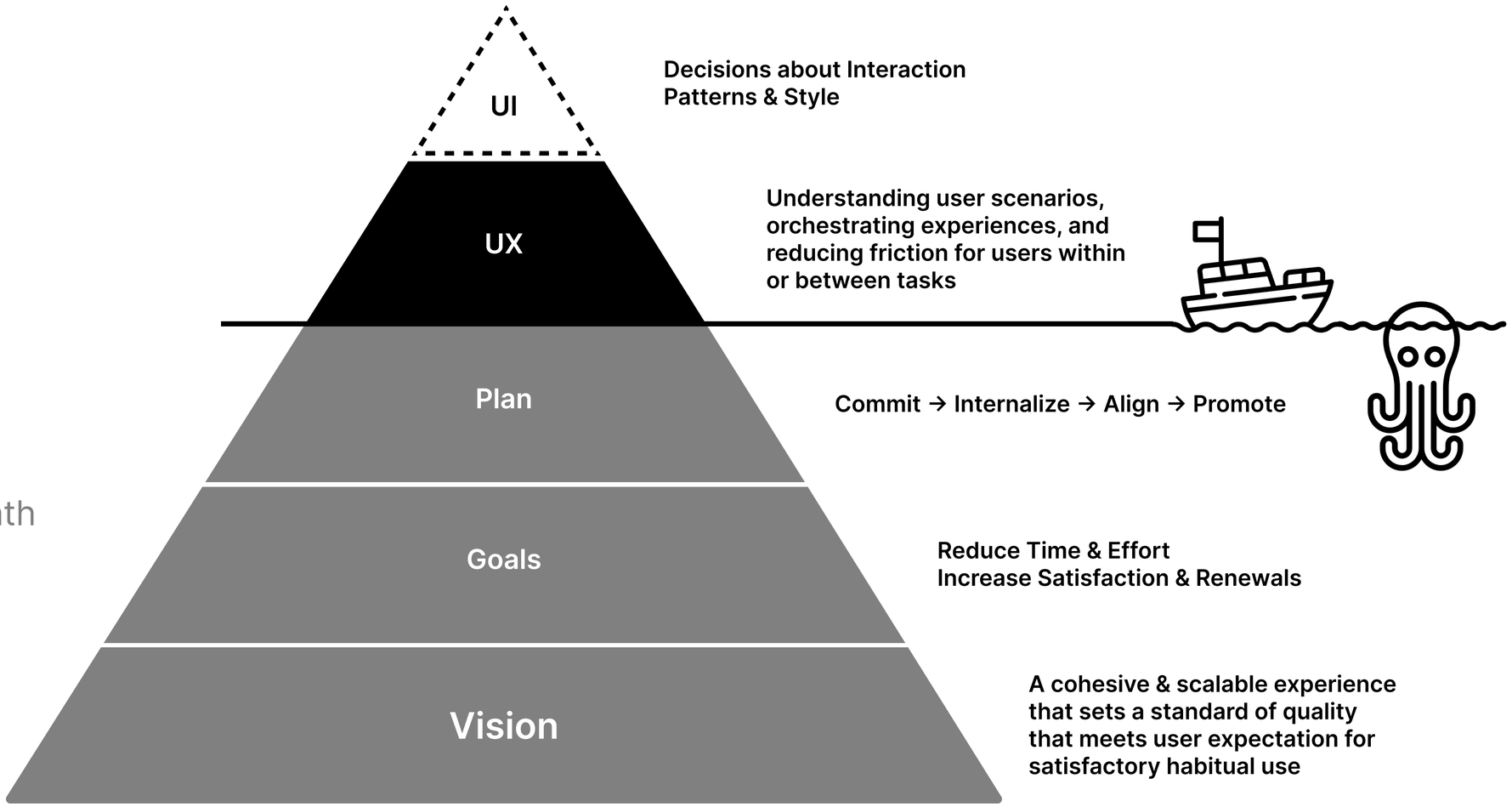
A Common Experience Design Language

A path to a cohesive and scalable user experience

Design Principles: So What?

The strategy lurks beneath



Definitions

Cohesion

The action or fact of forming a united whole. The stickiness factor that holds things together and gives them meaning.

Scale

The relative size or extent of something. In our case, how well something adapts to extremes.

