

9/July/2013

Class 9 – MVP Requirements

Summer 2013

Accelerating Information Technology Innovation





Today's Agenda

- Introducing the MVP
- Product Requirements
- Customer Personas

Introducing the MVP

- You may have a grand, complex idea!
- What portion of that can you design and build by July 25th?
- Just the features that allow it to be deployed
- Can you build the foundation for your platform?
- Add more features later
- Modularity!



MVP lets you...

- Test the waters
- Test your assumptions
- Will customers buy it/use it?
- Get out there before the competition
- Release what you have now
- Add bells and whistles later

But! ...

- Don't let **minimum** win over **viable**



MVP example: car

- What does a car need to move? (Minimum)



MVP example: car

- What does a car need to move? (Minimum)
 - Four wheels
 - Engine/Transmission



MVP example: car

- What does a car need to move? (Minimum)
 - Four wheels
 - Engine/Transmission

Is this Viable?

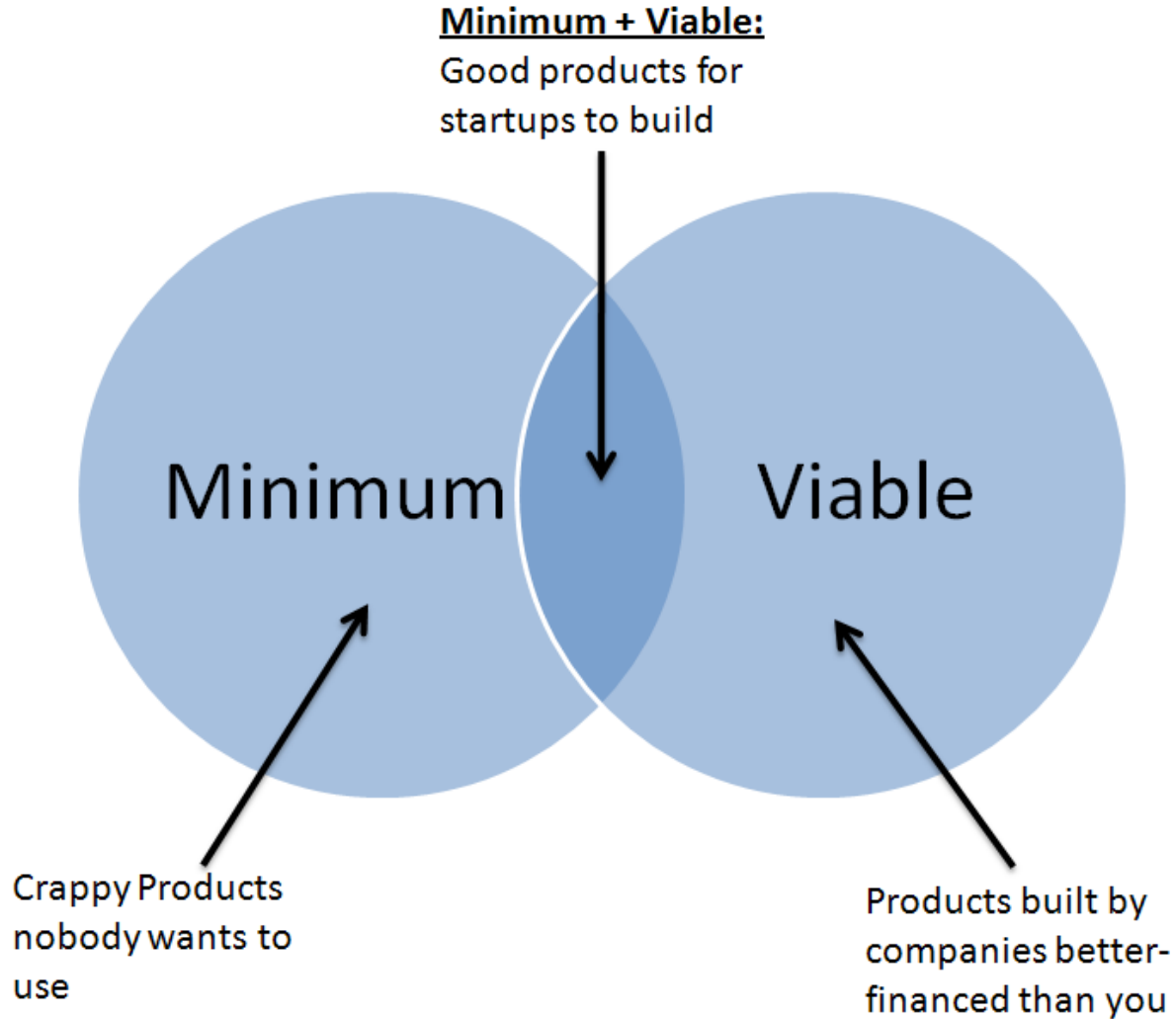
MVP example: car

■ What does a car need to move? (Minimum & Viable)

- Four wheels
- Engine/Transmission
- Brakes

■ Does not need:

- Steering system
- Brakes
- Doors, roof, frame, body, seats
- Stereo, subwoofers, lights, stickers, turn signals, mirrors, air conditioning, wipers, heated seats, backup cameras, lumbar supports...



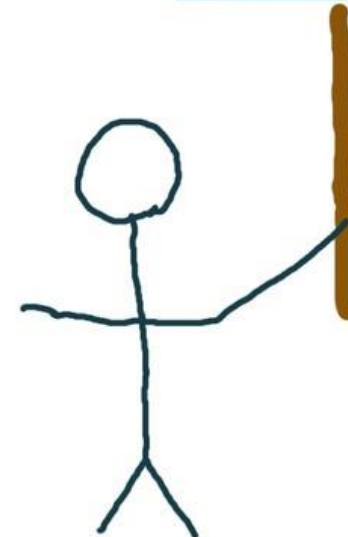


(minimum viable product)



(product)

**KEEP IT
SIMPLE
STUPID.**



Minimize Clutter



Want to show that you're on Facebook, Twitter, Tumblr, Pinterest, MySpace, Friendfeed, Orkut; that you have popular posts, comments, activity; and that you like other blogs, have a family, take pictures, and have a mission statement?

