From Stacia to Hyperion and Back Again

A Hypermedia Hero's Tale

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CA / API Academy
@mamund

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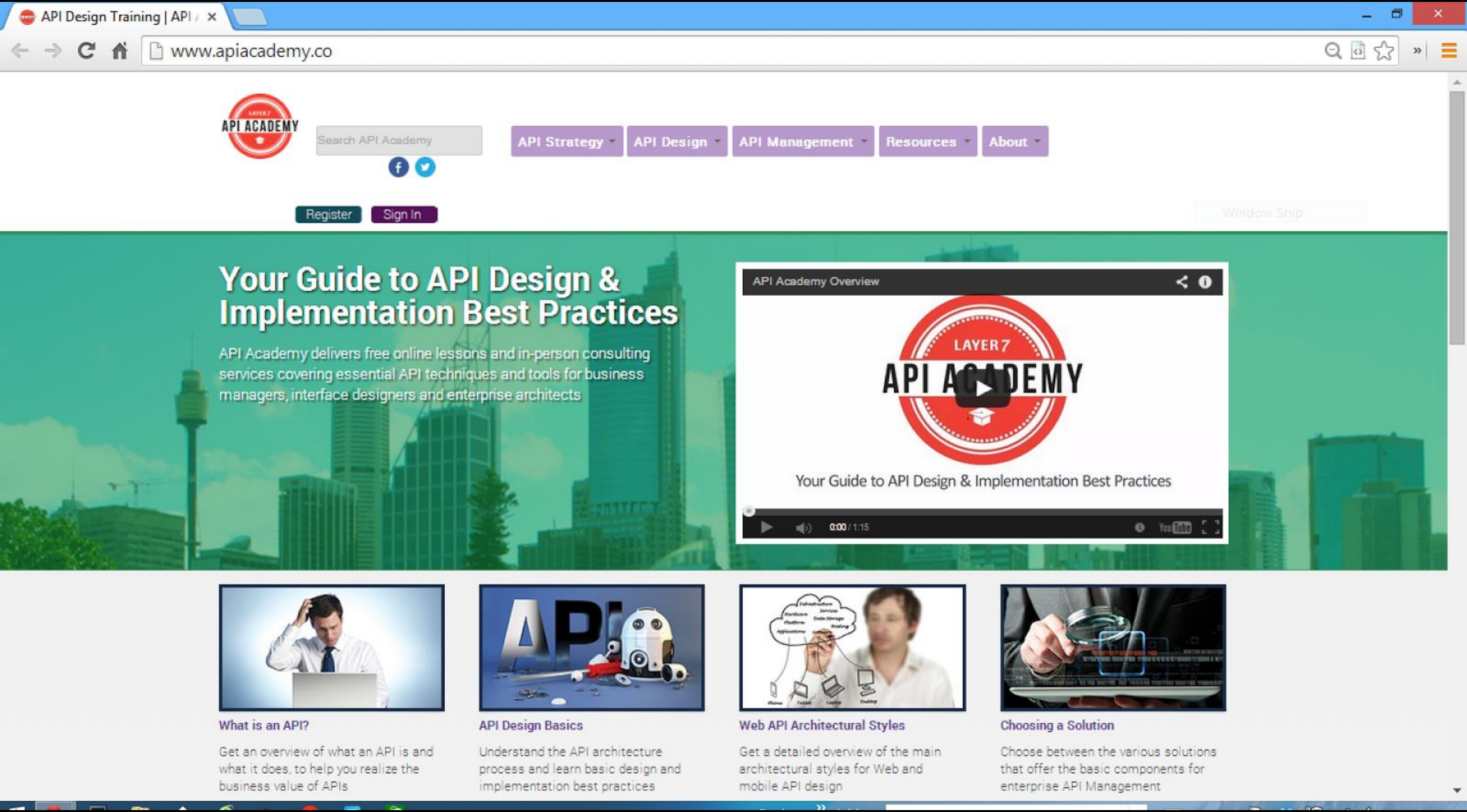


Your Guide to API Design & Implementation Best Practices

API Academy delivers free online lessons and in-person consulting services covering essential API techniques and tools for business managers, interface designers and enterprise architects

Your Guide to API Design & Implementation Best Practices

What is an API?

