Love at First Site

Creating Delightful Mobile User Experiences

David Chung | davidchung@google.com | Google Mobile UX

classdc
Google

Liked by **ghyun82**, **itsallyouhan** and **79 others**

classdc Childhood dream: Become a #Transformer when I grow up. #optimusprime #autobots #google #braille #businesscard

View all 3 comments

ghyun82 ...

Google

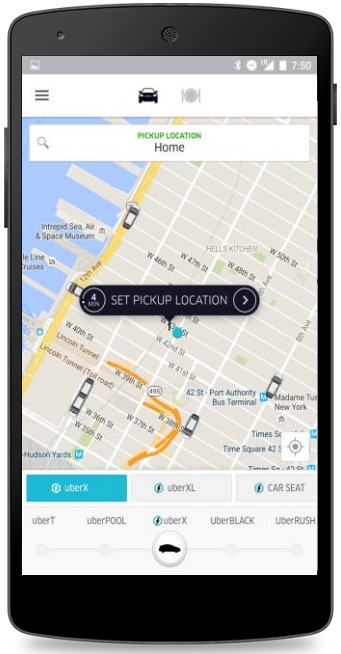
Google

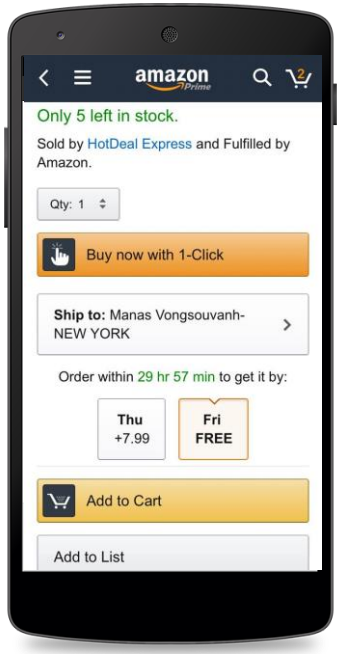
Google

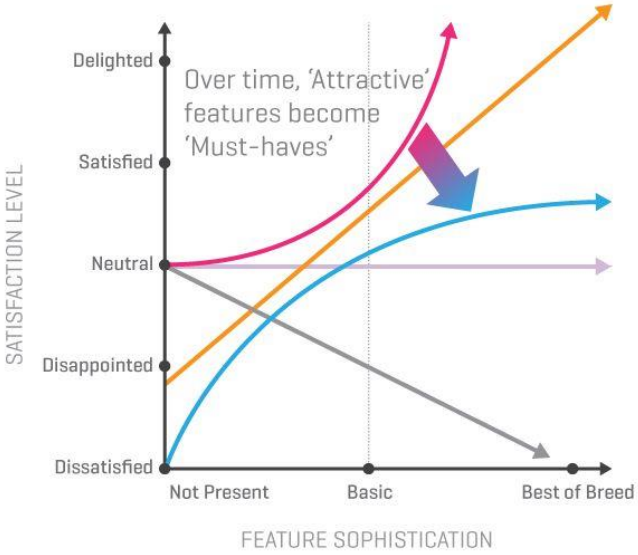
First impression.
First sight.
First *experience*.
First site.
Matters.

You are competing with
the best digital experience
a consumer has ever had

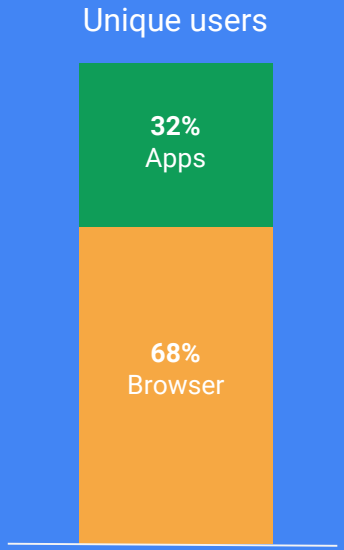
Customers in the Mobile First World Expect a Lot



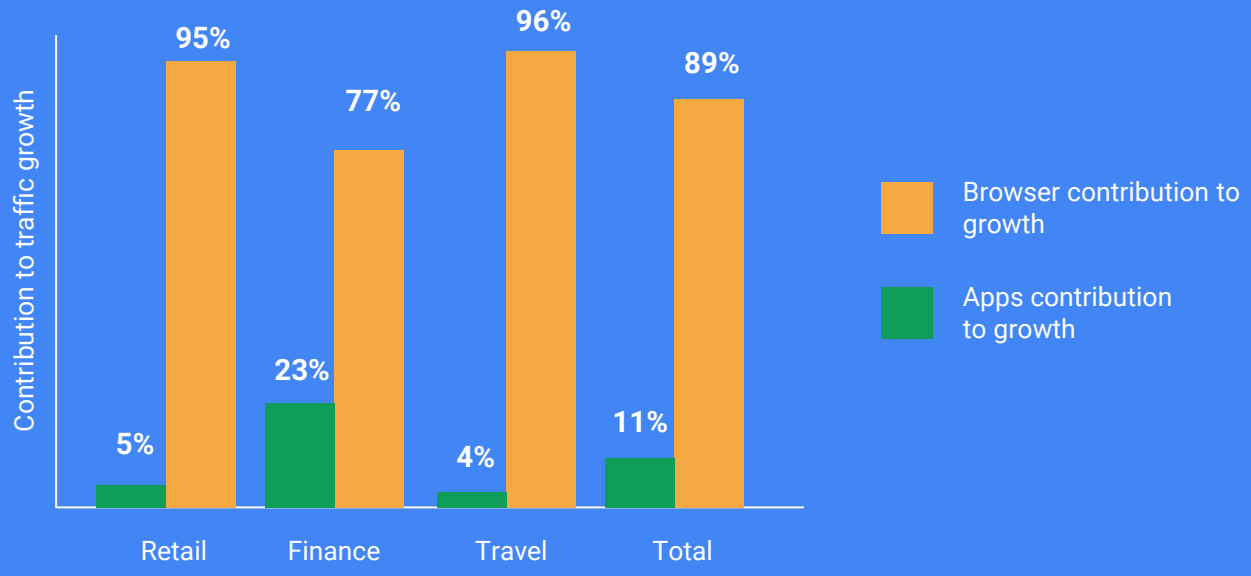




First impressions take place on the **web**



Morgan Stanley:
Unique Users 2015 (US)



% of the top 50; Morgan Stanley: Unique Users 2015 (US)

50%

users abandon mobile transactions because they've had a **poor experience**

Fast

Easy

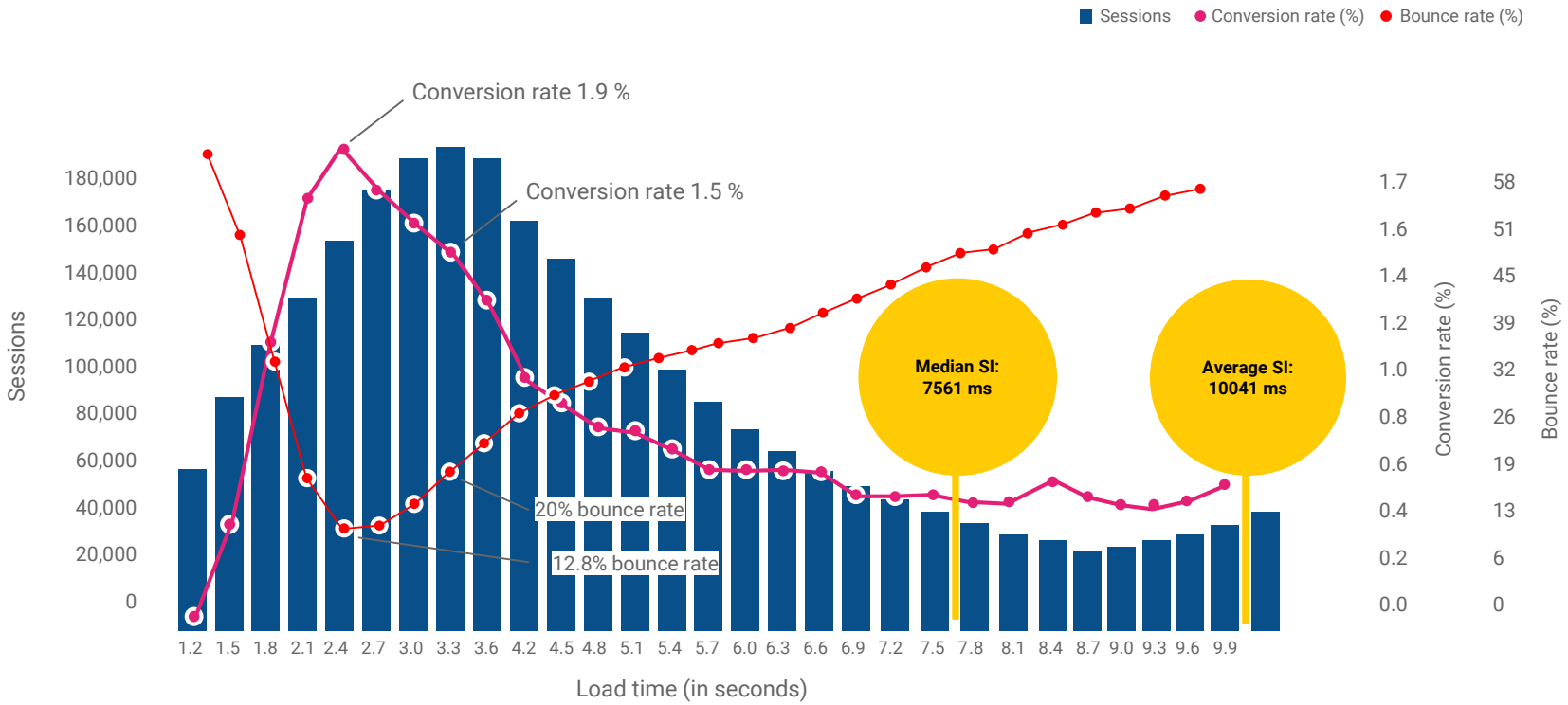
Speed

"Speed is design's best friend, not its enemy."

53%
abandon a mobile site if it takes more than 3 seconds to load

1s = >20%

Speed impacts conversion rates and bounce rates



Google

:22

How fast is your site?

g.co/testmysite

think with Google

TEST ANOTHER URL | GET MY FREE REPORT

m.alexandalexa.com

7s

Loading time: Fair

26%

Est. Visitor loss
(Due to loading time)

Find out how to speed up your site to keep more visitors.

GET MY FREE REPORT

See how you compare

Industry comparison

m.alexandalexa.com is slower than the top-performing sites in the Shopping industry

Your top fixes

1. Optimize images

Images often account for most of the downloaded bytes on a page. Properly formatting and compressing images can save many bytes of data and improve website performance.

2. Leverage caching

3. Renderblocking JS

We'll send you a detailed report of fixes to speed up your mobile site.

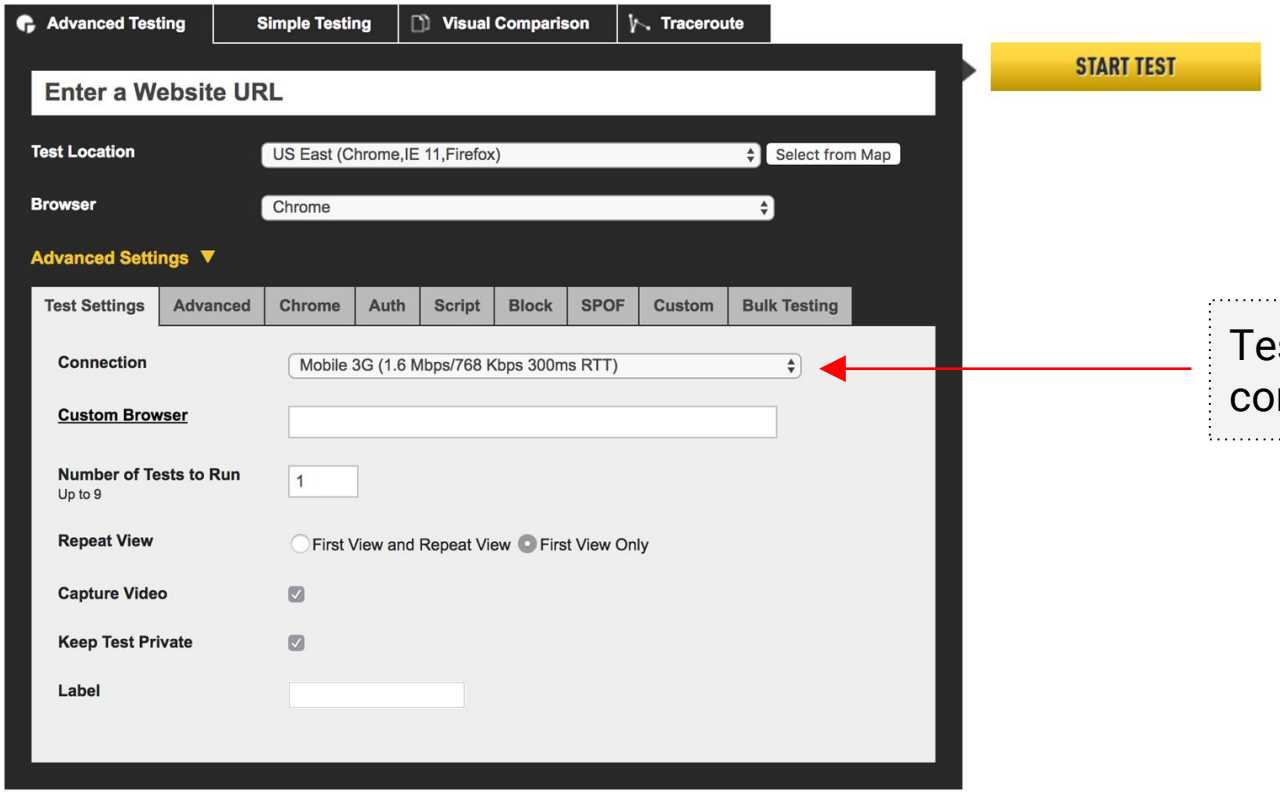
GET MY FREE REPORT

Share your report with your webmaster.

www.webpagetest.org

WEBPAGETEST

Test a website's performance



Test on “Mobile 3G” connection.

WEBPAGETEST

Web Page Performance Test for

https://www.helixsleep.com/

From: US East - **Chrome** - **Emulated Nexus 5** - **3G** - Mobile
6/13/2017, 3:02:54 AM

Need help improving?

F	A	A	C	F	X
First Byte Time	Keep-alive Enabled	Compress Transfer	Compress Images	Cache static content	Effective use of CDN

Summary | **Details** | **Performance Review** | **Content Breakdown** | **Domains** | **Processing Breakdown** | **Screen Shot** | **Image Analysis** NEW

Tester: i-0357f14b3c6deebb3
First View only
Re-run the test

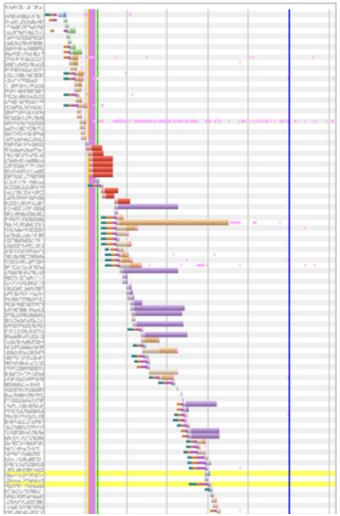
Raw page data - Raw object data
Export HTTP Archive (.har)
View CSI data
View Test Log

SPEED INDEX

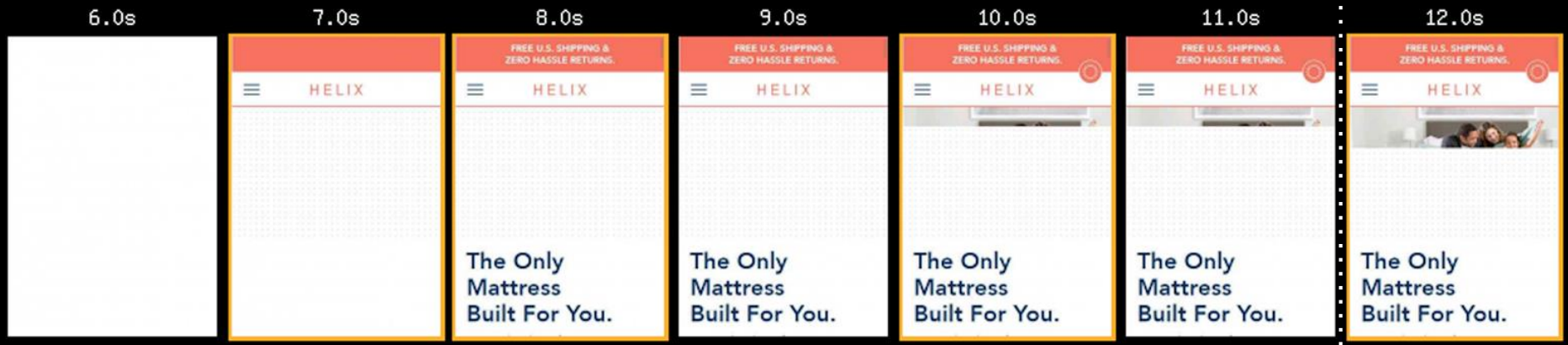
REQUEST COUNT

PAGE WEIGHT

						Document Complete			Fully Loaded				
Load Time	First Byte	Start Render	User Time	Speed Index	First Interactive (beta)	Time	Requests	Bytes In	Time	Requests	Bytes In	Certificates	Cost
30.060s	2.244s	6.452s	5.047s	11387	> 33.059s	30.060s	140	4,445 KB	35.557s	151	4,522 KB	201 KB	$$$$$

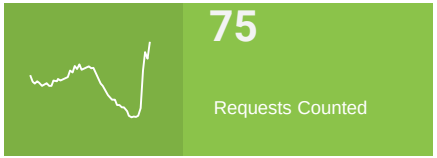
	Waterfall	Screen Shot	Video
First View (30.060s) Timeline (view) Processing Breakdown			Filmstrip View - Watch Video

WEBPAGETEST



SPEED INDEX:
~11s to feel “visually complete and ready for interaction”

Recommended Targets for Optimal Performance

GOAL:	5000 ms Load Time / Speed Index	 75 Requests Counted	1.0 MB Page Weight
YOUR SITE	_____ ms	__ requests	____ MB

www.webpagetest.org

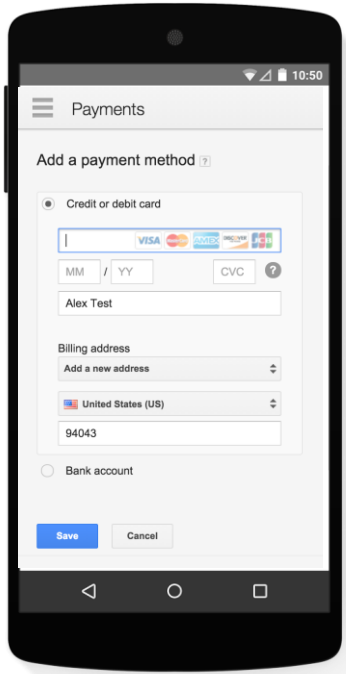
Easy

Design & Functionality

"Earning the love of the customer means being intuitive and easy.... frictionless."

Beautiful, intuitive designs are easy to spot...

vs.



25 principles of mobile site design

Usability & Form Factor

- Entire site is optimized for mobile
- Don’t need to pinch + zoom
- Product images are expandable (and high quality close-ups are available)
- Shoppers are told which screen orientation works best (and site works in all orientations)
- Users aren't brought to new browser windows (calls-to-action stay in same window)
- Site avoids "full site" labeling (uses "desktop" instead)
- Site is clear about why it needs user's location (and what it intends to do with it)

Site Search

- Site search is visible (near top of page)
- Site search results are relevant (autocomplete)
- Filters are used to improve search results
- Guides users to better search results

Form Entry

- Info entry is streamlined
- Uses toggles/dropdowns to simplify input
- Visual calendars used for date selection
- Minimize errors with labeling and real-time validation
- Form design is efficient (auto-fill, progress bar)

Homepage & Site Navigation

- Calls-to-action are front and center
- Menus are short and sweet
- Easy to get back to the homepage
- Promotions don’t steal the show

Commerce & Conversions

- Users can explore before committing
- Users can purchase as a guest
- Existing information is used (e.g., 3rd party payments)
- Click-to-call is present for complex tasks
- Easy to finish converting on another Device

Confidential + Proprietary

EXAMPLE

How much is...

