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How to Lose Friends and Alienate People: *The Joys of Engineering Leadership*

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<http://tinyurl.com/alienjoy>

Who are we?

Who are you?

The Problem

Nature abhors a vacuum

Manager



Leader







$$\rightarrow x^2 + px + q = 0$$

$$\rightarrow x_{1/2} = -\frac{p}{2} \pm \sqrt{\left(\frac{p}{2}\right)^2 - q}$$

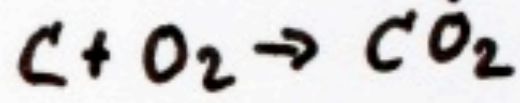
$$W = \int_{s_1}^{s_2} F(s) \cdot \cos \alpha \, ds$$

$$\tanh x = \frac{e^x - e^{-x}}{e^x + e^{-x}}$$

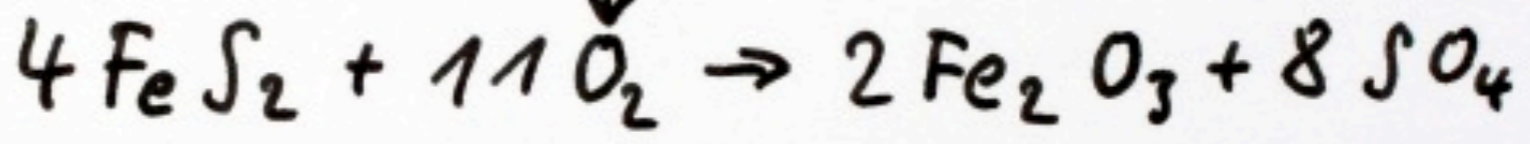
$$v = \frac{ds}{dt}$$

$$\theta = \underline{I} \cdot N$$

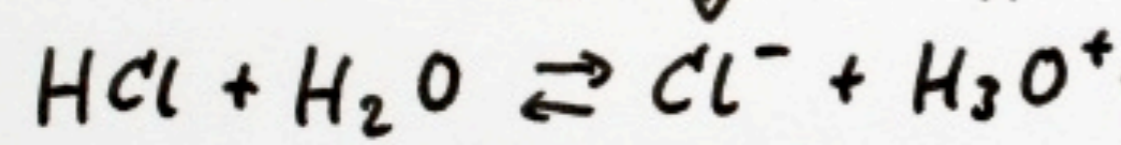
$$u_c = U(1 - e^{-t/RC})$$



$$f_r = \frac{1}{2\pi} \cdot \frac{1}{\sqrt{LC}}; \omega = 2\pi f_r$$



$$-\frac{d}{dt} \int_A \vec{B} \, dA = \oint_L \vec{E}' \, dl = - \int_A \left(\frac{\partial \vec{B}}{\partial t} + \text{rot}(\vec{B} \times \vec{v}) \right) \, dA \quad ? x \neq y; z = x$$



$$a^2 = b^2 + c^2 \rightarrow W_{rot} = \frac{1}{2} \cdot J \omega^2$$

$$V = \frac{1}{6} \pi h (3e_1^2 + 3e_2^2 + h^2) \quad P_v = \int_{\varphi=0}^{2\pi} \int_{\psi=0}^{\pi} \frac{r^2}{8G_2} H_\varphi H_\psi^* \sin \psi \, d\psi \, d\varphi$$

This Creates Conflict

**This is why managers
are universally hated**

This is also why most
engineers don't want
to be managers

So what is an engineering
“leader”?





