



Faculty of Design

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## Eudaimonic flourishing through healthcare system participation in annotating electronic health records

Pennefather, Peter, Suhanic, West, Seaborn, Katie and Fels, Deborah I.

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systemic design for social complexity

**RSD<sup>5</sup>**  
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## **Eudaimonic Flourishment through Healthcare System Participation in Annotating Electronic Health Records**

**Peter Pennefather, West Suhanic, Katie Seaborn, Deb Fels**  
Laboratory of Collaborative Diagnostic, Lesley Dan Faculty of Pharmacy, UofT  
Inclusive Media Design Centre, Rogers School of Management, Ryerson U

## **The Big Idea -**

*If the Food System Creates Conditions for People to be Nourished  
Nourishment is the Output of that System*

*If The Public Health System Creates Conditions for People to Flourish  
Flourishment is the Output of that System*

Also

*if The Food System is to be Regulated  
Nourishment Needs to be Recorded, Accounted and Analyzed*

*if The Public Health System is to be Regulated  
Flourishment Needs to be Recorded, Accounted and Accounted*

## **Who am I:**

*Pharmacy Professor trained in Neuroscience, Biophysics, Medical & Pharmaceutical Sciences, and Data*

## **What do I Do**

*Critically and abductively analyze observations by framing them in explicit but approximate simulations whose value and meaning are bounded by the record of observations (data)*

## **Why am I Here**

*I think that System Design is another form of explicit approximate simulation of possible futures and that dialogue (conversations) is how we bound their meaning and value*

## **What do I Offer**

*I have tools for creating know-nothing data about observations and conversation (quantitative and qualitative records)*

# ***METACOGNITIVE FRAMEWORK***

***DATA FROM PAST TRANSLATED INTO KNOWLEDGE FOR GUIDING FUTURE ACTIONS***

***Input :Data/Information Biased by Present Concerns and Future Needs (Know Nothing)***

	<b><i>Design</i></b>	<b><i>Learning</i></b>	<b><i>Problem Solving</i></b>	<b><i>Diagnostics</i></b>	<b><i>Systems Engineering</i></b>	<b><i>Knows</i></b>
<b>PAST</b>						
<b><i>Orient/Explore/Discover</i></b> <b><i>(thoughtful comparison)</i></b>	Comprehension Knowledge	Discovery Definition	Initiation Probing	Identify Objectives Specify Criteria	What Seems to Be	
<b>PRESENT</b>						
<b><i>Scan/Form/Re-Form</i></b> <b><i>(reasoned reflection)</i></b>	Analysis Synthesis	Divergent Design Convergent Design	Analysis Diagnosis	Map Relationships Identify Alternatives	What Could Be	
<b>FUTURE</b>						
<b><i>Project/Develop/Specify</i></b> <b><i>(practical abstraction)</i></b>	Validation Transformation	Action Planning Mobilization	Reporting Prescribing	Evaluate Alternatives Chose One or Two	What Ought to Be	

***Output : Actionable Knowledge Useful in Integrating Past/Present/Future (Know Why)***

<b>Brain Network</b>	<b>Warrant (Perspective) Meaning</b>	<b>Aristotelian Activities</b> <small>essence ↔ effects</small>		
Salience	<b>Empowerment</b> <small>(Systemic-Scholarly)</small> <b>Coherence</b>	Theoria <small>theorizing</small>	↔ ↔	Episteme <small>science</small>
Executive Control	<b>Agency</b> <small>(Business-Professional)</small> <b>Purpose</b>	Praxis <small>acting</small>	↔ ↔	Phronesis <small>judgment</small>
Default	<b>Engagement</b> <small>(Socio-Cultural)</small> <b>Significance</b>	Poesis <small>making</small>	↔ ↔	Techne <small>proficiency</small>

