Sharing the Wealth of a Nation:
The Learning Registry Project

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@learningreg

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learningregistry.org

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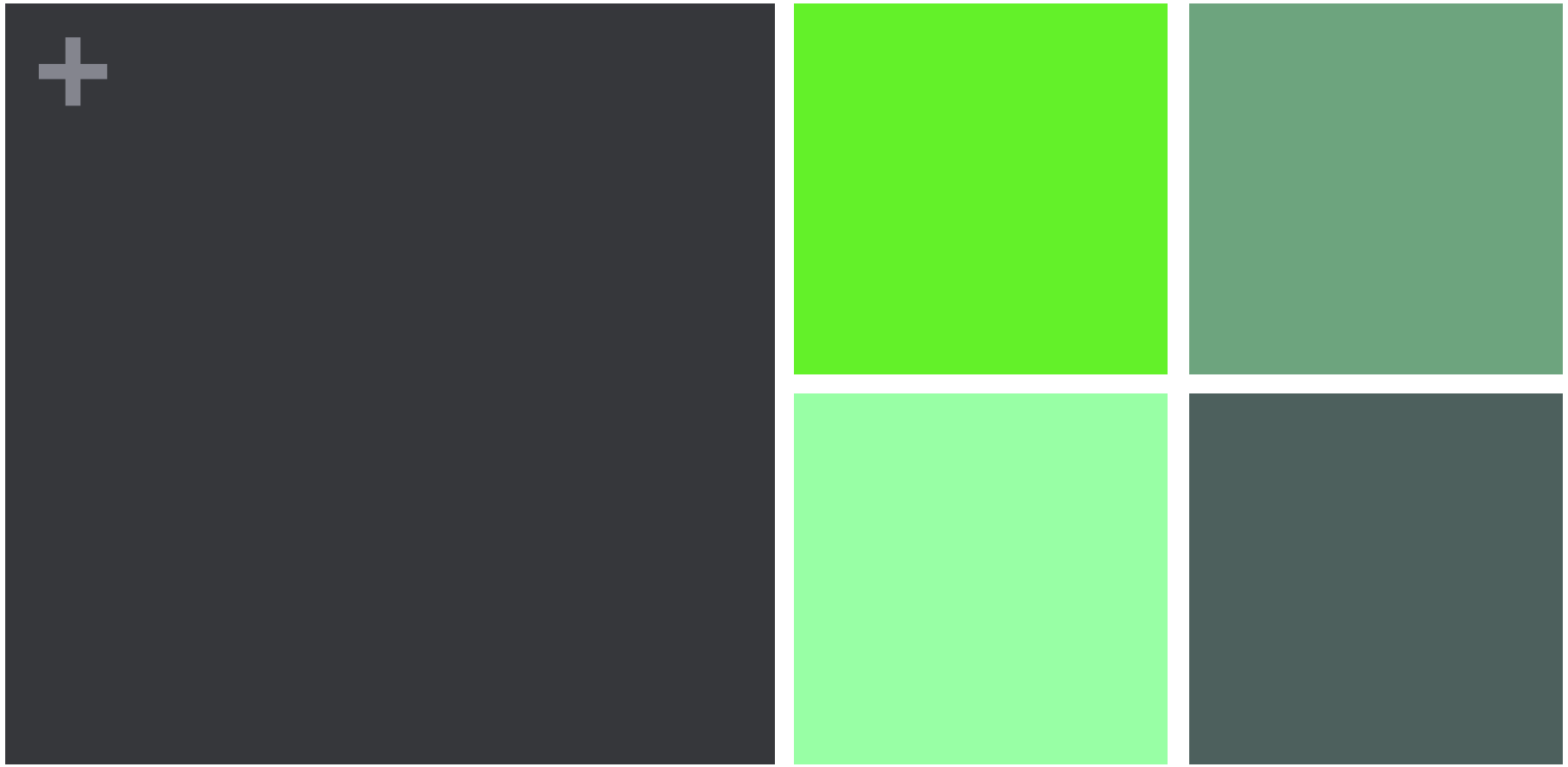

The Problem

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We live in a fragmented world with an abundance of learning resources.

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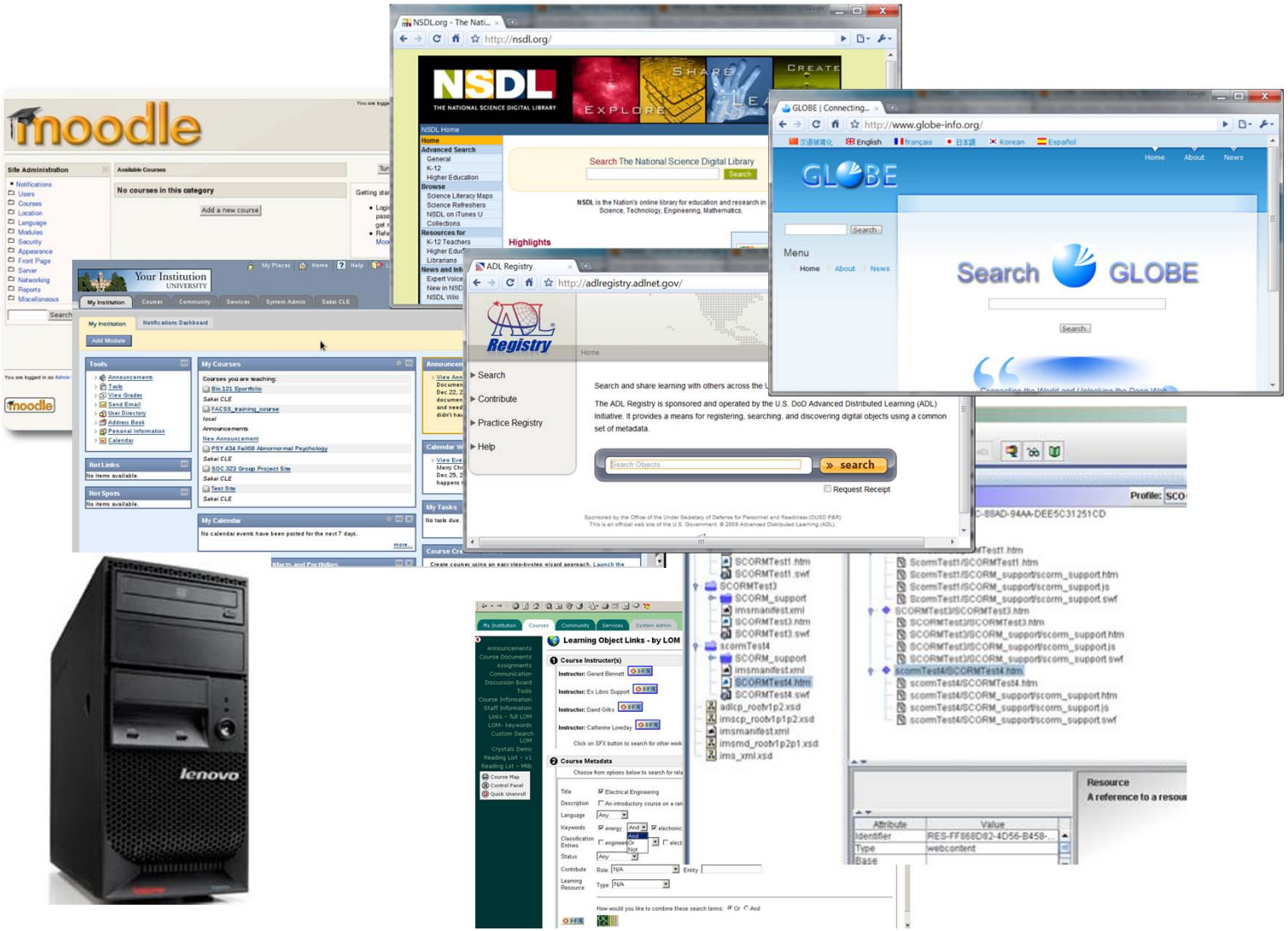
World of Learning Content



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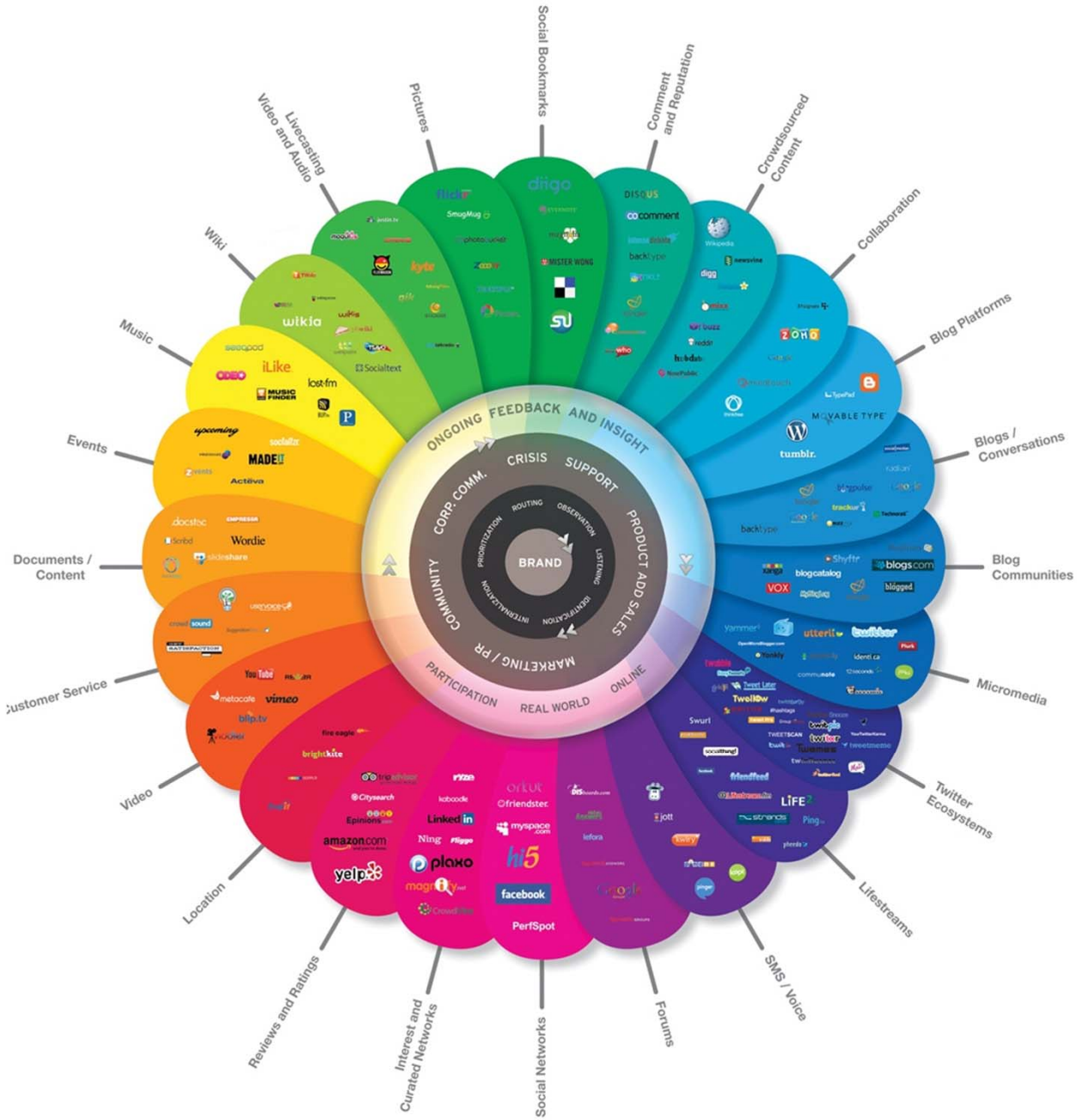
Media and Communities



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We suspect that for any learning activity, somewhere relevant digital resources already exists.

