

Tony Russell-Rose
UXLabs + City University London

Designing the Search Experience

Agenda

- The landscape of search
- A framework for design
 - Dimensions of search user experience
- Patterns of search behaviour
 - Design implications
- Design resources
- Conclusions

The landscape of search

Understanding the territory



The classical view



Web Search

- Multiple engines
- Single source

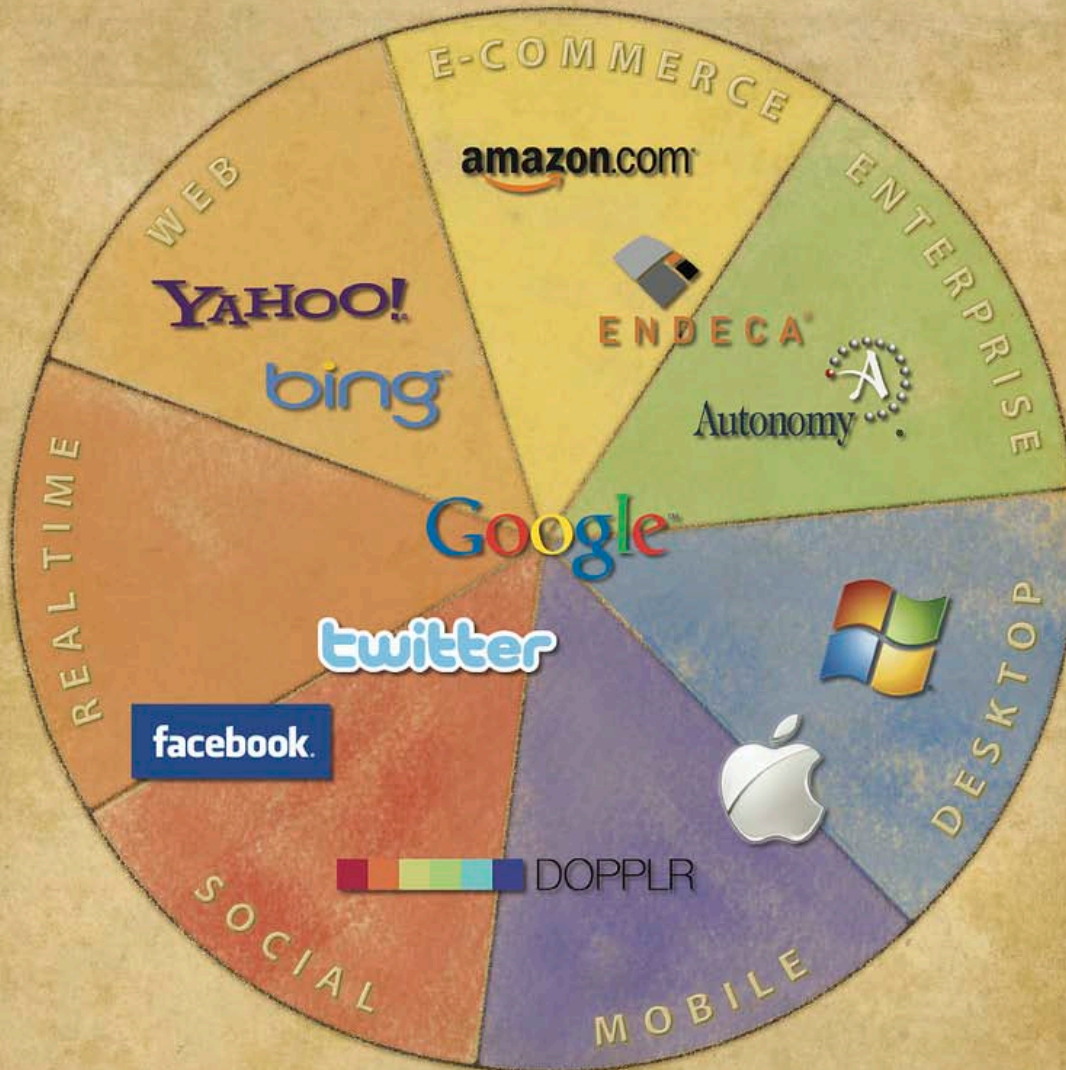
■ Key differences

- Rich link structure
- Redundancy
- Adversarial search & spam
- User goals & tasks:
 - fact finding to *exploratory search*



Enterprise search

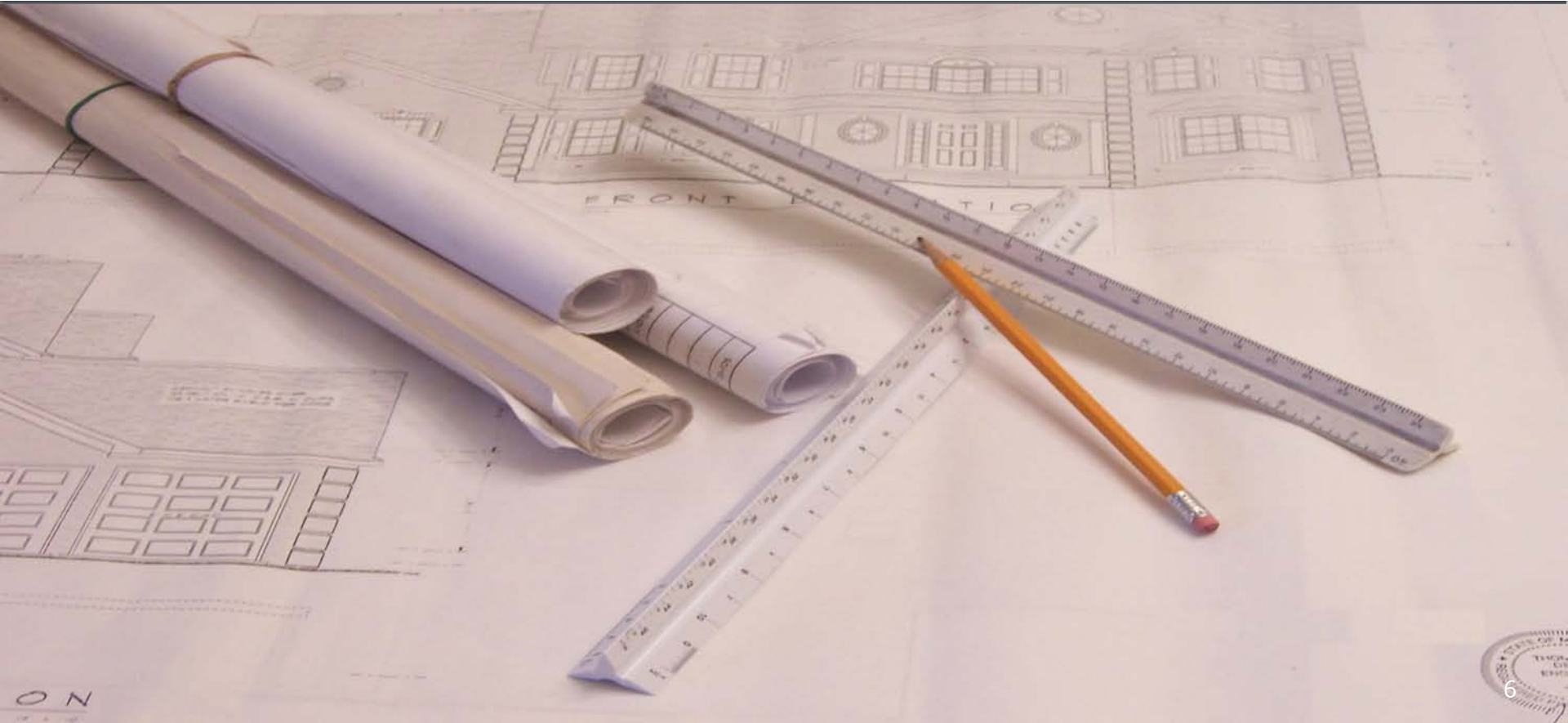
- Single engine
- Multiple sources



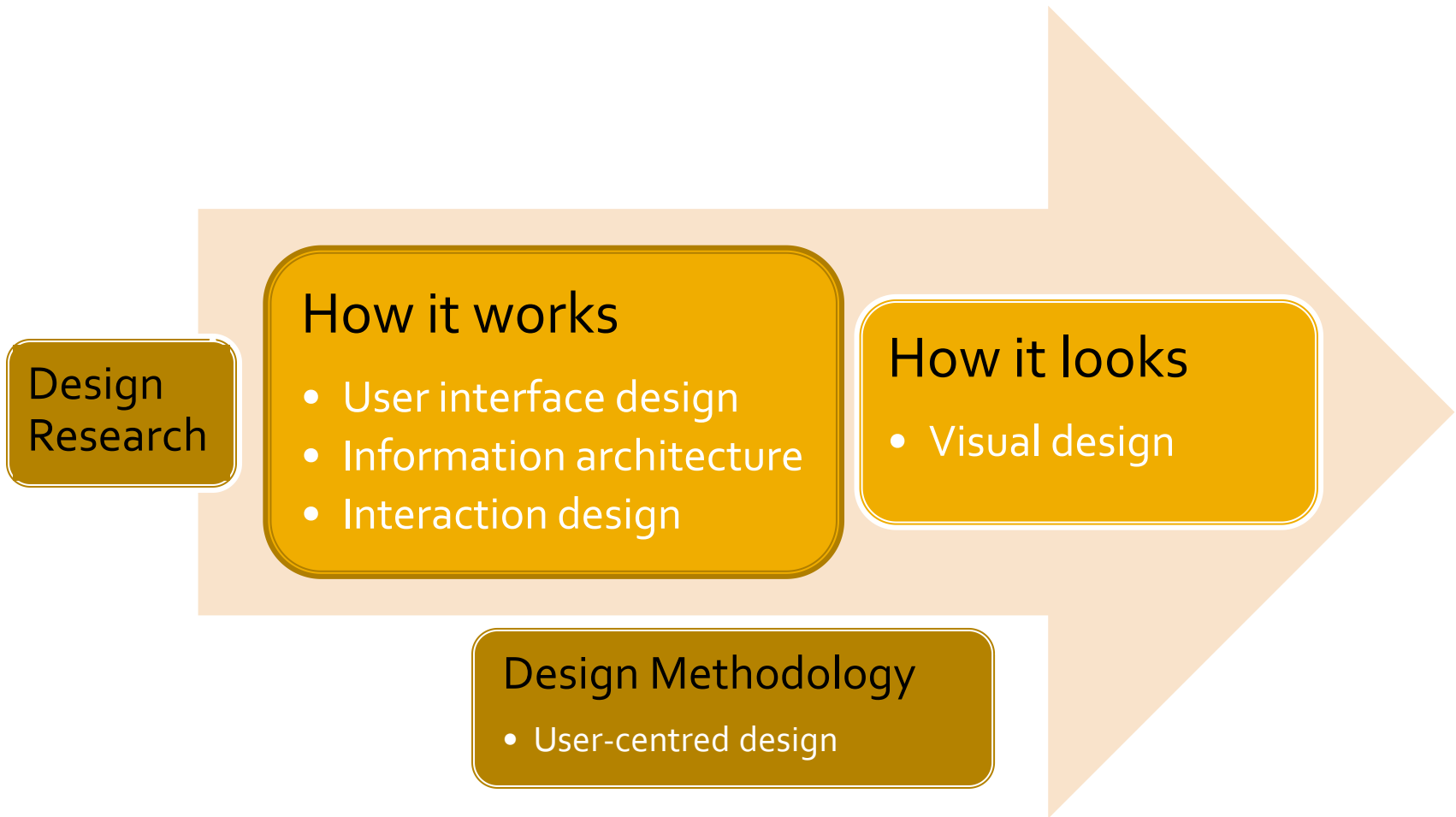
Search Patterns,
Peter Morville 2009

A framework for design

Disciplines and dimensions



Design disciplines



Exploring the design space ⁽¹⁾

Where should the **Faceted Navigation** menu be located and how should it be organised?

The screenshot shows the Sony website with a faceted navigation menu overlay. The menu is titled "Explore By:" and includes the following sections:

- Category**
 - TV & Home
 - Entertainment (4)
 - Computers (138)
 - MP3 & Portable Electronics (13)
 - Sony Outlet & Refurbished Products (10)
 - Movies & Music (3)
 - Discover (1)
- Price (288 results)**
 - A price range slider from \$0 to \$4400.
 - Buttons for "New Releases" and "Type of Deal".

The background shows a grid of Sony laptop products with their specifications and prices.

The screenshot shows the NewsSift website with a faceted navigation menu overlay. The menu is titled "Enter term OR Select linked term to refine search" and includes the following sections:

- Business Topic**
 - Trade Policy
 - Nationalization And Privatization
 - Natural And Environmental Risks
 - Executive Structure
- Organization**
 - Environmental Protection Agency
 - The Committee On Energy And Commerce
 - United Nations
 - European Union
 - US Environmental Protection Agency
- Place**
 - Washington D. C.
 - Copenhagen
 - California
 - China
 - India
 - Brazil
 - Germany
- Person**
 - Henry Waxman
 - Lisa Jackson
 - Nancy Pelosi
 - Edward Markey
 - John McCain
 - Arnold Schwarzenegger
- Theme**
 - Obama Administration
 - Trade System
 - Carbon Emissions
 - Federal Government
 - Climate Legislation
 - Energy Economy
 - Warming Pollution

The background shows a search results page for "Barack Obama" with various news articles and a "Financial Risk Management" sidebar.

Exploring the design space (2)

How should we present **mixed content results** to help users discover the most relevant and useful items?