Get an overview of what an API is and what it does, to help you realize the business value of APIs

API Design Basics

Understand the API architecture process and learn basic design and implementation best practices

Web API Architectural Styles

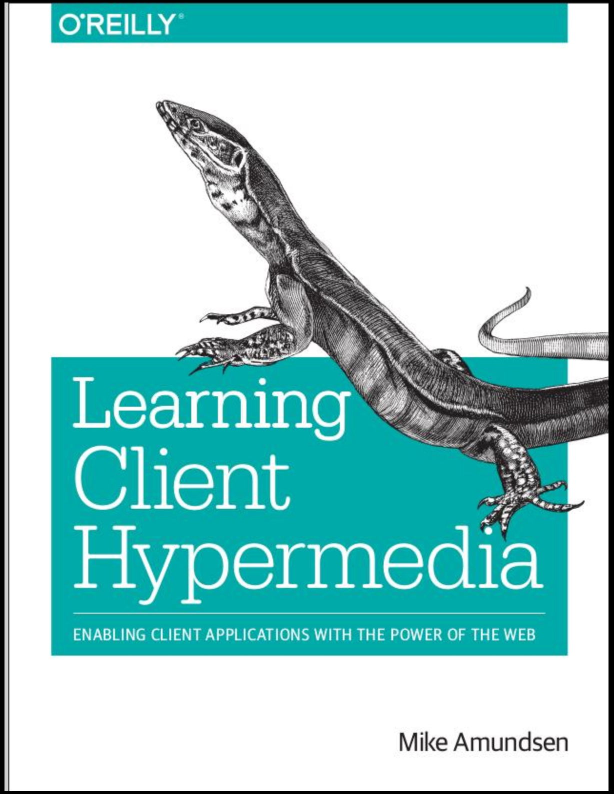
Get a detailed overview of the main architectural styles for Web and mobile API design

Choosing a Solution

Choose between the various solutions that offer the basic components for enterprise API Management

Learning Client Hypermedia

- Focus on the client side code
- Covers human-driven & M2M
- Lots of code!
- Due in fall 2015
- @LCHBook #LCHProject


O'REILLY
Learning Client Hypermedia
ENABLING CLIENT APPLICATIONS WITH THE POWER OF THE WEB
Mike Amundsen

No Code Today…

LETS GO ON AN ADVENTURE...

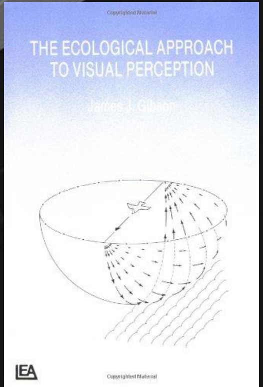
SMITHY

A

James J. Gibson

- “The Ecological Approach to Visual Perception” (1986)
- Coined the term “affordance”
- Environments provide niches of appropriate affordances
- Animals survive/thrive when they can exploit the affordances in their niche

“An affordance is a quality of an object, or an environment, which allows an individual to perform an action.”



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WORKSHOP

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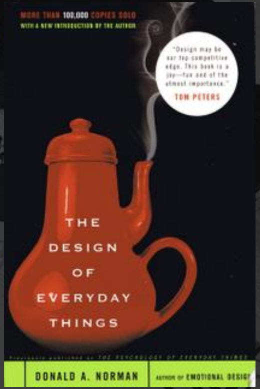
Donald A. Norman

- “The Design of Everyday Things” (1988, 2013)
- “In the Head” and “In the World”
- Seven Stages of Action / Action Lifecycle
- Helps establish the field of HCI (Human-Computer Interaction)

