KB4-CON

The Art and Science of Secure Behavior

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KnowBe4

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Security Awareness and *Secure Behavior* are NOT the Same Thing

Traditional awareness programs fail to account for the *knowledge-intention-behavior gap*

Agenda

1. Why behavior?
2. How can you model and design secure behaviors to help shape good security hygiene?
3. How can you debug behavior?

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There are Three Realities of Security Awareness

1. Just because I'm **aware** doesn't mean that I **care**.

2. If you try to work **against** human nature, you will **fail**.

3. What your employees **do** is way more important than what they **know**.

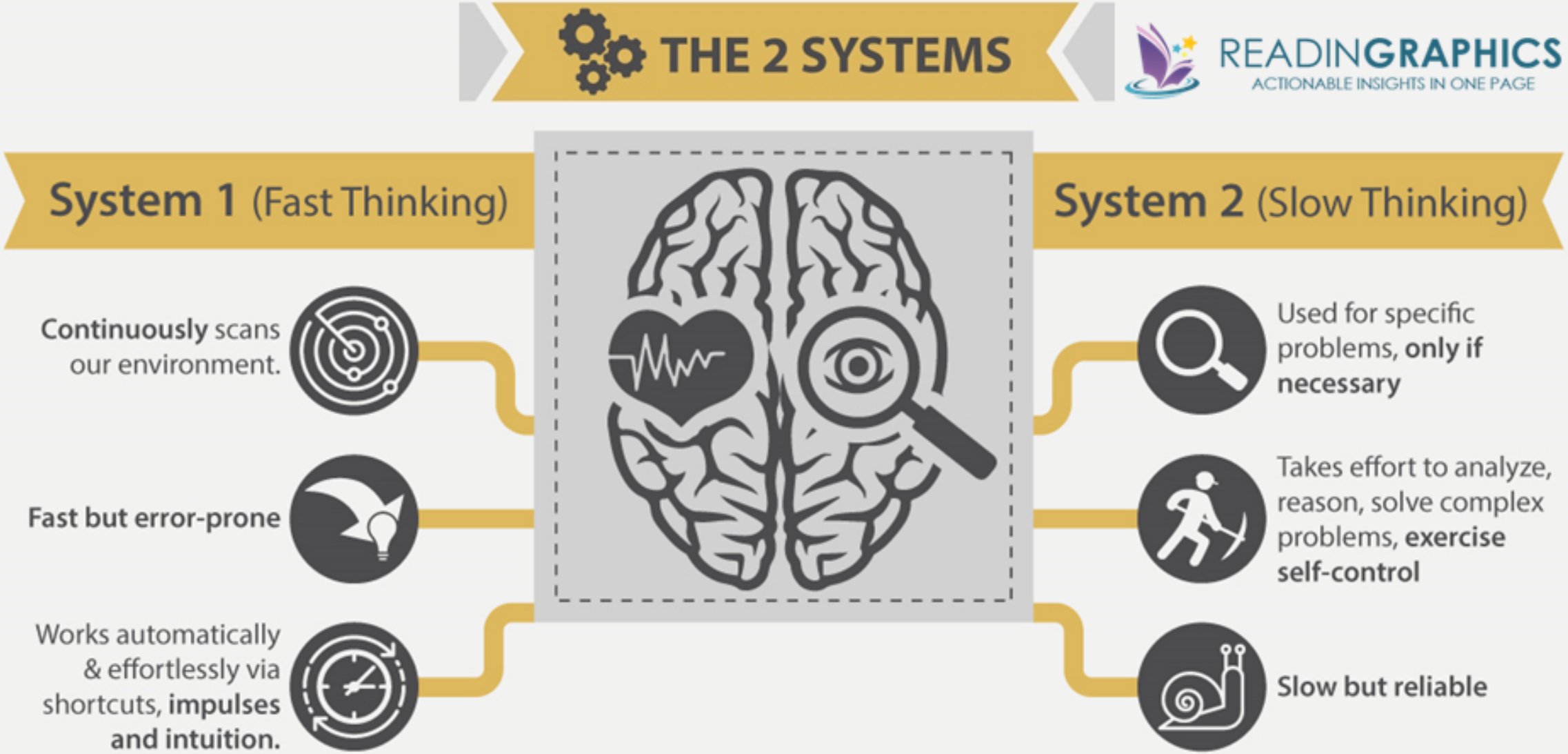
Security Awareness and *Secure Behavior* are NOT the Same Thing

Just because I'm *aware* doesn't mean that I *care*.