# **How Do We Know What, How, and Why?**

**= From a Humanities perspective  
we reason**

**= From a Neuroscience perspective  
our brain network interact**

**Health**

**= Bio-Psycho-Social Wellbeing  
(Essence)**

**= Flourishing People  
(Effect)**



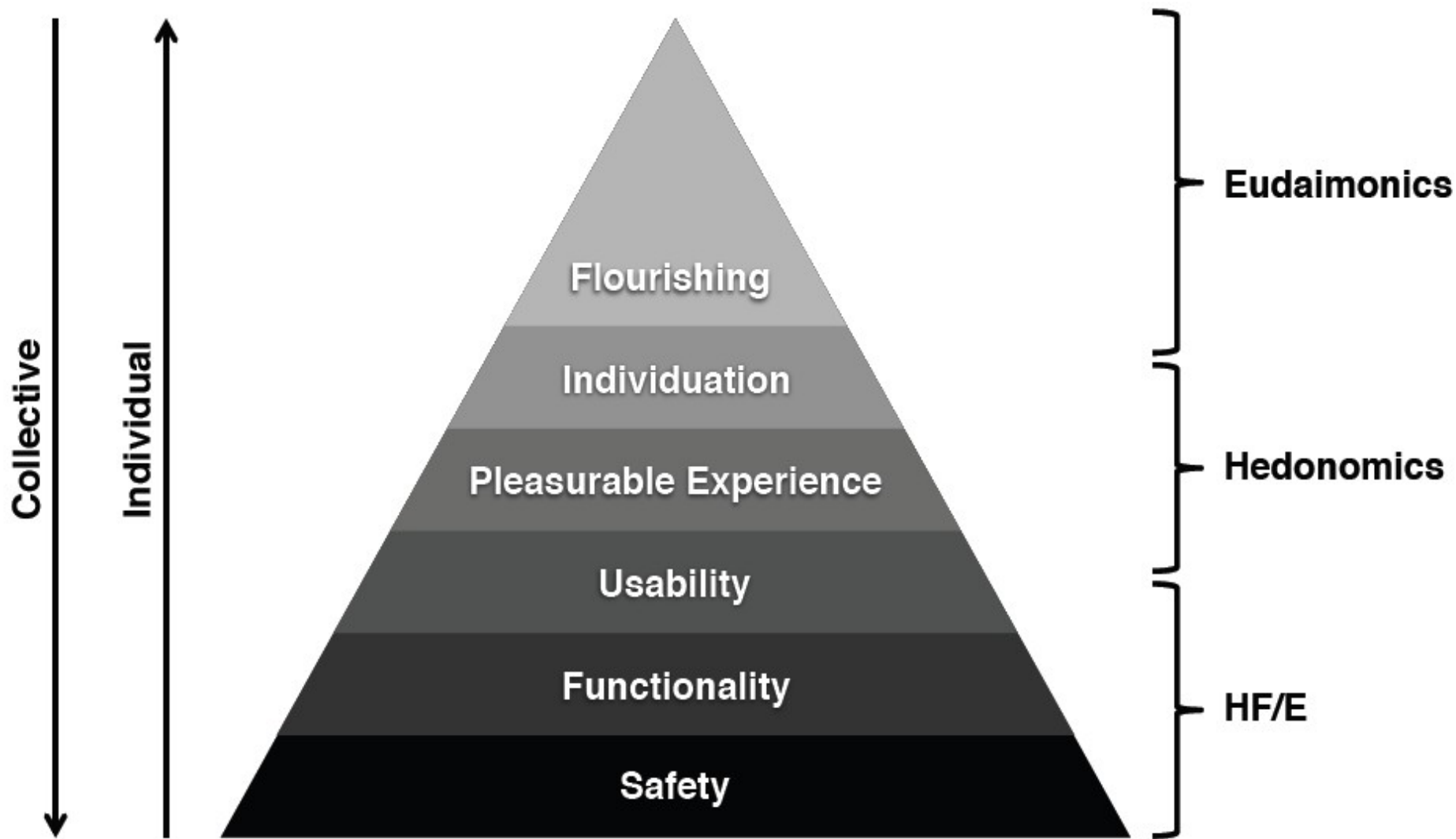
# **Inclusive Eudaimonic Systemic Design**

