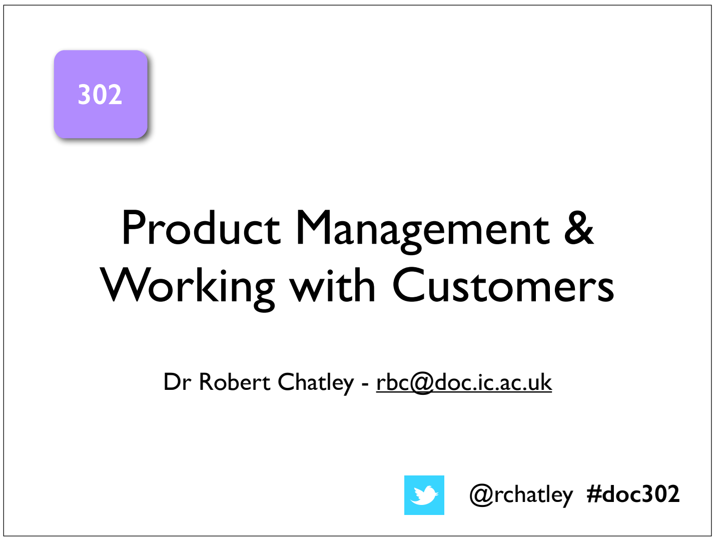


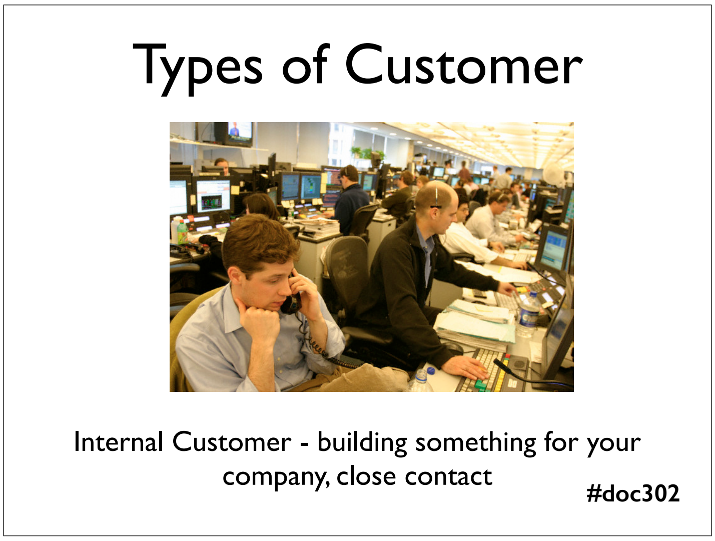
302

Product Management & Working with Customers

Dr Robert Chatley - rbc@doc.ic.ac.uk

@rchatley **#doc302**

In this section we look at techniques for eliciting and managing requirements for our products, we think about different types of customers, how to prioritise and decide what to build, and some ways to test whether or not what we have done was the right thing.



Types of Customer

Internal Customer - building something for your company, close contact

#doc302

There are different types of customer for whom we may be building software. Depending on who they are, we may have quite a different style of relationship and communication with them. In some cases, we may be building something for someone who works for the same organisation as us - an internal customer. This normally allows a close working relationship, particularly if the person or team your are building the system for works near to you in the same office.

An example of this situation might be working in a financial institution like an investment bank, and building software to help the traders to do their work. You can hopefully talk directly with the business users, and iterate quickly in response to their requirements and feedback.

Types of Customer

External Customer - someone commissions you

#doc302

photo: blu-news.org

With an external customer, we may not get to see them so often. We may have to organise meetings to see them, and show them new versions of the software. We may need more documentation of what we have agreed to build for them.

An example of this situation might be a specialist software house being engaged to build an application for a company, perhaps a website, or an app.