15 + 5

$$3 + 56$$

89 + 2

12 + 53

$$75 + 26$$

$$25 + 52$$

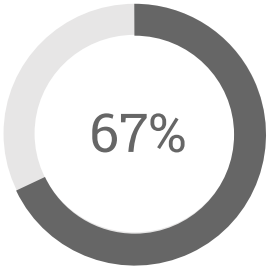
63 + 52

123 + 5

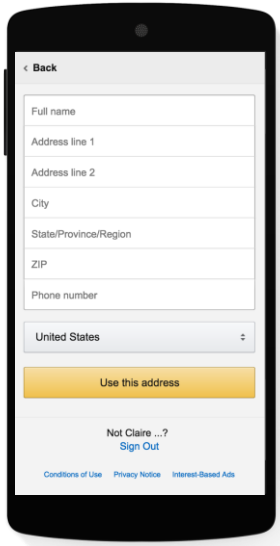
Think of a **color** and a **tool**

A good mobile user experience is **frictionless**

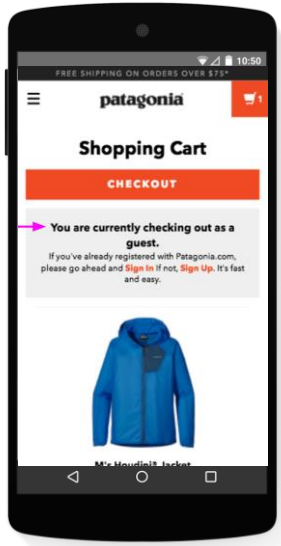
Take action: Eliminate steps



of smartphone users who switch to another site or app will do so because it takes too many steps to purchase or get desired information

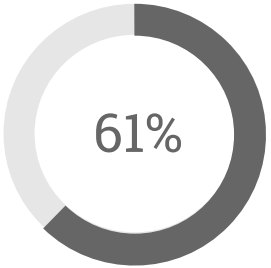


Design efficient forms - **5-6 FIELDS!**

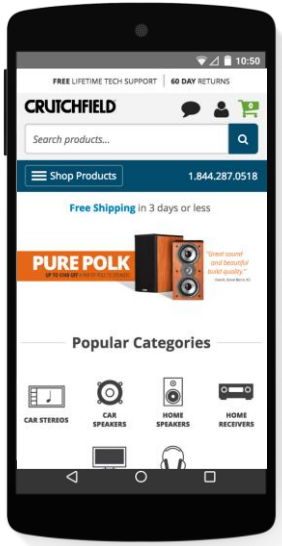


Provide alternatives to signing in; allow completion on other devices

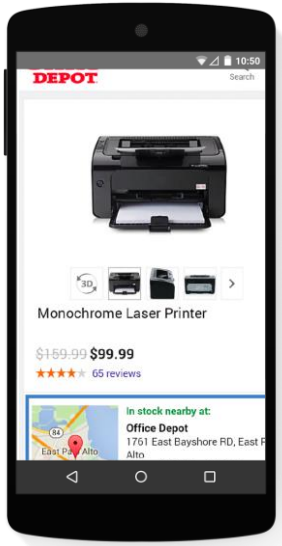
Take action: Anticipate needs



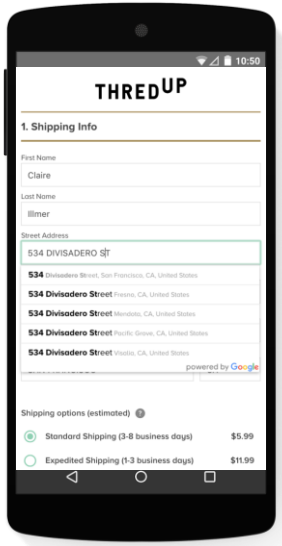
of smartphone users are more likely to buy from mobile sites and apps that customize information to their location



Put calls-to-action & navigation categories visible above the fold

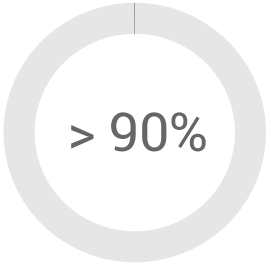


Use phone's location detection to suggest stores.

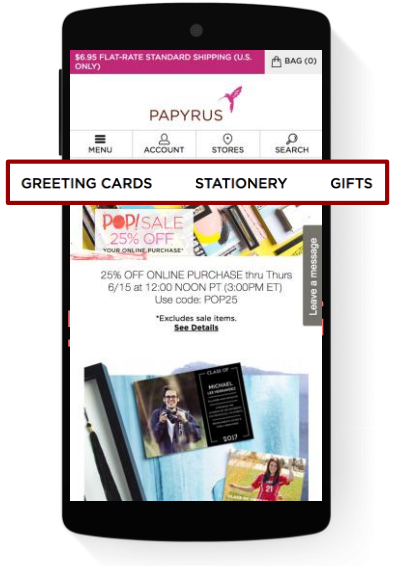


Use autofill for address entry

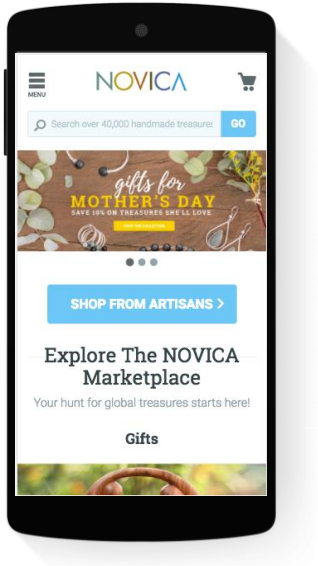
Pro Tip: Our “winningest” A/B tests



These two optimizations have been our most reliable A/B test to see performance uplfit.



Make top navigation buttons visible!

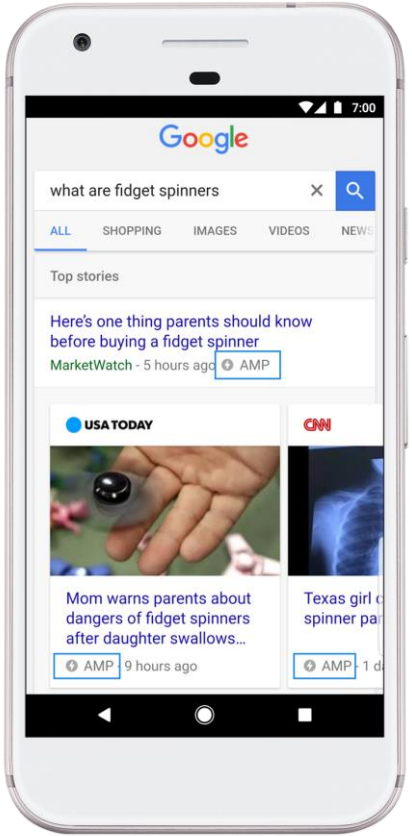


Avoid using carousels!

SPEED

Accelerated Mobile Pages AMP

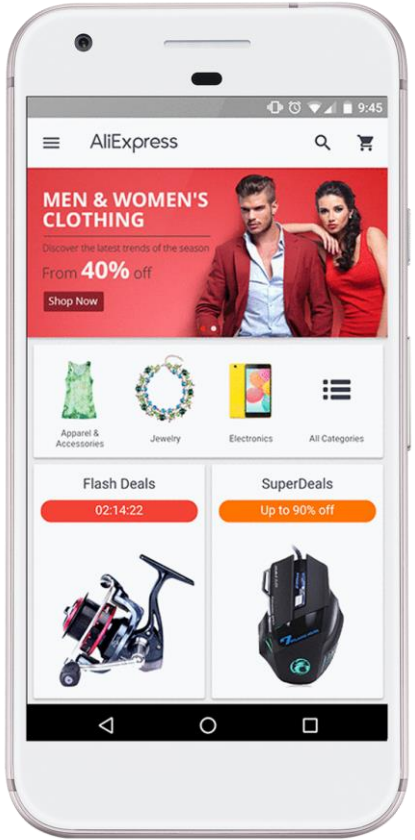
load in <1s



Progressive Web Apps

PWA

Rich mobile experiences

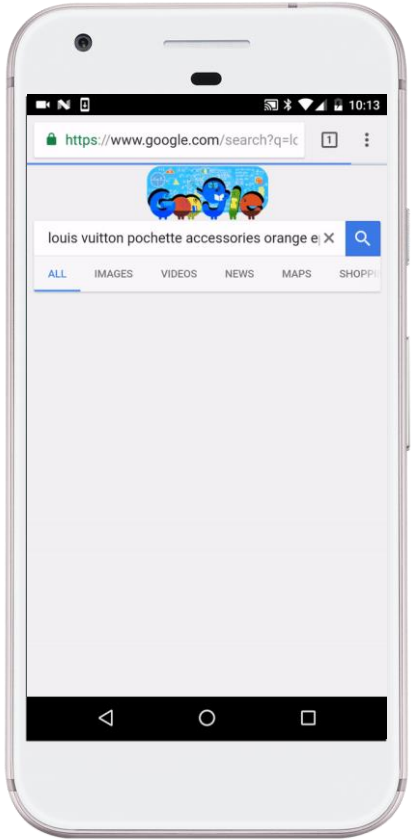


ICYMI

Navigate to http://pwa.rocks on your mobile device

Google Payment API

Seamless transactions



3 steps to get started

Do the Audit

What is your mobile load time for your key pages?

Check out your competitors to benchmark and set a goal for incremental improvement.

Pick just a few fixes

Review speed audit & report with your developers.

See how your current site stacks up against the 25 Principles.

Start with 1 or 2 optimizations. Choose the A/B tests that have the highest probability of winning!

Test, Rinse, Repeat

Look at reports in AdWords and Google Analytics to see if these changes resulted in improvements for your business: conversion rate, bounce rate, and revenue!

Thank You

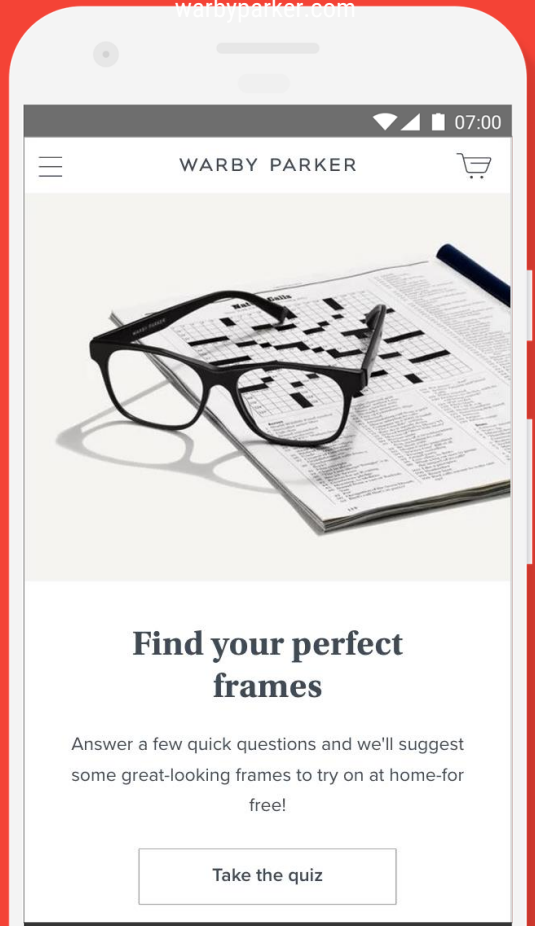
David Chung
davidchung@google.com

Creating frictionless experiences across the funnel (RETAIL)

SECTION	Homepage/Landing Page	Ease of implementation	Impact	Key Metric
KEY SUGGESTION	Clear CTA above the fold	Easy	High	Clicks on CTA, Bounce rate
	Have descriptive CTAs	Easy	Medium	Clicks on CTA, Bounce rate
	Clear benefit-oriented value prop above the fold	Easy	High	Bounce Rate, CVR
	Don't use full page interstitials	Easy	High	Bounce Rate
	Remove automatic carousels	Easy	High	Bounce Rate
	Display top categories on homepage	Medium	High	Bounce Rate, Clicks on category
	Use social proof	Easy	Medium	CVR
	Use legible font sizes (16px+)	Easy	High	Time on site

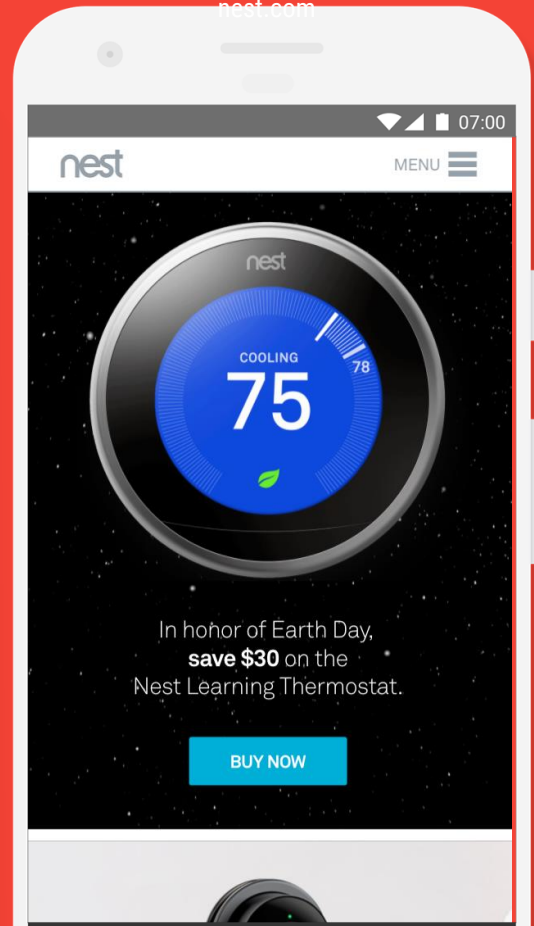
DISPLAY A CLEAR CTA ABOVE THE FOLD (Specialty retail)

warbyparker.com

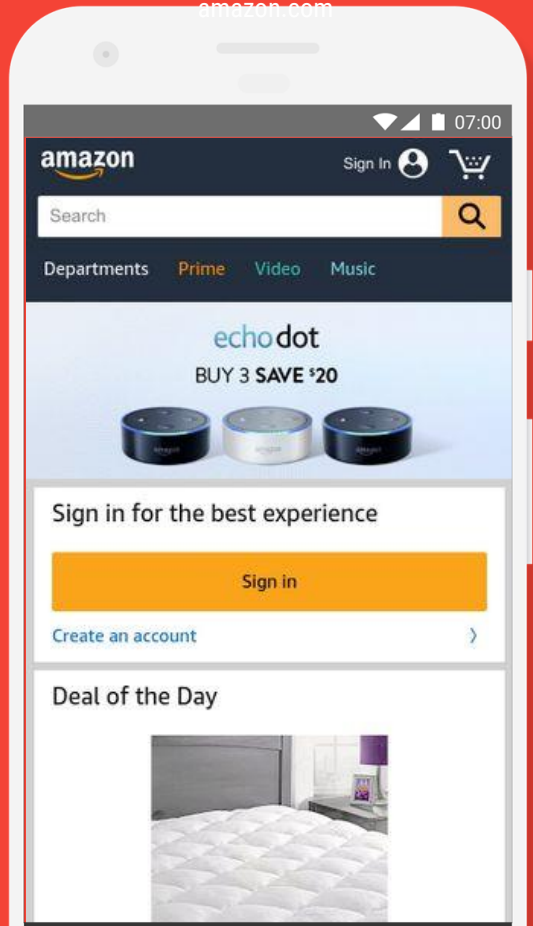


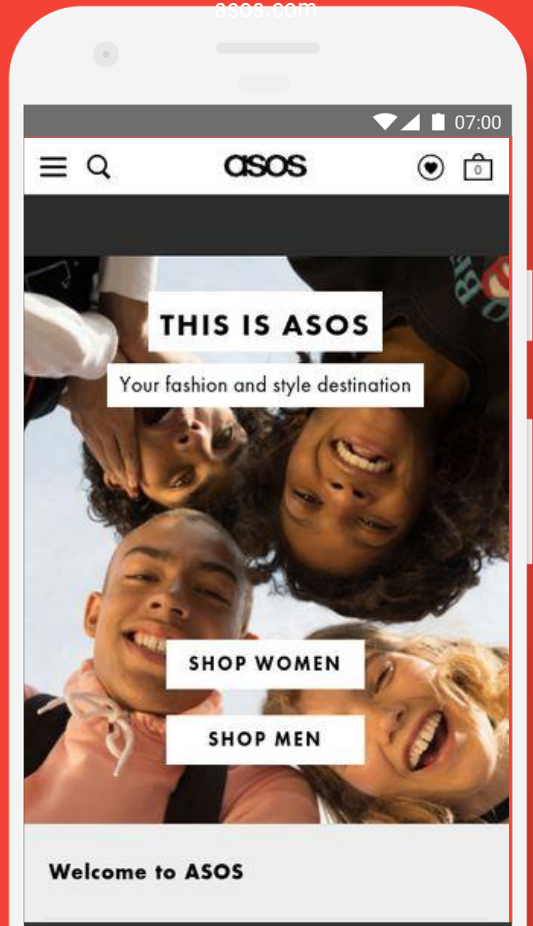
tuftandneedle.com

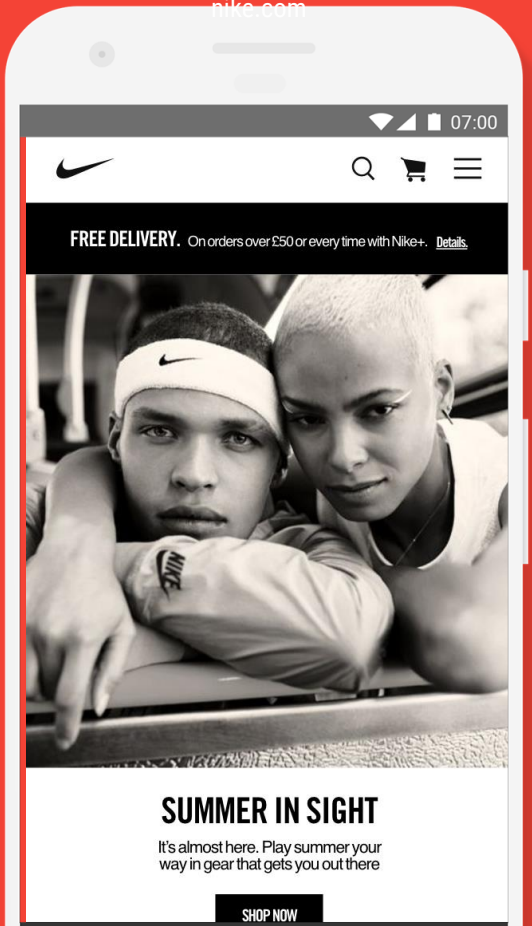
nest.com



DISPLAY A CLEAR CTA ABOVE THE FOLD (large inventory)

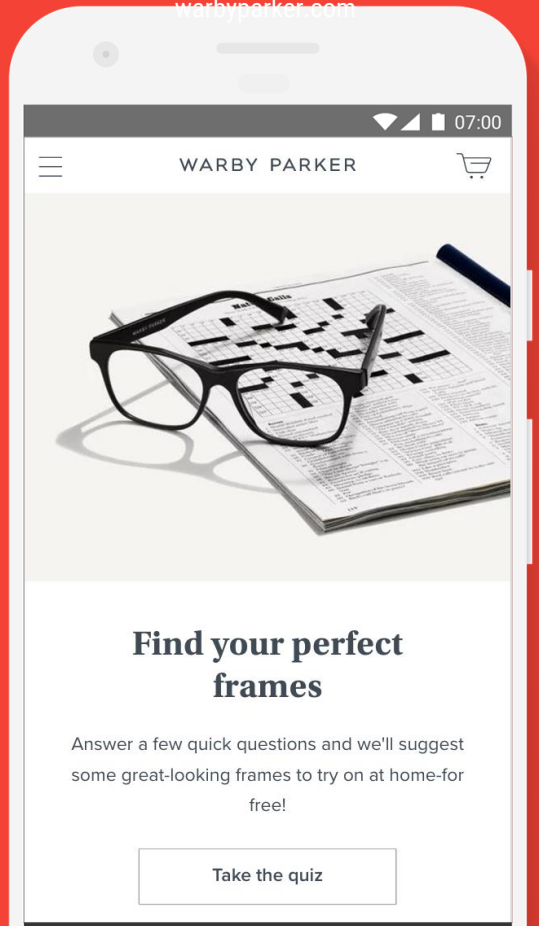






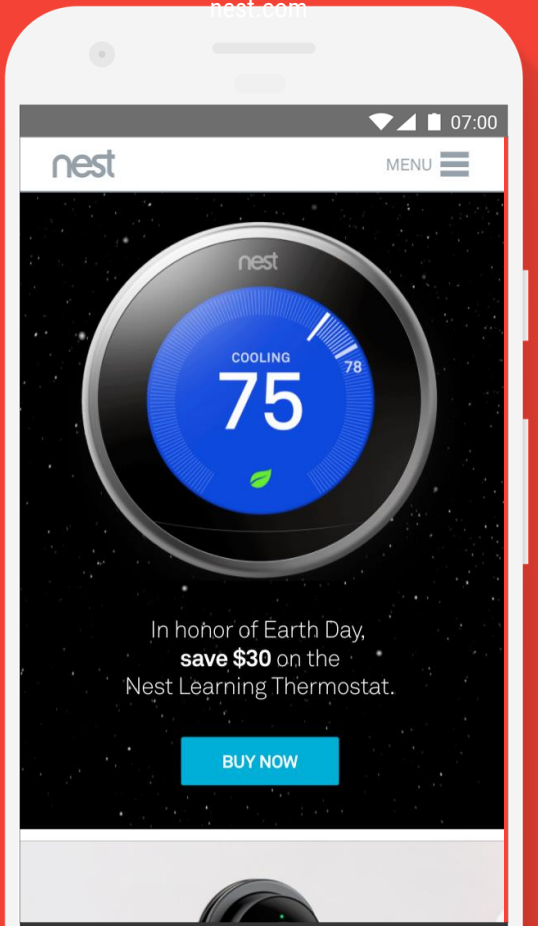
HAVE DESCRIPTIVE CTAS (not next, shop, continue)

warbyparker.com

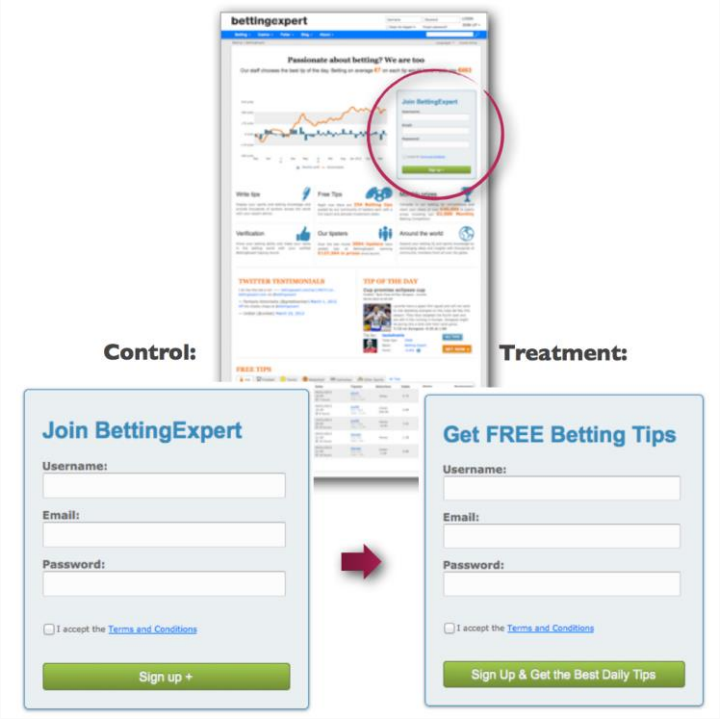


tuftandneedle.com

nest.com



Benefit oriented call-to-actions



BettingExpert.com tweaked the **form copy** (headline & button text), led to an increase of **33% in membership sign-ups**