If you try to work against human nature,

you will fail…

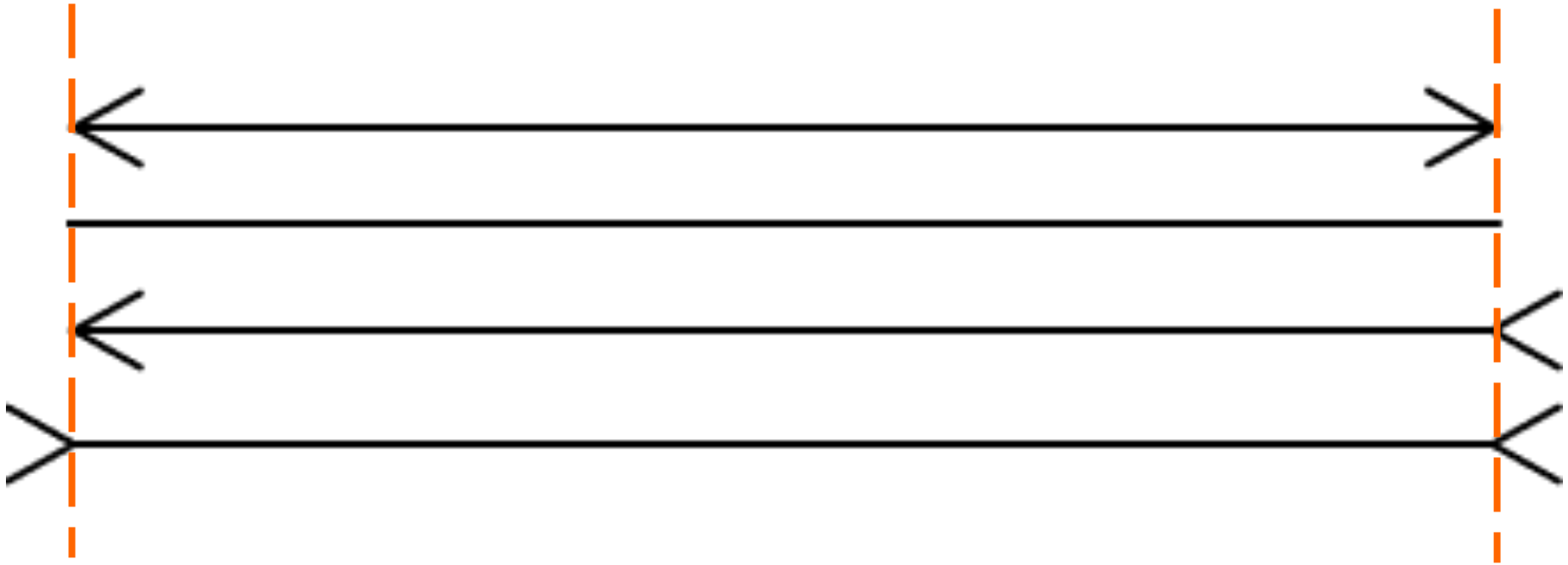
Thinking, Fast & Slow (Daniel Kahneman)



Graphic Source: https://readingraphics.com/book-summary-thinking-fast-and-slow/

System 1 Thinking Example

Which line is longest?



System 2 Thinking Example

Solve for *x*:

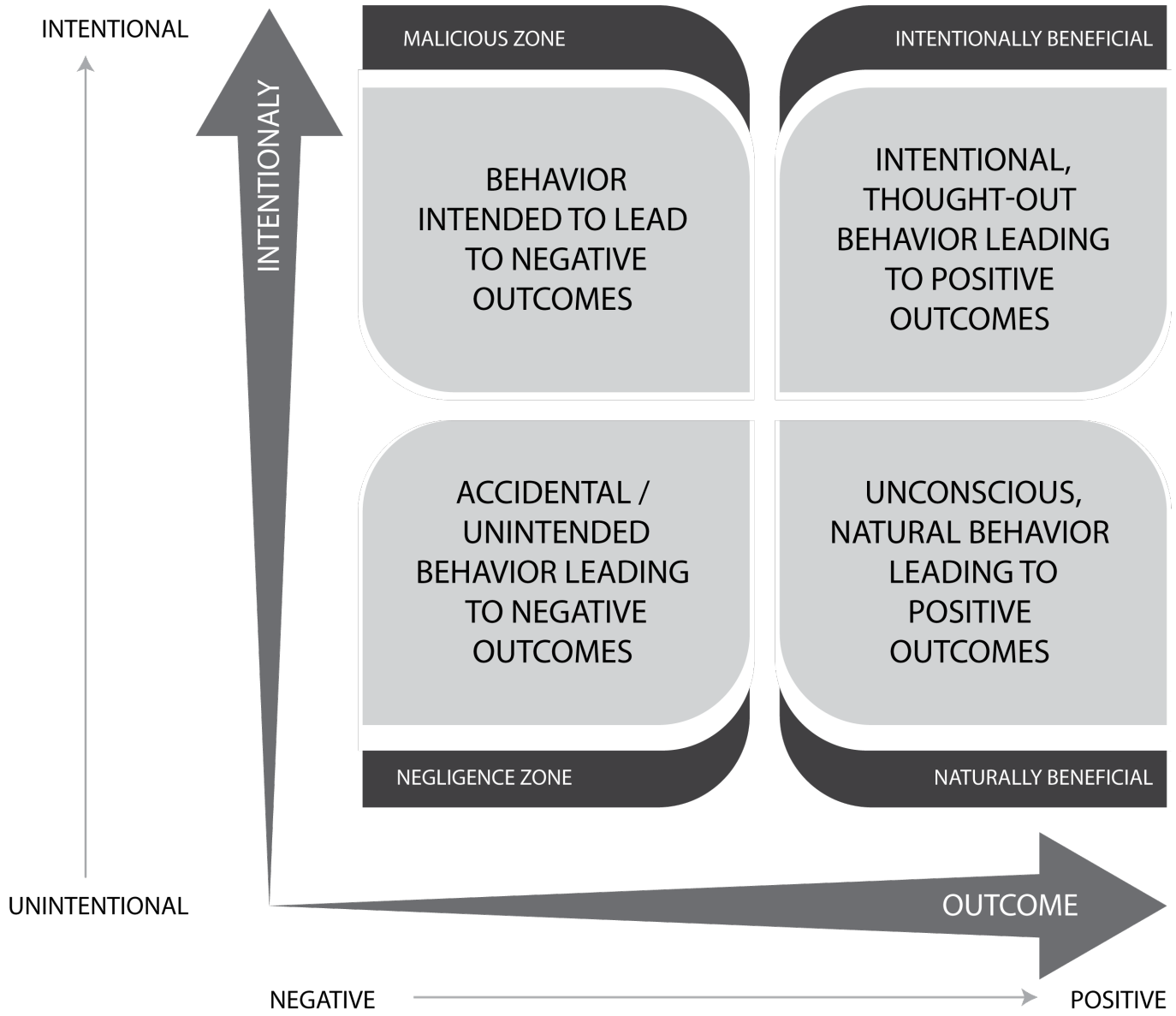
532 ÷ 86 = *x*

Your awareness program should not focus only on information delivery

Ask yourself:

Do you care more about what your people ***know*** *or what they* ***do****?*

Thinking about Behavioral Intersections and Interventions



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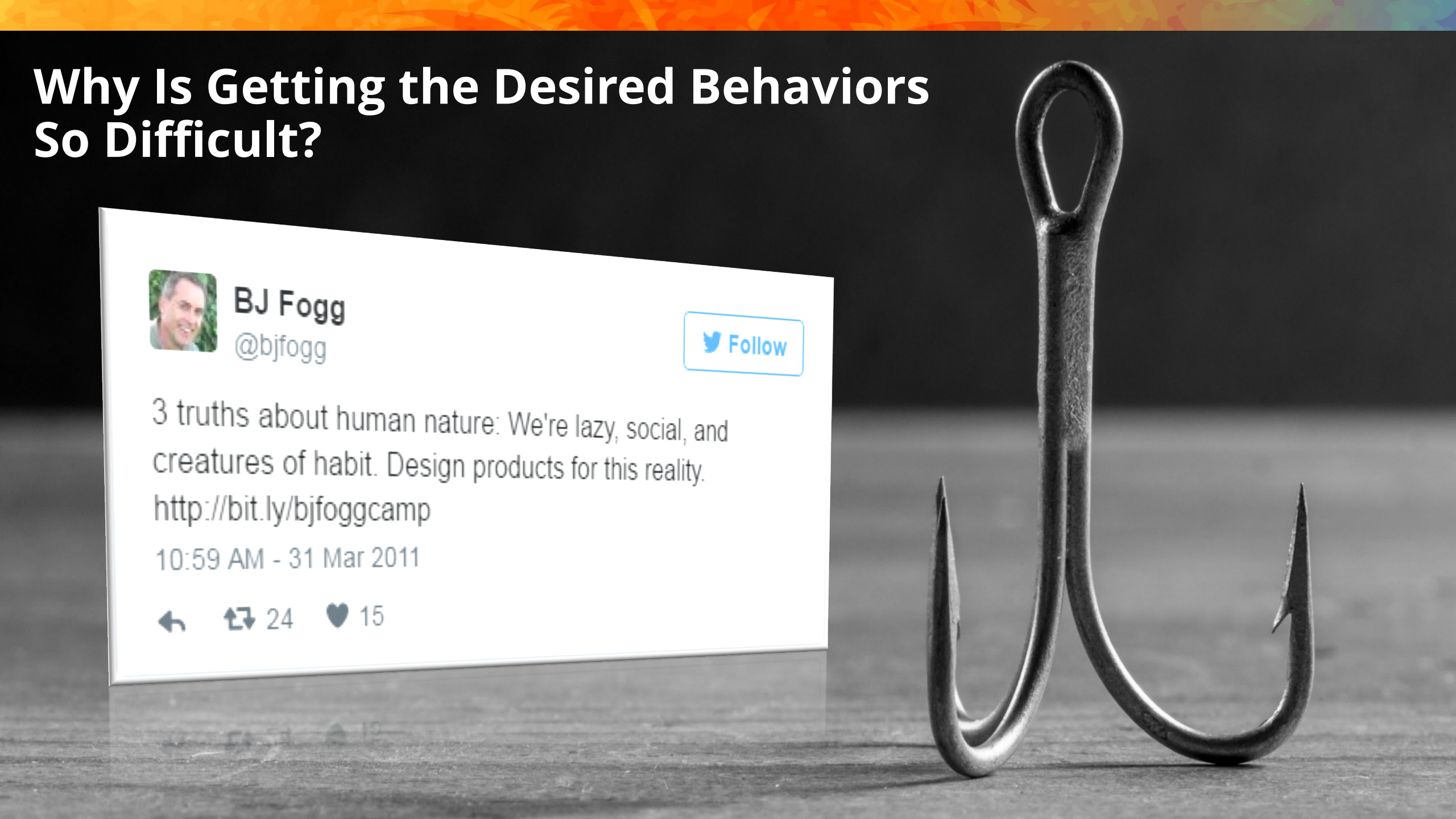
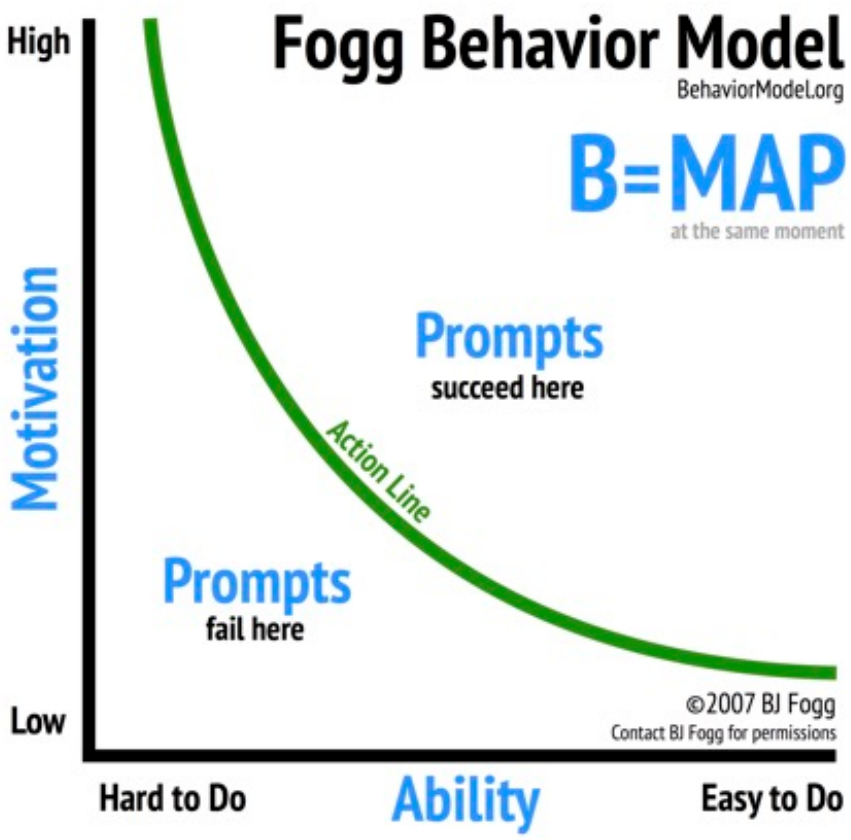
Why Is Getting the Desired Behaviors So Difficult?