The screenshot shows the Triangle Research Libraries Network search results page. The header includes the network name and a list of member institutions: Duke University, North Carolina Central University, NC State University, and University of North Carolina at Chapel Hill. A search bar contains the query "Three art makers [videorecording]". Below the search bar, three results are displayed:

- Three art makers [videorecording]**
 - Format: Video DVD
 - Published: Watertown, MA : Documentary Educational Resources, c2009.
 - Location: Duke (Available)
- The art of scandal : modernism, libel law, and the roman à clef**
 - Author: Latham, Sean, 1971-
 - Format: Book
 - Published: Oxford ; New York : Oxford University Press, 2009.
 - Location: Duke (Not Available), UNC Chapel Hill (Available)
- The subject in art [electronic resource] : portraiture and the birth of the modern**
 - Author: Soussloff, Catherine M.
 - Format: eBook; Internet resource
 - Published: Durham : Duke University Press, 2006.
 - Location: Duke (Available), Online (Duke only)

On the left side, there is a sidebar with filters for Location, Call Number Range, Language, Publication Year, Author, Genre, and Region. The bottom of the page shows a list of additional results, including "The disappearance of objects : New York art and the rise of the postmodern city" and "Art and the end of apartheid".

The screenshot shows the Jupiter Images search results page. The header includes the site name "jupiterimages." and a search bar. Below the search bar, there are tabs for "All Images (1,041)", "RM Images (294)", "RF Images (747)", "Premium Subscription (202)", and "Essential Subscription (141)". The main content area displays a grid of image thumbnails. Each thumbnail is labeled with "Brand X Pictures" and a unique ID number (e.g., 24428317, 24428326, 24428315, 24428310). Below each thumbnail, there are icons for search, beta, and other features. The bottom of the page shows a list of additional results, including "IFA Bilderbeam" and "IFA Bilderbeam".

The Dimensions of Search User Experience

User Type



- Electronics Engineer
- Purchasing Agent
- Novice Shopper
- Technical Enthusiast
- ...

Objective



- "Find part #35456..."
- "Discover compatible parts ..."
- "Understand part obsolescence ..."
- ...

Assets



- Products
- Rich Media
- Textual Info
- Relationships
- Community
- ...

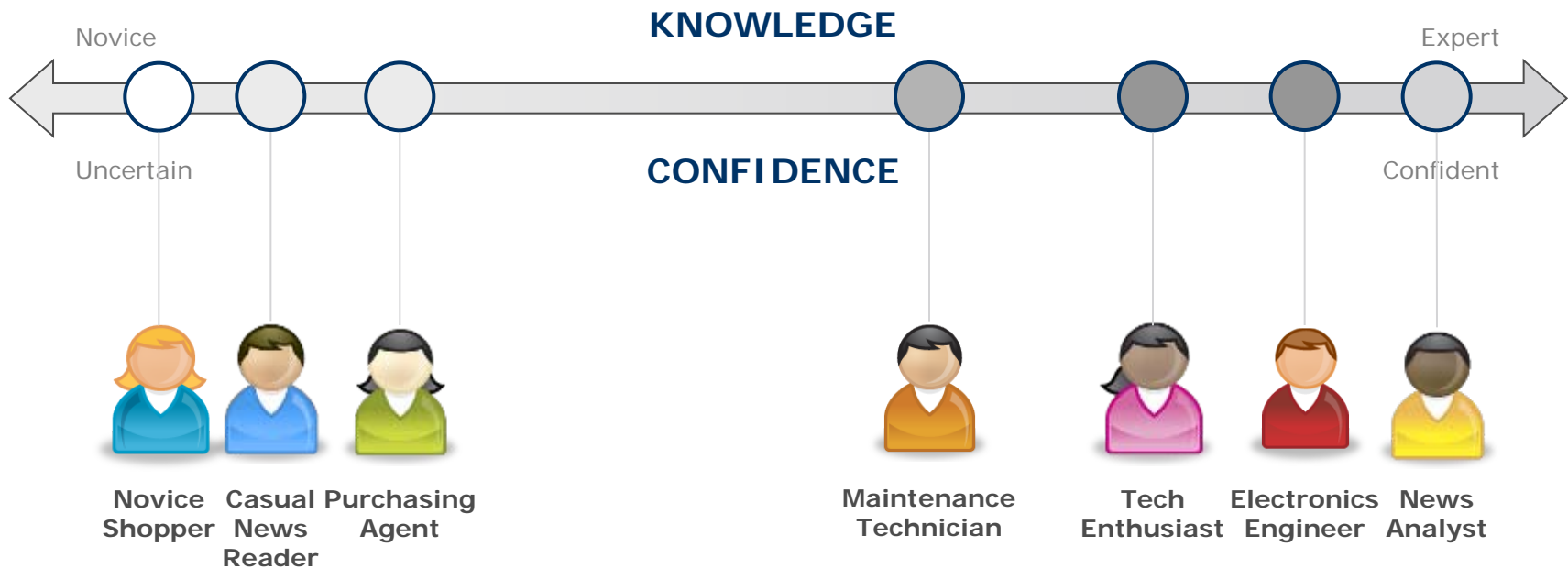
Mode of Discovery



- Analyzing
- Comparing
- Evaluating
- Exploring
- Locating
- ...

