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## Systemic design: Two Canadian case studies

Ryan, Alex and Leung, Mark

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### Systemic Design: Two Canadian Case Studies







Mark Leung
Director, Rotman DesignWorks
mark.leung@rotman.utoronto.ca



# Relationships between Systems & Design





Always design a thing by considering it in its next larger context – a chair in a room, a room in a house, a house in an environment, an environment in a city plan

—Eliel Saarinen





A systems approach begins when first you see the world through the eyes of another

-C. West Churchman





...a designer can quickly wind up with a crisis of complexity, if his or her focus on details is not balanced with principles of organization, such as systems thinking. A systems approach allows complexity to be taken into account without leading to paralysis.

—Harold Nelson & Erik Stolterman

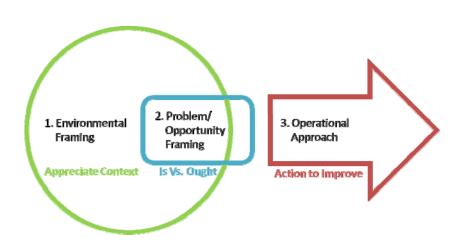
# Why haven't systems thinkers and designers been talking to each other?

#### Two Canadian Case Studies









### Case #1: UofT



#### **UofT Procurement Department**

"Mission: To foster cost effective quality purchases by utilizing the expertise of all staff involved with purchasing and by employing innovative methods in contract negotiations and group buying initiatives."



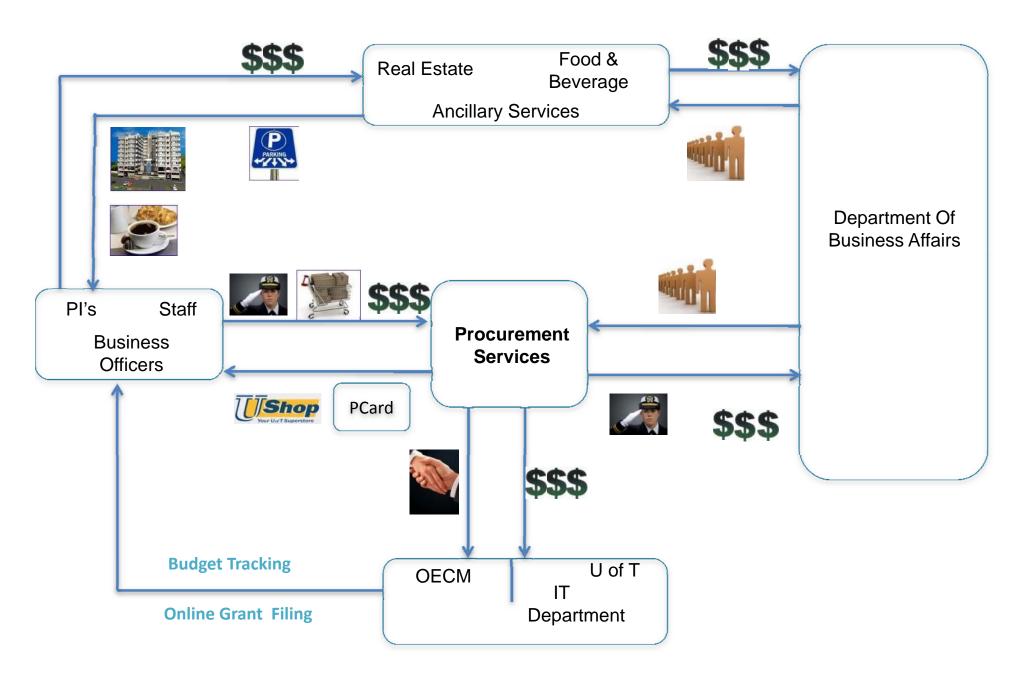




#### **Project Challenge**

How can Procurement Services effectively communicate its value proposition to the faculty and staff at the University of Toronto?