BJ Fogg** is the father of a field now referred as **"Behavior Design."



http://behaviormodel.org

Behavior happens when three things come together at the same time:

Motivation, ***Ability***, and a ***Prompt*** to do the behavior…

Get Specific:

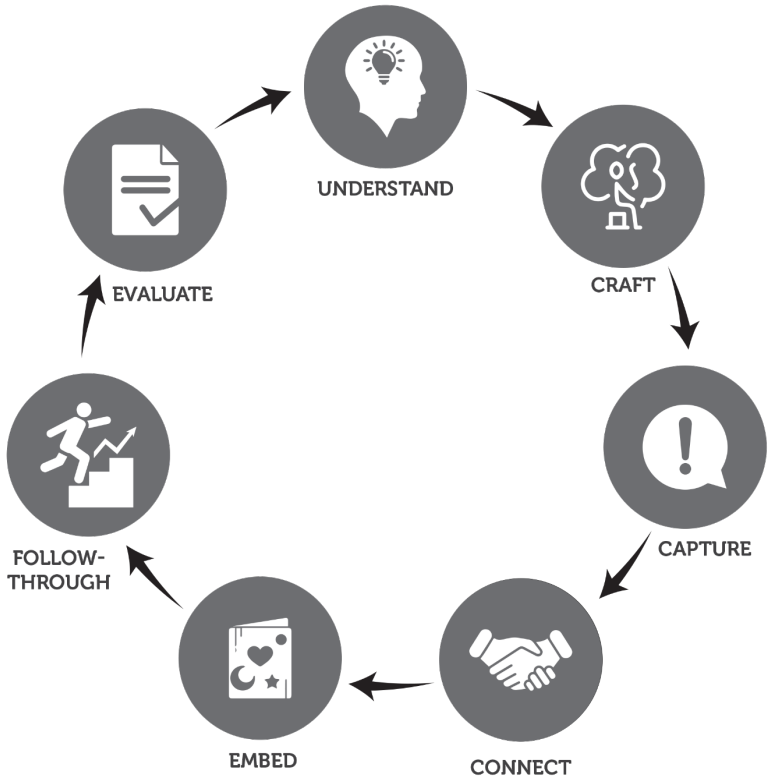
1. What behaviors, if adopted, would have the most security benefit for our organization?
2. Is this a group of behaviors, or is this a single behavior?
3. Is this a behavior that we have the appetite to take-on right now?

