# Lean Product Development Practices in an Agile Environment

LoyaltyOne™

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29 May 2014

Khurram
Virani

@viranik

# Co-Founder & Partner Functional Imperative

Founder & Head Instructor

Lighthouse Labs

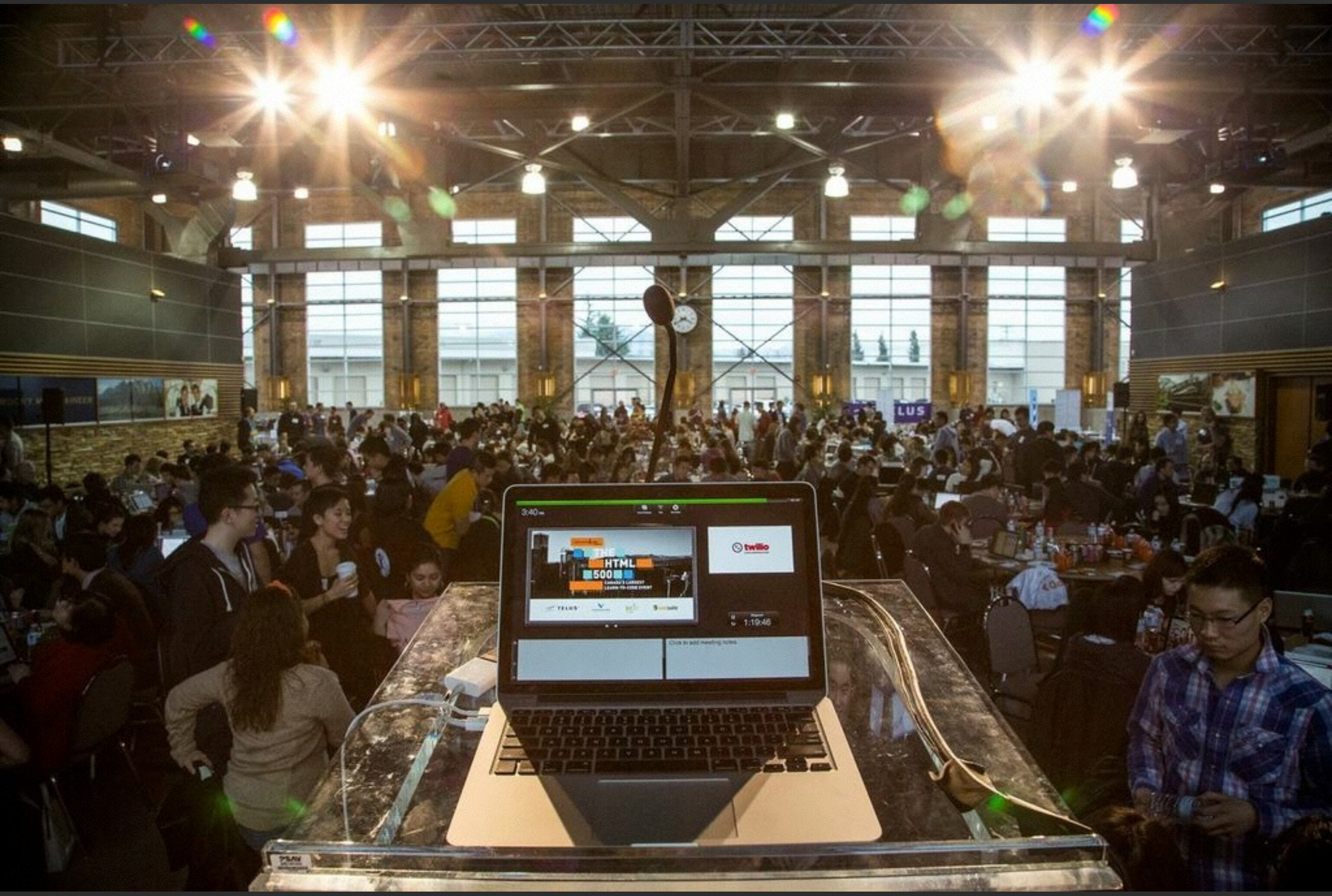
@lighthouse_labs

10+ years
programming experience

LIGHTHOUSE LABS
PRESENTS

# THE HTML 500

CANADA'S LARGEST FREE
LEARN-TO-CODE DAY.


