

MOBA1

DESIGN AND DEVELOPMENT OF MOBILE APPS (1)

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OVERVIEW

- From idea to concept
- Understand the problem
- Put the user into focus
- Think about a solution
- Storytelling design

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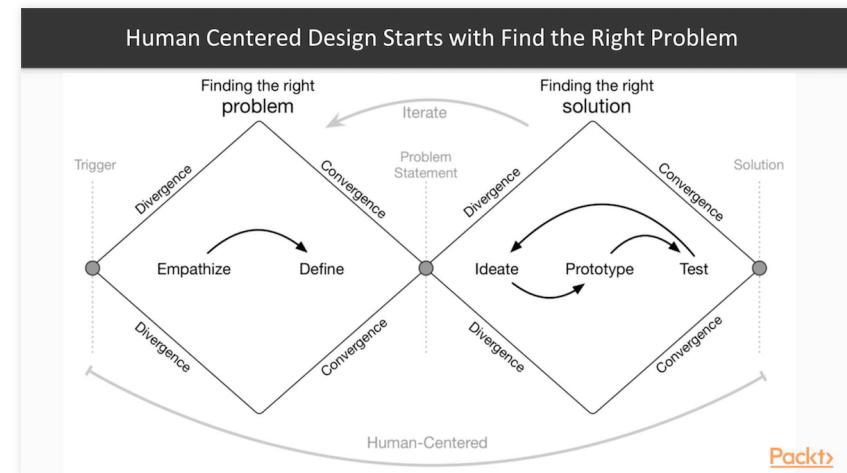
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DOUBLE DIAMOND PROCESS



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FIND THE RIGHT PROBLEM

- Good designers solve problems
- Great designers solve the right problems

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HUMAN DESIRABILITY

- What do people desire, and what creates joy for them?
- It should create value for people in their daily lives
- It should simplify tasks or make people's lives more comfortable

A product idea generates interests and attracts people to use the product

Also needed: attractive user experience

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FROM IDEA TO CONCEPT

- Millions of apps in app stores
- Many similar apps, offering nothing special
- Some apps are outstanding

What makes some apps successful?

THREE ASPECTS

- Human desirability
- Financial viability
- Technical feasibility

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HUMAN DESIRABILITY

Consider ways to develop apps that take advantage of what mobile devices offer and enable them to do

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FINANCIAL VIABILITY

- Crucial for development of most products, including mobile apps
- Challenge: define a **business model** that
 - enables you to create revenue from an idea
 - and maintain acceptable costs for your customers
- Many mobile app developers below the poverty line

Source: developereconomics.com

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ALTERNATIVE BUSINESS MODELS

Freemium:

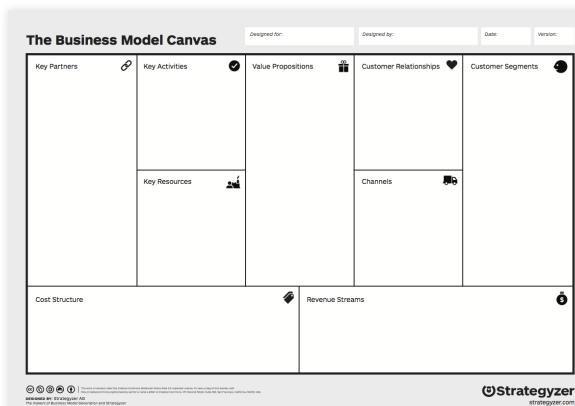
“A business model that provides a game to players free of charge, but charges a premium fee for special features, powers, or content.”