“*The value of a well-designed object is when it has such a rich set of affordances that the people who use it could do things that the designer never imagined.”*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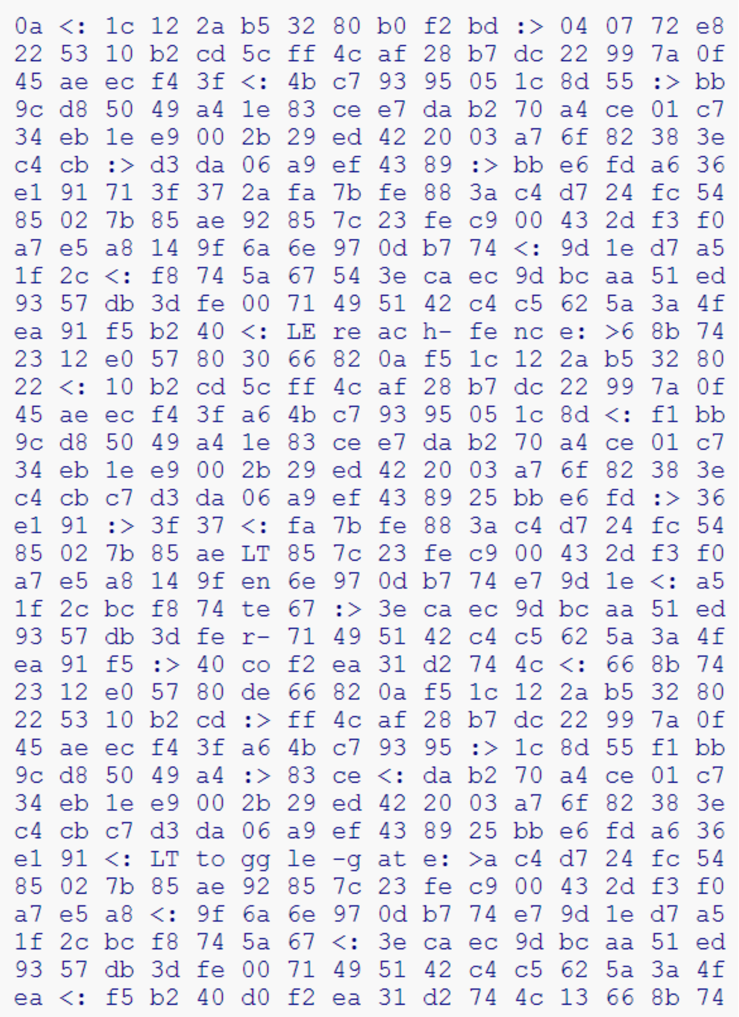
TOM PETERS
THE DESIGN OF EVERYDAY THINGS
DONALD A. NORMAN
AUTHOR OF EMOTIONAL DESIGN



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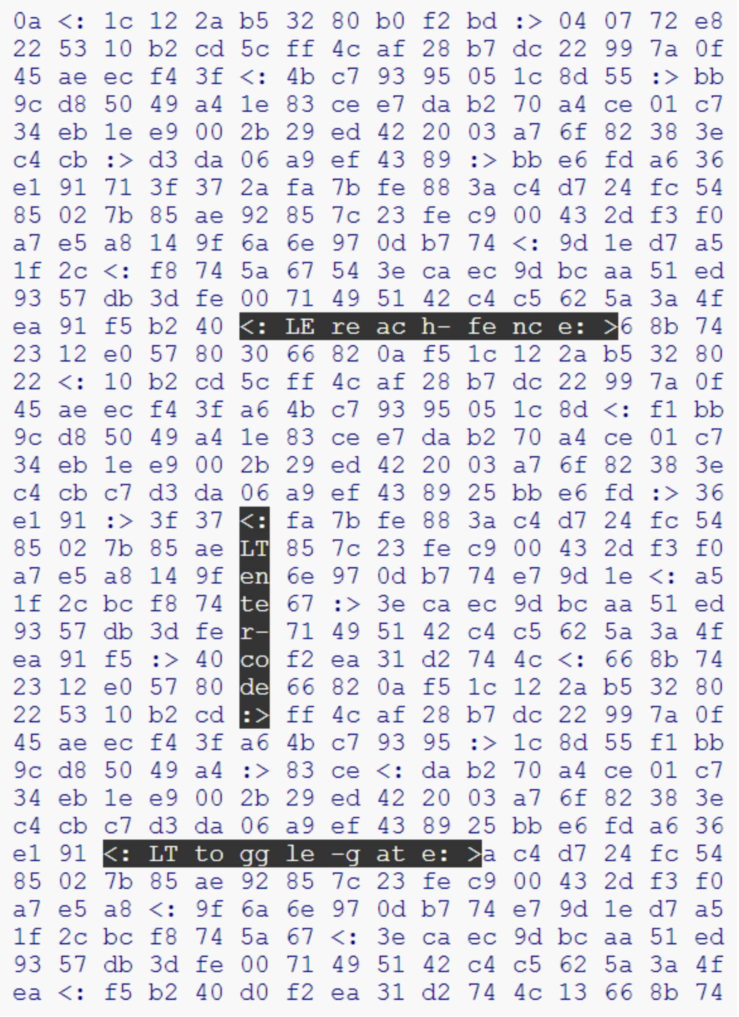

