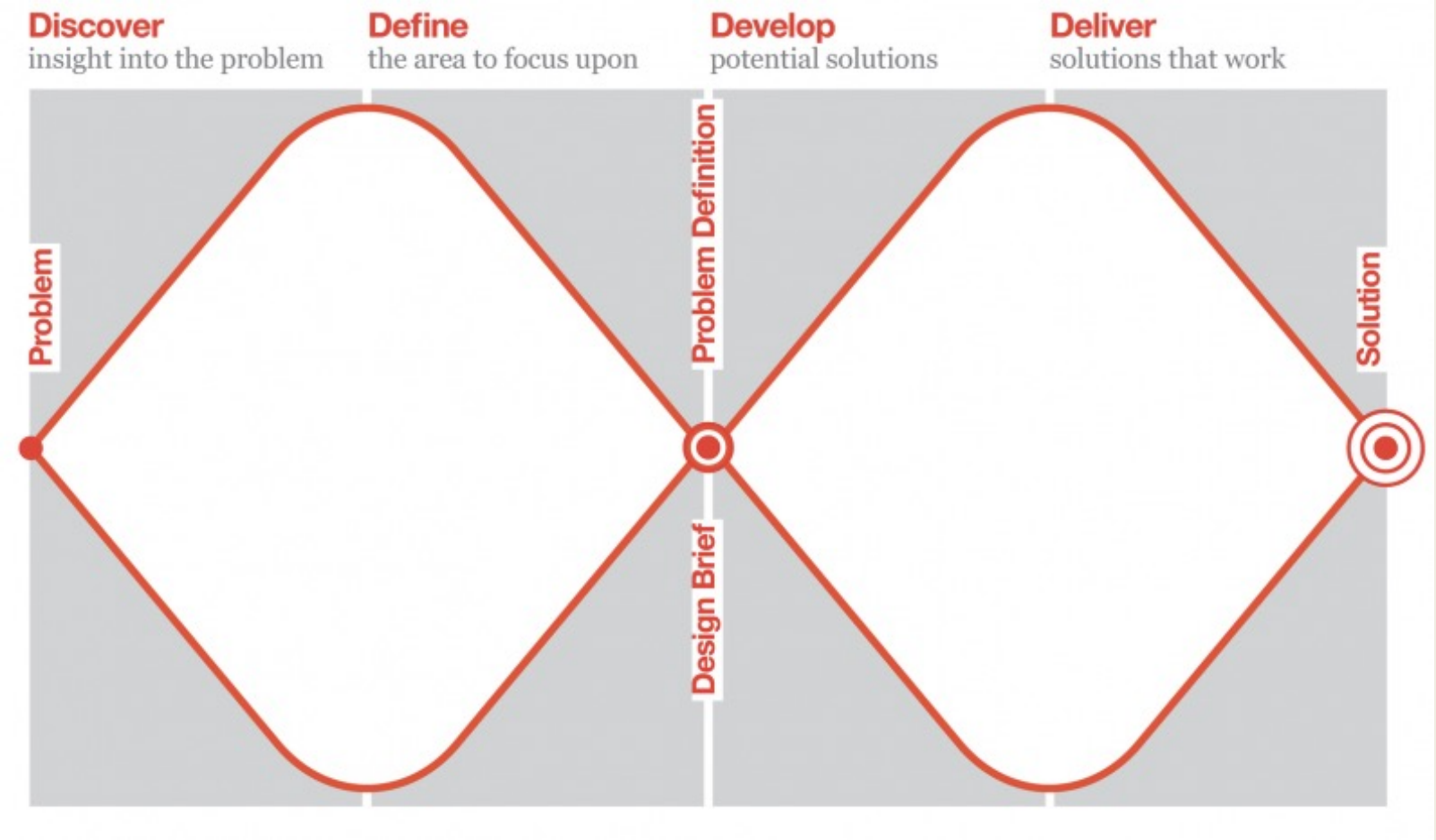
Introduction to HCI:

The Design Process

There are many different design process models and frameworks....



British Design Council – Double Diamond

https://www.designcouncil.org.uk/news-opinion/double-diamond-universally-accepted-depiction-design-process

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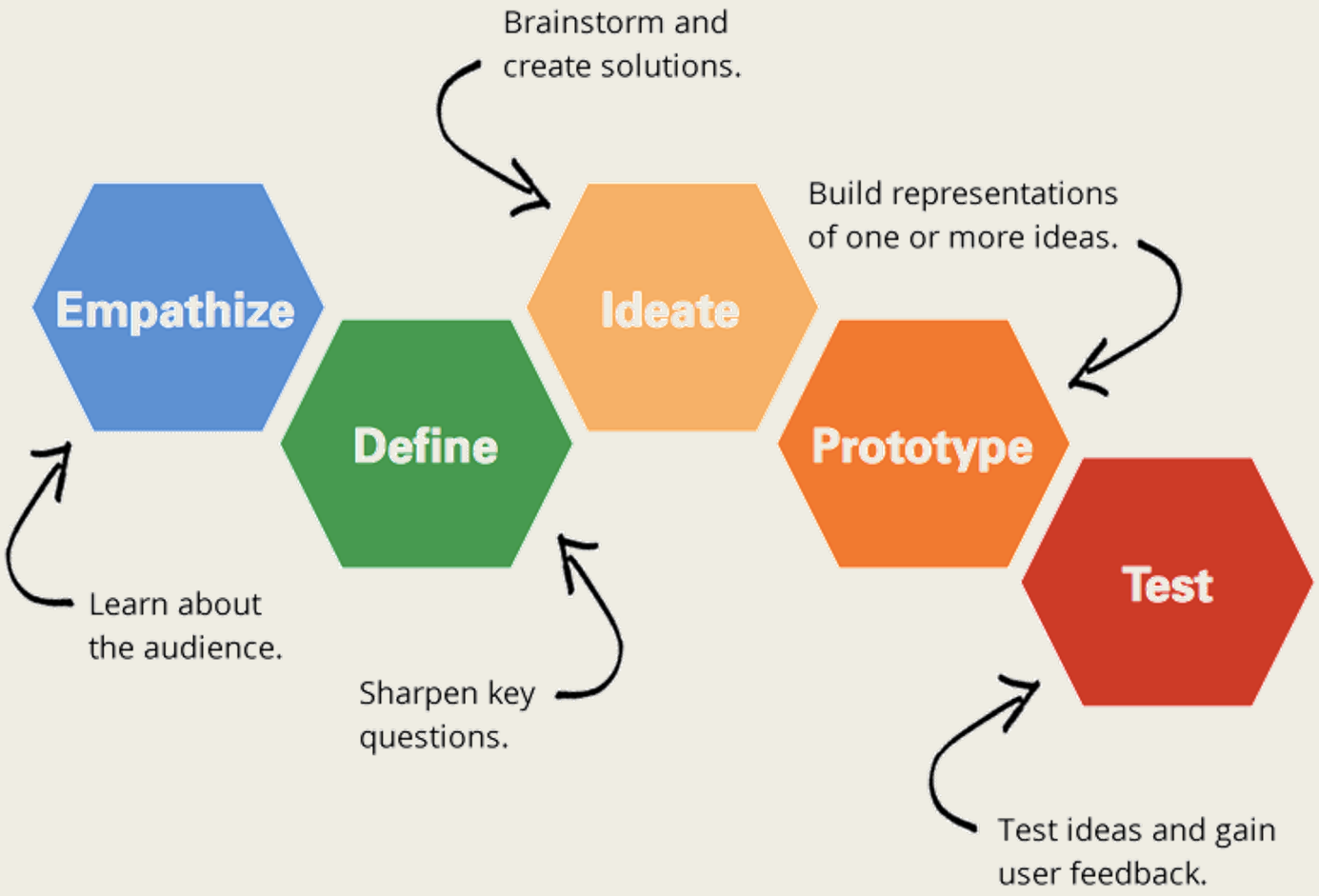