Source: developereconomics.com

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BUSINESS MODEL CANVAS



Business Model Canvas

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TECHNICAL FEASIBILITY

- Innovative products do not always need cutting-edge technology to be successful
- A smart combination of existing technologies can yield innovative products

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DESCRIBE THE USER'S NEEDS (2)

- Speak directly to representatives of the user groups
- Observe them in their daily lives or work
- Market research, such as reports or demographic information, may augment your direct research
- Consider the differences between wishes and needs

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DESCRIBE THE USER'S NEEDS (1)

- Know who your users are
- Define target group(s) for your app
- What goals the users want to achieve
- What tasks they need to fulfil
- Why your app is relevant to their needs
- Understand how users perform relevant tasks right now including any current workarounds

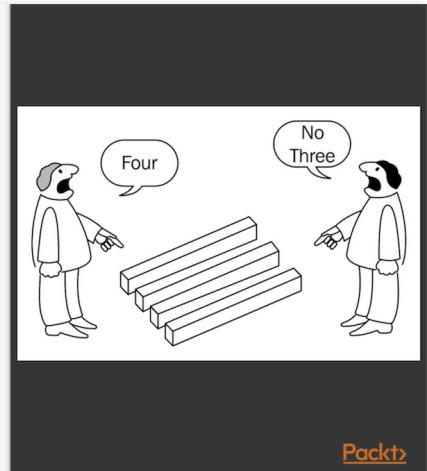
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UNDERSTAND THROUGH OBSERVATION

Humans
understand the
world through
observation

UX uses observation to understand
humans.
To solve and provide solutions for
users.



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UNDERSTAND THROUGH OBSERVATION

Observation starts with hearing from your users

- Observation leads to
 - Pain Points
 - Additional areas of inquiry
 - Questions
 - Intervention
 - Experience
 - Empathy
 - Insights

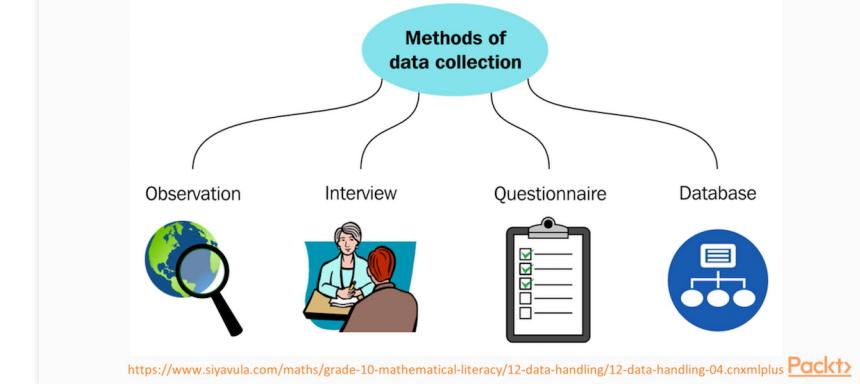


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UNDERSTAND THROUGH OBSERVATION

Observation Is about Collection Data on Your Users



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UX OBSERVATION

- UX observation looks for aspects of usability
- Through watching users we can start to understand usability

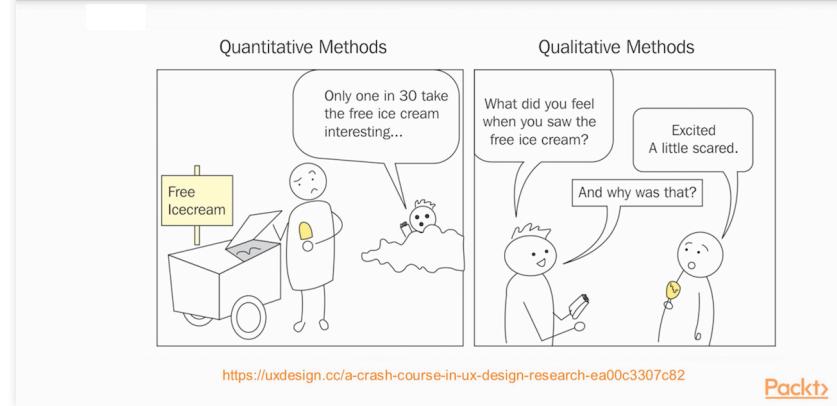
The 7 Factors that Influence User Experience

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QUANTITATIVE AND QUALITATIVE DATA

UX Is Looking to Understand How Users Feel



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QUANTITATIVE AND QUALITATIVE DATA

- UX relies on both qualitative and quantitative data
- Quantitative: usage tracking (Google analytics...), eye tracking, ...