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93 57 db 3d fe 00 71 49 51 42 c4 c5 62 5a 3a 4f
ea <: f5 b2 40 d0 f2 ea 31 d2 74 4c 13 66 8b 74
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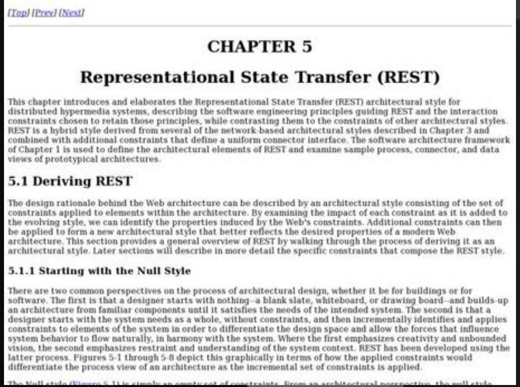
Roy T. Fielding

- “Architectural Styles and Design of Network-Based Software Architectures” (2001)
- Relying upon “Representation” and “Hypermedia”
- Inventor of “REST” style
- Transfer “State”, not “Objects”

“The information becomes the affordance through which the user obtains choices and selects actions.”



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CHAPTER 5

Representational State Transfer (REST)

This chapter introduces and elaborates the Representational State Transfer (REST) architectural style for distributed hypermedia systems, describing the software engineering principles guiding REST and the interaction constraints chosen to retain those principles, while contrasting them to the constraints of other architectural styles. REST is a hybrid style derived from several of the network-based architectural styles described in Chapter 3 and combined with additional constraints that define a uniform connector interface. The software architecture framework of Chapter 1 is used to define the architectural elements of REST and examine sample process, connector, and data views of prototypical architectures.

5.1 Deriving REST

The design rationale behind the Web architecture can be described by an architectural style consisting of the set of constraints applied to elements within the architecture. By examining the impact of each constraint as it is added to the evolving style, we can identify the properties induced by the Web's constraints. Additional constraints can then be applied to form a new architectural style that better reflects the desired properties of a modern Web architecture. This section provides a general overview of REST by walking through the process of deriving it as an architectural style. Later sections will describe in more detail the specific constraints that compose the REST style.

5.1.1 Starting with the Null Style

There are two common perspectives on the process of architectural design, whether it be for buildings or for software. The first is that a designer starts with nothing--a blank slate, whiteboard, or drawing board--and builds-up an architecture from familiar components until it satisfies the needs of the intended system. The second is that a designer starts with the system needs as a whole, without constraints, and then incrementally identifies and applies constraints to elements of the system in order to differentiate the design space and allow the forces that influence system behavior to flow naturally, in harmony with the system. Where the first emphasizes creativity and unbounded vision, the second emphasizes restraint and understanding of the system context. REST has been developed using the latter process. Figures 5-1 through 5-8 depict this graphically in terms of how the applied constraints would differentiate the process view of an architecture as the incremental set of constraints is applied.

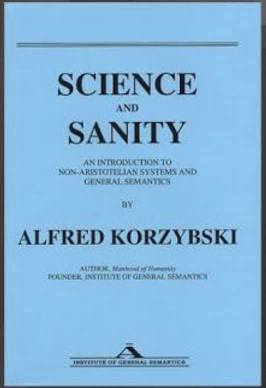
The Null style (Figure 5-1) is simply an empty set of constraints. From an architectural perspective, the null style

A

Alfred H. S. Korzybski

- “Science and Sanity” (1933)
- Coined the phrase “The map is not the territory”
- We experience the world only indirectly; via our language and its abstractions
- Humans are “time-binders”

“The only possible link between the objective world and the linguistic world is found in structure and structure alone.”



