

# Designing the right product

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@micheleidesmith | #GOTOAms

A cautionary tale of  
product development...



Photo credit:  
Andy Field



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# Back in 2002

- I worked on a mobile (WAP) search for second hand car sales
- I designed user flows and wireframes
- We created a fully coded prototype
- We did lots of internal testing
- Then we launched the app...



We may as well  
have built one of  
these...



**Chocolate Teapot**  
Caution –  
do not expose to high temperatures.

Photo credit:  
Steve Way



We made a lot of  
assumptions


We didn't validate  
our assumptions

We didn't learn  
anything about our  
client's customers



“Unfortunately, we again made the mistake of focusing on engineering first and customer development second...We released our first version to some moderate success and then proceeded to continue to churn out features without really understanding customer needs.”

Devver Blog – Lessons Learned



“When I ask founders how long it’s been since they’ve watched a real customer use their product, they usually look embarrassed and admit they haven’t tested anything in months.”


Braden Kowitz, Google Ventures

Photo credit:



Braden Kowitz



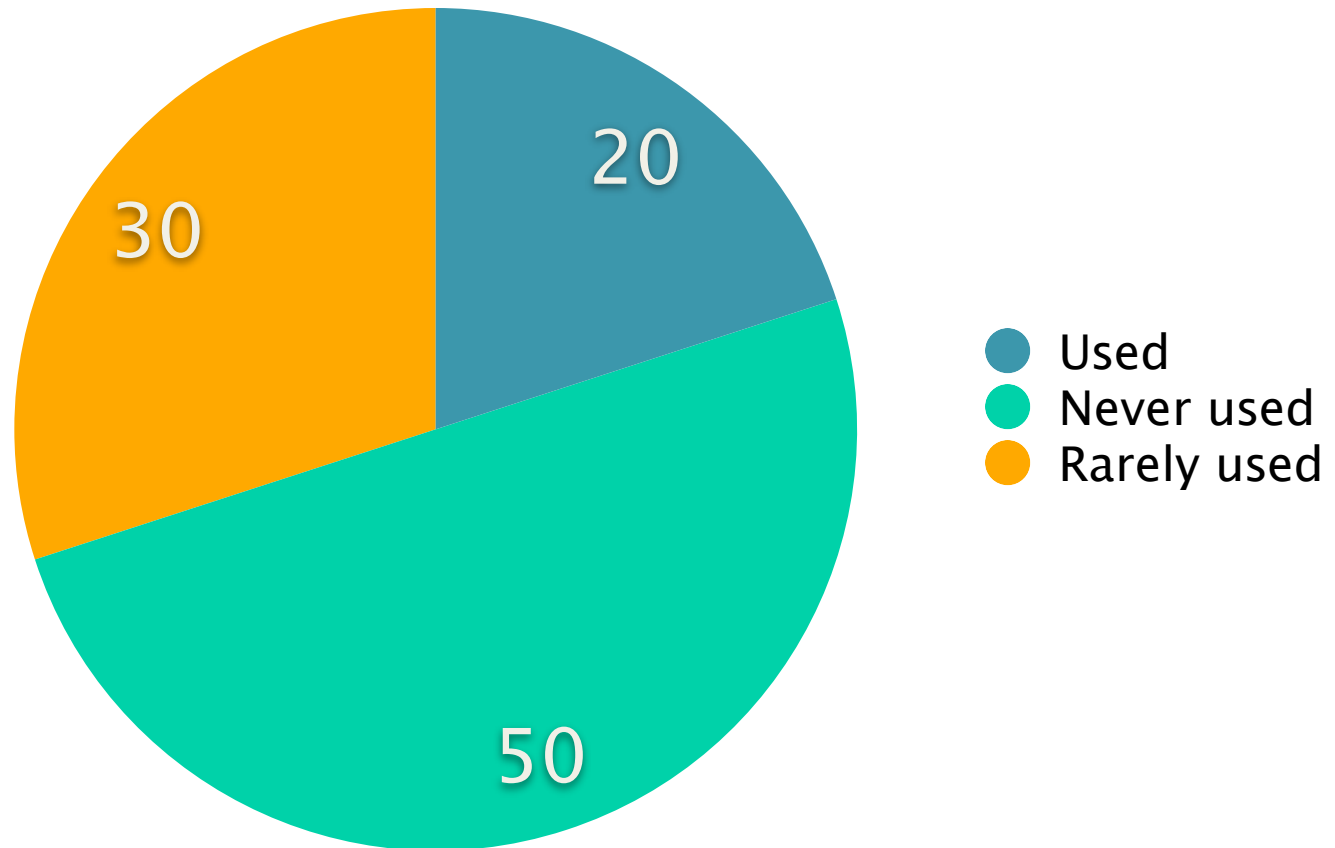


tempting  
design a  
duct with  
s of really

But in reality your users will only use a handful of useful features



# % Software features used



Source: Standish Chaos Manifesto 2013

“ There is no doubt that focusing on the 20% of the features that give you 80% of the value will maximize the investment in software development and improve overall user satisfaction.”