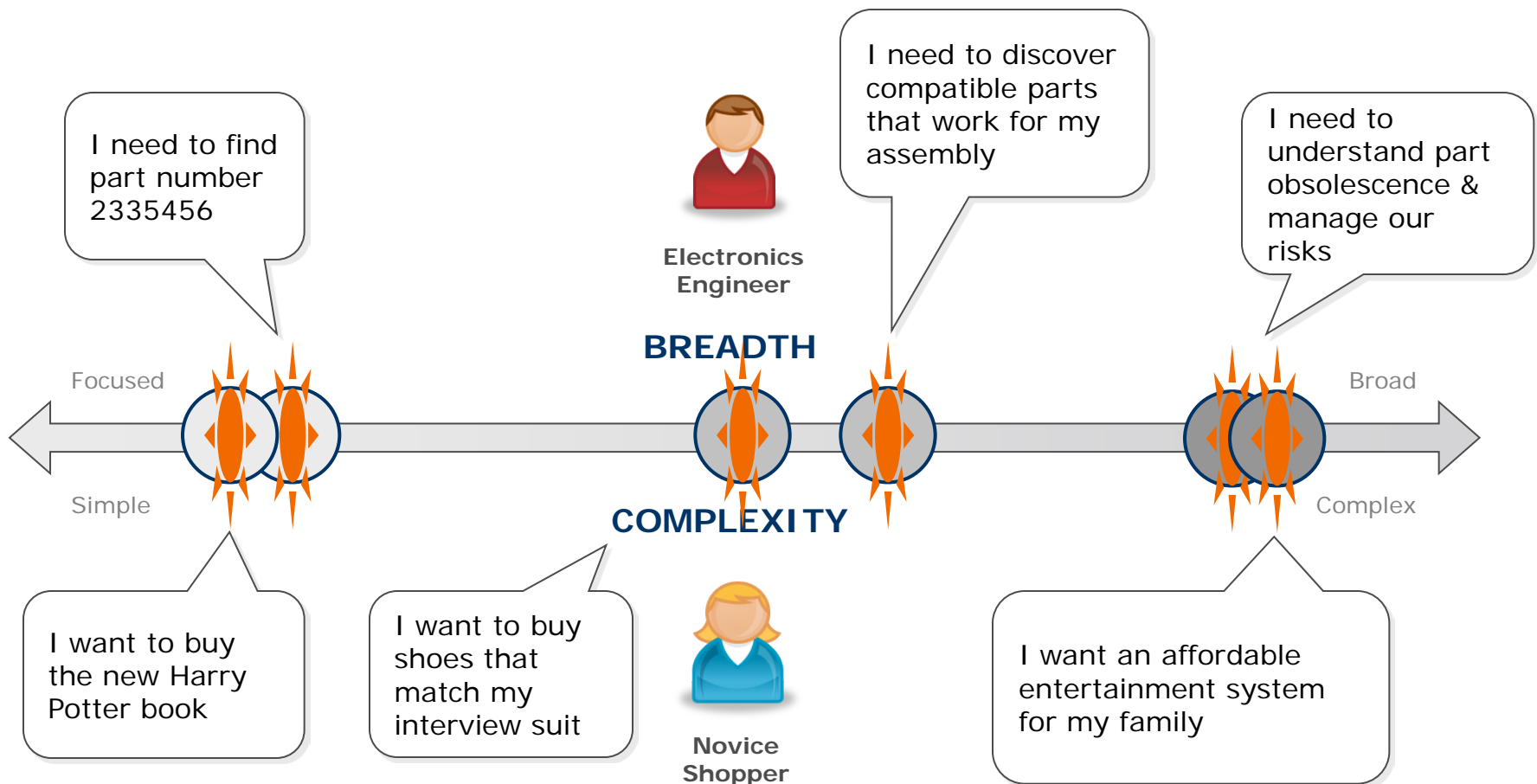
Dimension 1: user type

Users vary in their level of knowledge, confidence & attitude

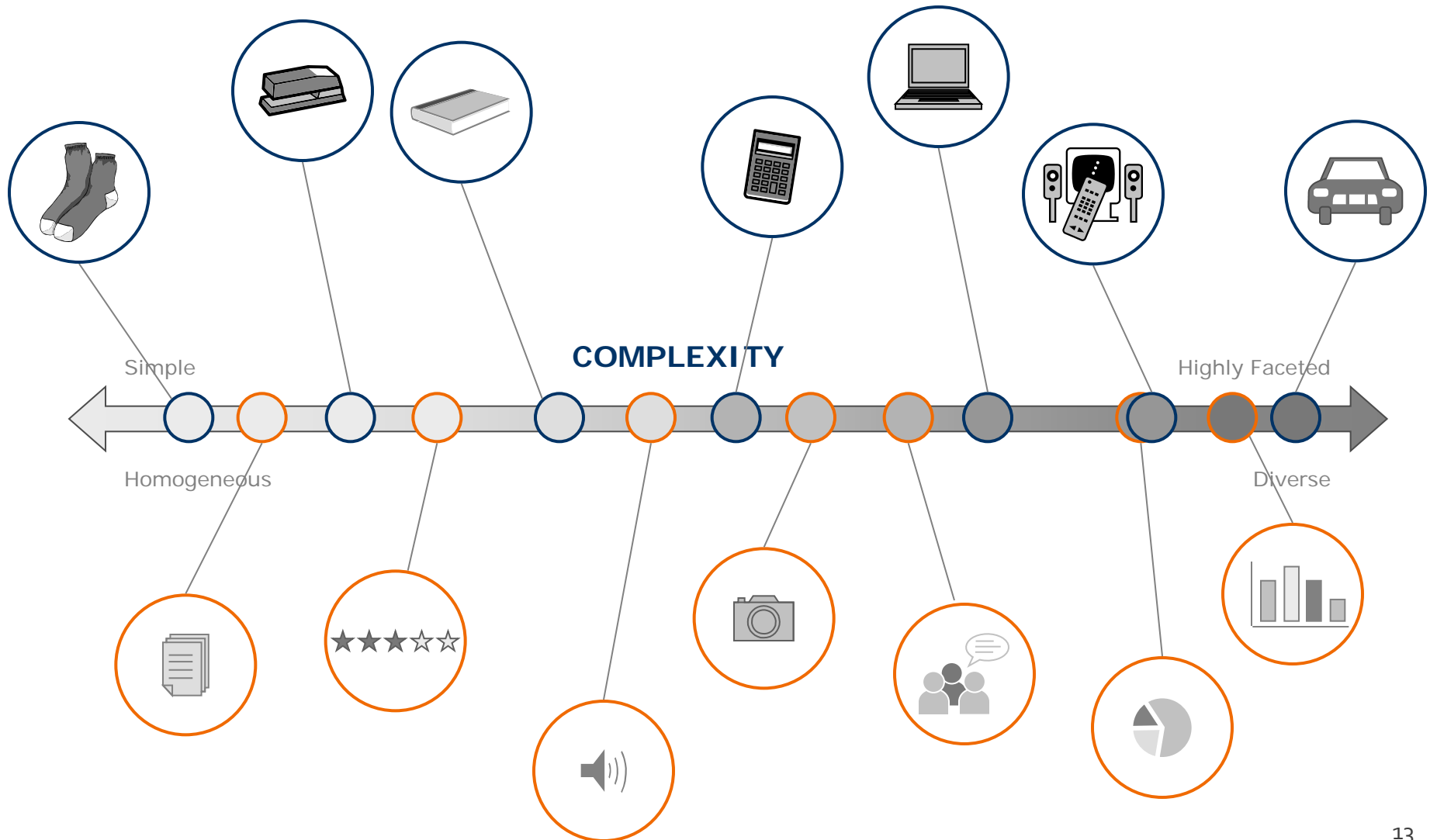


Dimension 2: objective

Objectives vary in breadth & complexity



Dimension 3: assets



Dimension 4: mode of discovery

Marchionini, 2006

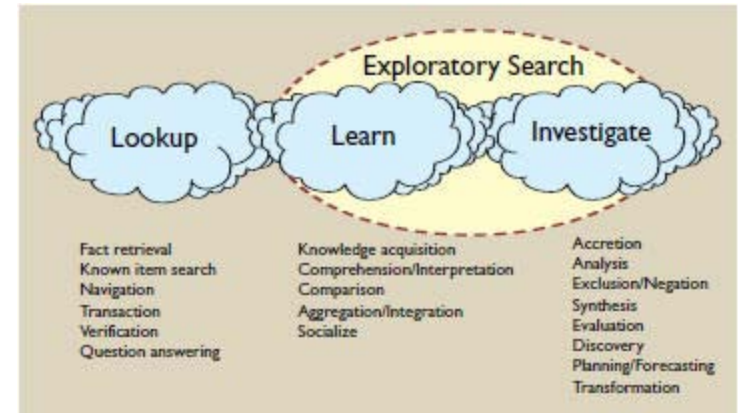
- Lookup
- Learn
- Investigate

Spencer, 2006

- Known-item
- Exploratory
- Don't know what you need to know
- Re-finding

Morville, 2010

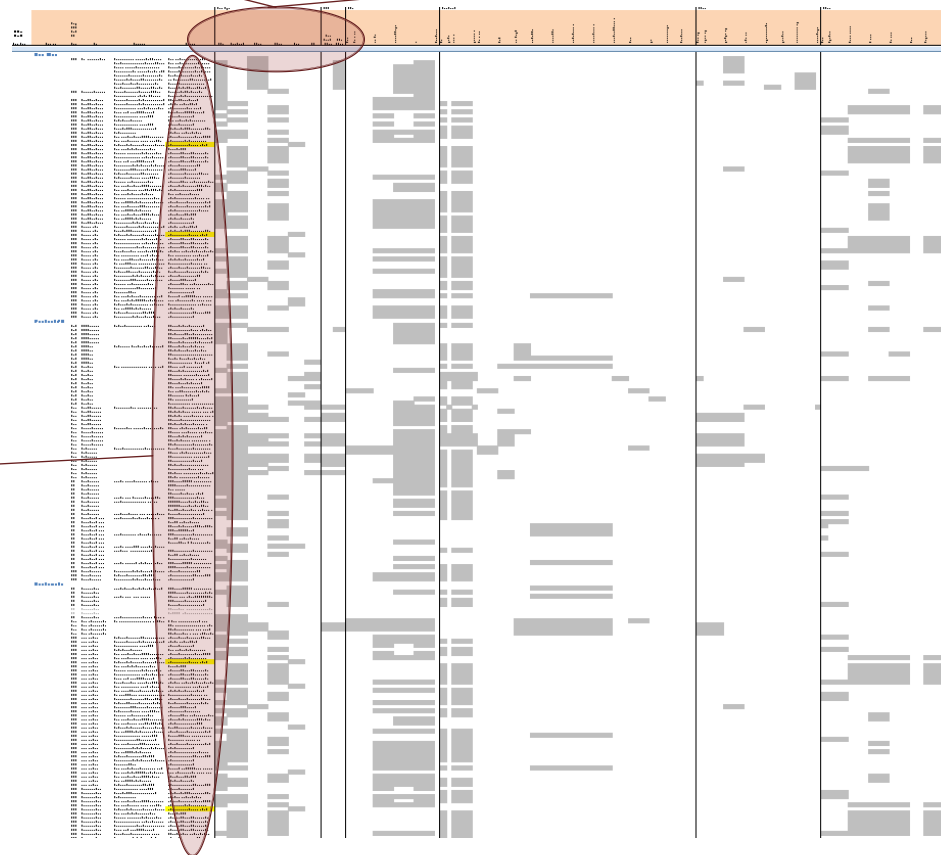
- Quit
- Narrow
- Expand
- Pearl-growing
- Pogo-sticking
- Thrashing



Analysing the Modes

Locating Verifying Monitoring Comparing Comprehending Exploring

Scenarios



Modes of Discovery: Lookup

Locating

- To find a specific (possibly known) item
 - *e.g. I need to find a new part with particular technical attributes and then source it from the most qualified supplier – Engineering*

Verifying

- To confirm or substantiate that an item or set of items meets some specific criterion
 - *e.g. How can I determine if I am looking at the latest information for a part or supplier? - Supply Chain Specialist*

Monitoring

- To maintain awareness of the status of an item or data set for purposes of management or control
 - *e.g. I need to monitor at risk/failing customers/dealers so I can prompt my Account Reps to fix the problems - Sales Manager*

Modes of Discovery: Learn

Comparing

- To examine two or more items to identify similarities & differences
- e.g. *I need to compare our module set teardowns with competitive teardown information to see if we're staying competitive for cost, quality and functionality* – **Engineering**

Comprehending

- To generate insight by understanding the nature or meaning of an item or data set
- e.g. *I need to analyze and understand consumer-customer-market trends to inform brand strategy & communications plan* – **Director, Brand Image**

Exploring

- To proactively investigate or examine an item or data set for the purpose of serendipitous knowledge discovery
- e.g. *I need to understand the cost drivers for this commodity so I can negotiate better terms with my suppliers and forecast business risk based on market indices* - **Procurement**

Modes of Discovery: Investigate

Analyzing

- To critically examine the detail of an item or data set to identify patterns & relationships
 - e.g. *I need to know the cost drivers for a part such as materials that impact cost. Is the relationship a correlation or step function for a part cost driver?* – **Engineering**

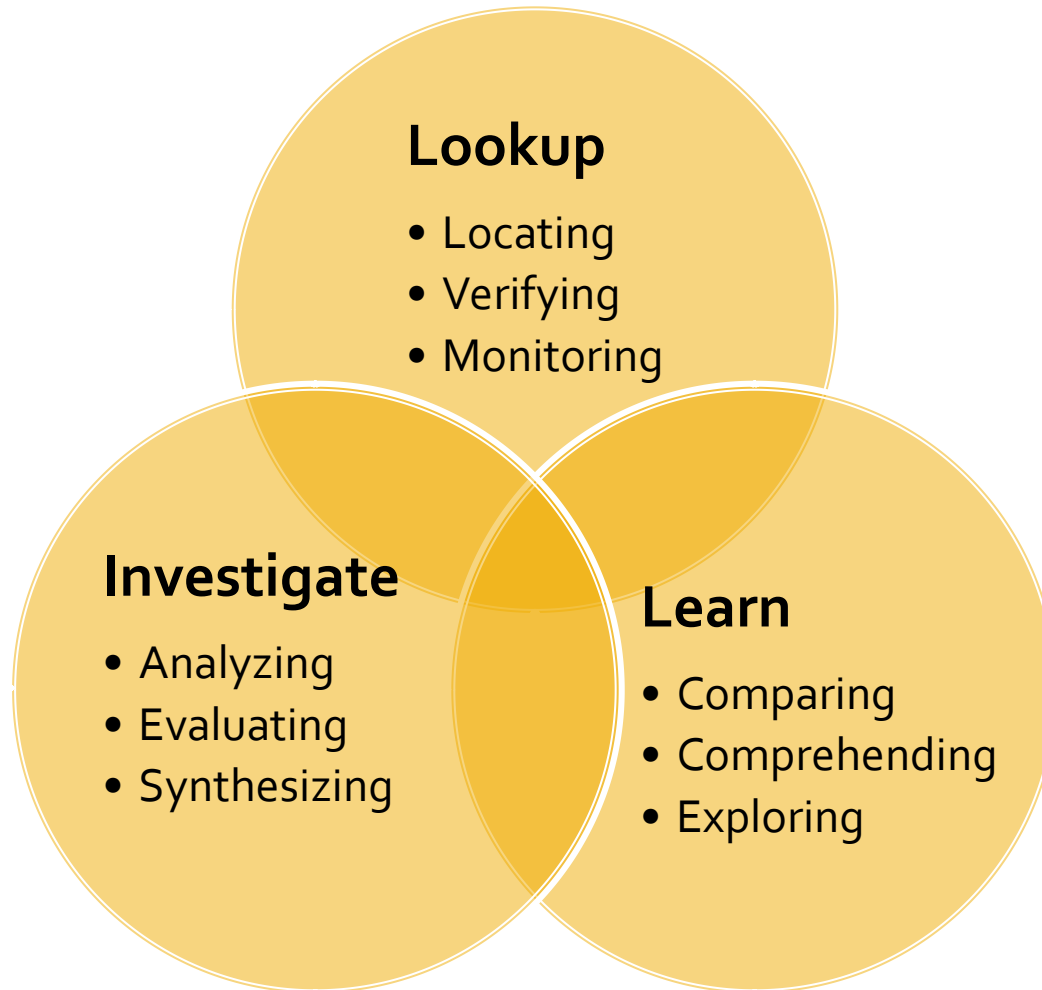
Evaluating

- To use judgement to determine the significance or value of an item or data set with respect to a specific benchmark or model
 - e.g. *I need to determine my current state in my prints so I can evaluate if I have price variation to negotiate a better price* – **Procurement**

Synthesizing

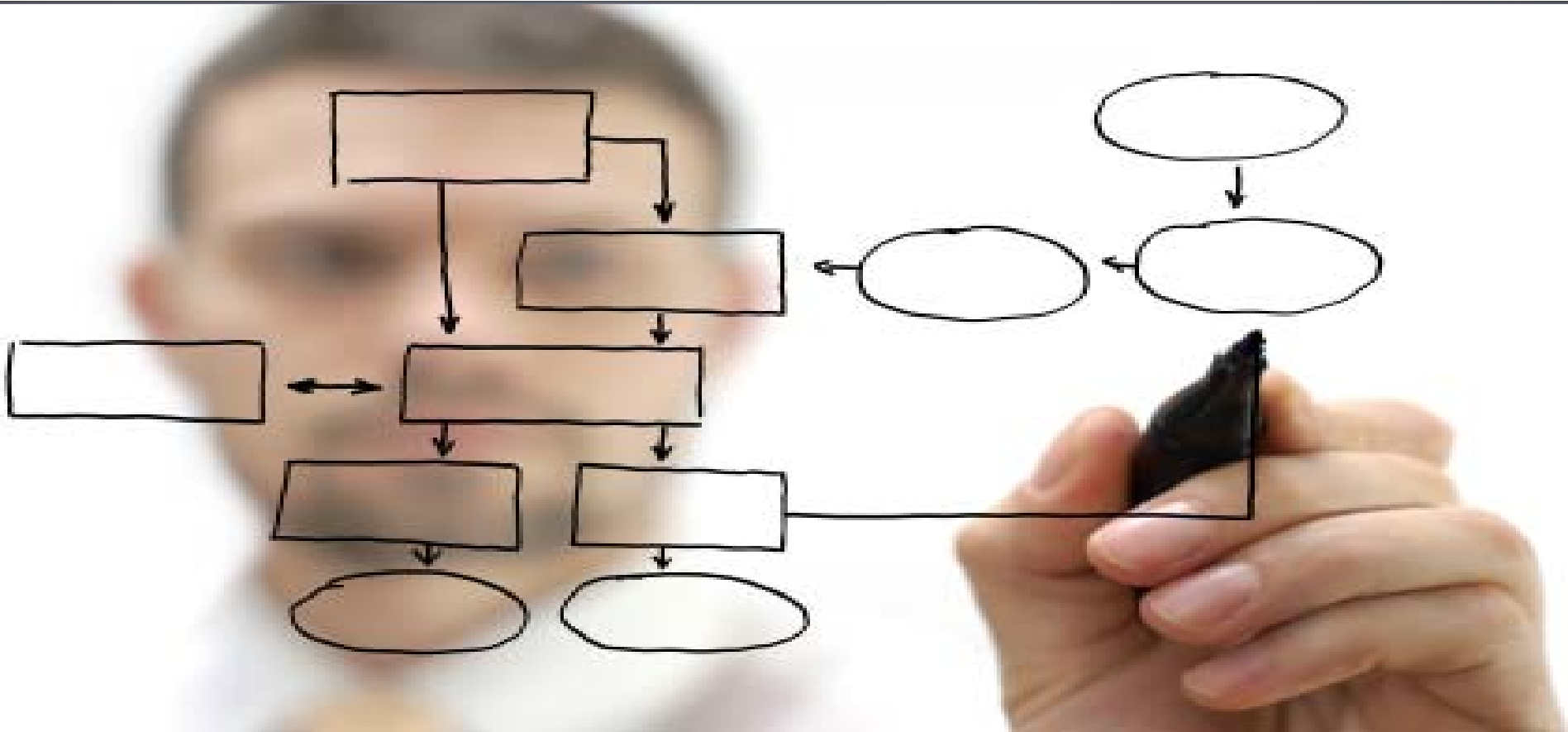
- To generate or communicate insight by integrating diverse inputs to create a novel artefact or composite view
 - e.g. *I need to prepare a weekly report for my boss (sales mgr) of how things are going* - **Account Rep**

Modes of Discovery



Patterns of search behaviour

Mode chains and sequences



Comparison-driven search



- **Engineering:** Compare our module set teardowns with competitive teardown information to see if we're staying competitive for cost, quality and functionality.
- **Portfolio Manager:** Compare a lead's performance claims with relevant benchmarks to assess the lead's claims
- **Cost Estimators:** Analyze & understand gaps between current costs of commodity versus best in class manufacturing costs
 - ➔ Patentability search?

Exploration-driven search



- **Core Engineer:** Identify opportunities to optimize use of tooling capacity for my commodity/parts
- **District Manager:** Identify sales opportunities and targets (increased key customer market share across categories/brands; upsell-cross sell; promotional targets)
- **Category Manager:** Evaluate & optimize our product portfolio: Which products should we de-list and retire? What new products should we be making/selling?
 - ➔ Validity search?

Strategic Insight



- **Engineering:** Track module cost versus functionality over time to determine trends.
- **Portfolio Manager:** Understand a lead's underlying positions so that I can assess the quality of the investment opportunity
- **Procurement:** Understand the cost drivers for a commodity so I can negotiate better terms with my suppliers and forecast business risk based on market indices
 - ➔ Freedom-to-operate search?

