

Innovation Stories From The IBM **Bluemix Garage**

Holly Cummins
Technical Lead, European Garages

@holly_cummins



Comments

http

Current Orders

Chocolate Identifiers Comments

Jfokus



?

Recording video into iMovie. To
connect it to your computer.

00:00

Camera

Video Size 1280x720



I'm an IBMer.



I'm an IBMer.

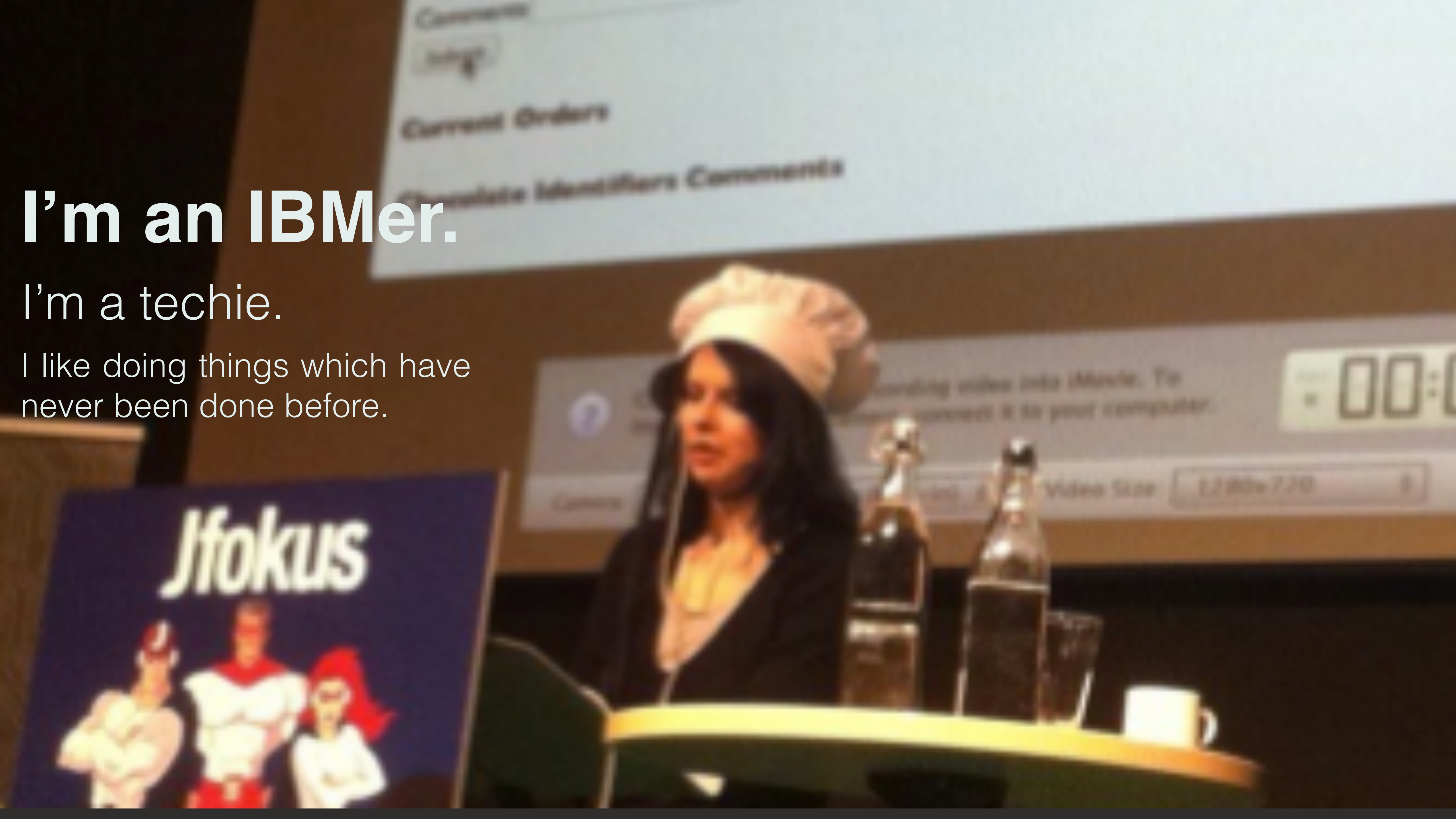
I'm a techie.



I'm an IBMer.

I'm a techie.

I like doing things which have
never been done before.

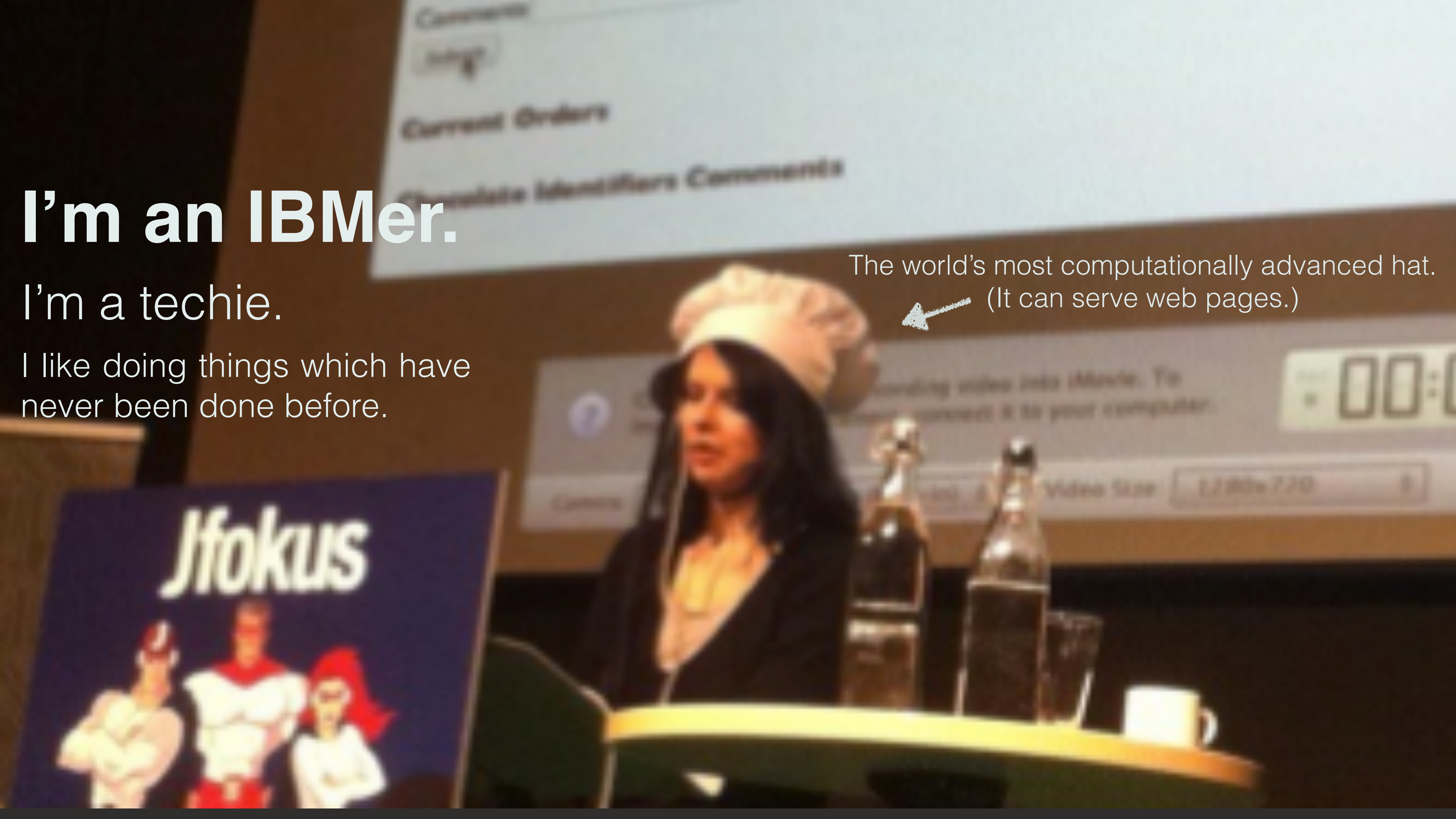


I'm an IBMer.

I'm a techie.

I like doing things which have
never been done before.

The world's most computationally advanced hat.
(It can serve web pages.)



I think about technology a *lot* ...

... but even I know technology should be about making things better for *people*.

I'm from the Bluemix Garage.



What *is* a Bluemix Garage, anyway?

IBM Bluemix™



The Bluemix Garage is IBM's
consultancy with a **startup** DNA.

The Bluemix Garage is IBM's
consultancy with a **startup** DNA.