An Abundance of resources.

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One of our fundamental objectives is to be able to "easily" discover and share learning resources.

A Lack of Discoverability and Sharing.

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We want to enable contextualized learning experiences: find and deliver just the right, good stuff.

A Question of Quality, A Question of Context.

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Ultimately we want to know which learning resources have a positive effect in learning.

A Lack of Feedback.

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Users "google"; users "like" and "friend". We need to differentiate or to embrace and extend.

A Changing Web.

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We need to provide what users want and need.

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Understanding Incentives.

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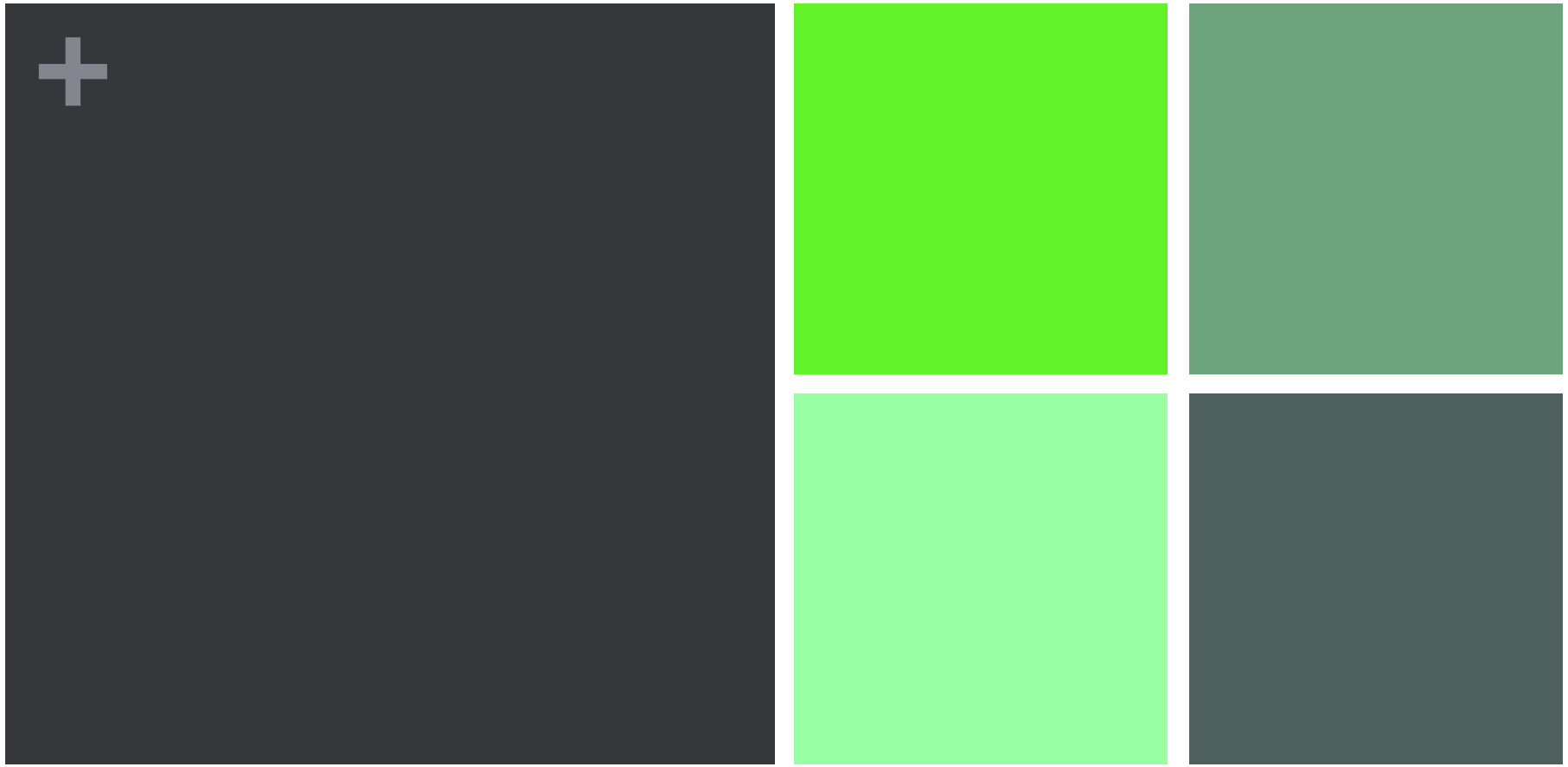

Moving Forward

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Current approaches just don't cut it.

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Past versus Future

Past	Future
Limited computing (availability & power)	Ubiquitous
Limited bandwidth (speed & connectivity)	Always on, everywhere
Closed enterprise solutions (lock in)	Connected systems, tools, data
Learning as a special event (time, place)	Learning as part of all activities
Predefined learning strategies (by instructor/author)	Dynamic, situational, adaptive learning
Organizational focus	Individual/community focus
Just in case	Embedded
Disconnected learning events	Single life-long learning stream
Uncoupling content from enterprise	Building linked resources networks
ROI from reuse	ROI from scale

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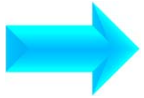
Current Trends

Social Networks, Social Media and Web 2.0

Context

Linked Data and Semantic Web



Conventional Repositories and Registries

Standards, Specifications and Profiles

Harmonization and Integration

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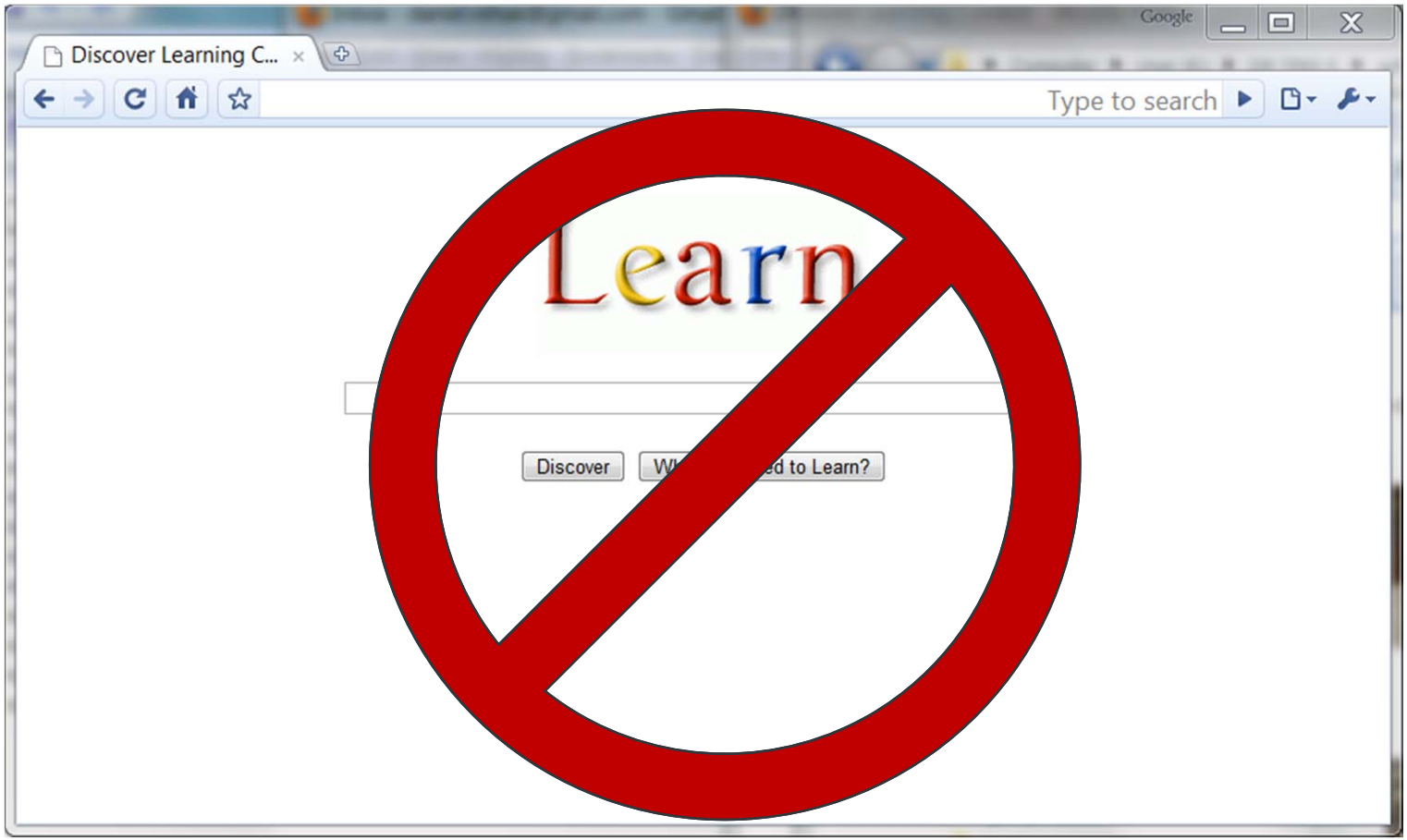
Googlized Discovery