Cohesion Realized

Eventually, by applying patterns at scale with the conceptual principles as a unifying element creates cohesion; a united whole that makes users recognize the feel of each experience as an Edmentum experience.

Even if we were to change the content or visual style.

How can this reduce time and effort if it’s adding cohesion & scale?

Values, insights, & best practices are baked In

Shorten the time needed for each individual decision by providing guidance about the overall strategy and possible decision criteria

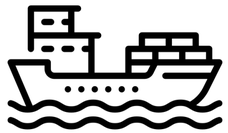
Established a shared understanding

Allow consistent and effective decision-making by a larger group of practitioners, by providing a shared frame of reference and a unified language

Recycled previous decisions

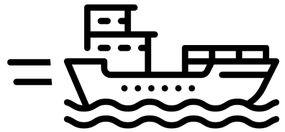
Reduce wheel-spinning and internal debate because you can derive answers to low-level, tactical questions without heavy investment. Human behavior is relatively static, what changes is the scenario.

Consistently make the same decision in similar situations.



First time

Make a few cohesive and scalable decisions based on values, insights, best practices



Next time

Fewer decisions to make by leveraging the previous ones.

Content and data has changed, but how people use the web has not.

Eventually

You can completely focus on understanding user scenarios, orchestrating experiences, and reducing friction for users within or between tasks

The Plan

If **only one** of us is not in sync, we go nowhere

There are trade offs, but then there always are.

We can’t have it all, so what do we want most?

This will reduce my control

But you will have fewer decisions to make and more time to focus on higher impact decisions that reduce cognitive load.

Ultimately, the experience will look and feel much more cohesive and scalable as a whole.

I won’t always agree

But we will be aligned as a team. Even if we make a wrong decision, we can use data to recover.

Ultimately, with component driven development, we can make one change and fix all instances at once.

Guidance might conflict

But there will be fewer conflicts over all than there are now.

We will do our best to prioritize these and come to a consensus as they appear.

We may break from what consistency we do have now

But we’ll eventually have much more. This will take time, but if we start now we will get there sooner than if we never start. Each situation we fix, will be aligned moving forward with greater usability and greater clarity.

Mindset Shift

“A rising tide lifts all boats.”

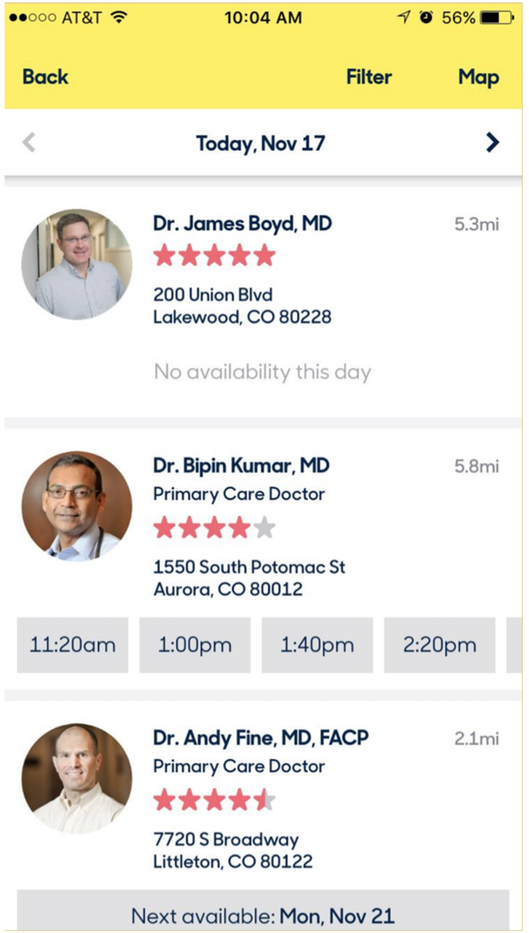
Each page can be the best version of itself and it can contribute to a cohesive scalable experience, if you start with that in mind.

Conversely, If you start with a single page mindset, you can’t make it cohesive and scalable. It actually pulls the whole experience down.