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PROBLEM AND CUSTOMER HYPOTHESIS

1. Set Hypothesis

Problem hypothesis	
--------------------	--

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EYE TRACKING

Eye Tracking for Websites

The screenshot shows a Wikipedia article titled "Eye tracking". The page content discusses the history and methods of eye tracking, mentioning direct observations, early eye trackers, and modern eye tracking applications. Overlaid on the text are several colored heatmaps in shades of red, green, and yellow, indicating where users have looked. A large red heatmap covers the main text area, while smaller ones appear over images and specific sections like "Applications". The heatmaps are used to analyze reading patterns and user interaction with the page content.

<https://www.youtube.com/watch?v=zoLCOjirCFU>

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EXAMPLE

1. Set Hypothesis

Problem hypothesis	Sharing pictures taken with your phone on social networks is complicated
Customer hypothesis	

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EXAMPLE

1. Set Hypothesis

Problem hypothesis	Sharing pictures taken with your phone on social networks is complicated
Customer hypothesis	College students

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NEXT...

2. Test: Go talk to people

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EXERCISE

Team discussion (10-15 min): Find a topic where an app could improve your work or entertain you during leisure time (an app may already exist but doesn't help or no suitable app available)

- Phrase a problem and a customer hypothesis
- Write down some questions you might ask potential customers
- Discuss and refine the problem and customer hypothesis

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INTERVIEWS

- User interviews can lead to a deeper understanding
- Interviews should not be power driven
- Keep the conversations/interviews informal
- No leading questions

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NO LEADING QUESTIONS

No Leading Questions

A way of influencing the way a user will answer

For example, how much do you like using our application?
(assumes the user likes the application)



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CHALLENGE

Challenge

Write 15 non leading questions you might ask a user.

Questions should encourage stories

For example, Bad: Do you have any problems using the software?
Good: Tell me about how you use our software



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CHALLENGE

Challenge
go interview a user about how the use of a website or app.

Keep the conversations/interviews informal. Recommend coffee shops, cafes, or public libraries.

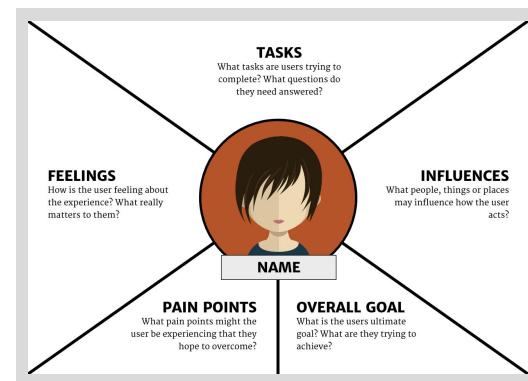


<http://www.bloomstaxonomy.org/Blooms%20Taxonomy%20Questions.pdf>

Pact

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EMPATHY MAP



Adapting empathy maps for UX design

Online Empathy Map

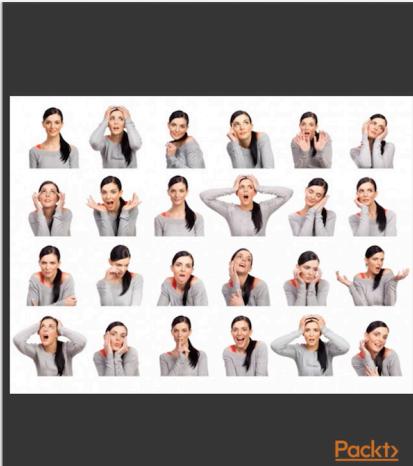
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KINESICS

Kinesics:

The study of visible body movements, including facial expressions, eye contact, gestures, and body postures.