Promote technical and social health

Leadership is not
a waste of time

Antipatterns

Antipatterns

Be everyone's friend

Antipatterns

Treat reports as children



Antipatterns

Micromanage

Antipatterns

Hire pushovers

Antipatterns

Compromise when hiring

Antipatterns

Ignore low
performers

Antipatterns

Ignore human problems



Patterns

Patterns

Be honest

Be honest

Example

Be honest

Non-Constructive

Be honest

Constructive

Patterns

Be a wise Zen Master



Patterns

Lose the ego

Lose the ego

Trust your team

Lose the ego

Appreciate Inquiry

Lose the ego

Apologize

Lose the ego

Humility \neq Doormat



Patterns

Get your hands dirty

Patterns

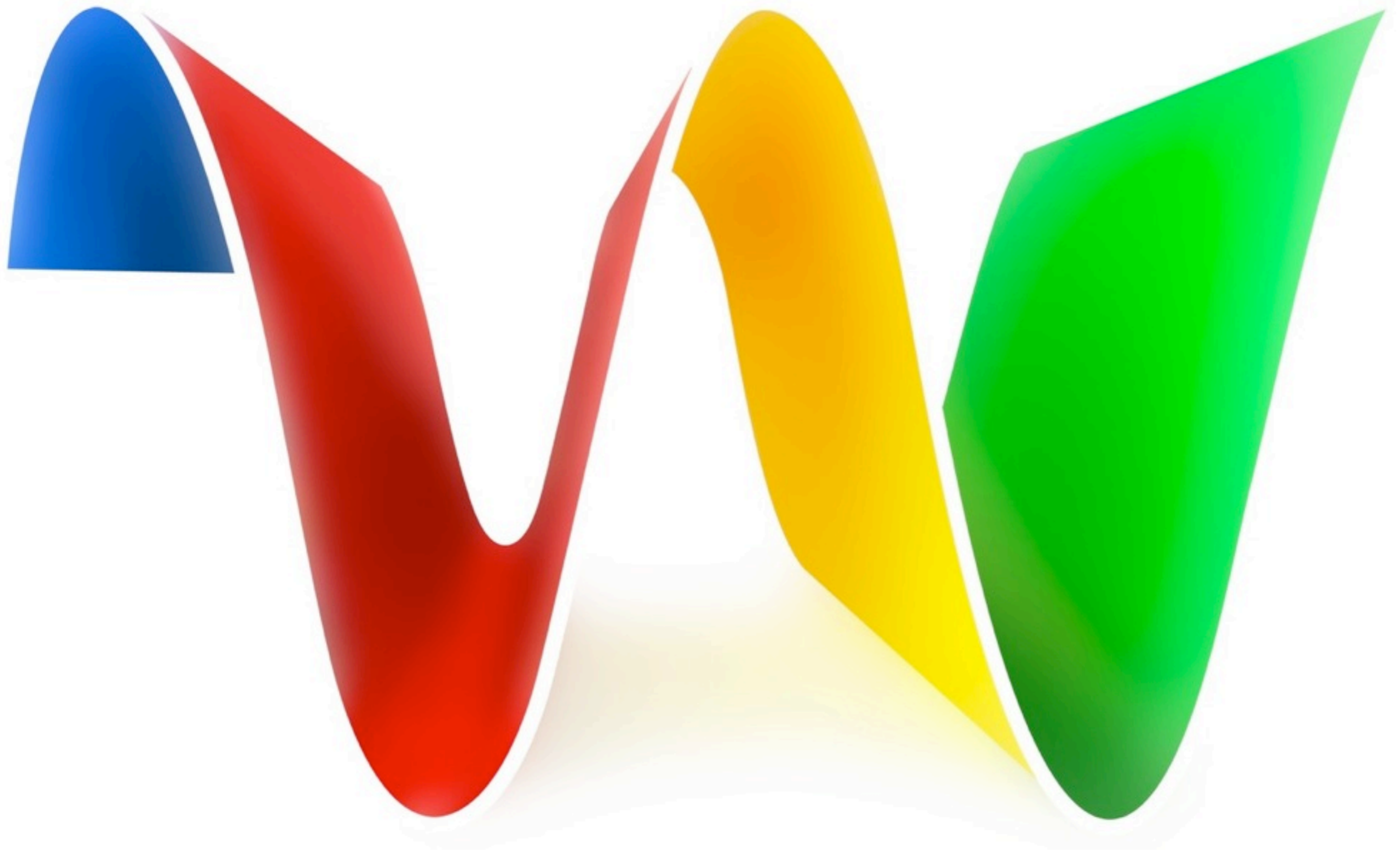
Delegate!

