

Human Needs and Ideas in Higher Dimensions

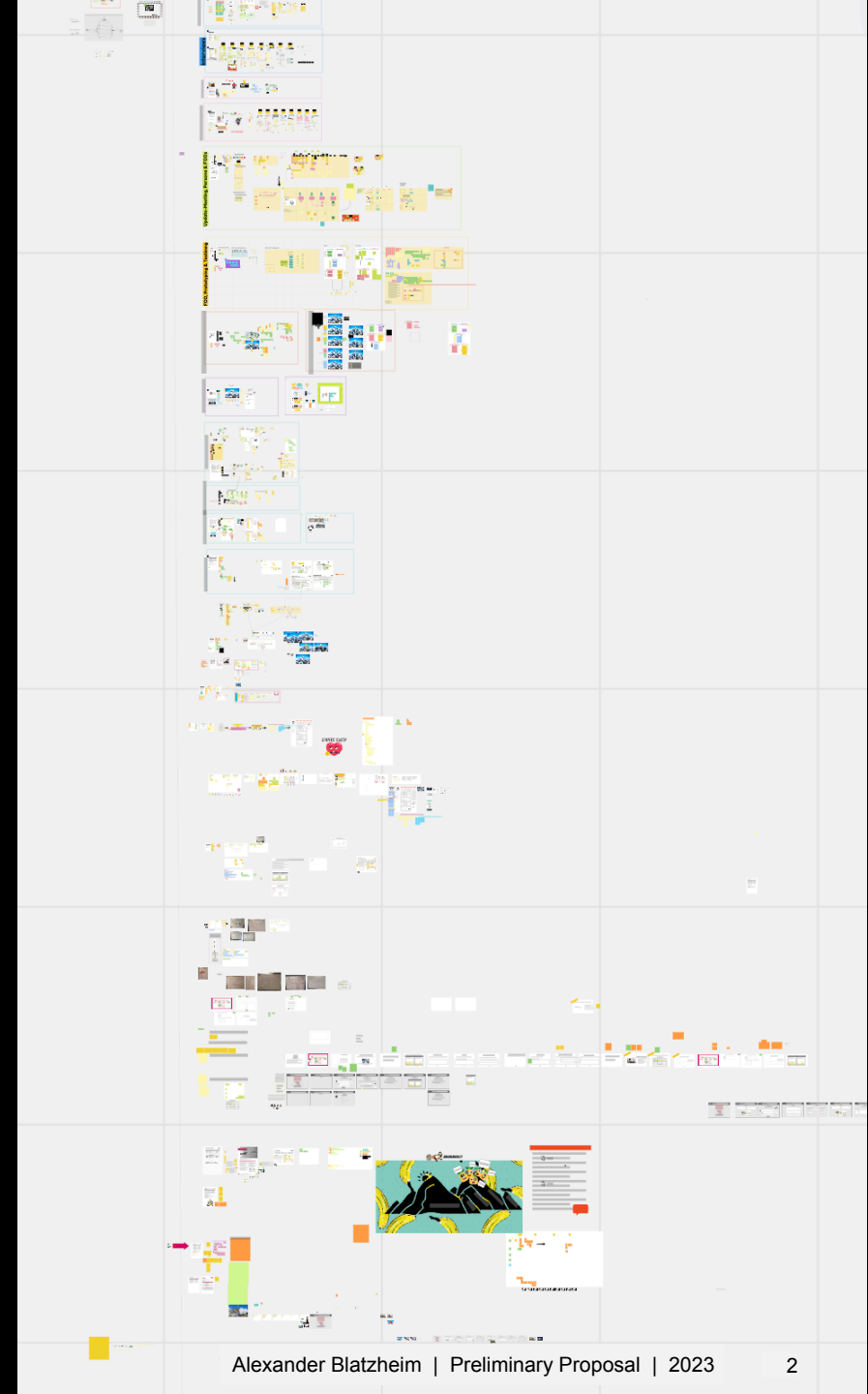
Towards effective **Knowledge Management** of Design Thinking Artifacts

Note: This idea stems from a proposal I drafted in 2023 during my master's at TUM. It did not materialize for lack of design thinking data. At HPI, more than 100 internal design thinking projects could now be made accessible via the Miro API. Although my research focus has since shifted, I would like to return to this idea. If you are an HPI student interested in pursuing it or a related direction, please get in touch.