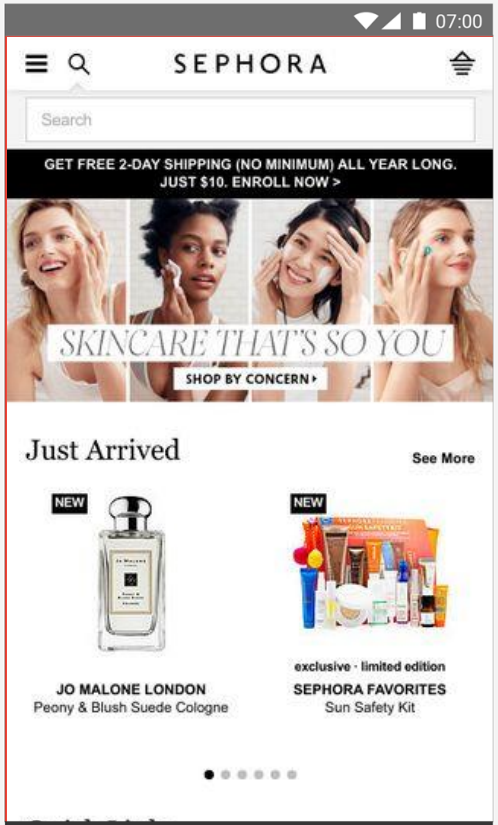
Original: Sign Up

Test: Sign Up & Get the Best Daily Tips

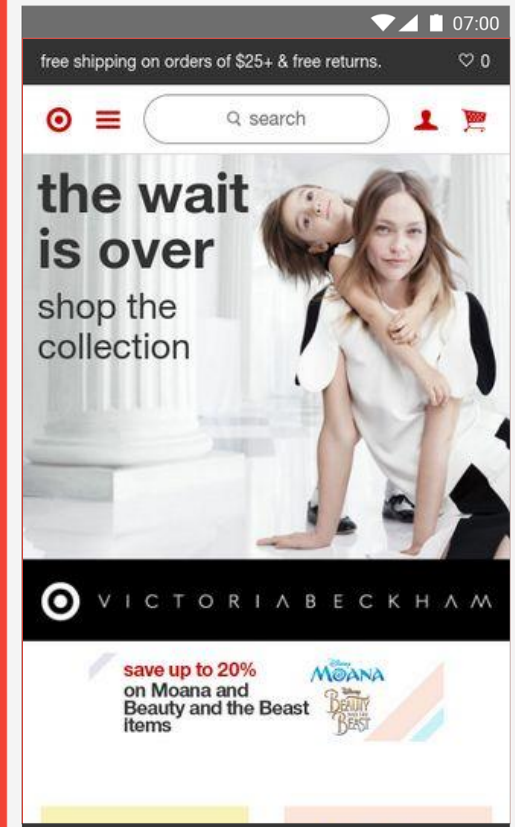
RESEARCH:
Contentverge.com, 7 Universal Conversion Optimization Principles Report
Good UI- loss aversion vs gains for CTAs
Good UI- benefit vs task buttons

DISPLAY A CLEAR BENEFIT-ORIENTED VALUE PROP ABOVE THE FOLD

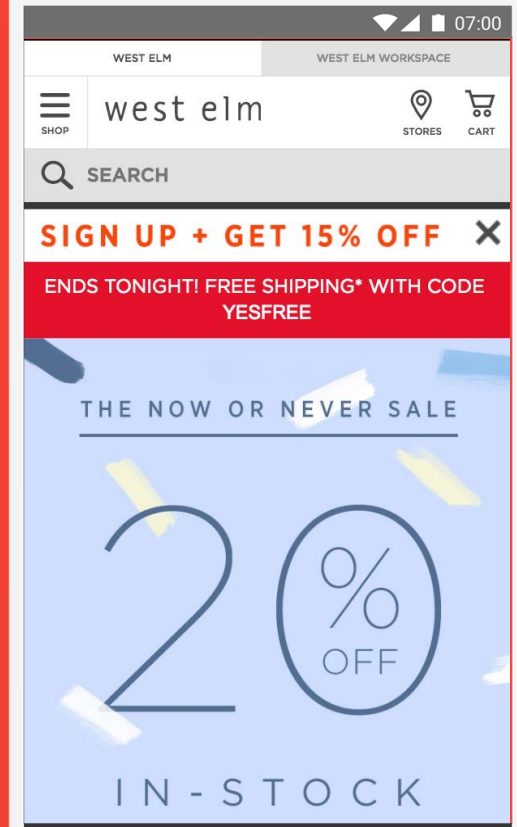
sephora.com



target.com

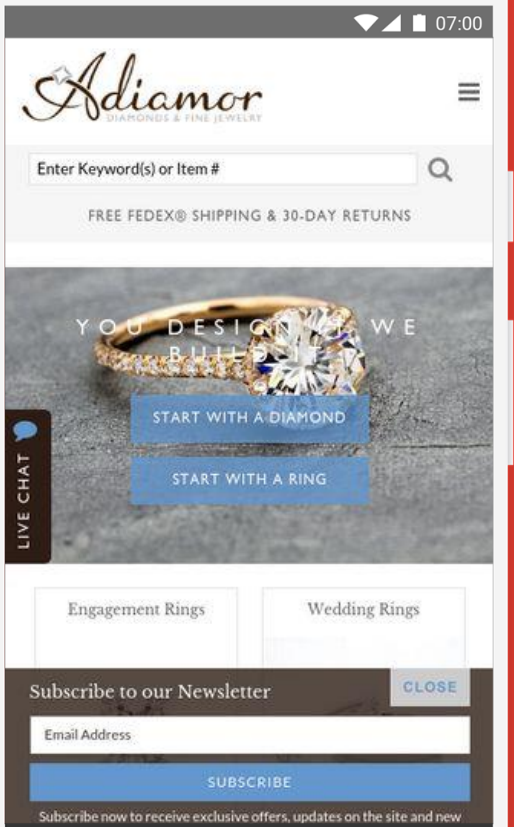


westelm.com

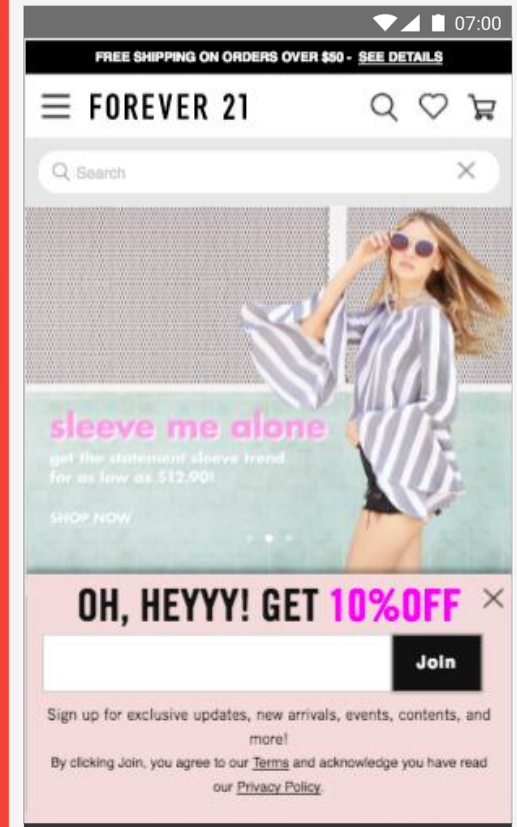


DON’T USE FULL PAGE INTERSTITIALS

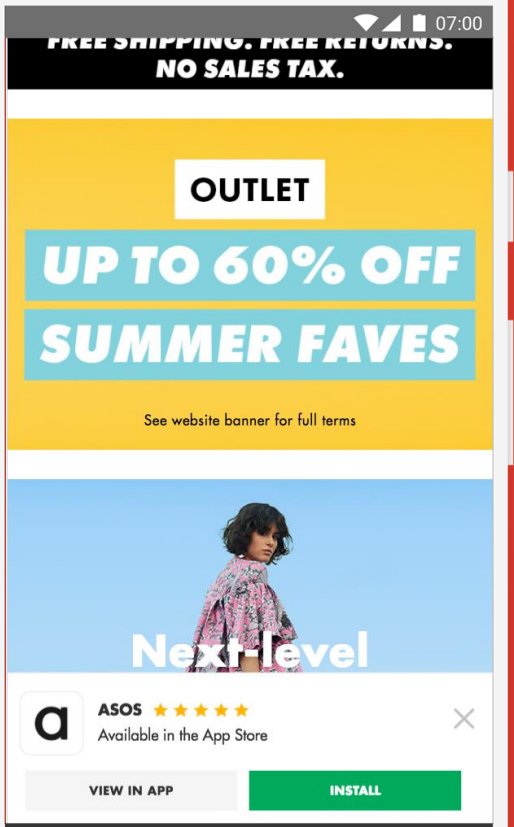
adiamor.com



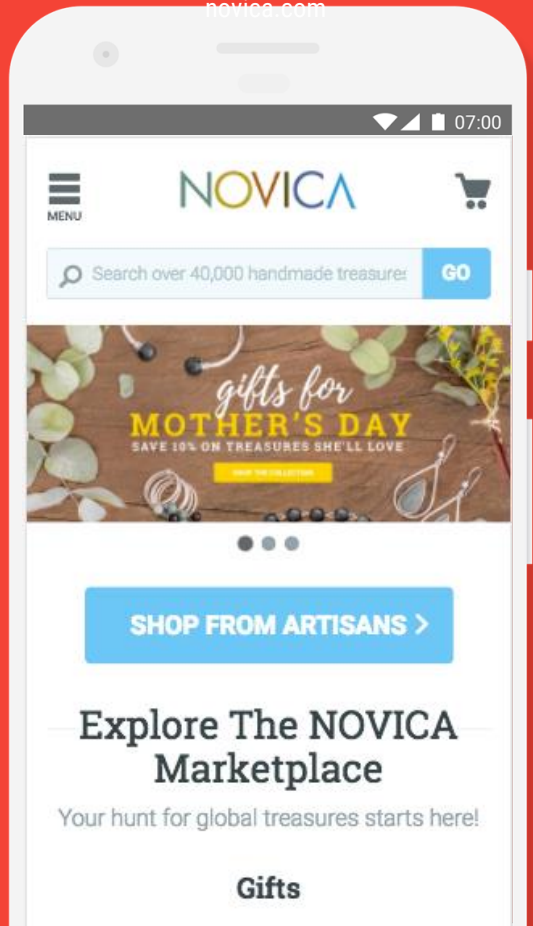
forever21.com

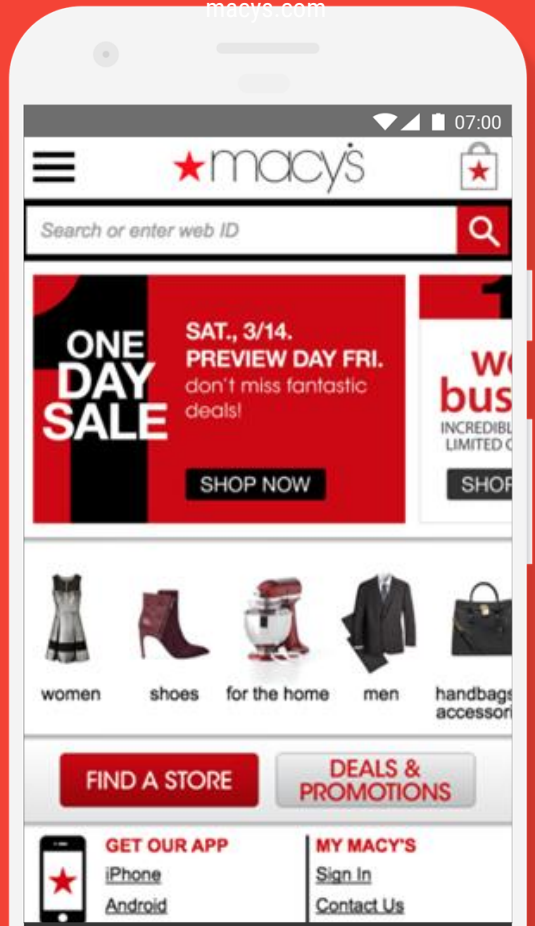


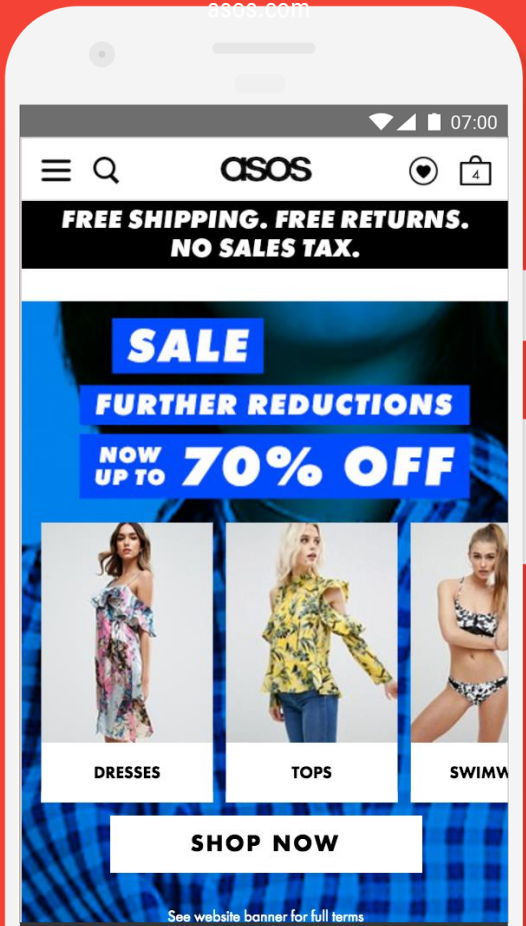
asos.com



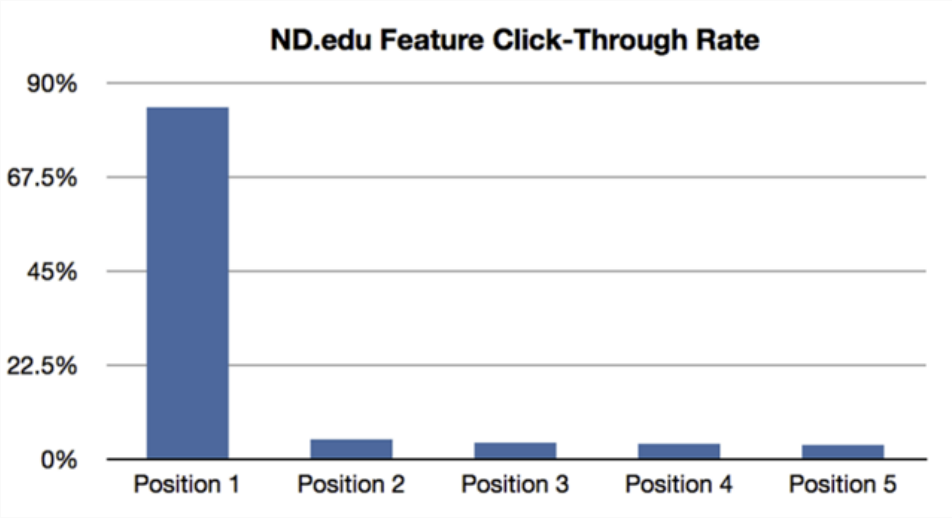
REMOVE AUTOMATIC CAROUSELS, INSTEAD OPT FOR USER INITIATED

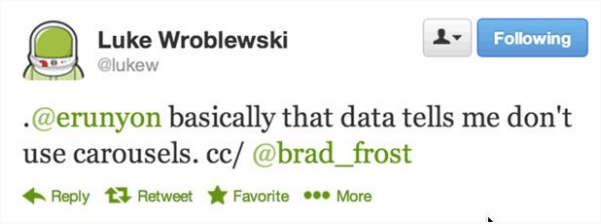






Research shows that carousels rarely work





Carousels can be perceived as banners and therefore will be ignored. The user should always be in control.

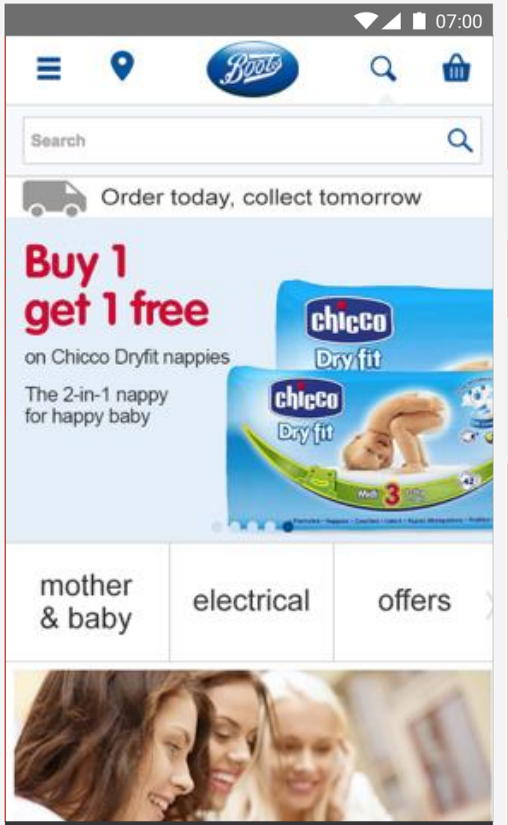
Automatic image sliders or carousels on homepage should be avoided or the frequency should be decreased.

Reason #1: Human eye reacts to movement (and will miss the important stuff)
Reason #2: Too many messages equals no message
Reason #3: Banner blindness

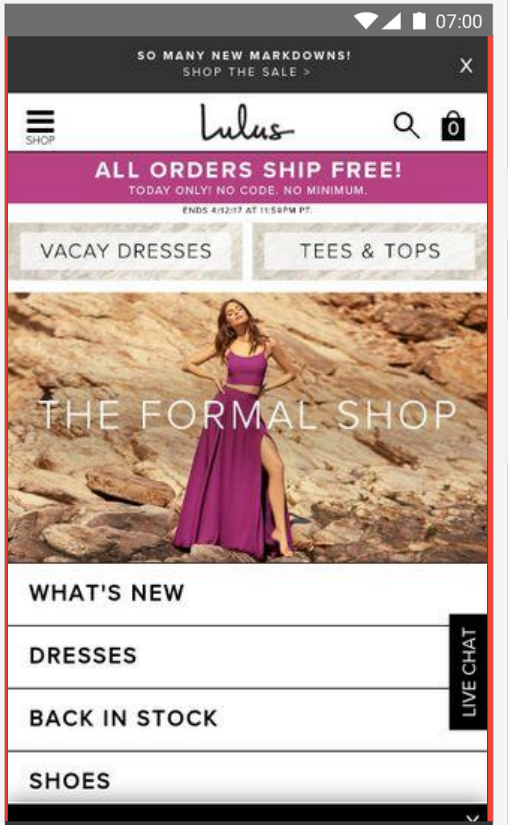
RESEARCH:
Conversion XL
ClickZ
Widerfunnel
NN Group
Erik Runyon