Strategic Oversight



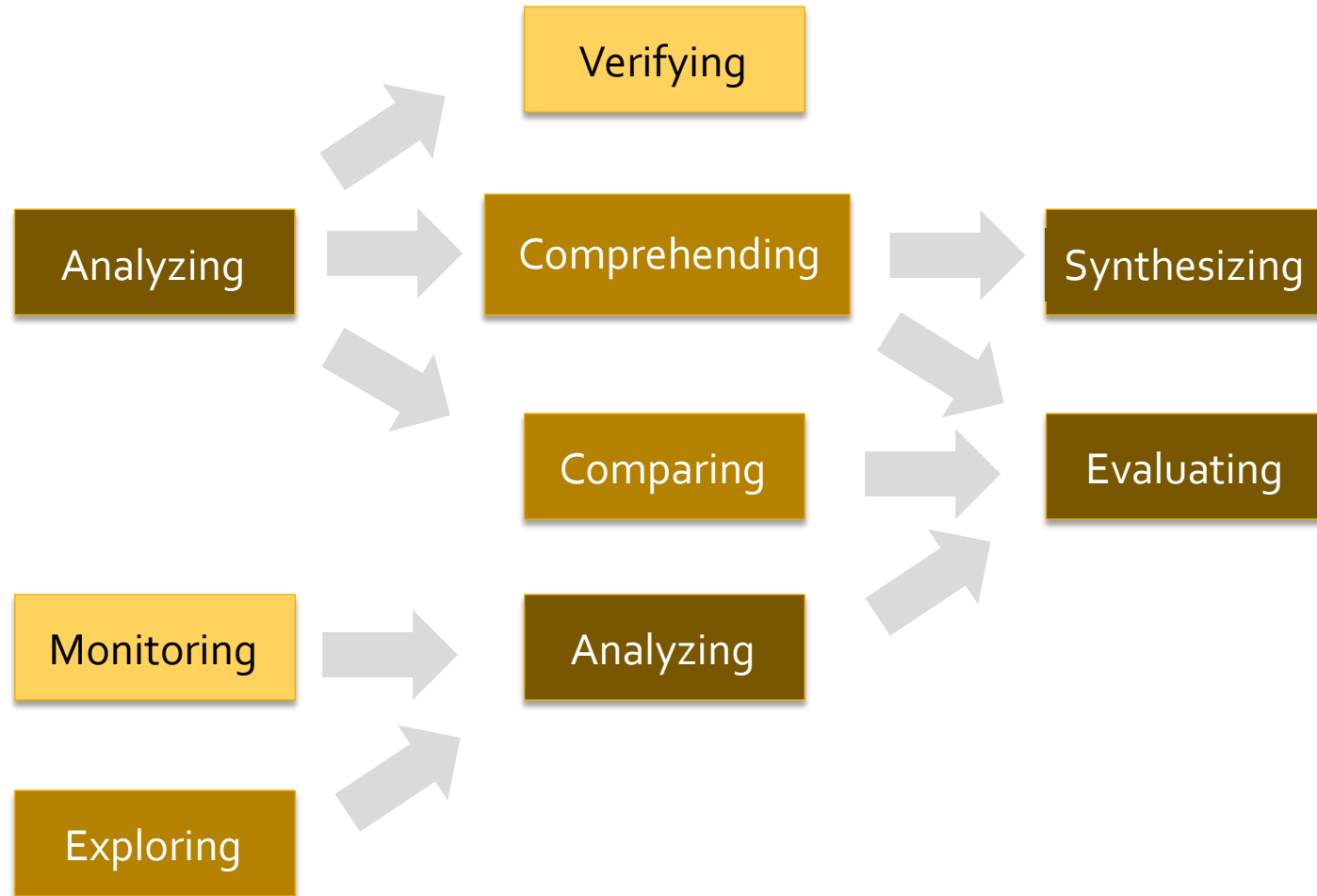
- **SVP Sales:** Monitor how well we are tracking to revenue and margin targets by division
- **Core Engineer:** Monitor global commodity use in relation to plan/guidelines to identify gaps that require corrective action
- **Financial Analyst:** Monitor & assess commodity status against strategy/plan/target
 - ➔ Patent watch?

Comparison-driven synthesis



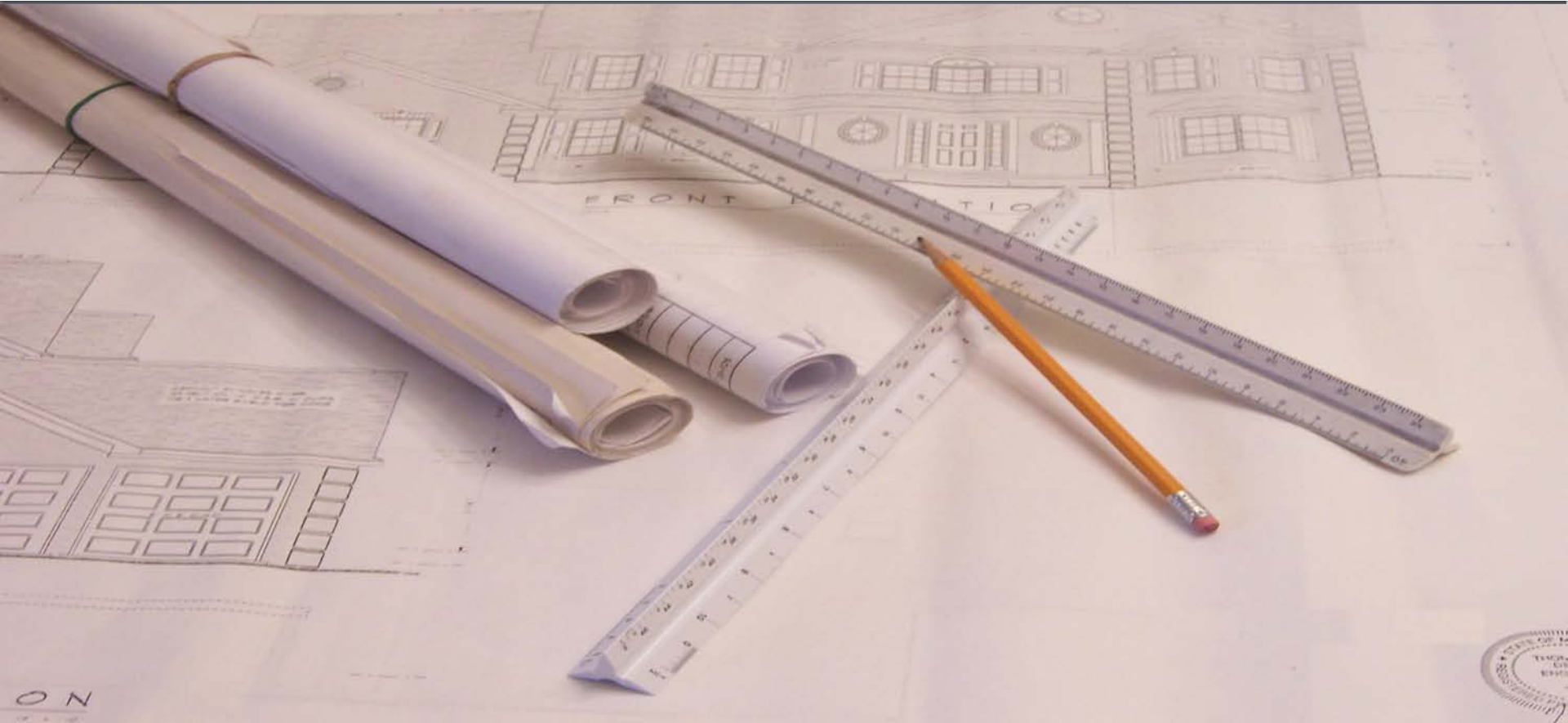
- **Director, Brand Image:** Analyze and understand consumer-customer-market trends to inform brand strategy & communications plan
- **Engineering:** Find out how many parts I have in my module set of parts and find ways to reduce cost across them
- **Core Buyer:** Formulate scope & strategy for sourcing and gap closure
 - ➔ Gap analysis (SOTA search)?

Mode Networks

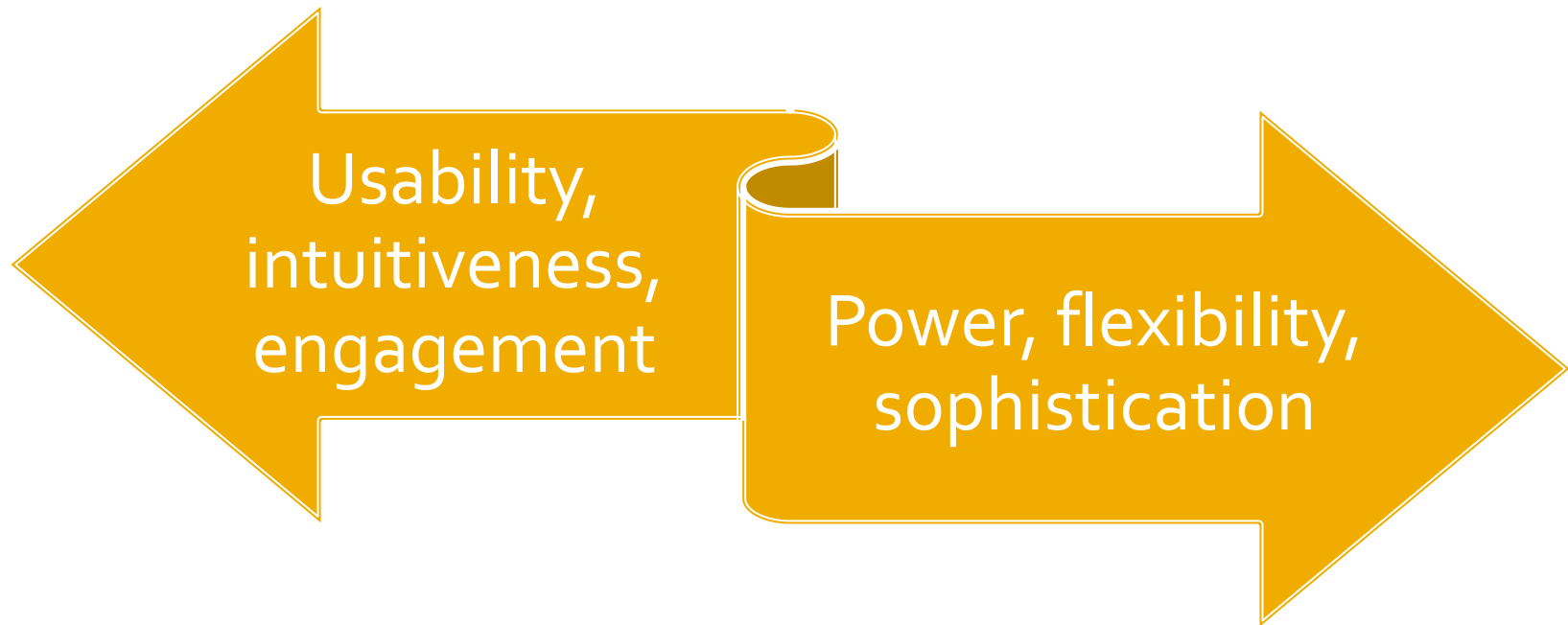


Design Implications

Applying the insights



Finding the right balance



Guided Navigation

My Active BOMs

- Trench (757)
- Dakota (9328)
- Deep Sea 3 (543)
- More...

Part Family

- + Bearings (77,453)
- Couplings (53,245)
 - Compression (8432)
 - Slip (1434)
 - Threaded (15,423)
 - Flexible gear (5883)
 - Rigid (6748)
 - Muff (453)
 - Beam (4878)
 - Pin (2553)
 - Spider (220)
 - Bibby (659)
 - More...

Preferred Suppliers

- Renold (143,964)
- Emerson (78,013)
- Klauslaumayer (34,642)
- Rimtec (9,543)
- More...

Price

25 50 75 100 125 150 175

CAD Diagrams

Your Results:

Part Family: Couplings

Showing Parts 1-20 of 5,534,673

| PART # | DESCRIPTION | ACTIVE |
|----------|-----------------------------------|--------|
| 026P0864 | • Plain sleeve and indenting tool | YES |
| 08G48950 | • Straight screw sleeve | NO |
| 077P1122 | • Clevis Pin to Threaded Coupling | NO |
| 042F2636 | • Split injector valve | YES |
| 01K23570 | • 168-mm-diameter tube | YES |
| 021H7636 | • Five-piece compression fitting | NO |
| 089G3880 | • Double-threaded brass ring | NO |
| 097P1995 | • ACE PVC conduit | NO |
| 057G9213 | • Steel grounding ferrule O3D1 | YES |
| 08G51739 | • IM upper intake manifold | YES |
| 021H7575 | • Matrix E40D Super Heavy Duty | NO |
| 022R0313 | • IAuxiliary transmission cooler | NO |
| 024L1586 | • PVC threaded coupling 1/2" | YES |
| 08150765 | • Docking Port Ring | YES |

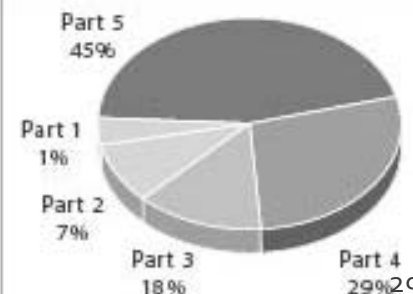
Inventory Location



Research Notes

rustproof exchange rate
new composites
MagnaDrive product launch
recalled tear down ISO
update strike field testing

AVG Fulfillment Time



Guided Navigation
☐ **My Active BOMs**

- Trench (757)
- Dakota (9328)
- Deep Sea 3 (543)
- More...

☐ **Part Family**

- + Bearings (77,453)
- Couplings (53,245)
 - Compression (8432)
 - Slip (1434)
 - Threaded (15,423)
 - Flexi Gear (5883)
 - Rigid (648)
 - Muff (453)
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 - Pin (2553)
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 - More...

☐ **Preferred Suppliers**

- Renold (143,984)
- Emerson (78,013)
- Klauslaumayer (34,642)
- Rimtec (9,543)
- More...

Price

25 50 75 100 125 150 175

CAD Diagrams
Your Results:

Part Family: Couplings

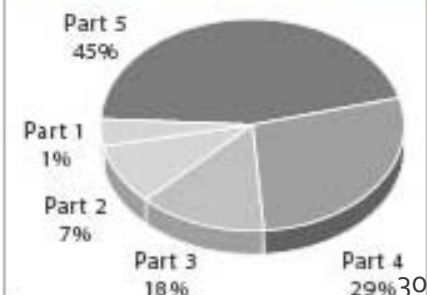
Showing Parts 1-20 of 5,534,673

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|----------|-----------------------------------|--------|
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| 08G48950 | • Straight screw sleeve | NO |
| 077P1122 | • Clevis Pin to Threaded Coupling | NO |
| 042F2636 | • Split injector valve | YES |
| 01K23570 | • 168-mm-diameter tube | YES |
| 021H7636 | • Five-piece compression fitting | NO |
| 089G3880 | • Double-threaded brass ring | NO |
| 097P1995 | • ACE PVC conduit | NO |
| 057G9213 | • Steel grounding ferrule O3D1 | YES |
| 08G51739 | • IM upper intake manifold | YES |
| 021H7575 | • Matrix E4OD Super Heavy Duty | NO |
| 022R0313 | • IAuxiliary transmission cooler | NO |
| 024L1586 | • PVC threaded coupling 1/2" | YES |
| 08150765 | • Docking Port Rings | YES |

Inventory Location

Research Notes

rustproof exchange rate
new composites
MagnaDrive product launch
recalled tear down ISO
update strike field testing

AVG Fulfillment Time


Guided Navigation

Materials

- Stainless (1456)
- Brass (143)
- Nickel Alloy (90)
- More...