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EXAMPLE

3. Refine -> 1. Set new hypothesis

Problem hypothesis	Sharing pictures taken with your phone on social networks is complicated
Customer hypothesis	Young people interested in photo and technology

Sharing pictures taken with your phone on social networks is complicated

Young people interested in photo and technology

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EXAMPLE

3. Refine

Problem hypothesis	<ul style="list-style-type: none">Smartphone pictures look insipidSharing pictures from your phone is complicated
Customer hypothesis	Young people interested in photo and technology

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HYPOTHESIS

- Problem hypothesis (< 10 words)
- Customer hypothesis (< 10 words)

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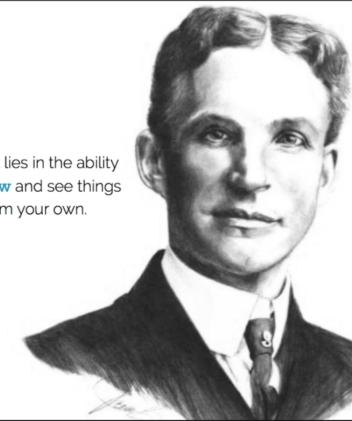
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UNDERSTAND YOUR USERS



If there is any one secret of success, it lies in the ability to get the [other person's point of view](#) and see things from that person's angle as well as from your own.

Henry Ford

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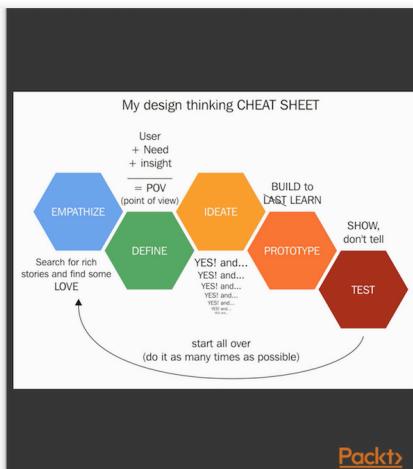
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EMPATHIZE PHASE

Empathize Phase

UX research and spends time with users to understand:

- Human values and qualities
 - Needs and Desires
 - Feeling and Emotions
 - Behaviors and Actions
- Pain-points and problem areas



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HABITS

User are habit driven.

Understanding that habits are created through 3 components

- Cue (phone app)
- Routine (Check email)
- Reward (Work done)

Habits are learned and can be hard to break but if you build habit learning into UX it can make your solutions very "sticky."



<http://www.defektgroup.com/blog/2016/8/30/how-to-change-habits-reflection-on-charles-duhigg-s-book> Packt

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GOOD AND BAD HABITS

What habits are good versus bad

Understanding technology habits is important for building great software

- What habits are good?
- What habits are bad?
- Humans won't always behave in their best self interest



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PERSONAS

- Fictional profile that represents a potential user group
- Typically with background info like age and a profession
- Also: a description of their specific interests
- What would motivate these users to give your app a try?
- Usually there is more than one persona for any project
- Choose your personas names and representative pictures

Avoid a situation where you start designing for yourself

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CHALLENGE

Challenge: List 10 Habits You Have with Your Technology/Smart Phone



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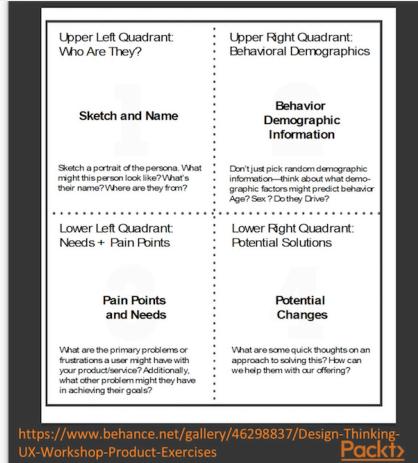
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BUILD A PROTOTYPE PERSONA

Proto-Persona

A Human Centered Design Thinking Method that allows us to quickly gain alignment and transfer knowledge about who we think our users are.

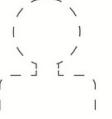
Proto-Personas is a process that can help us practice our User Empathy.