THE
HTML
500
twilio
1:19:46

MAKE GIFS AT GIFSOUP.COM

Jon Salis

# CTO for Functional Imperative

@func_i

Jon Salis

8+ years of
programming experience

Concurrent
team management

# Discussion
# Not Lecture

- Ask questions anytime
- Conversational

# Introductions

Name
Role
Project
Quirky Fact

# Topics

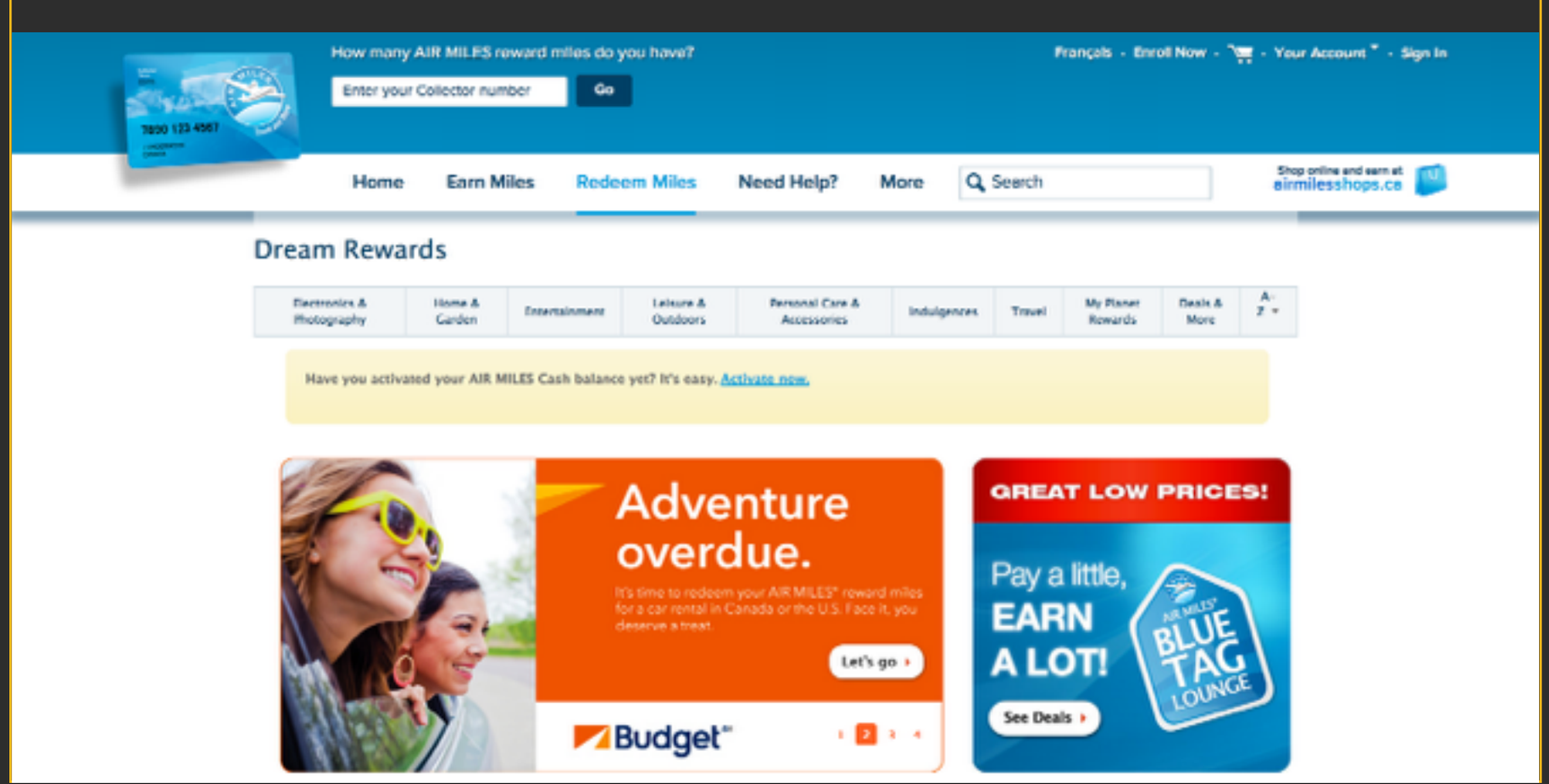
- Projects
- Lean Methodology
- Agile
- UX Design
- Atomic Design
- Prototyping
- Sprint Process

# Agenda

- 9:30 AM - Introductions
- 9:45 AM - Lean
- 10:45 AM - Break (15m)
- 11:00 AM - Canvas & MVP
- 12:00 PM - LUNCH (60m)
- 1:00 PM - Agile Design
- 2:00 PM - Break (15m)
- 2:15 PM- UX
- 3:30 PM - Break (15m)
- 3:45 PM - Sprint Process & PM
- 4:30 PM - Conclusion

# Potential Projects

# Rewards section of airmiles.ca



Not responsive

Newer features: ratings, reviews, video content

# Smartphone App

In-store redemption

Beacon integration

Shopping list

Location-based messaging

# Lean Methodology

# Origins

# From manufacturing to development

# Eliminate waste

# Dropbox

Initial launch was a screencast and a landing page collecting email addresses.