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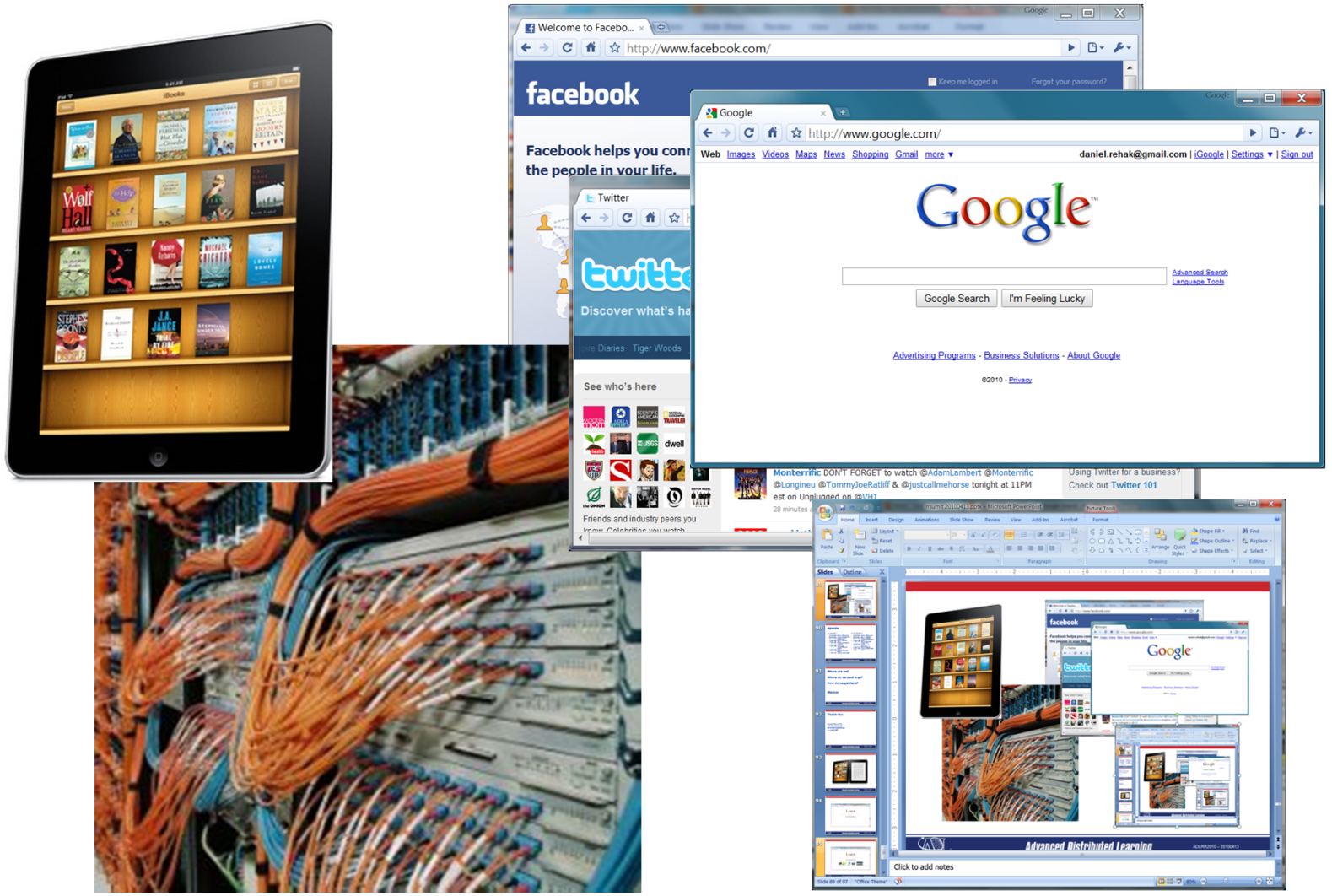
Web 2.0 Learning



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Web 2.0 Learning

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We need to enable a learning layer on Web 2.0.

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Innovate the infrastructure, not solutions.

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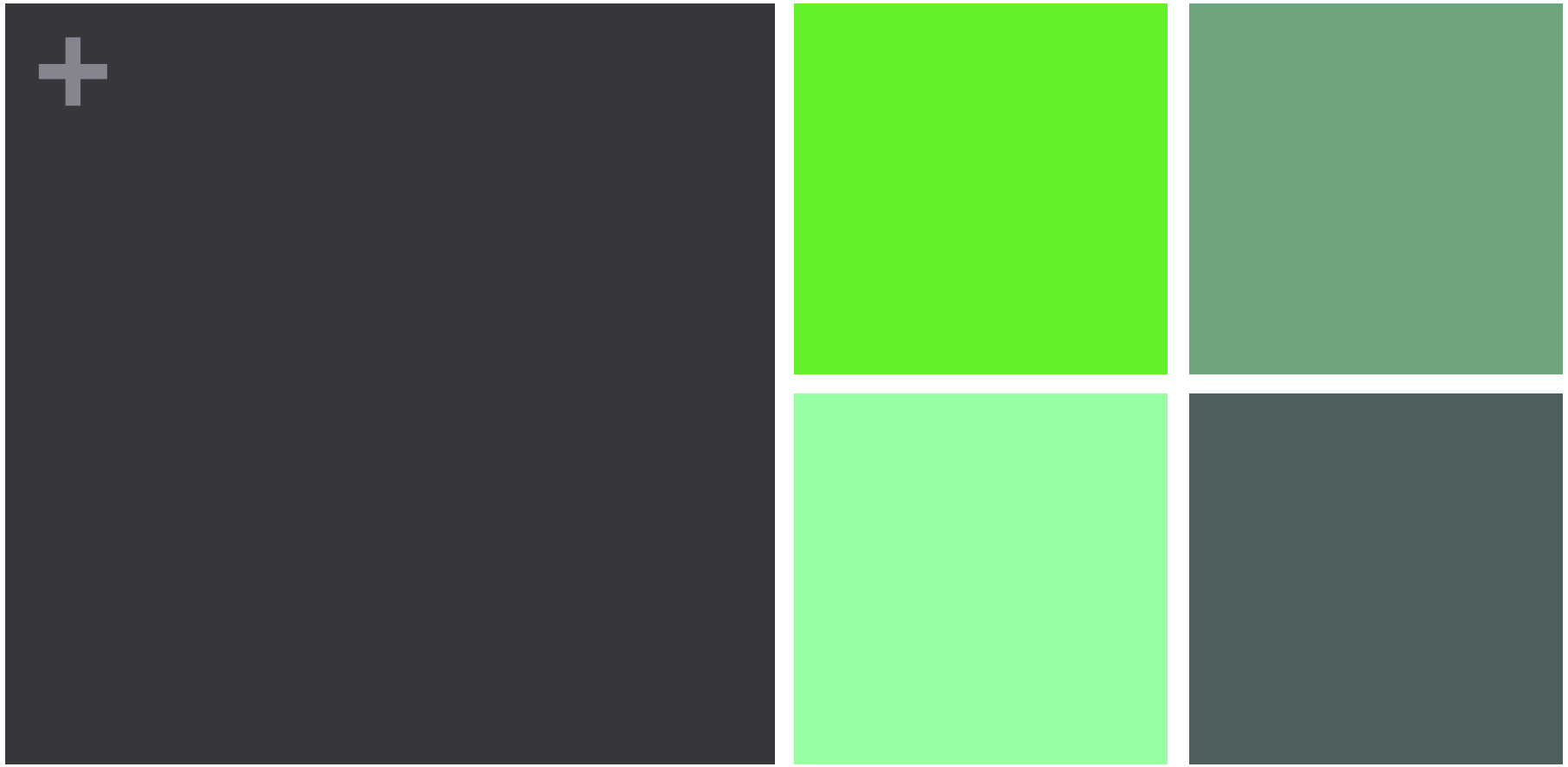

Goals and Principles

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Build a shared vision.

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Guiding Principles

- Focus on users
- Collaborate widely
- Produce results that work "at scale"
- Address the entire learning resource lifecycle
- Leverage learning resource differentiators: trust, authority, persistence, curation
- Work in today's web and social environment
- Be agile, sustainable and cost effective
- Understand policy and business imperatives
- Target improved, contextualized learning with measurable learning outcome

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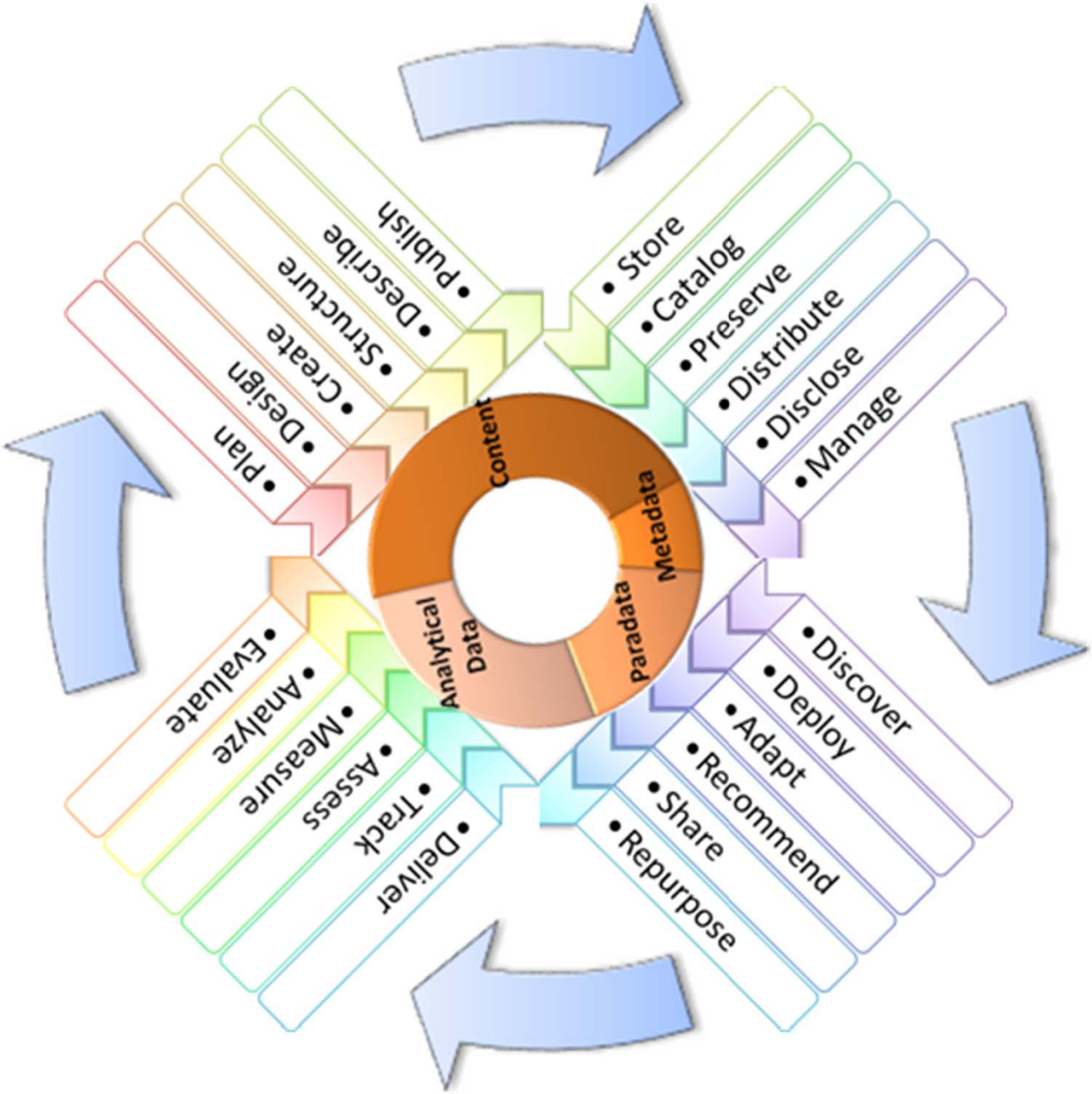
Resource Life Cycle



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Social Web

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Resources, Context, Data +

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Resource Focus Timeline

- (Learning) Resources
- Description → Metadata
- Context → Paradata
- Use → Analyticaldata

1990's

2000's

2010's?