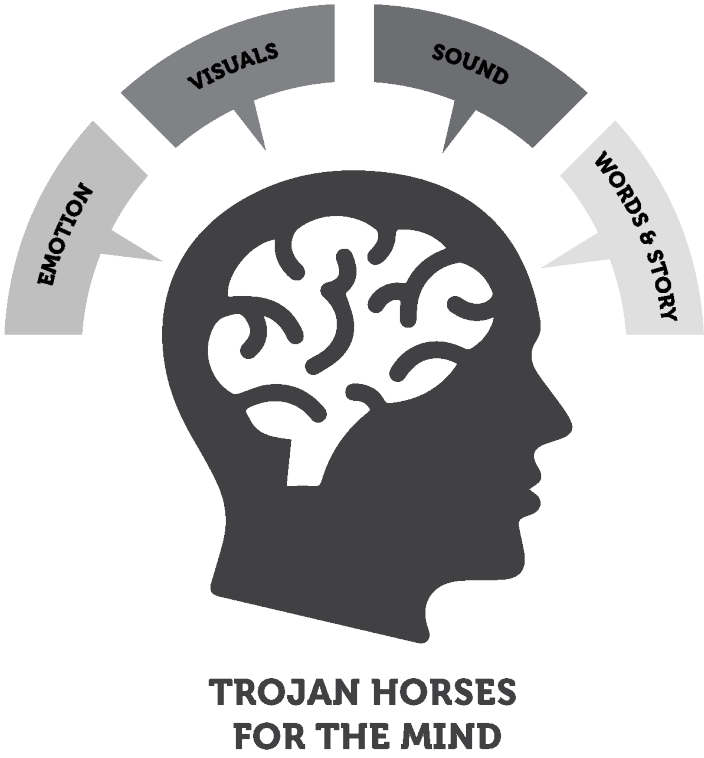
Designing Behavior (A Non-Security Example)

Fogg Behavior Model Component	Description
Behavior(B): What specific behavior do we want someone to do?	Drink a glass of water
Motivation(M): What types of things might motivate someone to perform the B?	• They could be thirsty • The might want social acceptance (everyone else is doing it) • They might want to avoid offending the person offering them water • They believe that there are positive health benefits associated with staying hydrated • Etc.
Ability(A): What types of things must someone already be able to do or know to successfully perform the B?	• A glass of water is available to the person or can be obtained with little effort • The person's mouth is not taped shut • The person is not asleep or otherwise incapacitated • Etc…
Prompts(P): What types of things can cue the B?	• The person noticing that they are thirsty • Someone offers the person a glass of water • The person receives a prompt from a health-app reminding them to drink • Etc.

Thoughts on Designing for Each Element

- Prompts
- Ability
- Motivation





Learn from Marketers and Storytellers to Influence Motivation

Nudge your audience toward the behavior

A nudge, as we will use the term, is any aspect of the choice architecture that alters people's behavior in a predictable way without forbidding any options or significantly changing their economic incentives. To count as a mere nudge, the intervention must be easy and cheap to avoid. Nudges are not mandates. Putting fruit at eye level counts as a nudge. Banning junk food does not.