SCIENCE
AND
SANITY

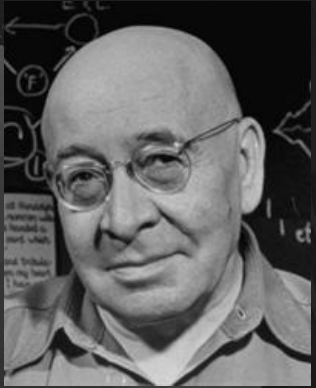
AN INTRODUCTION TO
NON-ARISTOTELIAN SYSTEMS AND
GENERAL SEMANTICS

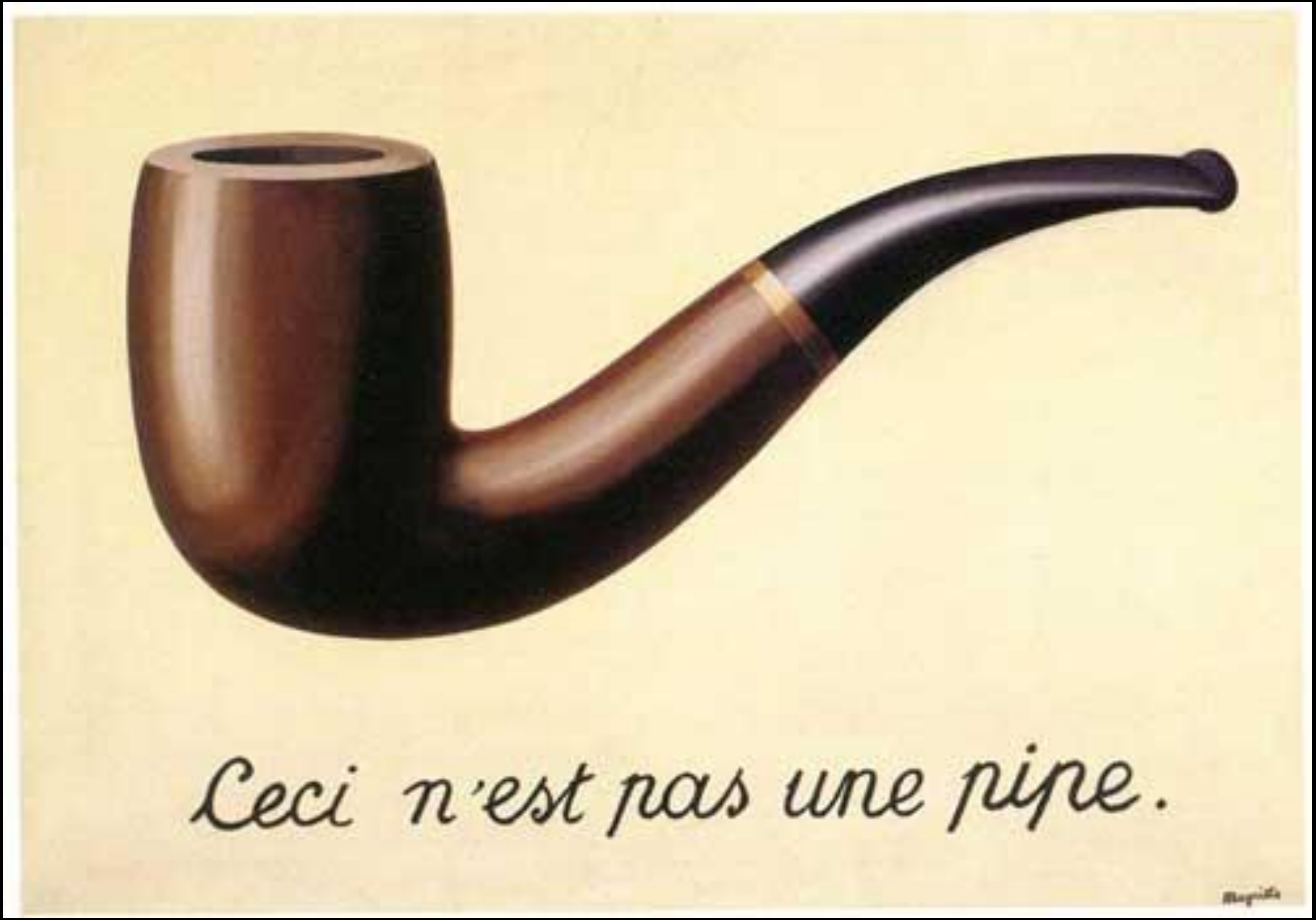
BY

ALFRED KORZYBSKI

AUTHOR, *Manhood of Humanity*
FOUNDER, INSTITUTE OF GENERAL SEMANTICS

INSTITUTE OF GENERAL SEMANTICS




Ceci n'est pas une pipe.
Magritte

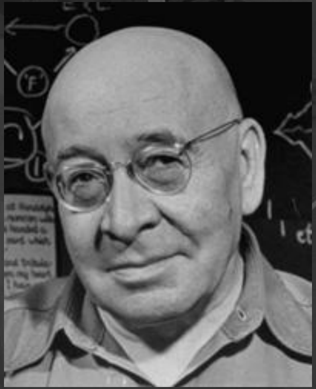
WORKSHOP

SMITHY

Programming The Web

- The WWW supports environmental niches (Media Types)
- Design affordances appropriate for the niche (Hypermedia controls)
- Build agents that can locate and activate the recognized affordances
- Create shared understanding via representations of the state of the environment

“The WWW is fundamentally a distributed hypermedia application.”
– Richard F. Taylor



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Art: Dana Amundsen