????

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We want to address fragmentation to improve learning, using technology and social collaboration.

Guide by Principles.

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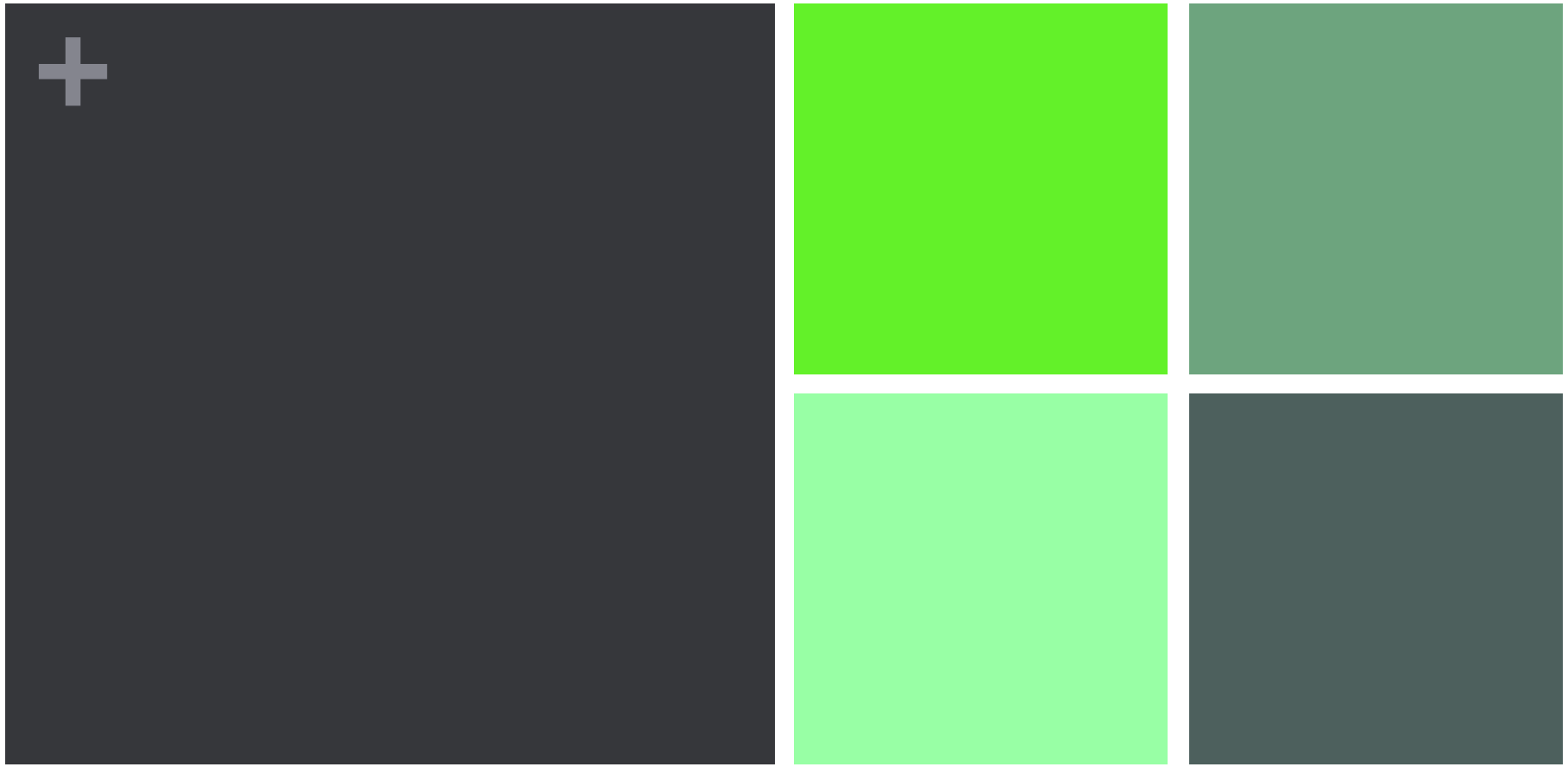

Learning Registry

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A (Community) Project.

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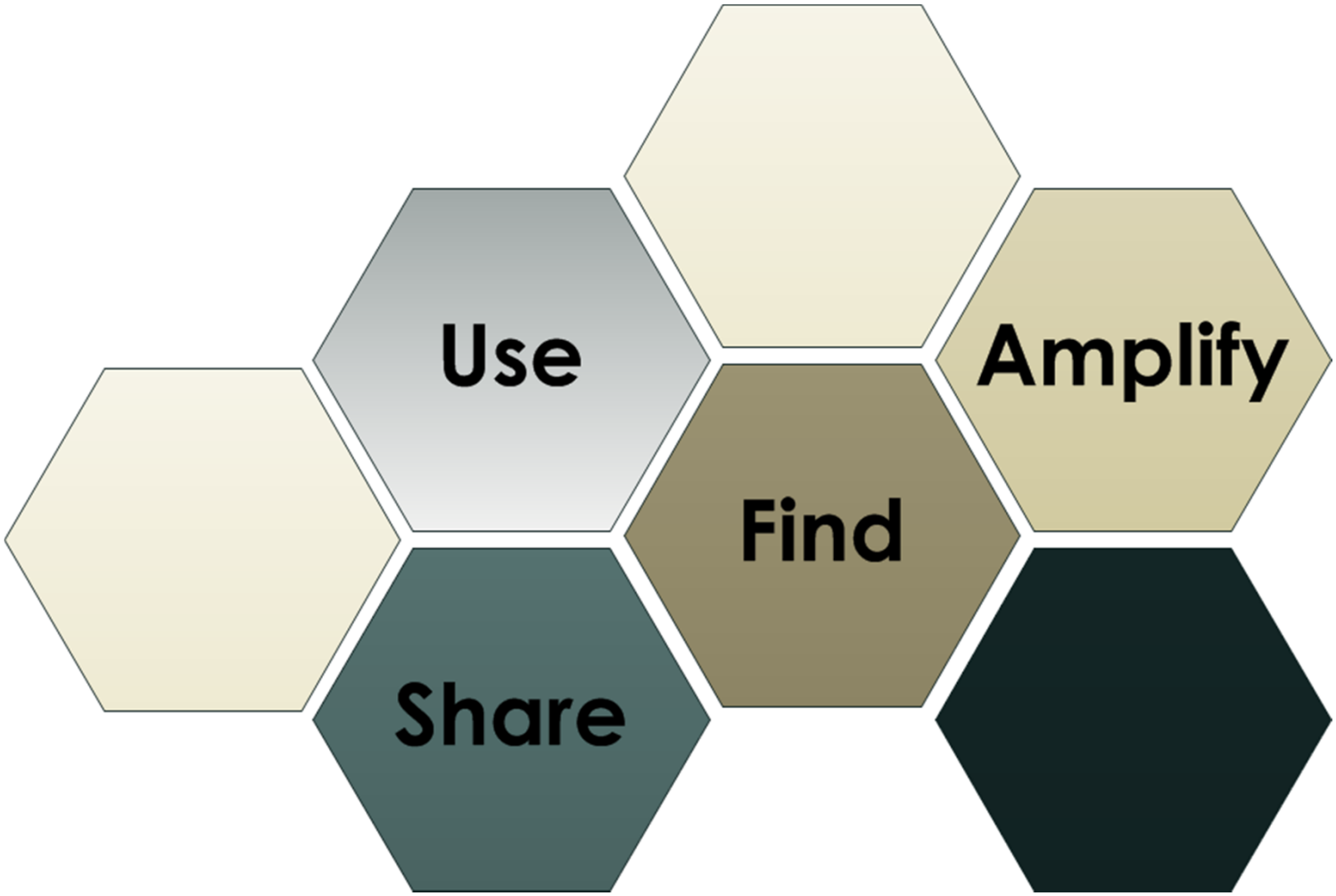

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Make learning resources easier to find, access and integrate into learning environments "wherever" they are stored.

Functionality.

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Enable anyone to build and access better, more interconnected and personalized learning solutions for the 21st century.

Learning Focus.

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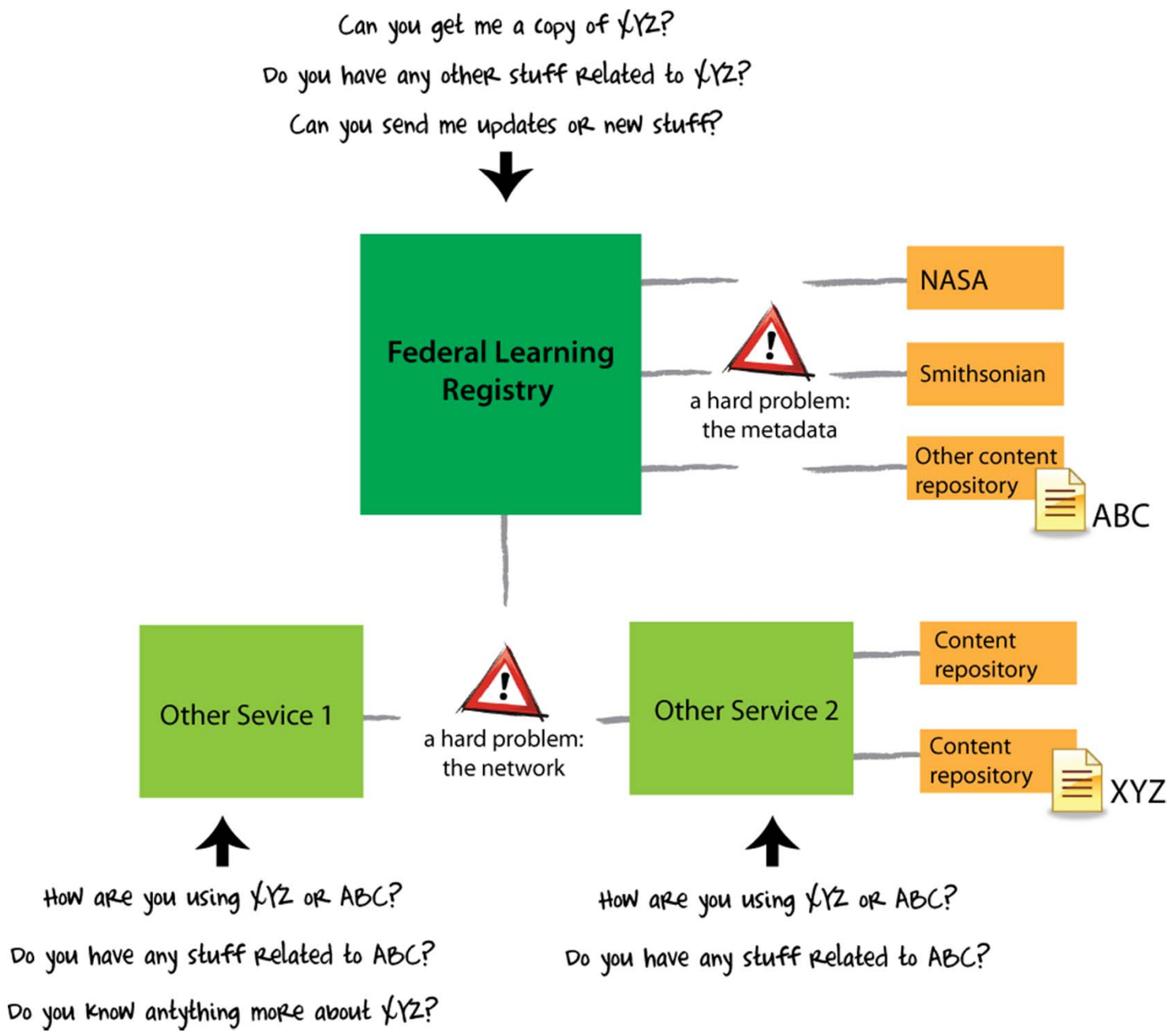
Capabilities