## Understanding the Eco-system



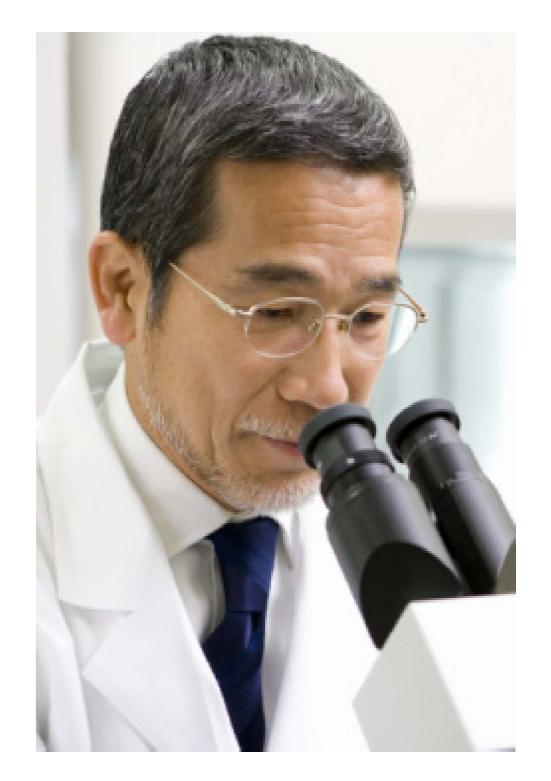
# Christine 'In the Trenches'

"We are people too...not just databases."



# Dr. Wong 'Academic Mayerick'

"One experiment and the world changes."



# I need TRUSTED RELATIONSHIPS

"When we were looking for a vendor, I just went to the people I used to work with because I knew them."

# I need SIMPLICITY

"We have policies coming out of our ears."



## I need FLEXIBILITY

"You do what's in the best interest of the science."

#### Reframe the Problem

How can Procurement Services effectively communicate its value proposition the faculty and staff?

To

How can Procurement Services effectively enhance both research and procurement activities of faculty and staff?

### Reframe the Perception



To



**Enforcers** of policy and regulation.

A trusted advisor, on your side.

"You need follow my rules."

"I'll help you spend your research dollars better."



Information Visualization

> EMPOWER THROUGH KNOWLEDGE

Info Kits



Training Sessions

"Freedom and Flexibility"

Direct Lines Accessible Language Audit Vendor Pricing

Policy & Process Simplification

## PROVIDE A HUMAN TOUCH

" Building Trusted Relationships"

Dynamic RFP

**Proactive Outreach** 

# PROVIDE SIMPLICITY AND CONVENIENCE

"Simplicity and Convenience"

#### **Transforming Procurement**

40% → 99% user retention

1 year pilot → \$1.5 million savings

2012 CUABO industry award for their innovative negotiable RFP process

2012 UofT Excellence through Innovation award

Procurement adopted a user centred mindset and competency.

Case #2: GOA





#### **Objectives**



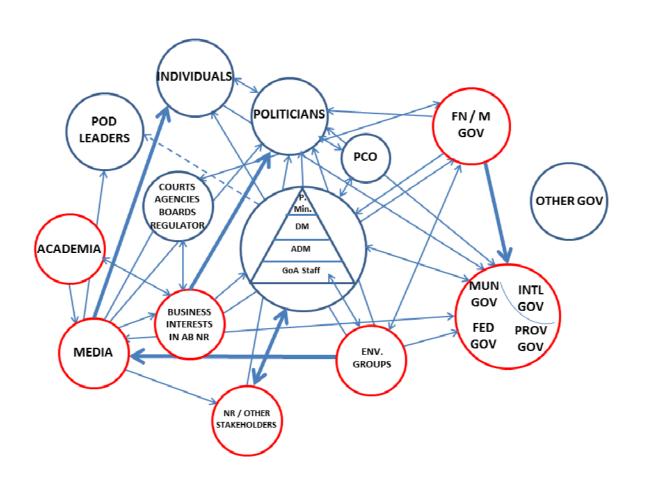
- Raise awareness of the design methodology as a systemic approach to messy strategic problems;
- Apply the design methodology to a current strategic problem as a proof of concept to demonstrate institutional relevance; and
- Develop design skills in leaders across Government of Alberta Departments and Divisions to enhance systems thinking and improve collaboration.