Status Quo

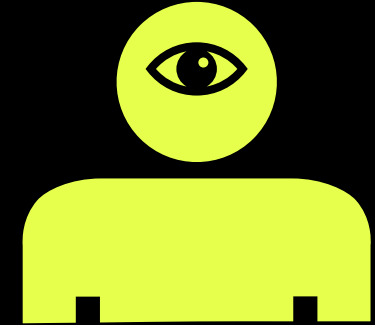
Artifacts from design workshops are effectively **not managed at scale**

- Insights are lost 
- Outsiders struggle to grasp project content 
- Projects are hard to analyze & govern 

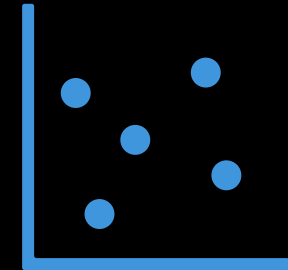


Motivation in a Nutshell

What if we created a tool that gave involved designers, researchers, and managers **oversight across all projects?**



What if we could **harness the vastness of data on stakeholder needs?**



Design Thinking Recap & Presumed Concepts

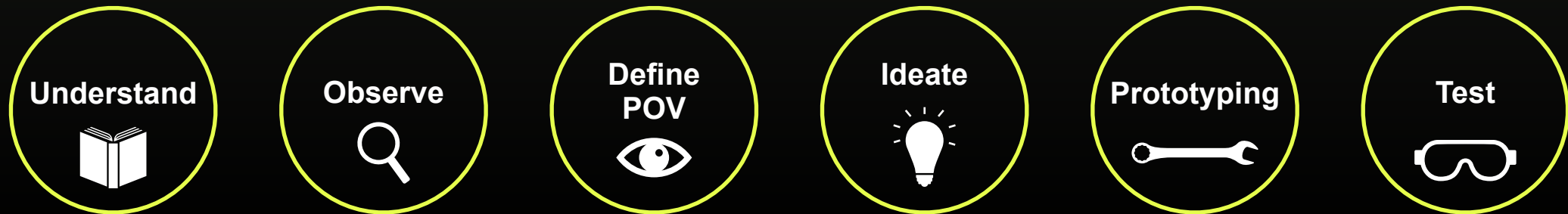
PRELIMINARY!