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Knowledge Amplification

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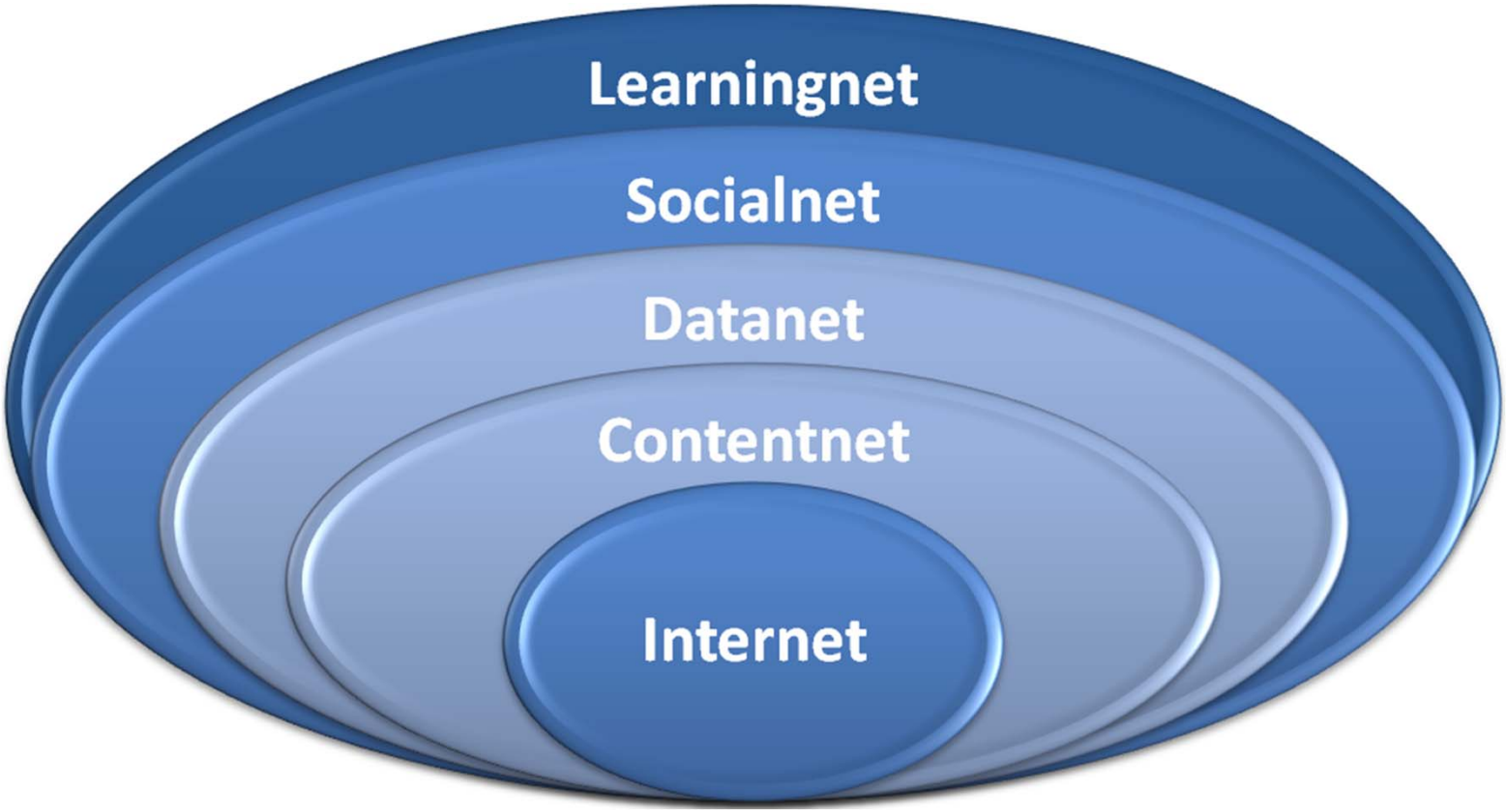
Network Layers



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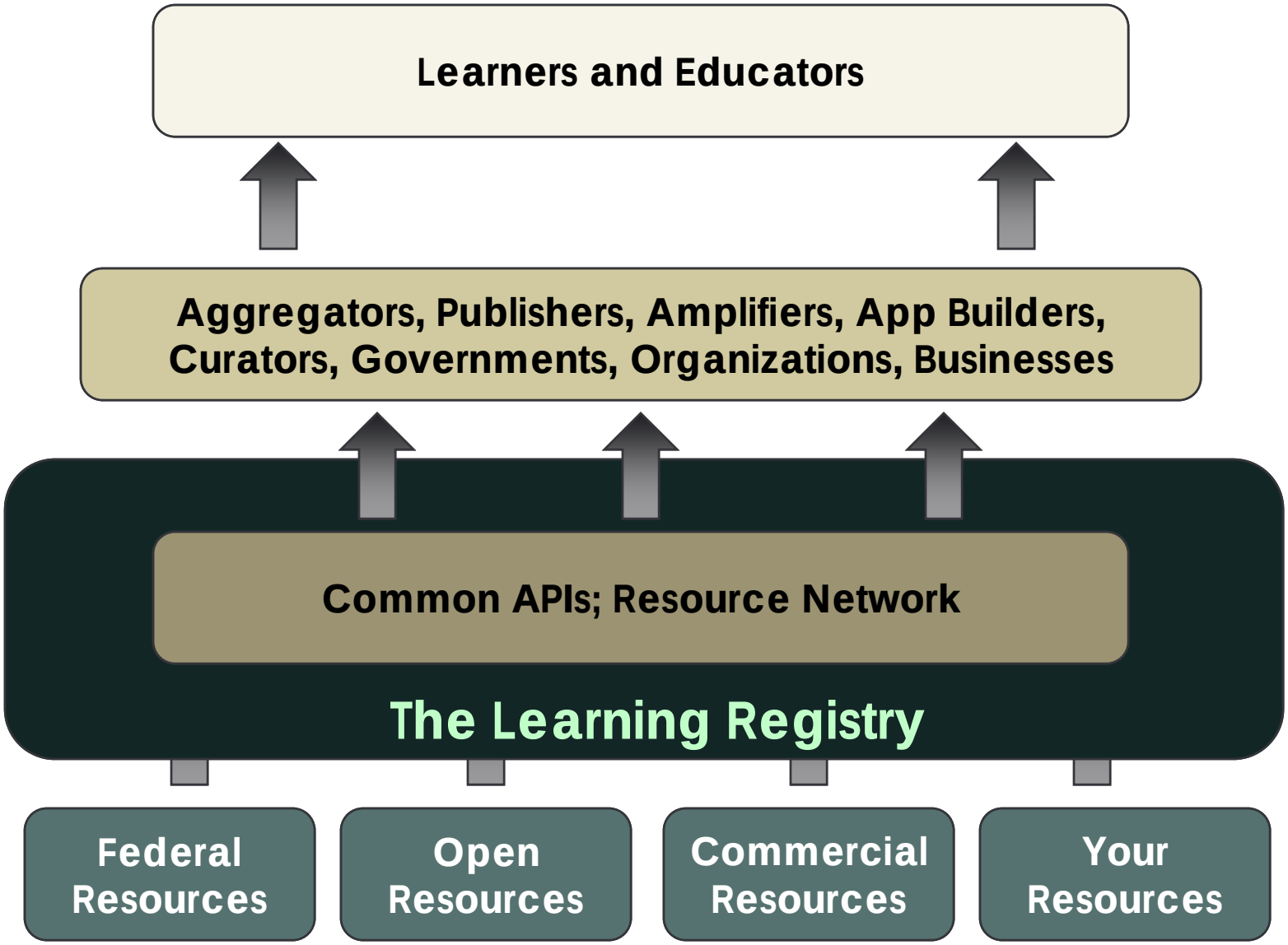
Learning Registry Stack