SHOW TOP CATEGORIES ON HOMEPAGE

boots.com



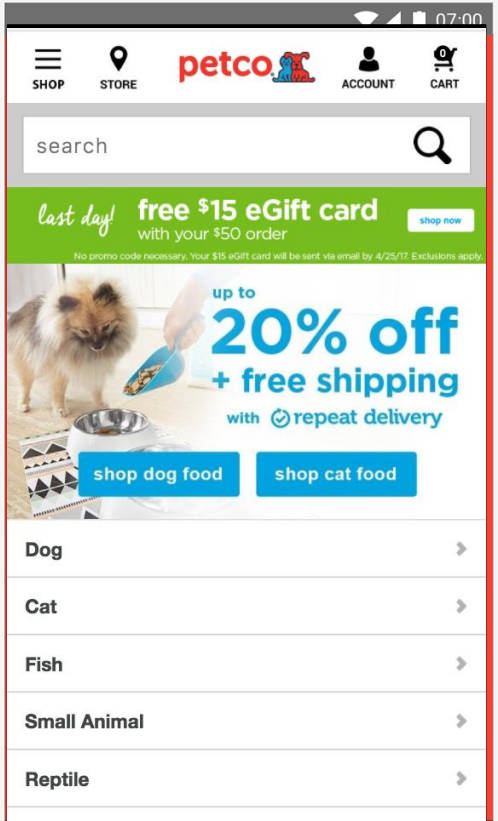
lulus.com



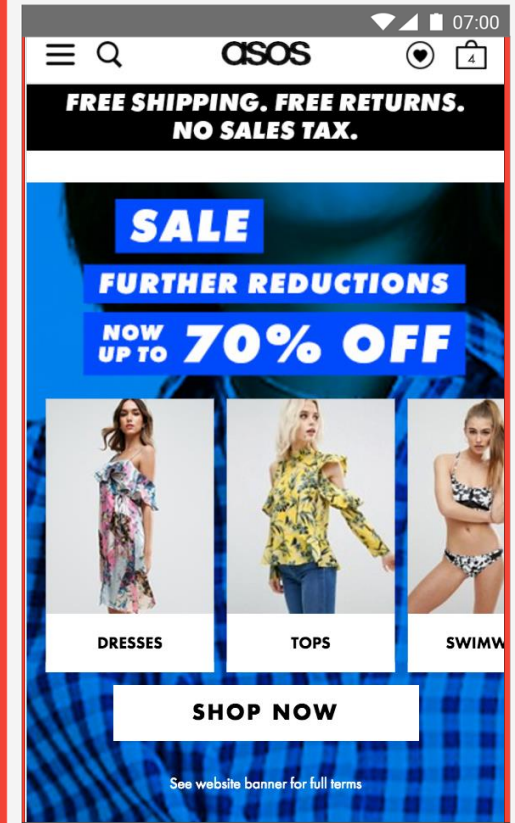
victorianplumbing.com

SHOW TOP CATEGORIES ON HOMEPAGE

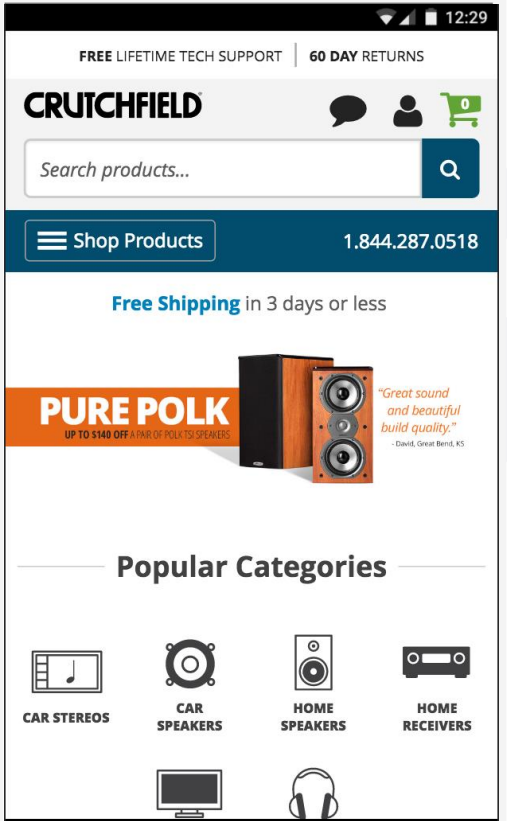
petco.com



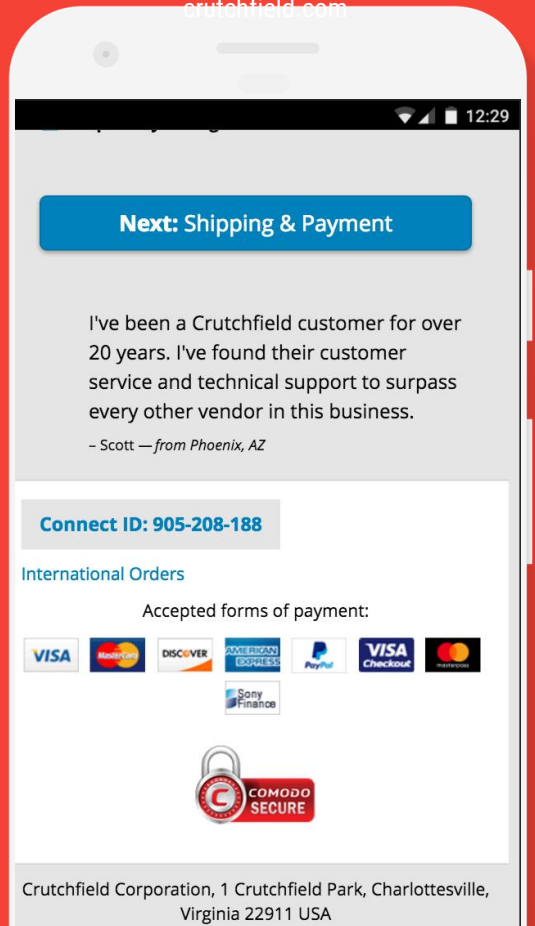
asos.com



crutchfield.com



USE SOCIAL PROOF



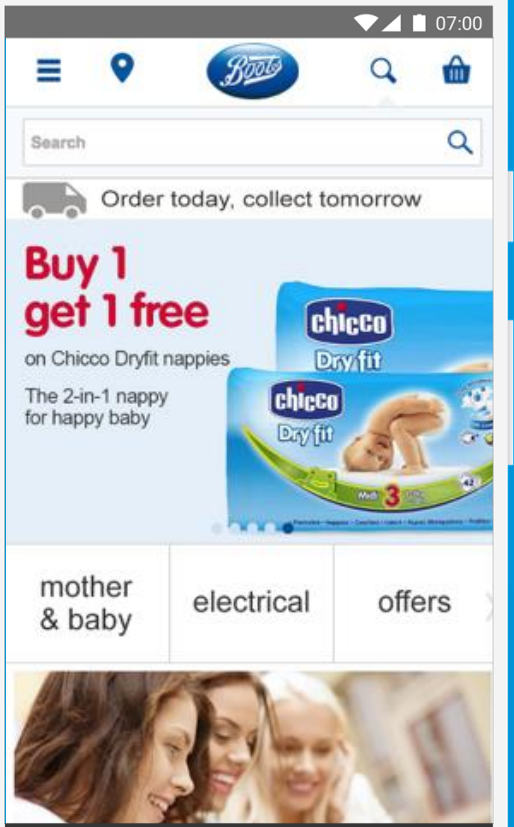
Menu & Navigation

Creating frictionless experiences across the funnel (RETAIL)

SECTION	Menu & Navigation	Ease of implementation	Impact	Key Metric
KEY SUGGESTION	Show consolidated menu	Medium	High	Pages/visit increase
	If calls are important, include click-to-call at the top of every page	Easy	High	Clicks on icon
	If foot traffic is important, include a store locator button in the menu	Easy	High	Clicks on icon
	Keep menu options on one page	Medium	Medium	Pages per visit
	For main product categories, order by traffic volume	Easy	Medium	Pages per visit
	If using subcategories, organize alphabetically	Easy	Medium	Pages per visit
	Include post sales activities in the menu	Easy	Medium	Pages per visit

SHOW CONSOLIDATED MENU (LESS THAN ⅕ OF PAGE)

