



University of the Cordilleras
Innovation and Technology Transfer Office

Prototype Thinking

TECHNO100 Technopreneurship
Unit 4

Table of Contents

- Prototype thinking
- Creating prototypes

Prototype Thinking



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Case Study:

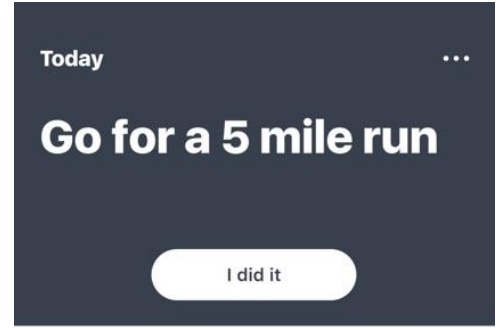
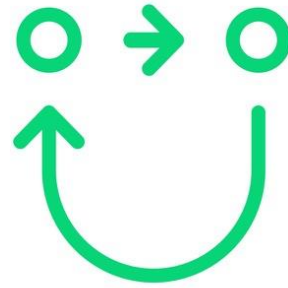
Richard Costolo,
Former Twitter CEO

Aside from being a startup guru, he was also into fitness. In 2016, he launched a fitness startup...



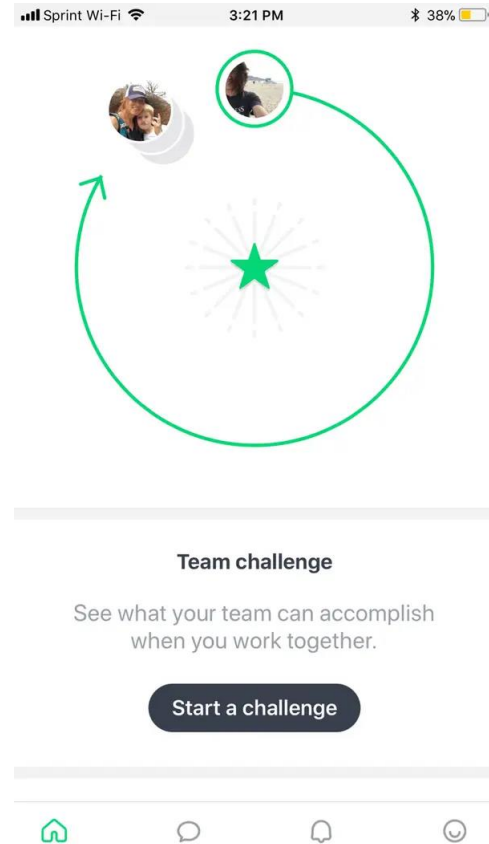
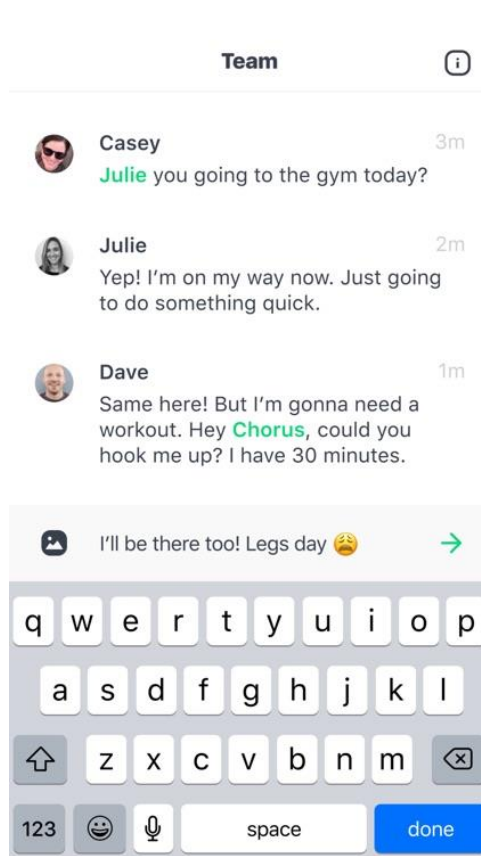
Case Study: Chorus

The startup, Chorus, aims to motivate other people to workout by “sharing the burden”.



Case Study: Chorus

Initial investments came
in to up to \$8 million.
Developments happen in
less than a year.



Case Study: Chorus

The idea was scrapped
due to the “abstinence
violation effect”.



Why Prototype Thinking?

Test Ideas Before Committing

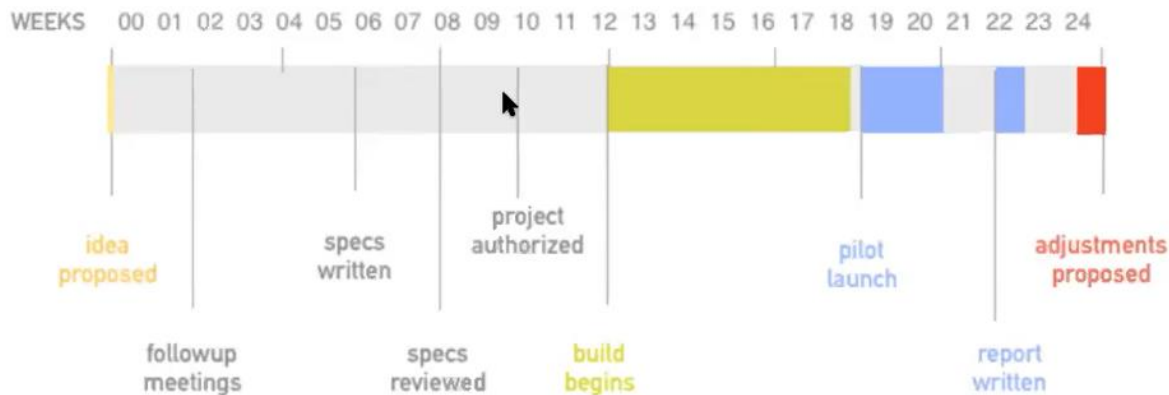
Making sure that the ideas to be developed actually solves the problem being experienced by the target users

Why Prototype Thinking?