Stanford D:School – Design Thinking Process

https://www.interaction-design.org/literature/article/5-stages-in-the-design-thinking-process

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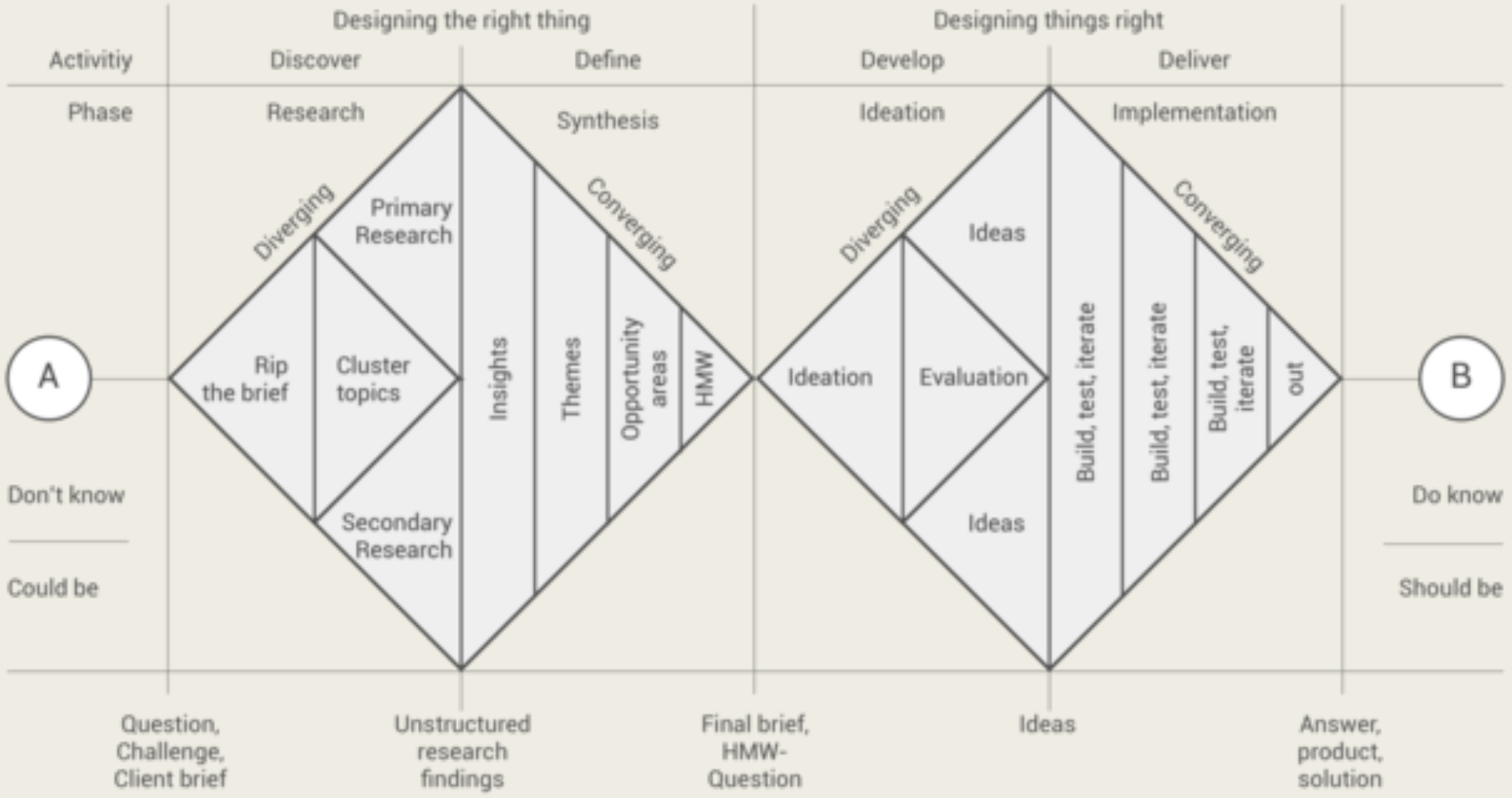
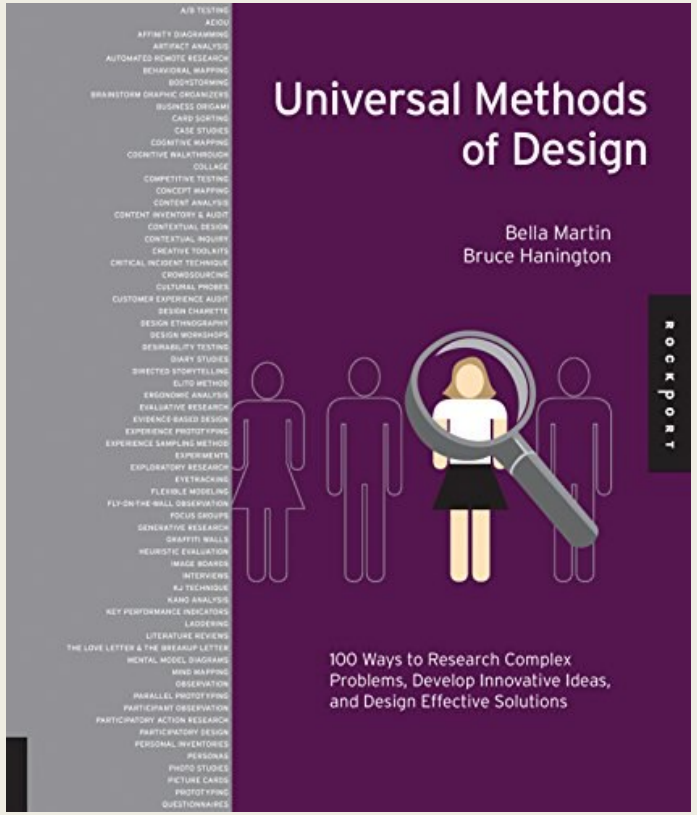