Great, but don't.

Sidebars are like signs on the freeway. They are very important, but if they have too much going on, drivers stop paying attention to the road and never get where they need to go (ie. they crash). Keep your sidebars simple and only include what is really valuable to your visitor.



The Minimum Viable Product

by Anna Vital

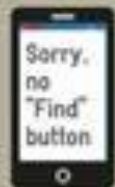
fundersandfounders.com

Make something out of nothing



Visualized Idea

Basic Features



The first iPhone had no "Find" feature and no cut-and-paste feature



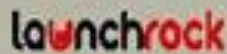
An airline with one flight only- no routing systems.



Launching Soon

I am a launch page that makes... launch page!

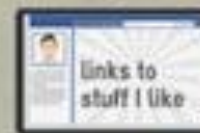
One cool-looking page that promises an upcoming launch of a service.



Founders made a video about how something called Dropbox works. They got investment before they had to build it



Simple site with flintstoned backend



Two students put together a list of their favorite links

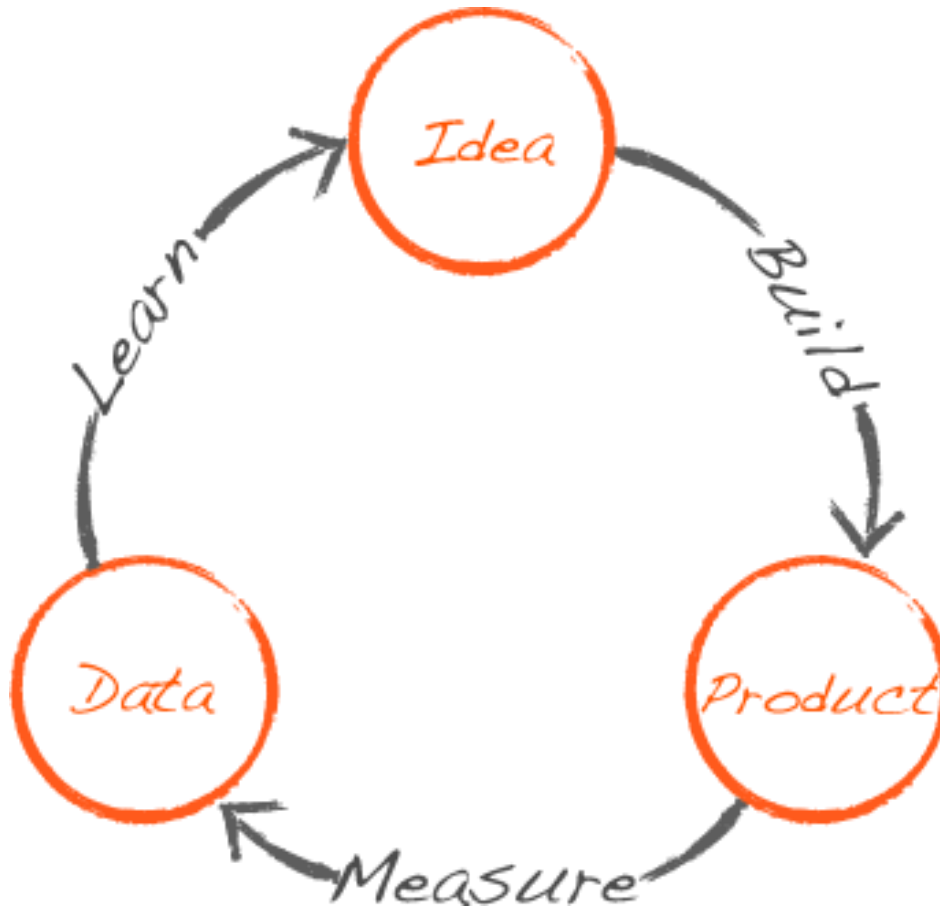