(We don't really work in a garage.)



... but we *are* unique.

People | Places | Platform | Practice

People



People

Designer



People

Developer

Designer



People

Developer

Designer

Architect



People

Developer

Customer

Designer

Architect



People

Collaborate

- across disciplines
- with clients



**New York City / San Francisco / Melbourne / Nice /
Austin / Toronto / London / Tokyo / Singapore**

Places

We are embedded in startup communities.
We believe in creating intentional spaces for
innovation.



© 2006 The Authors

Bluemix is the platform that enables us.

Docs

IBM Bluemix Catalog

All Categories >

Infrastructure

Compute

Storage

Security

Apps

Boilerplates

Cloud Foundry Runtimes

Containers

OpenWhisk

Mobile

Services

Data & Analytics

Watson

Internet of Things

APIs

DevOps

Application Services

Integrate

Network

Storage

Security

Watson

Build cognitive apps that help enhance, scale, and accelerate human expertise.

AlchemyAPI

An AlchemyAPI service that analyzes your unstructured text and image content

IBM

Conversation

Add a natural language interface to your application to automate interactions

IBM

Language Translation

Translate text from one language to another for specific domains.

IBM

Deprecated

Language Translator

Translate text from one language to another for specific domains.

IBM

Personality Insights

The Watson Personality Insights derives insights from transactional and social media content

IBM

Retrieve and Rank

Add machine learning enhanced search capabilities to your application

IBM

Text to Speech

Synthesizes natural-sounding speech from text.

IBM

Tone Analyzer

Tone Analyzer uses linguistic analysis to detect three types of tones from text

IBM

Visual Recognition

Find meaning in visual content! Analyze images for scenes, objects, faces, and more

IBM

Cognitive Commerce™

Cognitive Commerce is a series of services powered by Cognitive Scale.

Third Party

Cognitive Insights™

Find meaning in unstructured data! Analyze text for topics, sentiment, and more

IBM

Platform

Bluemix is the platform that enables us.

- Cognitive.

The screenshot displays the IBM Bluemix Catalog interface. At the top, there's a dark header with a 'Docs' link and the 'IBM Bluemix Catalog' title. Below the header, a sidebar on the left lists categories: Infrastructure (Compute, Storage, Security), Apps (Boilerplates, Cloud Foundry Runtimes, Containers, OpenWhisk, Mobile), and Services (Data & Analytics, Watson, Internet of Things, APIs, DevOps, Application Services, Integrate, Network, Storage, Security). The main content area is titled 'Watson' and features a sub-header 'Build cognitive apps that help enhance, scale, and accelerate human expertise.' Below this, several service cards are displayed in a grid. Each card includes an icon, a title, a description, and an IBM logo. The services shown are: AlchemyAPI (An AlchemyAPI service that analyzes your unstructured text and image content), Conversation (Add a natural language interface to your application to automate interactions), Language Translation (Translate text from one language to another for specific domains, marked as 'Deprecated'), Language Translator (Translate text from one language to another for specific domains), Personality Insights (The Watson Personality Insights derives insights from transactional and social media data), Retrieve and Rank (Add machine learning enhanced search capabilities to your application), Text to Speech (Synthesizes natural-sounding speech from text), Tone Analyzer (Tone Analyzer uses linguistic analysis to detect three types of tones from text), Visual Recognition (Find meaning in visual content! Analyze images for scenes, objects, faces, and other visual elements), and Cognitive Commerce™ (Cognitive Commerce is a set of APIs and services that enable you to build commerce applications by Cognitive Scale, marked as 'Third Party').

Docs

IBM Bluemix Catalog

All Categories >

Infrastructure

- Compute
- Storage
- Security

Apps

- Boilerplates
- Cloud Foundry Runtimes
- Containers
- OpenWhisk
- Mobile

Services

- Data & Analytics
- Watson
- Internet of Things
- APIs
- DevOps
- Application Services
- Integrate
- Network
- Storage
- Security

Watson

Build cognitive apps that help enhance, scale, and accelerate human expertise.

AlchemyAPI

An AlchemyAPI service that analyzes your unstructured text and image content

IBM

Conversation

Add a natural language interface to your application to automate interactions

IBM

Language Translation

Translate text from one language to another for specific domains.

IBM Deprecated

Language Translator

Translate text from one language to another for specific domains.

IBM

Personality Insights

The Watson Personality Insights derives insights from transactional and social media data

IBM

Retrieve and Rank

Add machine learning enhanced search capabilities to your application

IBM

Text to Speech

Synthesizes natural-sounding speech from text.

IBM

Tone Analyzer

Tone Analyzer uses linguistic analysis to detect three types of tones from text

IBM

Visual Recognition

Find meaning in visual content! Analyze images for scenes, objects, faces, and other visual elements

IBM

Cognitive Commerce™

Cognitive Commerce is a set of APIs and services that enable you to build commerce applications by Cognitive Scale.

Third Party

Cognitive Insights™

Platform

Bluemix is the platform that enables us.

- Cognitive.
- IoT.

The screenshot displays the IBM Bluemix Catalog interface. At the top, there's a dark header with a 'Docs' link and the 'IBM Bluemix Catalog' title. Below the header, a sidebar on the left lists categories: 'All Categories' (with a right arrow), 'Infrastructure' (sub-items: Compute, Storage, Security), 'Apps' (sub-items: Boilerplates, Cloud Foundry Runtimes, Containers, OpenWhisk, Mobile), and 'Services' (sub-items: Data & Analytics, Watson, Internet of Things, APIs, DevOps, Application Services, Integrate, Network, Storage, Security). The main content area is titled 'Watson' and features a sub-header: 'Build cognitive apps that help enhance, scale, and accelerate human expertise.' Below this, several service cards are displayed in a grid. Each card includes an icon, a title, a description, and a provider tag (IBM or Third Party). The services shown are:

- AlchemyAPI**: An AlchemyAPI service that analyzes your unstructured text and image content. (IBM)
- Conversation**: Add a natural language interface to your application to automate interactions. (IBM)
- Language Translation**: Translate text from one language to another for specific domains. (IBM, Deprecated)
- Language Translator**: Translate text from one language to another for specific domains. (IBM)
- Personality Insights**: The Watson Personality Insights derives insights from transactional and social media data. (IBM)
- Retrieve and Rank**: Add machine learning enhanced search capabilities to your application. (IBM)
- Text to Speech**: Synthesizes natural-sounding speech from text. (IBM)
- Tone Analyzer**: Tone Analyzer uses linguistic analysis to detect three types of tones from text. (IBM)
- Visual Recognition**: Find meaning in visual content! Analyze images for scenes, objects, faces, and more. (IBM)
- Cognitive Commerce™**: Cognitive Commerce is a set of APIs and services that enable you to build commerce applications. (Third Party)
- Cognitive Insights™**: (partially visible)

Platform

Bluemix is the platform that enables us.

- Cognitive.
- IoT.
- Analytics.

The screenshot displays the IBM Bluemix Catalog interface. At the top, there's a dark header with a 'Docs' link and the 'IBM Bluemix Catalog' title. Below the header, a sidebar on the left lists categories: Infrastructure (Compute, Storage, Security), Apps (Boilerplates, Cloud Foundry Runtimes, Containers, OpenWhisk, Mobile), and Services (Data & Analytics, Watson, Internet of Things, APIs, DevOps, Application Services, Integrate, Network, Storage, Security). The main content area is titled 'Watson' and features a sub-header 'Build cognitive apps that help enhance, scale, and accelerate human expertise.' Below this, several service cards are displayed in a grid. Each card includes an icon, a title, a description, and an IBM logo. The services shown are: AlchemyAPI (An AlchemyAPI service that analyzes your unstructured text and image content), Conversation (Add a natural language interface to your application to automate interactions), Language Translation (Translate text from one language to another for specific domains, marked as 'Deprecated'), Language Translator (Translate text from one language to another for specific domains), Personality Insights (The Watson Personality Insights derives insights from transactional and social media data), Retrieve and Rank (Add machine learning enhanced search capabilities to your application), Text to Speech (Synthesizes natural-sounding speech from text), Tone Analyzer (Tone Analyzer uses linguistic analysis to detect three types of tones from text), Visual Recognition (Find meaning in visual content! Analyze images for scenes, objects, faces, and other visual elements), and Cognitive Insights™ (Find meaning in visual content! Analyze images for scenes, objects, faces, and other visual elements). The 'Cognitive Commerce™' service is also visible at the bottom right, noted as a 'Third Party' service.