Nudge: Improving Decisions About Health, Wealth, and Happiness, 2008

Nudge them in the right direction

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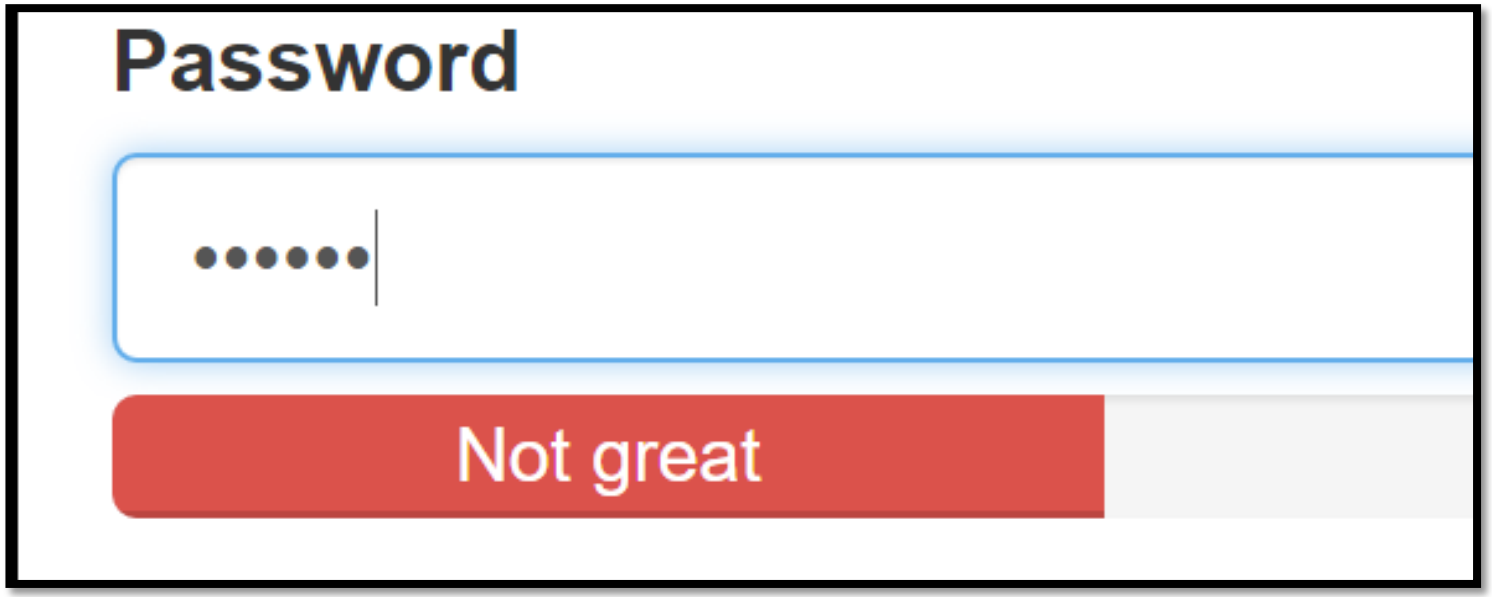
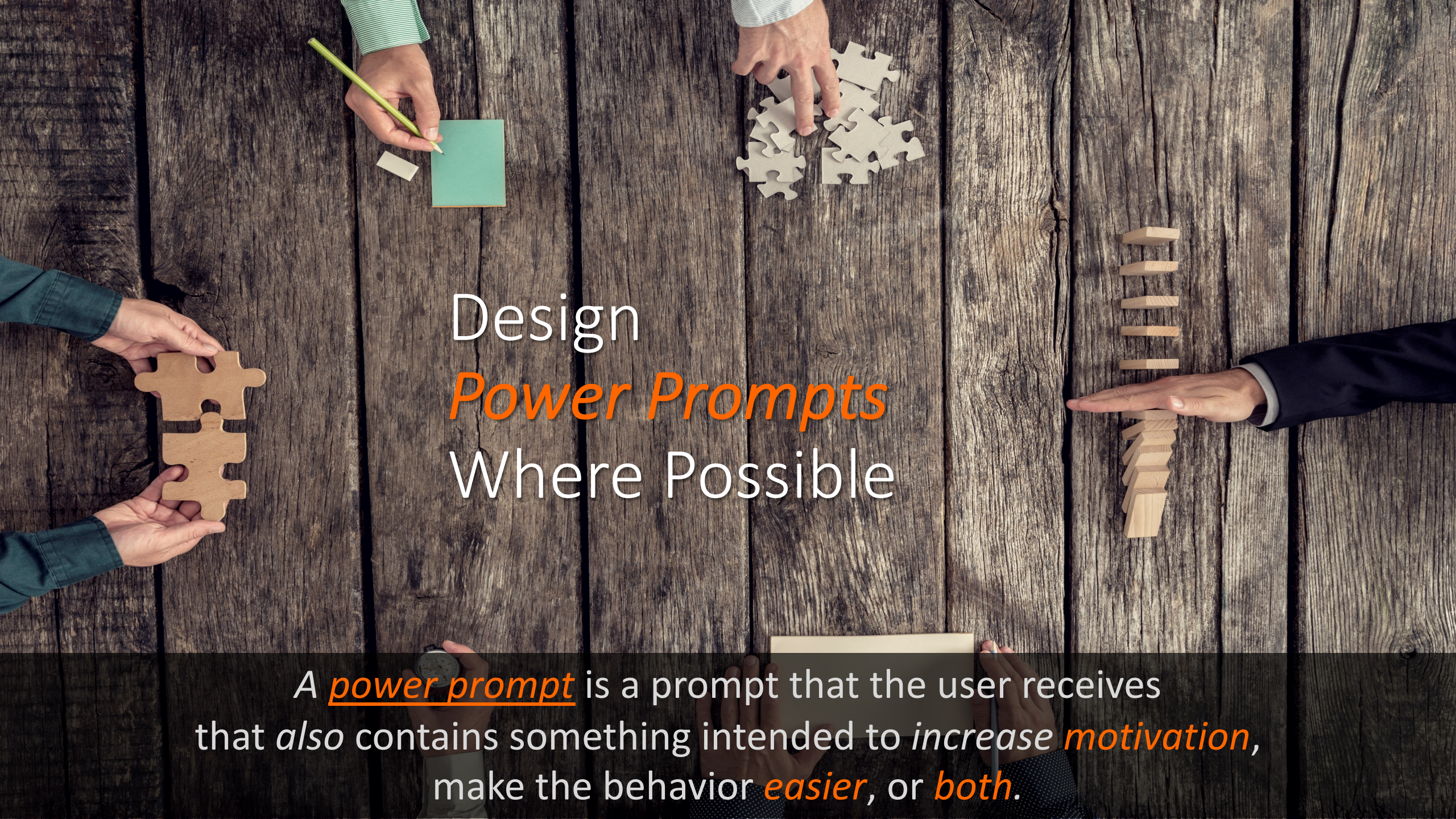


Your password change portal is a great place to insert a nudge:

- Strength Meters
- Videos on how to create & remember strong passwords
- Elective LMS modules
- etc.