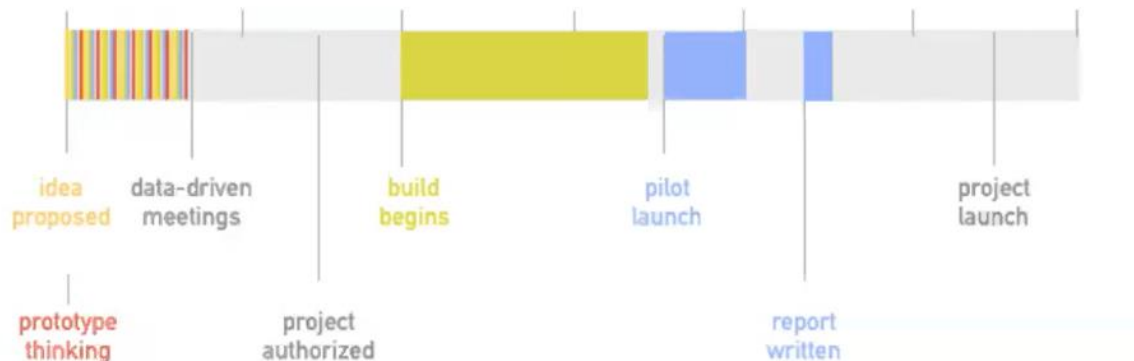
Zero-to-One (0-1) Customer

Identification of at least one customer base who absolutely
LOVES your solution before actual development

Standard Process



Prototype Thinking



Myths in Prototype Thinking

01

Development before test

02

You need an engineer

03

Money is necessary

04

The output is the prototype

maximize your rate of learning

by reducing the time it take to try new a new idea

5%
chance

x 12	→	45%
x 50	→	92%

Principles in Prototype Thinking

01

Separate conjectures from actuals

02

Stay close to the medium

03

Maximize rate of learning:
reduce time to try new ideas

04

Use as much effort as you
have confidence

05

Nail it before you scale it

Part 2

**Build a 10-minute
prototype**

Pick a Business Idea

Example:

App to find keys

Course on baking bread

Marketplace to rent camping gear

Free food delivery for seniors

Who is your user?

Examples:

Athlete

Airplane technician

A college student

First-time mothers

HR professionals

Developing Prototypes



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8 Types of Prototypes

Sketches and Diagrams

Paper Interfaces

Storyboards

Lego prototypes

Role-Playing

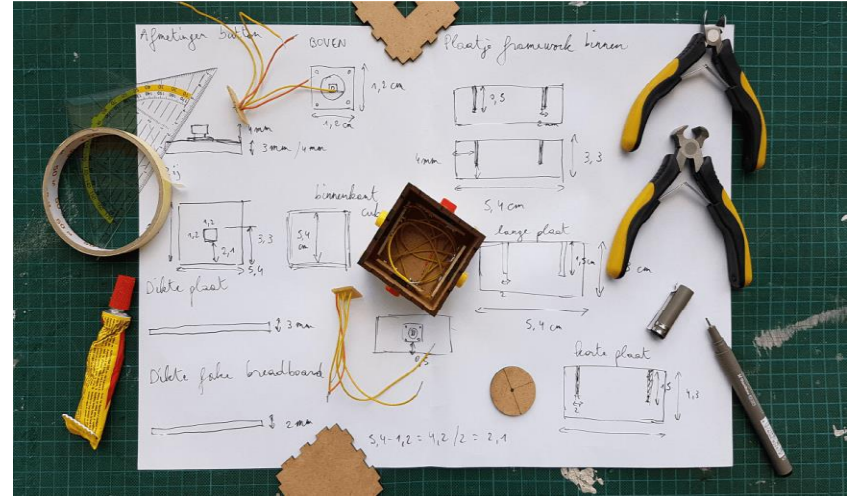
Physical Models

3D printing or rapid model

Wireframe

Sketches and Diagrams

Any sketch, even the absolute messiest can create a wonderful low-fidelity prototype.



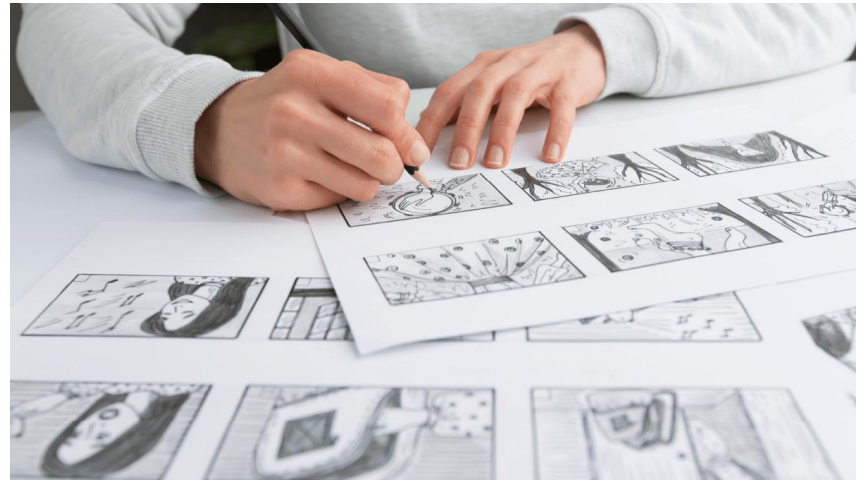
Paper Interfaces

Paper interfaces are made using multiple sheets of paper and sketching movable elements and interactive features on different sheets to create a more in-depth look.



Storyboards

Storyboarding is a technique derived from the film industry and allows you a quick and cheap way of walking stakeholders and users through a product.



Lego prototypes

It's versatile and able to spark the imagination. It's easy, cheap, and can be put together and taken apart in no time at all.



Role-Playing

Role-playing is considered experiential prototyping, meaning that it allows your design team to explore the system you are targeting physically.



Physical Models

The purpose of the physical model is to go a step further than a sketch and bring the two-dimensional into the three-dimensional.