Patterns

Seek to replace yourself

Patterns

Make waves



Patterns



Make waves

Patterns

Shield your team

Patterns

Succeed and fail as a team

Patterns

Be a catalyst

Patterns

Be a teacher and
mentor

Patterns

Set clear goals

Patterns

Track happiness and careers

Dénouement



Excited

Bored

**Self-
Directed**

Scattered

Excited

Bored

Self-
Directed

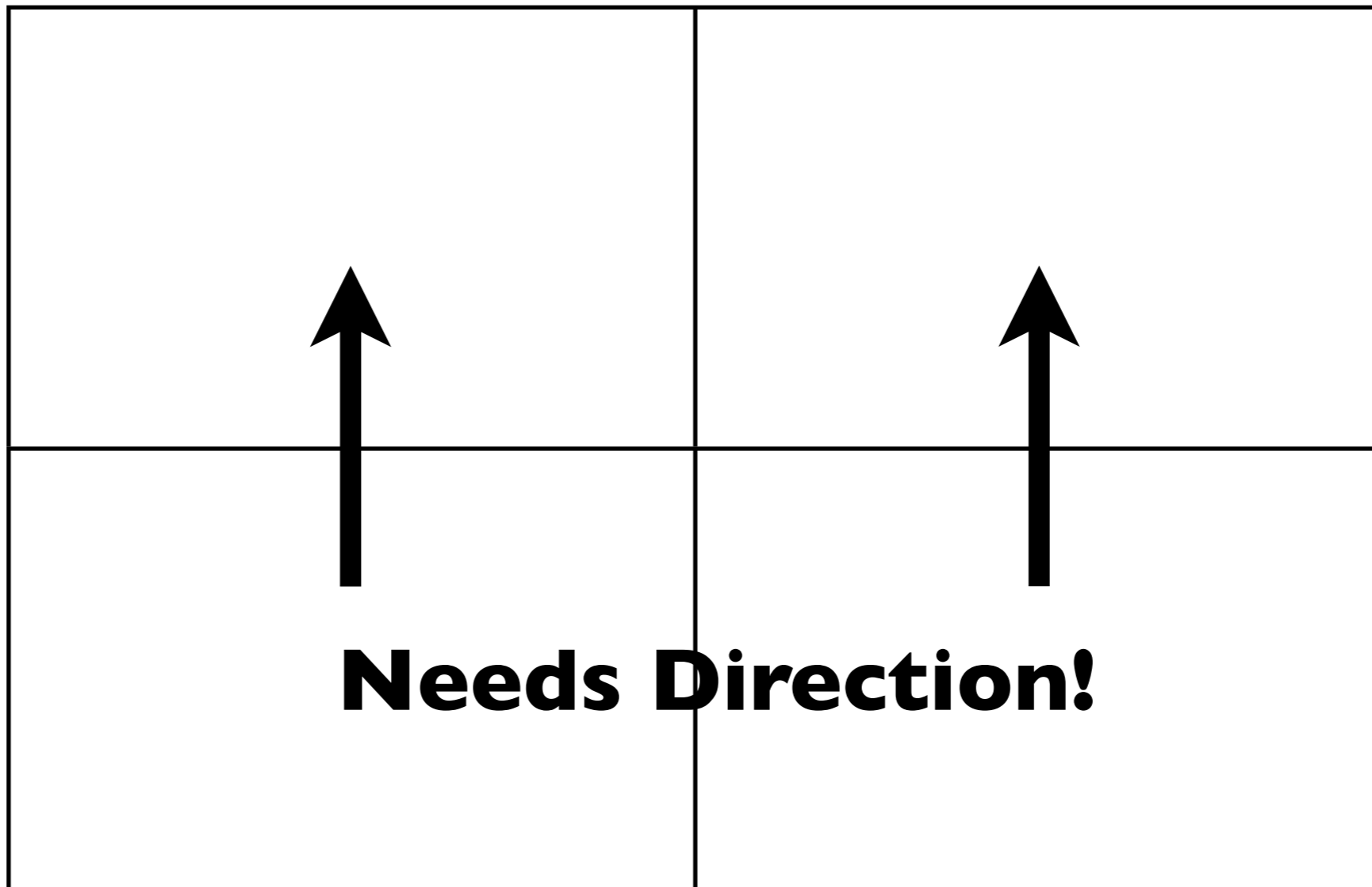
Sweet spot

Scattered

Excited

Bored

Self-
Directed

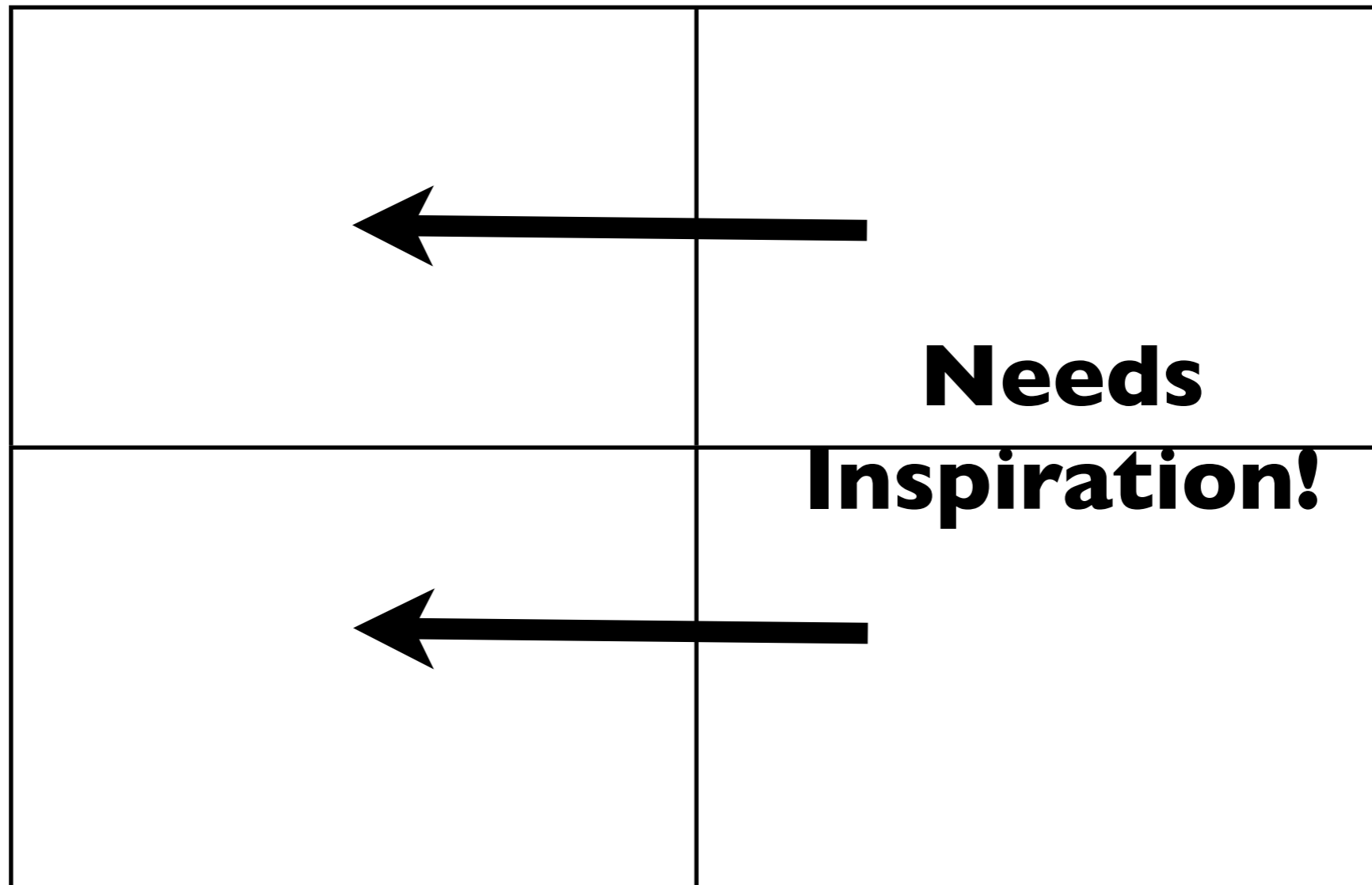


Scattered

Excited

Bored

Self-
Directed



Needs

Inspiration!

Scattered



Intrinsic vs. Extrinsic Motivations

Intrinsic Motivation

Autonomy

Intrinsic Motivation

Mastery

Intrinsic Motivation

Purpose

Managing Your Manager



Managing Your Manager

Act Like a Grown-Up

Managing Your Manager

Pursue Responsibility

Managing Your Manager

Allow Mistakes

Managing Your Manager

Be Communicative

Managing Your Manager

Point Out Obstacles

Managing Your Manager

Argue!



Service

Respect

Genuine Motivations

Stop being a manager

Start being a leader

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