Docs

IBM Bluemix Catalog

All Categories >

Infrastructure

- Compute
- Storage
- Security

Apps

- Boilerplates
- Cloud Foundry Runtimes
- Containers
- OpenWhisk
- Mobile

Services

- Data & Analytics
- Watson
- Internet of Things
- APIs
- DevOps
- Application Services
- Integrate
- Network
- Storage
- Security

Watson

Build cognitive apps that help enhance, scale, and accelerate human expertise.

AlchemyAPI

An AlchemyAPI service that analyzes your unstructured text and image content

IBM

Conversation

Add a natural language interface to your application to automate interactions

IBM

Language Translation

Translate text from one language to another for specific domains.

IBM Deprecated

Language Translator

Translate text from one language to another for specific domains.

IBM

Personality Insights

The Watson Personality Insights derives insights from transactional and social media data

IBM

Retrieve and Rank

Add machine learning enhanced search capabilities to your application

IBM

Text to Speech

Synthesizes natural-sounding speech from text.

IBM

Tone Analyzer

Tone Analyzer uses linguistic analysis to detect three types of tones from text

IBM

Visual Recognition

Find meaning in visual content! Analyze images for scenes, objects, faces, and other visual elements

IBM

Cognitive Insights™

Find meaning in visual content! Analyze images for scenes, objects, faces, and other visual elements

IBM

Cognitive Commerce™

Cognitive Commerce is a service by Cognitive Scale.

Third Party

Platform

Bluemix is the platform that enables us.

- Cognitive.
- IoT.
- Analytics.
- DevOps.

The screenshot displays the IBM Bluemix Catalog interface. At the top, there's a dark blue header with the 'Docs' icon and the 'IBM Bluemix Catalog' title. Below the header, a sidebar on the left lists categories: Infrastructure (Compute, Storage, Security), Apps (Boilerplates, Cloud Foundry Runtimes, Containers, OpenWhisk, Mobile), and Services (Data & Analytics, Watson, Internet of Things, APIs, DevOps, Application Services, Integrate, Network, Storage, Security). The main content area is titled 'Watson' and features a sub-header 'Build cognitive apps that help enhance, scale, and accelerate human expertise.' Below this, several service cards are displayed in a grid. Each card includes an icon, a title, a description, and a provider tag (IBM or Third Party). The services shown are: AlchemyAPI (IBM), Conversation (IBM), Language Translation (IBM, deprecated), Language Translator (IBM), Personality Insights (IBM), Retrieve and Rank (IBM), Text to Speech (IBM), Tone Analyzer (IBM), Visual Recognition (IBM), and Cognitive Commerce™ (Third Party). The bottom of the screen shows the start of a 'Cognitive Insights™' card.

Watson
Build cognitive apps that help enhance, scale, and accelerate human expertise.

- AlchemyAPI**
An AlchemyAPI service that analyzes your unstructured text and image content
IBM
- Conversation**
Add a natural language interface to your application to automate interactions
IBM
- Language Translation**
Translate text from one language to another for specific domains.
IBM Deprecated
- Language Translator**
Translate text from one language to another for specific domains.
IBM
- Personality Insights**
The Watson Personality Insights service derives insights from transactional and social media data
IBM
- Retrieve and Rank**
Add machine learning enhanced search capabilities to your application
IBM
- Text to Speech**
Synthesizes natural-sounding speech from text.
IBM
- Tone Analyzer**
Tone Analyzer uses linguistic analysis to detect three types of tones from text
IBM
- Visual Recognition**
Find meaning in visual content! Analyze images for scenes, objects, faces, and more
IBM
- Cognitive Commerce™**
Cognitive Commerce is a service by Cognitive Scale.
Third Party
- Cognitive Insights™**

Practice



Practice

We blend three effective methodologies.



Practice

We blend three effective methodologies.

- Design Thinking



Practice

We blend three effective methodologies.

- Design Thinking
- Lean Startup



Practice

We blend three effective methodologies.

- Design Thinking
- Lean Startup
- eXtreme Programming



Lean Startup.

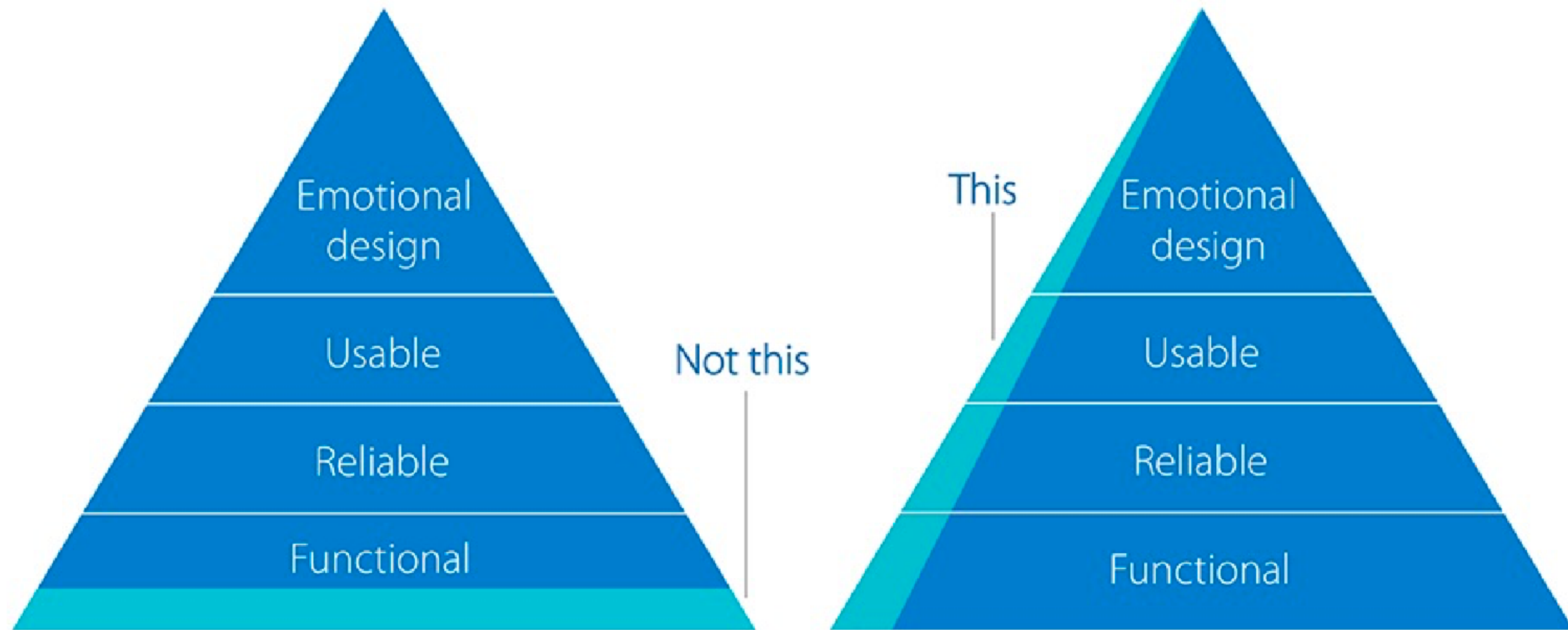
Release early. Release often.

Unreleased development effort is *waste*.