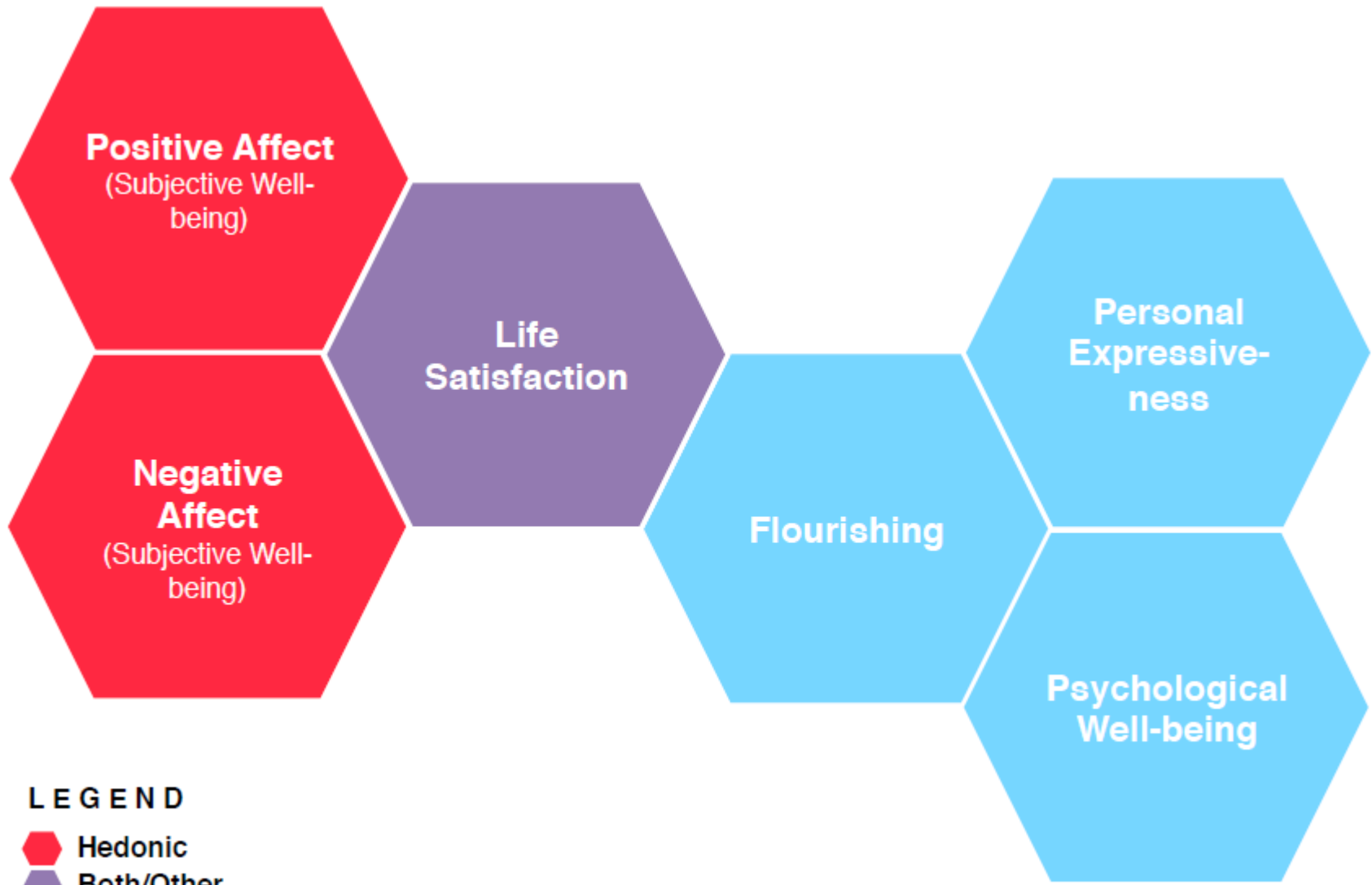
**The Aristotelian concept of Eudaimonia refers to living a flourishing life through the pursuit of one's best self (i.e., one's *deamon* or true spirit).**