Types of Customer

Direct to Consumer

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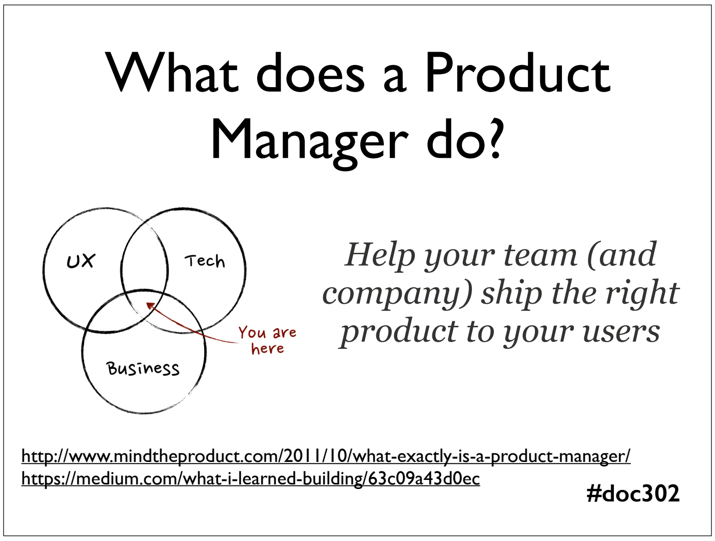
The third case we will look at is where you are part of a team developing a software product that it aimed directly at the consumer. As part of the product team, you have to decide what the right features to build are, and to listen to user feedback to decide what to change, and what to work on next. At the current time there is a lot of growth in the startup market, with lots of companies building their own products.

In all of these cases there may be other stakeholders to consider, not just the eventual users of the system, but operations people who will need to install and operate the system - perhaps fixing production problems should they occur. There may also be sales, marketing or training departments that you need to co-ordinate with around the launch of new products or features. You may have investors who want a say in the direction of the product.



What does a Product Manager do?

Help your team (and company) ship the right product to your users

http://www.mindtheproduct.com/2011/10/what-exactly-is-a-product-manager/
https://medium.com/what-i-learned-building/63c09a43d0ec

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The job of a product manager is difficult to describe, but the articles referenced above are helpful. The product manager has to think about the needs and wants of the different classes of user or customer, to think about the user experience, to balance this with what they know to be technically feasible (and cost-effective), also keeping a view on the business value and potential of what is being developed.

Product management is about guiding the direction of the product, and helping the team to pull together in the right direction - helping them to get the right product built and shipped.

User Stories

As a ...
I want ...
So that ...

XPday
www.xpday.org

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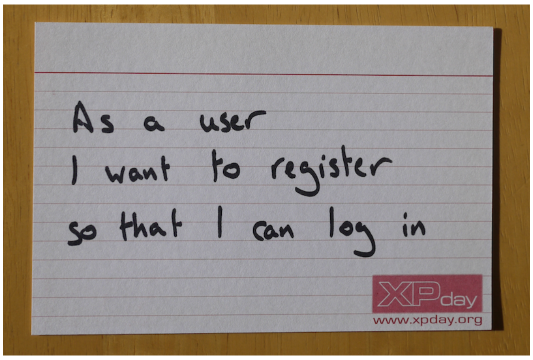
One of the most common ways of working with requirements in an agile project, is to write them as user stories. We have mentioned these before when we talked about planning and estimating work. User stories comprise a short description (often written on an index card) describing a feature at a high level, and from the user's point of view, so it isn't a purely technical effort, we want to describe the benefit to the user of adding this feature.

A common template is as above - as a [class of user], I want [some feature], so that [business reason]. It is the last part of this that is the most important, as it describes the value of the story - the "why". Once we know why a user wants a certain feature, we may be able to suggest better, cheaper or easier alternatives.



As a user
I want to register
so that I can log in

XPday
www.xpday.org

http://gojko.net/2013/09/30/writing-as-a-user-does-not-make-it-a-user-story/

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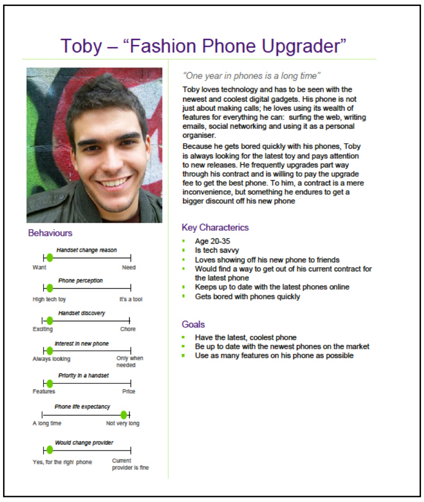
Just following this template does not necessarily result in a good user story. We commonly see things like the above, where someone wants to implement a feature, and they have disguised it as a user story. Users don't really want to register so that they can log in. They want to do something useful with your application. Having to register and log in may be a necessary step along the way, but it isn't really the user's goal.

Personas



Toby – "Fashion Phone Upgrader"

"One year in phones is a long time"

Toby loves technology and has to be seen with the newest and coolest digital gadgets. His phone is not just about making calls; he loves using its wealth of features for everything he can: surfing the web, writing emails, social networking and using it as a personal organiser.