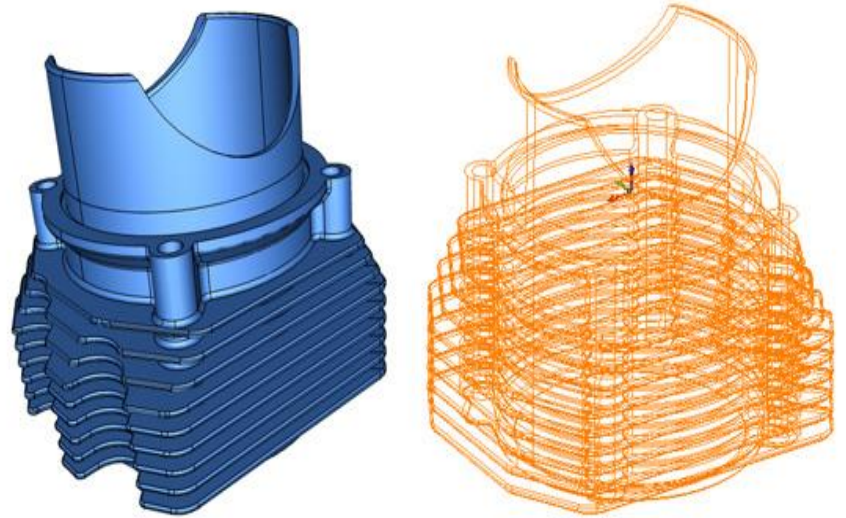
3D printing or rapid model

Three-dimensional printing allows engineers to quickly create a realistic model of a design using a computer and printing machine.



Wireframe

A wireframe acts as a digital diagram or layout of the product. This is a common prototype used for websites, software, or other digital tools.



Steps in Developing Features

- Identify user stories
 - Use storyboard / persona
- Identify solutions to each user story
 - How is it supposed to be done?
 - What are the metrics for success?
- Identify feasibility and compatibility of the solution
 - Solutions can solve different problems, but may not make sense into one package / solution



Activity

10-Minute Prototype

- Go to the board as a group
- List down 3 business ideas concerning the problem of your chosen SDG.
- Ask 5 classmates about which business ideas would they prefer for you.

Usability Testing



Usability Testing

Practice of testing how easy a design is to use with a group of representative users

Involves repeated observation of users completing tasks through different types of designs



Usability Testing

Checklist

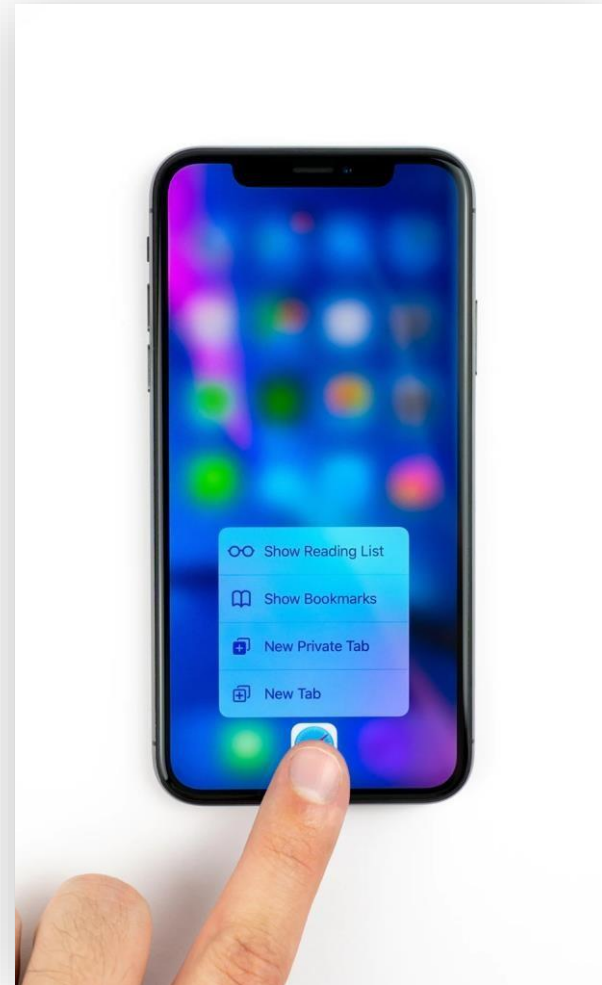
1. Determine the features to test
2. Set success metrics
3. Determine people to test on
4. Create task scenarios
5. Write a test script
6. Prepare test environment



Usability Testing

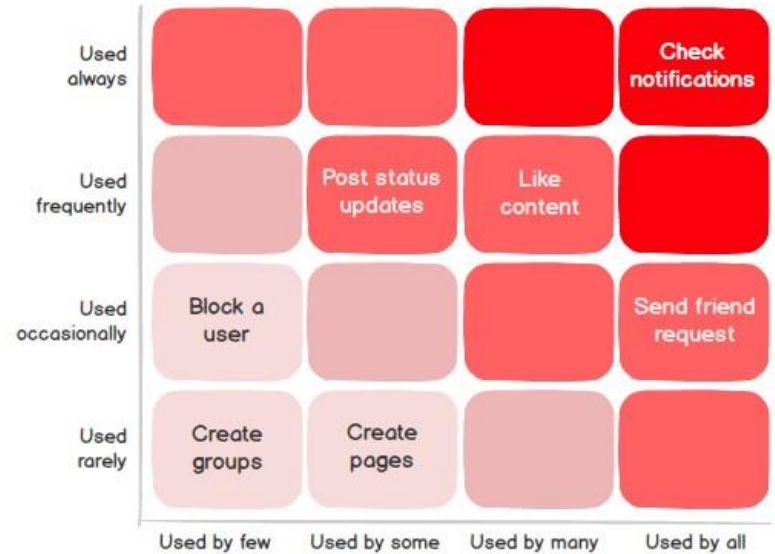
1. Determine the features to test

- What insights do you want to learn from your users?
- Know if you're building a new product or want feedback on a specific feature of an existing product.
- Not sure which feature to test first? Red Routes and MOSCOW might be the answer.