boots.com

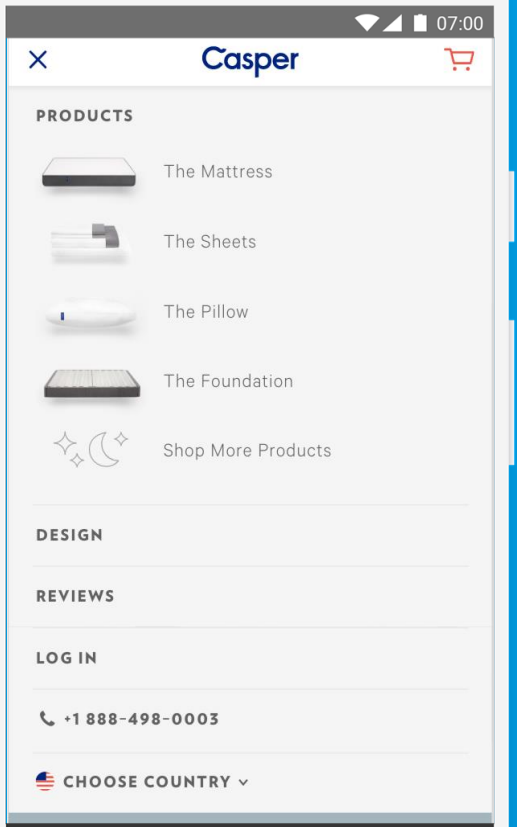


zumiez.com

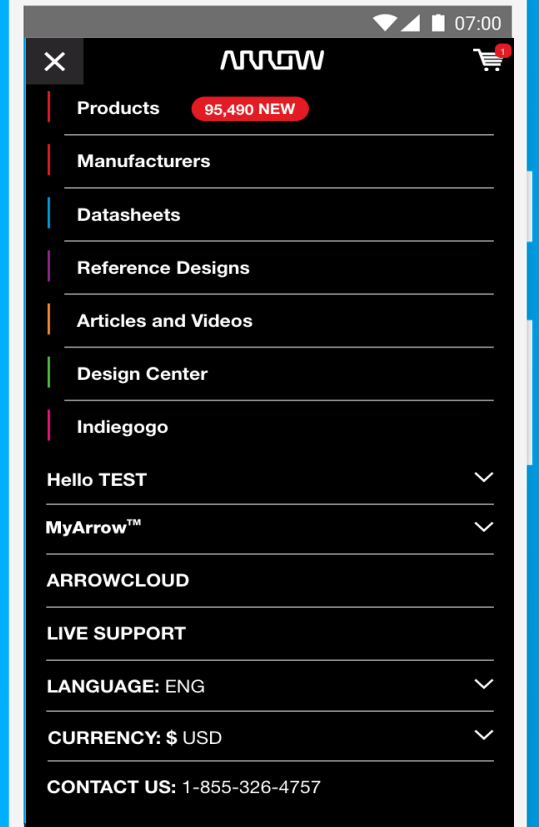
victorianplumbing.com

IF CALLS ARE IMPORTANT, INCLUDE PHONE ICON/NUMBER IN MENU

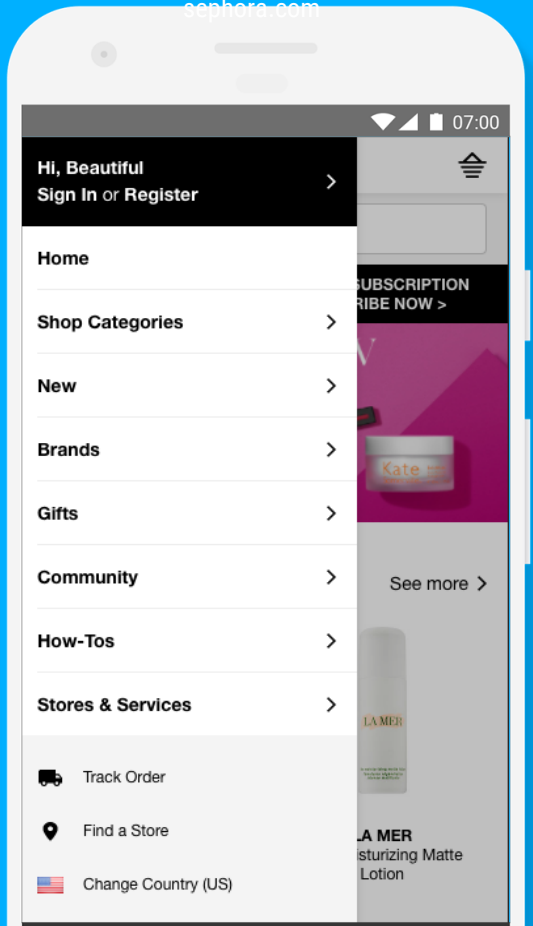
casper.com



arrow.com

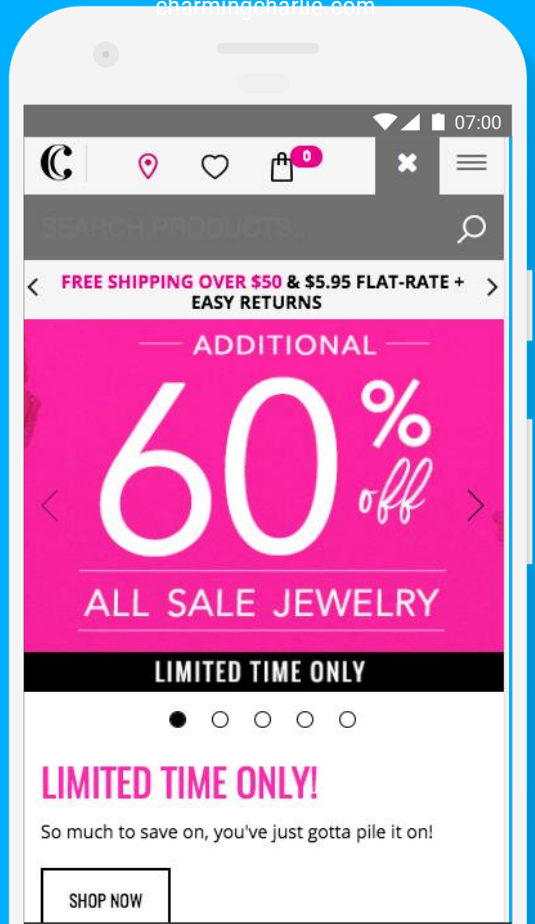


IF YOU HAVE A PHYSICAL STORE, INCLUDE STORE LOCATOR ICON IN HEADER OR MENU

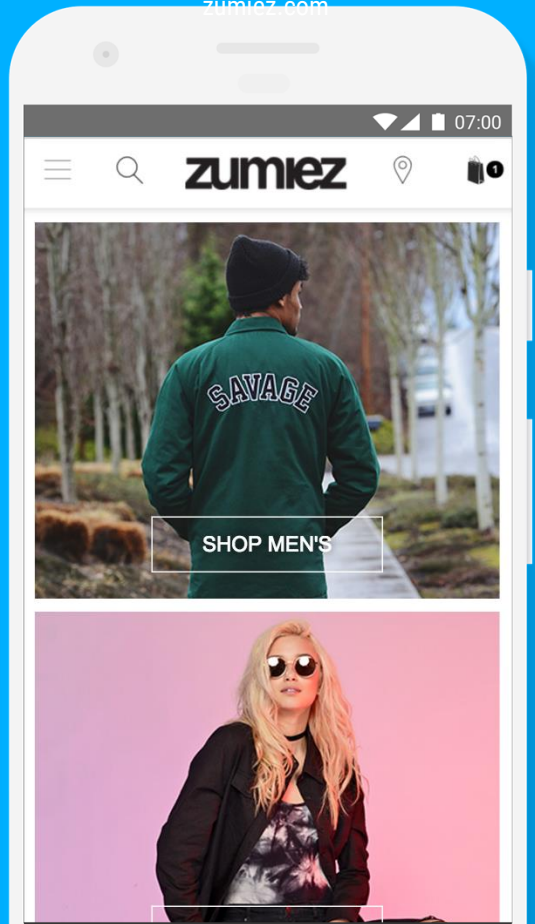


ADDITIONAL: STORE LOCATION EXAMPLES

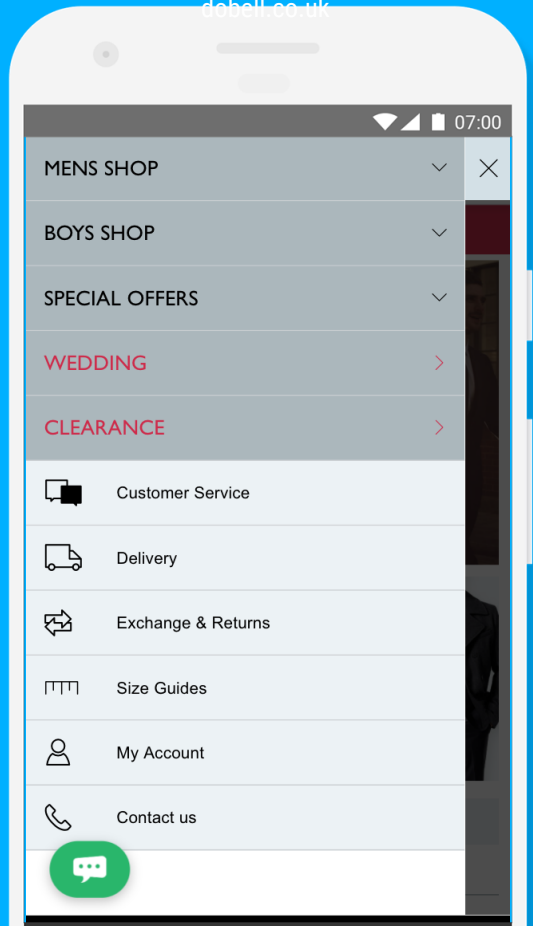
charmingcharlie.com

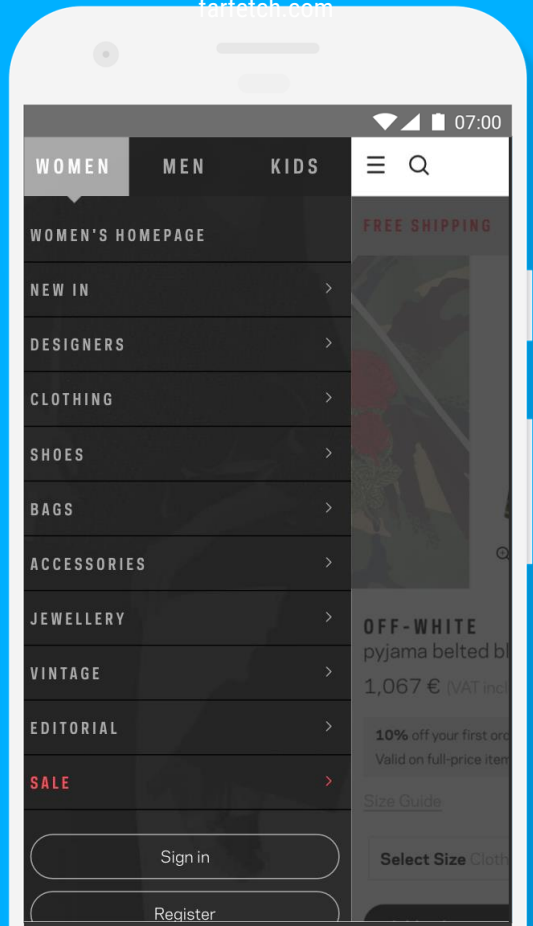


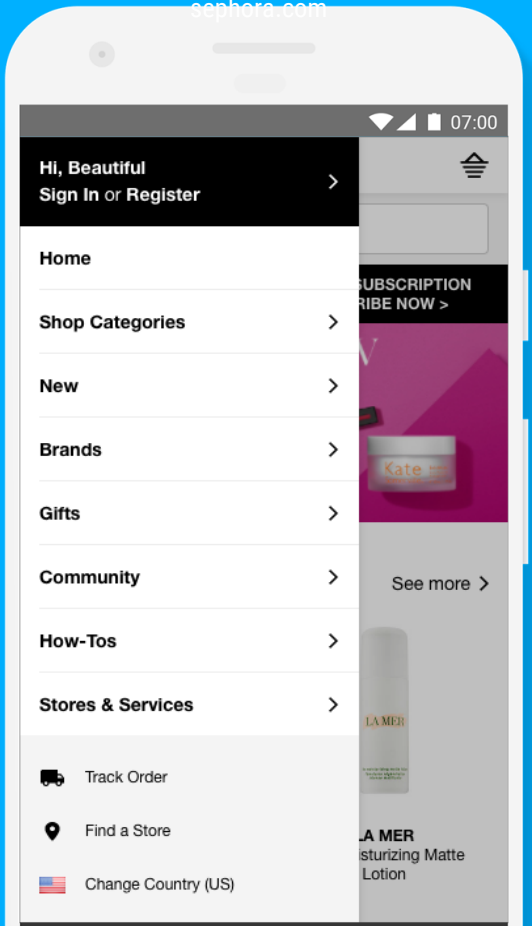
zumiez.com



KEEP THE MENU ON ONE PAGE, USE A DYNAMIC MENU OR EXPANDERS

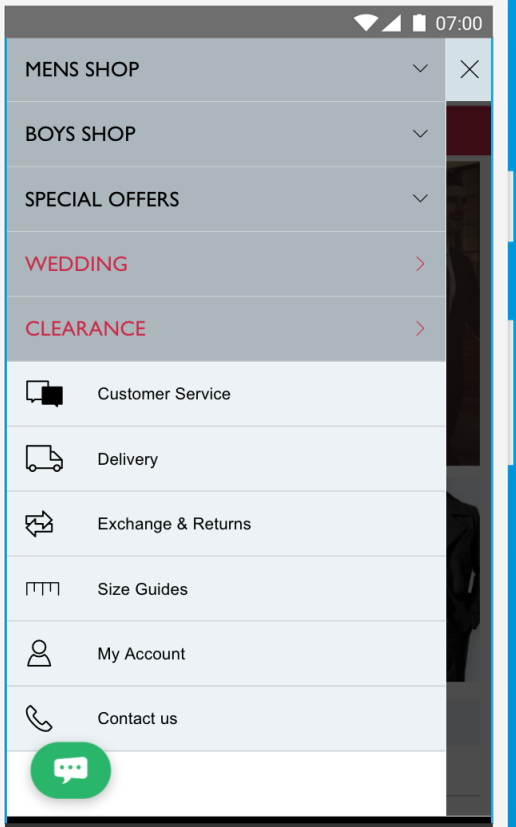




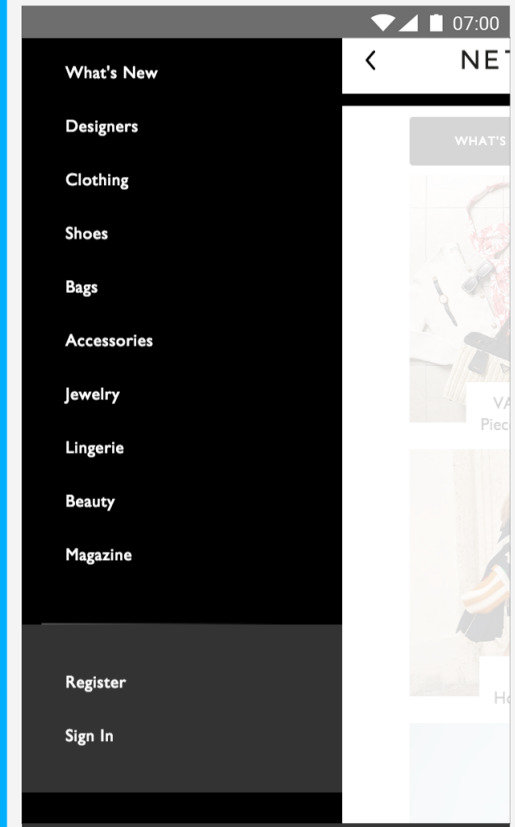


INCLUDE POST-SALES ACTIONS IN THE MENU

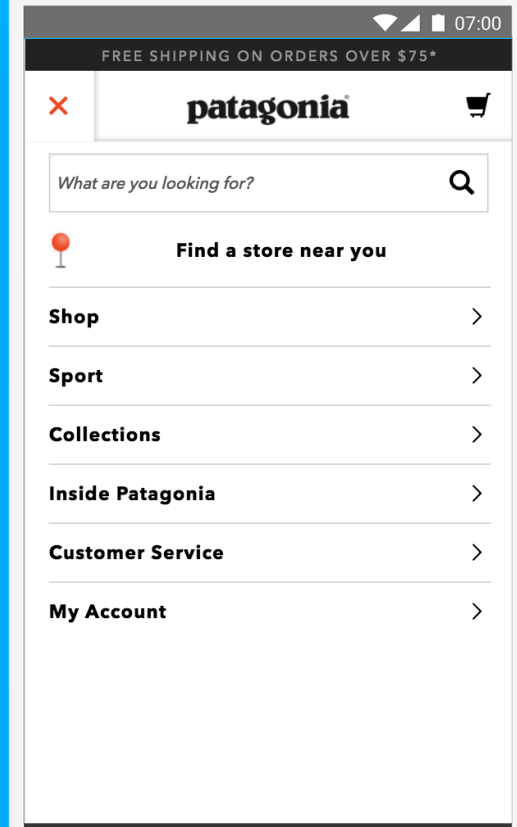
dobell.co.uk



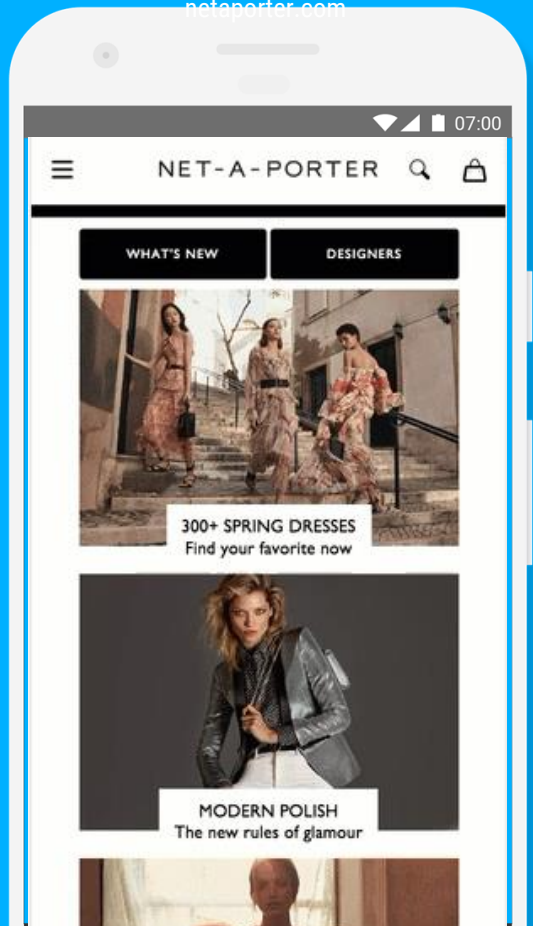
net-a-porter.com

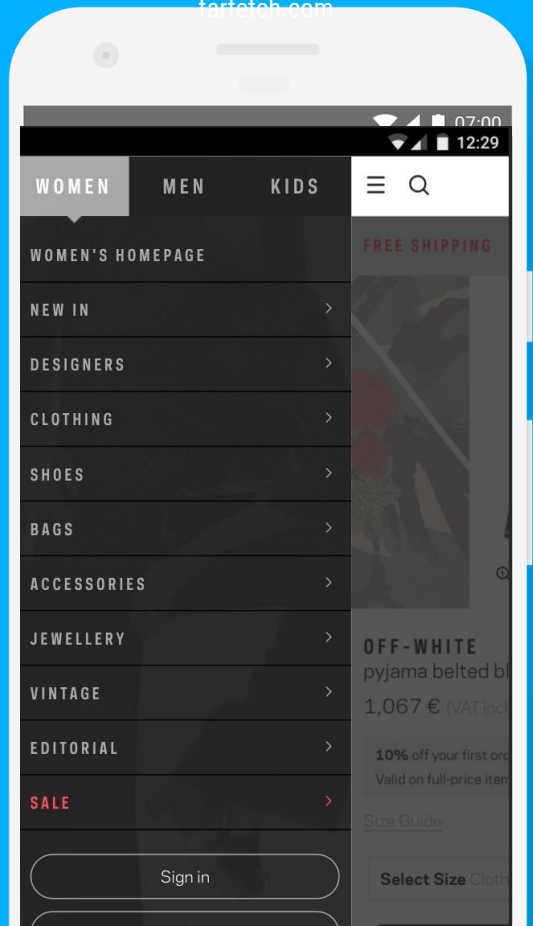


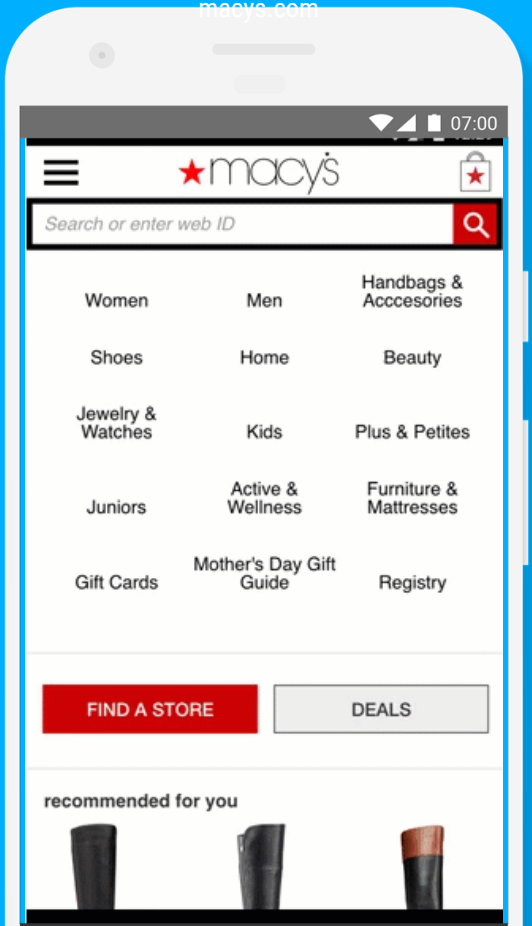
patagonia.com



Bonus: CONSIDER IMPLEMENTING A DYNAMIC MENU EXAMPLES

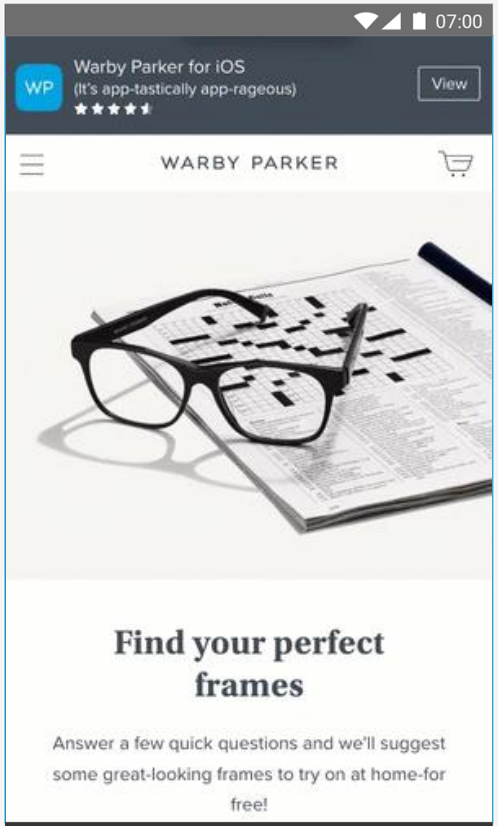




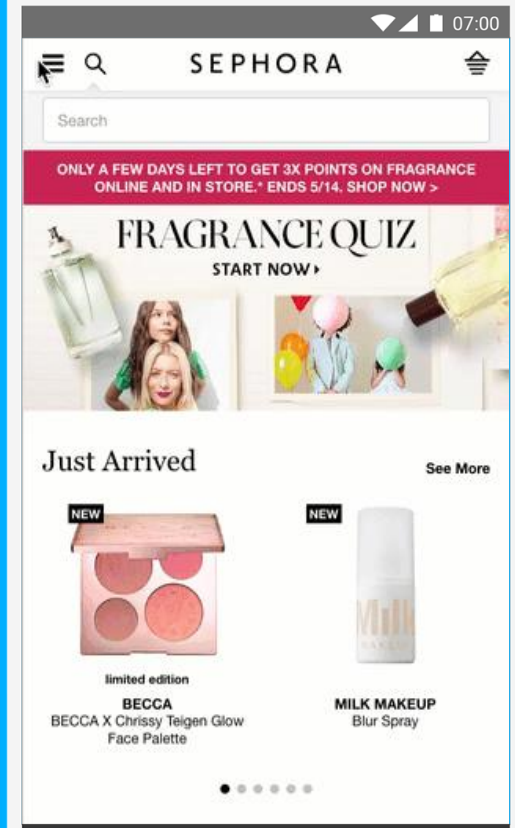


Additional: DYNAMIC MENU EXAMPLES

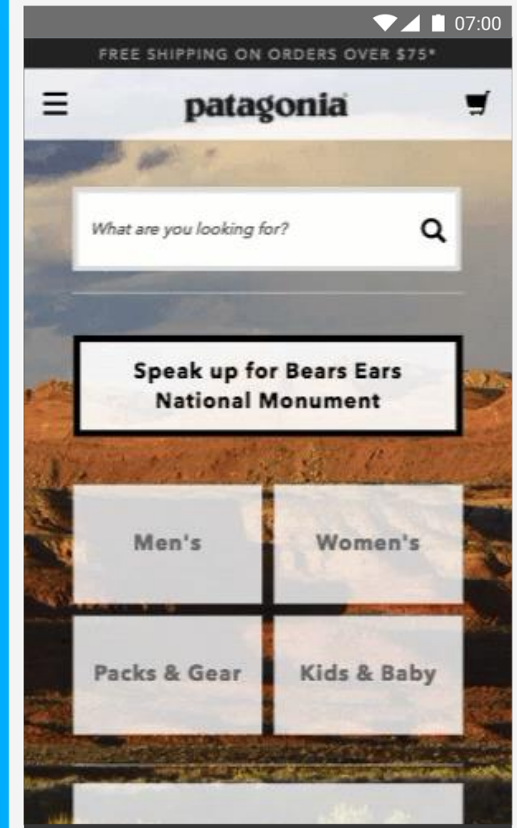
warbyparker.com



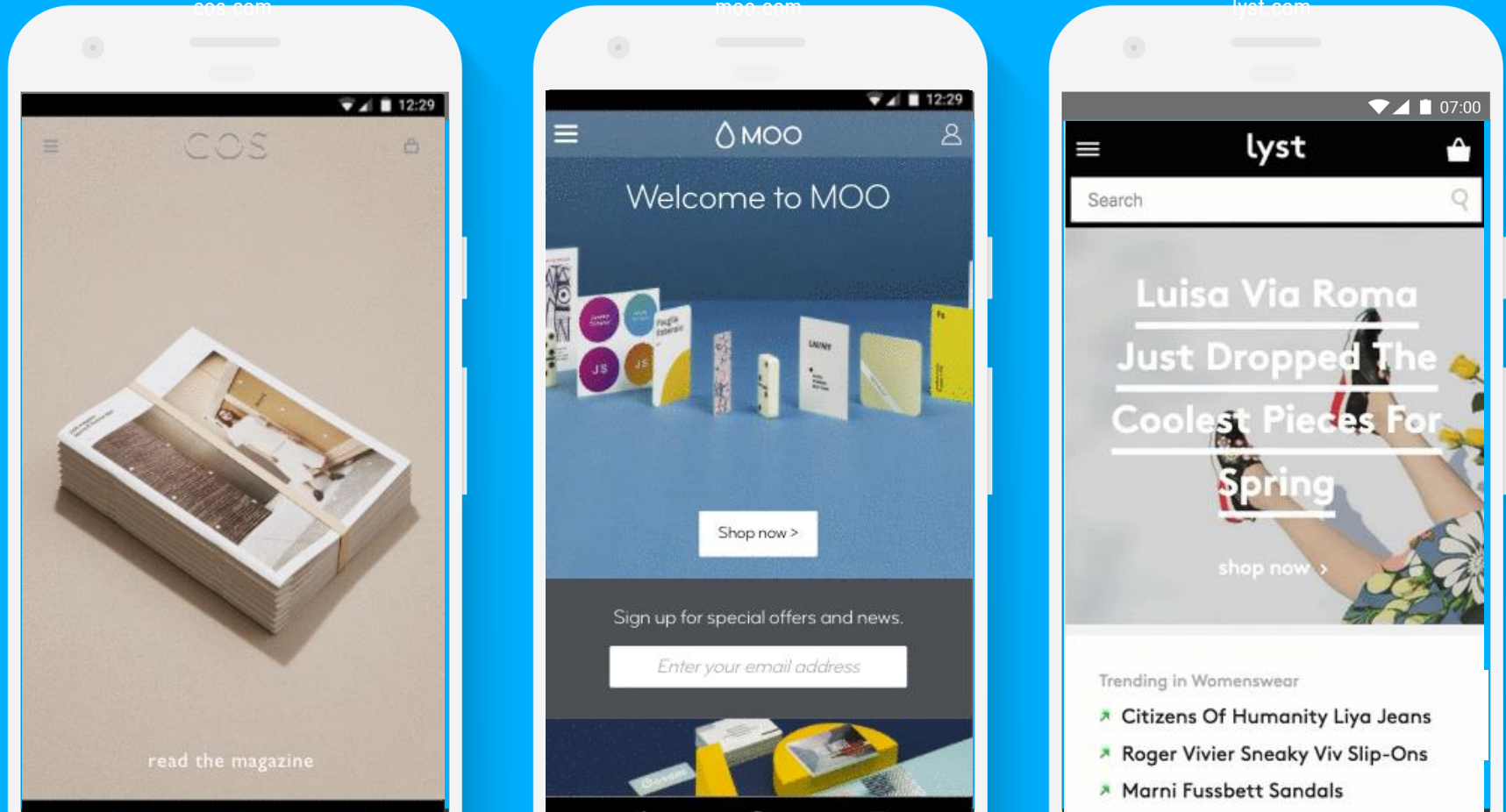
sephora.com



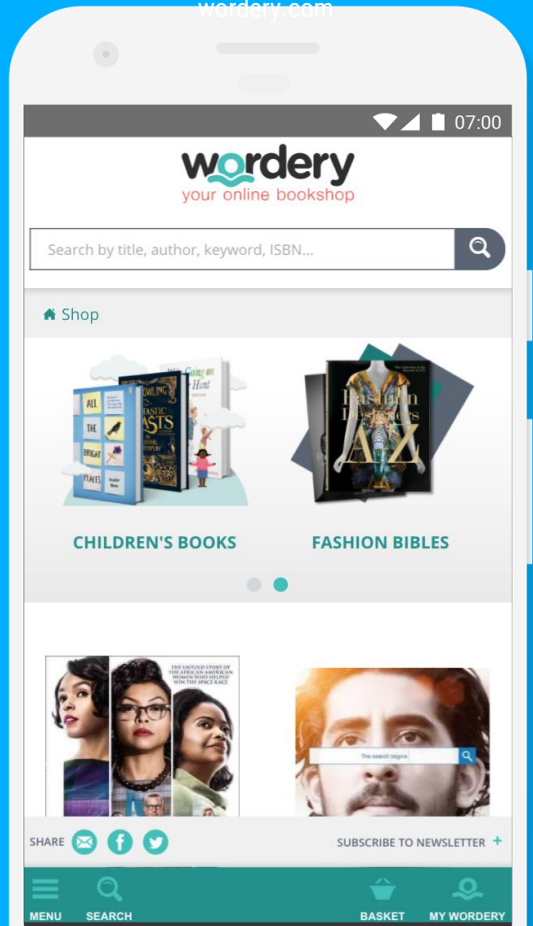
patagonia.com

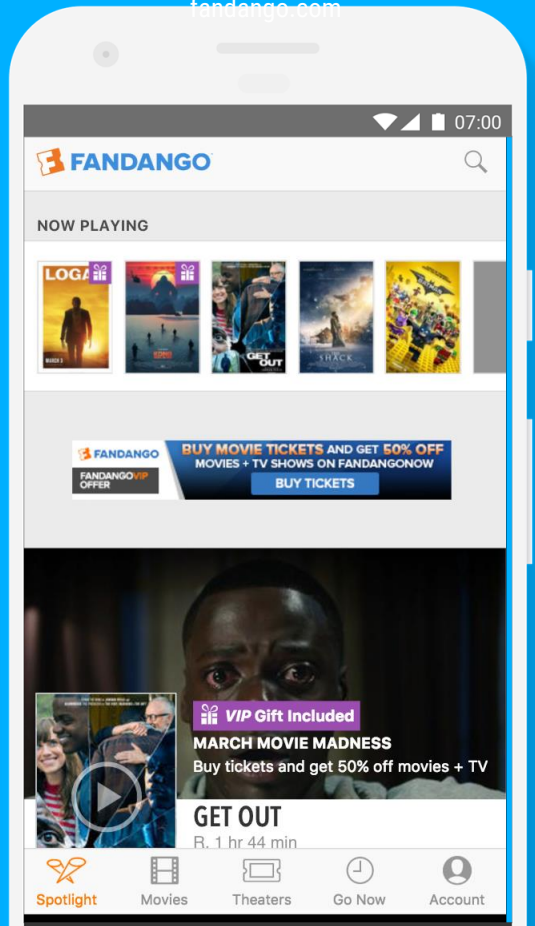


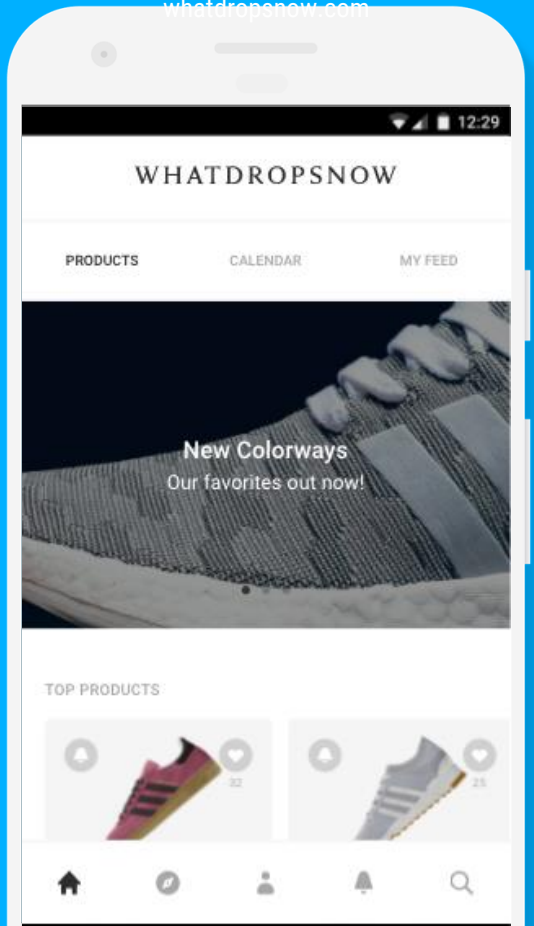
Bonus: CONSIDER A FLOATING MENU THAT STICKS AS USERS SCROLL



Bonus: CONSIDER BOTTOM-DOWN NAVIGATION







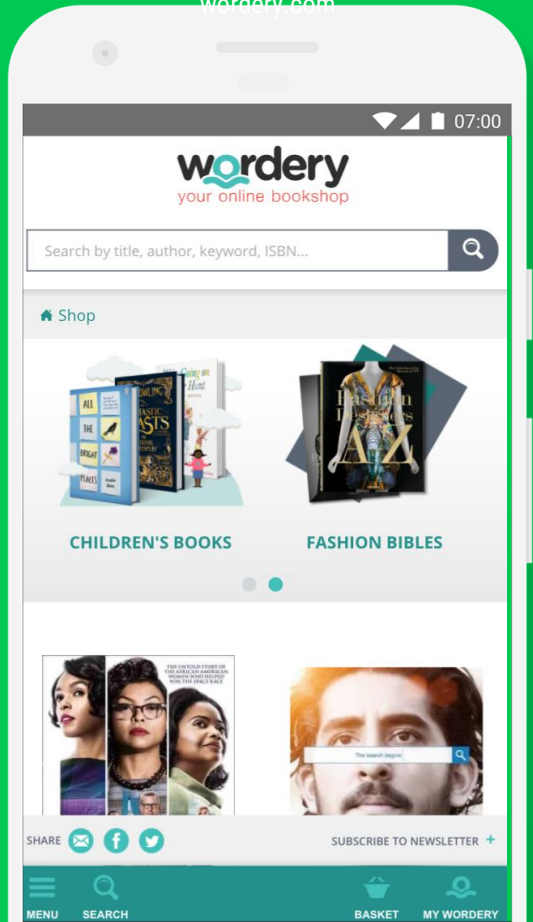
Search

Creating frictionless experiences across the funnel (RETAIL)

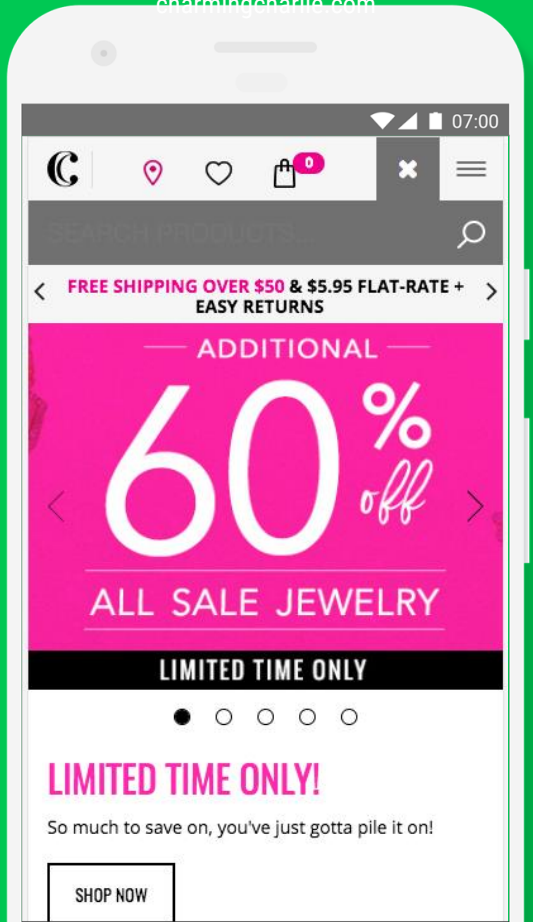
SECTION	Menu & Navigation	Ease of implementation	Impact	Key Metric
KEY SUGGESTION	Include search	Hard	High	% traffic w/ searches, cvr
	Make search visible	Easy	High	% traffic w/ searches, search depth
	Use auto-suggestions	Medium	High	Bounce rate on traffic w/ searches, search depth
	Implement spelling correction	Medium	Medium	Bounce rate on traffic w/ searches, search depth
	Always return results	Medium	Medium	Bounce rate on traffic w/ searches, search depth
	Include previous or top searches	Medium	Medium	Bounce rate on traffic w/ searches, search depth