Cognitive Awareness

Exercise 1

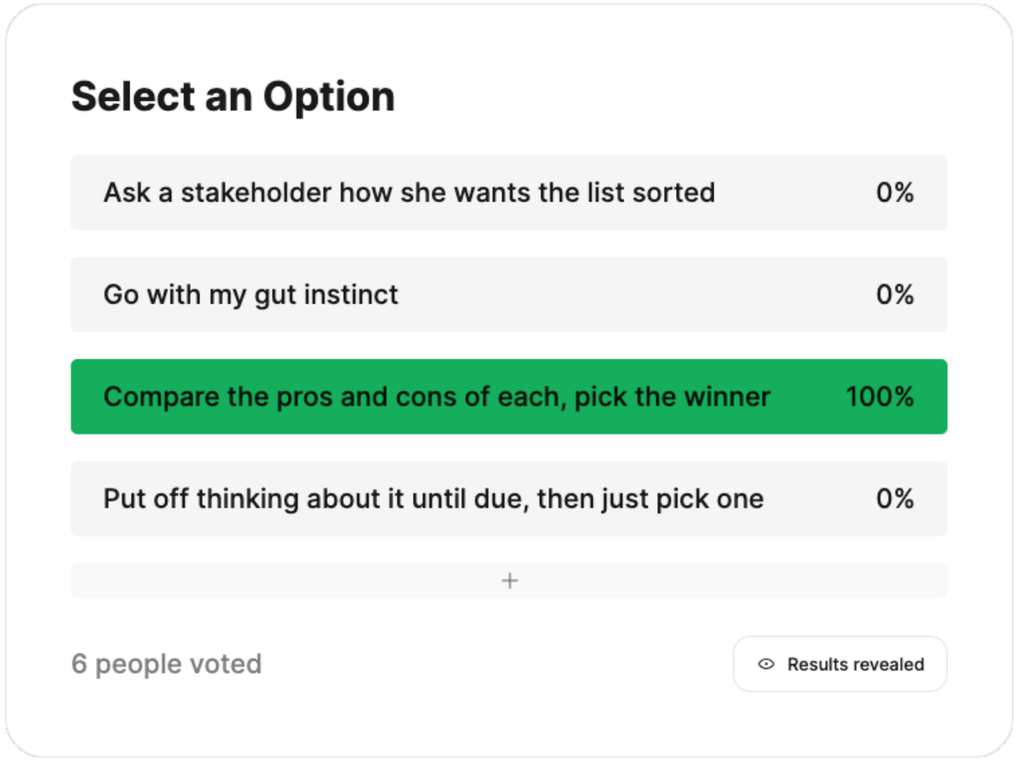
This app lets patients find local doctors and make appointments.



Imagine you need to recommend **one sort method** for the list of doctors:

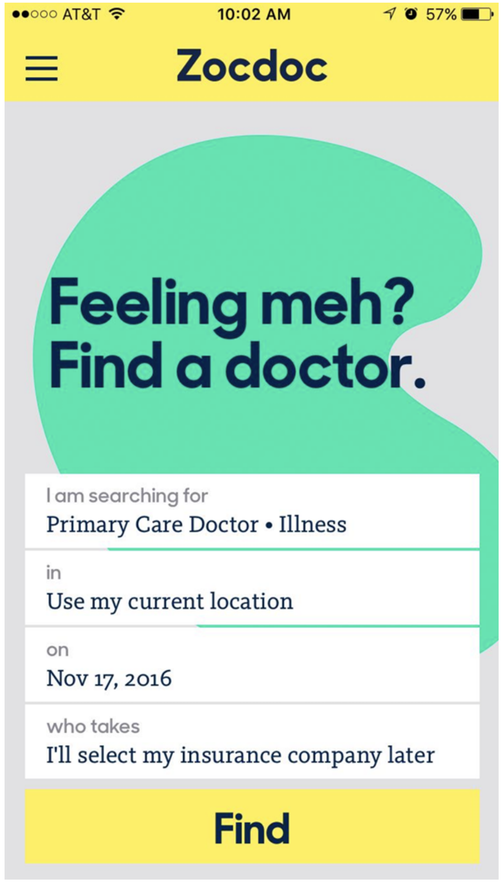
• **Availability** • **Rating** • **Distance**

Realistically, which of the following are you most likely to do?