**Systems designed to help people pursue the “good life” should consider states of eudaimonic flourishing as well as hedonic pleasure along with traditional ergonomic design goals.**




**This is illustrated with a design challenge of a personal health record (PHR) bridge for a person living with chronic pain.**

**A PHR domain for registering a personal record of eudaimonic flourishment and engaged resilience (a PREFER domain) is specified for driving a virtuous cycle of flourishing.**





**LEGEND**

-  Hedonic
-  Both/Other
-  Eudaimonic

## **Consider Ms X**

**Ms X is a grandmother with a complex painful condition that developed suddenly as the result of viral infection. She is under the care of a pain centre located in a large tertiary care hospital.**

**Mostly the pain is uncomfortable but episodically it is debilitating.**

**How can a PHR assist Ms X in processing options in order to accomplish everyday goals**

## What is pain?

- There is an International definition of pain formulated by the IASP (International Association for the study of pain)
- Pain is an unpleasant sensory and emotional experience associated with actual or potential tissue damage, or described in terms of such damage



*IASP— International Association for the Study of Pain 2011*

## Pain: Definition

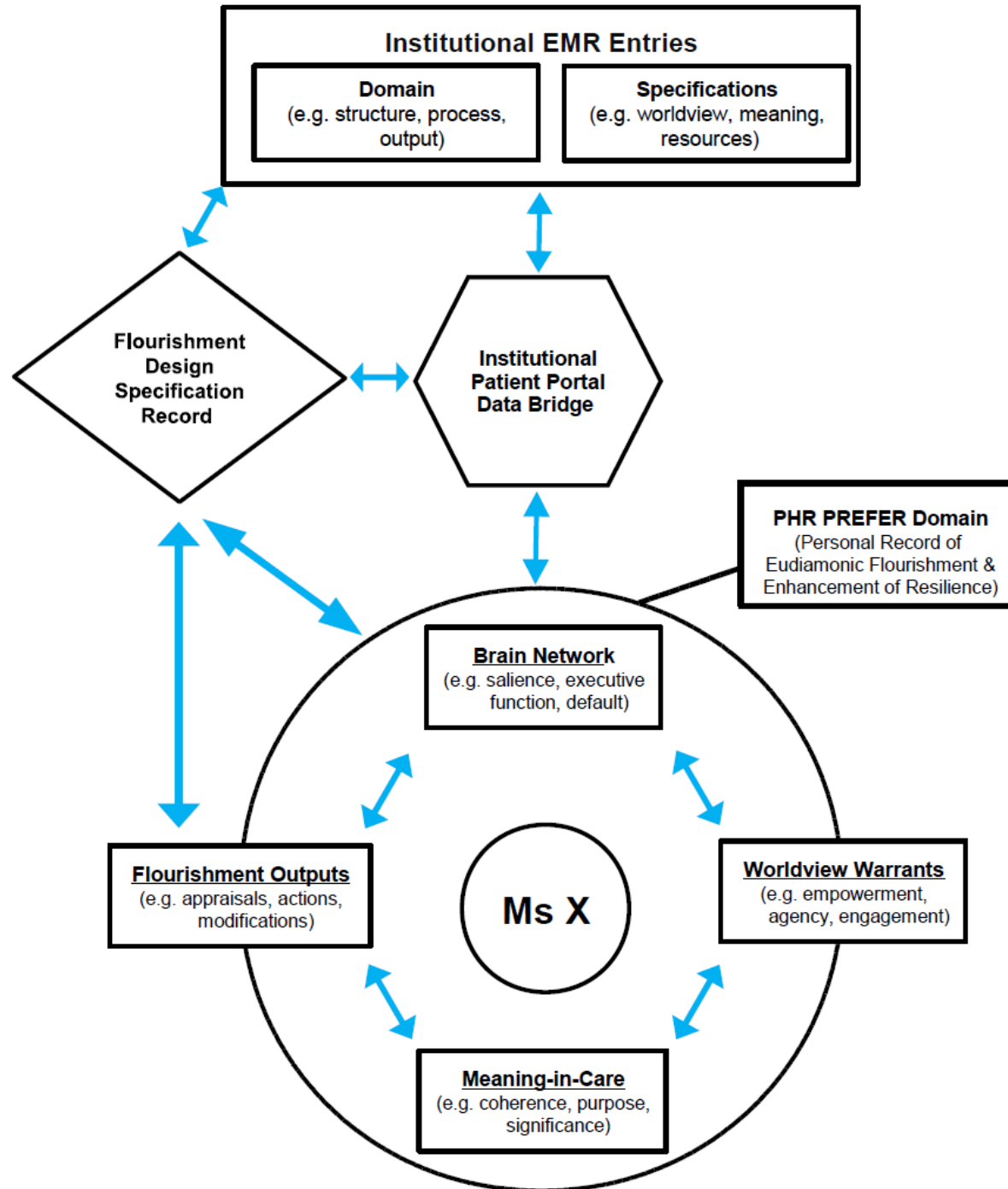
- ◆ **A complex experience** embracing *physical, mental, social, and behavioral* processes, compromising the quality of life of many individuals.
  - SSI Commission For Evaluation of Pain