Dan Nessler (Hinderling Volkart) – Adapted Double Diamond

https://www.dannessler.com/intro-process

Universal Methods of Design “approach”

1. **Planning, scoping + defining**
   - What do we want to do?
2. **Exploration, synthesis + design implications**
   - Would it work? Would it solve the problem?
3. **Concept generation**
   - Create a prototype and try it out
4. **Evaluation, refinement + production**
   - Build it, test it, fix it
5. **Launch and monitor and iterate**
   - See if it works in the real world, with real users, and perform ongoing review and iteration



Martin and Hanington. 2012. Universal Methods of Design. Rockport: Gloucester

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1. What is wanted / needed?

2. Analysis

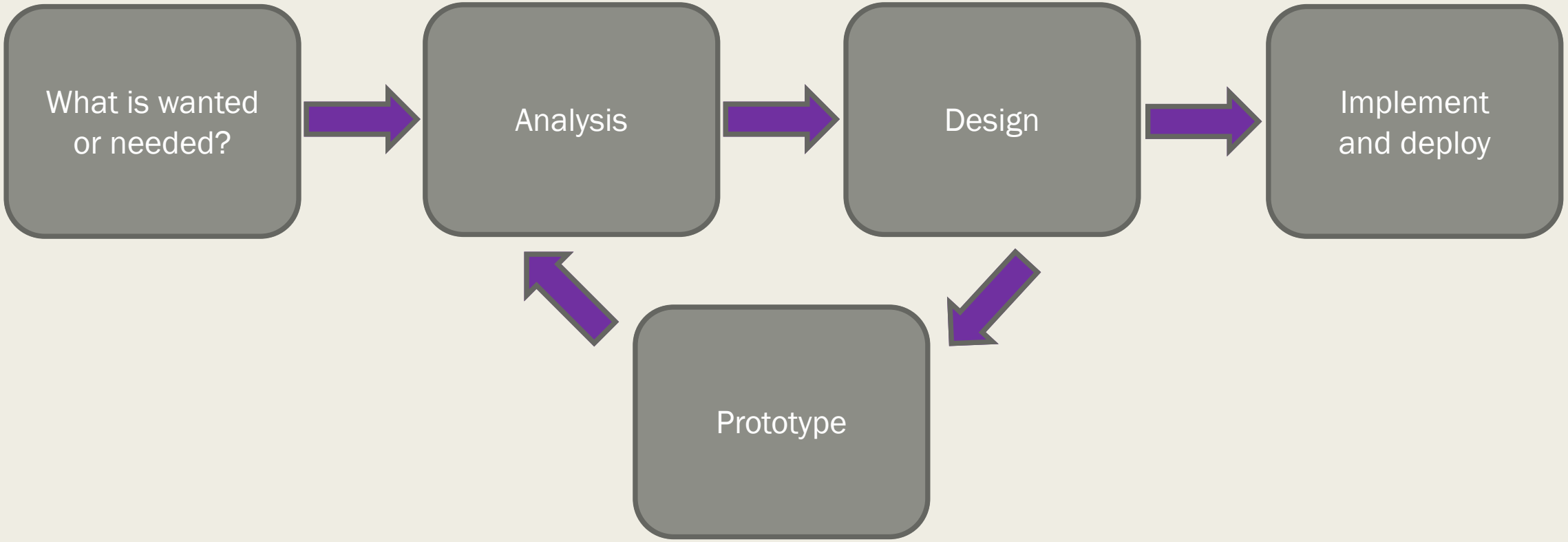
3. Design

4. Prototyping

5. Implement and deploy

Martin and Hanington. 2012. Universal Methods of Design. Rockport: Gloucester

Overview of a design process



Methods in the process

RESEARCH METHOD

01 A/B Testing

Use A/B testing to compare two versions of the same design to see which one performs statistically better against a predetermined goal.[1]

A/B testing is an optimization technique that allows you to compare two different versions of a design to see which one gets you closer to a business objective.[2] The tests are run by randomly assigning different people down two paths—the "A" test and the "B" test—until a statistically relevant sample size is reached. At the end of the test, you will be able to determine which design gets you closer to your goals.

Take, for instance, the challenge of increasing the number of people who sign up for a free trial of your online service. There could be many explanations why people aren't registering: Is the sign-up form too long? Are people worried about their privacy and what you will do with their data? Do they want to know about pricing information before they register? You can find out the answer to each of these questions by making small modifications to the interface, and then run an A/B test to see which version prompts more people to register. For instance, given the scenario above, you can design and run several tests that compare:

- different treatments of the page microcopy—the text that guides and reassures the user—regarding the terms of the service (tone, length, font size);
- the form elements (how many, layout, which are required); and
- different treatments of the button or call to action (page placement, size, color, labeling).

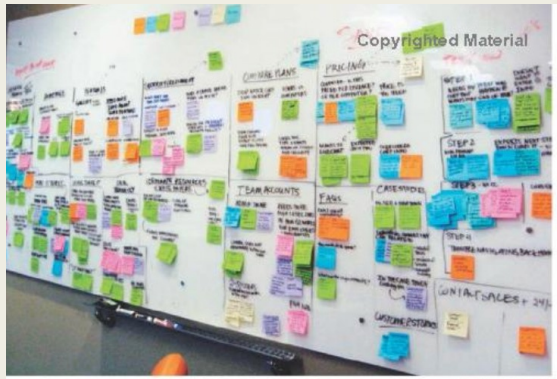
Even though there is a benefit to being able to measure *which* design generates better results, A/B testing won't help you understand *why* the design was preferred over the alternate. A/B testing is not a replacement for qualitative methods that can assess your customers' desires, attitudes, and needs, nor can it uncover larger problems like whether customers feel that they can trust your site or that it is credible.[3] To that end, A/B testing should always supplement qualitative methods that help you gain a deeper understanding of what really motivates your customers and what they really want.

1. A/B tests are adapted from the classic direct mail practice in which two different versions of the same mailing are sent out to different people in order to see which one gets the better response rates.