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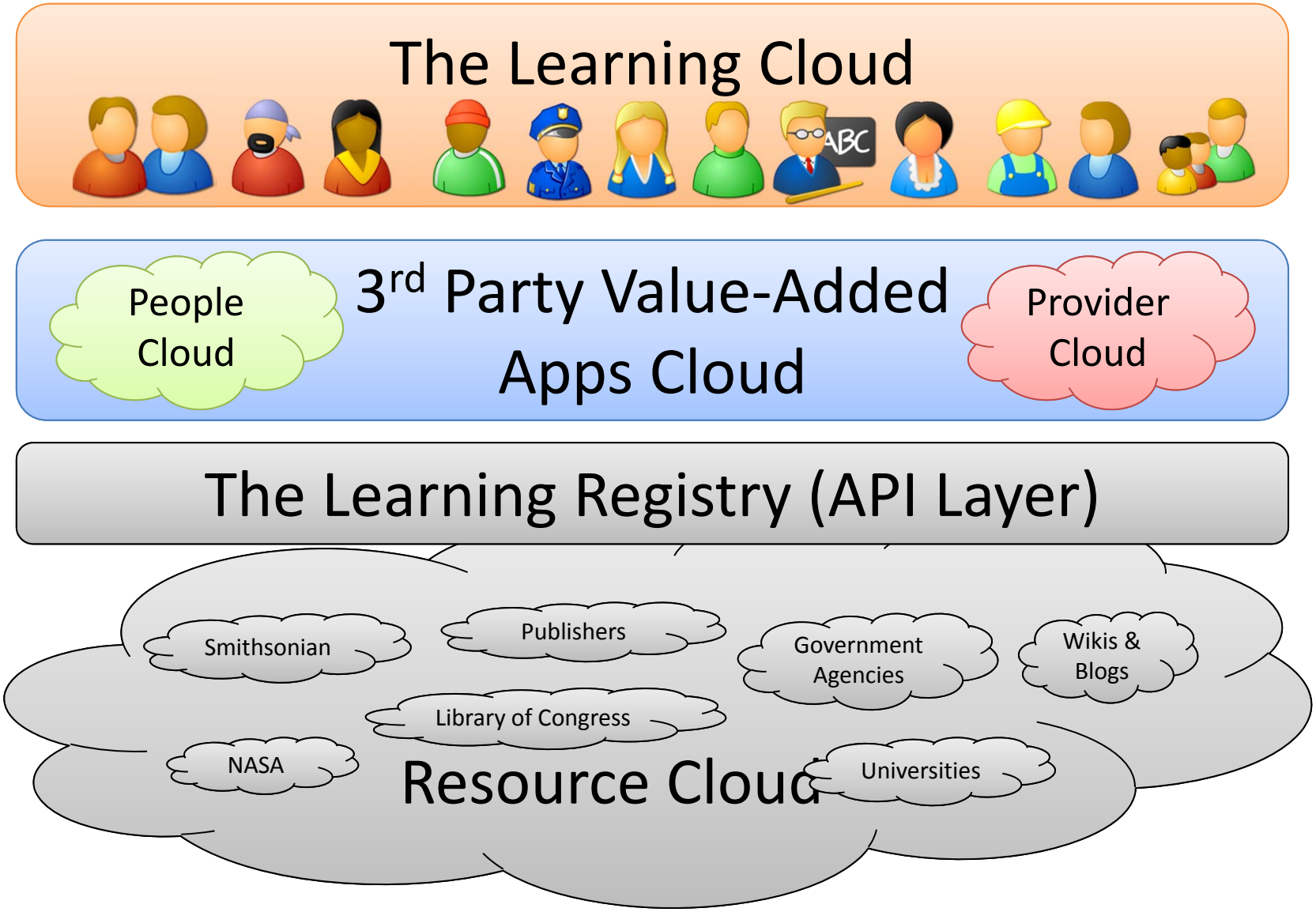
Learning Registry Clouds



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Learning Resource Network

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Actions: Verbs

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Actors: Nouns

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Objects: Nouns

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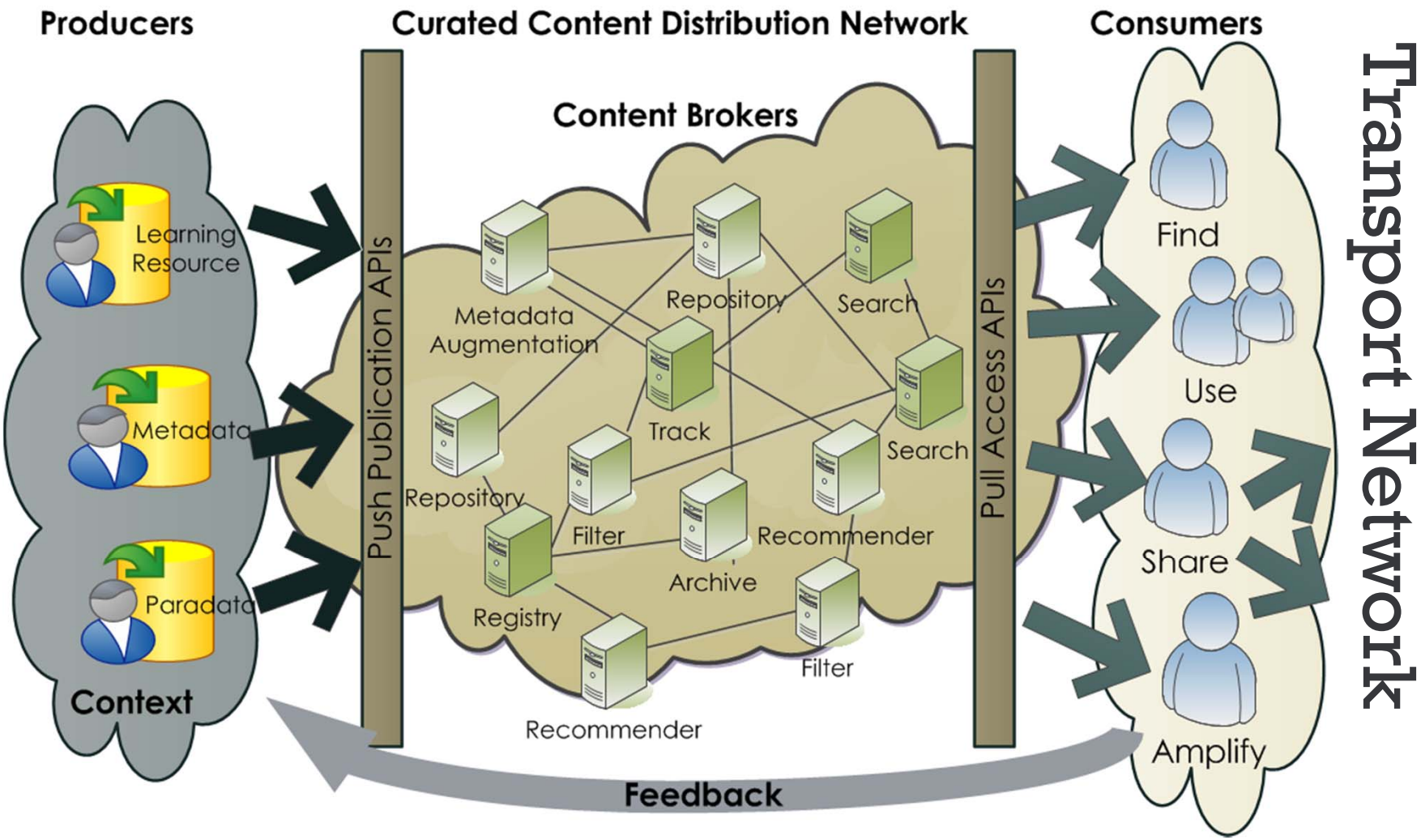

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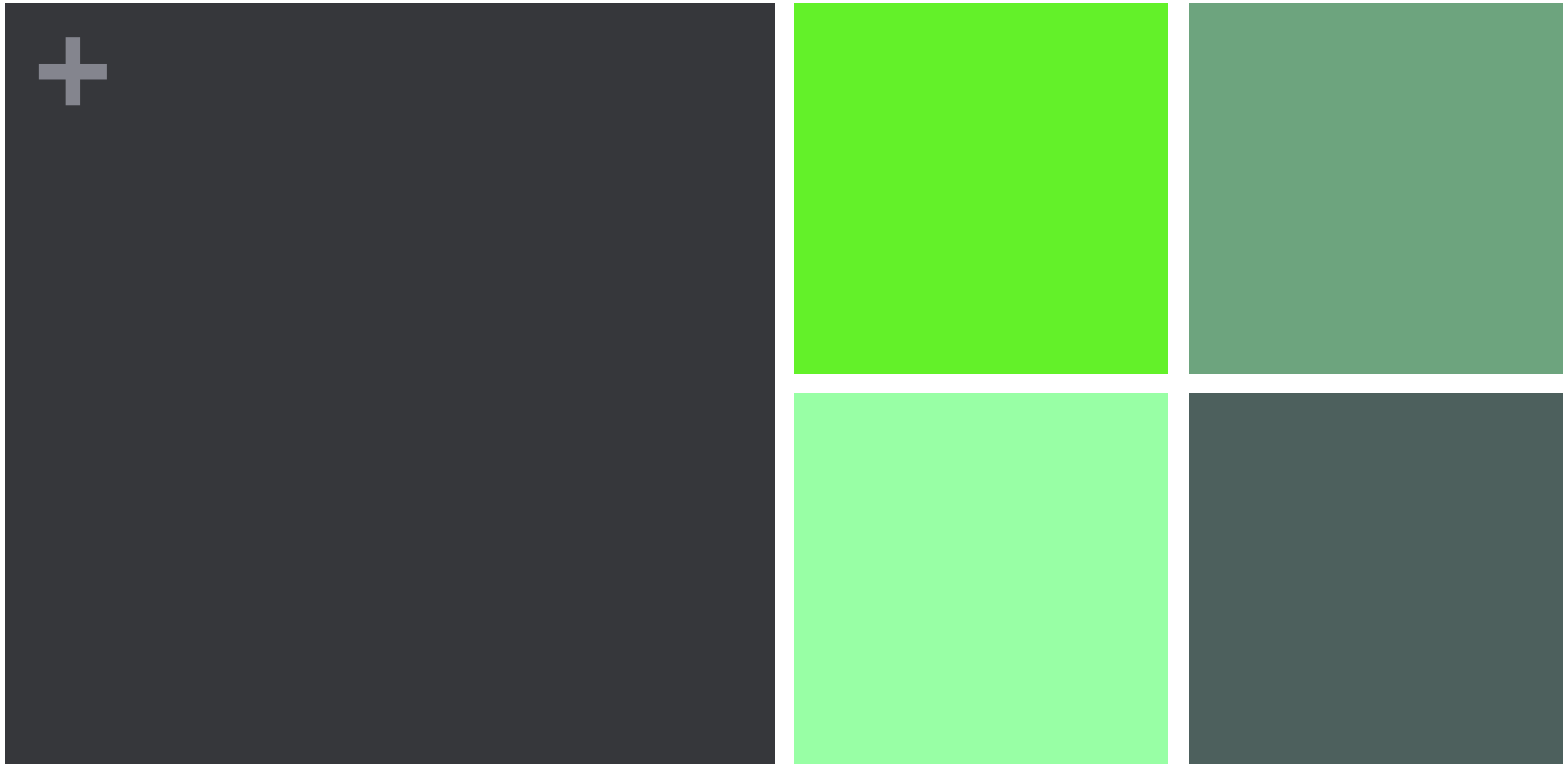

Scope

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What's the least we can do?