My cool blog about doing good, like group buying

WordPress blog about group buying for a group of 20 people

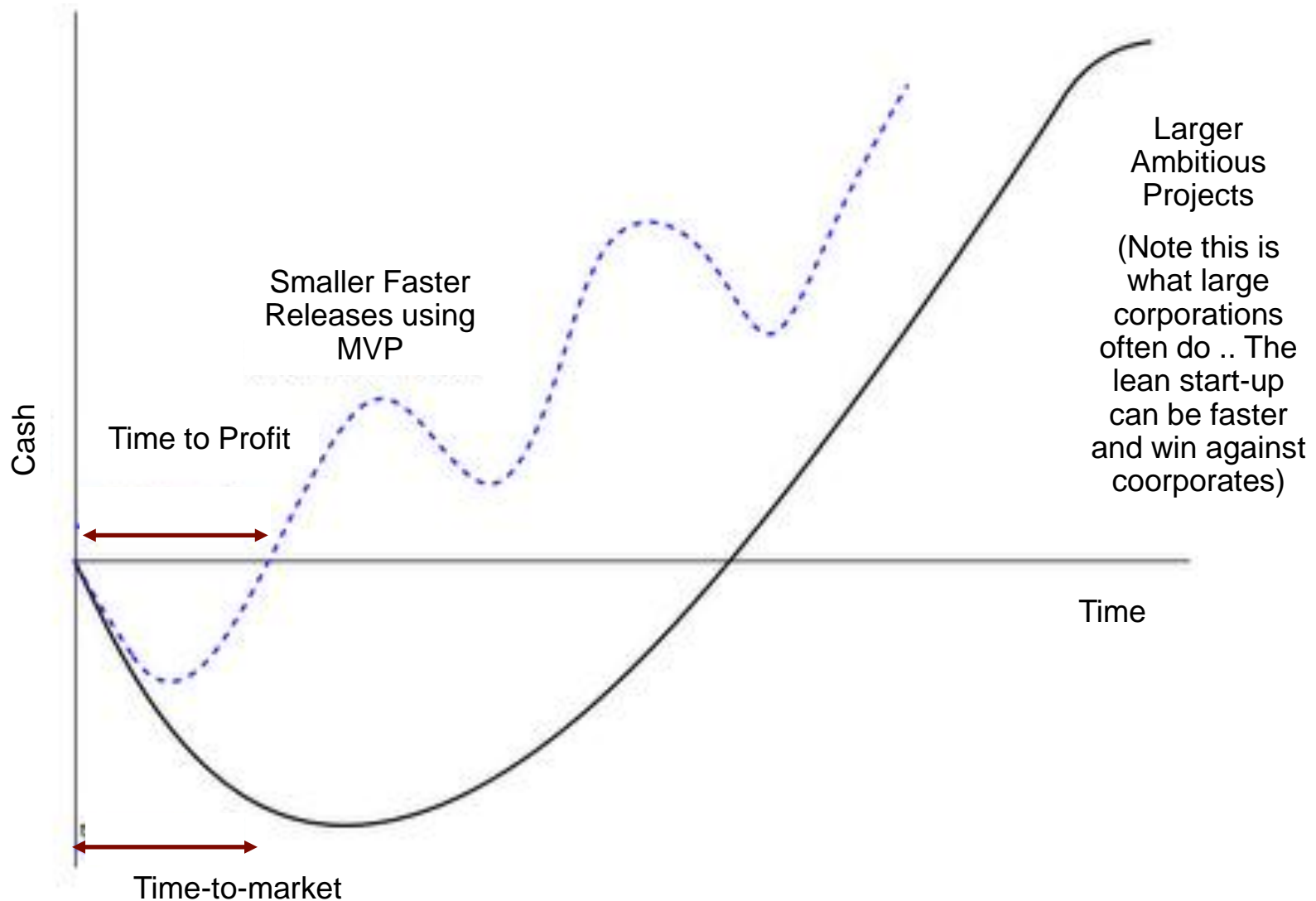


Your MVP is iterated on



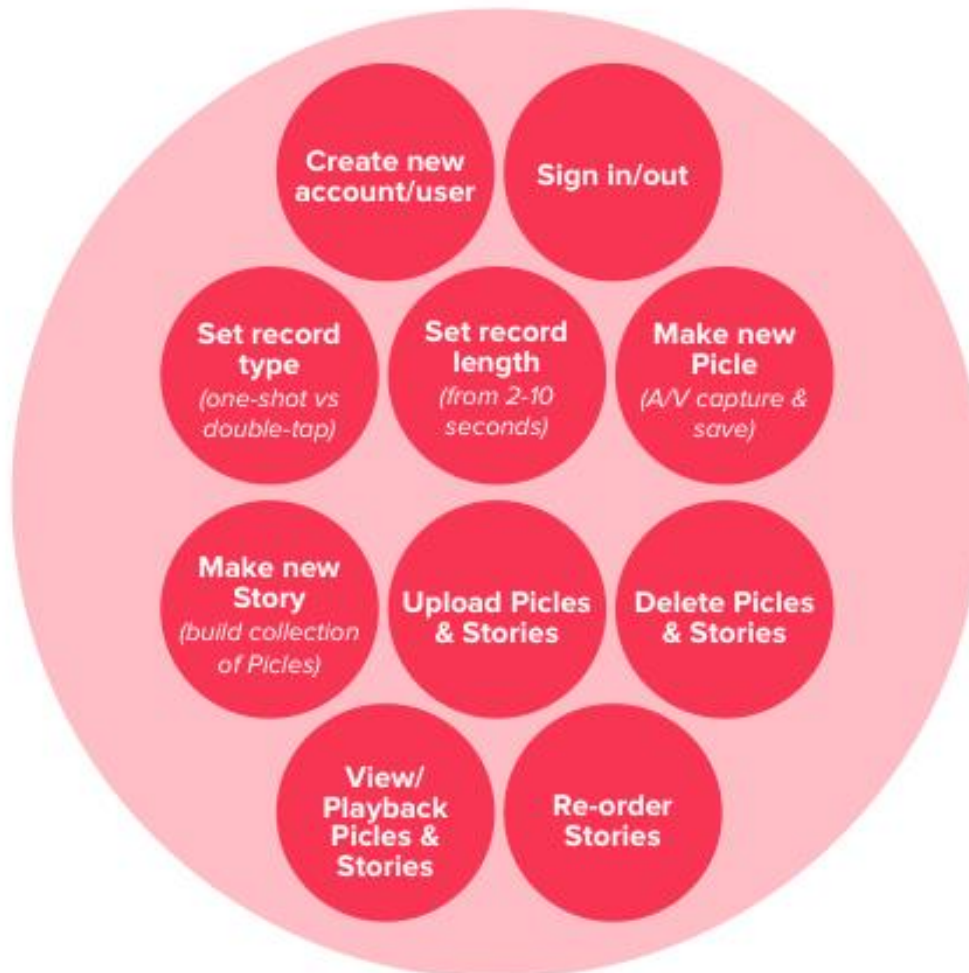
Source: The Lean Startup

The Lean Startup Development Cycle





Android App MVP/First Release Functions/Specs





Advice from the Guru

Before the IPO, at the very beginning when it was just the founders, their first product was the following:



The Apple I, Apple's first product, was sold as an assembled circuit board and lacked basic features such as a keyboard, monitor, and case. The owner of this unit added a keyboard and a wooden case.

It was a motherboard. Not even a computer- just a motherboard.

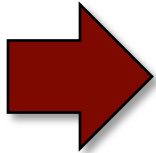
I think it's important to remember when we're all trying to start something from scratch that you have to start at zero, and the first product will probably suck. It'll be a motherboard, when what you really wanted to build was an all-aluminum Macbook Air with a Retina display.

But you gotta start somewhere.