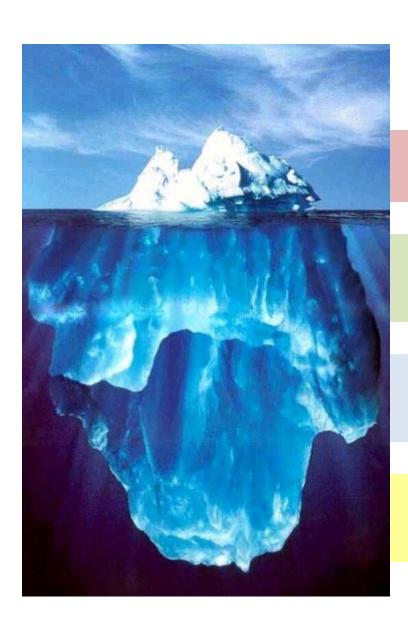
#### **Guidance Statement**

Develop a three year strategy for the CENRG departments to improve the effectiveness and efficiency of the Alberta Government's management of natural resources that will streamline our interaction with industry, improve environmental outcomes, and maintain or increase the revenue stream from industry while increasing public support for our social license to develop our natural resources.

### Stakeholder Mapping



### Causal Layered Analysis



Litany

Systemic Causes

Worldview & Discourse

Metaphor & Myth



#### Reframe the Mindset



To



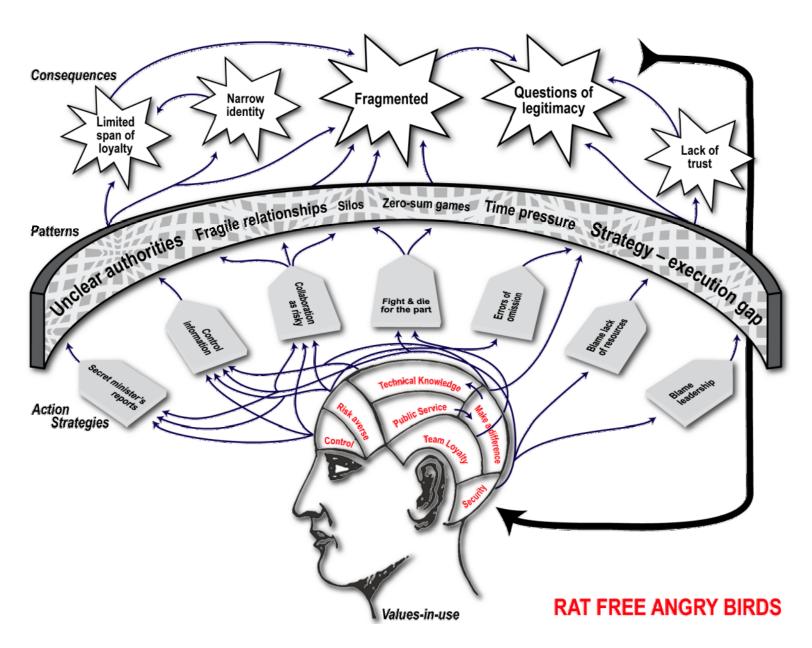
**Control** of my piece.