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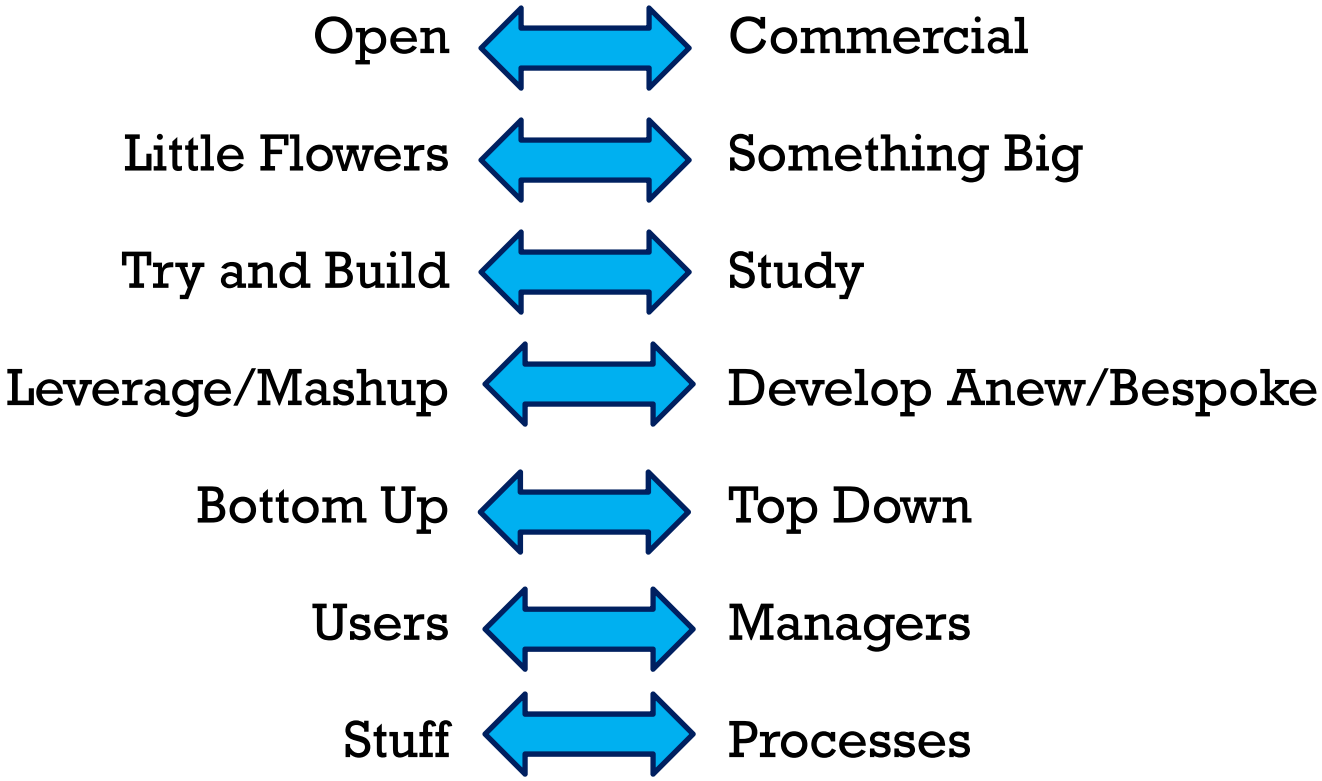
Opposing Views



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Solution Directions

- Be enabling: provide capabilities, not solutions
- Anyone can publish, use, amplify
- Develop a resource-oriented infrastructure
- Separate resources from transport
- Keep it as simple as possible, but no more
- Address known technical challenges:
  - Rights, Trust, Multiple metadata formats
  - Copy versus link
  - Network transport technologies and self discovery

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Be Enabling

- Provide capabilities not solutions
- Let anyone participate
- No default “winners”
- Anyone can provide information on anything
- Identity exists
- Re-aggregation is natural
- Usage/utility is shared
- Trust is known

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Resource Oriented Infrastructure

- Single sign on & identity management exist
- Purchasing and license acquisition is easy
- Re-using, re-mixing, re-purposing is easy (or even possible)
- Communities can exist and find each other
- Users control their data and privacy (no more stovepipes)
- Analytics everywhere: it's possible to see the bigger picture
- Multiple voices speak (e.g., multiple metadata)
- Diverse relevance and recommendation sources
- Value is intensified by diverse parties

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Technical Criteria

- Lightweight
- Open access and derivation
- Opt-in & self-assembling
- Easy "on-ramp"
- Simple use-cases have simple implementations
- Workflow is handled but not required
- Decouple resources from transport
- Open "reference" implementations & testing harnesses
- Uses existing standards
- Federated identity of resources (plus provenance)
- Federated discovery
- Semantic models

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Known Technical Challenges

- Multiple metadata formats
  - Does it enhance use?
- Rights expressions
  - How to mix OERs and commercial resources?
- Trust
  - What has to be mandated?
- Call-by-value versus Call-by-name
  - When to copy versus when to link?
- Network technologies
  - What works (push, pull, store & forward, call back, HTTP only, …)?
- Network self assembly
  - How to automatically build the network?
- Semantic Technologies
  - Where does the semantic web fit?

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Recommender System Challenges

- Can we build an effective metadata-based recommender system for contextualized, personalized, learning resource discovery?
- What metadata, paradata, analytical data do we need?
- Can we get the data?
- What's the algorithm? Do we care?
- How do we know it works?
- How do we go about building it?

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Focus on what differentiates digital learning resources and enables a learning resource ecosystem.

Technical Scope.

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No one has exclusivity over learning.

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Community Scope.

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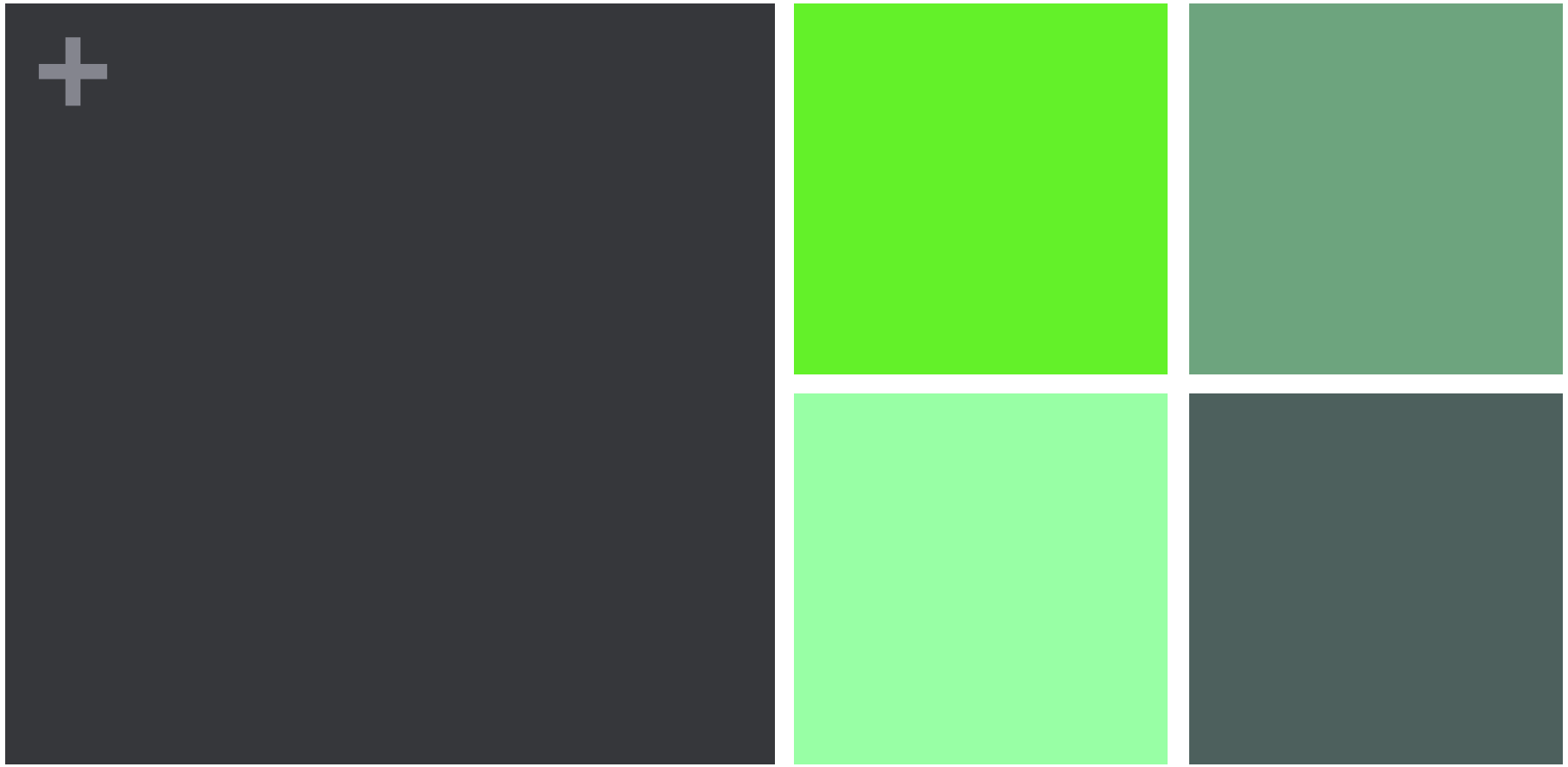

Activities

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We are bringing the community together to benefit learning and learners.

Assembling a Best Practices Community.

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We need to work together to build a common technical approach.

Building a Learning Resource Network.

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We need to provide sustainable, "industrial strength" tools.

Creating Learning Resource Tools and Applications.