Standish Chaos Manifesto

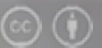


# An evolution of thinking...

Lean: deliver value  
to customers with  
minimal resources



Photo credit:  
Toyota Material  
Handling



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# Principles behind the Agile Manifesto

*We follow these principles:*

Our highest priority is to satisfy the customer through early and continuous delivery of valuable software.

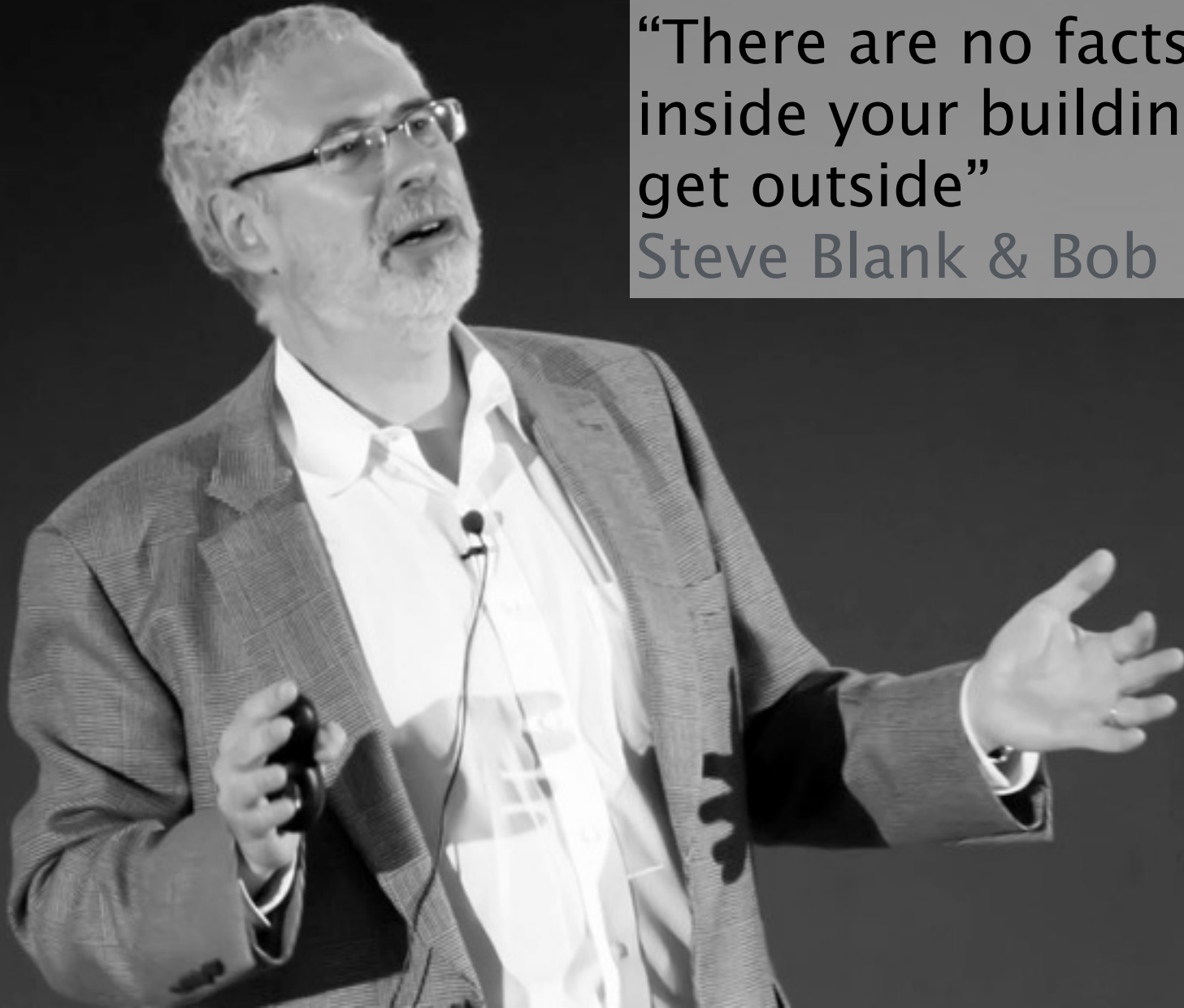
Welcome changing requirements, even late in development. Agile processes harness change for the customer's competitive advantage.

Deliver working software frequently, from a couple of weeks to a couple of months, with a preference to the shorter timescale.

Business people and developers must work together daily throughout the project.

Build projects around motivated individuals. Give them the environment and support they need, and trust them to get the job done.

The most efficient and effective method of conveying information to and within a development



“There are no facts  
inside your building, so  
get outside”

Steve Blank & Bob Dorf



“The question is not Can this product be built? Instead, the questions are Should this product be built?”