Design Thinking Recap

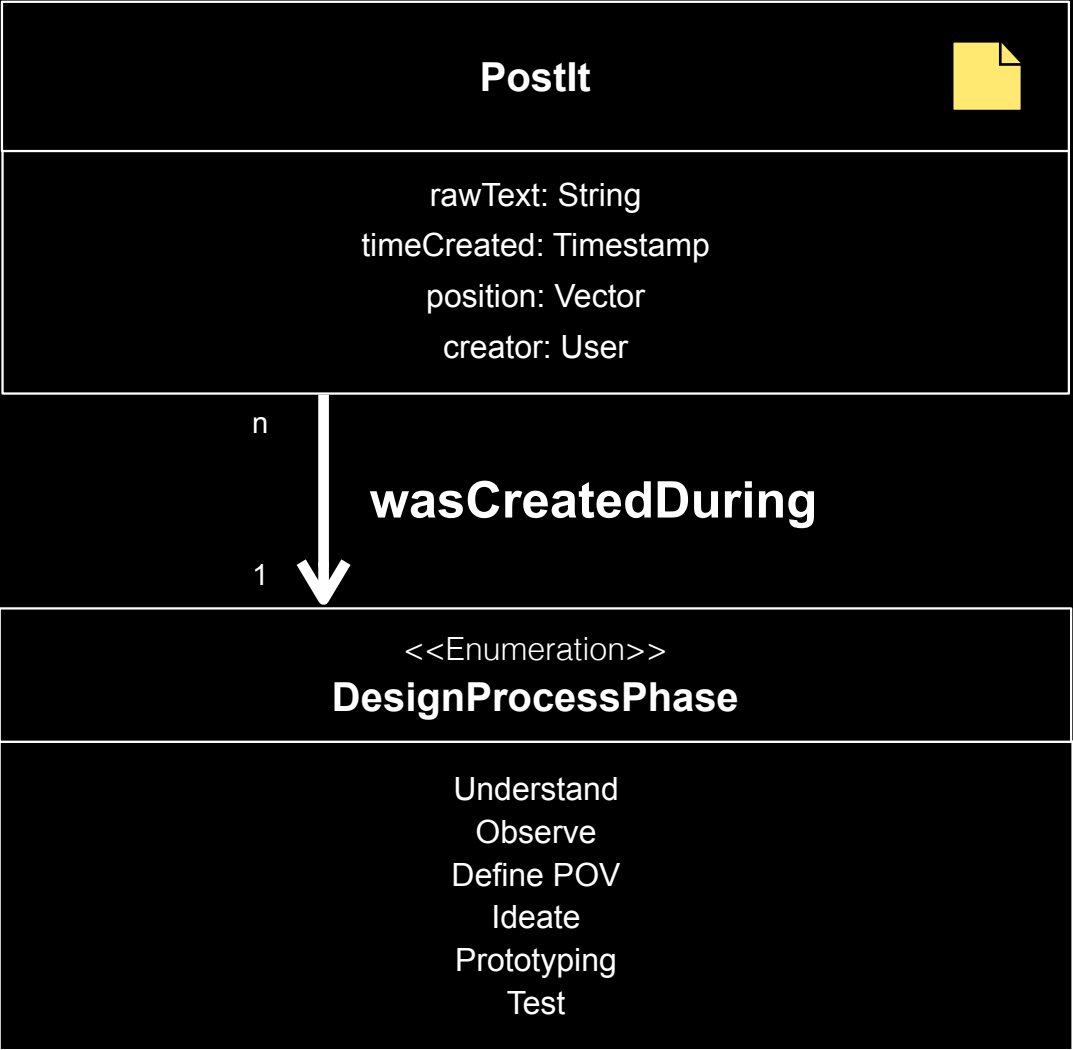