Preferred Suppliers

- Arnault (2566)
- Tritex (1690)
- Sernoff (943)
- More...

Mean Time To Failure

- 10 (4112)
- 15 (3934)
- 20 (1581)
- More...

Inner Diameter (mm)

0 16 32 48 64 96 128

Max Torque (Nm)

0 125 250 375 500 625 750

Screw (ISO 4762/12.9)

More ▲▲ ▼▼

Your Results:

Part Family: Couplings > Threaded

Showing Parts 1-20 of 15,423

| PART # | DESCRIPTION | ACTIVE |
|----------|-------------------------------------|--------|
| 021H7575 | • Aluminium camlock coupling type E | NO |
| 022R0313 | • Rollor Chain Couplings | NO |
| 024L1586 | • Trans Fluid Coupling | YES |
| 08J59765 | • TSCHAN S-Coupling | YES |
| 02637680 | • MagnaDrive industrial coupling | NO |
| 044H7837 | • Haldex Coupling | NO |
| 097H7520 | • Manifold Coupling | YES |
| 089H9939 | • CentriFlex Coupling | YES |
| 02N85527 | • Sella Transmission Coupling | NO |
| 022R0774 | • Type 40 Assy Coupling | NO |
| 026P0864 | • Standard Duty Coupling | YES |
| 08G48950 | • Helical shaft couplings | YES |
| 077P1122 | • Single joint gear couplings | NO |
| 042E2636 | • Ductilic Grooved Coupling | NO |

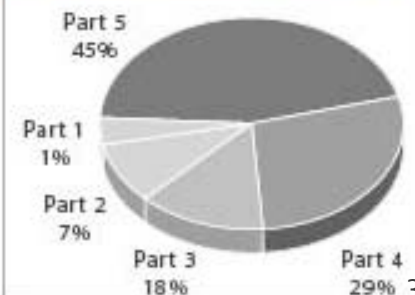
Inventory Location



Research Notes

recalled tear down ISO
update strike field testing
rustproof exchange rate
new composites MagnaDrive

AVG Fulfillment Time



Guided Navigation

Materials

- Stainless (1456)
- Brass (143)
- Nickel Alloy (90)
- More...

Preferred Suppliers

- Arnault (2566)
- Tritex (1690)
- Sernoff (943)
- More...

Mean Time To Failure

- 10 (4112)
- 15 (3934)
- 20 (1581)
- More...

Inner Diameter (mm)

0 16 32 48 64 96 128

Max Torque (Nm)

0 125 250 375 500 625 750

Screw (ISO 4762/12.9)

More ▲▲ ▼▼

Your Results:

Part Family: Couplings > Threaded

Showing Parts 1-20 of 15,423

| PART # | DESCRIPTION | ACTIVE |
|----------|-------------------------------------|--------|
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| 024L1586 | • Trans Fluid Coupling | YES |
| 08J59765 | • TSCHAN S-Coupling | YES |
| 02637680 | • MagnaDrive industrial coupling | NO |
| 044H7837 | • Haldex Coupling | NO |
| 097H7520 | • Manifold Coupling | YES |
| 089H9939 | • CentriFlex Coupling | YES |
| 02N85527 | • Sella Transmission Coupling | NO |
| 022R0774 | • Type 40 Assy Coupling | NO |
| 026P0864 | • Standard Duty Coupling | YES |
| 08G48950 | • Helical shaft couplings | YES |
| 077P1122 | • Single joint gear couplings | NO |
| 042E2636 | • Ductilic Grooved Coupling | NO |

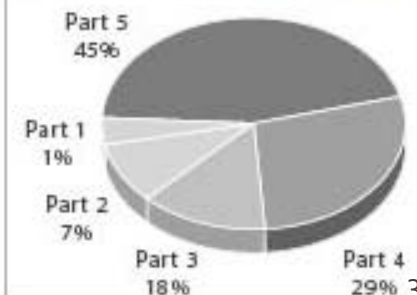
Inventory Location



Research Notes

recalled tear down ISO
update strike field testing
rustproof exchange rate
new composites MagnaDrive

AVG Fulfillment Time



Guided Navigation

Materials

- Stainless (845)
- Aluminum (540)
- Brass (82)
- More...

Preferred Suppliers

- Arnault (318)
- Smithson (194)
- Trinity (79)
- More...

Mean Time To Failure

- 10 (674)
- 15 (330)
- 20 (213)
- More...

Inner Diameter (mm)

0 16 32 48 64 96 128

Max Torque (Nm)

0 125 250 375 500 625 750

Screw (ISO 4762/12.9)

More ▲▲ ▼▼

Your Results:

Part Family: Couplings > Threaded

Geo: Lat 50.03 Long 8.68 + radius 1750 Km

Showing Parts 1-20 of 2,791

| PART # | DESCRIPTION | ACTIVE |
|----------|-----------------------------------|--------|
| 26P0864 | • Haldex Coupling | YES |
| 08G48950 | • Manifold Coupling | NO |
| 077P1122 | • CentriFlex Coupling | NO |
| 042F2636 | • Sella Transmission Coupling | YES |
| 01K23578 | • Type 40 Massy Coupling | YES |
| 021H7636 | • Standard Duty Coupling | NO |
| 089G3880 | • Split threaded coupling nut | NO |
| 097P1995 | • Hexagonal Coupling | YES |
| 057G9213 | • National Pipe Thread (NPT) Hose | YES |
| 08G51737 | • Threaded tubular coupling | NO |
| 021H7575 | • Forged socket weld coupling | NO |
| 022R0313 | • PVC threaded coupling 1/2" | YES |
| 024L1586 | • Docking Port Rings | YES |
| 08J59769 | • M D-MOUNT COUPLING | NO |

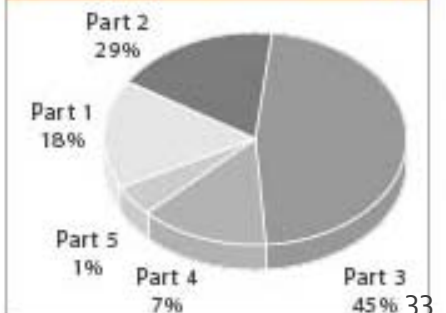
Inventory Location [x]



Research Notes [x]

rustproof exchange rate
new composites
MagnaDrive product launch
recalled tear down ISO
update strike field testing

AVG Fulfillment Time [x]



Guided Navigation

Materials

- Stainless (845)
- Aluminum (540)
- Brass (82)
- More...

Preferred Suppliers

- Amault (318)
- Smithson (194)
- Trinity (79)
- More...

Mean Time To Failure

- 10 (874)
- 15 (330)
- 20 (213)
- More...

Inner Diameter (mm)

0 16 32 48 64 96 128

Max Torque (Nm)

0 125 250 375 500 625 750

Screw (ISO 4782/12.9)

More ▲▲ ▼▼

Your Results:

Part Family: Couplings > Threaded

Geo: Lat 50.03 Long 8.68 + radius 1750 Km

Showing Parts 1-20 of 2,791

| PART # | DESCRIPTION | ACTIVE |
|----------|-----------------------------------|--------|
| 26P0864 | • Haldex Coupling | YES |
| 08G48950 | • Manifold Coupling | NO |
| 077P1122 | • CentriFlex Coupling | NO |
| 042F2636 | • Sella Transmission Coupling | YES |
| 01K23578 | • Type 40 Massy Coupling | YES |
| 021H7636 | • Standard Duty Coupling | NO |
| 089G3880 | • Split threaded coupling nut | NO |
| 097P1995 | • Hexagonal Coupling | YES |
| 057G9213 | • National Pipe Thread (NPT) Hose | YES |
| 08G51737 | • Threaded tubular coupling | NO |
| 021H7575 | • Forged socket weld coupling | NO |
| 022R0313 | • PVC threaded coupling 1/2" | YES |
| 024L1586 | • Docking Port Rings | YES |
| 00150300 | • M.D. MOUNT COUPLING | NO |

Inventory Location

[x]



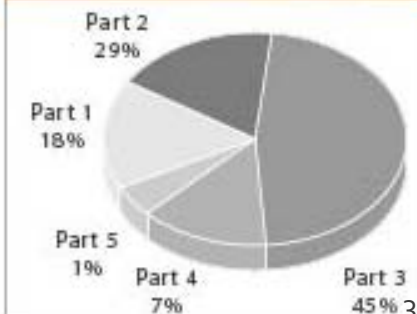
Research Notes

[x]

rustproof exchange rate
new composites
MagnaDrive product launch
recalled tear down ISO
update strike field testing

AVG Fulfillment Time

[x]



Guided Navigation

Materials

- Stainless (1343)
- Aluminum (302)
- Copper (117)
- More...

Preferred Suppliers

- Amault (844)
- Klein (405)
- Ylan (180)
- More...

Mean Time To Failure

- 10 (1217)
- 15 (823)
- 20 (492)
- More...

Max Torque (Nm)

0 125 250 375 500 625 750

Screw (ISO 4762/12.9)

Mounting length (mm)

Angular Misalignment

Hub length (mm)

More ▲▲ ▼▼

Your Results:

Part Family: Couplings > Threaded ☒

Geo: Lat 53.83 Long 1.54 + radius 168 Km ☒

Inner Diameter: 96 mm ☒

Showing Parts 1-20 of 5,688

| PART # | DESCRIPTION | ACTIVE |
|----------|--------------------------------------|--------|
| 021H7575 | • Aluminium camlock coupling type E | NO |
| 022R0313 | • Rollor Chain Couplings | NO |
| 024L1586 | • Trans Fluid Coupling | YES |
| 08J59765 | • TSCHAN S-Coupling | YES |
| 02637680 | • MagnaDrive industrial coupling ... | NO |
| 044H7837 | • Haldex Coupling | NO |
| 097H7520 | • Manifold Coupling | YES |
| 089H9939 | • CentriFlex Coupling | YES |
| 02N85527 | • Sella Transmission Coupling | NO |
| 022R0774 | • Type 40 Assy Coupling | NO |
| 026P0864 | • Standard Duty Coupling | YES |
| 08G48950 | • Helical shaft couplings | YES |
| 077P1122 | • Single joint gear couplings | NO |

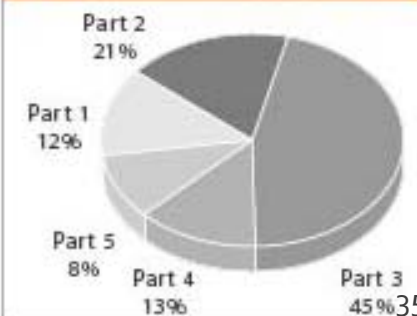
Inventory Location [x]



Research Notes [x]

angular force extreme
conditions ISO torque strike
field testing rustproof
drilling new composites
stress testing DARPA

AVG Fulfillment Time [x]



Guided Navigation

Materials

- Stainless (1343)
- Aluminum (302)
- Copper (117)
- More...

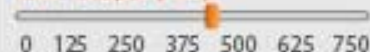
Preferred Suppliers

- Amault (844)
- Klein (405)
- Ylan (180)
- More...

Mean Time To Failure

- 10 (1217)
- 15 (623)
- 20 (492)
- More...

Max Torque (Nm)



Screw (ISO 4782/12.9)

Mounting length (mm)

Angular Misalignment

Hub length (mm)

More ▲▲ ▼▼

Your Results:

Part Family: Couplings > Threaded

Geo: Lat 53.83 Long 1.54 + radius 168 Km

Inner Diameter: 96 mm

Showing Parts 1-20 of 5,688

| PART # | DESCRIPTION | ACTIVE |
|----------|------------------------------------|--------|
| 021H7575 | Aluminium camlock coupling type E | NO |
| 022R0313 | Rollor Chain Couplings | NO |
| 024L1586 | Trans Fluid Coupling | YES |
| 08J59765 | TSCHAN S-Coupling | YES |
| 02637680 | MagnaDrive industrial coupling ... | NO |
| 044H7837 | Haldex Coupling | NO |
| 097H7520 | Manifold Coupling | YES |
| 089H9939 | CentriFlex Coupling | YES |
| 02N85527 | Sella Transmission Coupling | NO |
| 022R0774 | Type 40 Assy Coupling | NO |
| 026P0864 | Standard Duty Coupling | YES |
| 08G48950 | Helical shaft couplings | YES |
| 077P1122 | Single joint gear couplings | NO |
| 042F2636 | Ductile Grooved Coupling | NO |

Research: marker (103)

BOM: Mariana (4)

Supplier: Martins (38)

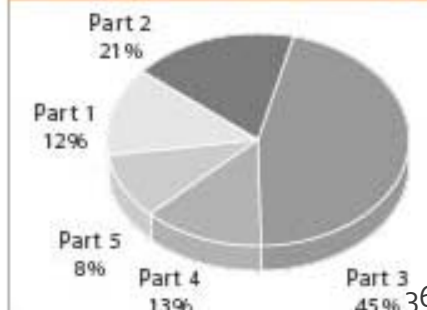
Month: March (543)



Research Notes

angular force extreme
conditions ISO torque strike
field testing rustproof
drilling new composites
stress testing DARPA

AVG Fulfillment Time



Guided Navigation

Materials

- Stainless (42)
- Carbon Fiber (8)
- PVC (3)
- More...

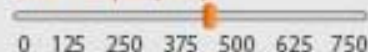
Preferred Suppliers

- Wilem (41)
- Gould (12)
- Klein (3)
- More...

Mean Time To Failure

- 20 (31)
- 25 (22)
- 30 (18)
- More...