Eric Ries

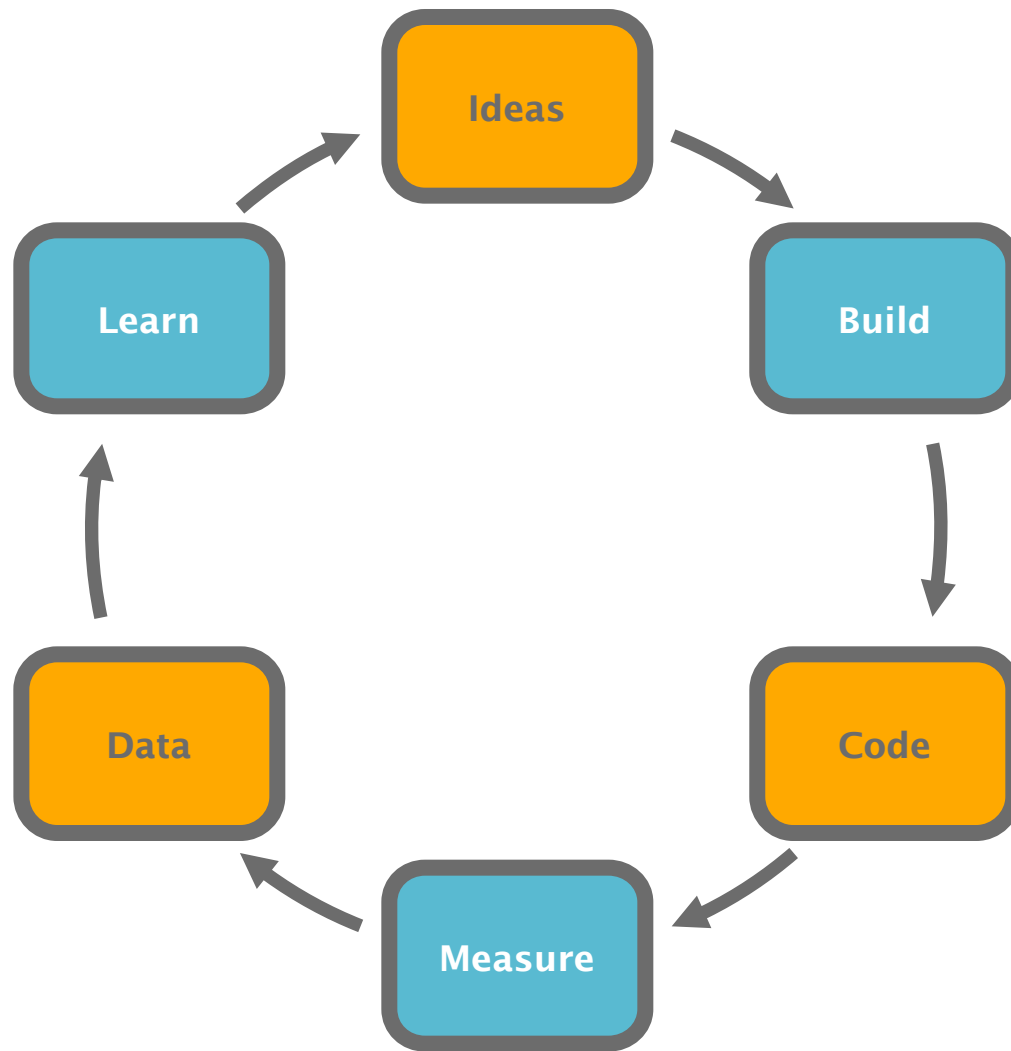


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# Principles of Lean Startup



- Eliminate uncertainty
- Work smarter, not harder
- Develop an MVP (Minimum Viable Product)
- Validated learning



# Validated learning



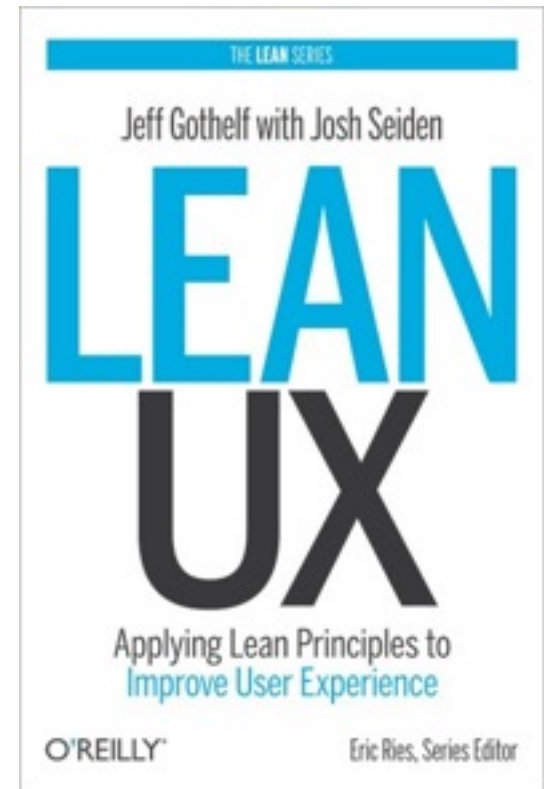
Does your product  
solve a problem for  
your customers?