Because he gets bored quickly with his phones, Toby is always looking for the latest toy and pays attention to new releases. He frequently upgrades part way through his contract and is willing to pay the upgrade fee to get the best phone. To him, a contract is a mere inconvenience, but something he endures to get a bigger discount off his new phone

Behaviours

Handset change reason
Want — Need

Phone perception
High tech toy — It's a tool

Handset discovery
Exciting — Chore

Interest in new phone
Always looking — Only when needed

Priority in a handset
Features — Price

Phone life expectancy
A long time — Not very long

Would change provider
Yes, for the right phone — Current provider is fine

Key Characterics

- Age 20-35
- Is tech savvy
- Loves showing off his new phone to friends
- Would find a way to get out of his current contract for the latest phone
- Keeps up to date with the latest phones online
- Gets bored with phones quickly

Goals

- Have the latest, coolest phone
- Be up to date with the newest phones on the market
- Use as many features on his phone as possible

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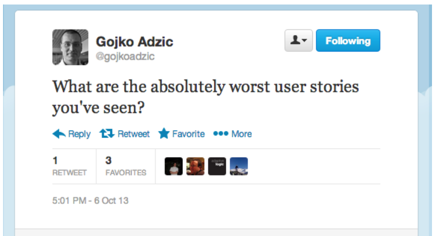
When thinking about user stories, we need to think about the types of users (perhaps there are several types) who are using our system in different ways. A useful tool in doing this is to develop personas for a few characteristic types of user. Then we can think through "Who wants to do this? Would Toby want to do this?". We can use our personas as characters in our user stories.



Gojko Adzic
@gojkoadzic

What are the absolutely worst user stories you've seen?

1 RETWEET 3 FAVORITES

5:01 PM - 6 Oct 13

"As a customer I want to be delighted by my shopping experience so that I will tell my friends."

"As a user I want the system to log performance data..."

"As a REST service I want accept POST requests..."

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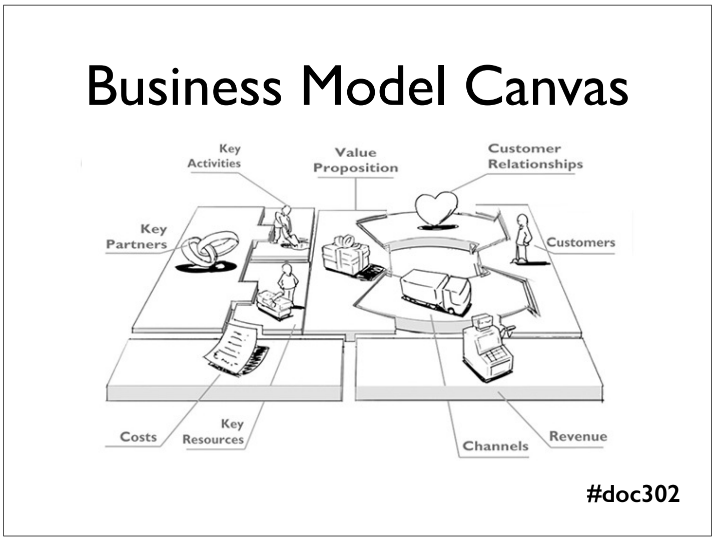
Gojko Adzic recently posted a question asking for examples of bad user stories. Here are some of the results. They do not represent the value being generated by completing the story - they don't talk about what the user's goal is. They have mostly just been formed into user story form by someone who hasn't fully embraced the idea, and just wants to build something.

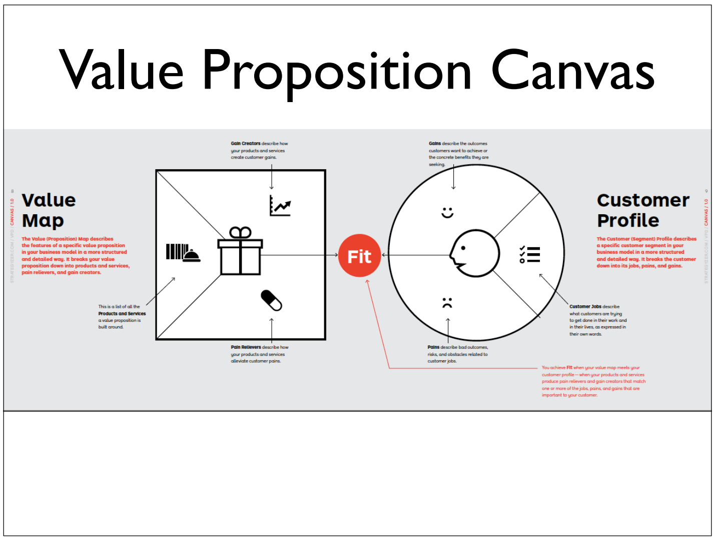


Business Model Canvas

#doc302

The Business Model Canvas is a tool developed by Alexander Ostervalder to help to design, describe and understand a business model for either a planned or an existing product. You can follow the template and fill in how any business generates revenue, relies on partnerships, uses resources, develops value, etc etc.