Max Torque (Nm)



Screw (ISO 4762/12.9)

Weight (g)

Mass moment of inertia

More ▲▲ ▼▼

Your Results:

Part Family: Couplings > Threaded

Geo: Lat 52.74 Long 5.68 + radius 425 Km

Inner Diameter: 96 mm

Search: "marine"

Showing Parts 1-10 of 93

| PART # | DESCRIPTION | ACTIVE |
|----------|---|--------|
| 026P0864 | • Helical shaft couplings ...tested for marine and desert... | YES |
| 08G48950 | • Single joint gear couplings ...marine stress tests indicate... | NO |
| 077P1122 | • Ductilic Grooved Coupling ...designed for marine environ... | NO |
| 042F2636 | • Morris coupling ...marine MTT is designated as... | YES |
| 01K23578 | • Farleigh 4t bin coupling ...marine conditions and salinity... | YES |
| 021H7636 | • Wet vacuum pump coupling ...high temperature and marine use... | NO |
| 089G3880 | • Flanged Gear Coupling ...brackish salinity for marine rigs... | NO |
| 097P1995 | • Klein Series 800 threaded coupling | YES |

Inventory Location

[x]



Research Notes

[x]

rustproof ISO 5839

environment pumping

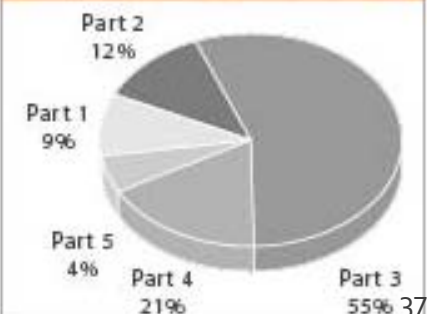
MagnaDrive sand helical

marine tear down drill

salinity field testing

AVG Fulfillment Time

[x]



Guided Navigation

Materials

- Stainless (42)
- Carbon Fiber (8)
- PVC (3)
- More...

Preferred Suppliers

- Wilem (41)
- Gould (12)
- Klein (3)
- More...

Mean Time To Failure

- 20 (31)
- 25 (22)
- 30 (18)
- More...

Max Torque (Nm)

0 125 250 375 500 625 750

Screw (ISO 4762/12.9)

Weight (g)

Mass moment of inertia

More ▲▲ ▼▼

Your Results:

Part Family: Couplings > Threaded

Geo: Lat 52.74 Long 5.68 + radius 425 Km

Inner Diameter: 96 mm

Search: "marine"

Showing Parts 1-10 of 93

| PART # | DESCRIPTION | ACTIVE |
|----------|---|--------|
| 026P0864 | • Helical shaft couplings ...tested for marine and desert... | YES |
| 08G48950 | • Single joint gear couplings ...marine stress tests indicate... | NO |
| 077P1122 | • Ductilic Grooved Coupling ...designed for marine environ... | NO |
| 042F2636 | • Morris coupling ...marine MTT is designated as... | YES |
| 01K23578 | • Farleigh 4t bin coupling ...marine conditions and salinity... | YES |
| 021H7636 | • Wet vacuum pump coupling ...high temperature and marine use... | NO |
| 089G3880 | • Flanged Gear Coupling ...brackish salinity for marine rigs... | NO |
| 097P1995 | • Klein Series 800 threaded coupling | YES |

Inventory Location

[x]



Research Notes

[x]

rustproof ISO 5839

environment pumping

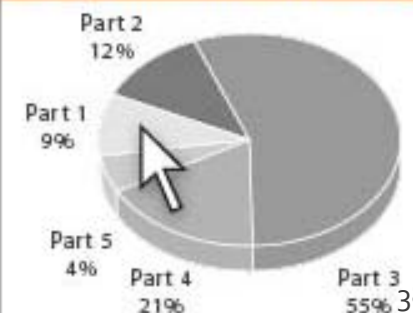
MagnaDrive sand helical

marine tear down drill

salinity field testing

AVG Fulfillment Time

[x]



Guided Navigation

Mean Time To Failure

- 20 (1)
- 25 (1)
- 30 (1)

Screw

- M4 (2)
- M8 (1)

Material

- Titanium (1)
- ISO Stainless (2)

Your Results:

Part Family: Couplings > Threaded

Geo: Lat 52.74 Long 5.68 + radius 425 Km

Inner Diameter: 96 mm

Search: "marine"

AVG Fulfillment Time: 1

Showing Parts 1-6 of 6

| PART # | DESCRIPTION | ACTIVE |
|---------|---|--------|
| 57G9200 | • Klein Series 80 threaded coupling ...marine conditions and salinity... | YES |
| 57K9213 | Klein Series 800 threaded coupling ...high temperature and marine use... | YES |
| 59G9400 | Klein Series 810 threaded coupling ...coated for marine applications... | YES |
| 39L3291 | RIX marine flexi coupling ...salinity is simulated for marine... | YES |
| 39M3940 | RIX extreme torque coupling ...marine stress tests indicate... | YES |
| 16M4950 | Warner maximum M4 coupling ...marine MTT is designated a s... | YES |

Inventory Location [x]



Research Notes [x]

marine tear down drill
salinity field testing
rustproof ISO 5839
environment pumping
MagnaDrive sand helical

From forms to facets



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Headings List

DATABASE: Library of Congress Online Catalog

Basic Search

Guided Search

Search: all of these

☒ AND ☐ OR ☐ NOT

Search: all of these

☒ AND ☐ OR ☐ NOT

Search: all of these

100 records per page

Guided Search Tips

Construct your search using the fill-in blanks

1. **Optional** -- Set Search Limits before following steps 2-4.
2. **Search:** -- Enter a word, several words, or a phrase.
3. From the following drop-down menu, select "all of these" is the default, and is highly recommended.
4. **As:** -- Select an Index Name* from the drop-down menu (see Index Name for more information).
5. From the following radio buttons, select **AND** to add more information to the search (see Boolean for more information).
6. Repeat steps 2, 3 and 4 to refine your search further by using the last set of fill-in blanks and radio buttons.

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Human-computer interaction

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☐ New titles

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QA1 - QA939 Mathematics (3)

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Author: Workshop on Machine Learning for Multimodal Interaction (4th : 2007 : Brno, Czech Republic)

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Facets & information scent

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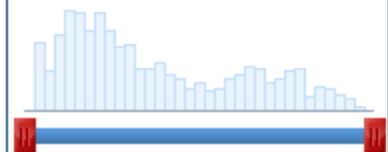
→ Years

→ Body Type

↓ Price Range

Click and Drag the Red Sliders
below to select your
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€ Min up to € Max

→ Fuel Type

From forms to facets

The screenshot displays the Thomson Innovation Patent Search interface. The browser address bar shows the URL: <http://www.thomsoninnovation.com/tip-innovation/searchPatent.do?subcode=Fielded&locale=en>. The page features a navigation sidebar on the left with links for Search, Saved Work, Administration, My Account, Preferences, and Support. The main content area is titled "Patent Search" and includes a "Quick Search" bar with a dropdown menu set to "Publication Numbers" and a "GO" button. Below this, there are search style options: "Fielded" (selected), "Publication Number", and "Expert". A "Collections to Search" section shows "US Granted". The "Search Criteria" section contains several input fields: "Text Fields" (with a dropdown), "Inventor" (with a dropdown and a "Date James D" label), "Assignee/Applicant" (with a dropdown and a "Browse" button labeled "Fanuc Ltd"), and "Publication Date" (with "From" and "To" date pickers). There are also buttons for "Add Field", "Show All Fields", "Display and Sort Options", and "Run Search". A "Query Previewer" section is visible below the search criteria. The footer includes the Thomson Reuters logo, copyright information (Copyright 2007-2011 THOMSON REUTERS), and links for Privacy, Terms of Use, Feedback, Contact Us, and Help.

- Think facets, not forms
- Stay on the page
- Keep it lightweight
- React immediately

Designing Web Interfaces,
Bill Scott & Theresa Neil,
2009

Facets at Google?

The screenshot shows a Google Patents search result for the query "natural language". The search was performed by Tony Russell-Rose. The results page displays the patent "Methods and apparatus for evaluating semantic proximity" by Francois Huet et al. The patent details include the inventor (Francois Huet, Gray Salmon Norton), assignee (Microsoft Corporation), primary examiner (Cam-Linh Nguyen), and attorney (Vierra Magen Marcus & DeNiro LLP). The patent number is 7877349, filed on April 1, 2010, and issued on January 25, 2011. The application number is 12/752,829. The patent is classified under U.S. Classification 707/602, 707/708, 707/713, 707/739, and 707/760. The patent is available for reading and downloading as a PDF. The patent is also cited by several other patents, including 6070134, 6813616, 6901399, and 7302383. The search results are displayed in a table with columns for Patent Number, Title, and Issue date. The search results are also displayed in a sidebar on the right, showing the search query and the results.

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Description

Claims

Go

Patent number: 7877349

Filing date: Apr 1, 2010

Issue date: Jan 25, 2011

Application number: 12/752,829

Methods and apparatus for evaluating semantic proximity Francois Huet et al

Methods and apparatus to evaluate the semantic proximity between reference free-form text entry and a candidate free-form text request.

Inventors: Francois Huet, Gray Salmon Norton

Assignee: Microsoft Corporation

Primary Examiner: Cam-Linh Nguyen

Attorney: Vierra Magen Marcus & DeNiro LLP

Read this patent

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U.S. Classification

707/602; 707/708; 707/713; 707/739; 707/760

View patent at USPTO

Citations

| Patent Number | Title | Issue date |
|---------------|--|--------------|
| 6070134 | Identifying salient semantic relation paths between two words | May 30, 2000 |
| 6813616 | System and method for building a semantic network capable of identifying word patterns in text | Nov 2, 2004 |
| 6901399 | System for processing textual inputs using natural language processing techniques | May 31, 2005 |
| 7302383 | Apparatus and methods for developing conversational applications | Nov 27, 2007 |

Claims

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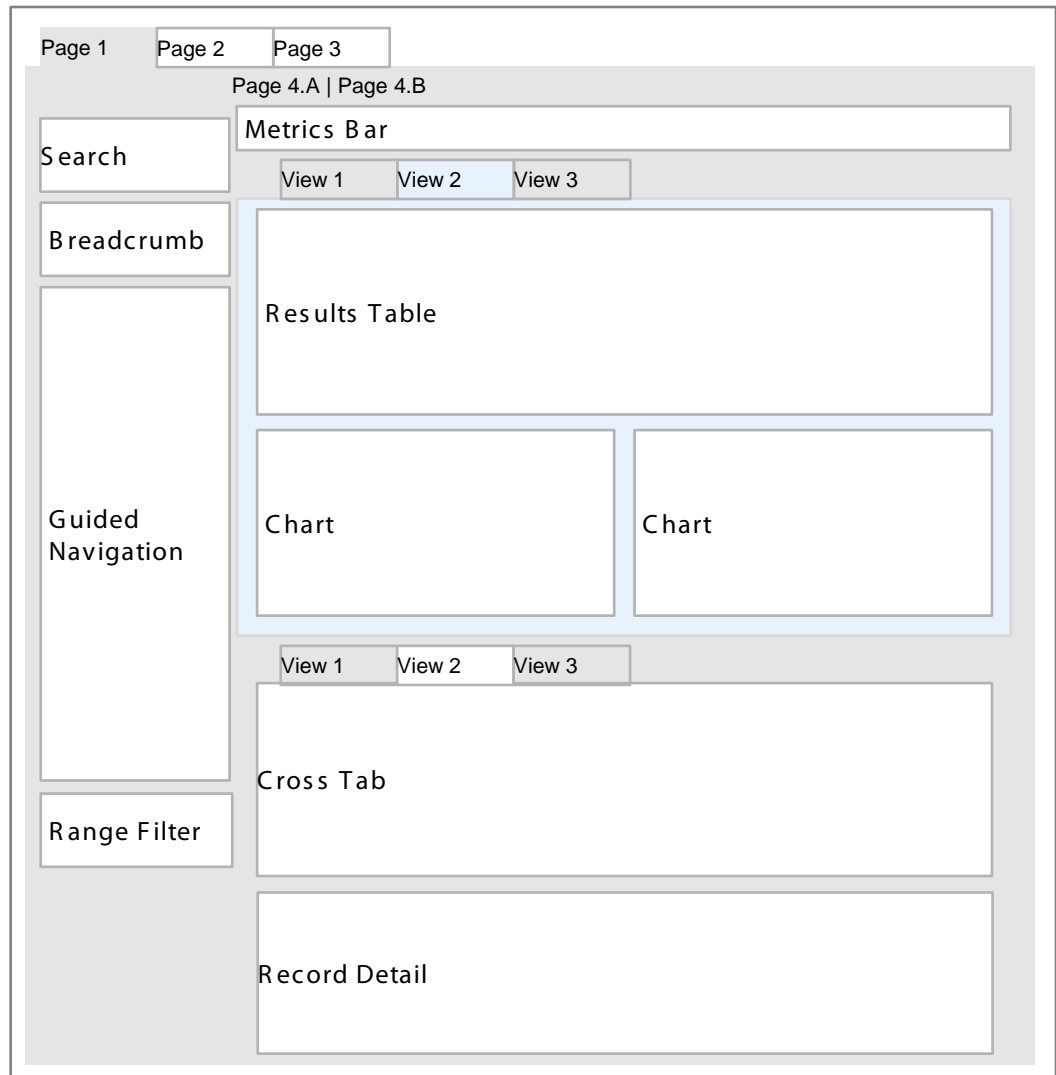
had for

Design for discovery principles

- Map discovery modes to screen components
 - Avoid “one size fits all”
- Create views by combining components
 - Communicate conceptual relationships through Gestalt principles of organization (e.g. similarity, closure, proximity, etc.)
- Compose applications by combining views