2. Nielsen, Jakob. "Putting A/B Testing in Its Place." 2005, www.useit.com

3. Kahavi, Ron, Randal M. Henne, and Dan Sommerfield. "Practical Guide to Controlled Experiments on the Web: Listen to Your Customer Not to the HiPPO." *Proceedings of the 13th ACM SIGKDD*, 2007.

Behavioral	**Quantitative**	Innovative	Exploratory	Participatory
Attitudinal	Qualitative	**Adapted**	Generative	Observational
		Traditional	**Evaluative**	Self reporting
				Expert review
				Design process

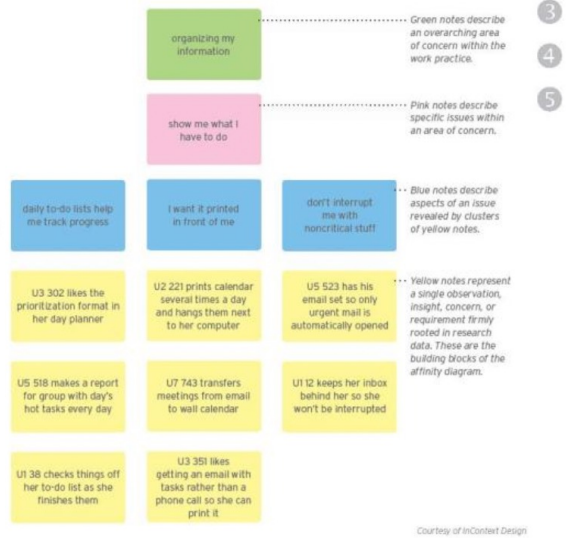


Courtesy of Citrix Online

While usability tests are conducted at Citrix, team members in an observation room simultaneously construct an affinity diagram (left) of issues that are detected during the test session. Each color sticky note represents a different participant, and over multiple tests, recurring issues are revealed. The issues with the most sticky notes are the first to get revised and retested.

Design Phase: 1 2 3 4 5

In Contextual Design[3], affinity diagramming sessions are scheduled after contextual inquiry interviews. Instead of putting the notes in predefined or known categories, the methodology uses a "bottom-up" process for building affinity diagrams. Affinity notes are placed on a wall that is covered in paper large enough to accommodate hundreds (and sometimes thousands) of sticky notes. When planning for a session, InContext uses a metric of 100 notes = 1 person day.



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See also *Contextual Design* • *KJ Technique* • *Content Analysis*

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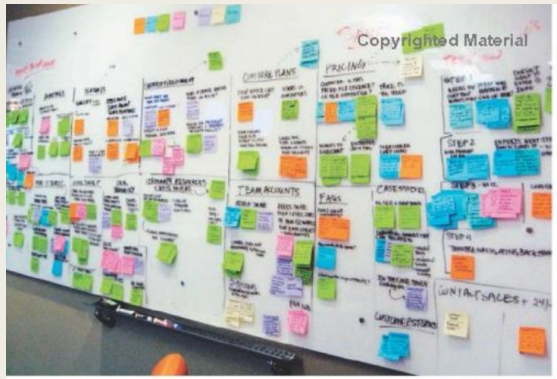
Behavioral Attitudinal	**Quantitative** Qualitative	Innovative **Adapted** Traditional	Exploratory Generative **Evaluative**	Participatory Observational Self reporting Expert review Design process

8 **Universal Methods of Design**



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Design Phase: 1 2 3 4 5

organizing my information — *Green notes describe an overarching area of concern within the work practice.*

show me what I have to do — *Pink notes describe specific issues within an area of concern.*

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daily to-do lists help me track progress	I want it printed in front of me	don't interrupt me with noncritical stuff
U3 302 likes the prioritization format in her day planner	U2 221 prints calendar several times a day and hangs them next to her computer	U5 523 has his email set so only urgent mail is automatically opened
U5 518 makes a report for group with day's hot tasks every day	U7 743 transfers meetings from email to wall calendar	U1 12 keeps her inbox behind her so she won't be interrupted
U1 38 checks things off her to-do list as she finishes them	U3 351 likes getting an email with tasks rather than a phone call so she can print it	

Blue notes describe aspects of an issue revealed by clusters of yellow notes.

Yellow notes represent a single observation, insight, concern, or requirement firmly rooted in research data. These are the building blocks of the affinity diagram.

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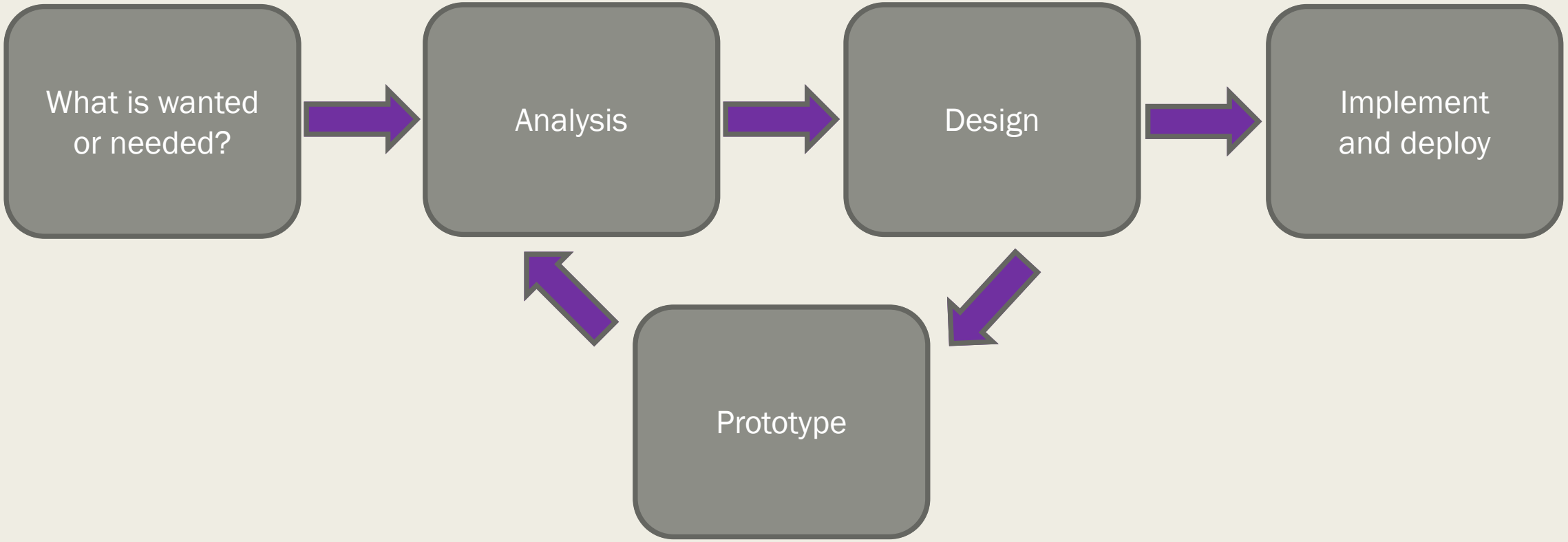