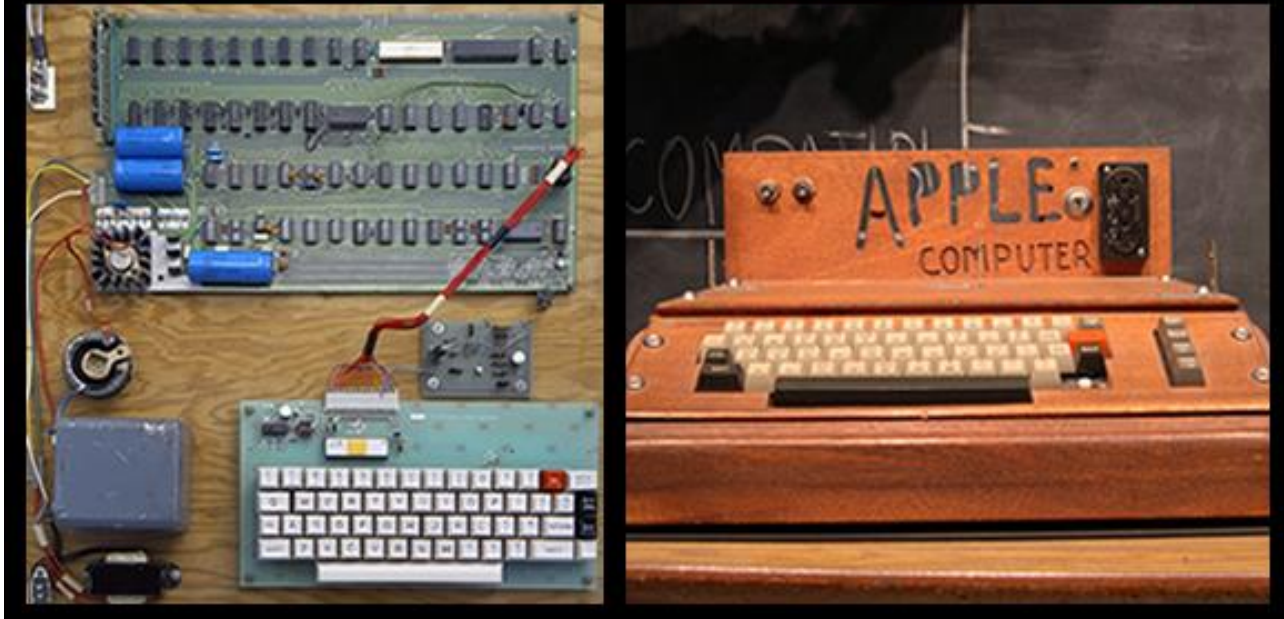
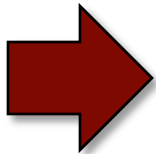
- Steve Jobs

First Apple Product

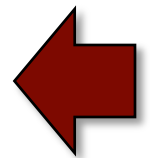
Nothing more than an motherboard



Owners needed to attach own keyboard



Owners built own wooden case





Google's MVP

Google Search Engine

This is a demo of the Google Search Engine. Note, it is research in progress so expect some downtimes and malfunctions. You can find the older [Backrub web page here](#).

Google is being developed by [Larry Page](#) and [Sergey Brin](#) with very talented implementation help by [Scott Hassan](#) and [Alan Sterenberg](#).



Search Stanford

Search The Web



Google's Second MVP



Search the web using Google!

Google Search I'm feeling lucky

Special Searches
[Stanford Search](#)
[Linux Search](#)

[Help!](#)
[About Google!](#)
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Before there was Google there was Backrub



All of Google hardware from its Stanford days (1998) where it was initially called backrub. Google **now operates over 250,000 Linux servers** of its own design. **Hold mouse over each box** to learn more about it



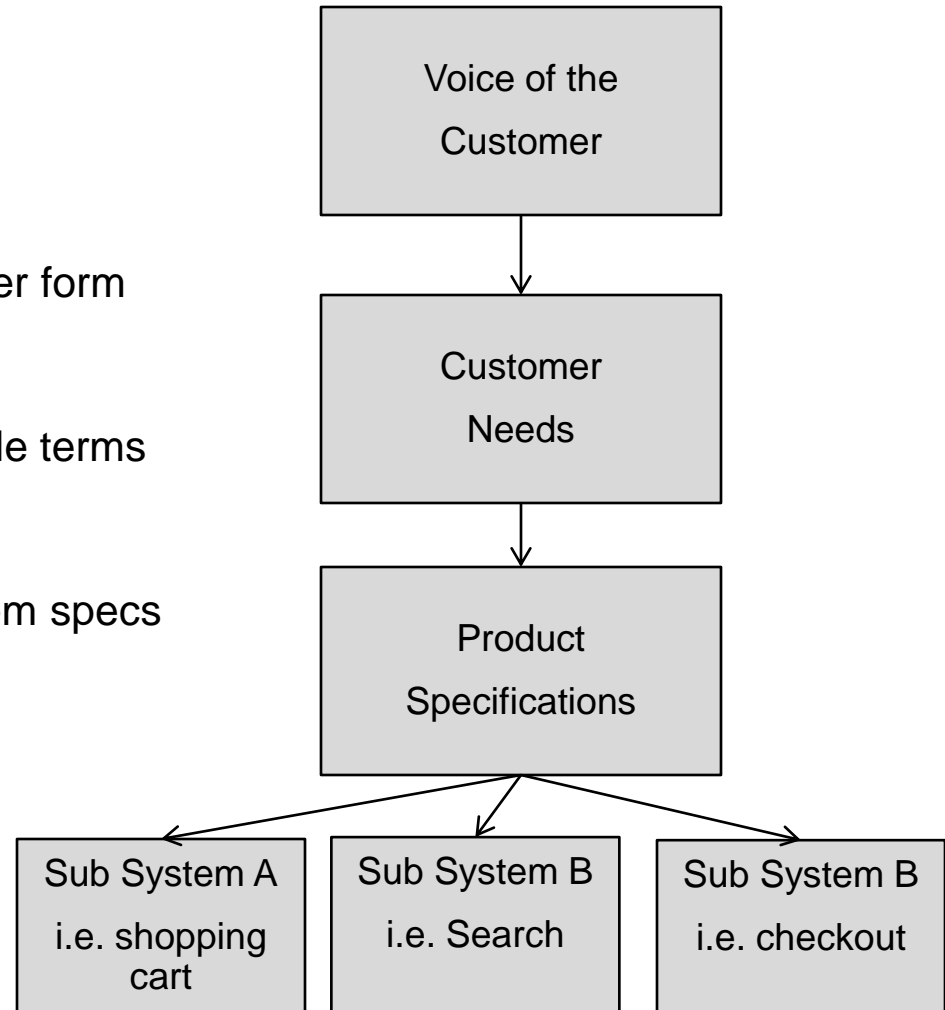
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- Product Requirements
- Customer Personas

Product requirements come in many forms:

Terminology

- Customer Needs
 - Voice of the customer translated into proper form
- Product Specifications
 - Customer needs translated into measurable terms
- Sub-system Specifications
 - Product specs decomposed into sub-system specs



Challenge:

Translate Customer Needs into Product Specifications:

- Customer needs are captured in the customer's language.
- Product specifications are in technical terms that can be measured.
- We must establish specs for each need.