http://www.businessmodelgeneration.com/canvas/bmc
Business Model Canvas explained: https://www.youtube.com/watch?v=QoAOzMTLP5s



Value Proposition Canvas

Value Map

The Value (Proposition) Map describes the features of a specific value proposition in your business model in a more structured and detailed way. It breaks your value proposition down into products and services, pain relievers, and gain creators.

Gain Creators describe how your products and services create customer gains.

This is a list of all the **Products and Services** a value proposition is built around.

Pain Relievers describe how your products and services alleviate customer pains.

Customer Profile

The Customer (Segment) Profile describes a specific customer segment in your business model in a more structured and detailed way. It breaks the customer down into its jobs, pains, and gains.

Gains describe the outcomes customers want to achieve or the concrete benefits they are seeking.

Customer Jobs describe what customers are trying to get done in their work and in their lives, as expressed in their own words.

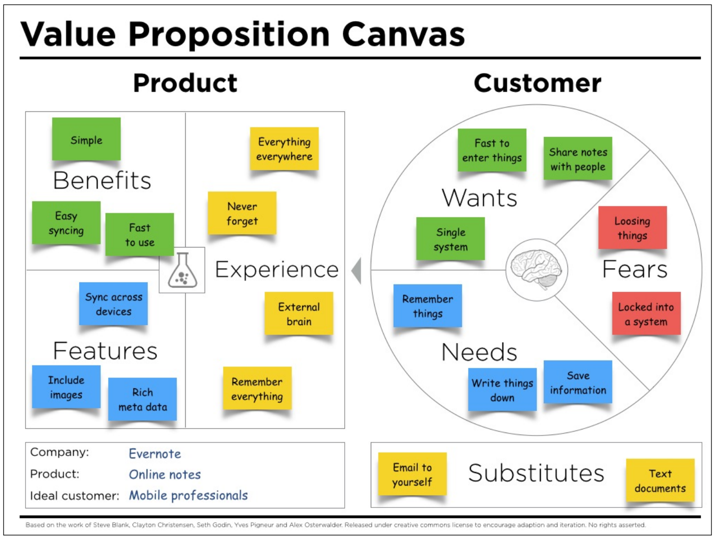
Pains describe bad outcomes, risks, and obstacles related to customer jobs.

You achieve **Fit** when your value map meets your customer profile — when your products and services produce pain relievers and gain creators that match one or more of the jobs, pains, and gains that are important to your customer.

Alexander Osterwalder has recently created a tool that is a "plug-in" to the Business Model Canvas. It's called the Value Proposition Canvas, and helps you to ensure that the product or service you are offering is something that customers want.

The Value Proposition Canvas has two sides, the Customer Profile and the Value Map. The Customer Profile is used to clarify your understanding of customers, while the Value Map describes how your product/service creates value for the customer. The goal is to achieve a fit between the two to show the Value Proposition.

The Customer Profile includes examination of Customer Jobs, Pains and Gains. The Value Map includes the Pain Relievers, Gain Creators and Products and Services that you believe will be fits to those Customer Jobs, Pains and Gains.