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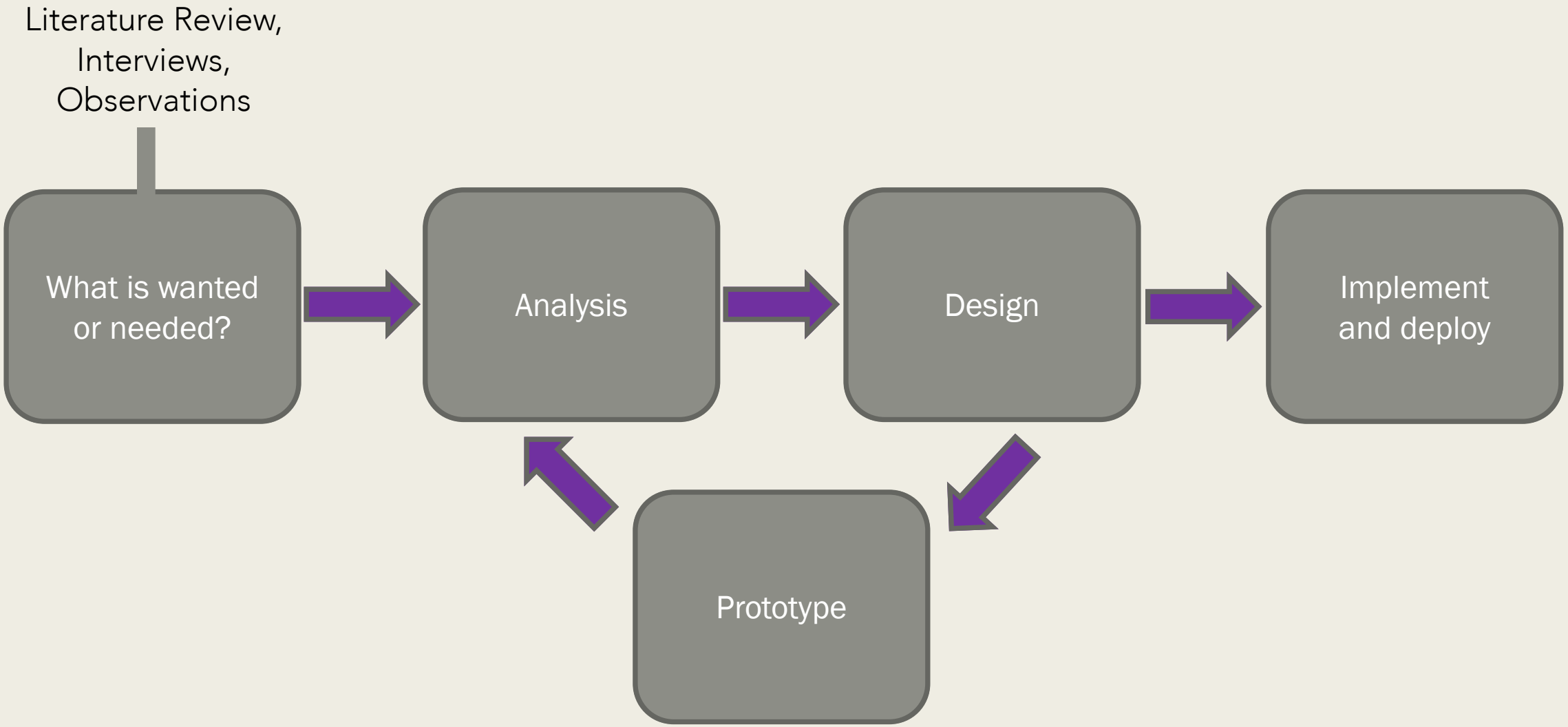

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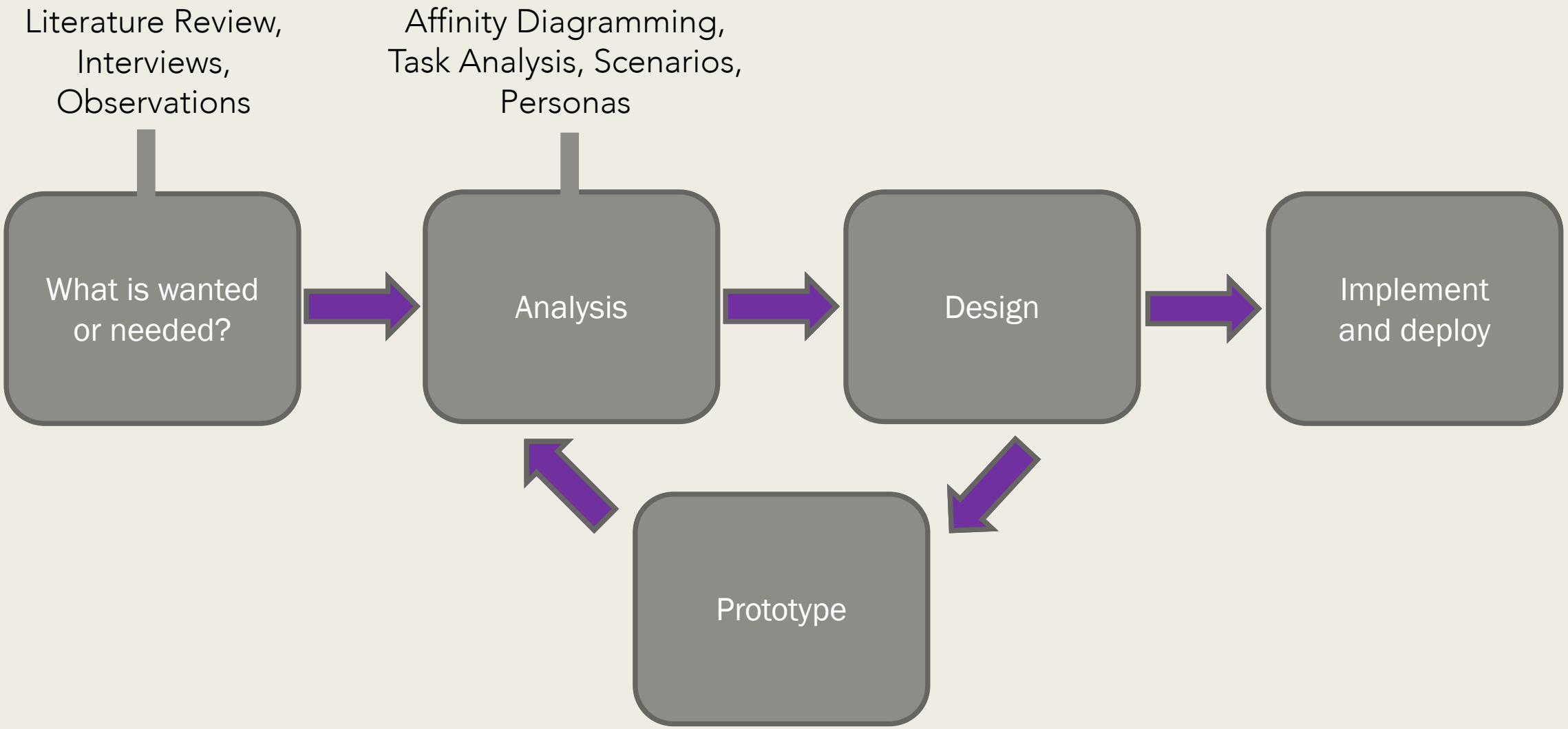