PROMINENT SEARCH (users that search are 200% more likely to convert)

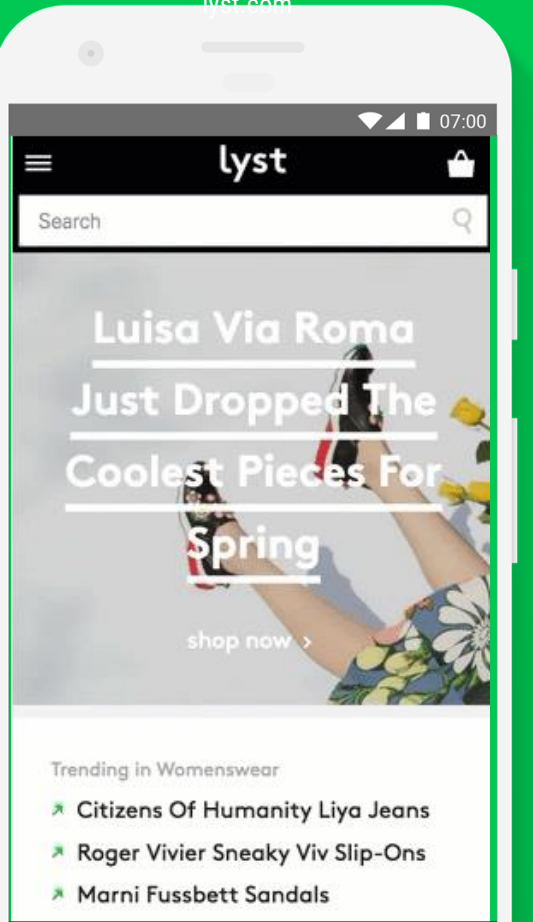
wordery.com



charmingcharlie.com

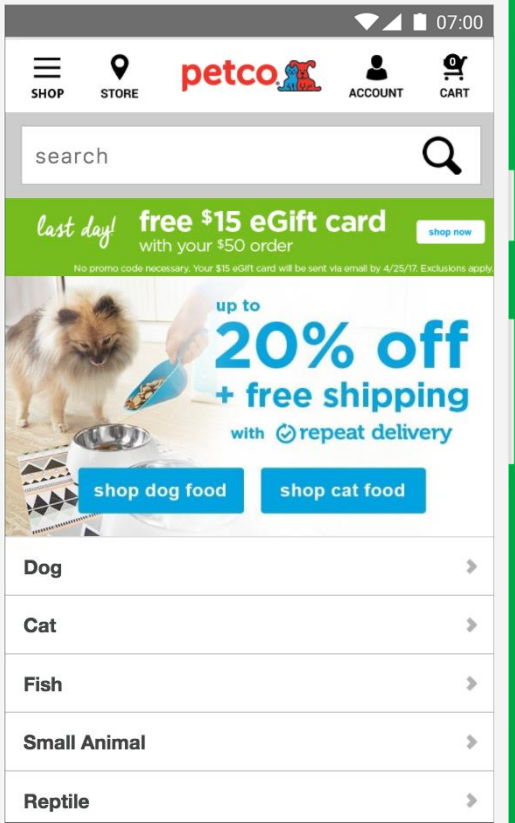


lyst.com

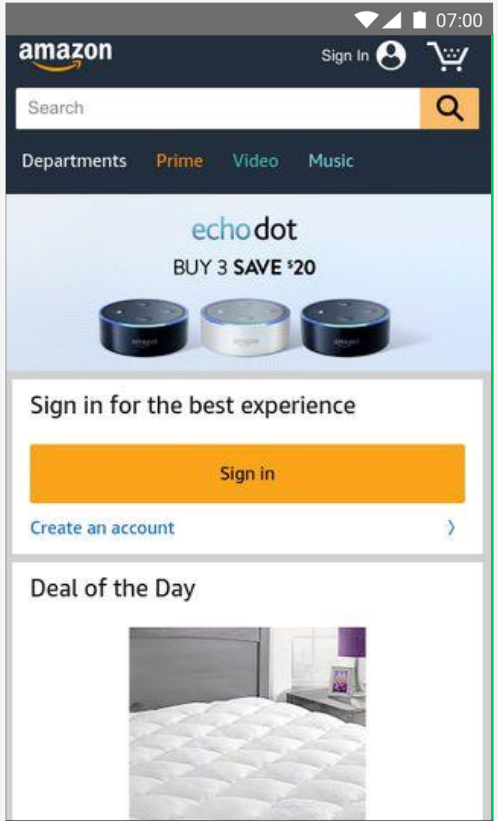


PROMINENT SEARCH (users that search are 200% more likely to convert)

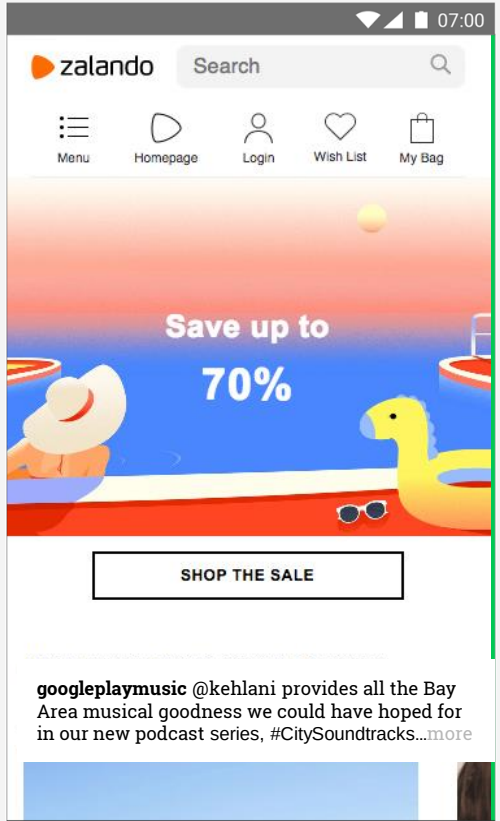
petco.com



amazon.com

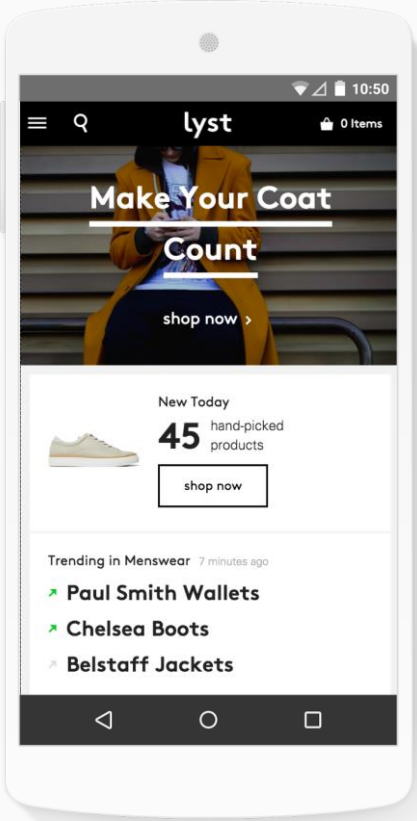


zalando.com

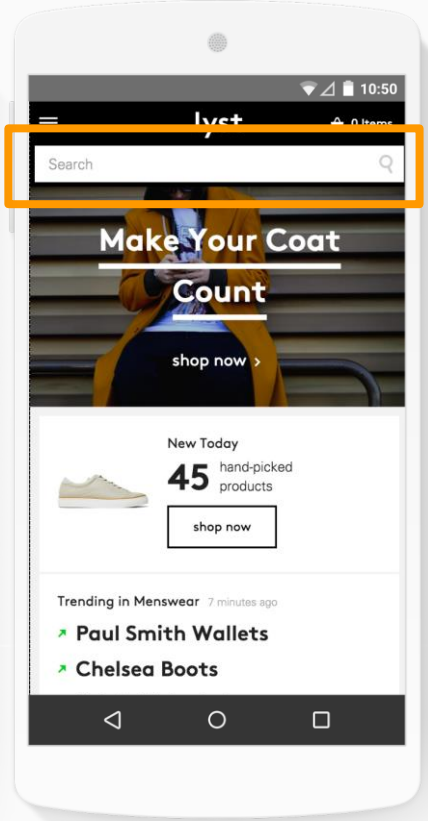


Case Study: **LYST**

Before
Search Icon



After
Sticky search bar



Results:

Changing search placement – Replacing the search icon with a search box aimed to enable users to locate the search function more easily.

Increased usage **43%** on desktop, **13%** on mobile

[Full case study link]

If not used correctly site search can lead to bad user experience

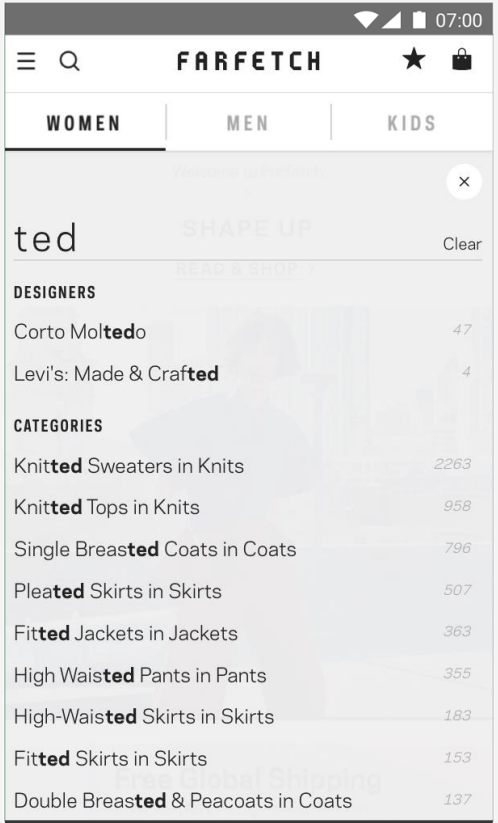
- **22%** of searches give zero results
- **85%** of searches don't return what the user is looking for
- **80%** will abandon the website

Case studies:
Lyst
Mango
Luisaviaroma

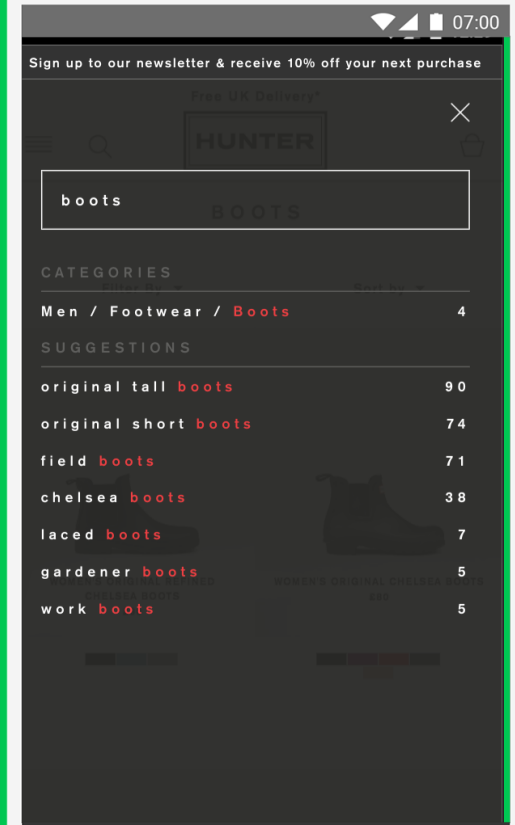
RESEARCH: https://conversionxl.com/6-essential-principles-designing-high-converting-site-search-results/

USE AUTO-SUGGESTIONS

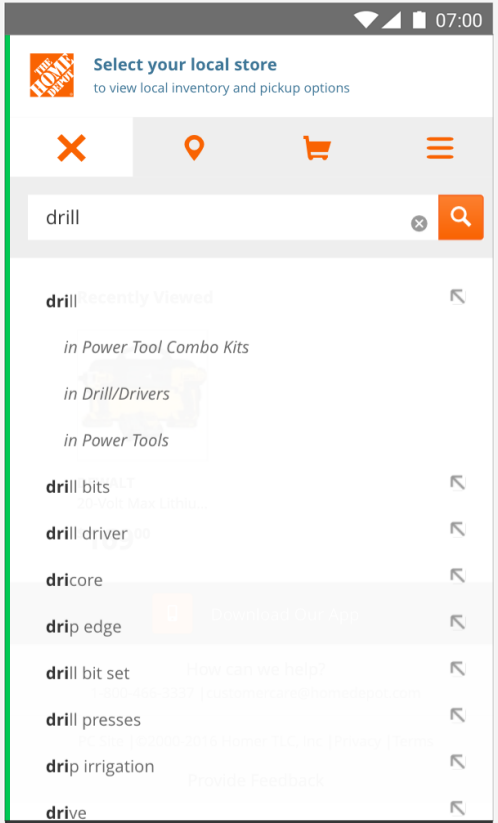
farfetch.com



hunterboots.com

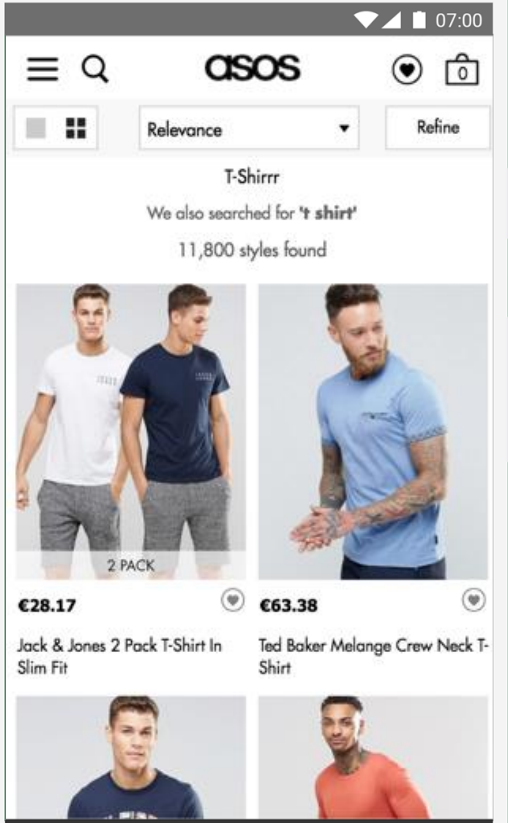


homedepot.com

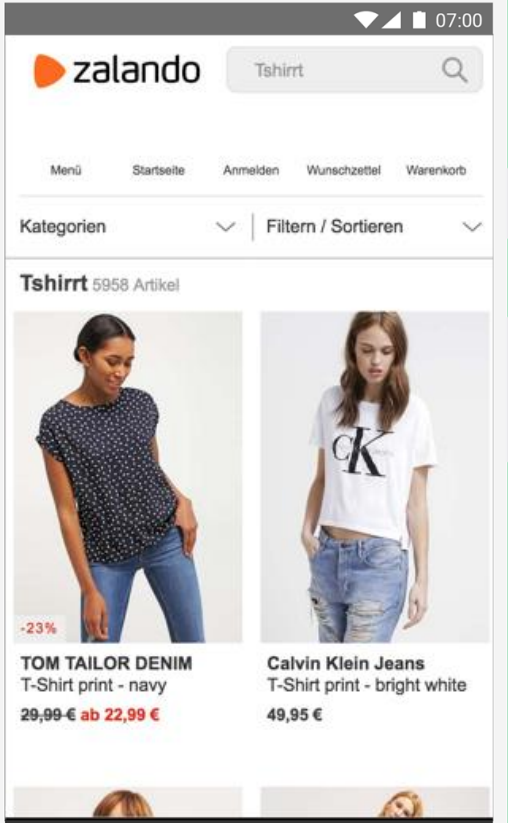


IMPLEMENT SPELLING CORRECTIONS

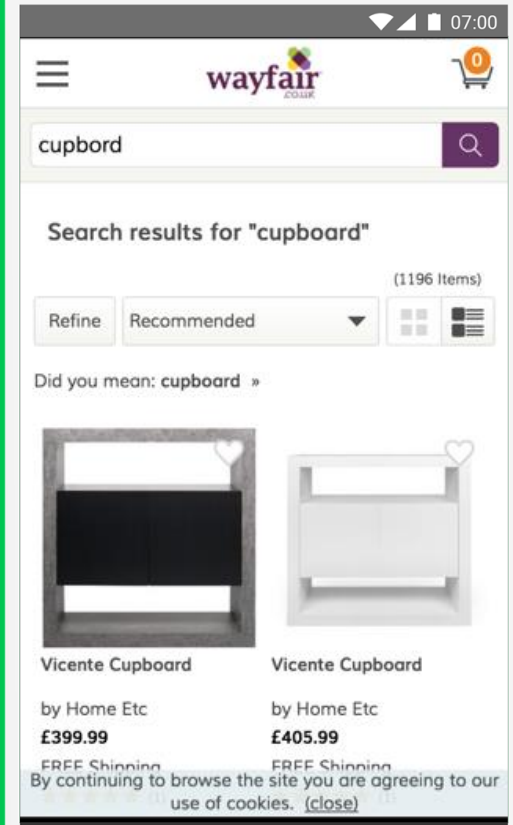
asos.com



zalando.com

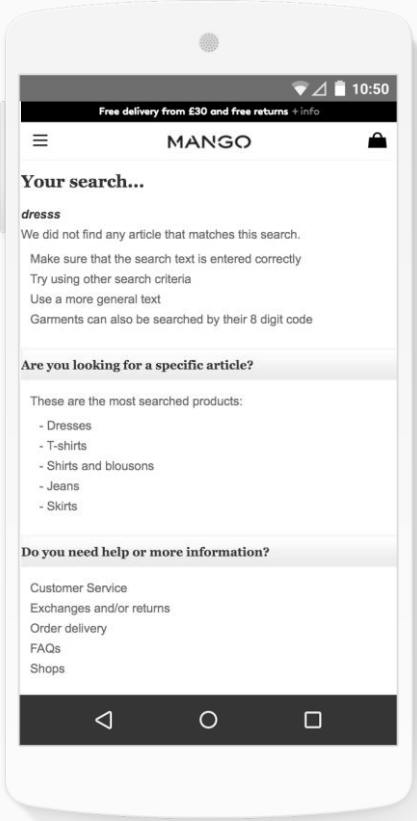


wayfair.com

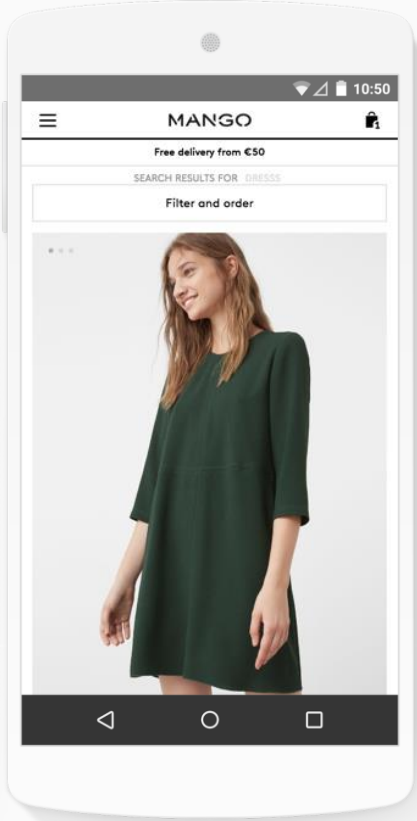


Case Study: **MANGO**

Before
No typo correction



After
Automatic correction



Results:

Improved search-- Implemented algorithm to correct for typos and show results among other changes.