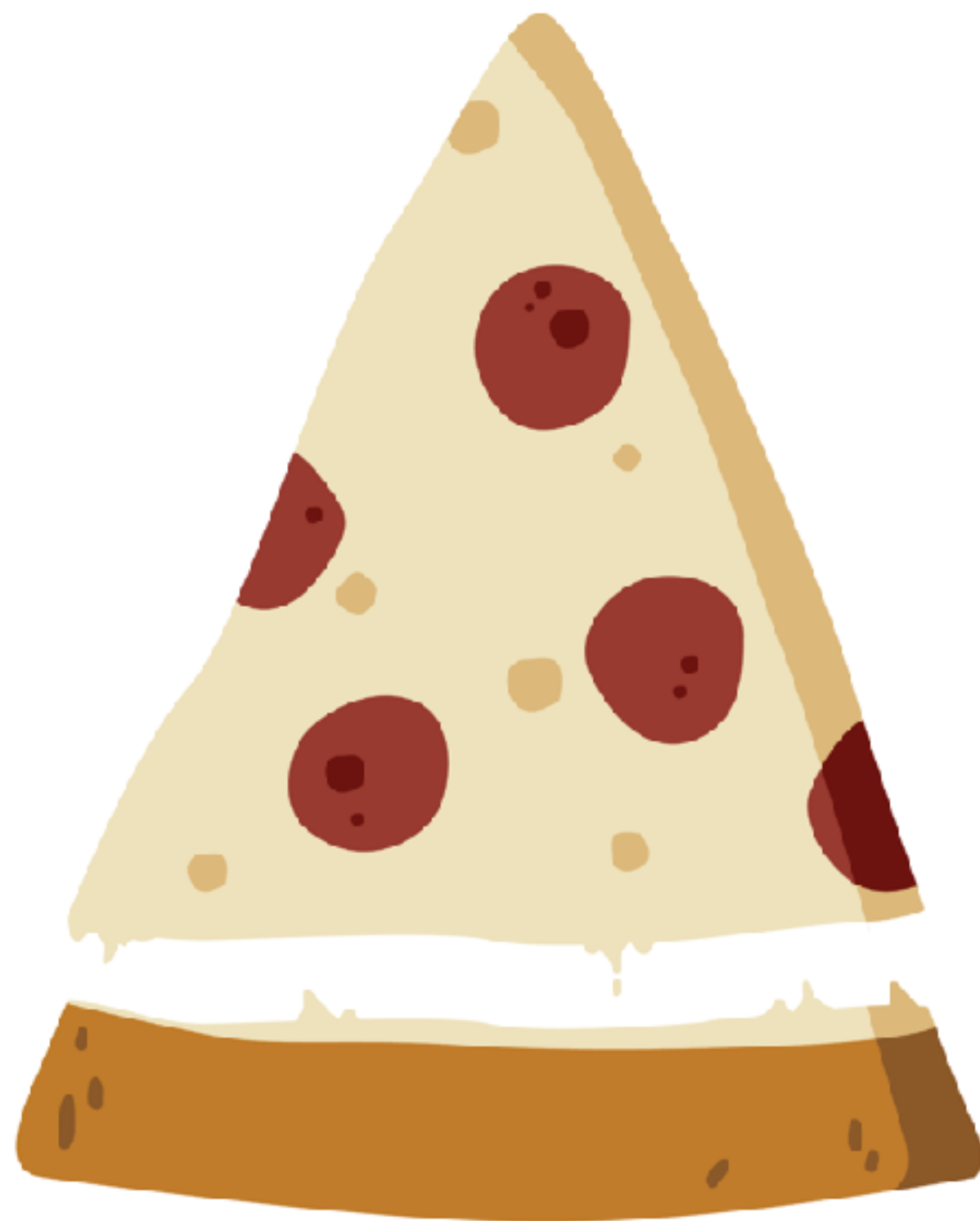
Minimum Viable Product.

The smallest thing you can build to test your hypothesis.

You do not want to invest until you are sure you are building what you know your users want and will use.



Minimum Viable Experience



just the crust

"this is it?"



a smaller slice

"mmm this pizza tastes good"

Minimum Viable Product.

It's *not* just the same amount of function, for less budget.



Goal



Goal

Business Opportunity

We will improve the wedding cake experience by means of the icing for couples getting married.



Business Factors

Expensive market to enter,
low volume, high cost to
produce

Goal



Goal

Assumption

Icing quality influences buying decisions on wedding cake.

Hypothesis

If we make a better icing, people will buy our wedding cakes.



Problem

How do you figure out the best icing in a low volume business?

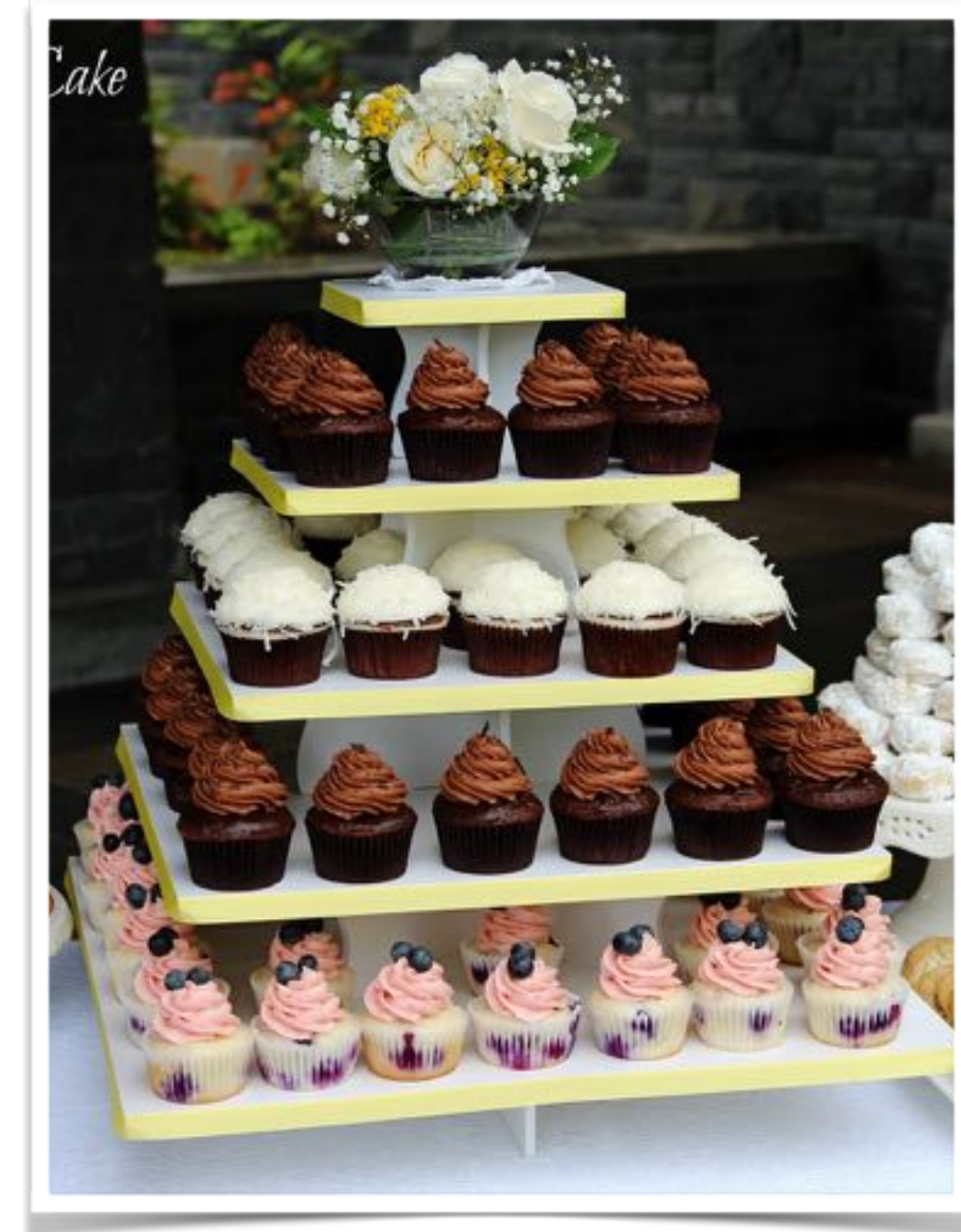
Goal



Goal



Minimum,
but not a product



Minimum Viable
Product

**The MVP may not share
code with the final product.**

Experience is similar, technical underpinnings may not be.

————— How **not to build** a minimum viable product —————



1



2



3



4

————— How **to build** a minimum viable product —————



1



2



3



4



5

An MVP is *not* a prototype.