“Requirements are  
assumptions.”  
Jeff Gothelf



# Principles of Lean UX

- Cross-functional teams
- Continuous discovery
- GOOB: user-centricity
- Shared understanding
- Making over analysis



Design research  
Competitor Analysis  
Personas  
Ideation

**Think**

**Reduce  
cycle time,  
not build  
time**

Usability testing  
A/B testing  
Analytics

**Check**

**Make**

Hypothesis  
Sketching  
Prototyping  
Coding



# Some case studies...



“We wanted to make sure we were getting customer feedback as we worked so that we were never working on anything that wasn’t valued by the customer.”

Nordstrom Innovation Lab: Sunglasses iPad App

redgate **LIVE LABS**



Help us build  
Source Control for Oracle

SPRINT:  
DOING DONE

LIVE DEV LAB  
424-425

redgate **LIVE LABS**

Hypothesis: Oracle  
Developers & DBAs need a  
better way to source control  
their database schemas.

> 70% interest – develop a  
tool a.s.a.p.



Photo credit:  
Paigggeyy



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# 25 feedback sessions with users

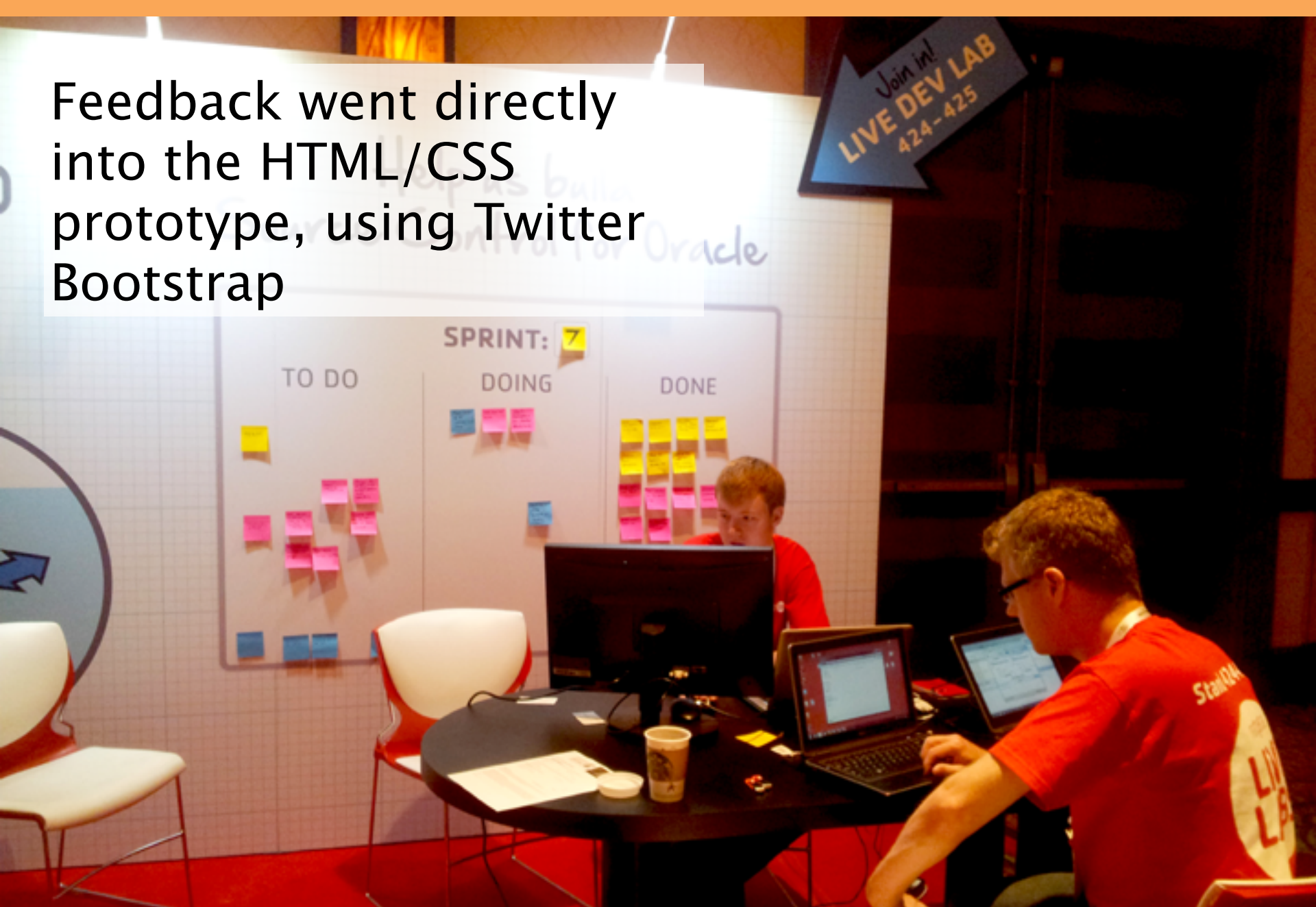


## R PERSPECTIVE - SOURCE CONTROL FOR ORACLE



People returned to see the feedback we had collected throughout the conference

Feedback went directly  
into the HTML/CSS  
prototype, using Twitter  
Bootstrap



## Beta development timeline for 2012:

### Sept. 7: Scripts Folder Support command line

Support for exporting to scripts folders in Schema Compare for Oracle command line interface

### Sept. 19: New Features and Bug Fixes

- New: support for user object privileges in scripts folders
- New: support for domain indexes (provides better support for oracle text)
- New: ignoring oracle text auto generated indexes and tables
- New: ignoring auto-generated SYS\_PLSQL\_types
- Fix: various bug fixes in scripts folder

parser

misspelling on UserObjectPrivileges folder in generated scripts folder

### January: Source Control for Oracle EA1

During January we're aiming to release the first beta of the full Source Control for Oracle tool. With this product your development team will be able to share, track and understand schema changes quickly and easily.

### Sept. 12: New Features and Bug Fixes

- Fix: bug where absolute paths for script folders and snapshots were not recognised
- New: extra logging to the command line
- New: 'script-folder' as a synonym for 'scripts-folder'
- Fix: command line help formatting

### Oct. 3: Scripts Folder Support in Schema Compare

Support for exporting to scripts folders added to Schema Compare for Oracle.

[Download free 14 day trial](#) ↓

### January: Source Control for Oracle V1.0

During January we're aiming to release V1.0 of the full Source Control for Oracle tool.

Regular releases of functionality based on user feedback



### Are developers assigned their own dedicated schema to work on?



Continual validation of assumptions through surveys, interviews and testing



# Lean UX tools



Design research  
Competitor Analysis  
Personas  
Ideation

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Create a one page plan – put it up where everyone can see it!

# Get the team on the same page

- Why are we doing this?
- Who are building this for?
- How will we know if we have succeeded?




# State your assumptions

- Review user stories or requirements
- Which ones do you **know** to be true?
- Which assumptions **pose the biggest risk?**



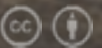