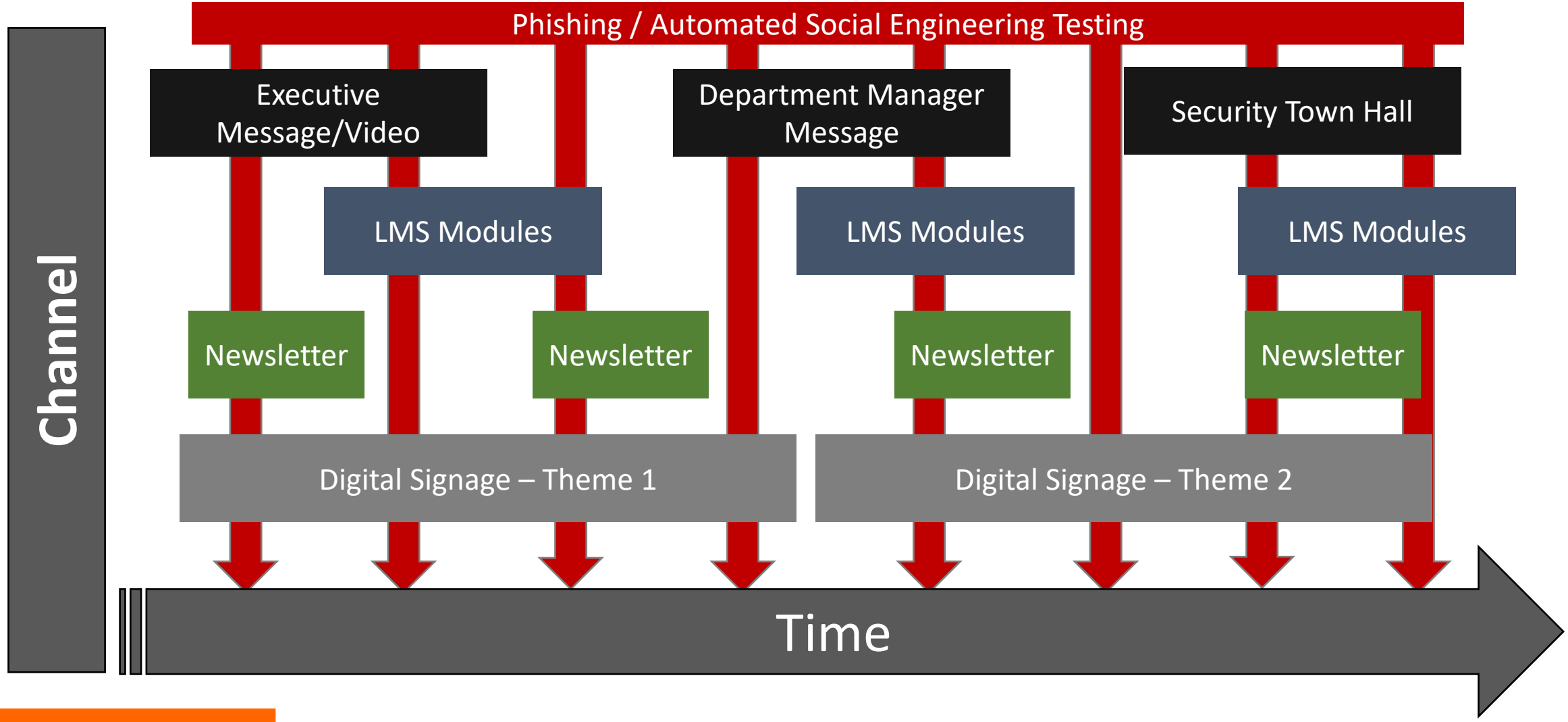
Design *Power Prompts* Where Possible

A power prompt is a prompt that the user receives that *also* contains something intended to *increase motivation*, make the behavior *easier*, or *both*.

Designing Behavior (A Security Example)

Fogg Behavior Model Component	Description
Behavior(B): What specific behavior do we want someone to do?	Choose a good password
Motivation(M): What types of things might motivate someone to perform the B?	• They understand and appreciate the value of choosing a good password • They feel empowered by choosing a good password • They feel more secure by choosing a good password • They are afraid that their current password has been (or might be) compromised due to its simplicity • They feel pressure to create a better password because the organization is monitoring password strength
Ability(A): What types of things must someone already be able to do or know to successfully perform the B?	• The person has the required knowledge of how to construct a password that is both strong and memorable • The person has tools that will help them construct a password that is both strong and memorable • The person has tools that will choose a strong password and remember that password for them
Prompts(P): What types of things can cue the B?	• The person just feels like changing their password • The person receives notification that it is time to change his/her password • The person is locked-out of his/her account because they forgot their current password • The organization issues a forced password reset • The person receives a security tip that has advice on how to create and remember a good password • The person forgot their current password and is about to perform a password reset • The person receives a notification that his/her account was breached, and hackers may have accessed the password

Plan like a Marketer. Test like an Attacker.