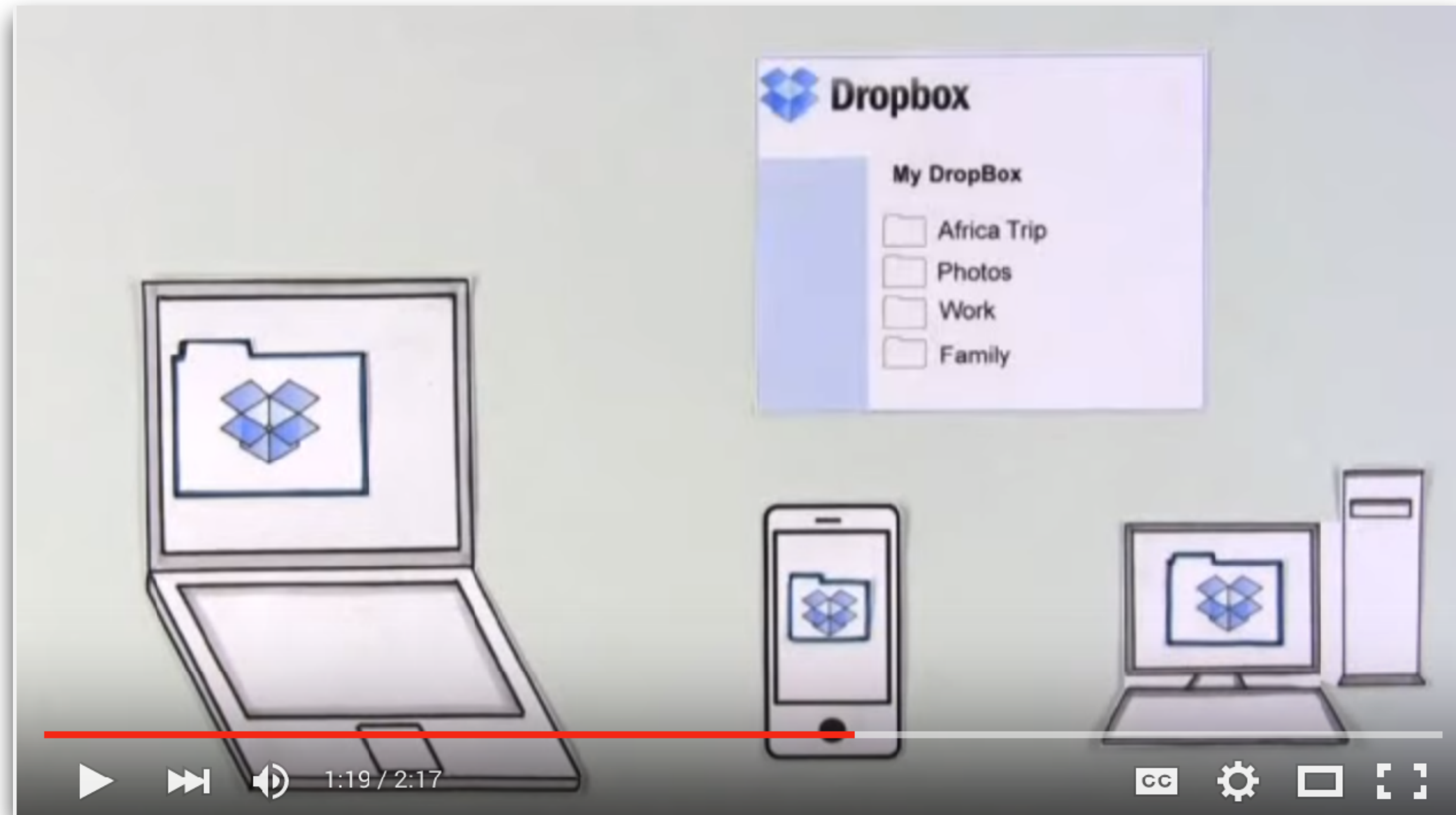
It needs to be viable.

... but we can talk about ‘viable for what’?

Pre-totype

Do you need to build anything at all,
to test your hypothesis?

Or can you just tell people about it
and see what the market reaction is?







“Pay no attention to that
man behind the curtain!”

Online Shoes, Clothing, Fre X

Kelly


← → ↺ 🏠

www.zappos.com

☆ + ✖ 💬 f? Ü ☰

Order anytime and always receive **FAST, FREE Shipping** on all orders! [LEARN MORE](#)


24/7 Customer Service (800) 927-7671

Help  Live Help

Log In or Register

My Account

My Favorites



POWERED by SERVICE®

Shoes, Clothing, Bags, etc.

SEARCH 🔍

NEW ARRIVALS:
BOOTS
SHOP NOW »

DRESS SHOES
SHOP NEW ARRIVALS »


MY CART

SEARCH BY: [Size](#), [Narrow Shoes](#), [Wide Shoes](#), [Popular Searches](#)

SHOES

CLOTHING

BAGS & HANDBAGS

ACCESSORIES

SHOP BY...

WOMEN'S

MEN'S

KIDS'

ALL DEPARTMENTS ▾

SHOP WOMEN'S
[Clothing](#)
[Shoes](#)
[Boots](#)
[Sneakers & Athletic Shoes](#)
[Dresses](#)


SHOP MEN'S
[Clothing](#)
[Shoes](#)
[Boots](#)
[Sneakers & Athletic Shoes](#)
[Jeans](#)


SHOP KIDS'
[Girls' Clothing](#)
[Boys' Clothing](#)


BELLE
— of the —
BALL

These gorgeous dresses are ready for a lavish event!

SHOP NOW »



COMFY
FLATS
SHOP NOW »


STYLISH
HEELS
SHOP NOW »


WIN \$100

www.zappos.com/women-heels~E

Lean Startup tells us to build the smallest thing to answer our business question.

But what's the right question?

Design Thinking.

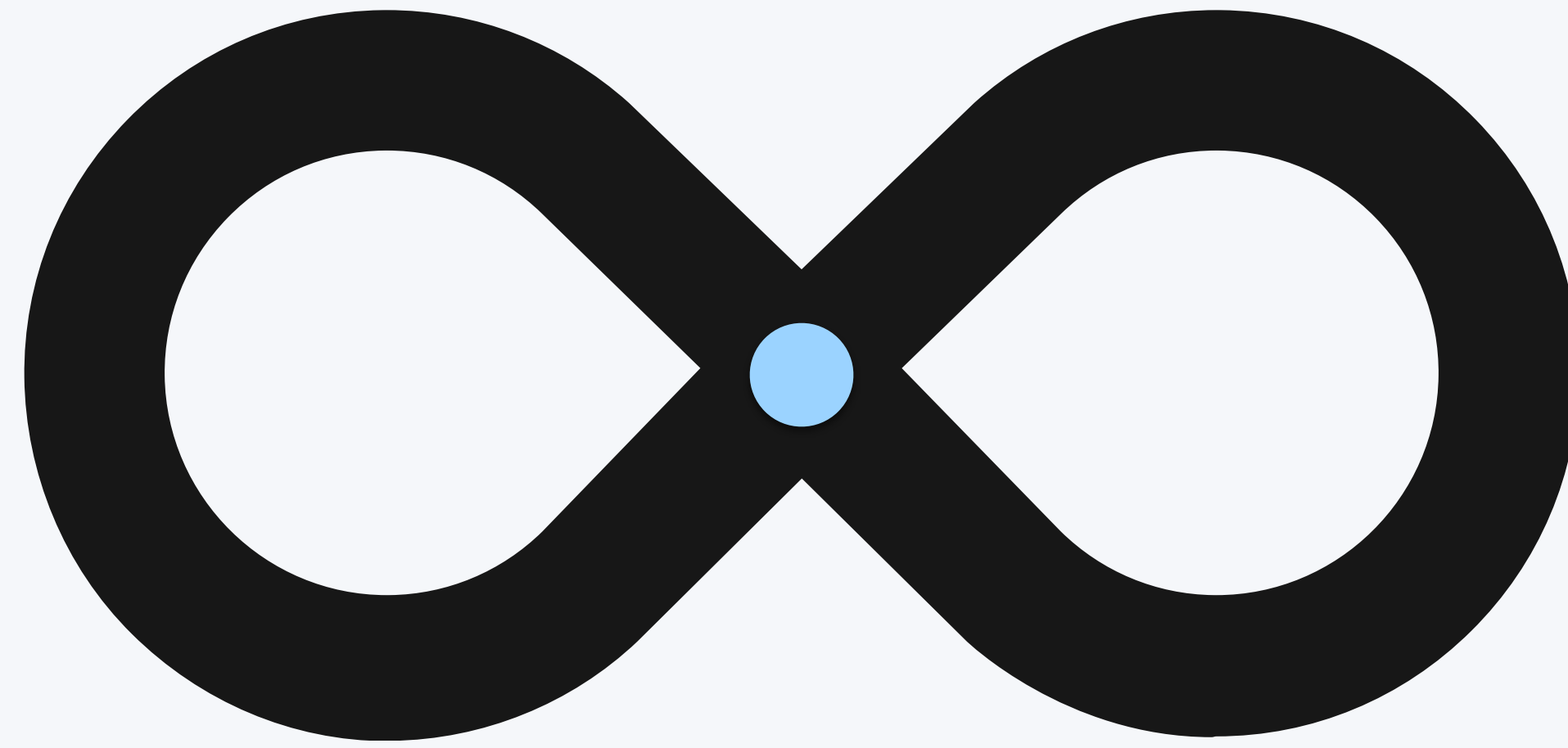
**Innovation is not achieved
simply by writing an app.**

It has to solve a real problem for a real user.

“Designers...don’t try to search for a solution **until they have determined the real problem,** and even then, instead of solving that problem, they stop to consider a wide range of potential solutions. Only then will they finally converge upon their proposal. This process is called **‘design thinking.’**”

DON NORMAN





Observe Reflect Make

IBM Design Thinking is a framework for
delivering user-centered outcomes at
speed and scale.

Observing is about immersing yourself in your users' world.

Meaningful outcomes come from an understanding of the real problems your users have.

Reflecting is about converging on a point of view.

Good decisions begin with an understanding of your situation, your purpose, and how you can make a difference for your users.

Making is about giving form to ideas.

You can't know everything but you do know some things, so jump right in. The earlier you make, the faster you'll learn.