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Standards Landscape

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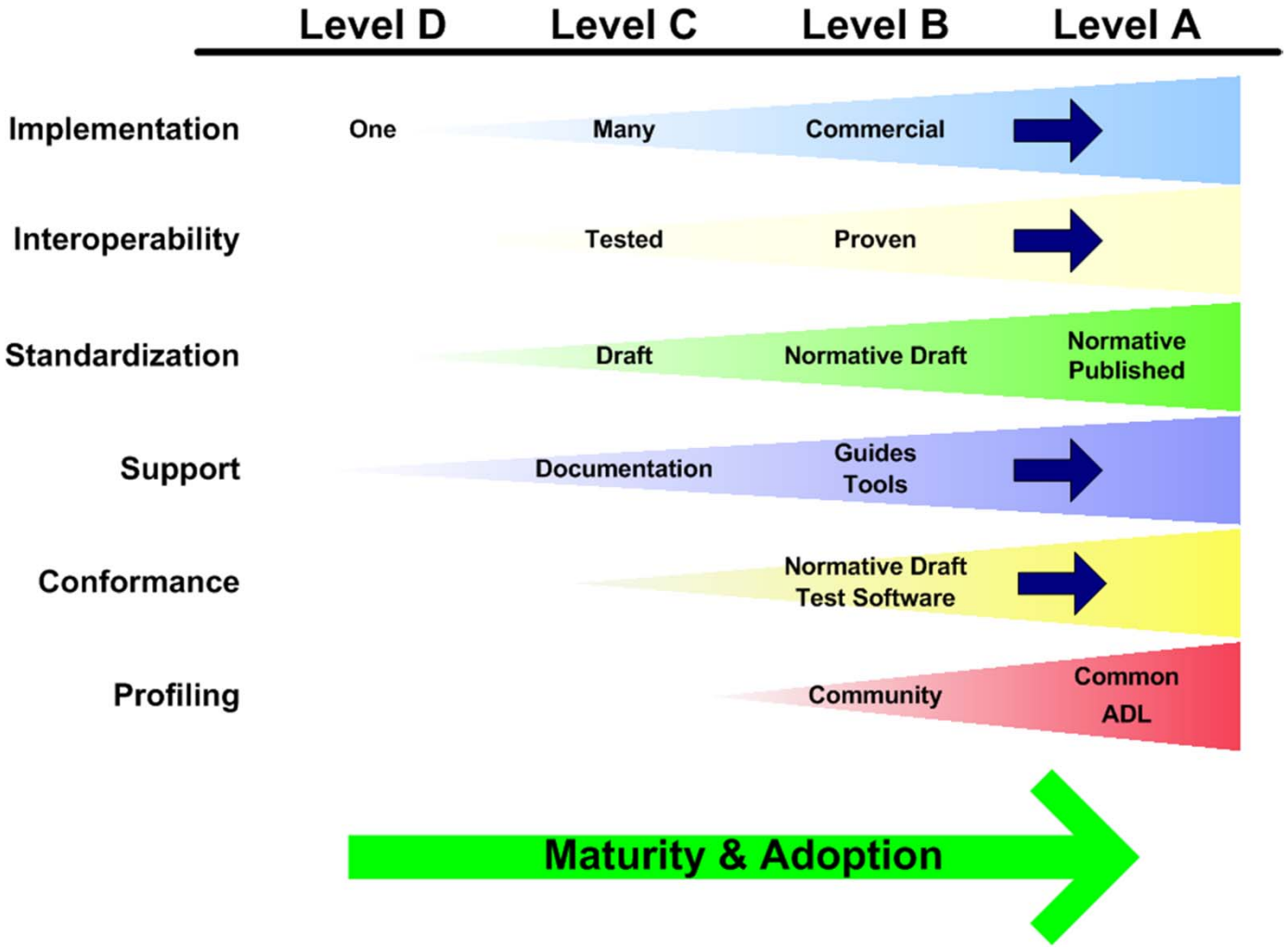
Standards Maturity



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Standardize, if necessary, based on maturity and adoption.

Developing Standards.

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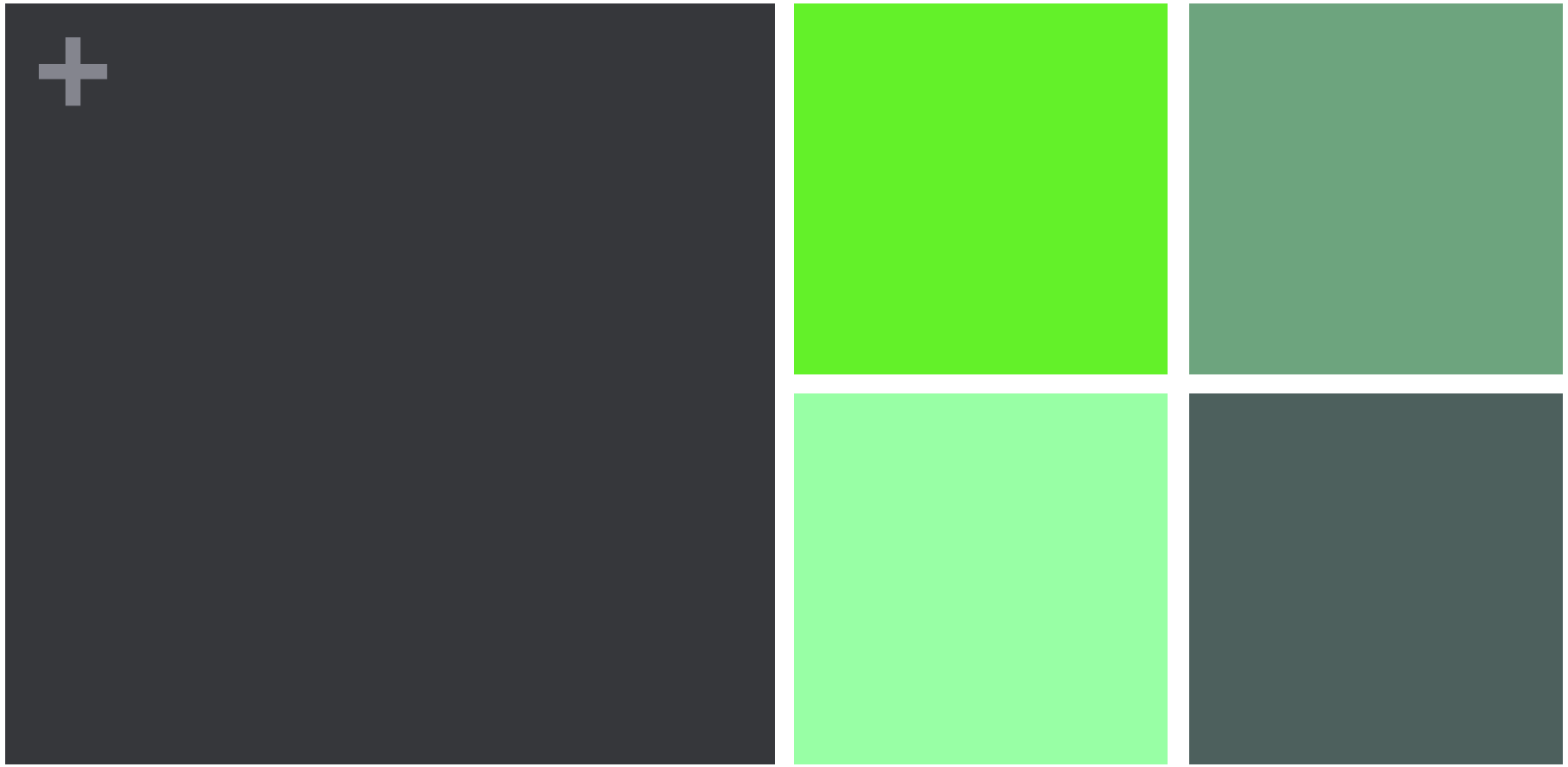

Process

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Open, Trusted, Sustainable, Transparent, Balanced.

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+ Community

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Participation

- Be part of the community
  - Be provider (learning resources, metadata, paradata, analytical data)
  - Be a consumer
  - Help amplify
  - Discuss on open fora
- Help Build the network
  - Come in focus meetings
  - Build and test tools, APIs, specifications
  - Be part of the technical work group

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We'll welcome anyone who wants to make a difference.

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Collaborations.

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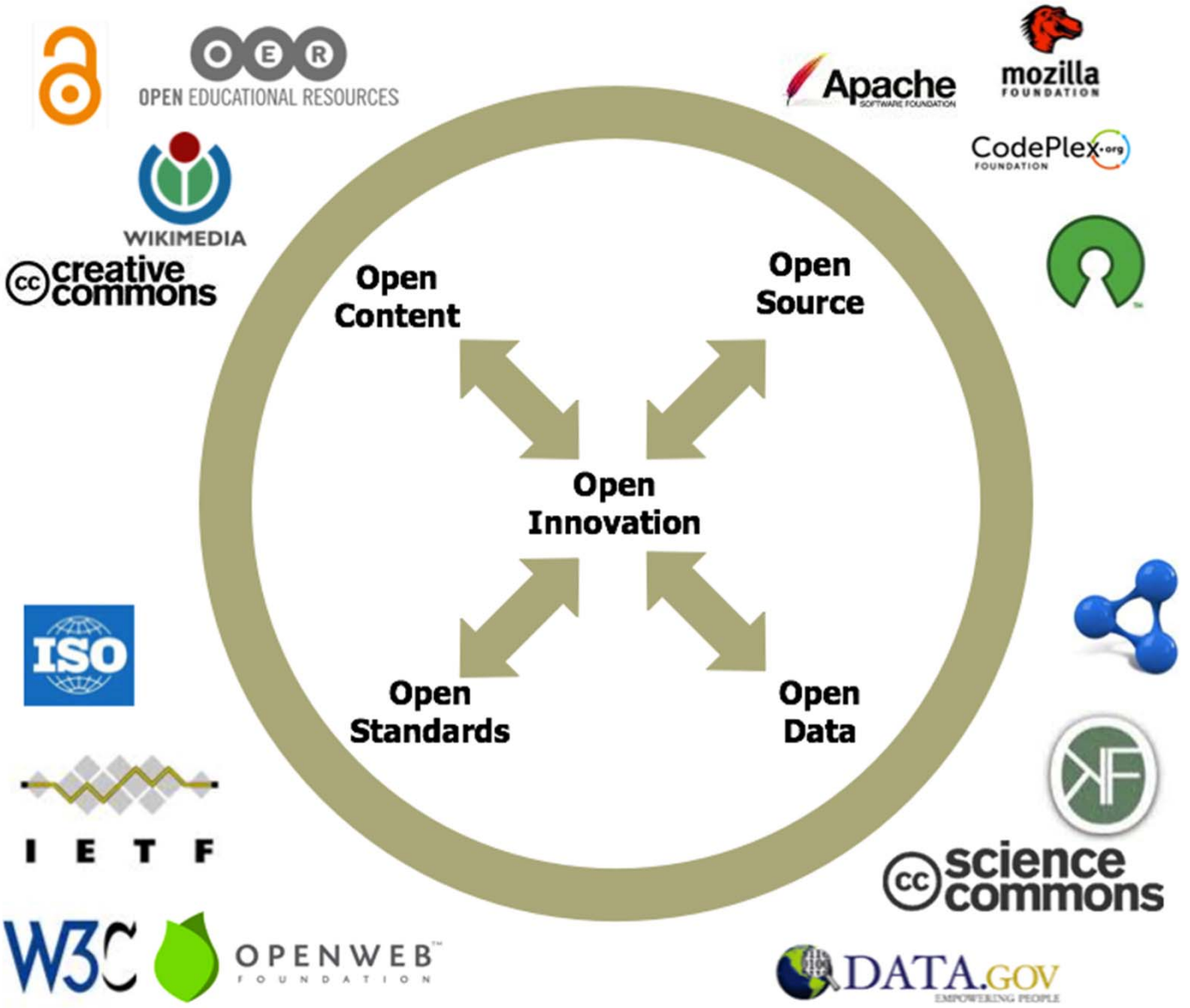
Open Dimensions



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Open processes,
open data,
open products,
open standards.

Openness.

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We must plan for the long term.

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Sustainment.

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It's time to "just do it".

Next Steps.

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