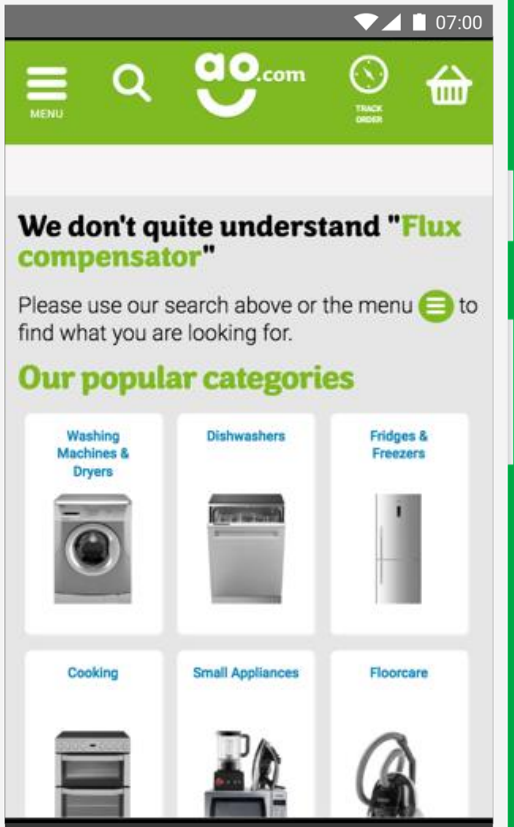
4.5% uplift in mobile conversion rate

3.85% rise in mobile revenue

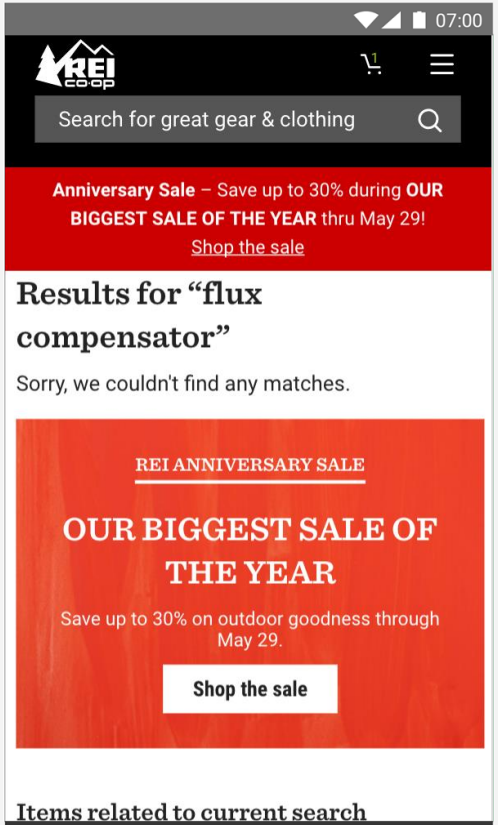
[Full case study link]

ALWAYS RETURN RESULTS

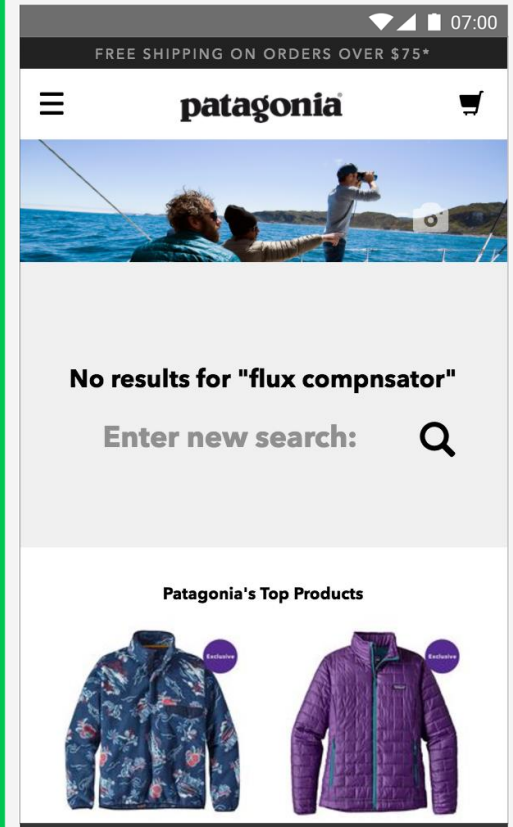
ao.com



rei.com

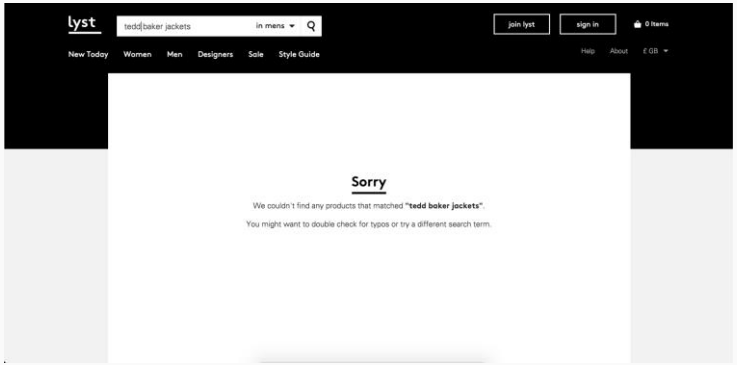


patagonia.com

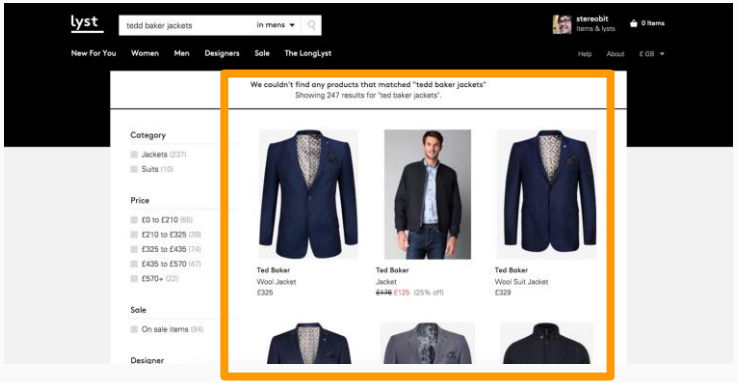


Case Study: **LYST**

Before
No typo correction



After
Automatic correction



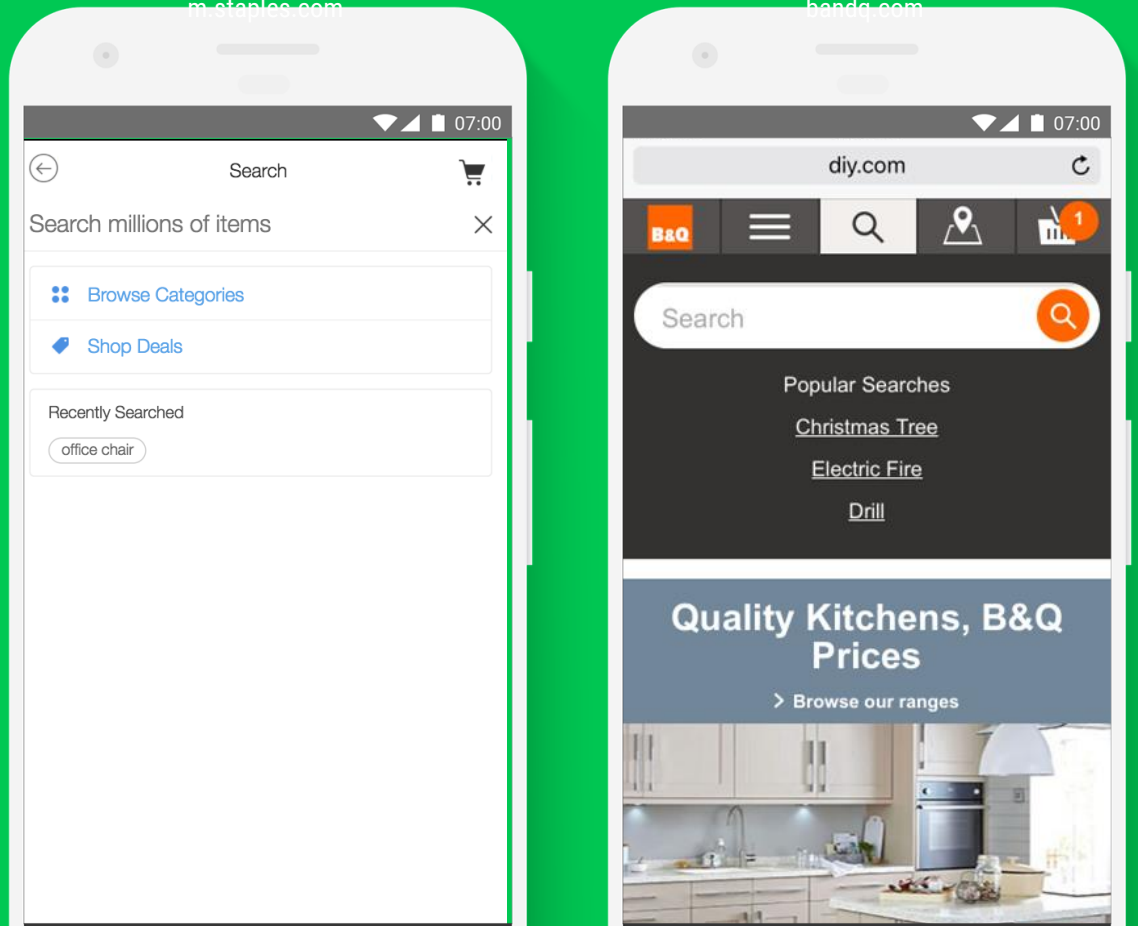
Results:

Improving search results- by adding an algorithm that returned product results without an exact match.

Increased page views **15%**

Case study link

INCLUDE PREVIOUS OR PAST SEARCHES

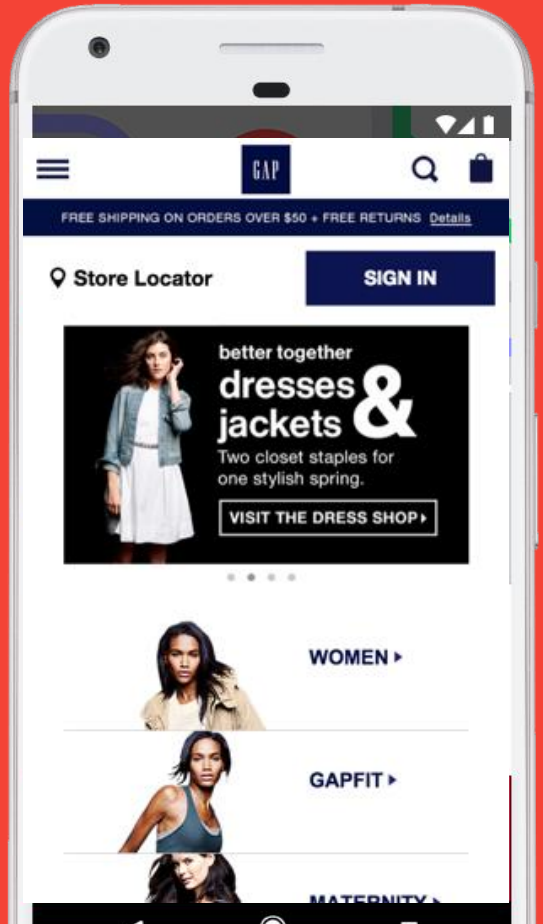


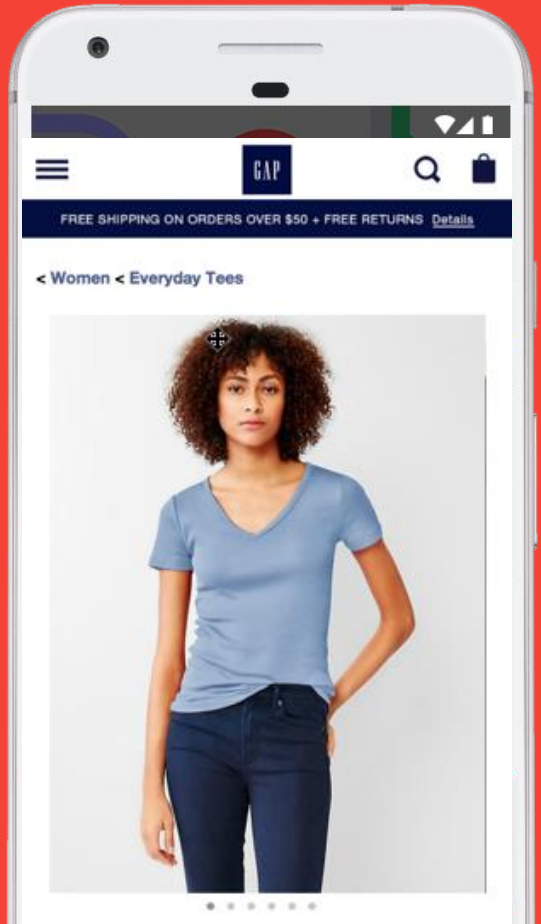
Category/Product

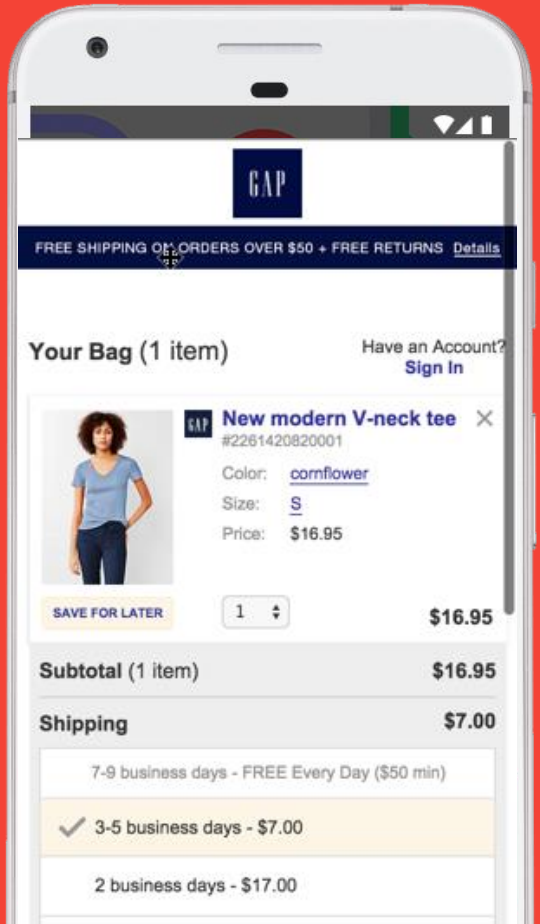
Creating frictionless experiences across the funnel (RETAIL)

SECTION	Category/Product	Ease of Implementation	Impact	Key Metric
KEY SUGGESTION	Have a value prop at every point in the funnel, including category and product pages	Easy	High	cvr, exit rate after add to cart
	Allow users to sort/filter large number of products easily	Medium	High	bounce rate on category/search pages
	Make sure filtering is useful	High	High	
	Add urgency elements	High	High	cvr
	Display price info above the fold on product pages	Easy	High	Add to cart, cvr, bounce rate
	Make sure product descriptions are readable	Easy		
	If large number of products, add reviews	Medium	High	time on site, cvr