Metrics Exercise: Bike Locks



Sorry I do not have a good example of customer needs for an App yet .. Hopefully I can use one of your analysis in future years



Customer Needs from Interviews – The Bike Lock

■ Customer Quote!

“How do you carry something this heavy?”



■ Customer Need!

Customer Needs – The Bike Lock

■ Customer Quote!

“How do you carry something this heavy?”



■ Customer Need!

The lock is lightweight!



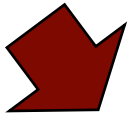
■ **Metric**
kilograms



Customer Needs – The Bike Lock

■ Customer Quote!

“Some locks are just a pain. It takes too long to lock up.”



■ Customer Need!

Customer Needs – The Bike Lock

■ Customer Quote!

“Some locks are just a pain. It takes too long to lock up.”



■ Customer Need!

The lock installs quickly to secure the bike.!



■ Metric

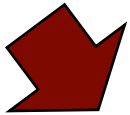
Average time to install



Customer Needs – The Bike Lock

■ Customer Quote!

I wrap cushy tape around my lock to keep it from scratching my bike.



■ Customer Need!

Customer Needs – The Bike Lock

■ Customer Quote!

“Some locks are just a pain. It takes too long to lock up.”



■ Customer Need!

The lock installs quickly to secure the bike.!



■ Metric

Average time to install



Customer Needs – The Bike Lock

■ Customer Quote!

I wrap cushy tape around my lock to keep it from scratching my bike.

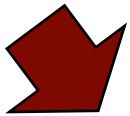


■ Customer Need!

Customer Needs – The Bike Lock

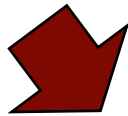
■ Customer Quote!

“Some locks are just a pain. It takes too long to lock up.”



■ Customer Need!

The lock protects the bicycle's finish.



■ Metric

scratches per 100 installs



Customer Needs – The Bike Lock

■ Customer Quote!

“How am I supposed to tell my lock apart from my roommate’s?”



■ Customer Need!

Customer Needs – The Bike Lock

■ Customer Quote!

“How am I supposed to tell my lock apart from my roommate’s?”



■ Customer Need!

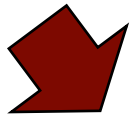
The lock is easily recognizable from others.

Customer Needs from Use Case Observations – The Bike Lock



■ Customer Observation!

“The rider carries the lock in the back pocket.”



■ Customer Need!

The lock is easy to carry off the bike.

Customer Needs from Use Case Observations – The Bike Lock



■ Customer Observation!

“The lock doesn’t protect all parts of the bicycle. .”



■ Customer Need!

The lock protects the saddle, wheels, and other accessories.

Customer Needs – The iPhone

■ Customer Quote!

“My phone dials people in my product”



■ Customer Need!

The phone has a dial pad lock



Patented design feature

■ Customer Observation!

“some customer show frustration and confusion with unlocking the dial pad”

■ Customer Need!

The dial pad lock should be turned off in one intuitive motion

Customer Needs – Amazon

■ Customer Observation!

“by the time the user adds an item to a shopping cart, clicks on their shopping cart, and selects purchase, they have clicked five buttons. By this time some customers lose that impulse buy desire and choose not to proceed”

■ Customer Need!

Customers should be able to purchase an item with a single click



Patent pending
design feature

Start with a table of needs

#	NEED		Imp
1	The suspension	reduces vibration to the hands.	3
2	The suspension	allows easy traversal of slow, difficult terrain.	2
3	The suspension	enables high speed descents on bumpy trails.	5
4	The suspension	allows sensitivity adjustment.	3
5	The suspension	preserves the steering characteristics of the bike.	4
6	The suspension	remains rigid during hard cornering.	4
7	The suspension	is lightweight.	4
8	The suspension	provides stiff mounting points for the brakes.	2
9	The suspension	fits a wide variety of bikes, wheels, and tires.	5
10	The suspension	is easy to install.	1
11	The suspension	works with fenders.	1
12	The suspension	instills pride.	5
13	The suspension	is affordable for an amateur enthusiast.	5
14	The suspension	is not contaminated by water.	5
15	The suspension	is not contaminated by grunge.	5
16	The suspension	can be easily accessed for maintenance.	3
17	The suspension	allows easy replacement of worn parts.	1
18	The suspension	can be maintained with readily available tools.	3
19	The suspension	lasts a long time.	5
20	The suspension	is safe in a crash.	5