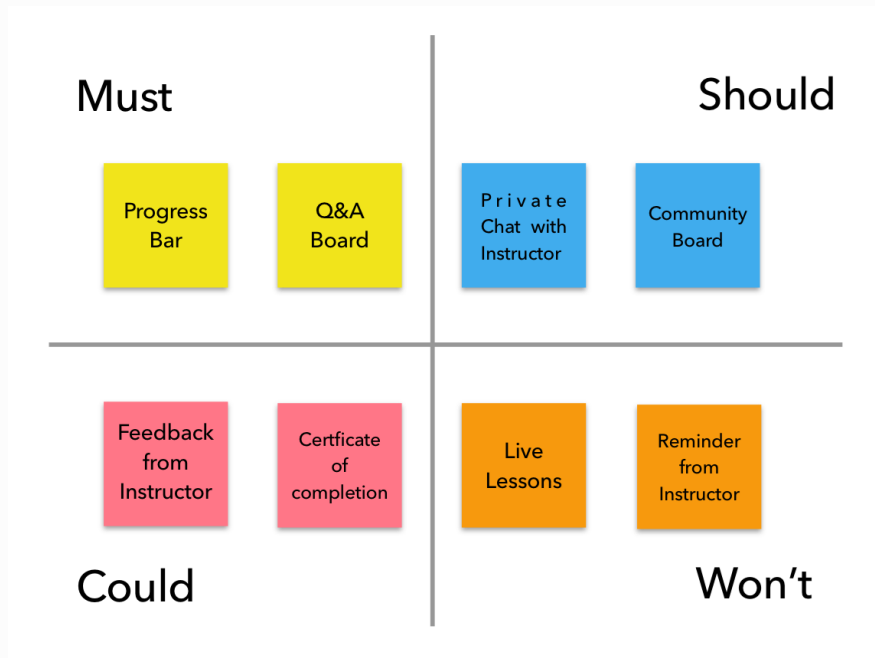
Red Routes

A tool used to help identify which features of an existing or new product need to be prioritized



MOSCOW

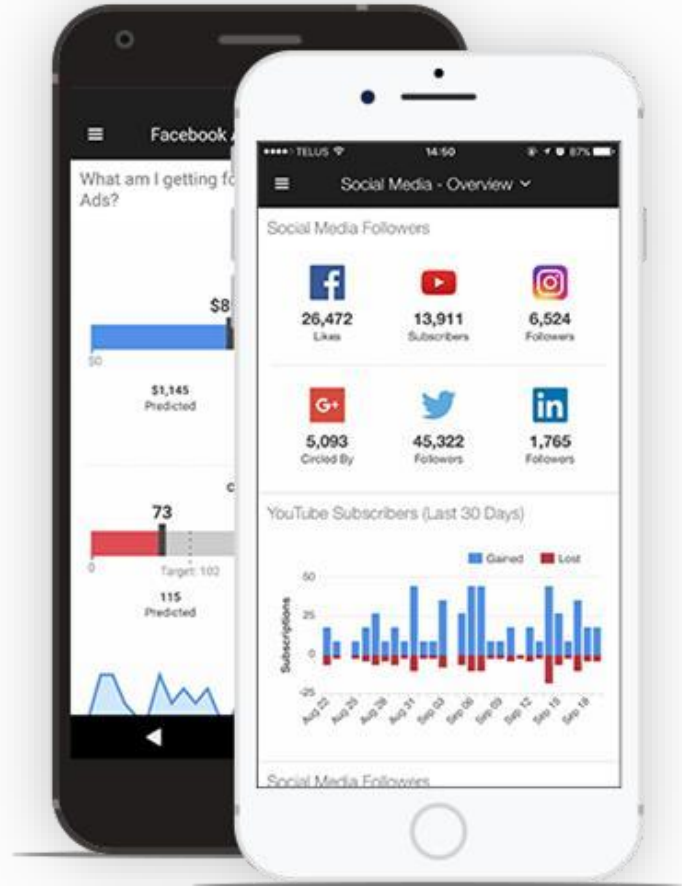
Short for **Must Have/Should Have/Could Have/Would Have**. This tool is used to analyze the ranking of your product's features.



Usability Testing

2. Set Success Metrics

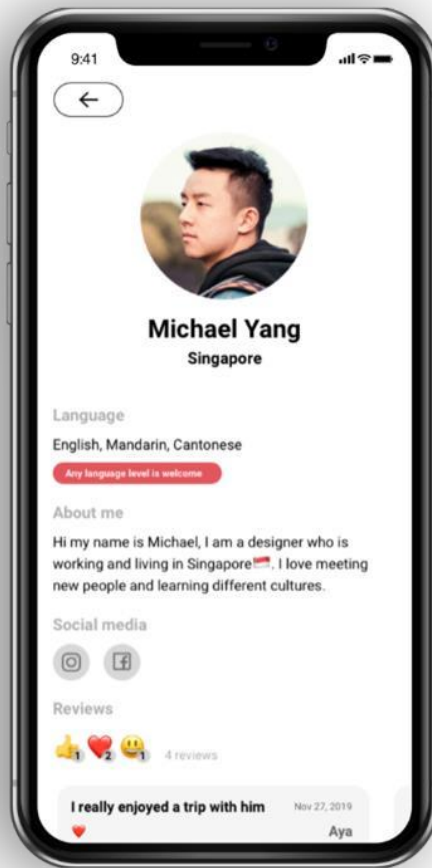
- **Effectiveness** – 80% of participants finish applying for enrollment online
- **Efficiency** – Participants can complete their online enrollment within 5 minutes
- **Satisfaction** – 85% of the participants rated the online enrollment experience above 6