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PERSONA CANVAS

Facts <small>Factual information about your target customer.</small>	Pain <small>State the problem you believe your target customers have, that your solution solves for.</small>
	
Behavior <small>Existing behavior they exhibit now, because they don't have your solution.</small>	Goals <small>What goals are they trying to accomplish through the behavior, that your solution will do better?</small>

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INTERVIEWS

- Define your goals and keep them in mind
- Get ready to hear things you don't want to hear
- Ask open ended questions
- Rephrase what people tell you
- Look for insights and write them down

→ **Iterate**

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PROTOTYPE PERSONA

Proto persona	
Facts - college student - 18-23 - intense activity on facebook, notably sharing pictures from desktop - owns a smartphone	Pain - sharing pictures from your phone is complicated
Behavior - keeps most of his pictures on his phone and share very few of them - sometimes send phone pictures by text to his friends when he wants to make sure they see them	Goals - get feedback and approbation

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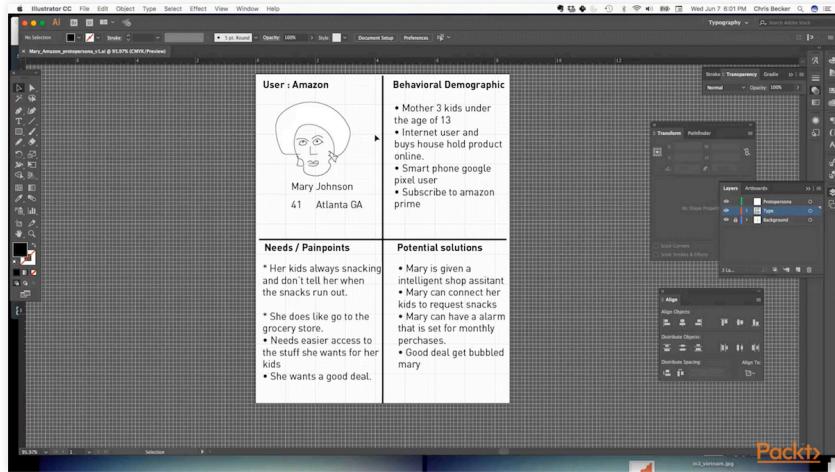
PROTOTYPE PERSONA

Problem	
Smartphone pictures look insipid / Sharing pictures from your phone is complicated	
Facts - Kevin - 25 - works in a startup - intense activity on facebook, notably sharing pictures from desktop - owns a smartphone - owns a real camera	Pain - phone pictures don't look good - but he doesn't always have his camera with him - sharing pictures from your phone is complicated - too much going on on FB, pictures lost in the middle of a lot of informations
Behavior - uses photoshop but no for phone pictures - keeps most of his pictures on his phone and share very few of them - sometimes send phone pictures by text to his friends when he wants to make sure they see them - puts pictures on photo networks like flickr but doesn't really get his friends' attention there	Goals - get feedback and approbation - share pictures that make him look cool or show his artistic talents

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PROTOTYPE PERSONA



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PROTOTYPE PERSONA

Proto-Persona Is a Starting Place

Mary Johnson
41 Atlanta GA

Behavioral Demographic

- Mother 3 kids under the age of 13
- Internet user and buys house hold product online.
- Smart phone google pixel user
- Subscribe to amazon prime

Needs / Painpoints

- Her kids always snacking and don't tell her when the snacks run out.
- She does like go to the grocery store.
- Needs easier access to the stuff she wants for her kids.
- She wants a good deal.

Potential solutions

- Mary is given a intelligent shop assistant
- Mary can connect her kids to request snacks
- Mary can have a alarm that is set for monthly purchases.
- Good deal get bubbled mary.