Consider Benchmarking Competitors on Customer Needs

#	NEED	Imp	ST Tritrack	Maniray 2	Rox Tahx Quadra	Rox Tahx Ti 21	Tonka Pro	Gunhill Head Shox
1	The suspension reduces vibration to the hands.	3	•	••••	••	•••••	••	•••
2	The suspension allows easy traversal of slow, difficult terrain.	2	••	••••	•••	•••••	•••	•••••
3	The suspension enables high speed descents on bumpy trails.	5	•	•••••	••	•••••	••	•••
4	The suspension allows sensitivity adjustment.	3	•	••••	••	•••••	••	•••
5	The suspension preserves the steering characteristics of the bike.	4	••••	••	•	••	•••	•••••
6	The suspension remains rigid during hard cornering.	4	•	•••	•	•••••	•	•••••
7	The suspension is lightweight.	4	•	•••	•	•••	••••	•••••
8	The suspension provides stiff mounting points for the brakes.	2	•	••••	•••	•••	••	•••••
9	The suspension fits a wide variety of bikes, wheels, and tires.	5	••••	•••••	•••	•••••	•••	•
10	The suspension is easy to install.	1	••••	•••••	••••	••••	•••••	•
11	The suspension works with fenders.	1	•••	•	•	•	•	•••••
12	The suspension instills pride.	5	•	••••	•••	•••••	•••	•••••
13	The suspension is affordable for an amateur enthusiast.	5	•••••	•	•••	•	•••	••
14	The suspension is not contaminated by water.	5	•	•••	••••	••••	••	•••••
15	The suspension is not contaminated by grunge.	5	•	•••	•	••••	••	•••••
16	The suspension can be easily accessed for maintenance.	3	••••	•••••	••••	••••	•••••	•
17	The suspension allows easy replacement of worn parts.	1	••••	•••••	••••	••••	•••••	•
18	The suspension can be maintained with readily available tools.	3	•••••	•••••	•••••	•••••	••	•
19	The suspension lasts a long time.	5	•••••	•••••	•••••	•••	•••••	•
20	The suspension is safe in a crash.	5	•••••	•••••	•••••	•••••	•••••	•••••

• = Poor

••••• = Excellent



So how to we get to a MVP

■ Conflicts, Affordability, and Trade-offs

- Customers generally ask for more performance than is affordable.
- We can usually satisfy some target specs, but not all of them.

Question: Can we compute the optimal set of specifications?

**INC.: Where do great products come from?**

JOBS: I think really great products come from [merging] two points of view—the technology point of view and the customer point of view. You need both. You can't just ask customers what they want and then try to give that to them. By the time you get it built, they'll want something new. It took us three years to build the NeXT computer. If we'd given customers what they said they wanted, we'd have built a computer they'd have been happy with a year after we spoke to them—not something they'd want now.

INC.: You mean the technology is changing too fast.

JOBS: Yeah, and customers can't anticipate what the technology can do. They won't ask for things that they think are impossible. But the technology may be ahead of them. If you happen to mention something, they'll say, "Of course, I'll take that. Do you mean I can have that, too?" It sounds logical to ask customers what they want and then give it to them. But they rarely wind up getting what they really want that way.

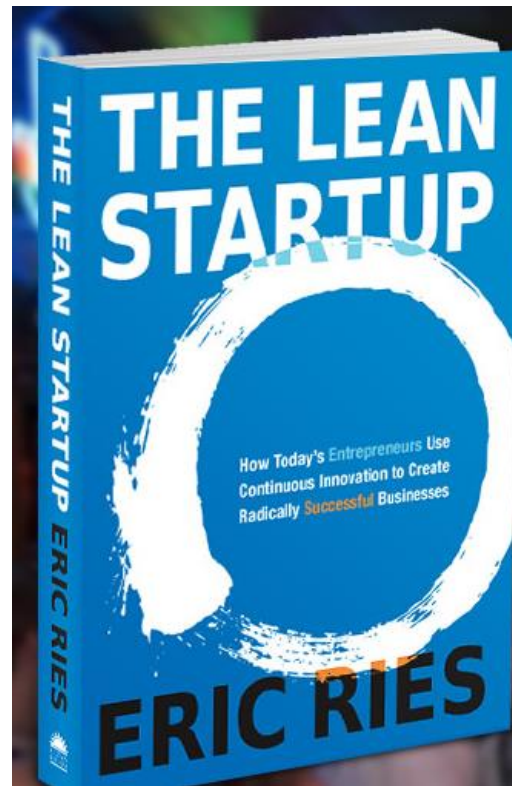
INC.: It's got to be equally dangerous to focus too much on the technology.

JOBS: Oh, sure. You can get into just as much trouble by going into the technology lab and asking your engineers, "OK, what can you do for me today?" That rarely leads to a product that customers want or to one that you're very proud of building when you get done. You have to merge these points of view, and you have to do it in an [iterative] way over a period of time—which doesn't mean a week. It takes a long time to pull out of customers what they really want, and it takes a long time to pull out of technology what it can really give.

Reference: Inc. Magazine 1989 interview by Inc. editors George Gendron and Bo Burlingham
<http://www.inc.com/magazine/19890401/5602.html>