Usability Testing

3. Determine Who to Test on

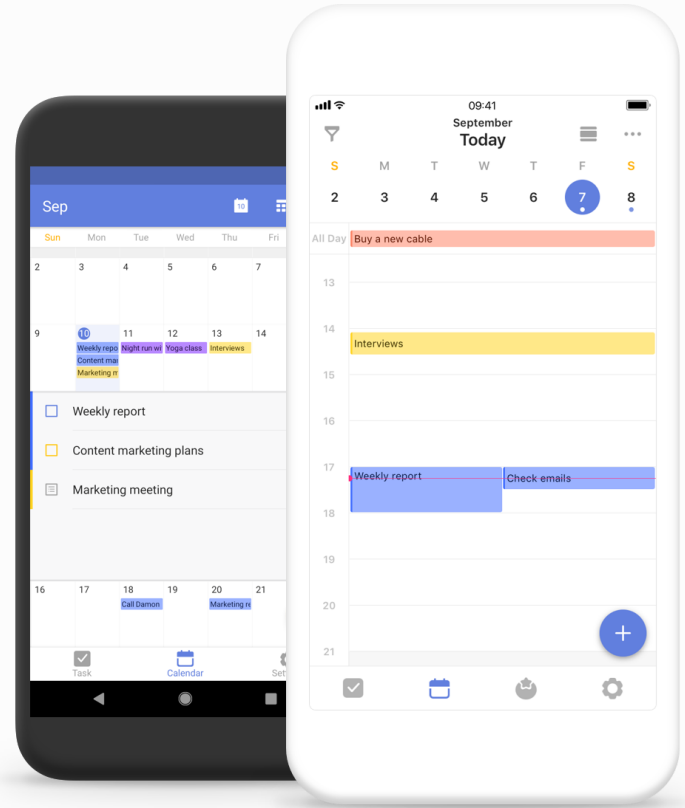
- **Which users will provide the most valuable feedback?**
- Test with a wide range of people
- **5 people** per persona (**one at a time!**) is all you need



Usability Testing

4. Create Task Scenarios

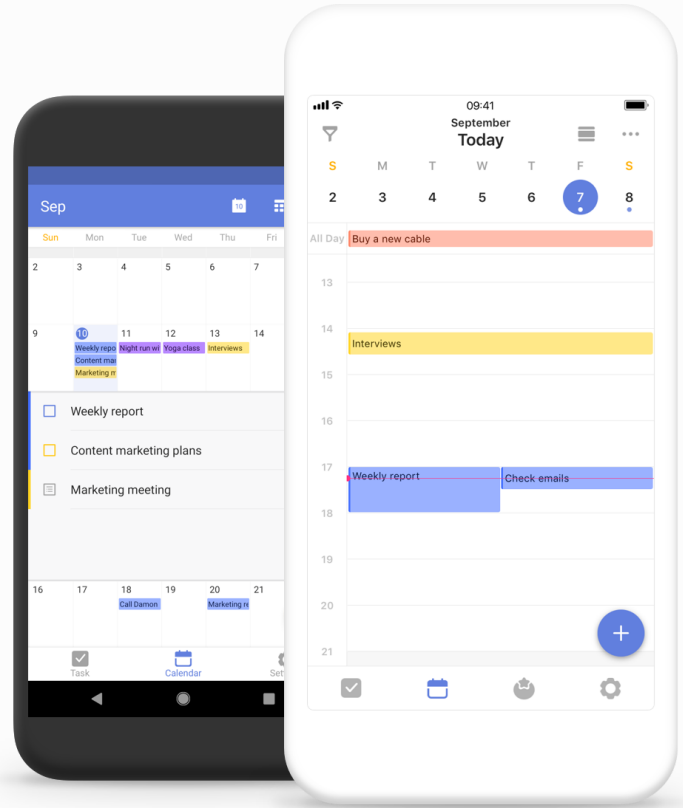
- Give instructions to the user on what we want them to do (**not how**)
- Creating a task scenario helps make the usability test feel real, putting the user in the right mindset of the context
- A context-less task such as “Buy a product” lacks meaning and would not be likely to simulate a real-world situation



Usability Testing

4. Create Task Scenarios

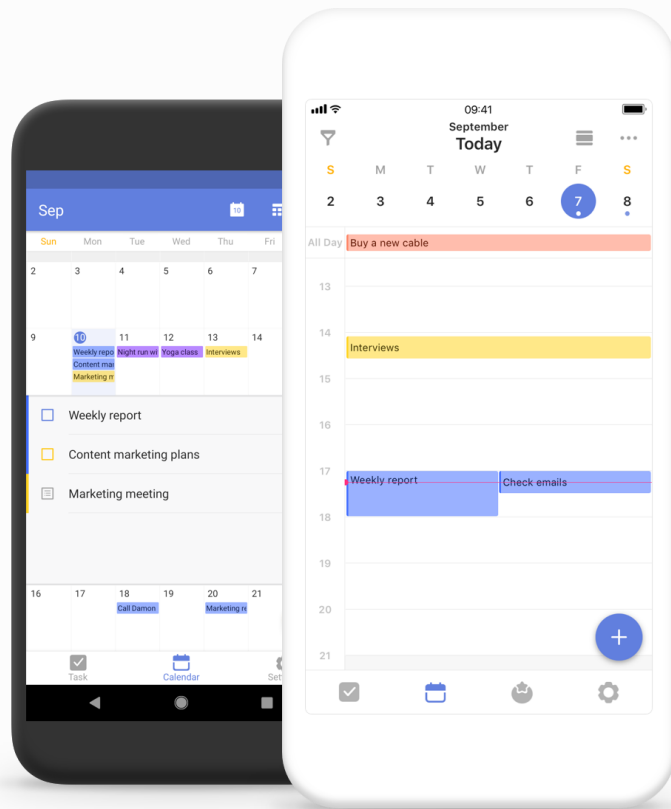
- **Context-less:** Buy some food.
- **Make it realistic and actionable:** You've just finished a long day at the office which involved back to back meetings, zoom fatigue, and a difficult conversation with the client. You've just turned off our laptop and are hungry and want to order food for yourself. Navigate to the site and try to order something to satisfy your craving.



Usability Testing

4. Create Task Scenarios

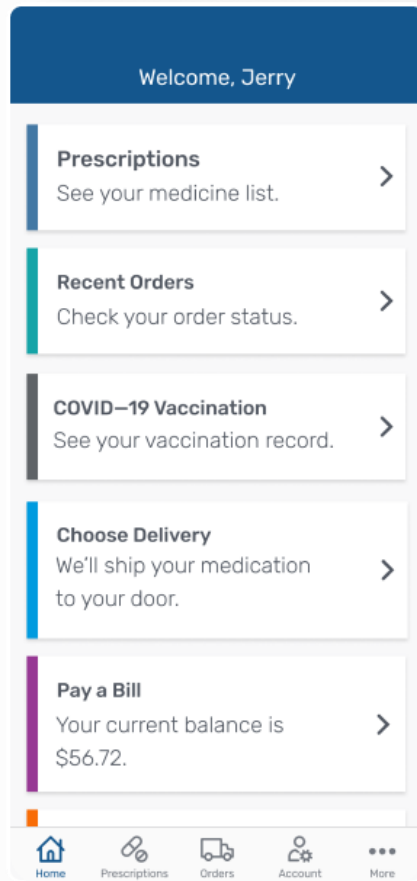
- **Avoid giving clues or describing steps:** Click on view product, then click on add to cart then purchase the product
- **Avoid tasks that don't have definite end points:** Explore the credit card section.