Assumption	Risk level	Learnings from validation
Academics are not aware of funders' policy changes (existing or upcoming)	High	
Academics are confused about which version of their manuscript to upload	High	In the first two weeks from launching the new website 29% of submissions included the wrong version of the article.
Academics do not know what the exact acceptance date of their manuscript is	Medium	An Administrator reported not knowing the acceptance date for many of the manuscripts she uploads.  Some academics have told us that the corresponding author may be in another institution and they sometimes don't know the exact date the article is accepted.
Academics or administrators can locate the Author's Accepted Manuscript version of their article	High	If the corresponding author is in another institution, or was a PhD student who has moved, it is sometimes hard to get the AAM. Publishers often have online systems for submission and authors edit the manuscript in the online system. It is not always easy to get hold of the AAM from this system.
The date of the email acceptance letter will match the publisher's declared acceptance date	Medium	Philip reported that a reasonable number of submissions do not have the same acceptance date as the actual acceptance date from the publisher.
Academics put the correct acceptance date into the form	Medium	Philip reported that a reasonable number of submissions do not have the same acceptance date as the actual acceptance date from the publisher.
Academics or administrators have (or can create) a PDF version of their AAM	Medium	So far we have not had any evidence that creating a PDF is hard, even for authors who use Latek (e.g. Physicists).
Academics don't think about Open Access at the point where the publisher accepts their article for publication	High	
Academics don't understand the Open Access options that publishers provide	Medium	
Academics don't pay close attention to the Copyright Transfer Agreement (CTA) and may be unaware of restrictions on where they can publish	Medium	
Academics don't use existing institutional repositories (e.g. Dspace) because there is too much metadata they need to add	Low	
Academics don't use existing institutional repositories because they don't see any benefits for them	Low	
Academics don't use Dspace because the design and usability of the interface is poor	Low	





To validate, or  
invalidate, your  
assumptions you need  
to learn about your  
customers

Photo credit:  
Tom Ryan



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Involve the whole  
team in user research


# Observe, listen and learn


- Observation & contextual interviews
  - Experience activities in context first hand
  - Observe what people do, how they behave
  - Look for pain points and work arounds
- Guerrilla usability tests
  - 5 minutes in a cafe
- Product forums or beta lists
- Customer helpdesk / call centre



*“To make excellent products that truly understand our users’ contexts, we must look further, and investigate context first-hand”*  
*Cennydd Bowles*



Photo credit: 


A photograph of a woman with dark hair in a ponytail, wearing a colorful floral dress and large hoop earrings, sitting on a bus. She is looking down at a smartphone in her hands. A yellow bag is on her lap. The bus is moving, as evidenced by the blurred background and other passengers. The interior of the bus has overhead lighting and handrails. A text box is overlaid on the top right of the image.