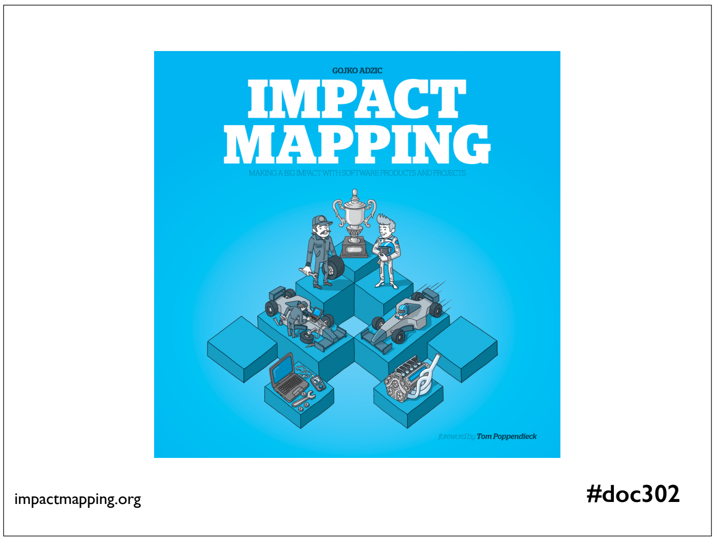


Value Proposition Canvas

Company: Evernote
Product: Online notes
Ideal customer: Mobile professionals

Based on the work of Steve Blank, Clayton Christensen, Seth Godin, Yves Pigneur and Alex Osterwalder. Released under creative commons license to encourage adaption and iteration. No rights asserted.

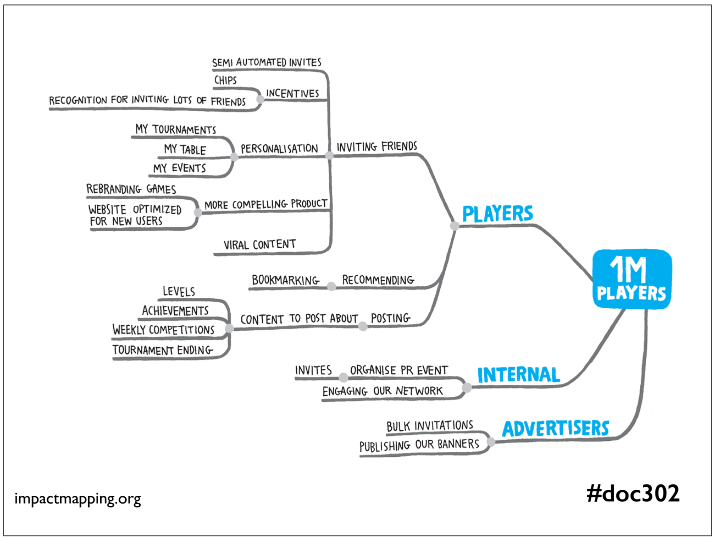
Here is an example of the Value Proposition Canvas (with small variations) completed for the company Evernote.


GOJKO ADZIC
IMPACT MAPPING
MAKING A BIG IMPACT WITH SOFTWARE PRODUCTS AND PROJECTS
foreword by Tom Poppendieck

impactmapping.org

#doc302

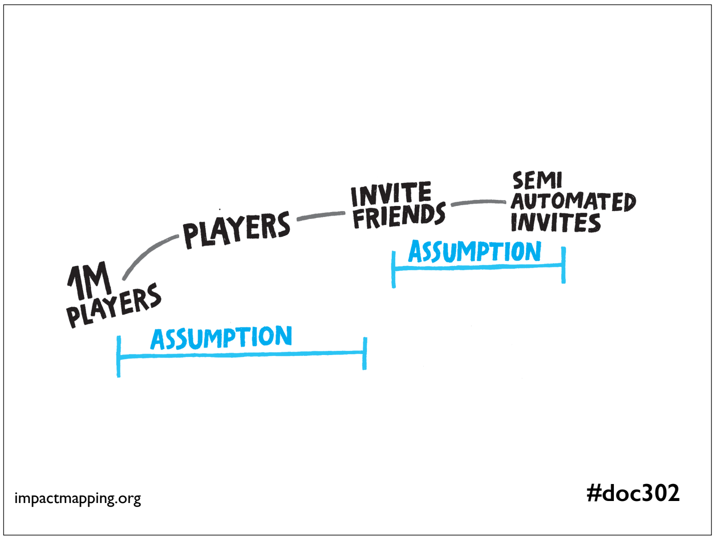
One of the main aspects of product management is deciding which features to build and what to prioritise. Gojko Adzic has been promoting the technique of Impact Mapping, described in the book shown above. This allows us to think systematically about what goal we are aiming for, whose behaviour we need to affect, the way in which we would like to change their behaviour, and then finally what we might build in order to do that. An impact map can help us to make decisions.



impactmapping.org

#doc302

The impact map allows us to start from the goal we want to achieve - this example achieving 1M players for our online gaming site - and then seeing which type of actors can help with that. Then for each actor we look at the different actions we would like them to do. Then finally we think about what technical features we could implement to allow them to do that, with the aim of achieving our goal. Don’t try to implement all of the possible features - follow the shortest route to the goal!