Usability Testing

5. Write a Test Script

- Test Scripts are line-by-line descriptions containing information about the system
- A script typically has 'steps' that try to fully describe how to use the program
- The test script should list out each step that should be taken with the expected results.



Usability Testing

5. Write a Test Script

Example of a Test Script

For example, to check the login function on a website, your test script might do the following:

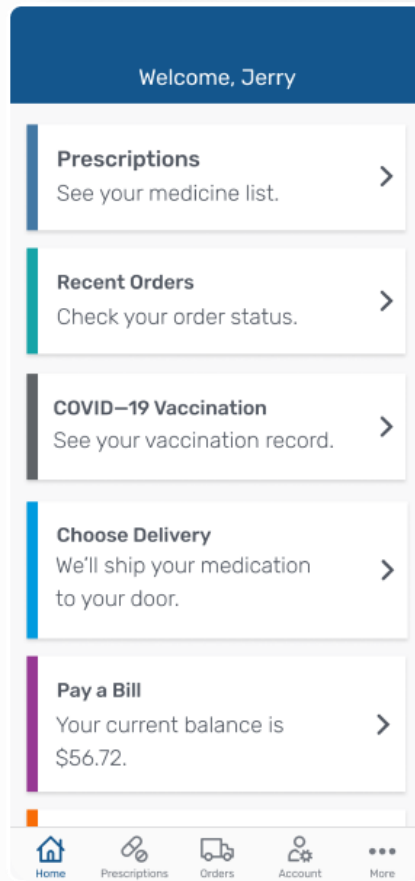
Load the website homepage, then click on the “login” link. Verify that the Login screen that appears and the “Username” and “Password” fields are visible.

Next, type the username “Charles” and password “123456” identify the “Confirm” button and click it.

Verify that the title of the Welcome screen is visible.

Read the title of the welcome screen.

Insert that the title text is “Welcome Charles”.



Usability Testing

6. Prepare your Environment

- Identify what tools you'll be using for the usability test:
 - How will you and the participant see each other?
 - How will you give access to the prototype?
 - Where/How will you take notes?



Usability Testing

6. Prepare your Environment

- **Video:** Any basic video conferencing app can work though note that not all come with record functionality on the free version so you may have to screen record separately. Ask consent first.
- **Prototype:** Figma? Marvel? Adobe XD? Something else?
- **Note taking:** Pen and paper? Miro? Google Sheets? Recommend against Notion as it doesn't let you do affinity mapping



Usability Testing

6. Prepare your Environment

- Who will be joining the test? Will anyone be observing?
- Ensure your participant has been well briefed to be in a quiet room. We usually onboard participants at least a day ahead.



Usability Testing

Overview

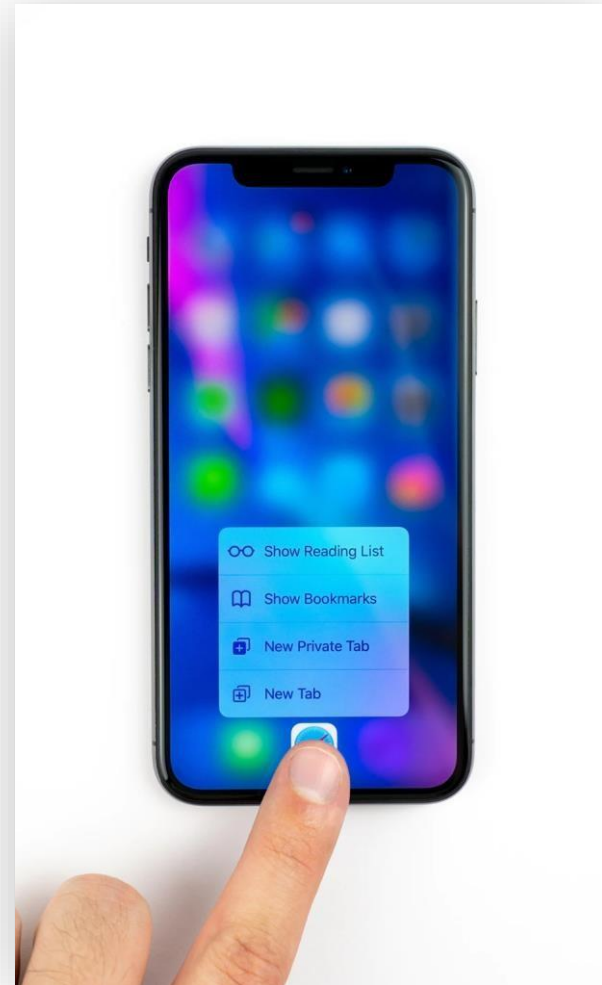
- Usability Tests take between 20–40 minutes
- Conducted face-to-face or online
- With a target user of your problem and solution



Usability Testing

Iterative Process

1. Complete Prototype
2. Identify User Types
3. Identify 5 Users for each User Type
4. Start First Wave of Testing
5. Gather and Synthesize Insights
6. Iterate Prototype
7. Repeat



UNIT 6: PITCHING

WHAT IS PITCHING?



It is a presentation of business ideas.



A depiction of business plans to potential clients to persuade them that your company is the right choice.

HOW DO I PITCH?



Elevator Pitch



Competition Pitch



Investor Pitch

THE ELEVATOR PITCH

Long enough to
cover important
parts & Short
enough to create an
interest

20 - 30 seconds to
briefly explain what
the startup does

Key Components of an Elevator Pitch

Introduction

Include your name, job title, or company name.



Experience

Provide some background, like previous roles, projects, or initiatives.



Goals

State your goal or the pain point you hope to address.



Solution

Share your unique solution to the problem or your idea for achieving your goal.



Plan

Lay out your plan or the specific reasons you will be successful.