How and where will  
people use your  
application?

Photo credit:  
Phil Dragash



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Who are they  
with?

Photo credit:  
Joe Shlabotnik



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Beware of asking  
people what they do,  
or what they want





“What people say,  
what people do, and  
what they say they  
do are entirely  
different things.”  
Margaret Mead,  
Cultural  
Anthropologist



# Avoid questions like...

- Which of these features would be useful to you?
- How would you like this to work?
- What would you most like to see in the product?
- How do you think we should design this?



# Ask questions like...

- Tell me about the last time you did X
- What went well? What didn't go so well?
  - What happened?
  - Why was that?
  - What did you do?
- I noticed you were doing X just then.
  - That's interesting, tell me more about that...



Get a shared  
understanding of  
customer needs and  
problems



A photograph showing three men in a modern office setting. They are gathered around a large glass wall covered with numerous yellow sticky notes. The man in the foreground, wearing a green hoodie, is holding a yellow sticky note and appears to be placing it on the wall. Behind him, two other men, one in a checkered shirt and one in a blue hoodie, are looking at the wall. The background shows a staircase and large windows, suggesting a bright, open-plan office environment.

Analyse research insights  
collaboratively



DESIGNER

DEVELOPER 1

DEVELOPER 2

VISUAL DESIGNER

ALPHA  
ETA  
ZETA

BY CUSTOMERS

Create customer personas to help the team make sense of user behaviours

**RACHEL, 32**  
WORKS IN PHARMACEUTICALS

**ASSUMPTIONS**

- HAS OPTED INTO RECOMMENDATIONS
- IMPULSE BUYER
- LIKES A BARGAIN

Sketches showing Rachel's journey: browsing on a phone, looking at a t-shirt, and checking out.

Sketches showing Rachel's journey: a coffee cup, a t-shirt, and a shopping bag.

THE SHOP ASSISTANT HAS THE TOP OF THE SWEATERS WHEN RACHEL GOES IN!

ON THE WAY OUT, RACHEL SEES A PAIR OF TROUSERS AND A SWEAT SHEET SHE LIKES

RACHEL GOES BOTH WAYS - THE TOP & SWEATERS - AND SEES HER "CURRENT" FAVORITE, THE ACCOUNT SHE'S THE ONE WHO SHE LOVES THE MOST

SHE SEES THE BAGGAGE - THE LAST ONE WAS BROKEN AFTER THE FIRST

A SHOP ASSISTANT COMES & ASKS FOR - IT WAS ABOVE THAT APPROX

**TOM, 27, PART-TIME BARTENDER**

**PROFILE**

- WORKS NIGHT SHIFTS IN A BAR
- GETS THROUGH A LOT OF SHIRTS DUE TO WORKING IN A BAR.
- HAS 2 YOUNG CHILDREN HE LOOKS AFTER DAILY

**PAIN POINTS**

- FINDS IT HARD TO DECIDE WHAT LOOKS GOOD - UNDER CONFIDENT
- LIKES TO SHOP WITH A FRIEND, BUT WORKS WEEKENDS, SO HIS FRIENDS ARE OFTEN UNAVAILABLE
- VERY TALL/TINY

**SOLUTIONS/NEEDS**

- NEEDS HELP TO CHOOSE WHAT TO BUY
- NEEDS A SECOND OPINION IN STORE, BUT SHOPS ALONE
- MAKE IT EASY TO ORDER & TRY IN STORE

**RACHEL, 32**

**PROFILE**

- ORGANIZES PHARMACEUTICAL TRAILS
- HAS TO TRAVEL FOR WORK, BUT WORKS FROM HOME - LIVES FROM HOME
- CAREFUL BUDGETER, LIKES AN OFFER
- LIKES CLOTHES BUT HATES SHOPPING!