Got **75,000** emails in **first day**

# Unnecessary code and functionality

Value-less requirements

Bureaucracy

Slow internal communication

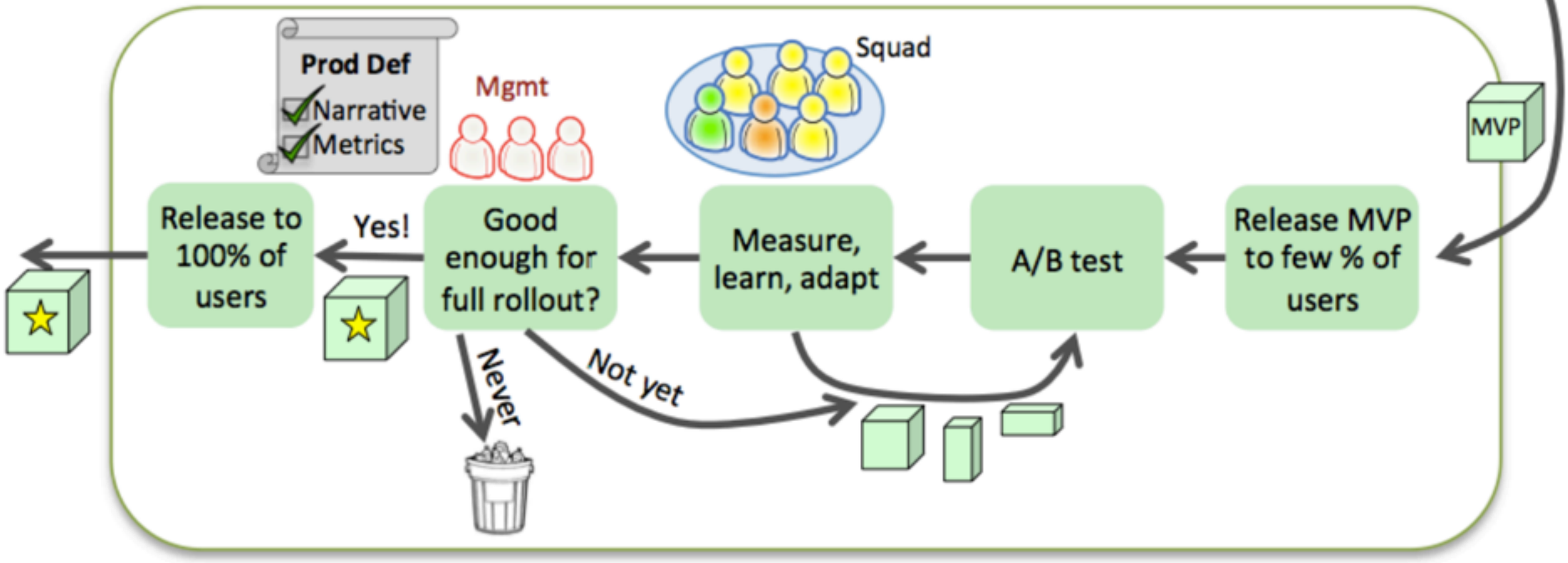
# Amplify Learning

Writing and running tests
when code is written

Short iteration cycles

Short feedback sessions
with customers

# Split-test and gradual rollout


Prod Def
Narrative
Metrics
Mgmt
Squad
MVP
Release to 100% of users
Yes!
Good enough for full rollout?
Measure, learn, adapt
A/B test
Release MVP to few % of users
Never
Not yet

Intuit

Runs 75 A/B tests per week during the 2.5 months of tax season.