**Collaboration** with the collective.

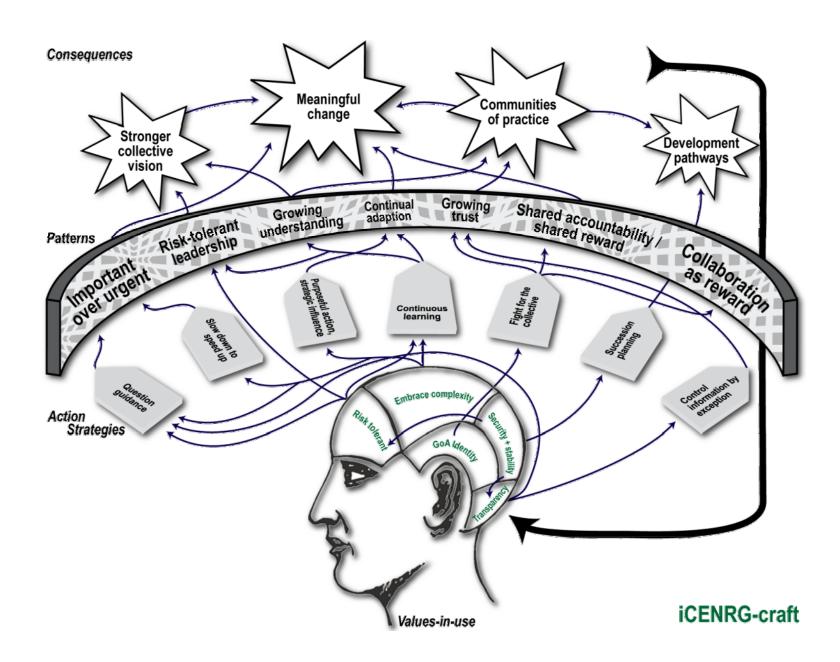
"Live and die for the part."

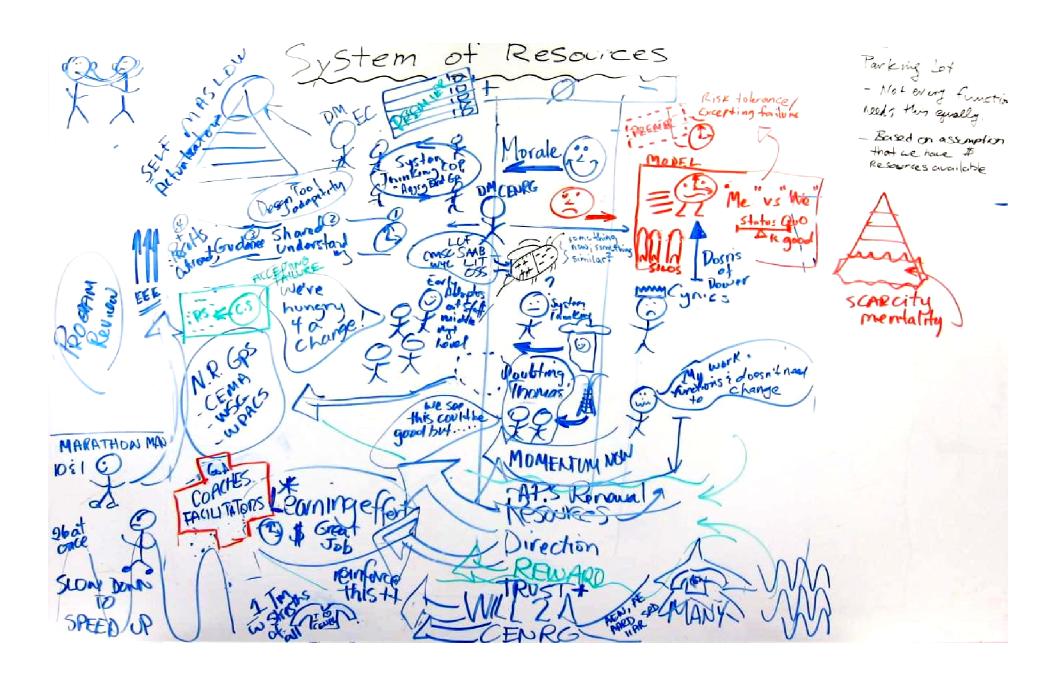
"Shared accountability and shared rewards."