impactmapping.org

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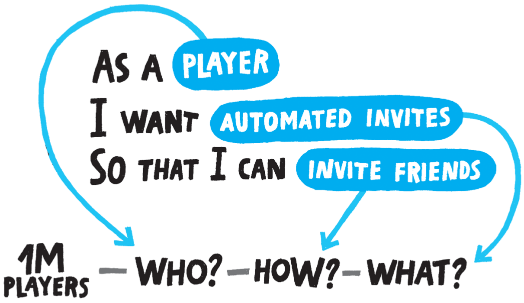
Each link in the map is an assumption. We assume that if we create semi-automated invites, players will invite their friends. We also assume that if players invite their friends, that will lead us to our goal of 1M players. We need to test these assumptions.

Linking to User Stories



impactmapping.org

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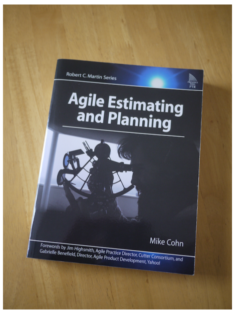
We can link the impact map back to the user story template, as it identifies the who, the feature, and what we want them to do with it.

Story Splitting



across data boundaries

across operational boundaries

by priority of parts

by improving performance later

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Sometimes the feature we want to build is simply too big to fit into one iteration. In this case we should find a way to split it down and deliver it incrementally or iteratively. In Mike Cohn's book Agile Estimation and Planning, he suggests a number of different ways to try and split a story. 1) by implementing the feature for only a subset of possible data, 2) dealing with the complete data set, but for a subset of operations - for example creating new records, but not updating or deleting them, 3) by dividing the feature into parts that are high priority to be done sooner, and other parts that can be left until later, and 4) by implementing a less sophisticated version of the feature, and then improving the performance of it later when needed.

Spikes

tackle technical risk early

timeboxed investigation

quick end-to-end slice

http://c2.com/cgi/wiki?SpikeSolution
http://www.jamesshore.com/Agile-Book/spike_solutions.html

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Sometimes a story involves a technical problem that we aren't sure how to solve, or using an new piece of technology which makes it hard for us to estimate. In this case, we can break off an investigation task - a "spike" - to spend a short amount of time experimenting with the technology to learn as much a possible. We might well throw this implementation away, but the learning will help us to plan and estimate with more confidence.

Are We Building the Right Thing?

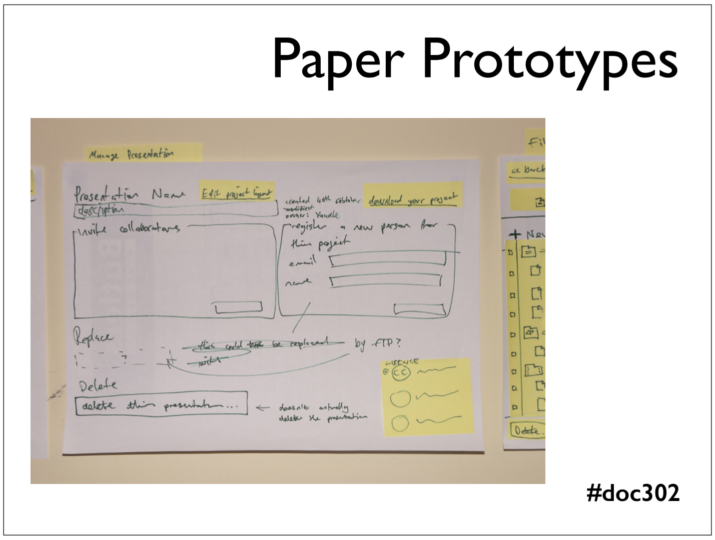
#doc302

One of the key questions in product management is “are we building the right thing?”. We need to validate our assumptions and get as much feedback as possible to decide this, trying things out with our customers and users.

Minimum Viable Product (MVP)

The idea of the Minimum Viable Product (or MVP) is one that has been popularised by Eric Ries and his work on the Lean Startup. The MVP is a is a learning vehicle. It allows you to test an idea by exposing an early version of your product to the target users and customers, to collect the relevant data, and to learn from it.

We want to maximise learning, with the minimum investment in actually building technology. Perhaps we can learn that our product idea doesn’t work well (and iterate and improve), just with a simple prototype, rather than a fully fledged implementation.