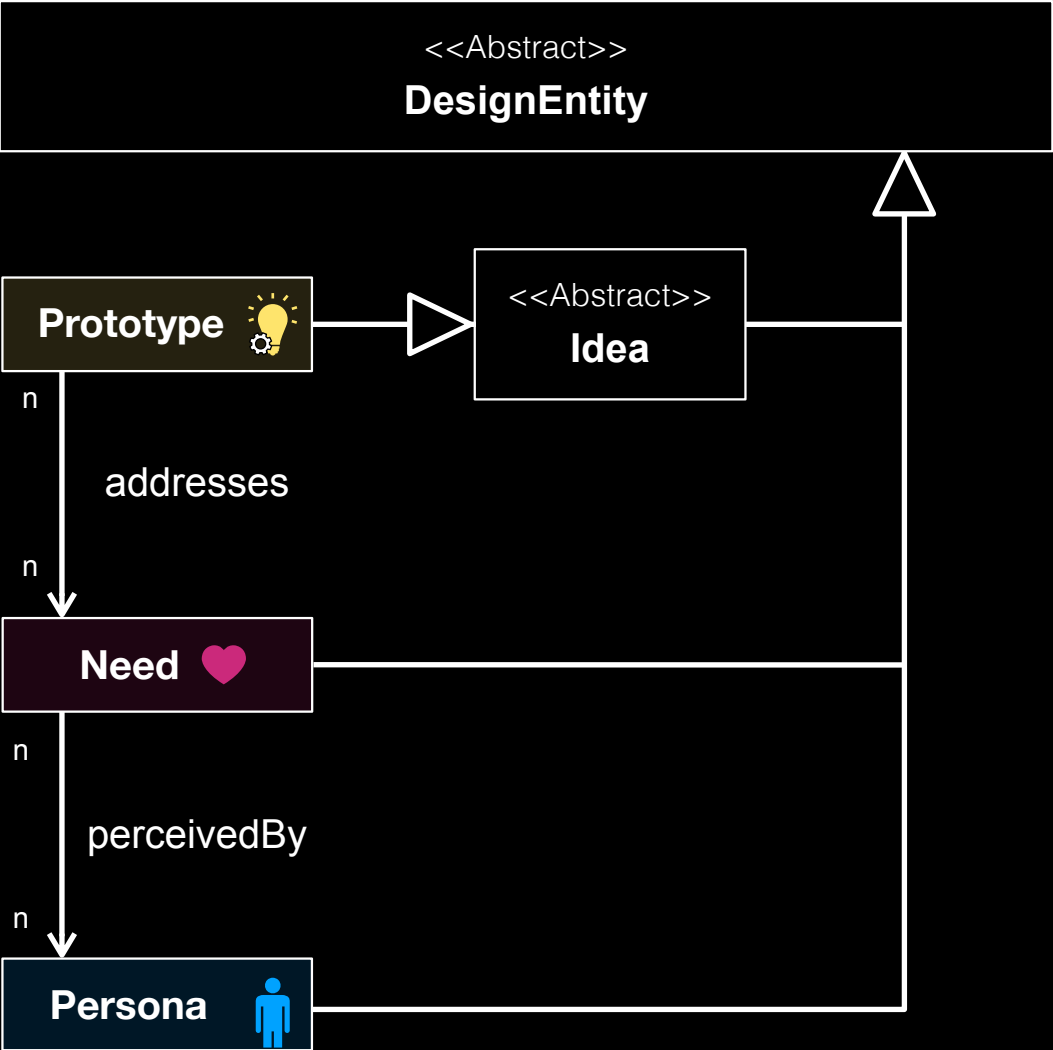
“Design Entities”