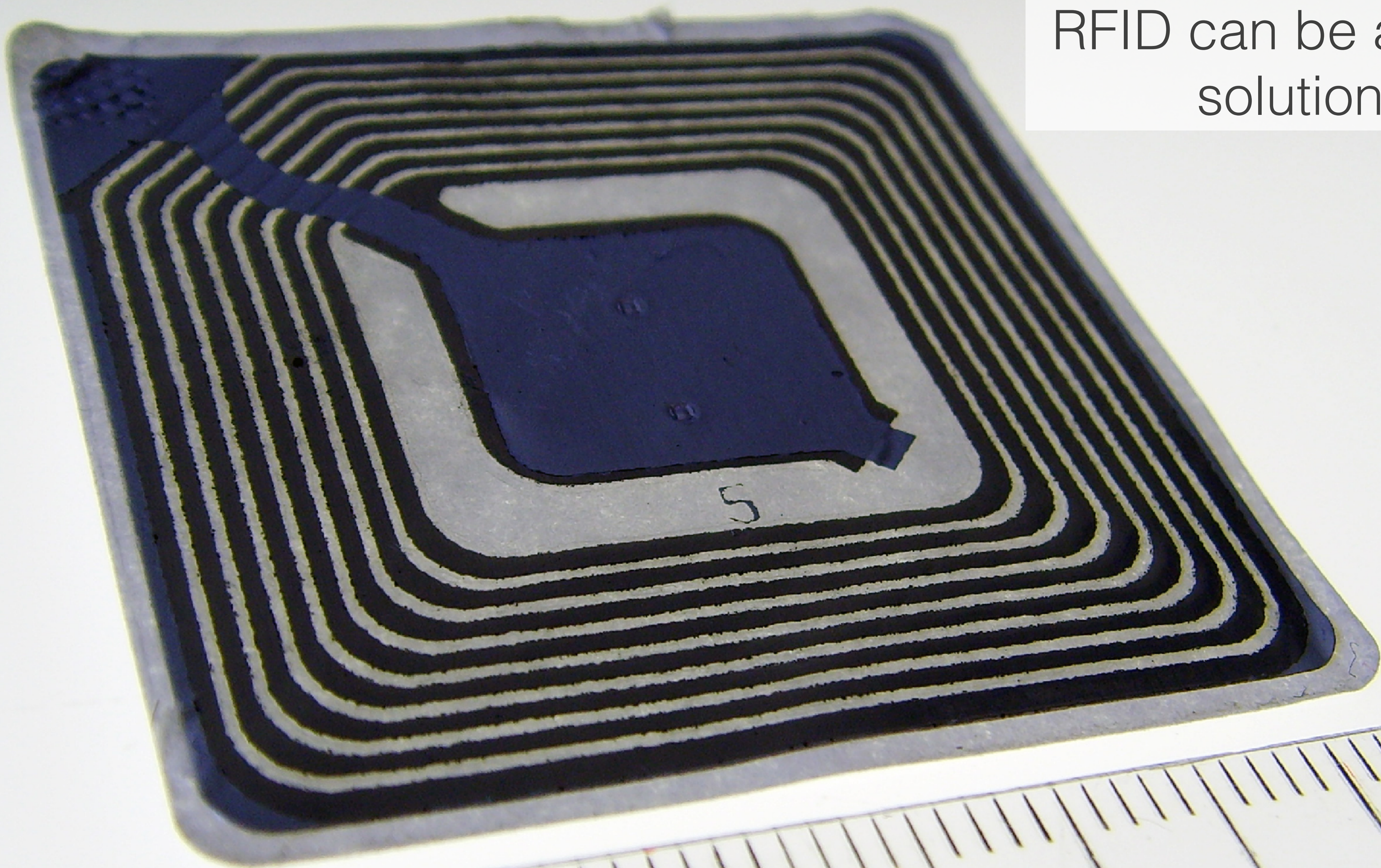


How Can We **Know** How Much
Stock We Have In Our Shop?



Manual stock checks can be very expensive.

RFID can be a great solution.



But ... some stock is too
squishy for RFID tags.

What If A Computer Could Understand What It Sees? And Count It?

visual-recognition-demo.mybluemix.net

TryTrain

Watson sees...

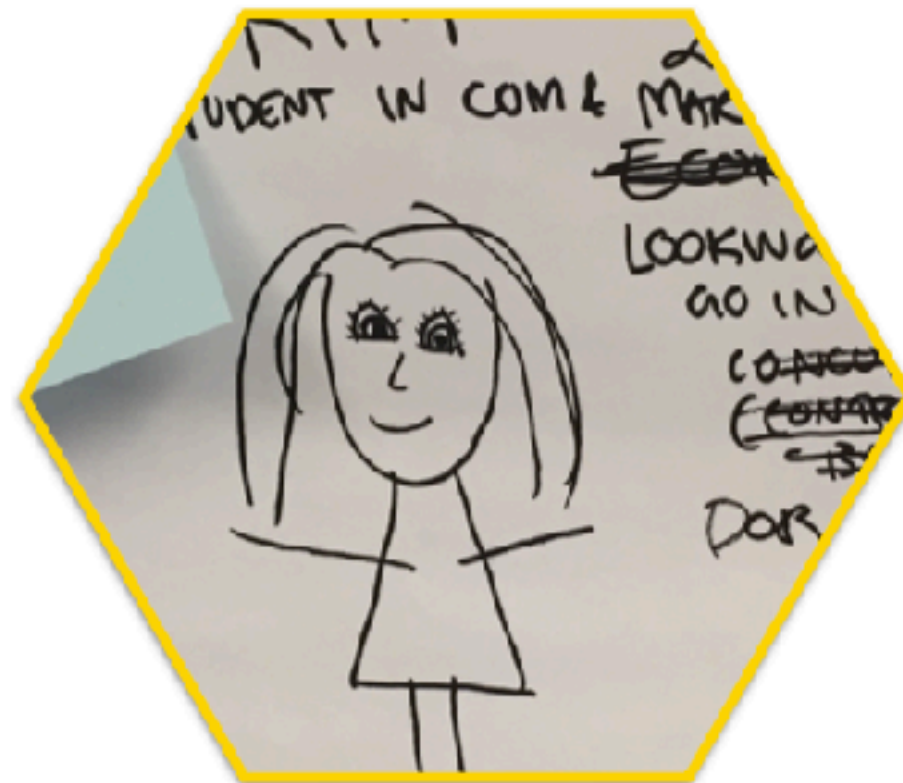
[JSON](#)

Classes	Score
sugar palm	0.89 <div></div>
palm	0.96 <div></div>
tree	0.96 <div></div>
plant	0.96 <div></div>

We can train Watson to understand our business domain.



How Can I Make My Product More **Rewarding** To Use?



Kim

Student in Comm and Marketing

- 25/female/single
- Looking to her future

"I don't want to miss out!"

*"I am not good at saving
- anytime I have spare
money, I spend."*

Characteristics

Social
Spends in Moment

Values

Relationships
Time with Friends
Her Future

Wants

To learn and be
prepared financially

We always start by thinking about the user.

We align on one user to focus our efforts.

Then we refine and align.

Everyone draws. Even the developers.



Then the Garage delivers it.

This is where the collaboration between developers, designers, and architects pays off.

The savings app was developed in 8 weeks, and released in 1Q 2017.



How Can I Engage
More With My Users?