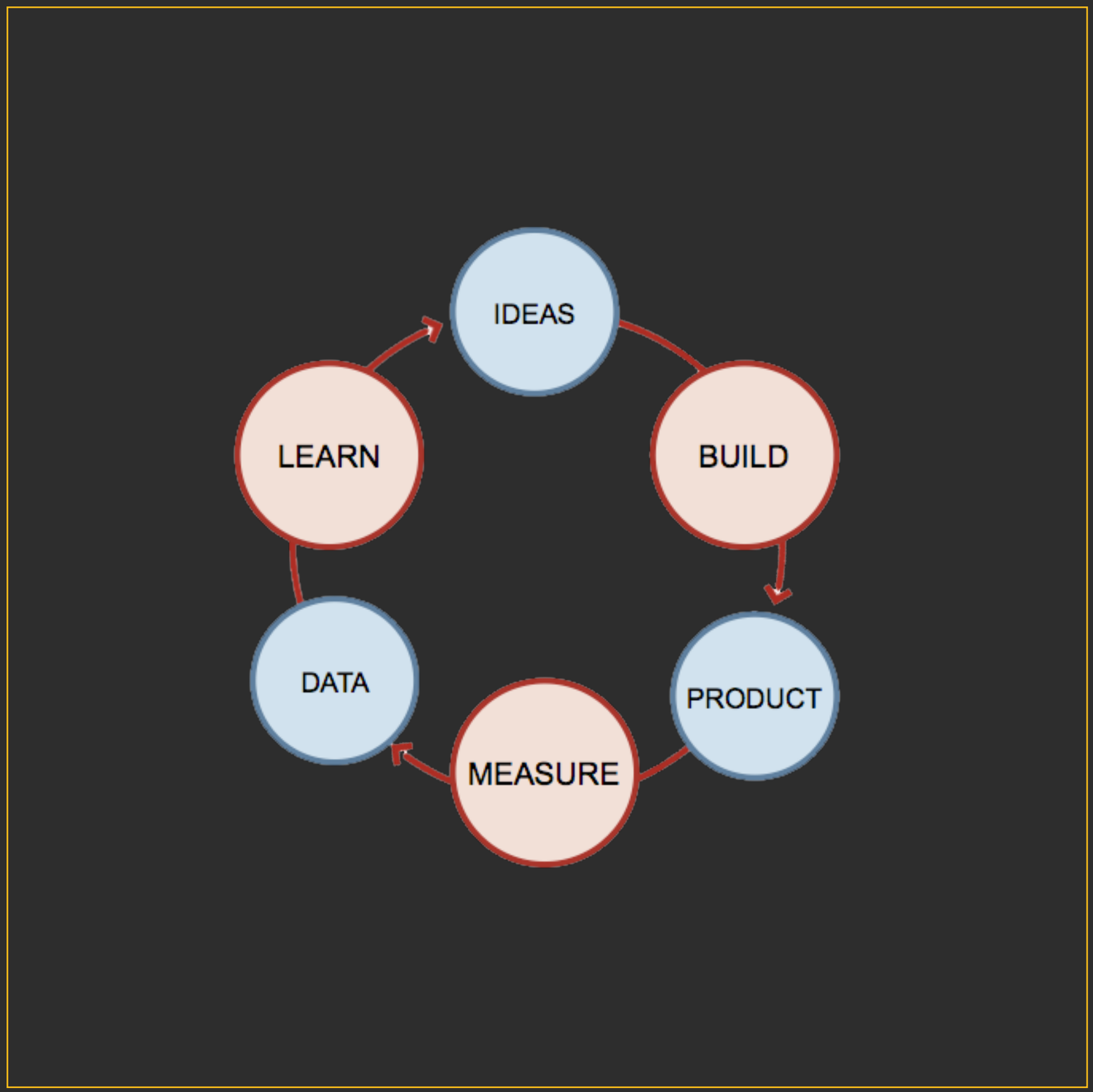
Scott Cook

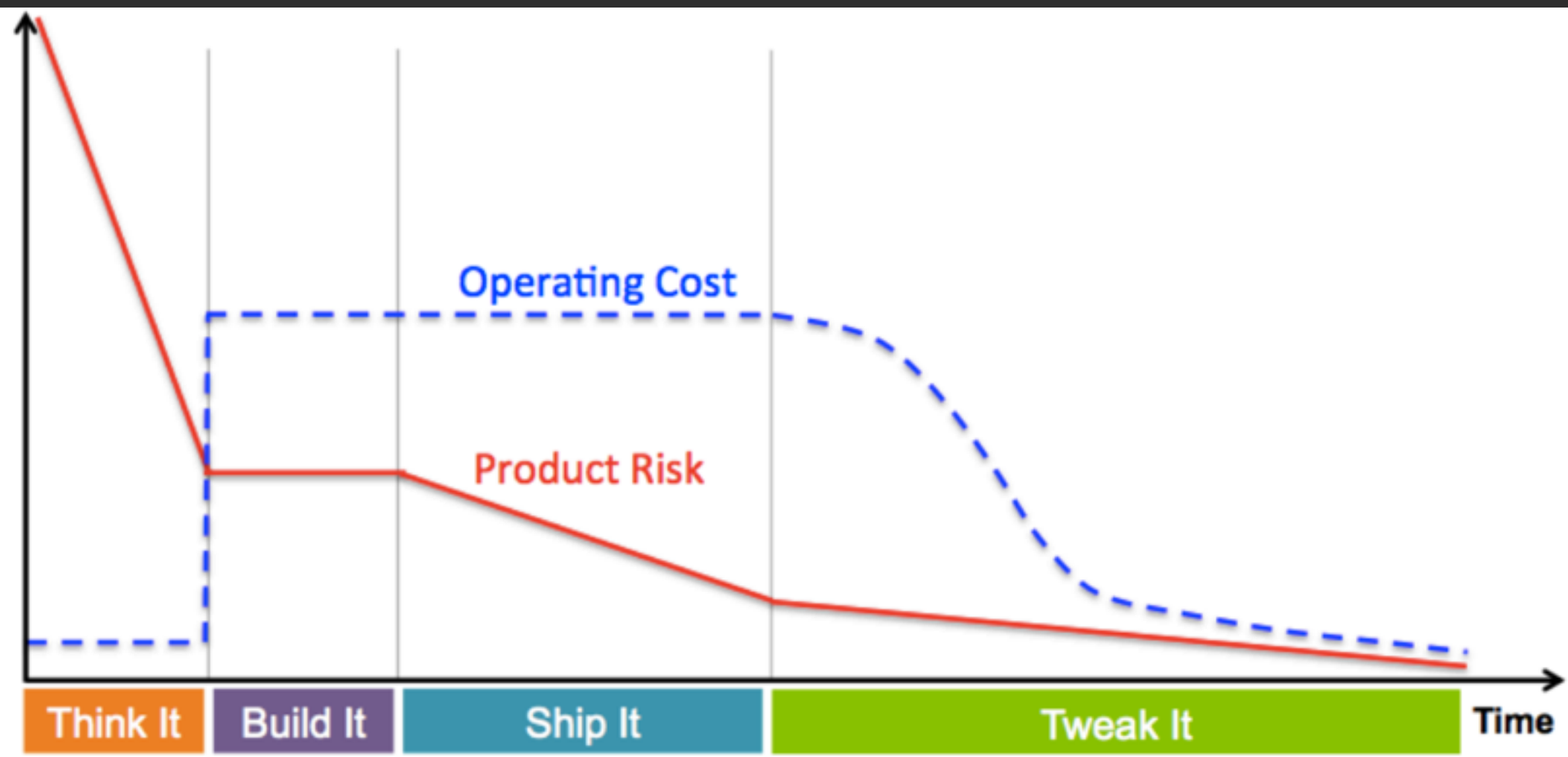
CEO
Intuit

**“It goes against the grain of what people have been taught in business and what leaders have been taught.”**

“There are many business leaders who have been successful because of analysis.”

“They think they’re analysts, and their job is to do great planning and analyzing and have a plan”