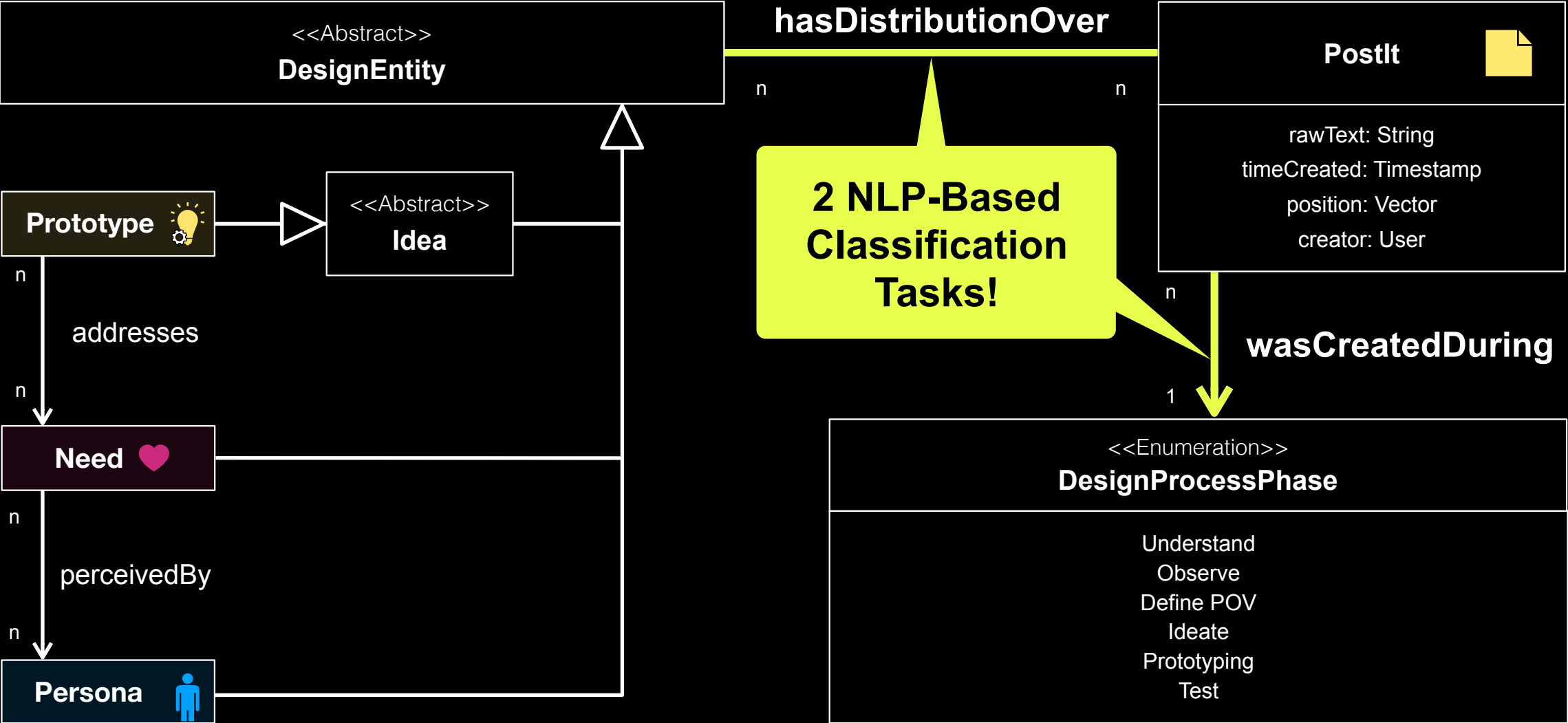
Design Process Phases



Initially Presumed Concepts



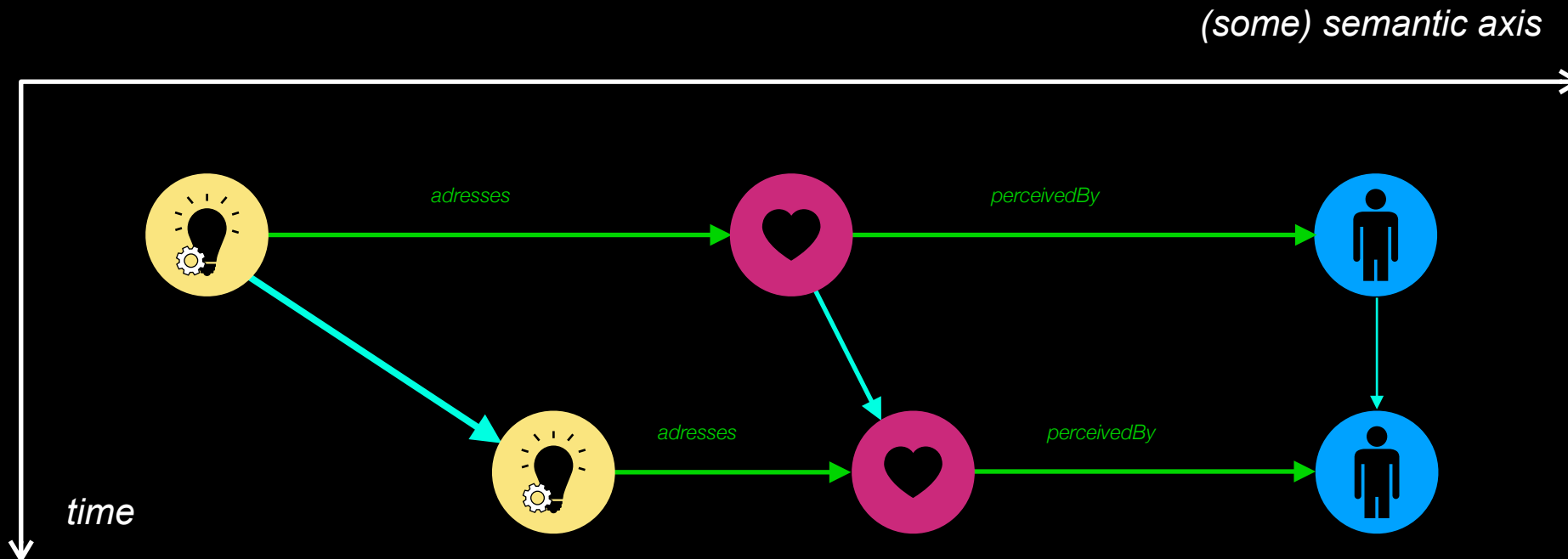
Initially Presumed Concepts



Initially Presumed Concepts: DesignEntity Knowledge-Graph

Goal: For a given time-step, construct a text embedding (●) for a **Hypothesis** / **Need** / **Persona** resp.