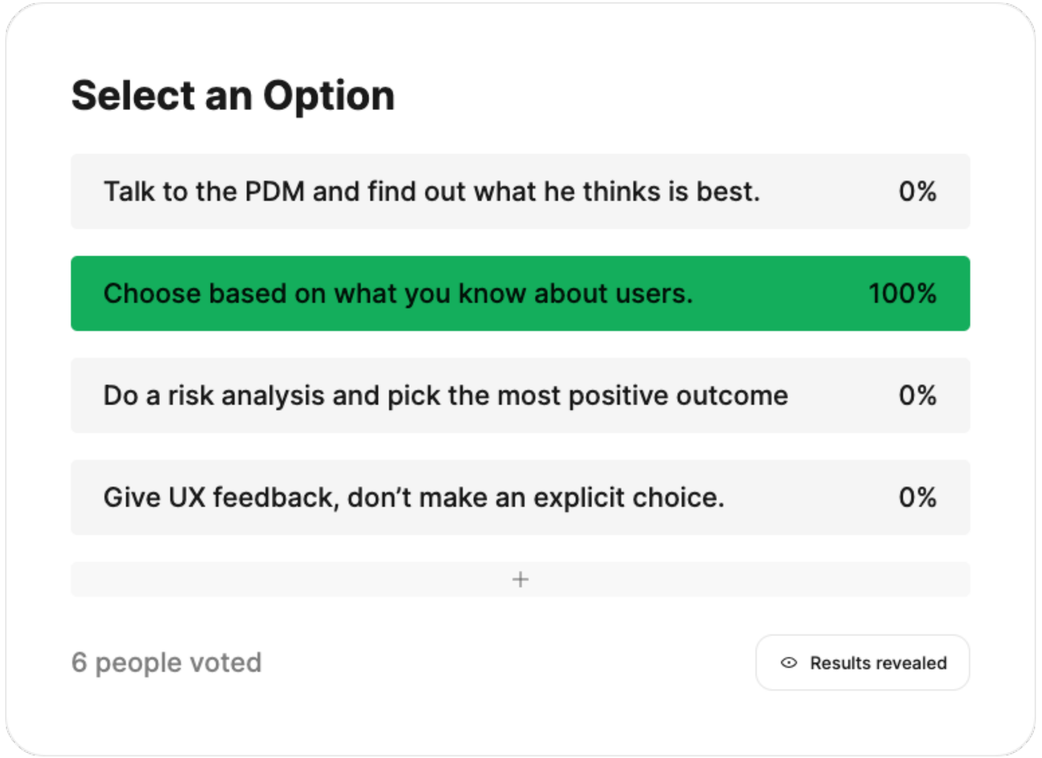
Exercise 2

Most patients want to know if a doctor will accept their insurance, But insurance plan information is expensive to acquire and maintain.



Imagine you've been asked to recommend whether the insurance coverage feature can be omitted from the coverage feature.

Realistically, which of the following are you most likely to do?



Results

Each answer corresponds to a particular **decision style**. A learned, habitual pattern individuals prefer to use for decision-making. It varies not just by each **individual**, but also by each **situation**.

1
First Mate

Resolves uncertainty by consulting with others

Dependent

2
Pirate

Act based on feelings and hunches, without lengthy deliberation

Intuitive

3
Captain

Use a systematic process to gather information and compare options

Analytical

4
Scallywag

Try not to make a decision at all

Avoidant

Scott, S. G., & Bruce, R. A. (1995). “Decision-making style: the development and assessment of a new measure.” Educational and Psychological Measurement, 55(5).

Discussion

1

Did you choose the same or different styles in the first vs. second example

2

Does the style you picked for that exercise match how you actually make decisions in real life?

3

Are there benefits to using the ‘first-mate’ or ‘scallywag’ decision styles?

Situation predicts decision style even more than individual preferences

More domain experience correlates with stronger preference for **intuition**, but not with reduced preference for **deliberation**.

T. Pachur, M. Spaar. “Domain-specific preferences for intuition and deliberation in decision making”, Journal of Applied Research in Memory and Cognition 4 (2015)

Thinking fast and slow is how our brains work

Decision styles are not a feature of some and a bug of others. Intuitive & analytical thinking are actually representative of our brains “Two Systems”. We can’t turn either system off, so we need to be aware of how they work.

Kahneman, D. (2011). Thinking, fast and slow. New York: Farrar, Straus and Giroux.