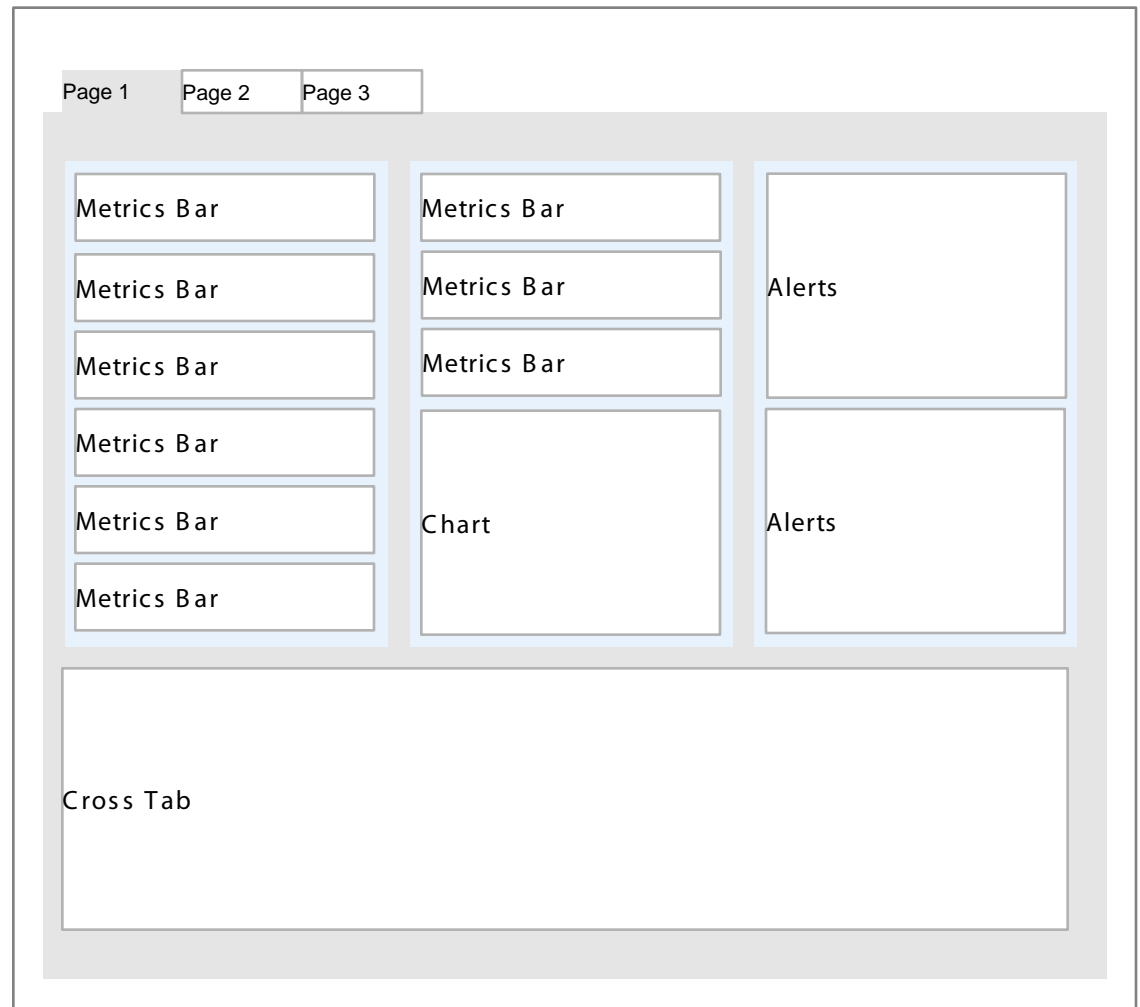
View: multi-purpose

- Purpose
 - Supports exploration, comparison and visualization
- Modes
 - Locating
 - Verifying
 - Evaluating
 - Analyzing
 - Exploring
- Components
 - Breadcrumb
 - Faceted Navigation
 - Metrics Bar
 - Results Table
 - Chart
 - Cross Tab



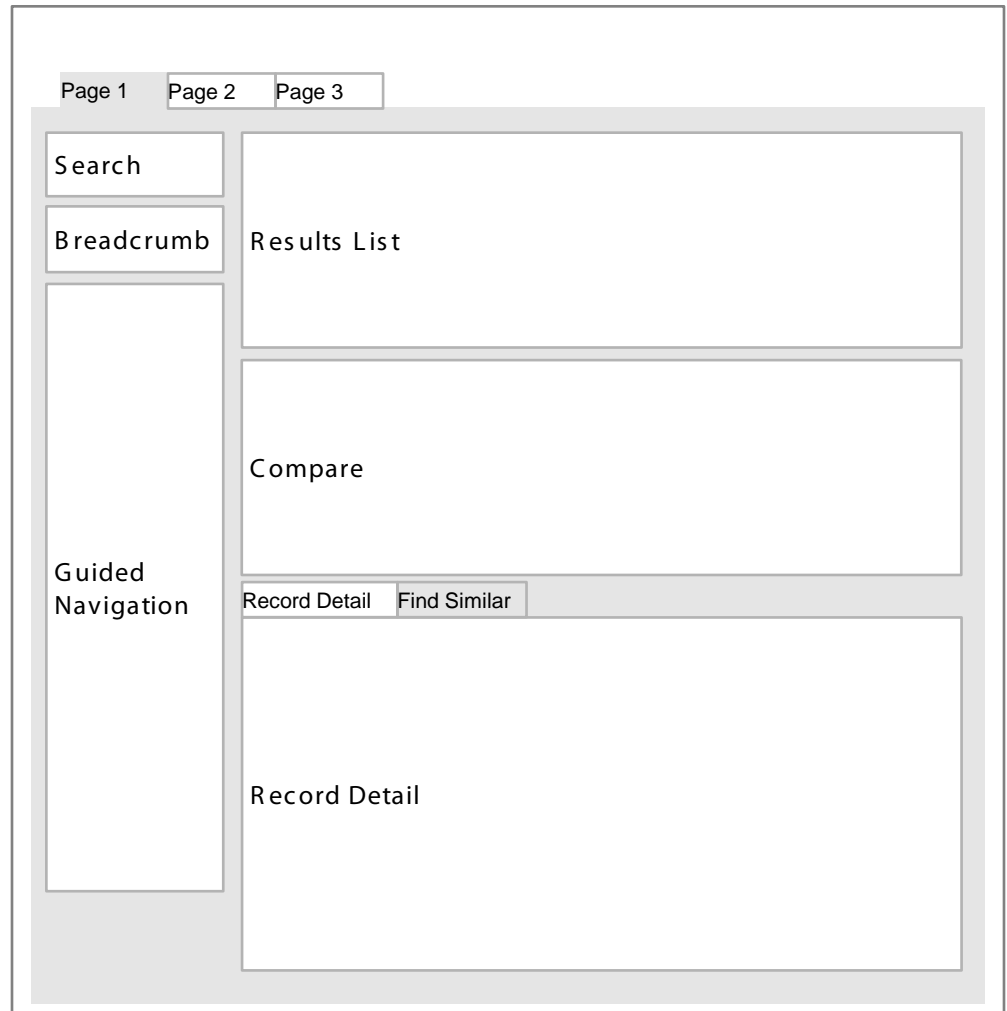
View: status & alerts dashboard

- Purpose
 - Present global overview / summary of key metrics
- Modes
 - Monitoring
 - Exploring
- Components
 - Metrics Bar
 - Alerts
 - Chart
 - Cross Tab

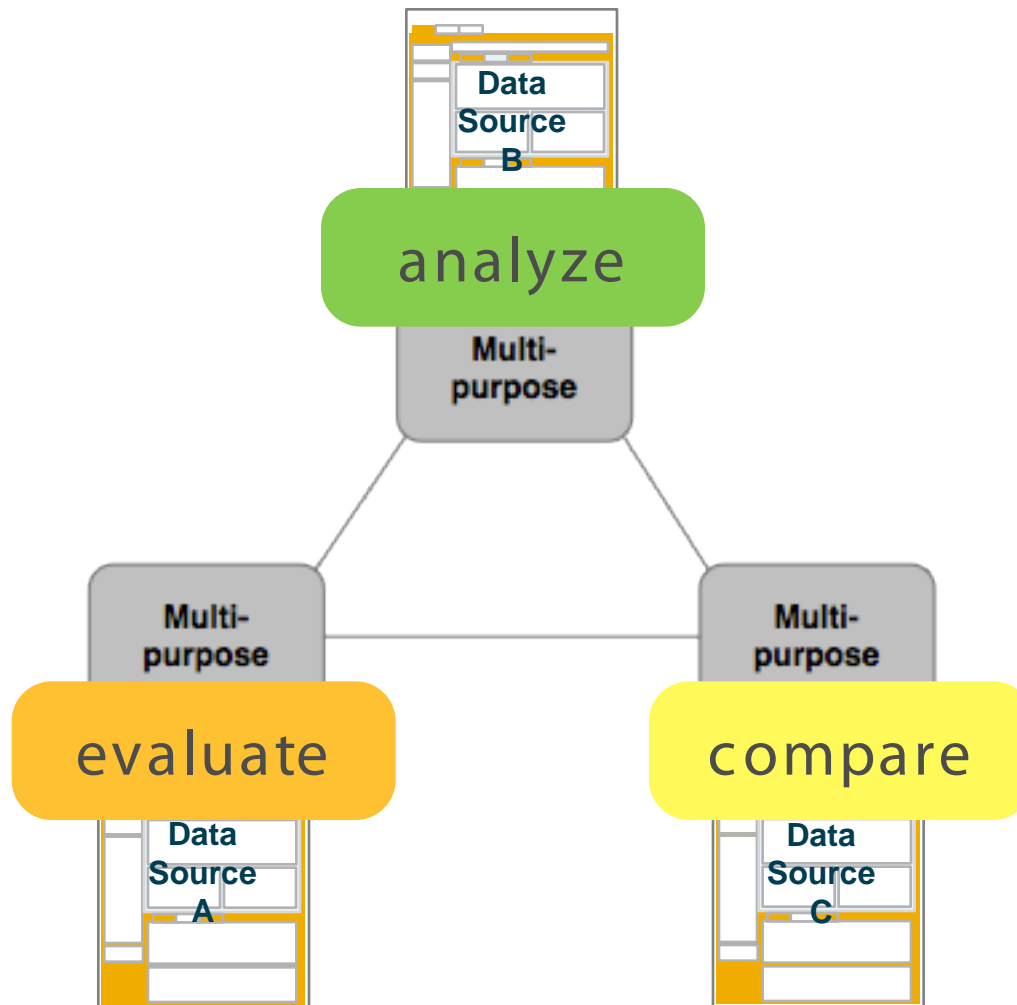


View: unstructured data discovery

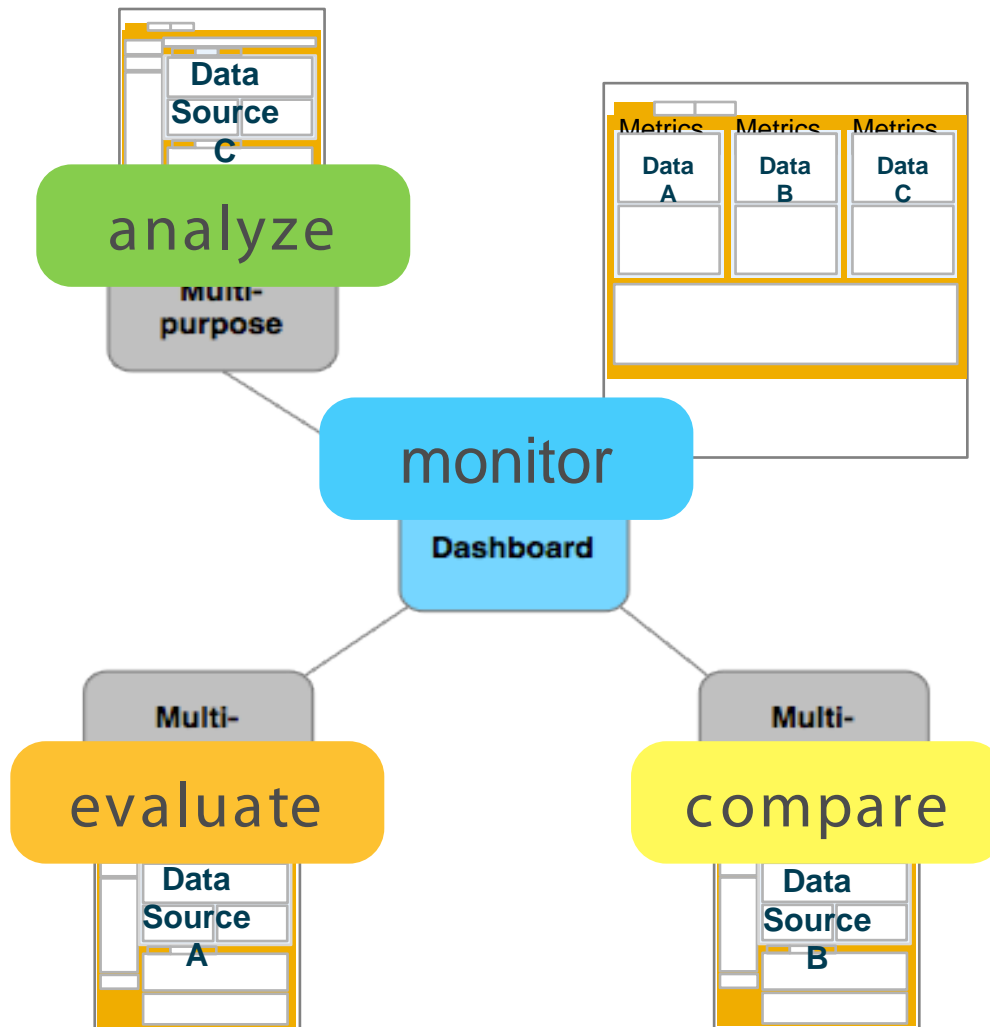
- **Purpose**
 - Explore unstructured data
- **Modes**
 - Comprehending
 - Exploring
 - Synthesizing
- **Components**
 - Search
 - Breadcrumb
 - Faceted Navigation
 - Results List
 - Compare
 - Record Detail
 - Find Similar