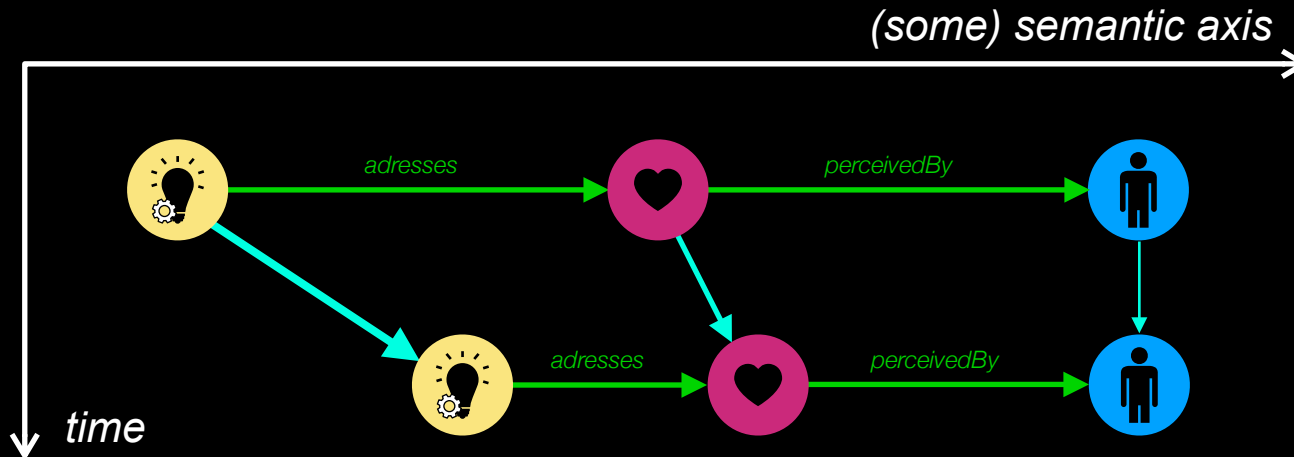
Assumption: Entities within a time-step are naturally **related to one another** and **can drift semantically over time**.



Initially Presumed Concepts: DesignEntitiy Knowledge-Graph

Goal: For a given time-step, construct a text embedding (●) for a Hypothesis / Need / Persona resp.