Intuitive

System 1: “The Associative Machine”

Automatic, subconscious, fast, believes

Directs System 2 with impressions

Influenced by emotional reactions

Pattern recognition quickly categorizes by comparing to past experiences

May distort, create, or discard information in an attempt to match a pre-existing pattern

Ignores absent information

Analytical

System 2: “The Lazy Controller”

Effortful, conscious, slow, unbelieves

Responsible for self control, can endorse or override System 1

Only activated by System 1 when something doesn’t fit or it’s surprised

Systematic processes used to organize and compare information

Can choose to consider alternate perspectives (short vs. long term)

Intuitive System 1

Bananas

Vomit

Intuitive System 1

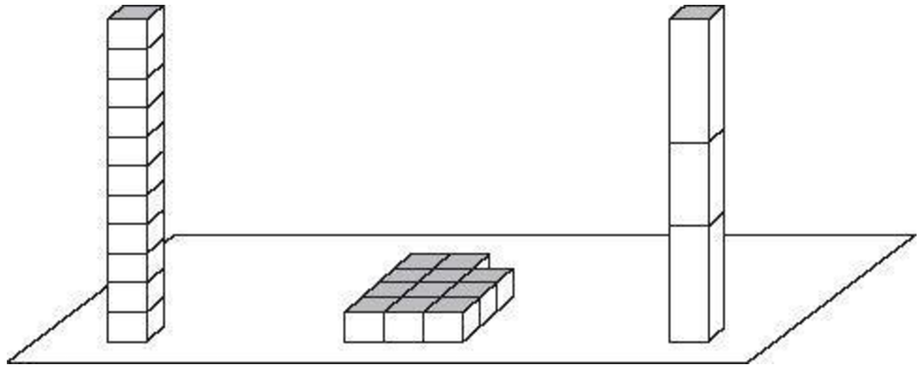
sleep mail switch
salt deep foam

Analytical System 2

All roses are flowers
Some flowers fade quickly
Therefore some roses fade quickly.

Systems Combined

1. Are both towers the same height?
2. What about the middle?
3. Are there the same number of blocks in left and middle?
4. Exactly how tall are the towers?



Systems in Conflict

- Go down both columns, saying whether each word is printed in “lowercase” or “uppercase”
- Go down both columns, saying whether each word is printed “left” or “right”

LEFT

left

right

RIGHT

RIGHT

left

LEFT

right

upper

lower

LOWER

upper

UPPER

lower

LOWER

upper

Who is more favorable?

Alan: intelligent—industrious—impulsive—critical—stubborn— envious
Ben: envious—stubborn—critical—impulsive— industrious—intelligent

Who is Steve?

“Steve is very shy and withdrawn, invariably helpful but with very little interest in people or in the world of reality. A meek and tidy soul, he has a need for order and structure, and a passion for detail.”

Is Steve more likely to be a librarian or a farmer?

What does it all mean? For starters...

We are biased

Humans are not always rational decision-makers and our choices are often influenced by unconscious bias

What you see is all there is

When information is scarce, we jump to confident conclusions. The quantity and quality of the data is less important to our brains than a coherent story. This leads to quick, but sometimes poor judgements.

We remember stories, not statistics

Our intuitions about statistics are poor. We should take care to reference data and not get caught up in stories we construct in it’s absence.

Good Executive Function requires a strong System 2

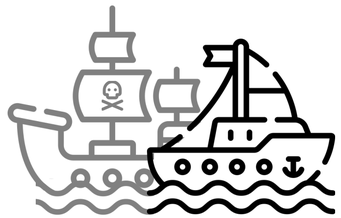
Training ourselves to direct attention and focus can improve context switching, emotion monitoring, engagement, and even intelligence.

Intuition is just recognition

We can make it more reliable if we practice and get timely feedback on a skill. Good intuitive judgements are developed when experts have learned to recognize familiar elements in a new situation and to act in a manner that is appropriate to it.

We benefit from insights

Doing research, analysis, and reflection trains our intuition with new data and provides a reference because we can only hold so much in our brains and we over-index on stereotypes.



Cognitive Biases

We aren’t always rational and this affects us and our users

A Short List of Biases

- Cognitive Ease
- Causality
- Conjunctive Fallacy
- Framing and Anchoring
- Confirmation Bias
- Halo Effect
- Base Rate Neglect
- Availability Bias
- Loss Aversion
- Sunk Cost Fallacy
- Overconfidence

Cognitive Bias Codex

What will this information do for me?