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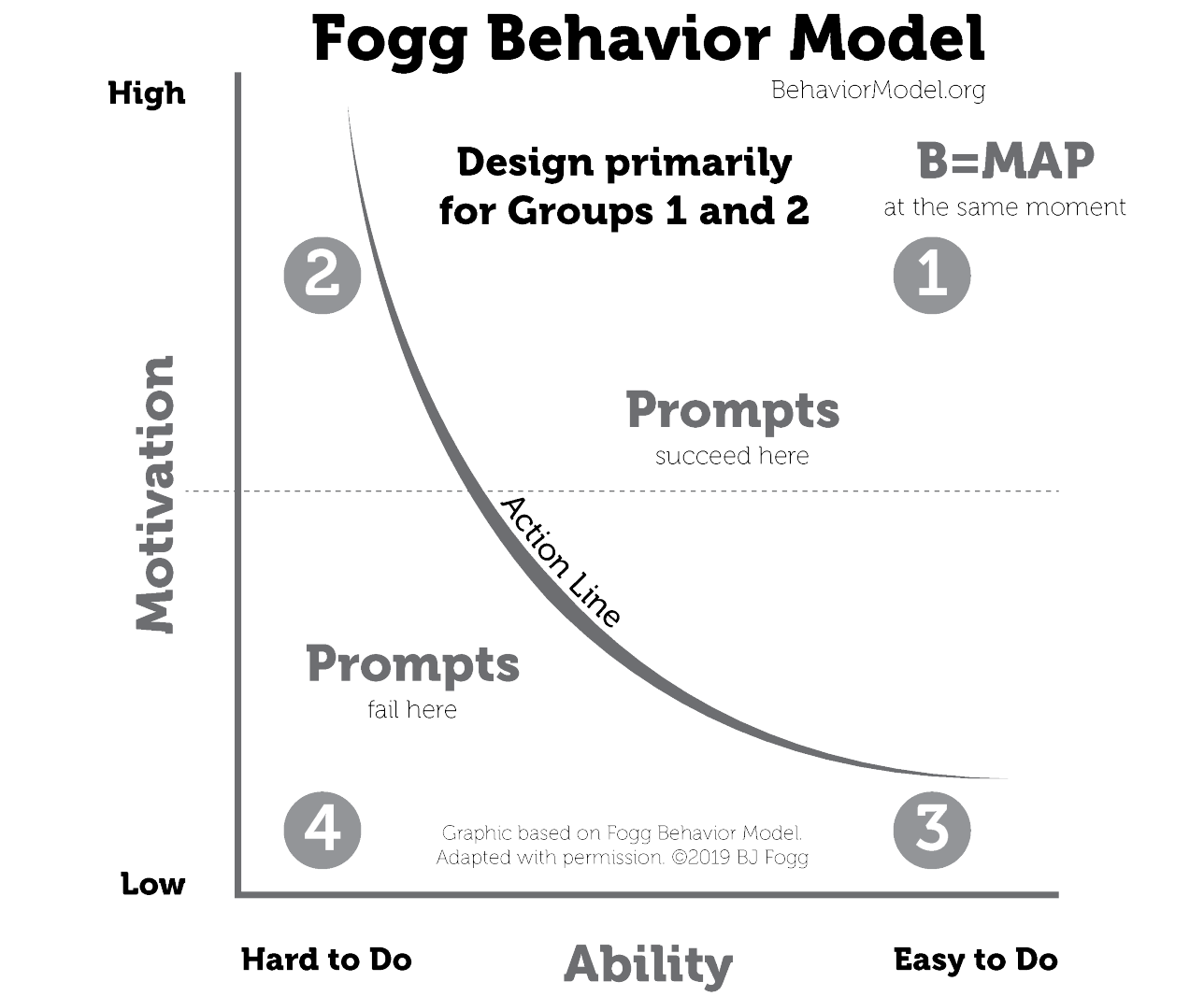
Account for Behavioral Segments



Debugging Problem Behaviors

Prompt:

- Are we prompting for the behavior? If not, prompt for the behavior.
- If so, are the prompts designed effectively?
- Have the prompts become ‘invisible’ through overuse?
- Are the prompts occurring through an optimal channel?
- Can we create a power prompt?

Ability:

- Is the behavior still too hard?
- Is there any way to make the behavior easier? Perhaps through tools, additional training, etc.?
- Is this behavior even something most humans can do consistently?
- Is there a time that the behavior feels easier or more achievable than other times?
- Can we embed something within the prompt that will reduce the real (or perceived) time, complexity, or effort required to do the behavior?

Motivation:

- What factors might enhance or erode emotion at the time of behavior?
- Are their times when someone may feel more naturally motivated to do the behavior?
- Is there a way to make the behavior feel more meaningful?
- Are their social, environmental, or other factors that can be leveraged to provide intrinsic or extrinsic motivation?
- Can we place a motivational boost within the prompt?

Designing for the Larger Issue

thinking about passwords

Thank You!

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