IDEAS
LEARN
BUILD
DATA
PRODUCT
MEASURE

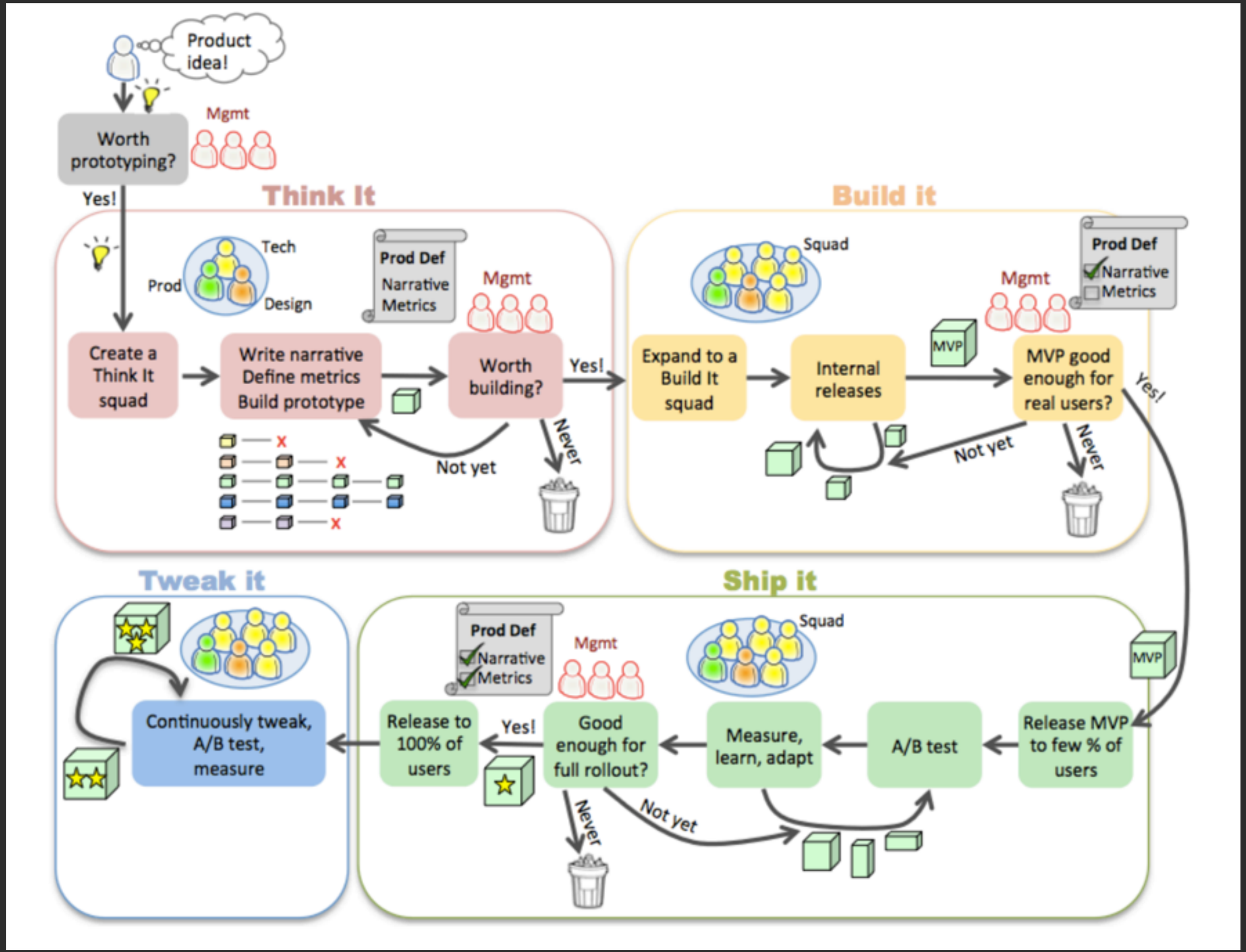

Operating Cost
Product Risk
Think It
Build It
Ship It
Tweak It
Time

# Metrics-Driven Development

# Facebook

**Every Facebook developer** is allowed & expected to deploy code into production at **any time**.

**A/B test** every commit and **automatically decide** through metrics which changes are successful and which aren’t.


Product idea!
Worth prototyping?
Mgmt
Yes!
Think It
Tech
Prod
Design
Prod Def
Narrative
Metrics
Mgmt
Create a Think It squad
Write narrative
Define metrics
Build prototype
Worth building?
Yes!
Not yet
Never
Build it
Squad
Prod Def
Narrative
Metrics
Mgmt
MVP
Expand to a Build It squad
Internal releases
MVP good enough for real users?
Yes!
Not yet
Never
Tweak it
Continuously tweak, A/B test, measure
Ship it
Prod Def
Narrative
Metrics
Mgmt
Squad
MVP
Release to 100% of users
Yes!
Good enough for full rollout?
Measure, learn, adapt
A/B test
Release MVP to few % of users
Never
Not yet

# Lean Canvas

# Problem

Solution

# Key Metrics

# Unique Value Proposition

# Unfair Advantage

# Channels

Customer Segments

# Cost Structure

Revenue Streams

airmiles.ca rewards

Lean Canvas Example

# 15 MINUTE BREAK

Smartphone app

Lean Canvas
Workshop

Minimum Viable Product

MVP

Test a product hypothesis with minimal resources

Creates weekly meal plans and grocery lists based on your preferences and deals at your local grocery store.

Known as the **Concierge Model**.

Started by supporting **just one customer** and solving all their problems.

Honed their processes **before investing** in partnerships, hiring chefs or building any technology.

Food on the Table

Reduce wasted engineering hours

Get the product to early customers as soon as possible

Rewards Example

MVP Example

Smartphone App

MVP
Discussion

# LUNCH
# (UNTIL 1:00PM)

# Agile Development

MVP
decided upon

Idea to
implementation

# What is Agile?

Customers care about working software!

They want to see the work in progress and give input.

Iterative and incremental

Develop
Design
Test
Sprint #1
Develop
Design
Test
Sprint #2
Develop
Design
Test
Sprint #3
Discover
Discover
Discover

Time boxed

Specs can
and will change

# Rapid and flexible response to change

Trusted self-organizing teams

# Daily communication and cooperation

An agile framework or a well defined agile process

Scrum

- The voice of the customer
- Creates user stories
- Ranks and prioritizes them
- Bridge between client and team

Product Owner

# Develop-ment Team

- Self organizing
- Build product & automated tests
- Analyze, design and develop

- Ensures SCRUM goes according to plan
- Removes distractions
- Chairs meetings
- Buffer between development team and outside influences

# Scrum Master

No dedicated Project Manager in Scrum.