Identify and address biases

People’s choices are often based on unconscious biases. These biases are predictable and we can account for them as we collaborate and support users in their tasks as long as we are aware of them.

Design for the way people actually think

We are not the user, but the user is a person. We can’t design products that only make logical sense. We have to account for what a person would think makes sense in context.

This is so impactful it redefined the way economists and many other domains work.

Design for the long term

If our users can complete tasks with our products, that will be satisfying and bring them back habitually. If our products can create good lasting habits, then users will see positive outcomes.

Remove barriers, don’t manipulate

We are trying to remove barriers to what users already want to do, so that means helping them overcome or leverage cognitive biases rather than letting them fall victim to it.

If you remember only one thing...

Reduce Cognitive Load to Maximize Usability

“Anything that occupies your working memory reduces your ability to think.”

Human have limitless will power, but limited processing power. When exceeded, performance suffers or the task is abandoned.

If we had to have only **one** principle, **this** would be it.

Every interaction has a cost and users take the path of least resistance

There are many ways to reduce cognitive load; here are five to start with.

Reduce clutter and distraction

Build on existing mental models

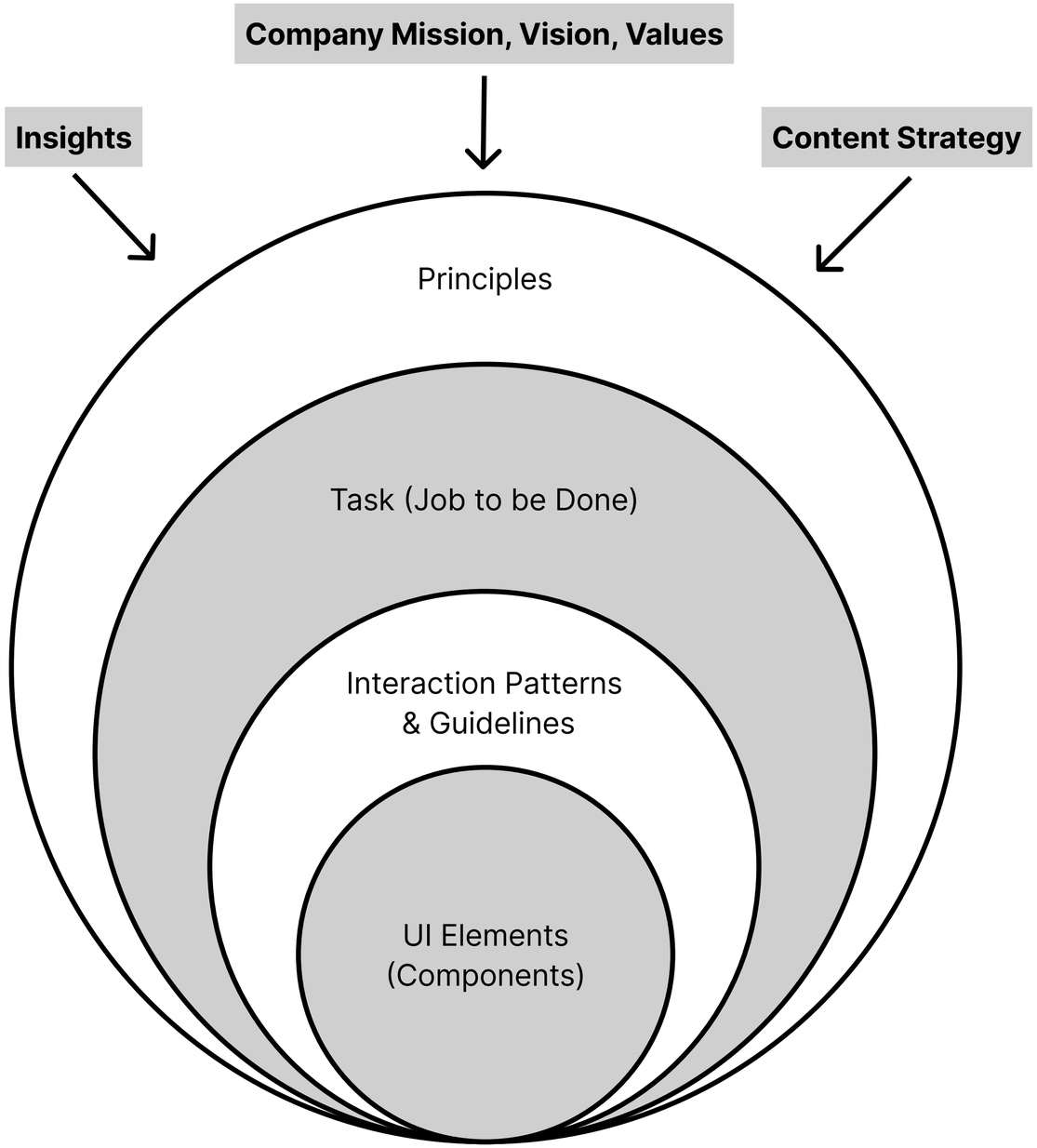
Offload tasks

Present things at the right time

Build confidence & motivation

An Experience Design Language

A scenario-relevant way to reduce cognitive load for us and our users



Edmentum Experience Design Language in Confluence

Principles

1

Help our users bring harmony to their village

2

Give time back to our users

3

Engage our users productively

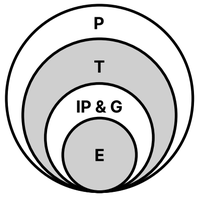
4

Support our user’s autonomy

Principles in Confluence

Insights

Output



UX Research Insight
Our educators have struggled with completing tasks efficiently when they have go back and forth to find, adjust, and analyze.

Theme from Audit Analysis
Pogosticking occurs in every admin report we audited

Cognitive Insight
There are more things that cue memory retrieval with recognition than recall, which makes recognition cognitively easier.

Best Practice
Recognition Rather than Recall

Principle (Most Conceptual)
What core value does this provide users?

Task
What job-to-be-done are we supporting and for which users?

Interaction Pattern
Which barriers are we trying to remove?