Sunaas Rehabilitation Hospital





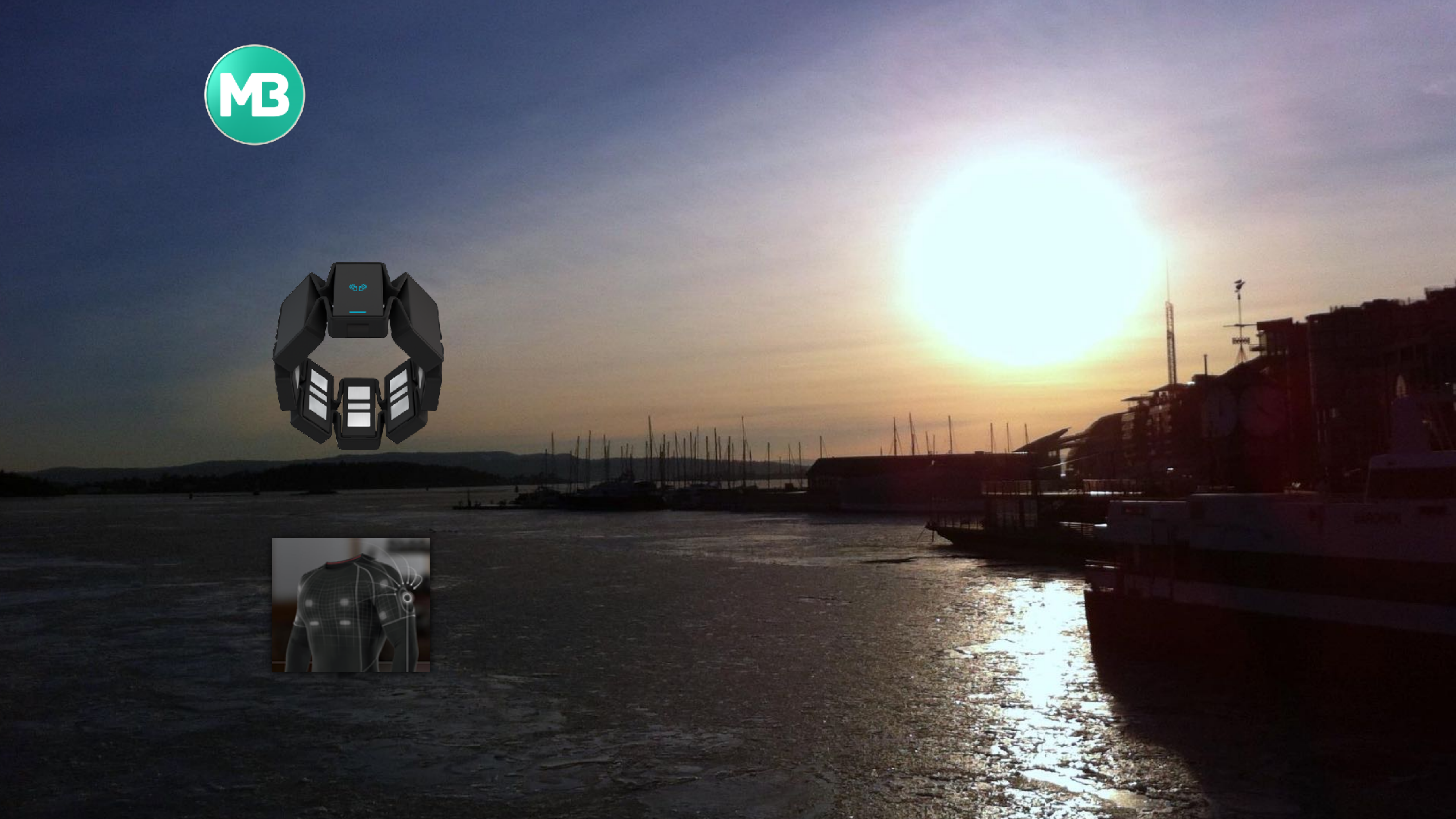
Opportunity

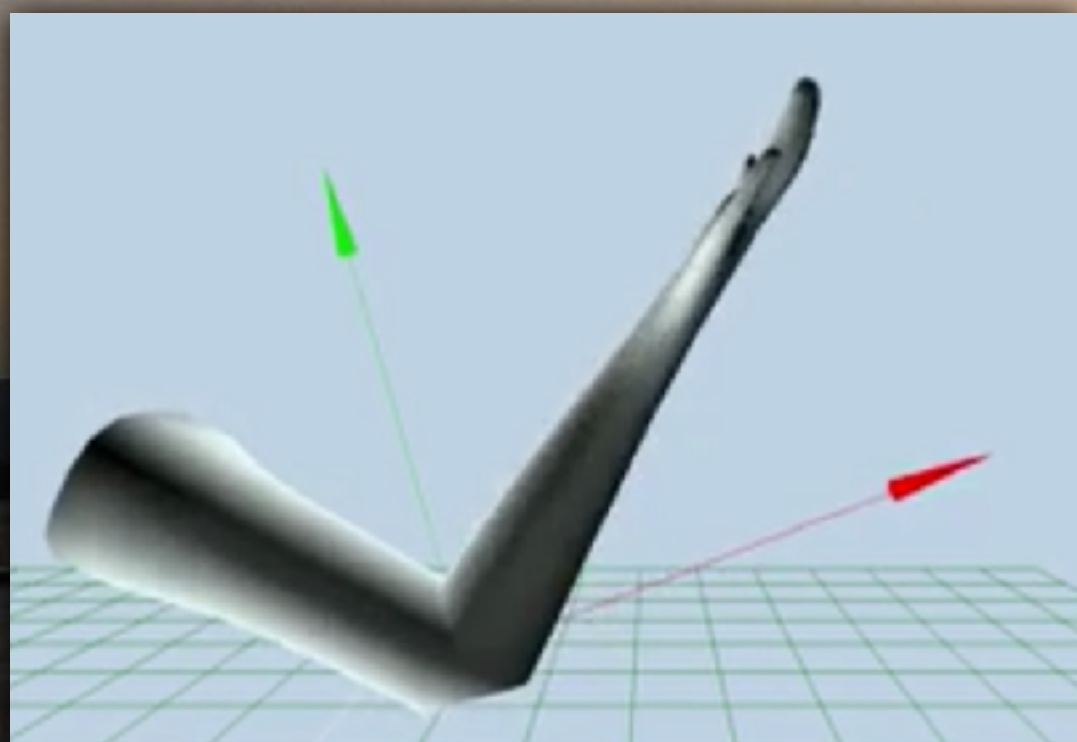
Patients who need rehabilitation and physical therapy forget how to do their exercises.

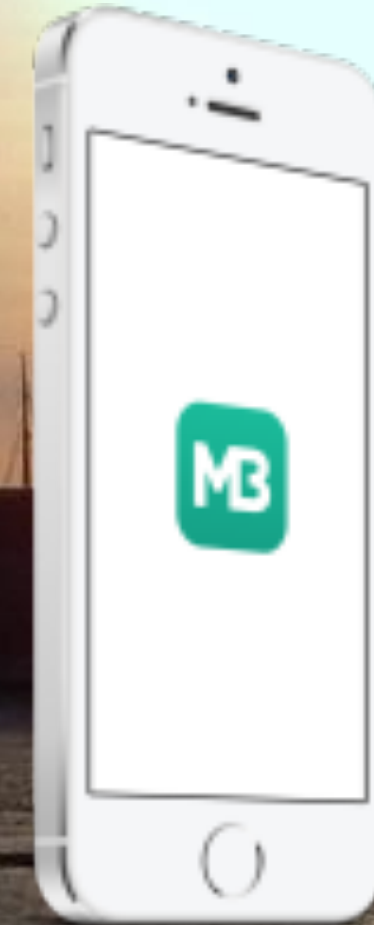
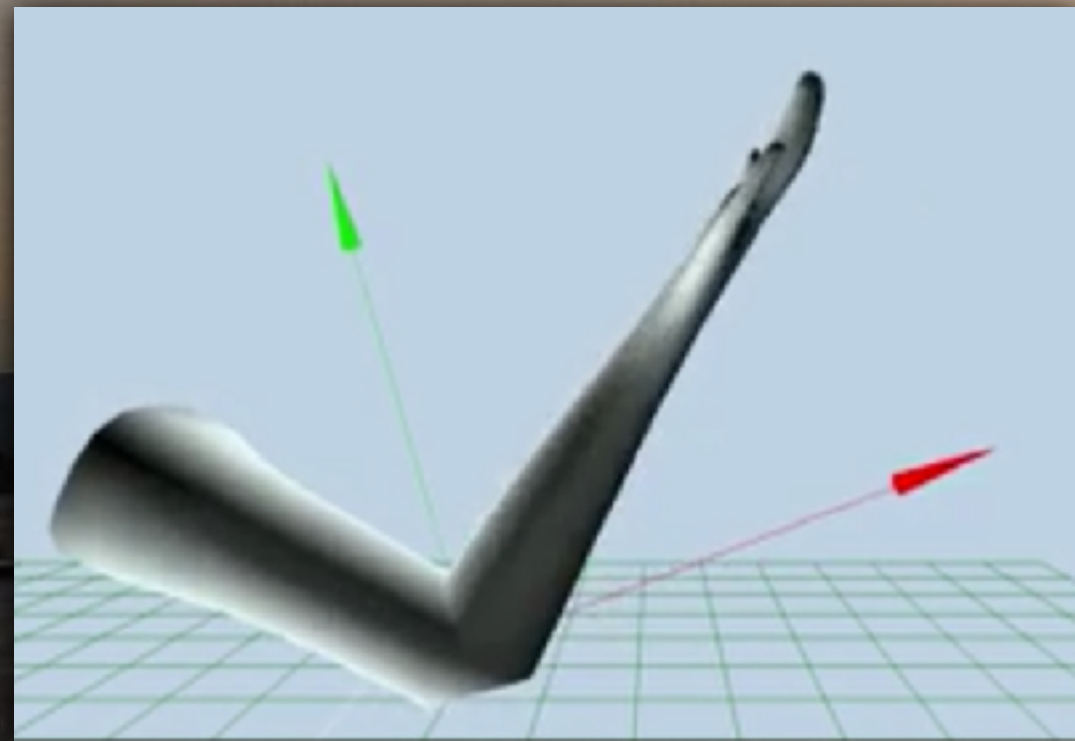
Follow-up appointments are inconvenient.