# Shared understanding

Product Owner

UX Designer

Scrum Master

Developer

Designer

Common Language

Atoms

Molecules

Organisms

Templates

Pages

# Atomic design

# Atoms

- Building blocks
- HTML elements

# Blue Mountain / Monterra – Green Fee & Cart

500 for GOLD Collectors

# Molecules

- Combinations of atoms

## Blue Mountain / Monterra – Green Fee & Cart

~~625 reward miles~~

**500 for GOLD Collectors**

## BOSE® Solo TV Sound System

**4,200 reward miles**

# Organisms

- Groups of molecules
- Header, footer, sidebar

3, 5 & 7 Day Walt Disney World Resort in Florida Tickets – Adult From:

2,425 reward miles

Blue Mountain / Monterra – Green Fee & Cart

~~625 reward miles~~

500 for GOLD Collectors

BOSE® Solo TV Sound System

4,200 reward miles

Calgary Stampede – Rodeo Ticket for Two (2)

325 reward miles

Calypso Theme Waterpark – Single Admission Ticket

300 reward miles

Canada's Wonderland – One Day Admission for $42.99 per person

Canon Powershot Advanced 50X Zoom SX50HS

4,200 reward miles
or 3,360 reward miles + $135.00

Car Racing in Montreal – Circuit Gilles Villeneuve June 6, 7, 8th, 2014

~~1,110~~ 750 reward miles
or $110.00

Cavendish Beach Music Festival

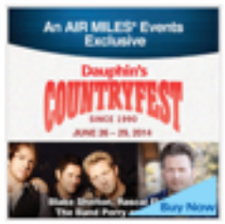
2,200 reward miles
or $195.00

Cuddle Down Light Weight Cuddle Cashmere Blanket From 100% Fleeced Cotton – Queen – Slate

1,500 reward miles

Dauphin's Countryfest – Day Pass – Manitoba

1,250 reward miles
or $124.00




Dauphin's Countryfest VIP and Meet and Greet Pass – Manitoba

~~8,250 reward miles~~

4,125 for GOLD Collectors
or $835.00

## Filter Results

### Brand

Select a brand...

### Regions

Select a region...

### More Options

Cash + Miles® Rewards (5)
Deals of the Week (3)
Gold Specials (3)
My Planet (2)
Travel Specials (2)
What's New (6)



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# Templates

- Where design starts to come together
- Group organisms to create a layout

How many AIR MILES reward miles do you have?

Enter your Collector numt | Go

Français · Enroll Now · · Your Account · Sign In

Nav Items Will Go Up Here

Search

Promo here

Title

Electronics & Photography | Home & Garden | Entertainment | Leisure & Outdoors | Personal Care & Accessories | Indulgences | Travel | My Planet Rewards | Deals & More | A–Z

## Dream Rewards – Popular Picks

More Dream Rewards – Popular Picks (57 Items)

Sort By: Alphabetical

1 2 3 | Next »

| | | | |
|---|---|---|---|
| Reward lorem ipsum lorem ipsum lorem ipsum | Reward lorem ipsum lorem ipsum lorem ipsum | Reward lorem ipsum lorem ipsum lorem ipsum | Reward lorem ipsum lorem ipsum lorem ipsum |
| 2,425 reward miles | ~~miles~~ 500 for GOLD Collectors | | miles |
| Reward lorem ipsum lorem ipsum lorem ipsum | Reward lorem ipsum lorem ipsum lorem ipsum | Reward lorem ipsum lorem ipsum lorem ipsum | Reward lorem ipsum lorem ipsum lorem ipsum |
| 300 reward miles | person | miles or 3,360 reward miles + $135.00 | ~~1,110~~ 750 reward miles or $110.00 |

### Filter Results

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More Options

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Travel Specials (2)
What's New (6)

# Pages

- Instances of templates
- Can test variations of templates

How many AIR MILES reward miles do you have?

Enter your Collector numt | Go

Français · Enroll Now · · Your Account · Sign In

Home | Earn Miles | Redeem Miles | Need Help? | More | Search | Shop online and earn at airmilesshops.ca

# Dream Rewards

Electronics & Photography | Home & Garden | Entertainment | Leisure & Outdoors | Personal Care & Accessories | Indulgences | Travel | My Planet Rewards | Deals & More | A–Z

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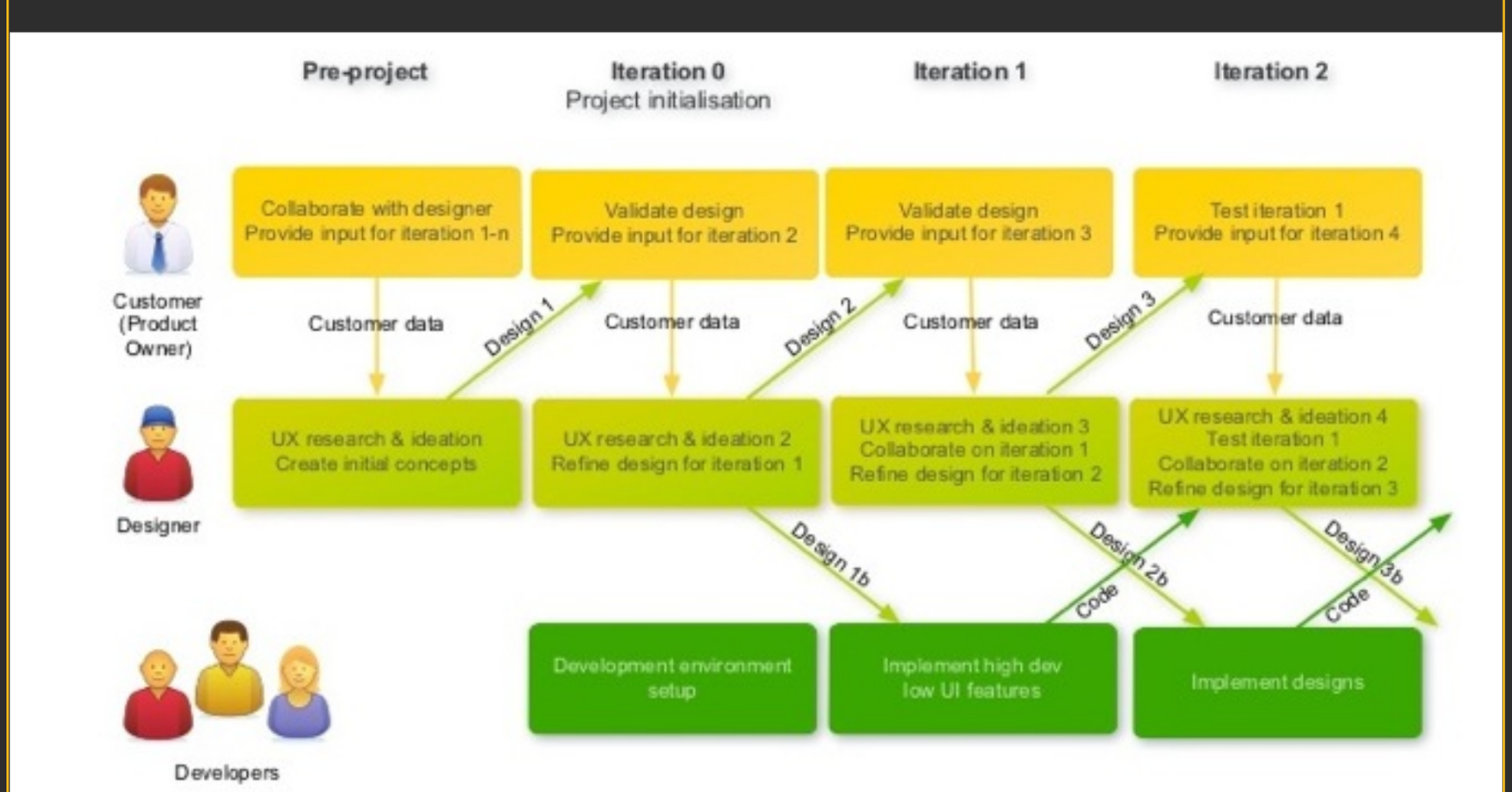
Travel Specials (2)
What's New (6)