**PAIN POINTS**

- SIZING VARIES STORE TO STORE
- WHEN SHE GOES INTO THE STORE HER CLOTHES DON'T

**SOLUTIONS/NEEDS**

- IN STORE OFFERS VIA HER PHONE
- RECOMMENDATIONS ON SCREENS NEAR ITEMS SHE LIKES



Design research  
Competitor Analysis  
Personas  
Ideation

**Think**

**Reduce  
cycle time,  
not build  
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Usability testing  
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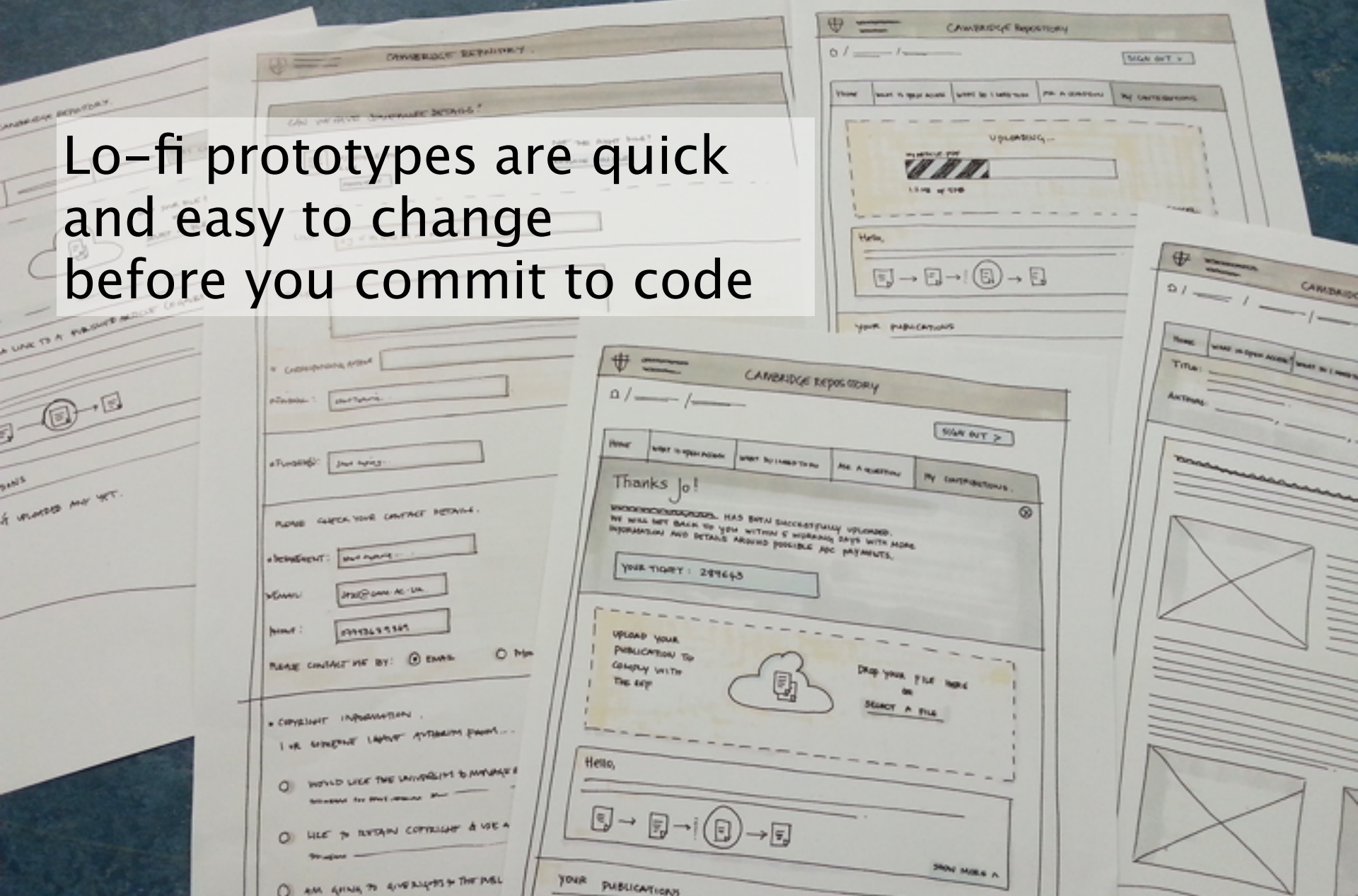
# Prototype, test and iterate



Design Studio: the whole team sketch out lots of ideas, choose the best ones and refine them



Lo-fi prototypes are quick and easy to change before you commit to code



Externalise ideas - put design work on the walls and whiteboards  
Find a war room!





Get ready to  
experiment!



# Experiment

Team name \_\_\_\_\_

\_\_\_\_\_/\_\_\_\_\_/\_\_\_\_\_  
date

Hypothesis

We believe that... \_\_\_\_\_

Test

We will do/make... \_\_\_\_\_

Evidence

We will know the hypothesis is valid if by \_\_\_\_\_

date \_\_\_\_\_

we get... \_\_\_\_\_

quantitative  
measurable outcomes

qualitative  
observable outcome



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“**if** the call-to-action  
button is red **then** the  
number of people  
registering will go up”

Make sure it's easy to  
test!