THE COMPETITION PITCH/BUSINESS PITCH

- A pitch competition is a contest where entrepreneurs present their business concepts to a panel in the hope of winning a cash prize or investment capital.
- 3-5 Minutes to explain what the startup does and its traction

Competition - Comparison

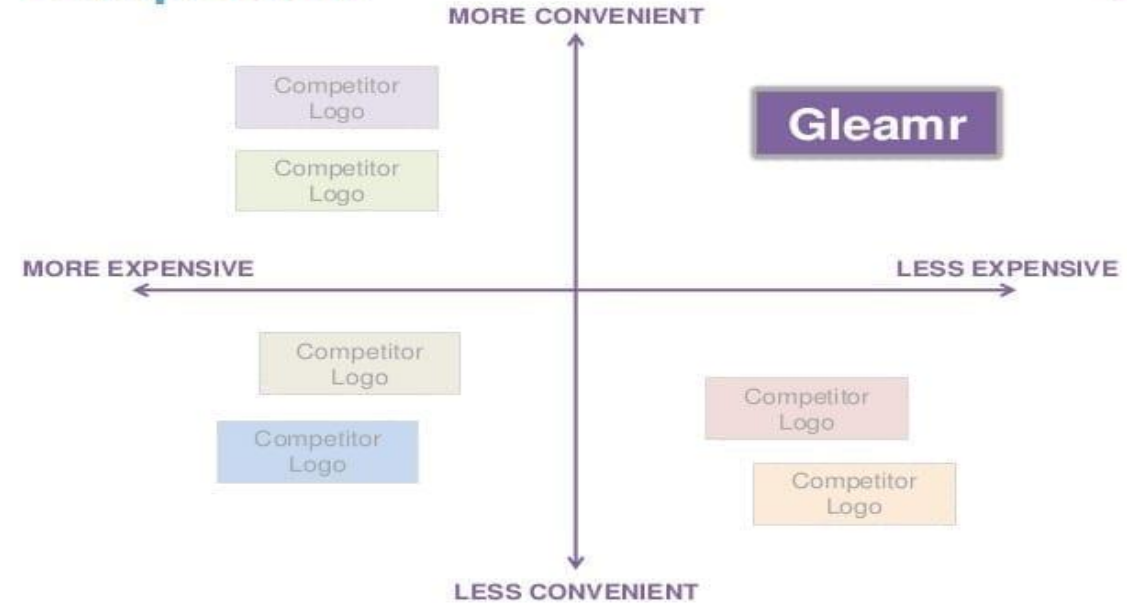


	 Doggy Hut	 airbnb	 HORSE HUB	 CAT IN	 HRS
Fantastic Feature	✓	✓	✗	✓	✗
Amazing Feature	✓	✗	✓	✗	✓
Awesome Feature	✓	✓	✗	✗	✗
VIP Feature	✓	✓	✓	✗	✓
Even Better Feature	✓	✗	✓	✓	✗

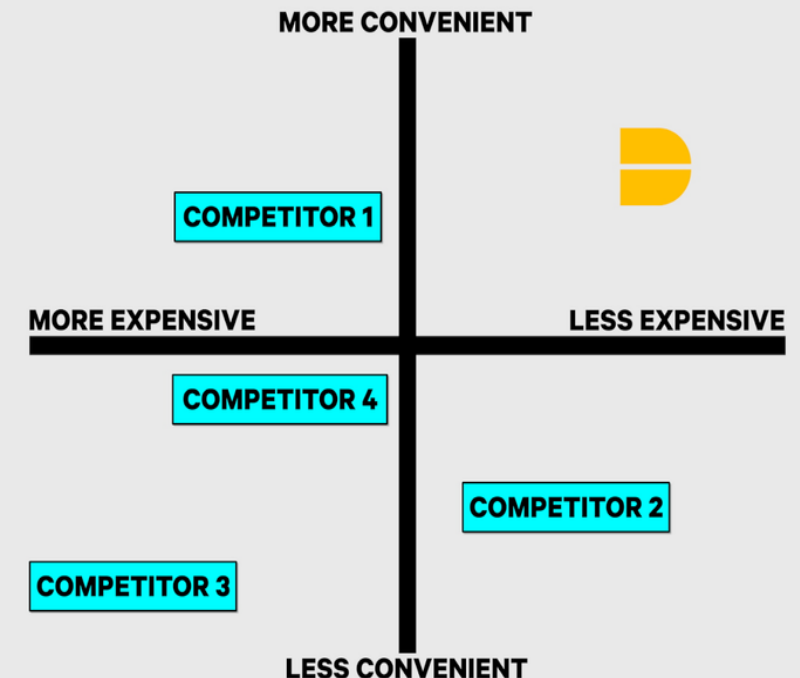
MAGIC QUADRANT

A Magic Quadrant provides a graphical competitive positioning of four types of technology providers, in markets where growth is high and provider differentiation is distinct.

Competition



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POWER GRID

A Power Grid enables you to show how your startup beats out the competition in areas like its key benefits, go-to-market strategy, business model, and more.

Our Offering vs. The Competition

		 Bing	 Bai 百度	 YAHOO!	 Yandex
Shows Most Relevant Results	✓				
Load Time < 1 Second	✓	✓	✓	✓	✓
Shows > 8 File Types	✓	✓	✓		
Largest Ad Inventory Volume	✓				
Owns Mobile Operating System	✓				

Our Offering vs. The Competition

		Competitor 1	Competitor 2	Competitor 3	Competitor 4
Benefit 1					
Benefit 2					
Benefit 3					
Benefit 4					
Benefit 5					

THE INVESTOR PITCH /PITCH DECK

- An investor pitch deck should include your current market share, your revenue model, and a financial breakdown explaining how you would use it.
- 20-30 Minutes to explain everything in your startup



WHAT ARE THEIR DIFFERENCES?