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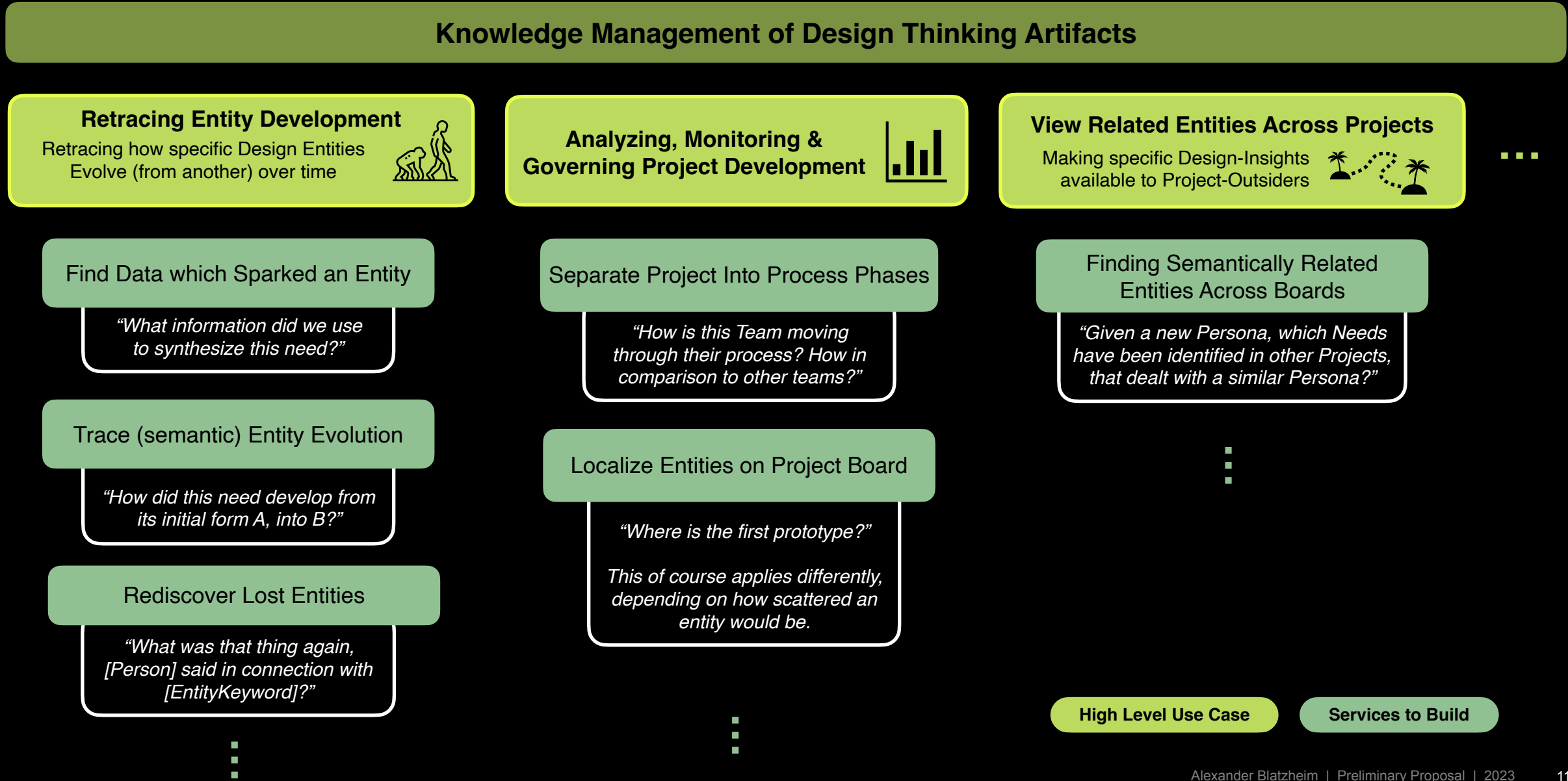
General Abilities could include:

- Navigating the graph in time (e.g. hypothesis at t, t-1, etc.)
- “Opening up” an entity, to delve deeper into what information is relevant for it
- Correlating entities within and across time steps, to serve a wide array of analyses