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EXERCISE

Start with the problem and customer hypothesis (previous exercise) and create a **prototype persona** (potential user of your app)

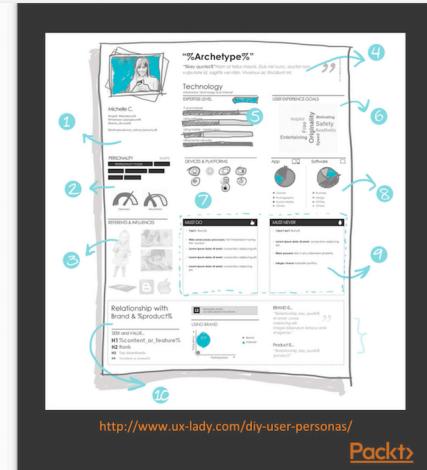
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USER PERSONA

User Persona Elements

- Profile and Personality
- Social and demographic characteristics.
- Needs, desires, goals
- Habits and Behavior
- Technology Expertise
- Cultural background
- Motivations
- Must do, must never
- User experience goals
- Brand and Product Relationship



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PERSONALITY TYPES

16 Personalities Myers Briggs

- 4 categories:
 - Analysts
 - Diplomats
 - Sentinels
 - Explorers

Introversion (I) or Extraversion (E)
Intuition (N) or Sensing (S)
Thinking (T) or Feeling (F)
Judging (J) or Perceiving (P)



[Packt](https://www.16personalities.com/personality-type)

16 Personality Types

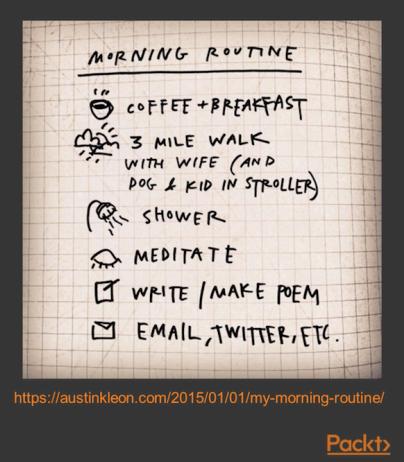
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HABITS AND ROUTINES

Users have habits and routines

Relating to real people is about
understanding their patterns



[Packt](https://austinkleon.com/2015/01/01/my-morning-routine/)

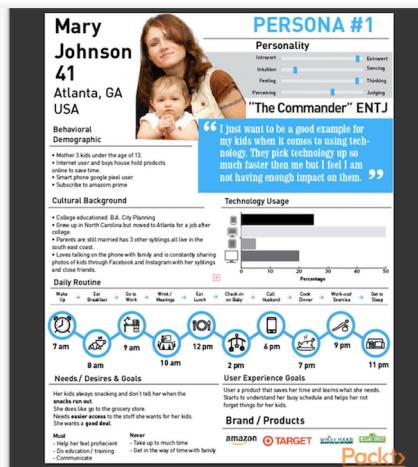
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COMPLETED USER PERSONA

Completed User Persona

- Cleaned up
- Has all elements
- Clear and readable
- Wants to be shared



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COMPLETED USER PERSONA

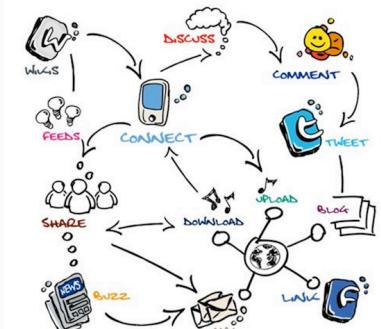
Users Have Needs and Pain-Points That Need to Be Shared

Persona should capture User Needs

- Functional needs
- Usability needs
- Interactions needs

Persona should capture Pain-Points

- What is keeping your persona from a pleasurable experience?
- How reliant or are and how reliable is the task?
- What values are being missed through personas pain-points?