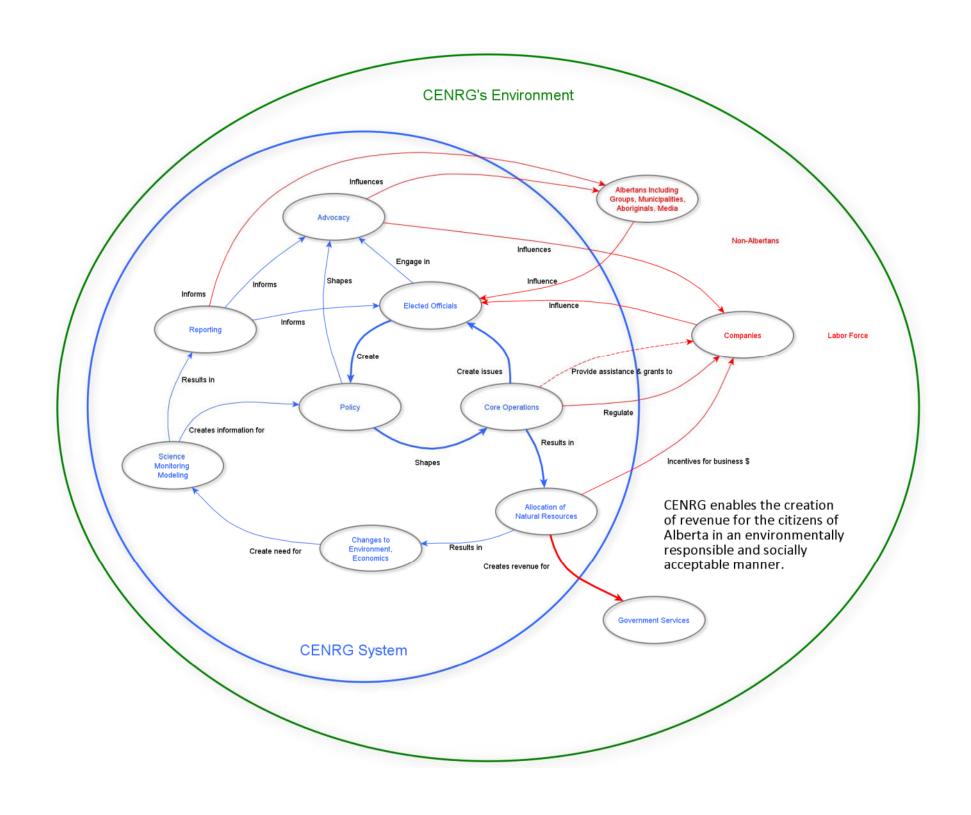
### **Legacy Mental Model**



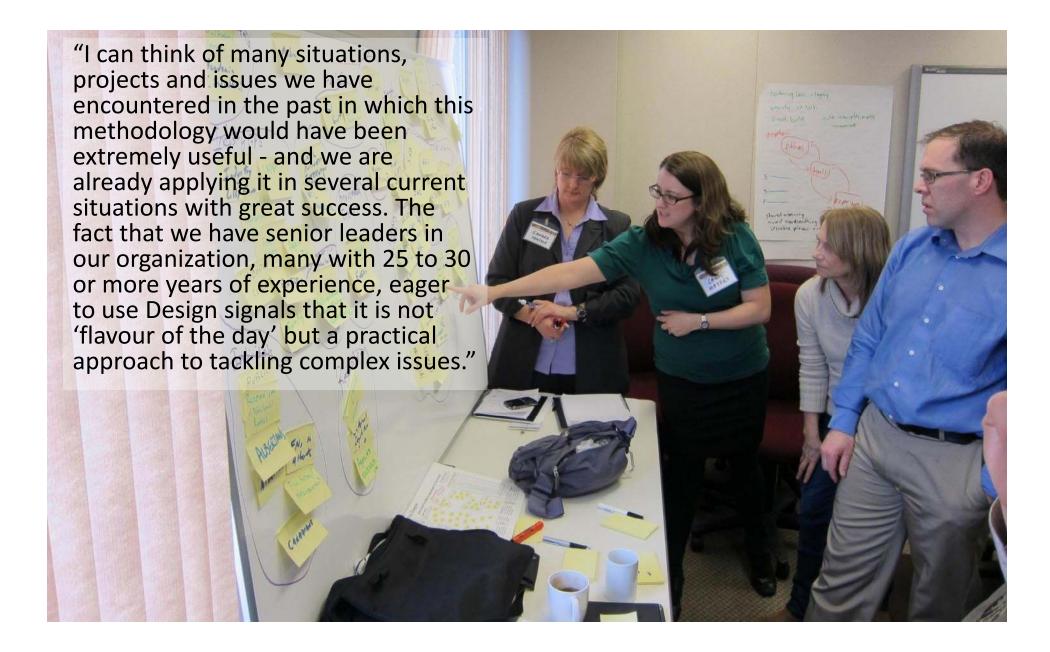
#### **Alternative Mental Model**







#### Participant Feedback



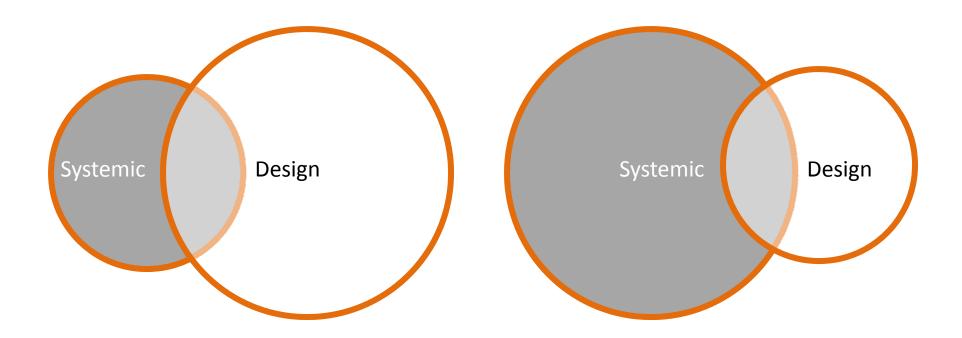
#### **Outcomes**

- Helped to create the Integrated Resource Management System
- Raised awareness of systemic design across the GOA
- Established a systemic design capacity within the GOA
  - Standing cross-ministry design team
  - Systemic design community of practice
  - Multiple follow-on design projects

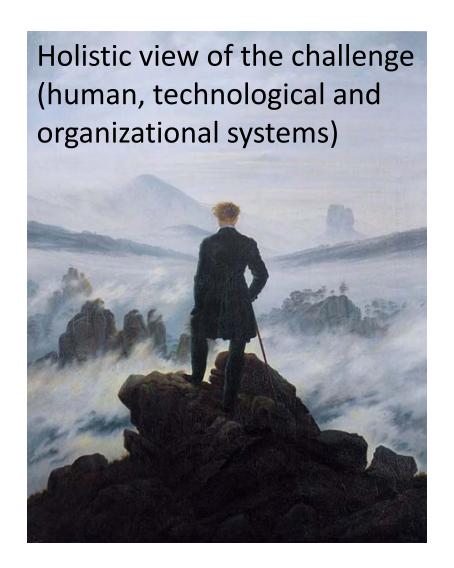
# What can we learn by comparing these case studies?