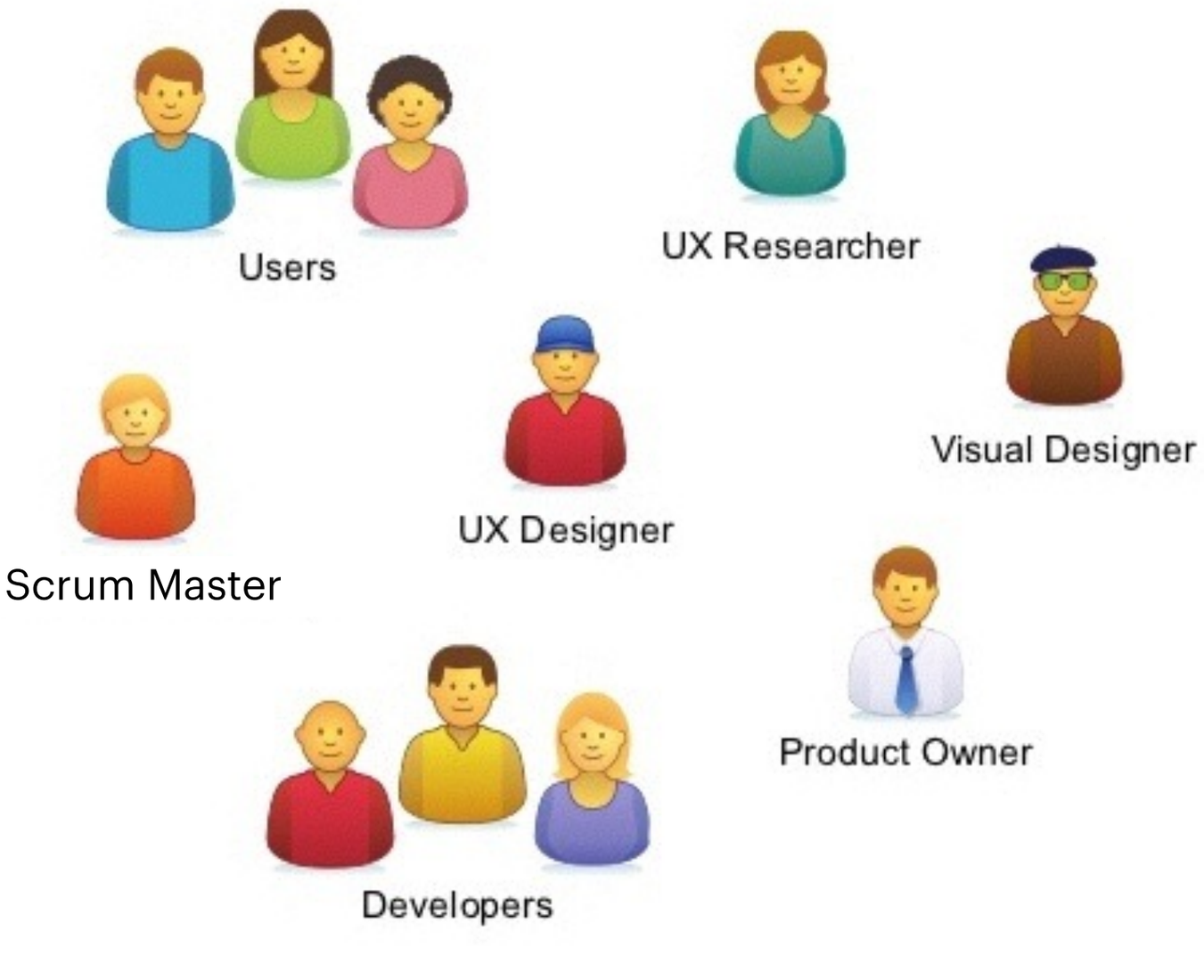
# Agile Design Process

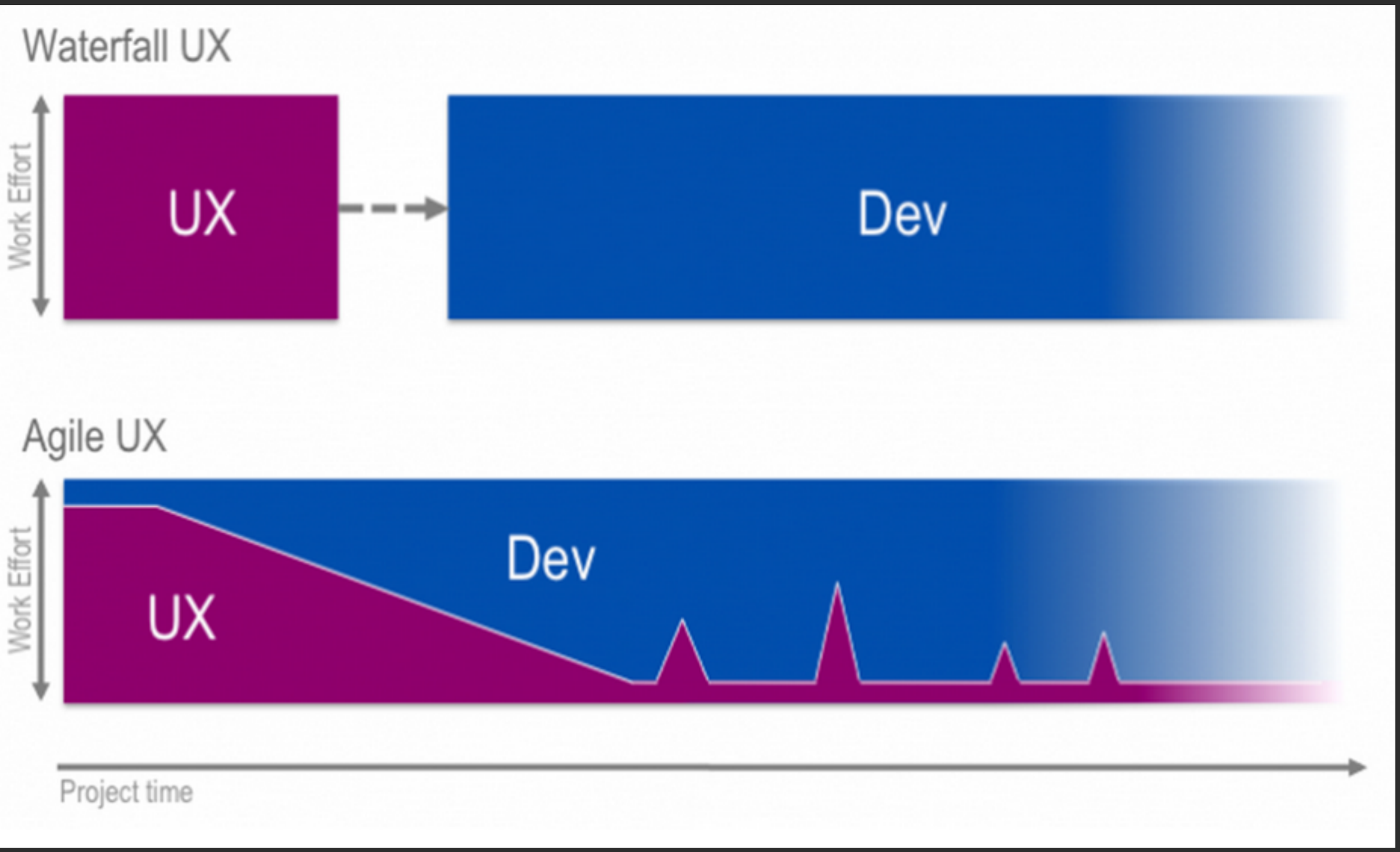
Superhero “genius” waterfall design no longer needed.

# UX ahead of development



# UX design


Users
UX Researcher
Visual Designer
UX Designer
Scrum Master
Product Owner
Developers


Waterfall UX
Work Effort
UX
Dev
Agile UX
Work Effort
Dev
UX
Project time

# 15 MINUTE BREAK

# Pre-project (plan)

- Lean Canvas (done!)
- Backlog of features created by product owner

Smartphone App

Feature Creation Discussion

Airmiles Rewards App

# Prototyping Demo

Smartphone App

http://bit.ly/1gCuuU8

UX
Prototyping
with Balsamiq

Workshop

# 15 MINUTE BREAK

# Sprint Process

- Feature list prioritized
- UX Prototyping with UX Designer

Product Owner Sprint Prep

- Features are selected
- Feature selected are tasked with the development team to create smaller, more precise pieces of work if required
- Challenges and limitations are addressed
- Features are re-prioritized

Team
Sprint Prep

# Sprint 1

- Select features with UX provided
- Development team implements high functionality low UI
- Designer creates necessary atomic design elements
- Design receives customer data and UX
- Researcher input (QA + Review)
- Design revisions

- Work that was completed and work that wasn't
- Demo completed work

# Sprint Review

- Retrospective
- Members reflect on success of previous sprint
  - What went well?
  - What needs to be improved?
- Make process improvements

Sprint Retro

# Repeat Sprint Preparation

- Product Owner Sprint prep
- Team Sprint Prep
- QA from previous sprint added to backlog

On-going

- Deploy
- Measure

# Sprint 2

- New or uncompleted features are selected
- Development team implements applicable atomic elements from previous sprint
- Remaining designed molecules and organisms are put into backlog for future implementation
- Development team implements high functionality, low UI for new features
- Designer steps are repeated

Plan

UX

Measure

Code / design

Deploy

QA / redesign

QA

Implement design

JIRA Example

Project Management

Functional Imperative

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