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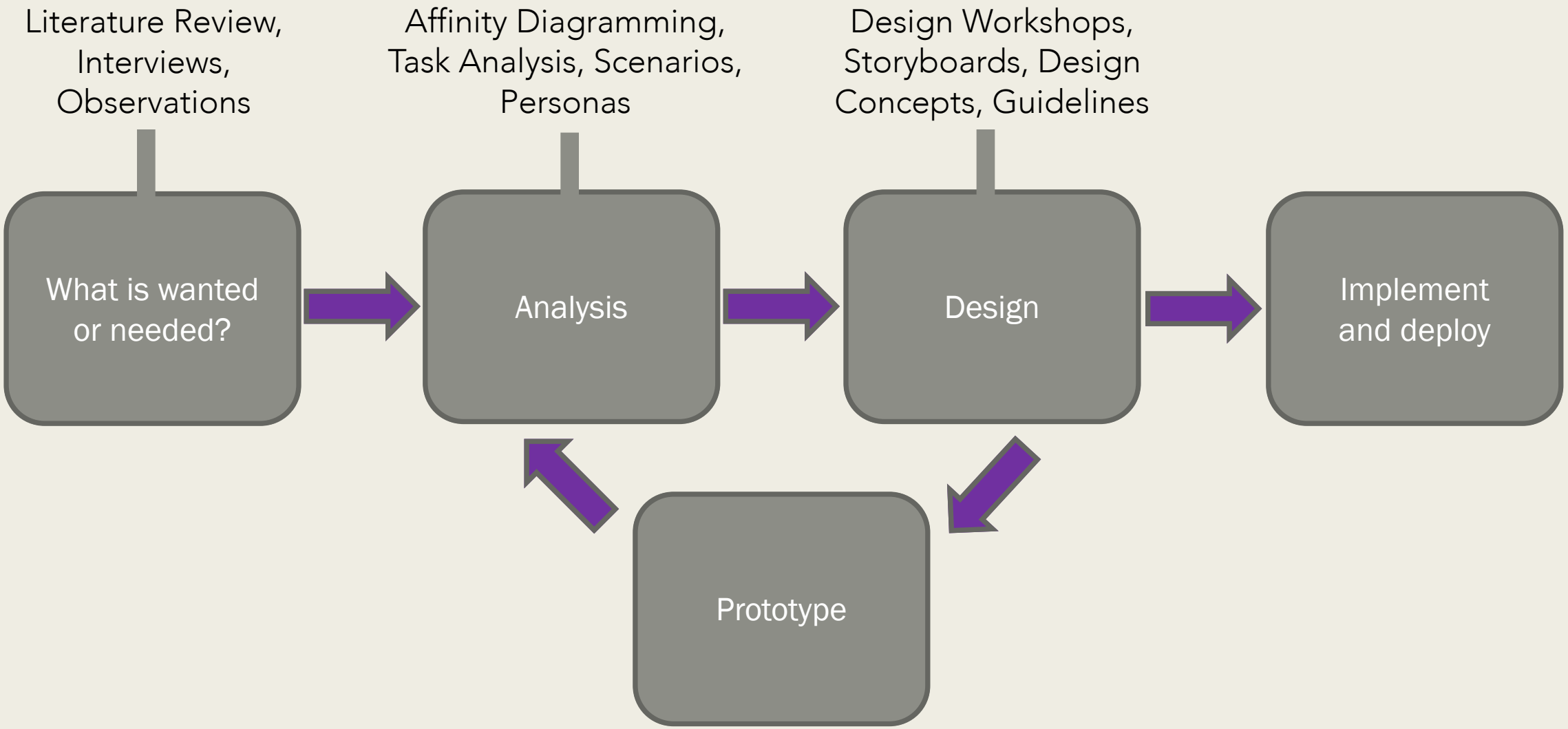