Which behaviors are we trying to reinforce?

- **Guideline**
  How and why do I do that?

UI Element (Most Tangible)
What elements support this and how do they function?

Insights

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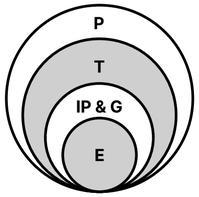


Principle (Most Conceptual)
Give Time Back to Our Users

Task
Admin Data Analysis Across Sets of Students

Interaction Pattern
Educators can understand and flexibly narrow data across categories of students

- **Guideline**
  Selection controls should stay in proximity to the thing they are adjusting

UI Element (Most Tangible)
Sticky Nav Bar

Where to Start

Read the confluence thoroughly

Internalize the guidance

Reflect at time intervals
or key process points

Don’t rush into mockups

Communicate with each other

Suggest improvements to the format

Commit

Even if we question whether we agree with the principled pattern or guideline in a specific instance, it makes sense to align to it anyway.

We can reflect on the guideline itself outside of that instance. Then, if necessary, change all future decisions as a result.

How to Use the Guidelines

Who is the user and what are their goals?

Look for a matching task

What is the purpose of the interaction?

Look for a matching element or pattern

I can’t find a match

Some of the guidance may still apply, otherwise..

- is this a variation or an innovation?
- Is it cohesive and scalable?

Does this decision support Edmentum users?

Regularly and when in doubt: look at the principles and use the reflection questions

Working Cross-Functionally

Identify Common Goals

“We all win, when…”

- Review and get alignment on relevant patterns at the start
- Pre-mortem exercise
- Focus on Retention
  Customers *stay* happy when users *stay* happy
- Tie back to principles
- Success Measures
- Etc.

Everything has a cost

Clarify trade offs with a scale

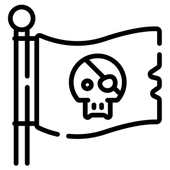
- identify and discuss factors
- cluster into themes & narrow
- rank each factor for importance
  - no two items can be equally important which drives a priority

Analyze the risks with a risk assessment or the marble jar exercise

Adjusts for negativity bias

- Review Options
- 1 marble for meeting goal
- 3 marbles for violating

Commit to a plan for iterating



Escalate

We have your back. If you can’t resolve a conflict, reach out to your manager.

A Note About Components

We need a technology design system partnership to fully invest in reusable, maintainable components. Until then, we won’t get the full benefit.

But we can make our own lives easier by leveraging figma components we create and get a head start.