	Business Plan	Pitch Deck	Elevator pitch
Length	10 - 100 pages	10 - 20 slides	10 - 30 seconds
Design	Text - based	Highly visual	Verbal
Timing	Business funding consideration	Getting a meeting	Presenting your idea
Goal	Get fundings	Get an investors attention	Spark interest
Audience	Investors / Partners	Investors	Anyone
Frequency of use	Rarely	Often	Often
Time spent on it	1h+	3-15min	10-30sec

THE 10 KEY ELEMENTS OF PITCH

1. TEASER

2. PROBLEM

3. SOLUTION

4. MARKET

5. BUSINESS MODEL

6. COMPETITION

7. CHANNELS

8. TEAM

9. MONEY

10. MILESTONES

MISTAKES TO AVOID WHILE CREATING A SUCCESSFUL PITCH

Mistake-1: Not doing your research

Mistake-2: Not knowing who your investors are

Mistake-3: Not being open-minded

Mistake-4: Delivering a boring pitch

Mistake-5: Not being progressive in your approach

Mistake-6: Creating the wrong image

Mistake-7: Missing on key elements

Mistake-8: Failing to illustrate the profit

WHAT TO DO IN PITCH

- Relate the topic to the audience
- State the importance of your topic
- Startle the audience
- Arouse the curiosity of the audience
- Question the audience
- Begin with a quotation
- Tell a story

IDENTIFYING TEAM ROLES

- The Hipster (Design and User Experience)
- The Hacker (Development)
- The Hustler (Business and Marketing)

5 CRITERIA JURIES USE TO SELECT THE BEST STARTUP PITCH

- Team
- Market Validation
- Product
- Business Model
- Soft Skills

BRANDING

WHAT IS BRAND ARCHETYPES

- Brand archetypes help you determine the human character traits that most accurately reflect your brand.
- This enables your brand to create deeper connections with your audience and customers based on strong emotional interactions

WHAT ARE THE 12 BRAND ARCHETYPES?



The Creator



 **Desire: Create the perfect product/service**

 **Goal: Innovation**

 **Strategy: Use creativity to solve problems**

 **Brand Message: “Think different”**

 **Traits: Innovation, Originality, Expression, Vision, individualistic**

 **Fears: Stagnation, Duplication, Familiarity, Disillusion, Indifference**

 **Brands: Apple, Lego, Adobe, GoPro, Crayola**

The Sage



Desire: Find the Truth



Goal: Understanding



Strategy: Seek information and knowledge



Brand Message: “The truth will set you free”



Traits: Wisdom, Intelligence, Expertise, Information, Influence



Fears: Lies, Misinformation, Ignorance, Inaccuracy, Stupidity



Brands: TED, Google, BBC, Discovery Channel, The Times



The Caregiver



Desire: Care, protect and nurture



Goal: Helping Others



Strategy: Do things for others



Brand Message: “Treat others as yourself”



Traits: Compassion, Caring, Reassuring, Nurturing, Warm



Fears: Helplessness, Selfishness, Ingratitude, Instability, Neglect



Brands: Unicef, Johnson & Johnson, NHS, Pampers, Volvo



The Innocent



Desire: Love, peace, and happiness for all



Goal: Happiness



Strategy: Do the right thing



Brand Message: "The glass is half full"



Traits: Optimistic, Charming, Honest, Loyal, Simplistic



Fears: Depravity, Deceit, Complexity, Punishment, Confusion



Brands: Dove, McDonald's, Innocent, Coca-Cola, Volkswagen

The Jester



Desire: Enjoy life and have fun

Goal: Entertainment

Strategy: Be playful, be fun

Brand Message: “If you’re not having fun you’re doing it wrong”

Traits: Playful, Humorous, Positivity, Togetherness, Funny

Fears: Boredom, Negativity, Seriousness, Gloom, Misery

Brands: Paddy Power, Budweiser, Skittles, Old Spice, M&Ms



The Magician



Desire: Turn dreams into reality



Goal: Magical Moments



Strategy: Create a unique vision and stand by it



Brand Message: “Make the impossible, possible”



Traits: Transformational, Charisma, Imaginative, Idealistic, Insightful



Fears: Repetition, Boring, Stagnation, Doubt, Ignorance



Brands: Disney, Dyson, TUI, Polaroid, MAC Cosmetics

The Ruler



Desire: Control

Goal: Success

Strategy: Lead and create exclusivity

Brand Message: "Laughter is the world's best medicine"

Traits: Power, Status, Success, Wealth, Loyalty

Fears: Losing power, being undermined, rule breakers, rebels, xxx

Brands: Microsoft, Rolls Royce, Rolex, Hugo Boss,

The Hero



Desire: Mastery

Goal: Improve the world through courage

Strategy: Motivate and encourage

Brand Message: “Where there’s a will there’s a way”

Traits: Bravery, Courage, Honor, Inspiration, Growth

Fears: Weakness, Incapability, Injustice, Cowardice, Incompetence

Brands: Nike, BMW, FedEx, Adidas, The Royal Marines

The Everyman



Desire: Connection with others



Goal: Belonging



Strategy: Down-to-earth and trustworthy



Brand Message: “Live together in harmony”



Traits: Dependable, Realistic, Pragmatic, Inclusive, Equality



Fears: Exclusion, Standing out, Hostility, Isolation, Separation



Brands: Tesco, Lynx, Ford, Levis, Ikea

The Rebel



Desire: Revolution



Goal: Disruption



Strategy: Shake things up and do things differently



Brand Message: “Rules are made to be broken”



Traits: Disruptive, Liberator, Confrontational, Independent, Change



Fears: Conformity, Rules, Repetition, Rigidity, Status Quo



Brands: Harley-Davidson, Uber, Diesel, Greenpeace, Red Bull

The Explorer



Desire: Freedom of discovery



Goal: Excitement and Fulfillment



Strategy: Take your own path



Brand Message: “Seek out new things and set yourself free”



Traits: Discovery, Adventure, Independence, Exploration, Pioneering



Fears: Aimlessness, Conformity, Safety, Confinement, Short Sightedness



Brands: NASA, Jeep, The North Face, Subaru, National Geographic

The Lover



Desire: Connection

Goal: Intimacy

Strategy: Be desirable

Brand Message: “Love makes the world go round”

Traits: Passionate, Committed, Romantic, Affectionate, Indulgent

Fears: Rejection, Isolation, Loneliness, Unloved, Invisible

Brands: Victoria’s Secret, Godiva, Anne Summers, Alfa Romeo, Chanel