**At a fundamental level, brain networks influence the cognitive work that the mind needs to invoke in order to process emotional, social and cognitive signals.**

**Medical therapy aimed at reducing the debilitating effects of experiences need to threat the whole brain and speak to each network**

<b>Brain Network</b>	<b>Warrant (Perspective) Meaning</b>	<b>Aristotelian Activities</b> essence ↔ effects		
Saliency	<b>Empowerment (Systemic-Scholarly) Coherence</b>	Theoria theorizing	↔ ↔	Episteme science
Executive Control	<b>Agency (Business-Professional) Purpose</b>	Praxis acting	↔ ↔	Phronesis judgment
Default	<b>Engagement (Socio-Cultural) Significance</b>	Poiesis making	↔ ↔	Techne proficiency

**Figure 1. A Schematic Representation of Relationships Between Record Systems that Can Interact with the PREFER Domain of Ms X's PHR.**



Ms X has been encouraged to participate in a mindfulness training program organized by the rehabilitation institute that the therapist is associated with.

The Institute maintains an electronic medical record (EMR) system with a patient-portal feature. That patient portal has been adapted to allow users to copy institutional EMR data about them to their own PHRs. This is accompanied by a locator for the data in the EMR system.

The PHR has a domain designed using eudaimonic flourishing principles that also create hyper data links to the official copies of the institutional EMR data entries.

A PREFER domain extension has been designed to assist institute clients like Ms X to reflect on the quality, purpose and impact of the services that they obtain through the institute.



### **Scenario 1**

At the structure level the Institute sponsors a number of mindfulness and acceptance training options each with a number of trainers. Ms X has to choose one

### **Scenario 2**

At the process level, the mindfulness training program will be supported by media that legitimize the professional and business transactions necessary to engage with that program.

### **Scenario 3**

At the output level, the Ms X needs to figure out how carry out her mindfulness exercises outside of the institutional training setting in settings where she lives.

**Table 2**

<b>Scenario (Level)</b>	<b>Media Priority</b>	<b>Media Perspective</b>	<b>Brain Network</b>	<b>Worldview Warrant</b>	<b>Meaning -in-Care</b>	<b>Flourishment Output</b>
<b>Scenario 1 (Structure)</b>	Integration-Driven Assessment	Systemic-Scholarly	Saliency	Empowerment	Coherence	Salutogenic Appraisal
<b>Scenario 2 (Process)</b>	Legitimacy-Driven Implementation	Business-Professional	Executive Control	Agency	Purpose	Resilient Action
<b>Scenario 3 (Output)</b>	Insight-Driven Adaptation	Societal-Cultural	Default	Engagement	Significance	User-Driven Modification

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