[Packt](https://storify.com/chessieoj/how-our-communication-has-changed-over-time)

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RESULT

- A clear and well-founded problem statement
- This is the foundation to explore the solution space

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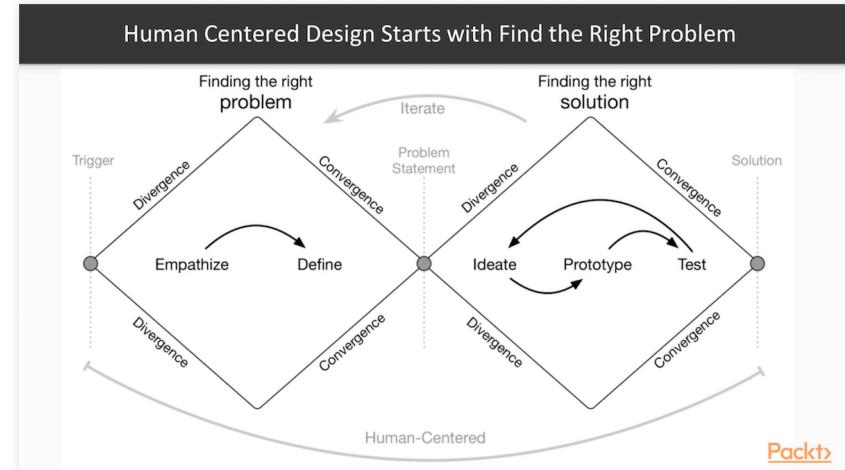
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DOUBLE DIAMOND PROCESS



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FIND A LOT OF SOLUTIONS

- Try to come up with as many ideas as you can
- Look at other products that solve similar problems
- Look at common behaviors when solving similar problems
- Think about what your target is already using
- Discuss different approaches

Focus on quantity

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FIND A LOT OF SOLUTIONS

- Hold creativity sessions in a group with 5-8 participants
- Support divergent and convergent thinking
- Encourage out-of-the-box thinking
- Many creativity techniques exist, e.g., brainstorming

6-3-5 Brainwriting

Brainwriting

Disney method

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B1

FIND THE BEST SOLUTION

- Prioritize your ideas
- Which ones are the most efficient?
- Which ones are the most feasible?
- Discuss, refine, or combine ideas in the team
- Get feedback from your target users
- **Pick the main feature**
- **Only keep the sub-features that are needed to make the main feature work**

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B2

PRIORITIZE YOUR IDEAS

Pick **three key attributes or features**, get those things very very right. and then forget about everything else.. By focusing on only a **few core features** in the first version, you are forced to find the **true essence** and **value** of the product.

Paul Buchheit, creator of Gmail and Google Adsense

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B3

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- **Storytelling design**

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B4

STORYTELLING DESIGN

- Write user narratives
- Goal: figure out how our app will work

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USER STORIES

- Start defining more granular scenarios
- Thinking in user stories is thinking in flows
- A list of stories is the brief for your app

Examples

- A purchase FLow
- Uploading or sharing a photo
- Making a note

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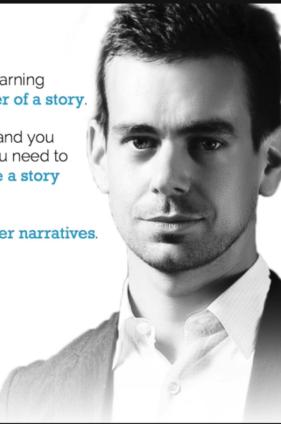
USER NARRATIVES

One of the biggest things that has helped me is learning how to become a better **storyteller** and the **power of a story**.

And by this, I mean if you want to build a product and you want to build a product that is relevant to folks, you need to **put yourself in their shoes** and you need to **write a story** from their side.

So, we spend a lot of time writing what's called **user narratives**.

Jack Dorsey
Founder of Twitter an Square



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USER STORIES

- The persona is the voice of the story
- Start with a goal story

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STEPS IN USER STORIES

- Break the user stories into smaller steps - tasks
- Each task is a micro flow within a larger journey
- Keep coming back to your personas profiles

Example: Uploading a photo

- Access to a photo gallery on the phone necessary?
- Do users need to select a picture?
- Can they add more than one at once?

USER STORIES

Goal story template

As **[user personal]**

I want to **[accomplish something]**

So that **[some benefit happens]**

USER STORIES

Goal story template

As **Kevin**

I want to **take a nice picture of what I'm doing**

So that **people can see that I'm doing something cool.**

USER NARRATIVES

Key feature

As Kevin I want to take a nice picture of what I'm doing so that people can see that I'm doing something cool.