Paper Prototypes

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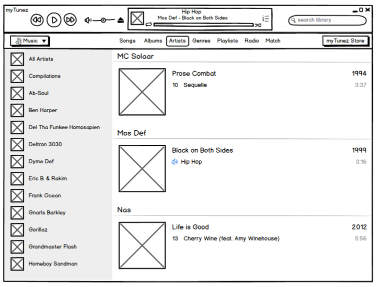
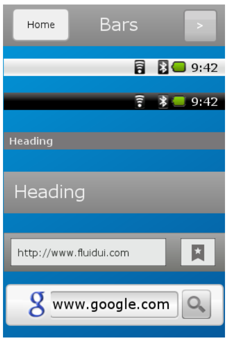
We may not need to build any software to get feedback on a user interface idea - simply mocking things out in low-fidelity prototypes can be enough to canvass opinions from possible users and get some early feedback.

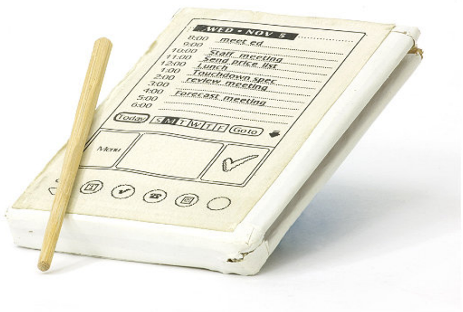
Mockups





We can create a slightly higher fidelity mockup using a tool like Balsamic or FluidUI, or even images in a PowerPoint presentation. This can give the customers an idea of how the application will look and feel and make discussions more concrete without having to spend time writing code.

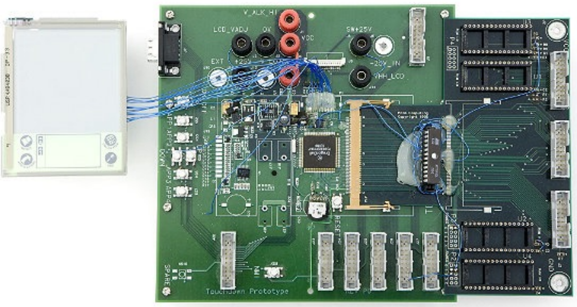
Prototypes and Models



When Jeff Hawkins developed the PalmPilot, probably the first electronic organiser, he first of all made a wooden prototype to see how using the device would feel. What size would be convenient?

“He cut a block of wood to fit his shirt pocket. Then he carried it around for months, pretending it was a computer. Was he free for lunch on Wednesday? Hawkins would haul out the block and tap on it as if he were checking his schedule. If he needed a phone number, he would pretend to look it up on the wood. Occasionally he would try out different design faces with various button configurations, using paper printouts glued to the block.” From Time Magazine: http://content.time.com/time/magazine/article/0,9171,987979,00.html

Prototypes and Models



Later the Palm engineers created a “tethered” prototype, which let engineers develop software for the PalmPilot before production units were available.

http://www.computerhistory.org/revolution/mobile-computing/18/321

Minimum Marketable Product (MMP)

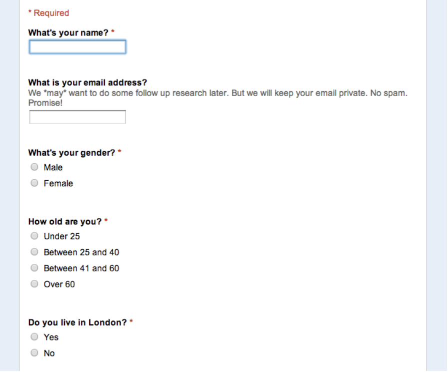
“Develop the product for the few, not the many,” — Steve Blank

Focus on those features that make a real difference to the users.

The minimal marketable product (MMP) is a different type of product. It is based on the idea that less is more. The MMP describes the product with the smallest possible feature set that addresses the user needs, creates the desired user experience, and can hence be marketed and sold successfully. The MMP is a tool to reduce time-to-market: It can be launched more quickly than a fat, feature-rich one.

http://www.romanpichler.com/blog/minimum-viable-product-and-minimal-marketable-product

User Surveys



* Required

What's your name? *

What is your email address?
We *may* want to do some follow up research later. But we will keep your email private. No spam. Promise!