Design research  
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Coding



# Validation

- Usability testing
  - Face-to-face or remote
  - Get the whole team to attend and analyse
- A/B (multi-variant / split) testing
  - Only useful if you have a large enough sample
- Click tests
- Analytics



# My top tips

# #1

Don't get lazy, find  
customers and learn  
how they use your  
product



# #2

Do get the team to  
own the user  
experience of the  
product

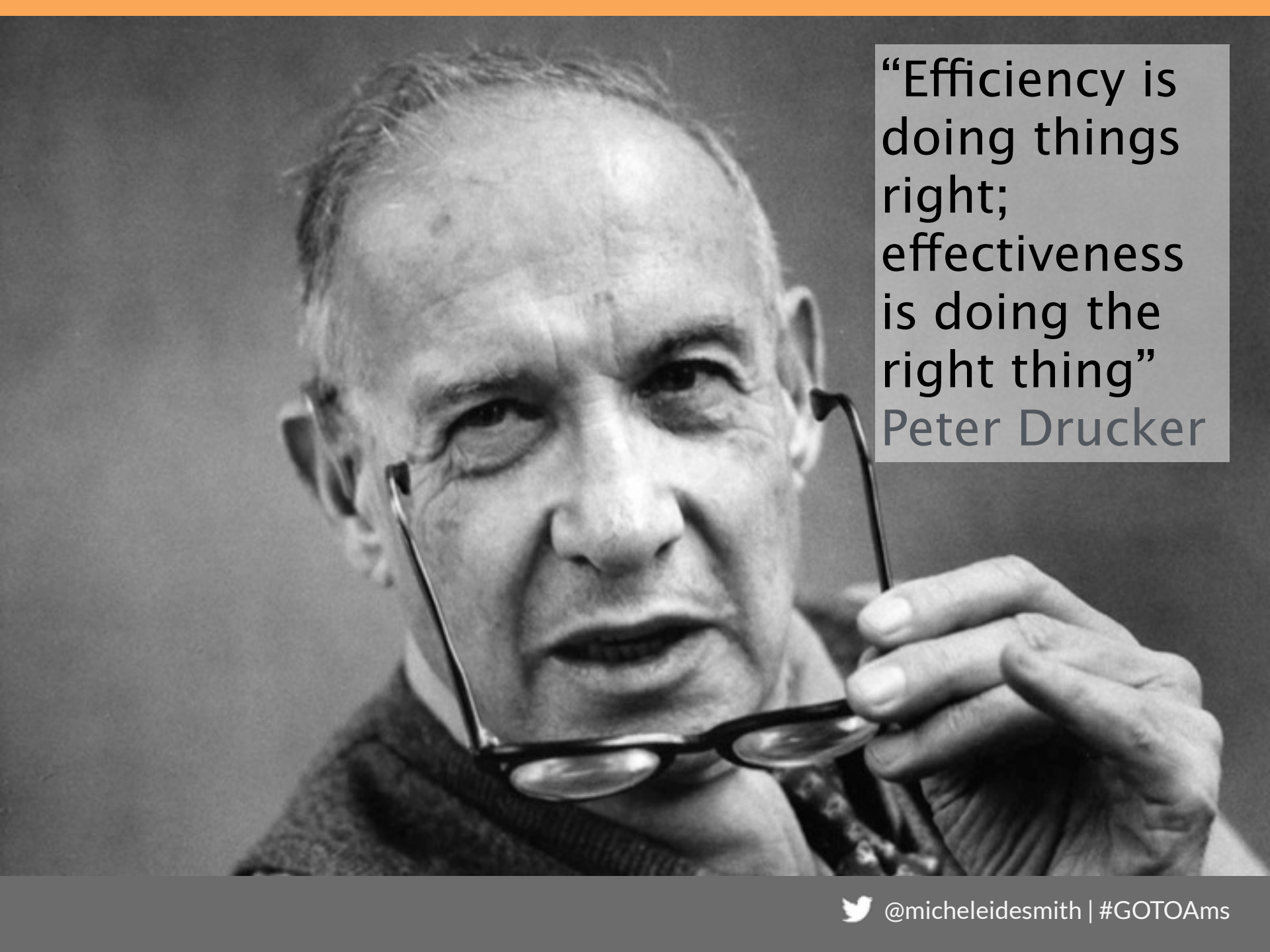
# #3

Don't compromise  
quality - MVP doesn't  
mean half-baked



# Summary

- Treat requirements as assumptions
- Get out of the building and observe customers in context
- Build a shared understanding in the team of customer problems
- Rapid think > make > check cycles
- **Everyone** in the team owns the user experience of the product!

A black and white portrait of Peter Drucker, an older man with thinning hair, wearing a dark sweater. He is holding a pair of glasses in his right hand, with the frames resting near his chin. The background is a plain, light color.

“Efficiency is  
doing things  
right;  
effectiveness  
is doing the  
right thing”  
Peter Drucker



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Please evaluate  
this talk via the  
mobile app!



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