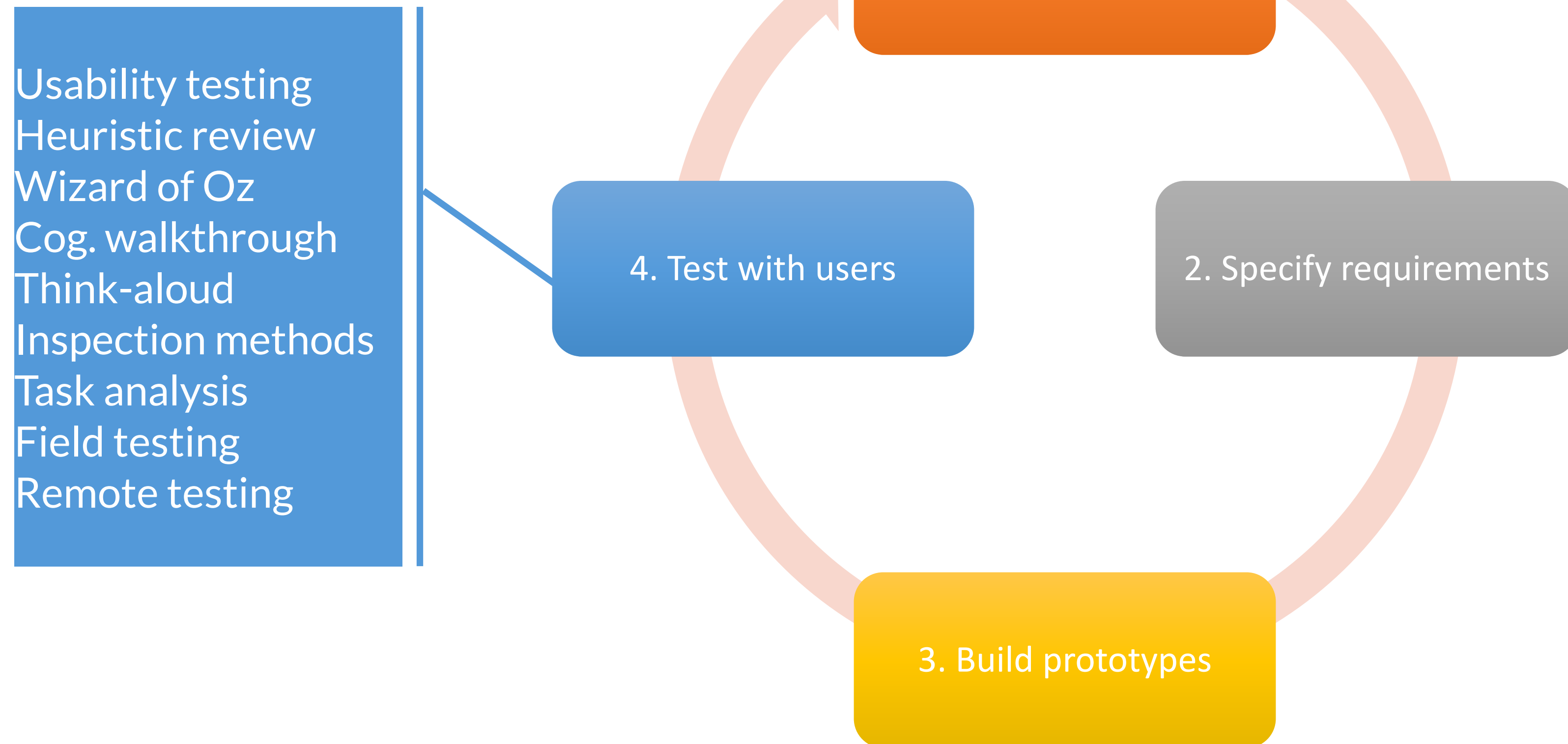
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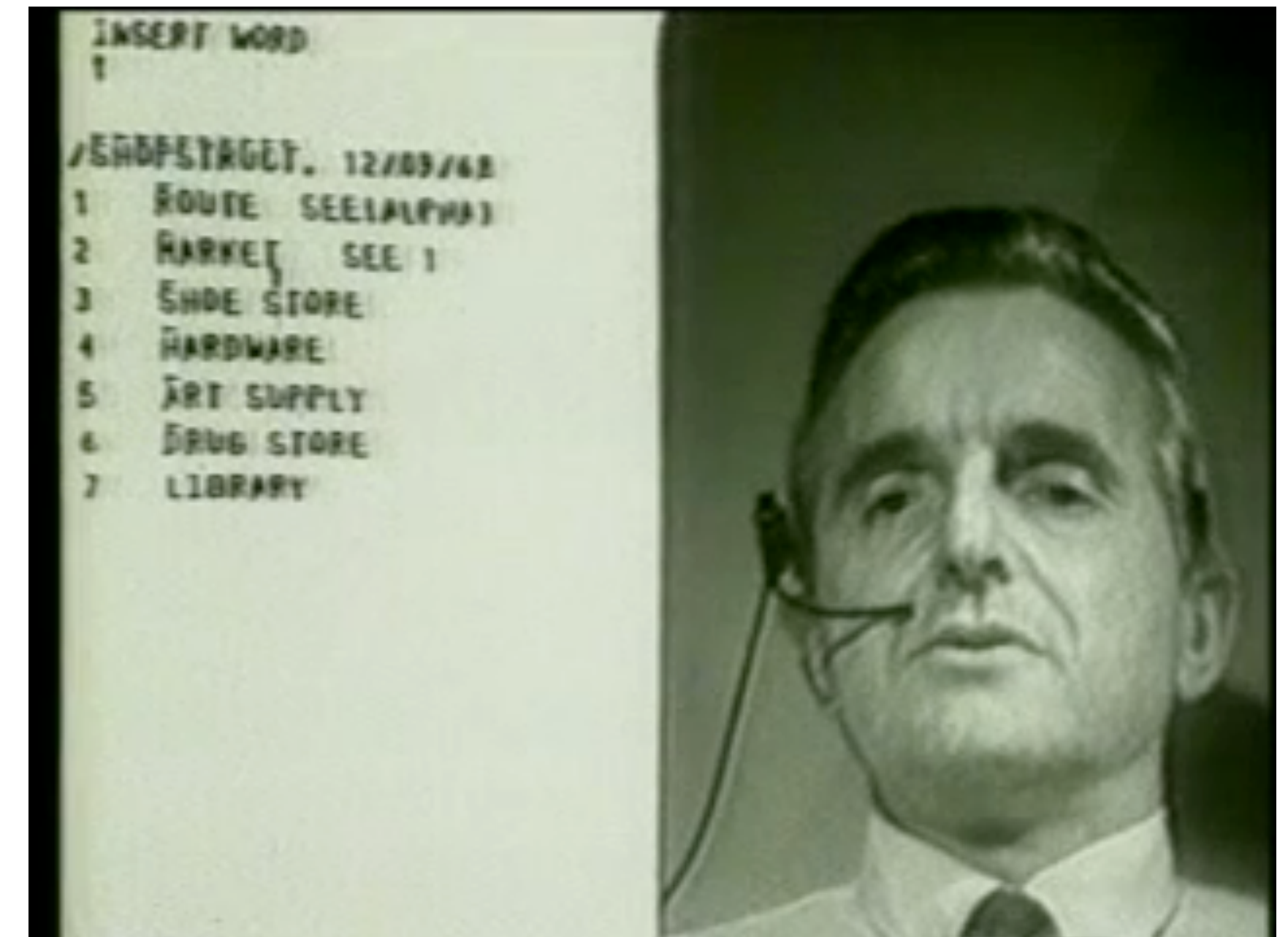
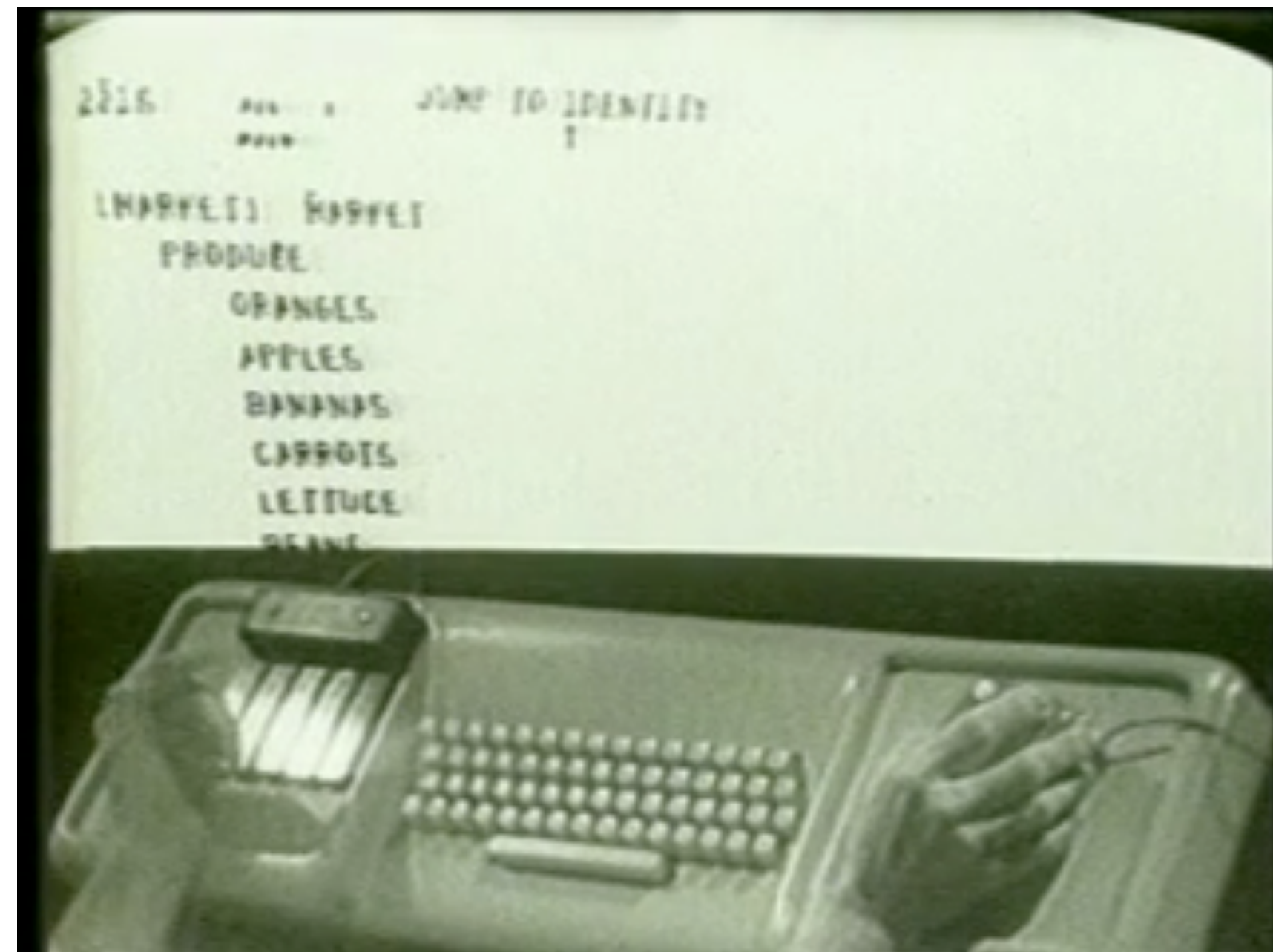
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**Why is evaluation not required
(and sometimes dissuaded) for artifact
contributions?**