What's your gender? *
○ Male
○ Female

How old are you? *
○ Under 25
○ Between 25 and 40
○ Between 41 and 60
○ Over 60

Do you live in London? *
○ Yes
○ No

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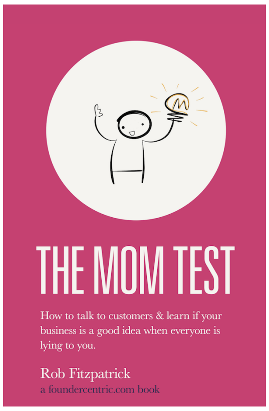
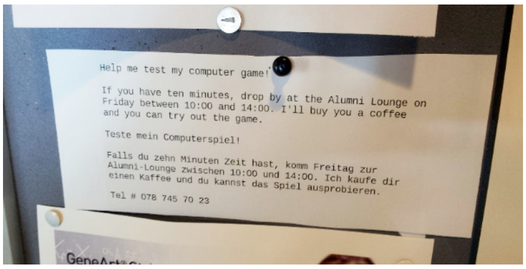
You may want to ask questions of users or potential users by performing a survey. Gathering the results from this can provide evidence to guide your decisions.


THE MOM TEST
How to talk to customers & learn if your business is a good idea when everyone is lying to you.
Rob Fitzpatrick
a foundercentric.com book

#doc302

Rob Fitzpatrick suggests that almost anyone could be helpful if we talk to them, but we need to ask them the right questions. If we ask them about our product ideas they will probably give some vague positive feedback - “that sounds kind of interesting...”, which isn’t very useful. Better is to ask them about things that happen in their life, to determine what the problems they have actually are, and then try to build something that helps with that.

Hallway Testing



Help me test my computer game!

If you have ten minutes, drop by at the Alumni Lounge on Friday between 10:00 and 14:00. I'll buy you a coffee and you can try out the game.

Teste mein Computerspiel!

Falls du zehn Minuten Zeit hast, komm Freitag zur Alumni-Lounge zwischen 10:00 und 14:00. Ich kaufe dir einen Kaffee und du kannst das Spiel ausprobieren.

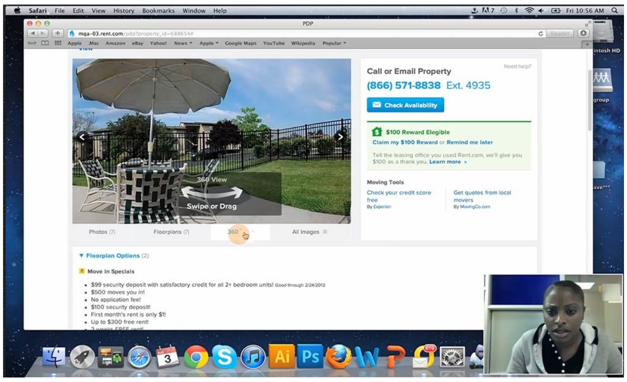
Tel # 078 745 70 23

http://www.patent-blaster.com/hallway_testing_in_the_cafeteria/
http://en.wikipedia.org/wiki/Hallway_testing#Hallway_testing

#doc302

Once you have a prototype of your product, you can do various forms of user testing to get real feedback. If you do this properly, without leading the users through how to use your system, it can be very illuminating. As developers we can grow very close to our product, so to us it is obvious how to use it. This may not be the case for a random sample user!

Usability Testing Tools


Safari File Edit View History Bookmarks Window Help
Fri 10:56 AM
PDP
mqa-03.rent.com/pdp?property_id=688654#
Apple .Mac Amazon eBay Yahoo! News Apple Google Maps YouTube Wikipedia Popular
360 View
Swipe or Drag
Photos (7)
Floorplans (7)
360
All Images
Need help?
Check Availability
Moving Tools

Call or Email Property
(866) 571-8838 Ext. 4935

$100 Reward Elegible
Claim my $100 Reward or Remind me later
Tell the leasing office you used Rent.com, we'll give you $100 as a thank you. Learn more

Check your credit score free By Experian

Get quotes from local movers By MovingCo.com

Floorplan Options (2)

Move In Specials

- $99 security deposit with satisfactory credit for all 2+ bedroom units! Good through 2/24/2012
- $500 moves you in!
- No application fee!
- $100 security deposit!
- First month's rent is only $1!
- Up to $300 free rent!

There are various tools available to help with conducting user tests. One example is SilverBack - http://silverbackapp.com/ - which allows you to view both what the user is doing with your application, but also shows their face so you can see how they react. You could do a similar thing with Skype and screen sharing.

Gathering Metrics

Quantitative Feedback - more on this next week

#doc302

Some of this feedback is quite qualitative, but still helps us to make decisions. We may also try to be more quantitative, but measuring certain things more explicitly and gathering data. We will talk more about using data for analysis and evaluation next week.