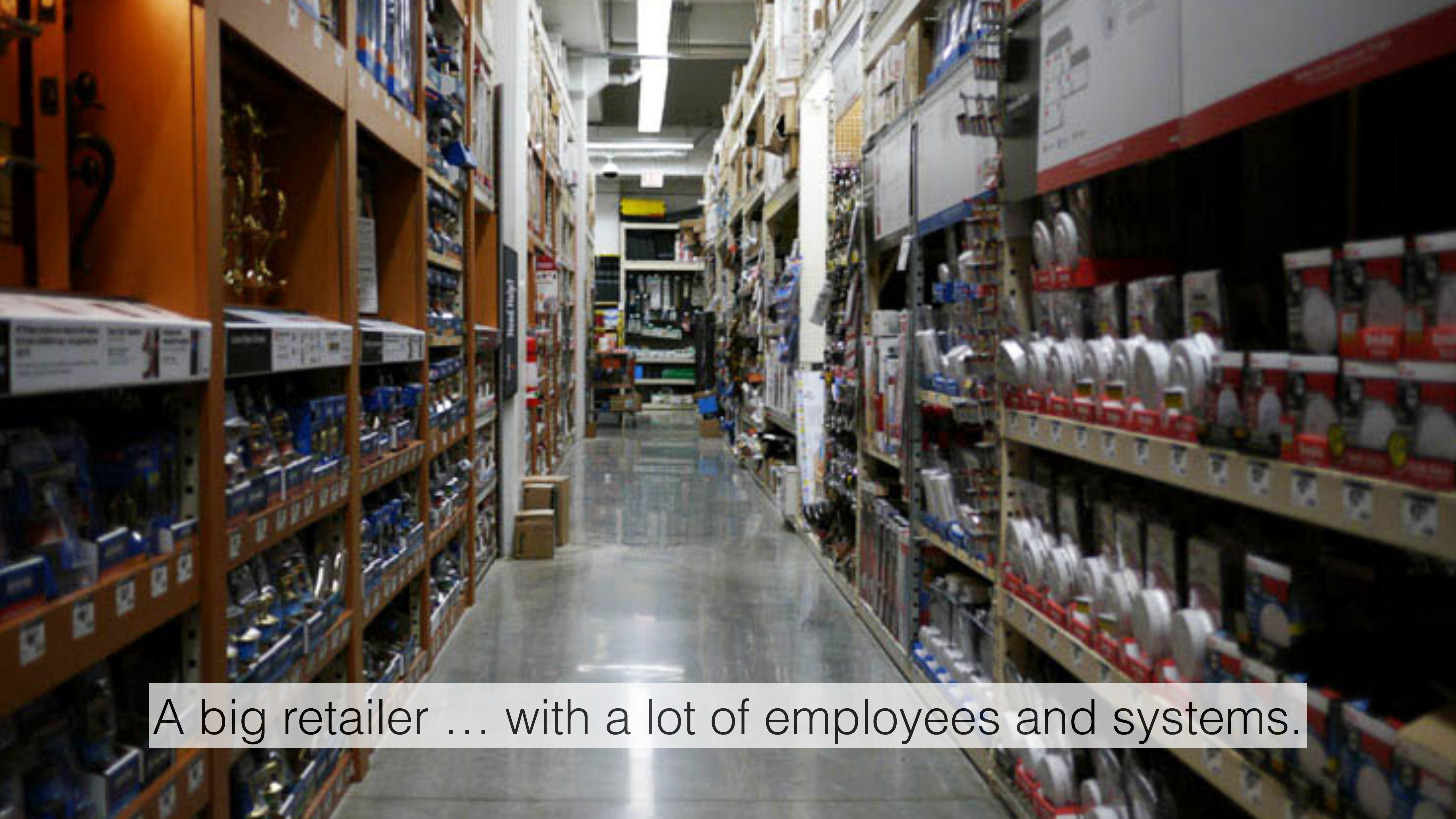






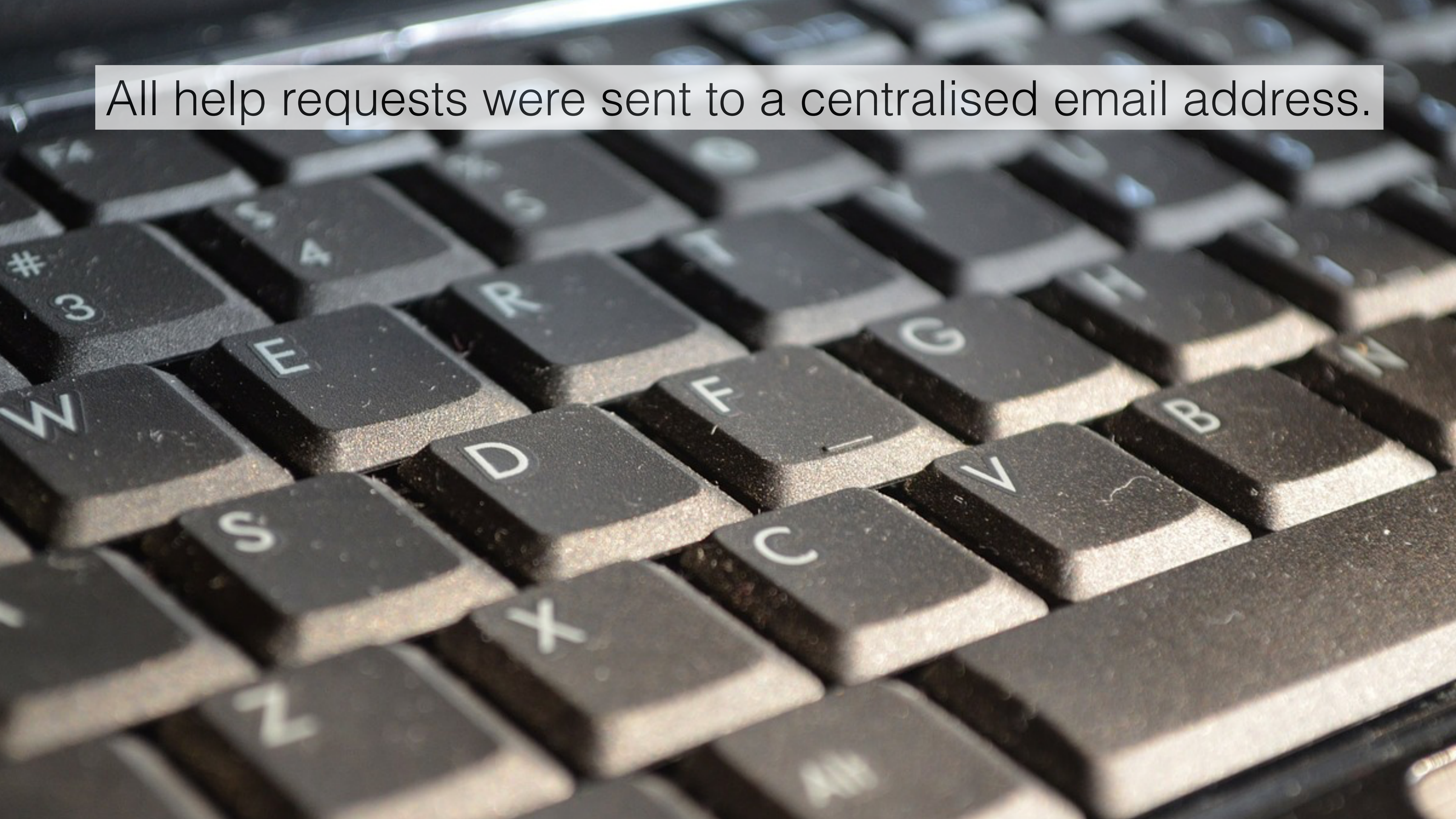


How Can I Take **Control** Of Our Email?



A big retailer ... with a lot of employees and systems.

All help requests were sent to a centralised email address.





Several full time staff had the job of reading the emails to route them to the right team.



What If A Computer Could Triage Emails?



This is a perfect job for machine learning.

**Watson was able to classify
85% of the emails correctly.**

When it didn't understand an email, it
knew it didn't know.



Any Questions?

Come see the IBM stand (with the car!)

@holly_cummins