Doug Engelbart's NLS (1968)



Empirical evaluation can take different forms

- Conducting an analysis on an existing dataset
- Giving a few examples of the solution in practice
 - “Here’s what my new artifact enabled us to make, which wouldn’t have been possible before”
- Demonstrating value on principles there’s a high degree of consensus on
 - Coding, like lines needed to do a task or execution time

Methods *vs.* theory

Methods vs. theory

- Methods contributions aim to suggest how we should do our research and practice
 - How should we as researchers run our studies, develop our systems, share our opinions, etc.
 - How should UX practitioners run their studies...
- Theory mostly aims to produce knowledge (about people, systems, etc.)
 - Our methods may be informed by theories (e.g., Activity Theory as an analytic lens, designing a system which uses principles from Social Cognitive Theory)

Datasets vs. empirical

Datasets vs. empirical

- Empirical studies will tell us something about how people perceive/use technology, etc.
 - Data (qualitative, quantitative, both) will be collected
 - But the data may or may not be shared with the research community (protecting anonymity, lack of utility)
- For datasets, the released data *is* the primary contribution
 - A large data repository that multiple researchers would find useful, for example
 - The dataset might not provide a study which uses it, and instead expects future researchers to instead

Survey contributions

Survey contributions

- Think “systematic literature review”
 - Or maybe not that systematic, but...
- I’ve seen people’s comprehensive exams be extended to make survey contributions!
 - Not the norm, but that’s the “style”

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