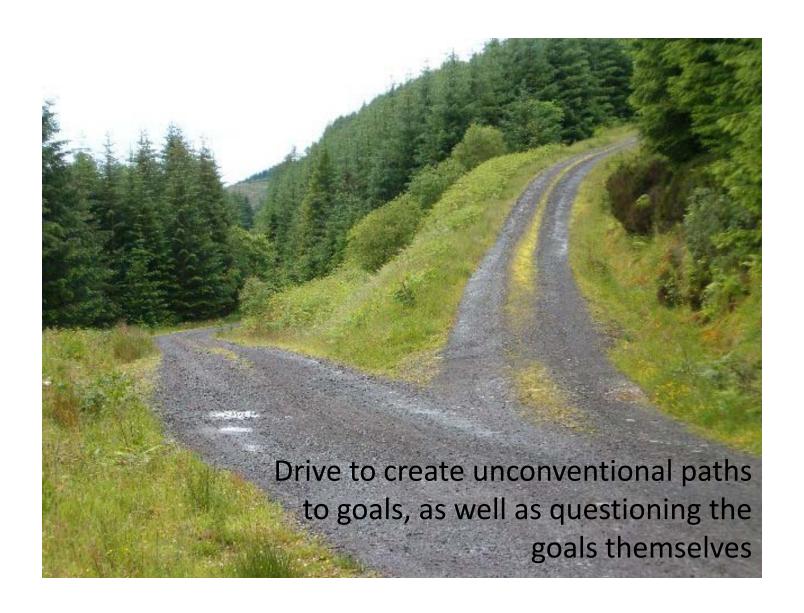


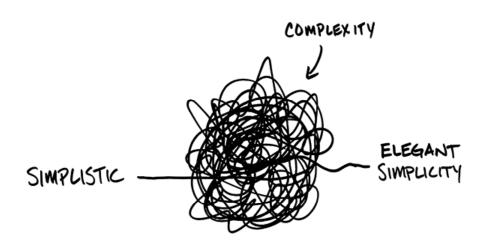




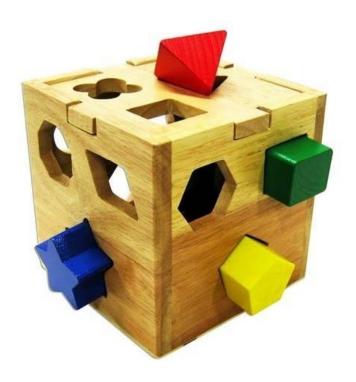




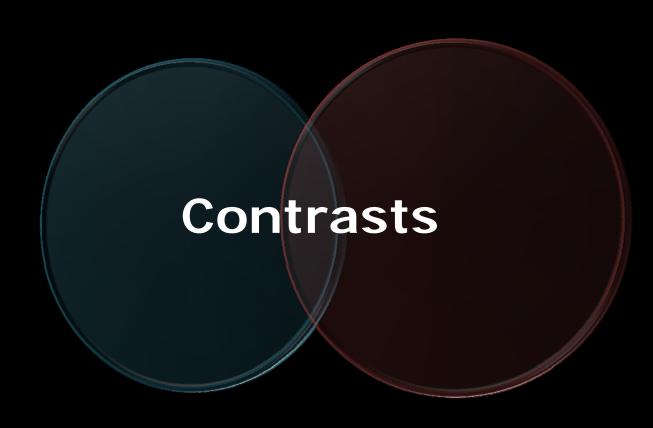


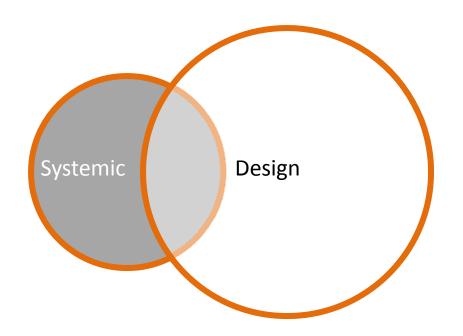


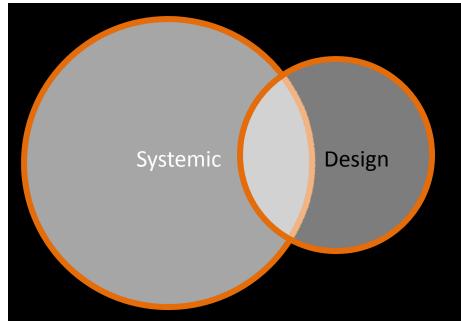
Embraces complexity to find new opportunities for profound simplicity



Explores worldviews and surfaces the mental models of users and stakeholders







Explicit use of empathy
Physical prototyping
Rapid testing
User feedback
Design aesthetic

Explicit use of systems maps
Genealogy
Theoretical grounding
Narrating the journey of learning
Combining education with practice





The strengths and weaknesses of the two methodologies are complementary. A more centred assemblage of Systems + Design can be qualitatively better than Systems Thinking or Design Thinking in isolation.

## Thank You!