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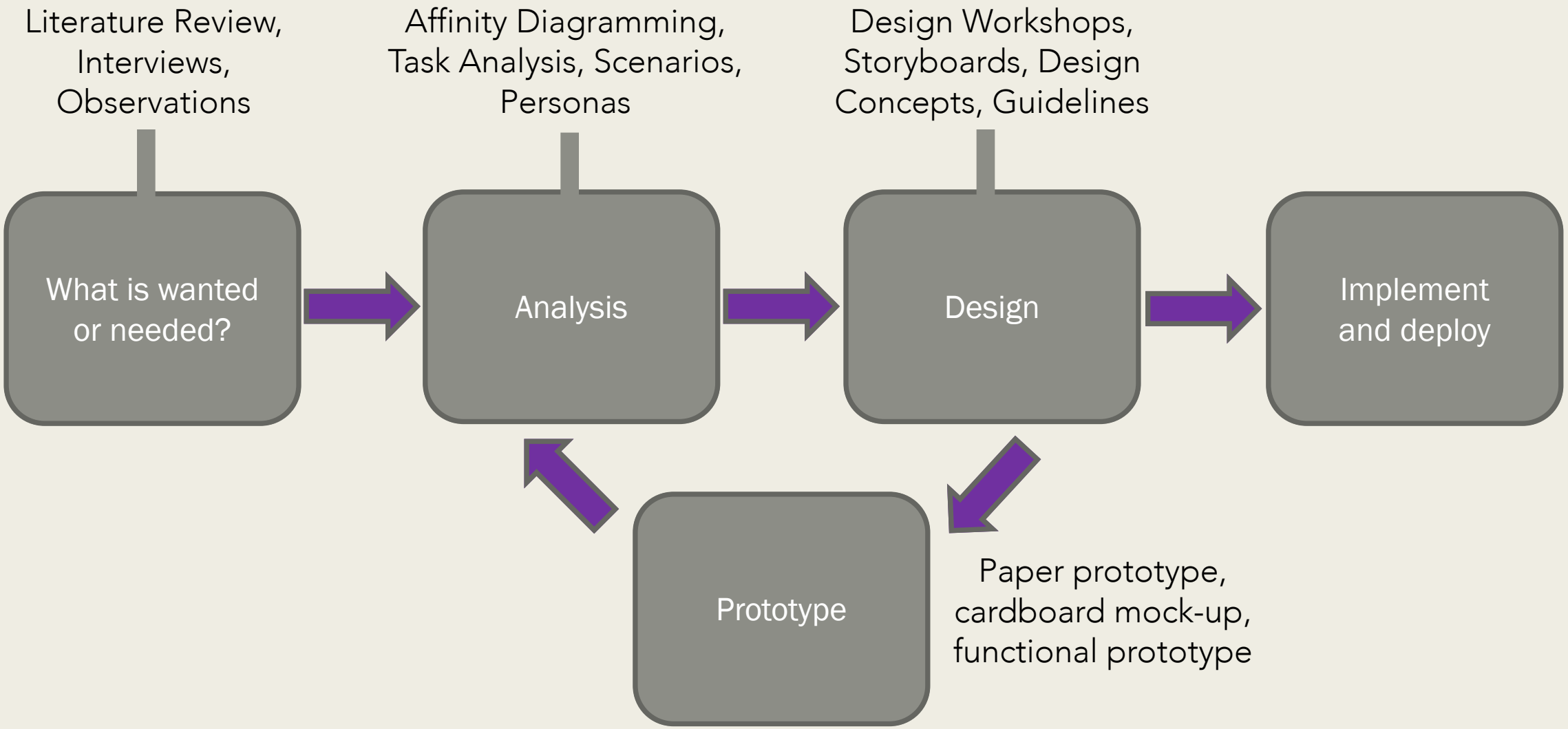

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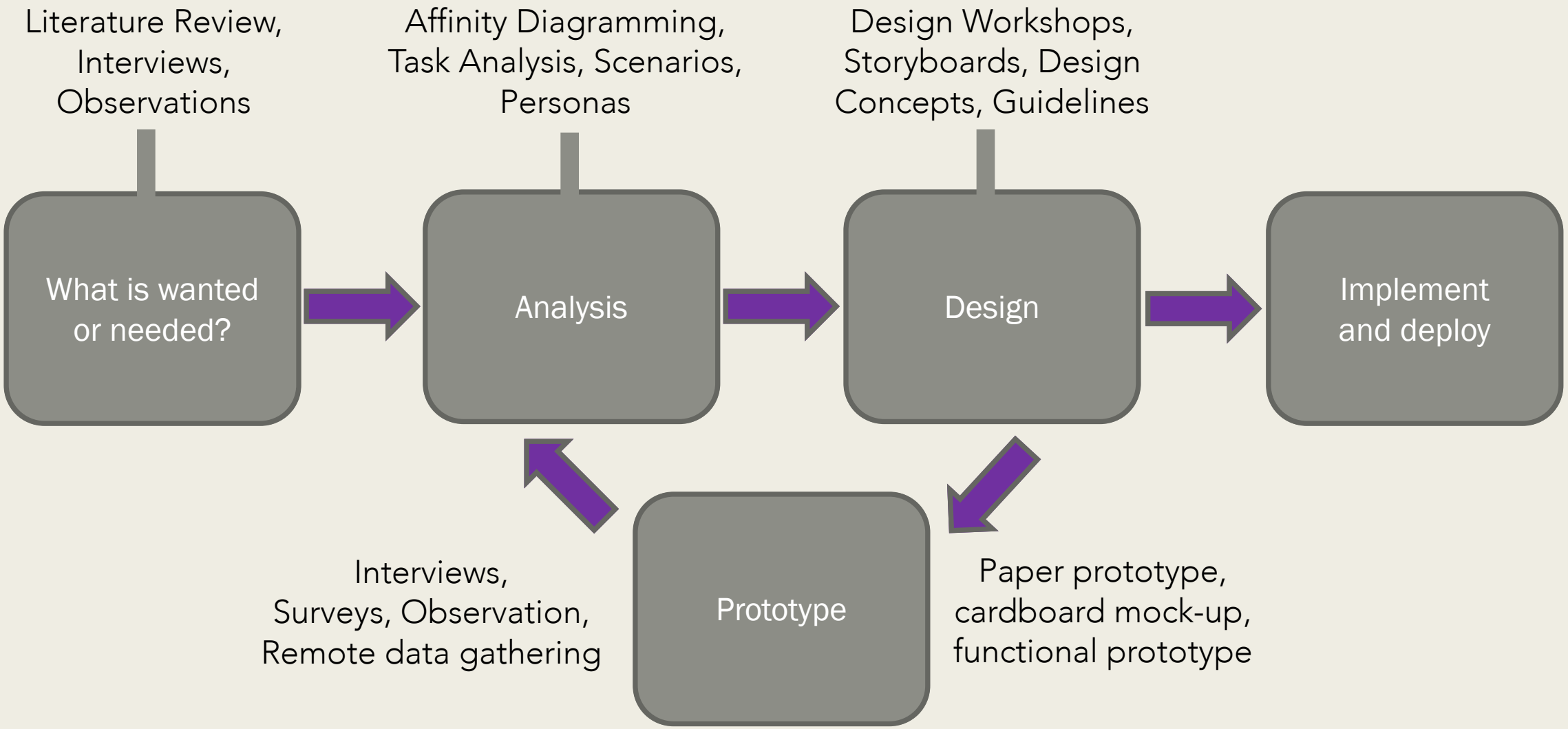