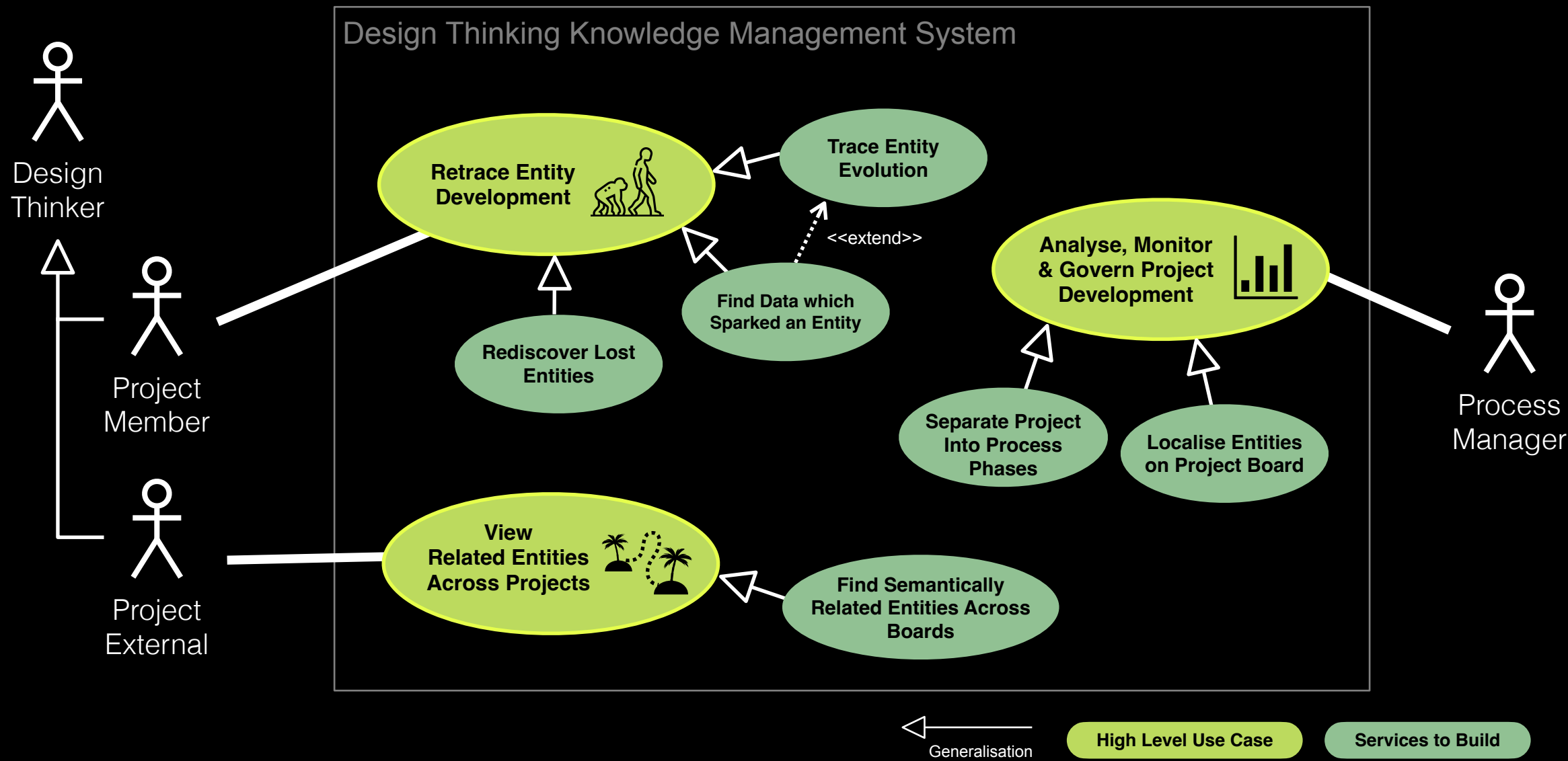
Initial Use Cases

PRELIMINARY!

Initially Observed Use Cases (Function Tree)



Initially Observed Use Cases



Final Thoughts & Vision

Investigating
Needs & Use Cases



Integrate Human Feedback
from running workshops via Miro Web SDK

Investigating
NLP Techniques