- I open the app
- I take a picture
- I apply a filter to make it look good
- I can add a description
- I can select on what networks I want to share my picture on

USER NARRATIVES

Key feature	User feed
As Kevin I want to take a nice picture of what I'm doing so that people can see that I'm doing something cool.	As Kevin I want to see my friends' pictures and give them feedback so they know I'm giving them validation
<ul style="list-style-type: none"> I open the app I take a picture I apply a filter to make it look good I can add a description I can select on what networks I want to share my picture on My picture is shared on my followers' feed 	<ul style="list-style-type: none"> I open the app and access a feed of my friends' pictures I can like my friends' pictures I can comment on them As I scrolled down my feed I'm invited to follow more people or to invite friends

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USER NARRATIVES

Key feature	User feed	Explore section
As Kevin I want to take a nice picture of what I'm doing so that people can see that I'm doing something cool.	As Kevin I want to see my friends' pictures and give them feedback so they know I'm giving them validation	As Kevin I want to be able to see other people's pictures and give them feedback
<ul style="list-style-type: none"> I open the app I take a picture I apply a filter to make it look good I can add a description I can select on what networks I want to share my picture on My picture is shared on my followers' feed It is published to the explore section if I get enough likes 	<ul style="list-style-type: none"> I open the app and access a feed of my friends' pictures I can like my friends' pictures I can comment on them As I scrolled down my feed I'm invited to follow more people or to invite friends 	<ul style="list-style-type: none"> I can access interesting pictures from people who are not my friends I can like pictures I can comment on them

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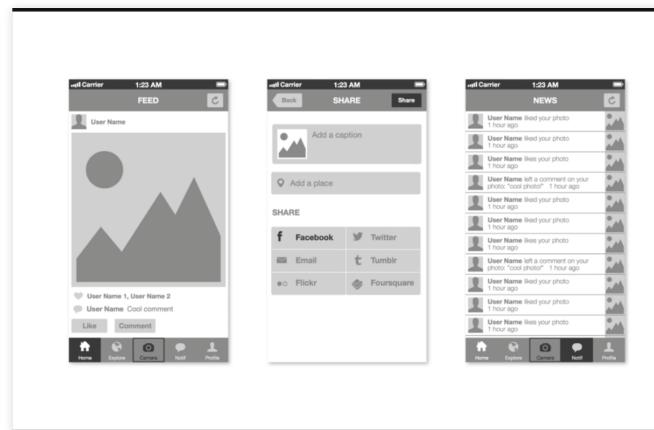
USER NARRATIVES

Key feature	User feed	Explore section	Notifications	Profile
As Kevin I want to take a nice picture of what I'm doing so that people can see that I'm doing something cool.	As Kevin I want to see my friends' pictures and give them feedback so they know I'm giving them validation.	As Kevin I want to be able to see other people's pictures and give them feedback.	As Kevin I want to know when people interact with my pictures.	As Kevin I want to access my infos and my pictures
<ul style="list-style-type: none"> I open the app I take a picture I apply a filter to make it look good I can add a description I can select on what networks I want to share my picture on My picture is shared on my followers' feed It is published to the explore section if I get enough likes 	<ul style="list-style-type: none"> I open the app and access a feed of my friends' pictures I can like my friends' pictures I can comment on them As I scrolled down my feed I'm invited to follow more people or to invite friends 	<ul style="list-style-type: none"> I can access interesting pictures from people who are not my friends I can like pictures I can comment on them 	<ul style="list-style-type: none"> I open the app I go to the notifications section I'm able to see who has interacted with my pictures I can comment on them 	<ul style="list-style-type: none"> I open the app I can go to my profile I can see how many people I follow and how many people follow me I can see my pictures I can find more people to follow I can invite friends I can change my profile picture

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NEXT: MOCKUPS, WIREFRAMES, ...



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READING MATERIAL, SOURCES

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