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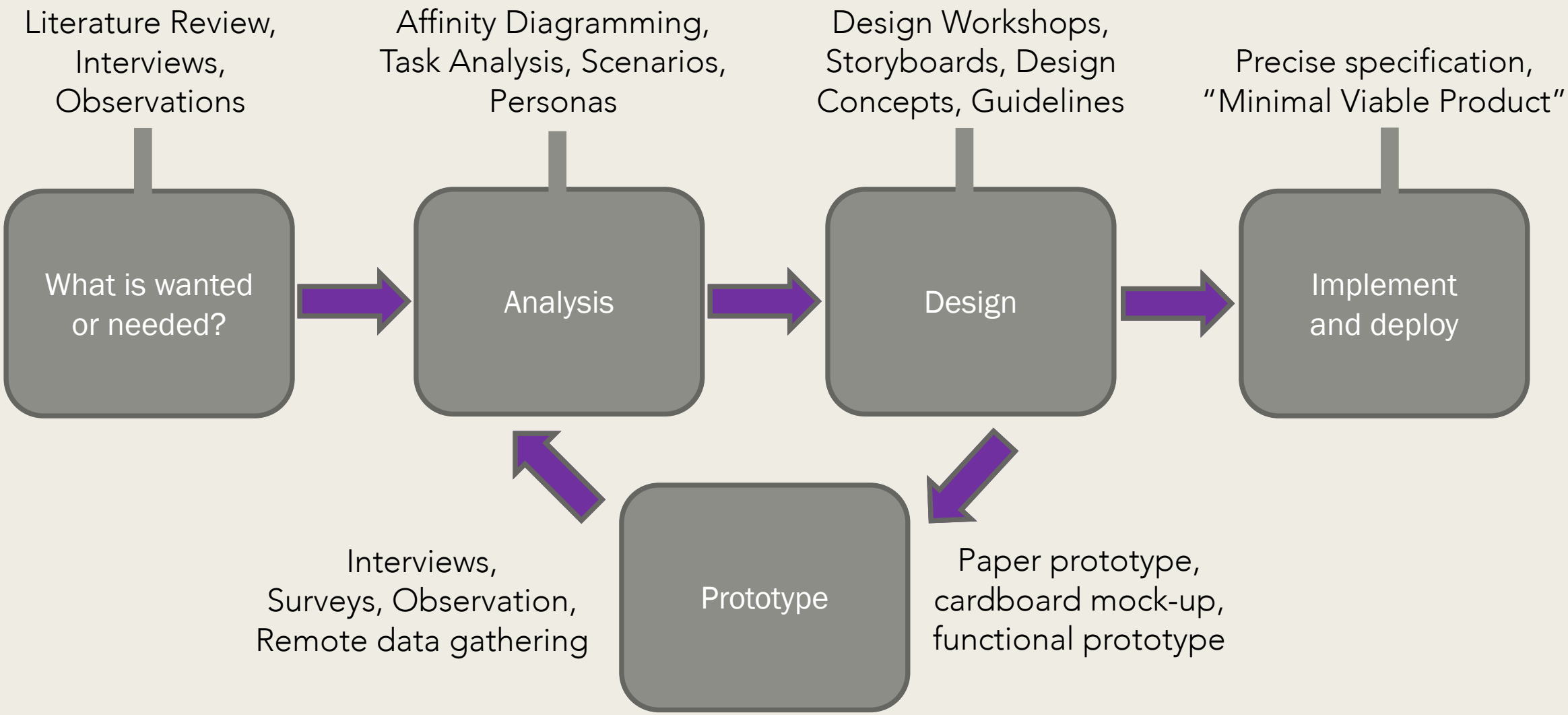

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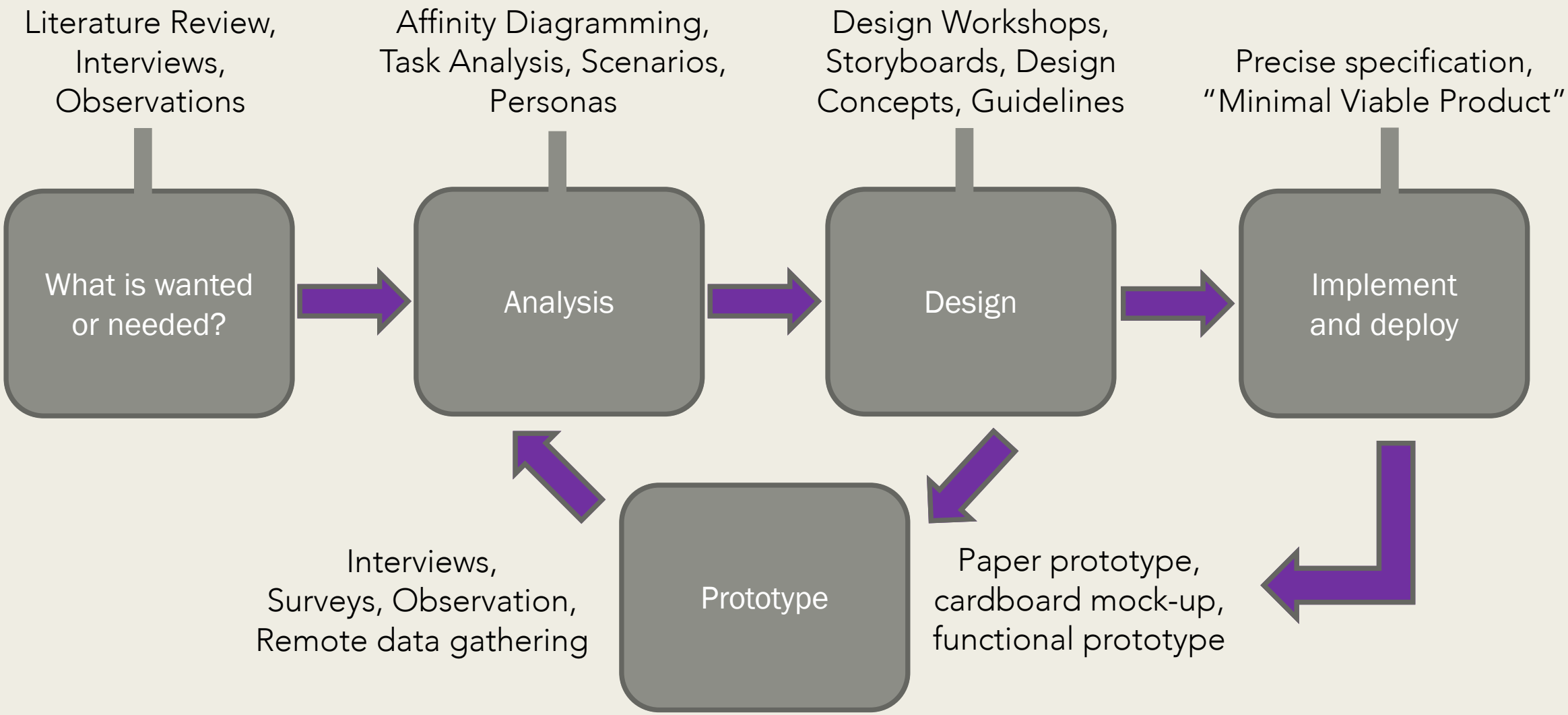

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