A good read





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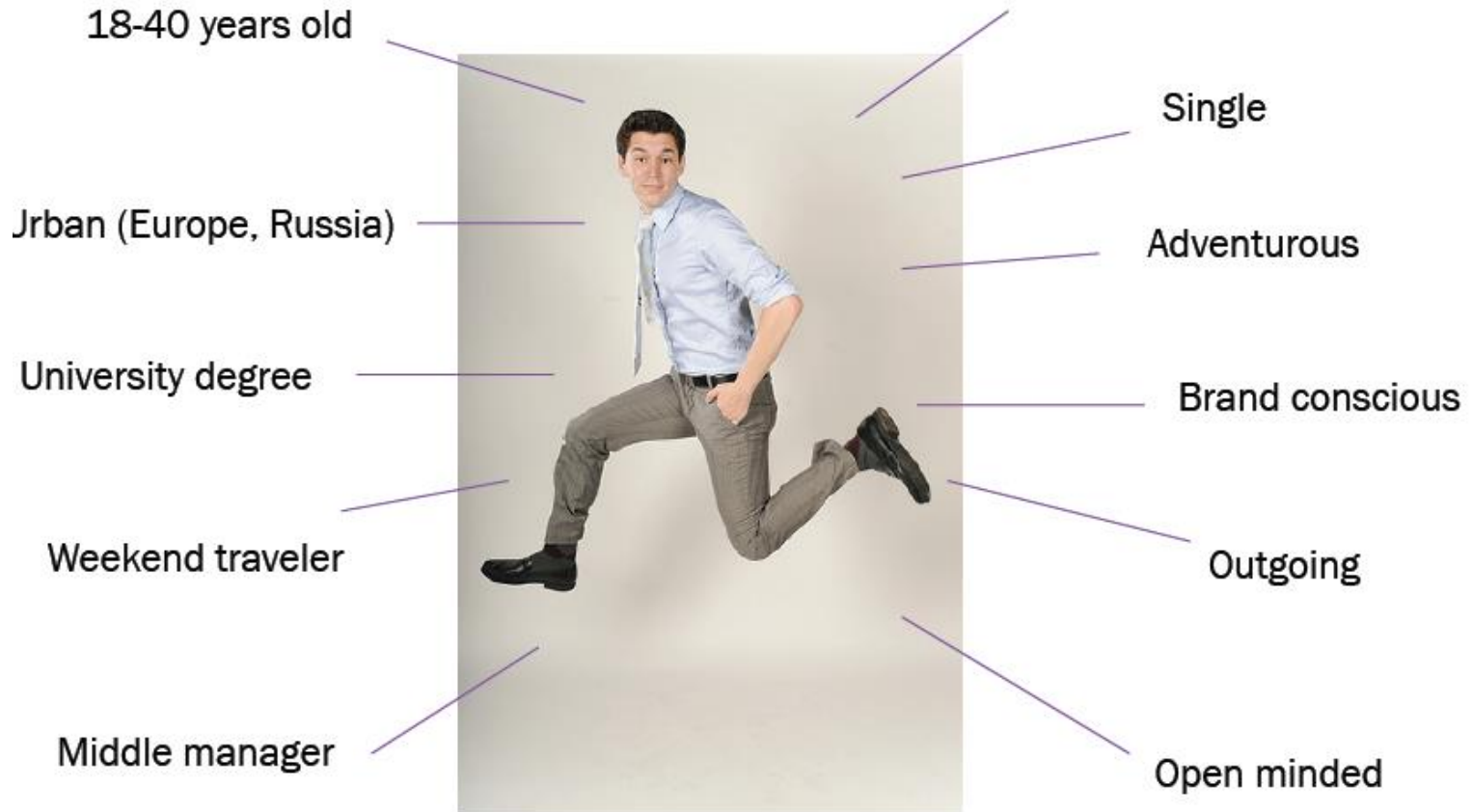


Introducing the Customer Persona

- Build a **Persona** that very clearly and viscerally visualizes the target customer decision maker/end user to all involved.
 - The Persona should not just be a factual description of the buyer but also **social and emotional factors** such as what incents them, their priorities, what they fear, what industry groups they belong to and other systemic factors that will influence the purchase and adoption of your product.
 - Your persona **should be a real person** but also **representative of the broader market** so that if you meet the persona's need, the others will be equally pleased.

Example Persona – Budget Boutique

 Twitter |  Facebook |  Google Buzz |  digg it |  LinkedIn



Example Persona – E-Gallery



E-Gallery
Timeless art.
Less time,
more art.

Give them a Name

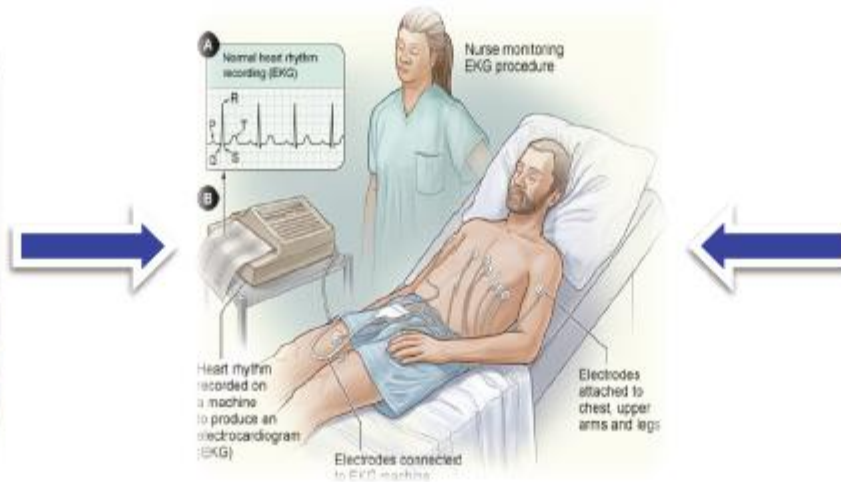
Persona Example – Data Centre Manager

- **Chuck Kirby**, Facilities Manager, IBM NE Data Center in Littleton, MA
- 20K Blade servers today growing at 15% per quarter for past two year and for the foreseeable future
- Second generation American
- Lives in Medford
- Medford High to Middlesex Community College
- Moved to Winchester
- Family with 2 kids (12, 15)
- Mid-career, many years at company, technical, maintenance focus, vocational degree
- Been in job for 5 years and seen three managers already
- Promotion path forward is to manage more facilities
- AFCOM, Uptime Institute, Green Grid, starting to read blogs (Hamilton & Manos)
- Ford 150 pickup truck, Beeper always on, volunteer fireman mentality
- Customers' Customer and Their Priorities (think mindset of a utility customer)
- Priorities: 1. Reliability, 2. Growth, 3. Costs, 4. "Greenness" – PUE

Use Case for your Persona

- Develop and step through in detail an illustrative and pretty standard **Use Case** for the need, acquisition and benefits of your offering. It is extremely important to go all the way through a use case with your target customer of first how your product/service will work for the target customer. How exactly does it fit into the value chain? What are the key interface points? Why exactly would they acquire it? What barriers to adoption might arise? It is also important to extend your use case to not just how the target customer would use your product but then to the wider acquisition and post installation support process.

Use Case Example: TeleVito



- Age 54
- Grandfather of 6 grandchildren
- Suffered a heart attack in 2008

- Has acute heart condition
- Visits hospital EVERY WEEK
- Routine EKG monitoring for cardiac pattern recognition

- Needs reliable data
- Needs a simple to use device
- No cost for the device and tests

Top 10 Target Customers

- Now that you understand your customers well and you have a use case and value proposition, make a list of the **Top 2-10 Target Customers** that will benefit from your product after you sell it to the first one from the persona you described above. Hopefully you have already spoken to these customers and you have some level of commitment from them to acquire, test or pilot your product once it is available.

Super User

Real example from a global mobile operator



Alex Powers is a typical...