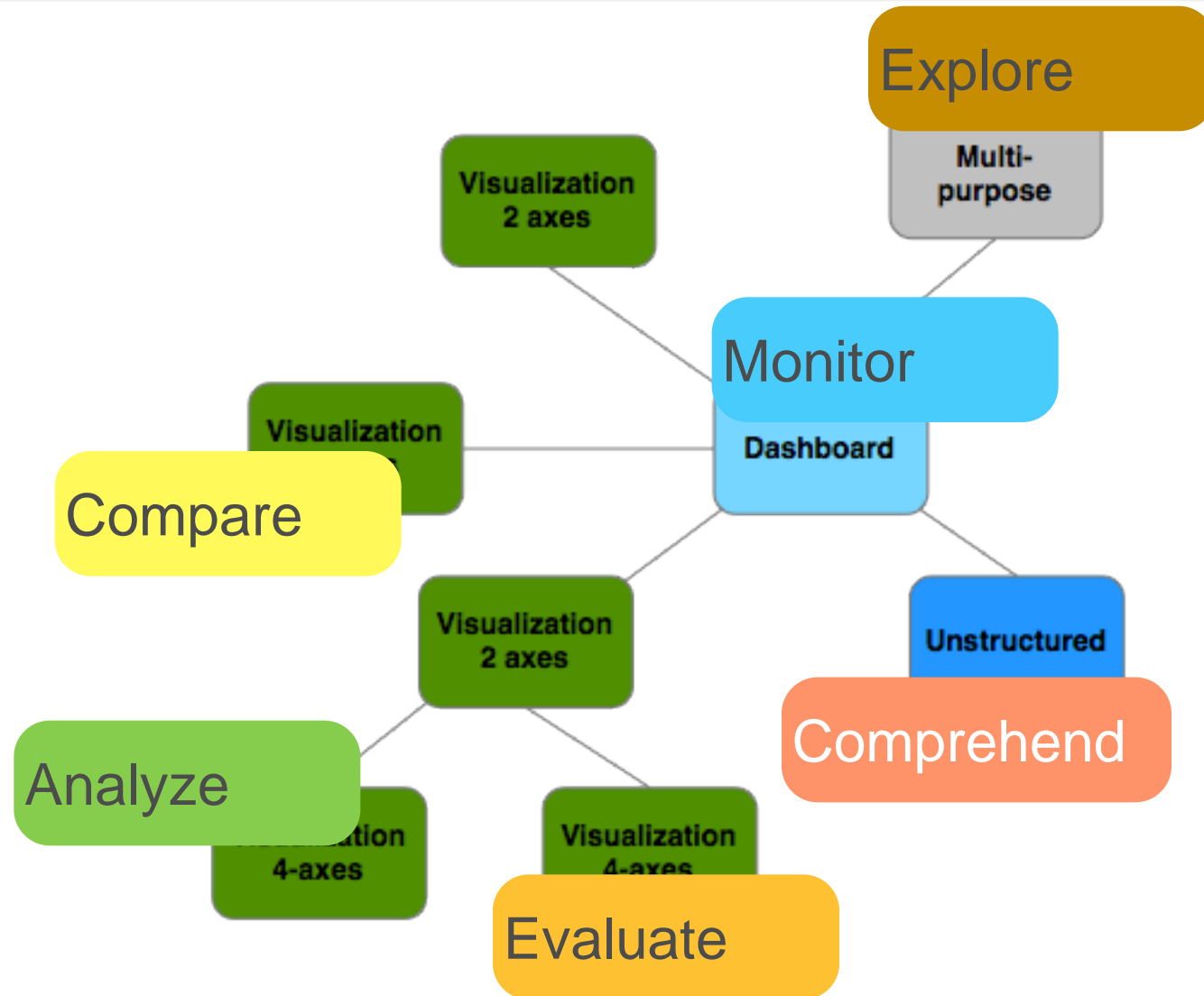
Application structure: classic



Application structure: hub & spoke



Application structure: comprehensive

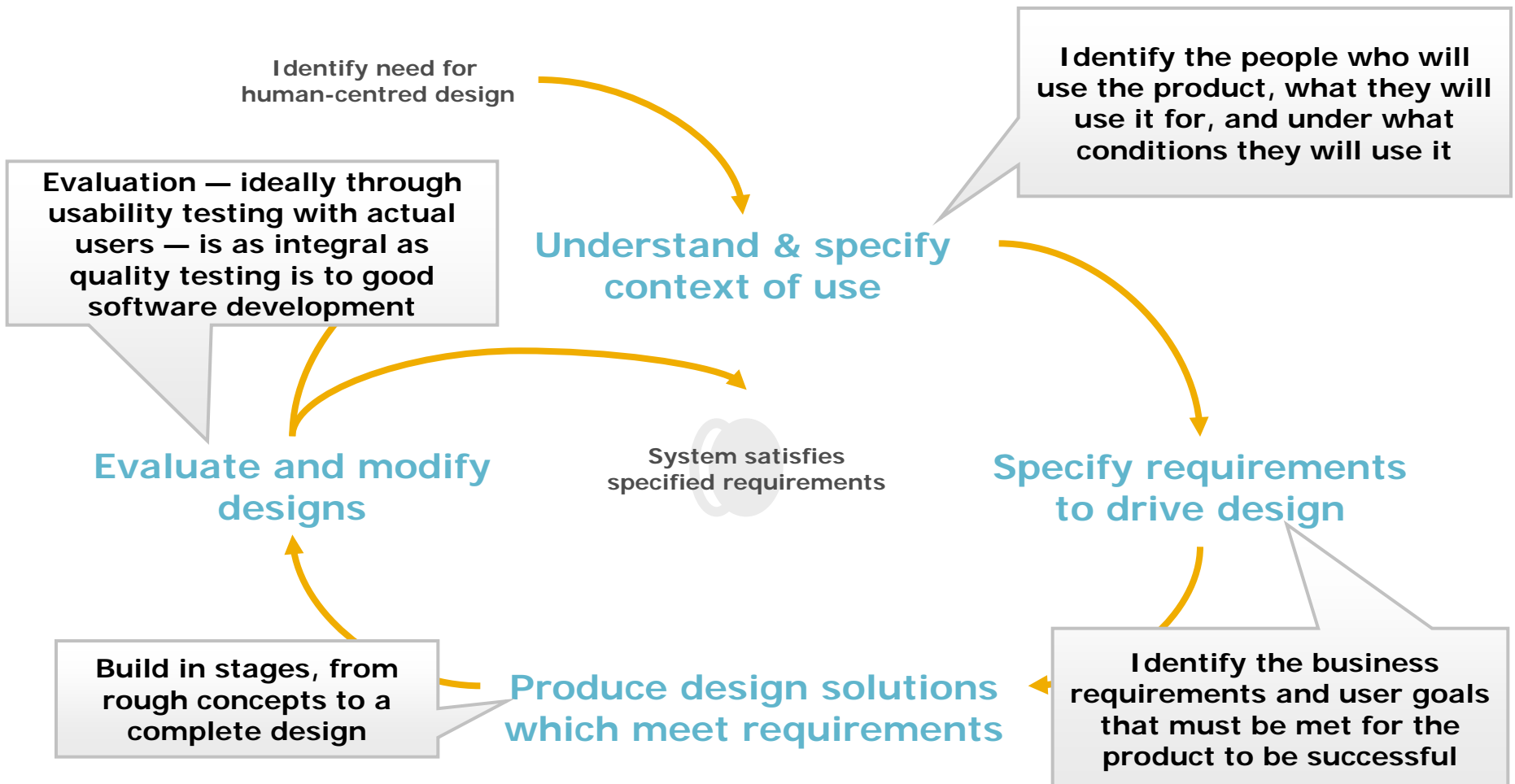


Design resources

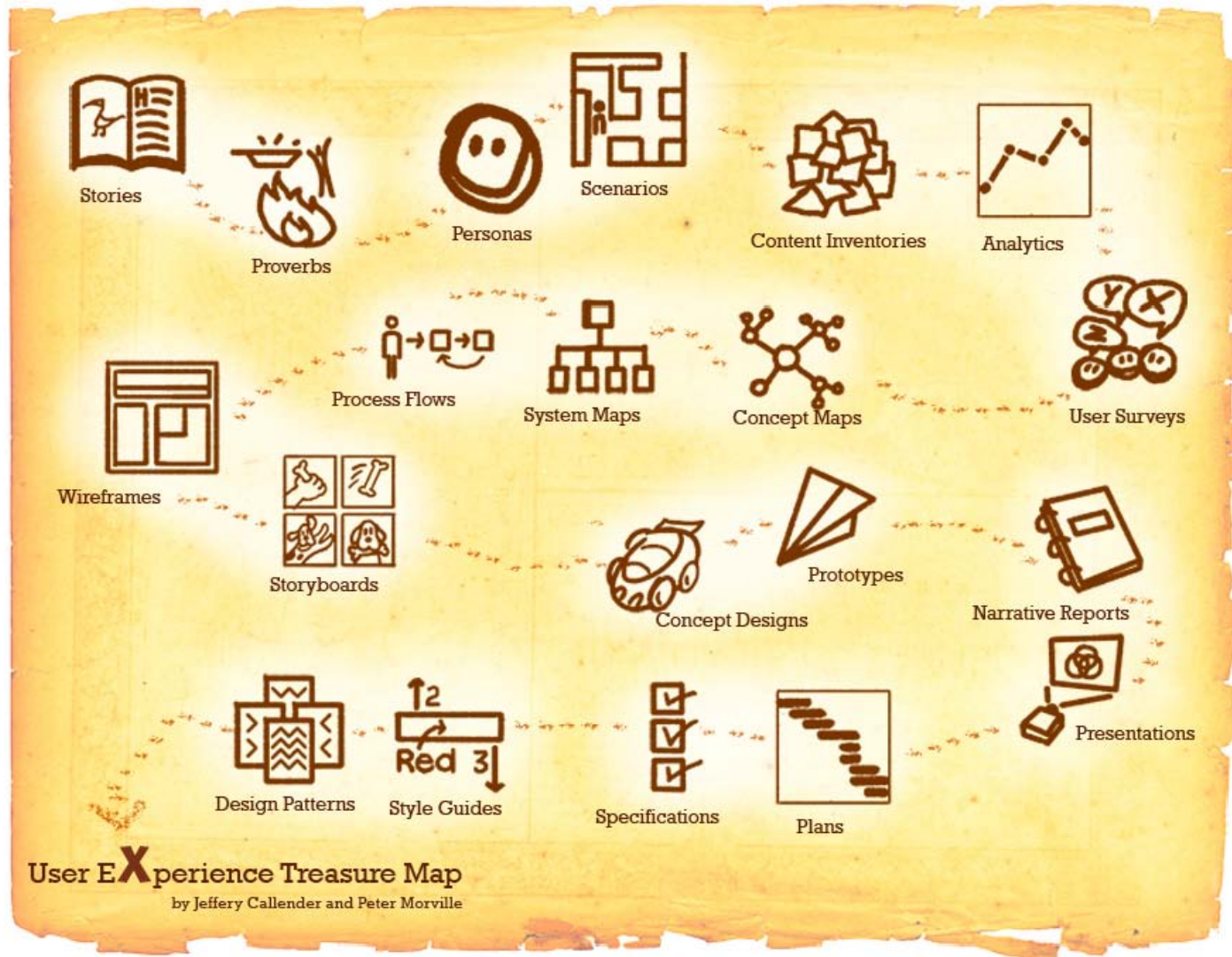
Building on the foundations



Design process



Design deliverables



Design pattern libraries

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 - Item Pagination
 - Search Pagination
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 - Auto Complete
 - Calendar Picker
 - Carousel
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 - Drop Invitation
 - Tool Tip Invitation

Wellcome

Welcome to the Yahoo! Design Pattern Library. We're thrilled to be sharing patterns and code with the web design and development community, hope it's useful, and look forward to your [feedback](#).

The most recent pattern we've released is [Carousel](#), and we've got some great things coming in the new year.

By the way, if you're considering building your own pattern repository or are interested in how we curate our pattern collection here (and how we document patterns internally in the Pattern Library to this one), then you might enjoy [an inside look at the Pattern Library](#). Happy New Year!

What's a Pattern?

A pattern describes an optimal solution to a common problem within a specific context. [more...](#)


Recent Patterns [see all...](#)

Alphanumeric Filter Links
 The user needs the ability to look up information alphabetically within a large data set

Animate Transition
 Designer needs to communicate that an object is changing its spatial relationship within the page.

Calendar Picker
 User wants to find or submit a particular piece of information based on a date or between a date range.

[illegible]



User Interface

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- Analyzing
- Comparing
- Locating
- Exploring
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- Segmenting
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Point Location Map >>



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Welcome to the Library

The Endeca User Interface Design Pattern Library (IACPL) describes principled ways to solve common user interface design problems related to search, faceted navigation, and discovery. The library includes both specific UI design patterns as well as pattern topics such as:

- Search
- Faceted Navigation
- Promotional Spotting
- Results Manipulation
- Faceted Analytics
- Spatial Visualization

The patterns are offered as proposed sets of design guidelines based on our research and design experience as well as lessons learned from the information search and discovery communities. They are NOT the only solutions. Instead, recipes encoded in stone, or a substitute for sound human-centered design practices.

With your feedback, insights, and input, we'll continue to evolve

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Search Patterns


A sandbox for collecting search examples, patterns, and anti-patterns.

Please add tags, notes, and comments, and suggest new examples.


Over time, I hope to add patterns that illustrate user behavior and the information architecture of search.

I'll be blogging about search patterns at findability.org. If you have comments or suggestions, please [let me know](#).


[Peter Morville](#)




Best Bets
7 sets




Faceted Navigation
16 sets




Behavior & Design
3 sets




Auto-Suggest
5 sets




Clustering
3 sets




Structured Results
1 set




Pagination
2 sets




Advanced Search
2 sets



Site Search (Small)
1 set



Site Search (Large)
2 sets



E-Commerce
2 sets

Conclusions

Final thoughts and reflections



Summary

Don't think *user interface*...

- ...think *user experience*

Look for patterns of search behaviour

- Identify discovery modes & workflows

Learn from other design contexts

- Apply ideas from the wider search landscape

Stand on the shoulders of giants

- Use proven design processes, methodologies & resources

Thank you!



Tony Russell-Rose, PhD

Vice-chair, BCS IRSG

Chair, IEHF HCI Group

- Email: tgr@uxlabs.co.uk
- Blog: <http://isquared.wordpress.com>
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