Super User and this is his profile

TLE

Status:	Lives with wife in Sydney, leading a very busy life!
Age:	Early 30's and feeling it...
Interested in:	Cars, exercise especially in the gym, going out with friends
Not Interested in:	Yoga, going to sporting events, DIY or gardening
Likes to read:	Thrillers, latest news, shares
Would like to be:	CEO of a global player, I'll get there one day!
Couldn't live without:	My career, my laptop, my mobile, my TV, my music

▼ DIARY FEED

Yesterday

'It was a pretty normal day – worked hard as always. In the afternoon I got a call from Vodafone, telling me that my contract expires. I've signed up for another 2 years because they offered me a new handset. They asked me which one I wanted . . . Which one?? The most expensive one of course! I mean, the most expensive phone will be the best one, right? Later I did my usual workout. I couldn't wait to tell the guys about how my weights have gone up. In the evening I went out with some work mates, but was almost late. I always try to make these informal meetings – you never know when you need these people....'

▼ SUPER WALL



"My life is really full-on! I have a challenging job and I try to keep fit in my spare time"



"I love my job and my career. I am very ambitious because I want to reach something in life"



"My mobile is essential. I can't live without it anymore! It is a key tool for all those things that I need to do!"

RMR

▼ HAS '67' FRIENDS*

Lots of friends in my phone – and the average number of people I contact regularly is **12**

* Avg. contacts in mobile phone (super users have the highest of all segments)

AT



Linda Extravaganza is a typical...

Mobile Maniac and this is her profile

TLE

Networks:	Postpay One mobile at the moment (but already looking for the next one)
Status:	Living with my partner in Melbourne, and can be found in one of the clubs around!
Age:	28
Interested in:	Music, books, latest fashion, snowboarding, sports, people
Not Interested in:	I am interested in everything and everyone (but be careful, I get bored quite easily!)
Likes to read:	1984 from George Orwell
Would like to be:	A self-employed designer
Couldn't live without:	My mobile, my friends

▼ DIARY FEED

Yesterday

'Wow, such a busy day... I was at work, fighting with my silly boss again! It's really time for me to find a new job. After that, I met with my friend Anna for a little shopping tour (and bought a gorgeous pair of heels). She told me all the gossip about our high school friends she met yesterday (I couldn't make it as I was at a party with my work friends). She sent me some pictures of them with her mobile. I called my boyfriend straight away to share the news with him. Had a great night out at the new pub around the corner. A bit hung over today though ;-('

▼ SUPER WALL



"You have to live your life, so be active! Have fun!!"



"I think I am a fun person who makes the most of now! But what happens when I get a heavier workload? I still wanna go out then!"



"I love my white handset! But it's time for me to buy a new one. My handset is already 8 months old - a bit old-fashioned, I assume?"

RMR

▼ HAS '58' FRIENDS*

Lots of friends in my phone – however the average number of people I contact regularly is

8

* Avg. contacts in mobile phone (Mobile Maniacs have 2nd highest of all segments)

AT

Confident Caller



Tom Settled is a typical...

Confident Caller and this is his profile

TLE

Networks:	Post Pay, one mobile
Status:	Lives with his partner in a very comfortable flat in Sydney
Age:	Early 40's – these are my best years!
Interested in:	Magazines on modern living, reading, hanging out with my friends, cooking
Not Interested in:	Talking about politics with ignorant people
Likes to read:	Bill Bryson
Would like to be:	I just want to be me– house proud, businessman, established
Couldn't live without:	My partner, my flat, my friends

▼ DIARY FEED

Yesterday

'Thank God for a day off! It was vital for tidying up the flat and getting myself sorted. I hadn't cleaned it in a whole week and then once I started I thought 'Stuff it! I might as well redecorate'. So I started with the living room – the new cushions are so much more comfortable than the old ones! With all the redecorating I really needed a break, so I went to a cafe in Paddington to chill out. Later in the afternoon I called my friends to invite them over for dinner, and we caught up over a nice bottle of red and some of our favourite music from the old days'

▼ SUPER WALL



"I love my lifestyle. I am very comfortable in my job, which allows me a healthy work life balance. I have a couple of close friends who are really important people for me!"



"I am an easy-going person. I tolerate differences in people and appreciate the diversity. However, the days when I need to express my individuality through fashion or hair color are over"



"My mobile is essential for me. I would hate it if I couldn't call my friends"

RMR

▼ HAS '42' FRIENDS*

Lots of friends in my phone – however the average number of people I contact regularly is **8**

* Avg. contacts in mobile phone (4th largest across all segments)

AT

Messaging M8



Annie Social is a typical...

Messaging Mate and this is her profile

TLE

Networks:	Telstra, Pre Pay, \$20 a month, 2 mobiles (one for work)
Status:	Live with my friend in Sydney, single and found a new lease of life!
Age:	I'm the new 30... I'm 40 years old!
Interested in:	Dance, Travel, horror movies, dinner and theatre with friends, my chucks
Not Interested in:	People who think about what could have been
Likes to read:	Books, some classics but the occasional 'easy' read
Would like to be:	An academy award winning film producer
Couldn't live without:	My small but intimate group of friends, my mobile, my computer and my TV

▼ DIARY FEED

Yesterday

'We finally went to the theatre to see Who's Afraid of Virginia Woolf, I booked the tickets and organised the night with the girls weeks ago. The plan was to come to mine for drinks and then all head to the Vietnamese restaurant nearby for dinner before the show. Plans didn't go as well as hoped, we missed the dinner booking as Sharon was late and she doesn't have a mobile so we couldn't get hold of her! But we made it to the show, thank god!'

▼ SUPER WALL



I used to work lots and for long hours, I have cut that down and now find myself busy with other things – such as dance. I live for the moment and don't hold on to the past – making most of now!



I love my small group of friends, I love my home. I see myself traveling again in a few years time.



My phone is really just a social tool in that it helps me organise nights out and meeting friends, if I want to speak to someone I would rather chat face to face.

RMR

▼ HAS '51' FRIENDS*

Lots of friends in my phone – however the average number of people I contact regularly is **6**

* Avg. contacts in mobile phone (Messaging Mates has 3rd highest of all segments)

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