INCLUDE VALUE PROP AT EVERY STEP OF THE FUNNEL, INCLUDING CATEGORY & PRODUCT PAGES

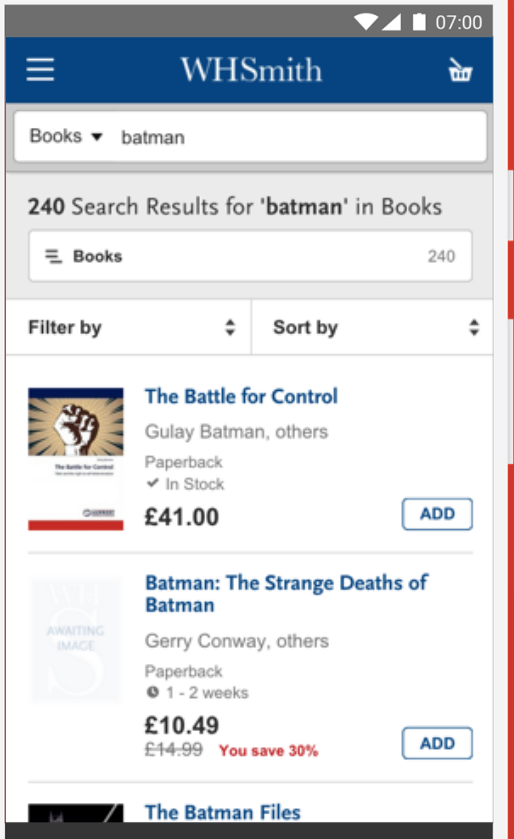




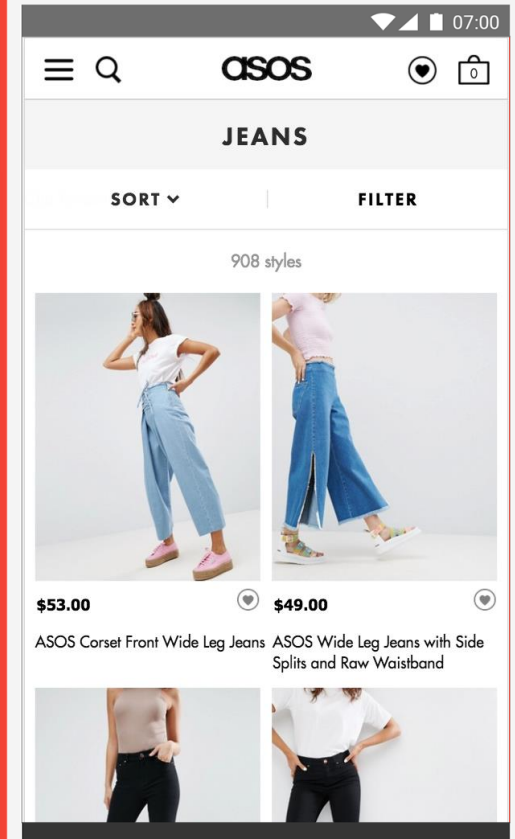


ENABLE USERS TO EASILY SORT/FILTER FOR PRODUCTS

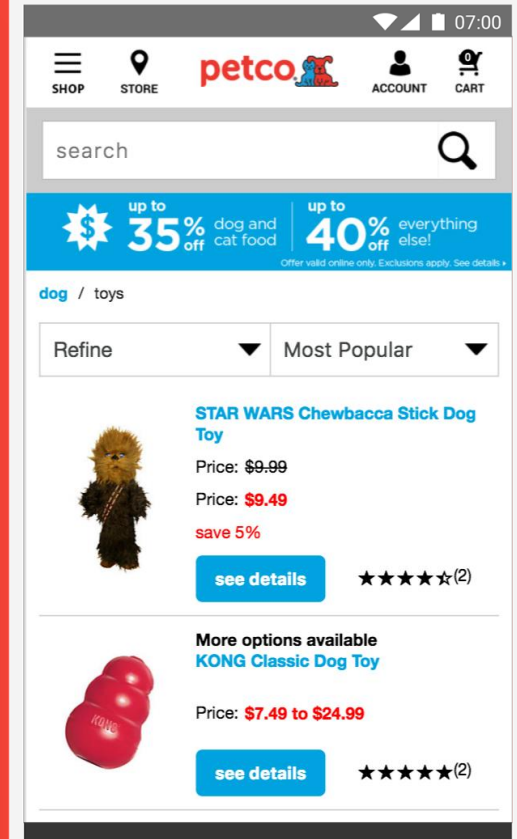
whsmith.com



asos.com

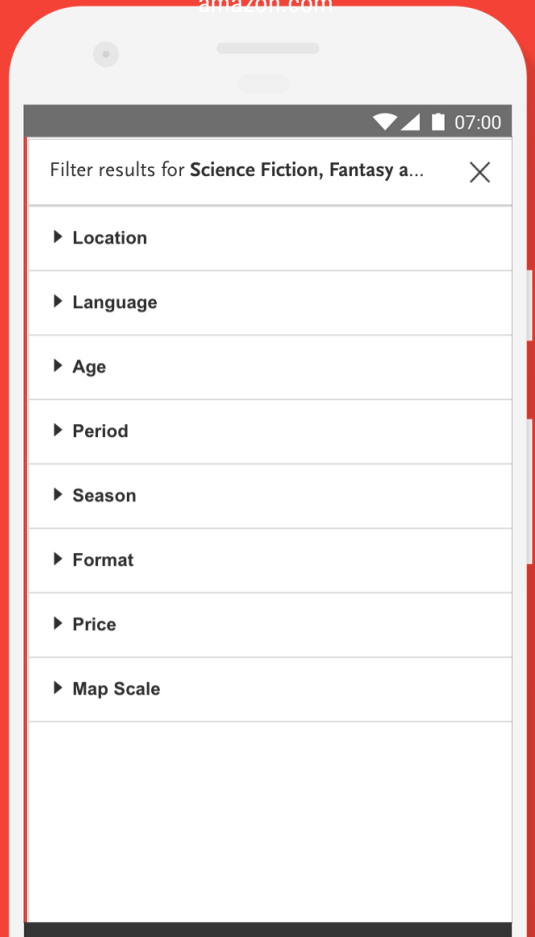


petco.com

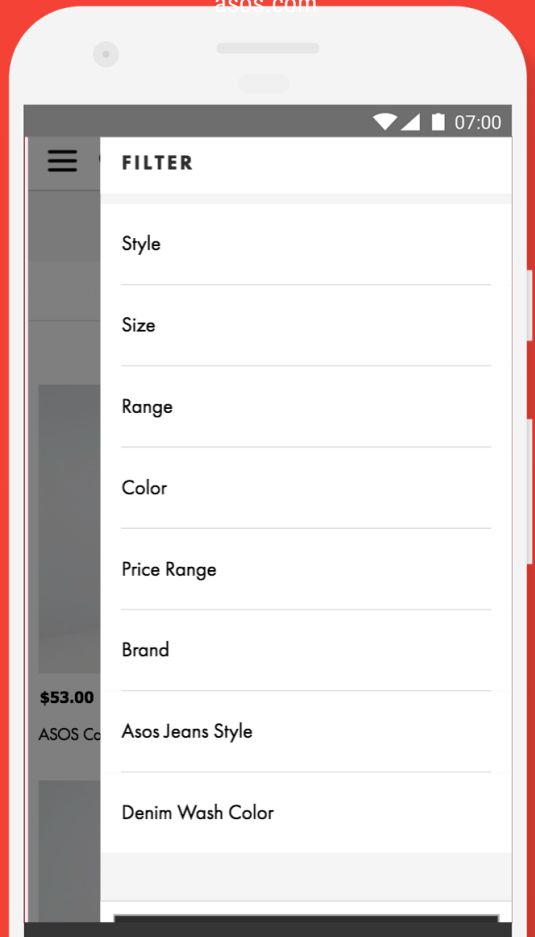


MAKE SURE FILTERING IS USEFUL

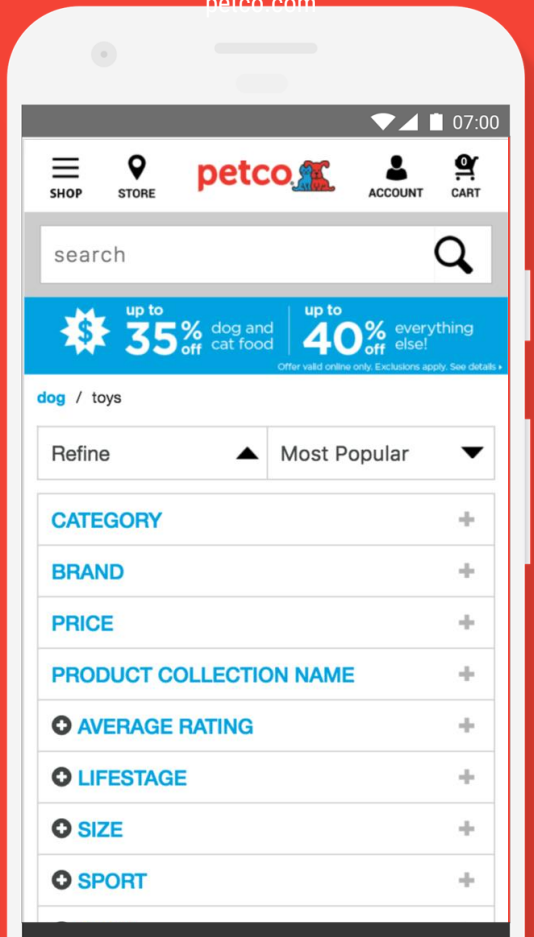
amazon.com



asos.com

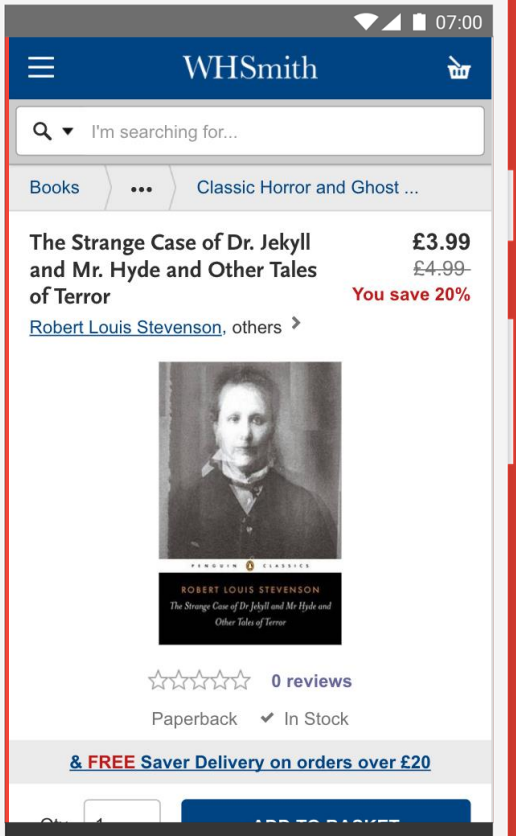


petco.com

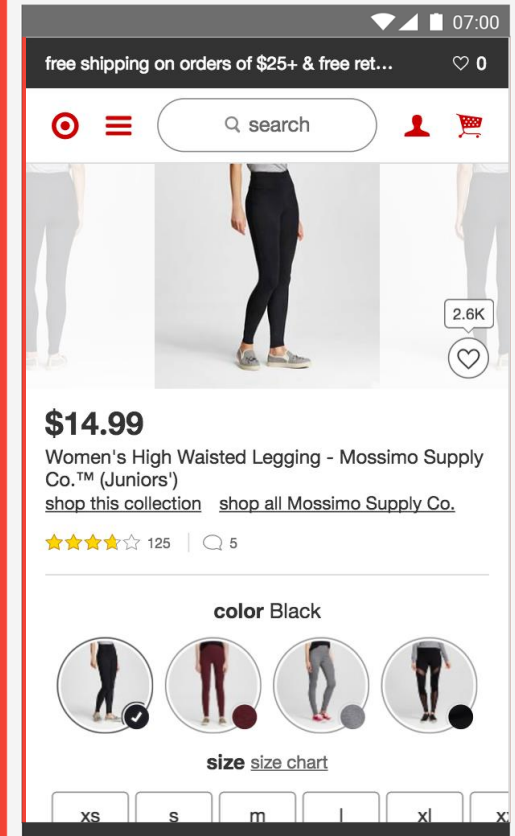


HAVE PRICE INFO ABOVE THE FOLD ON PRODUCT PAGES

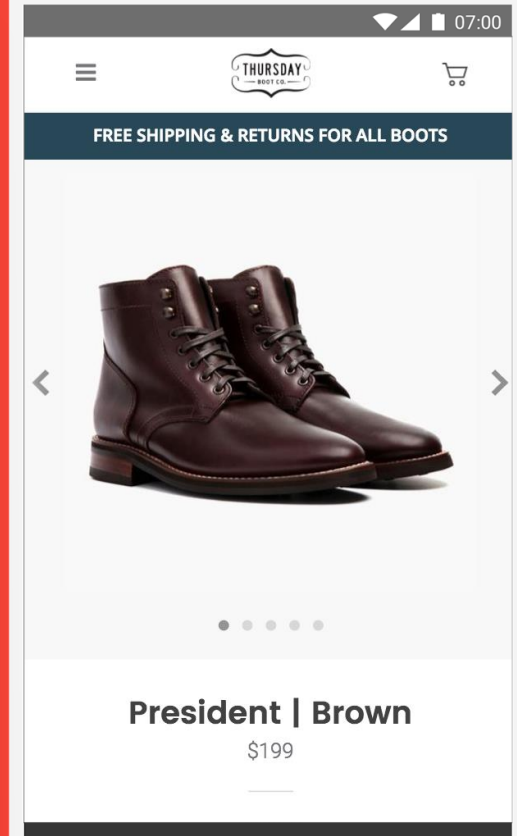
whsmith.com



target.com

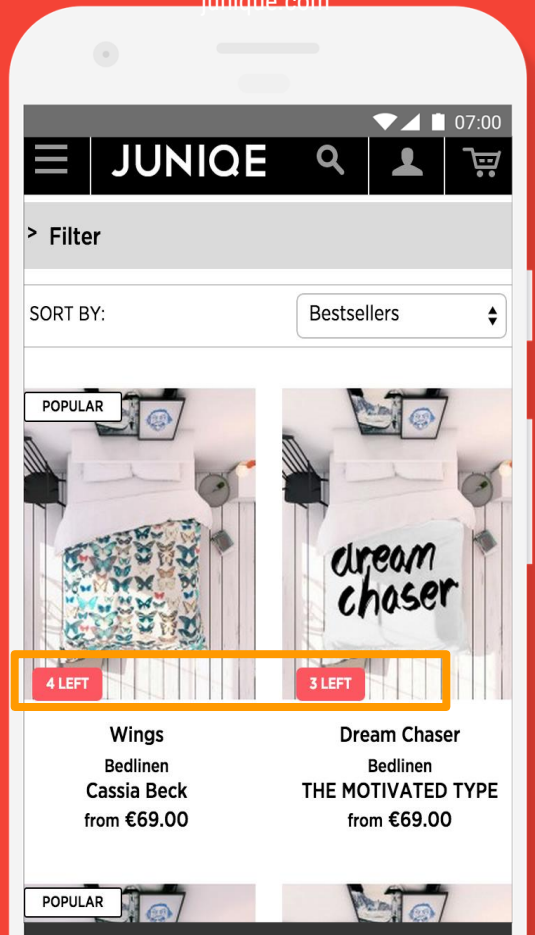


thursdayboots.com

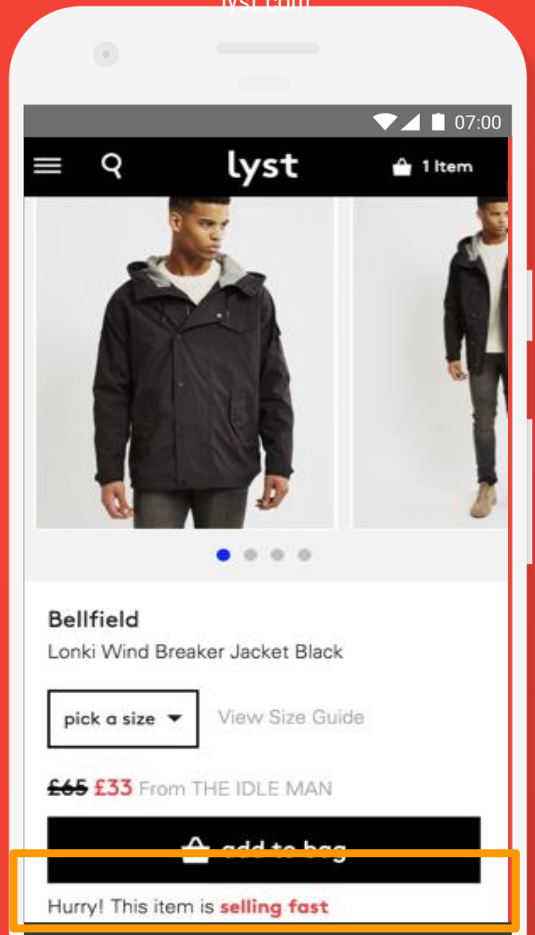


ADD URGENCY ELEMENTS

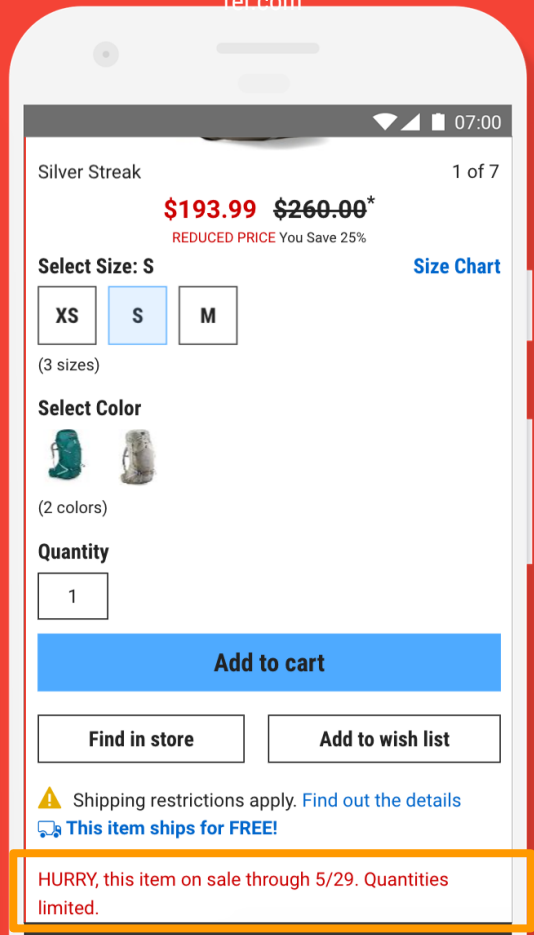
junique.com



lyst.com



rei.com



Urgency is a powerful **motivator**, if done well.
There are 3 ways to create urgency:

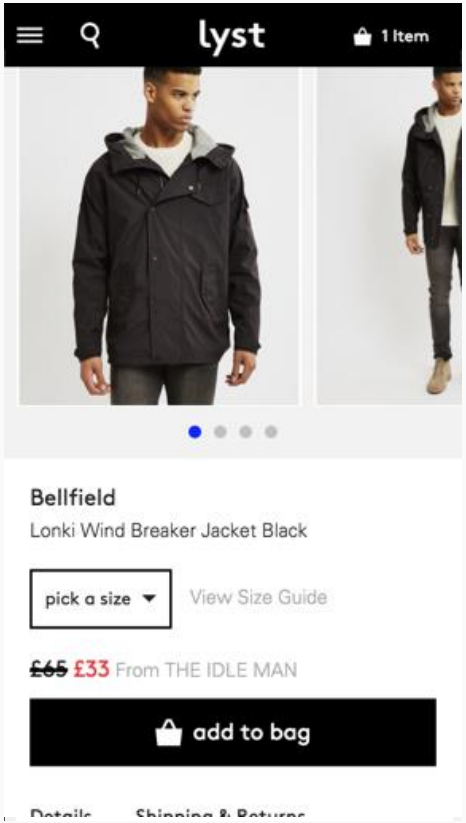
Quantity limitations (Only 3 tickets left at this price)

Time limitations (Discounted tickets until July 1st)

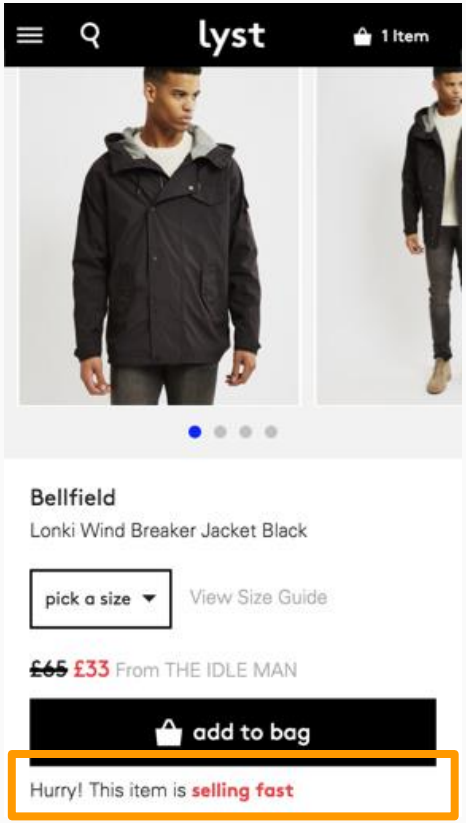
Contextual limitations (Father's Day is coming, get a gift now)

source: http://conversionxl.com/how-to-increase-sales-online-the-checklist/

Case Study: **LYST**



Before



After

Highlighted urgency- By showing on product pages items selling quickly

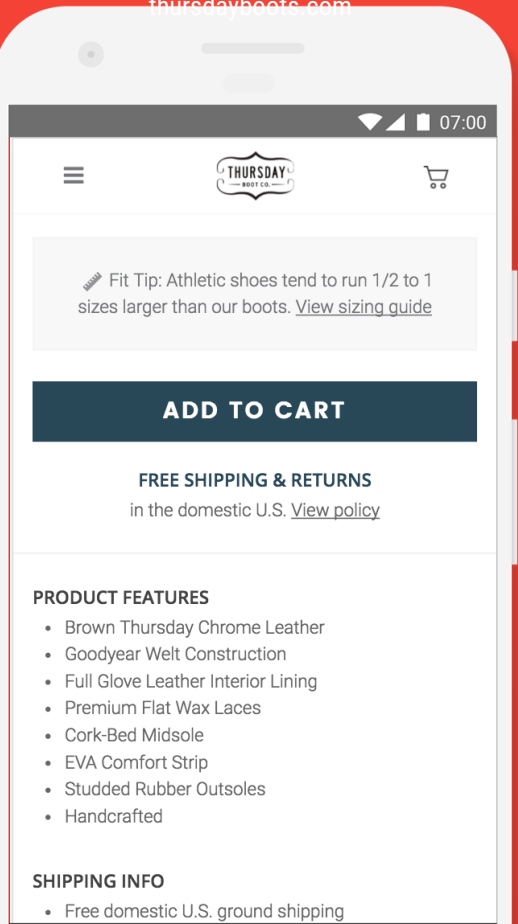
Result: 17% increase in CVR

Case study link

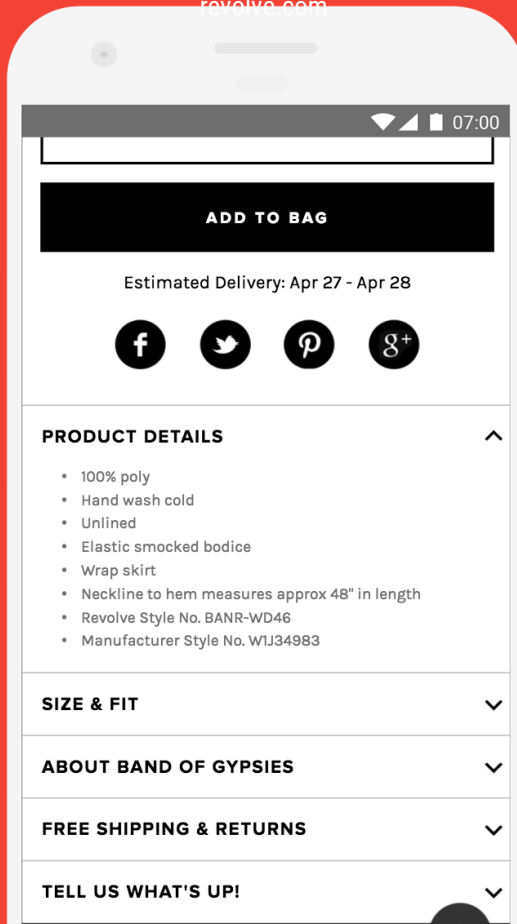
MAKE SURE PRODUCT DESCRIPTIONS ARE READABLE

(use bullets, easy to skim content)

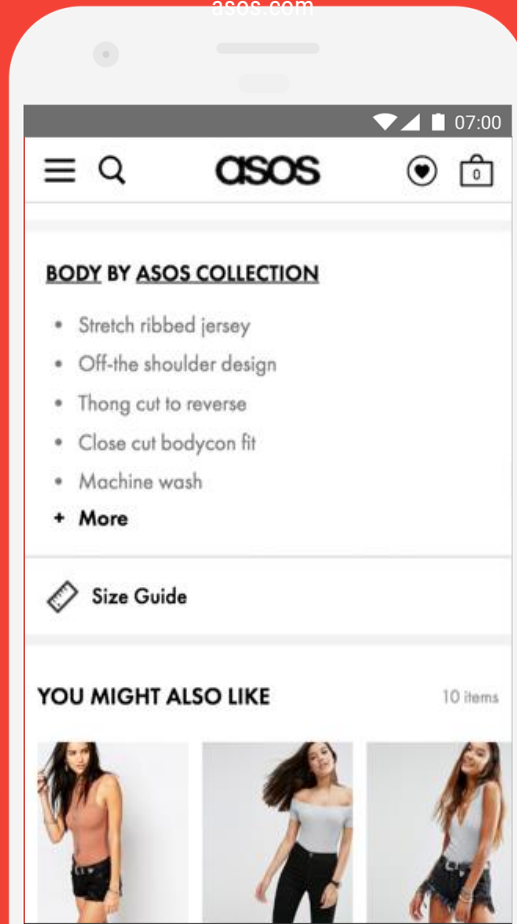
thursdayboots.com



revolve.com

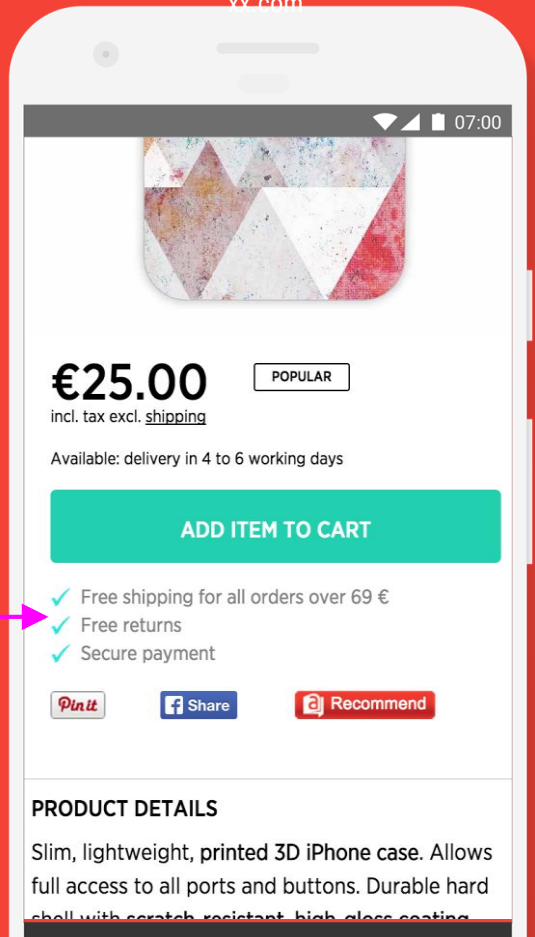


asos.com

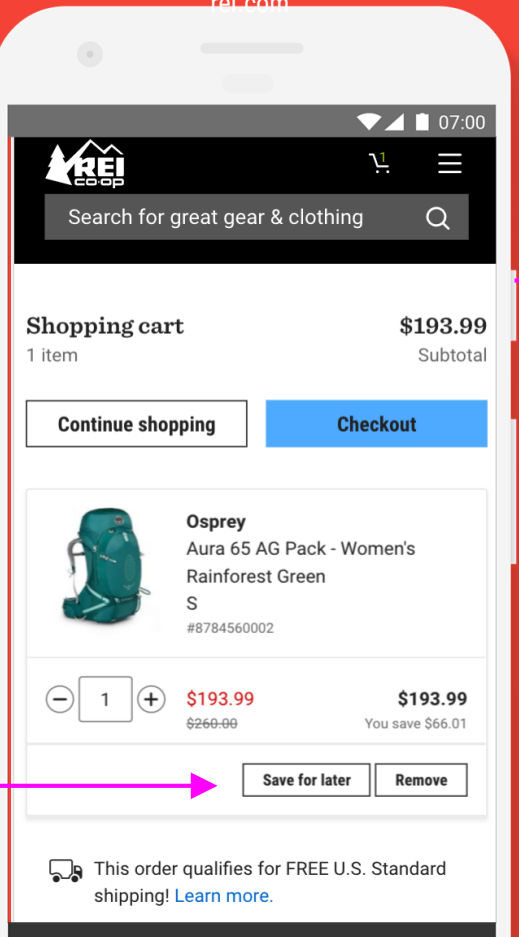


REITERATE VALUE PROP AT CONVERSION POINT

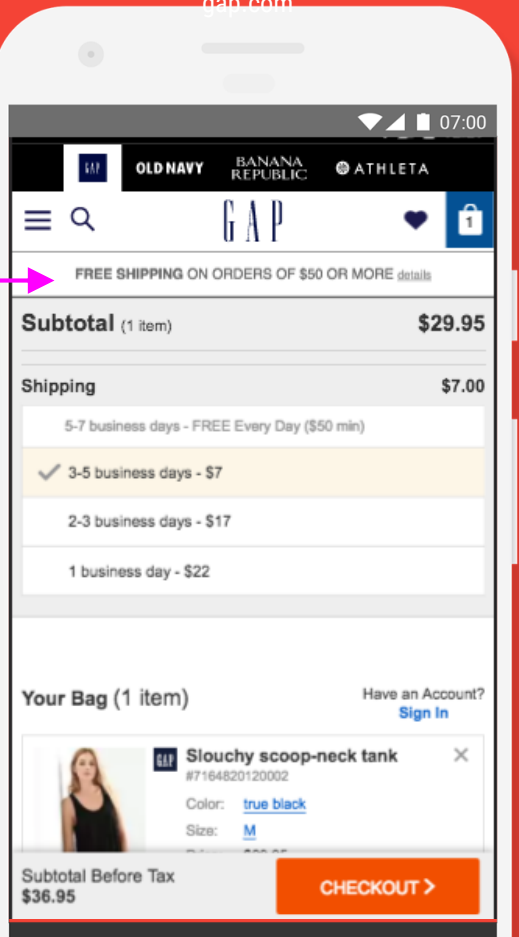
xx.com



rei.com

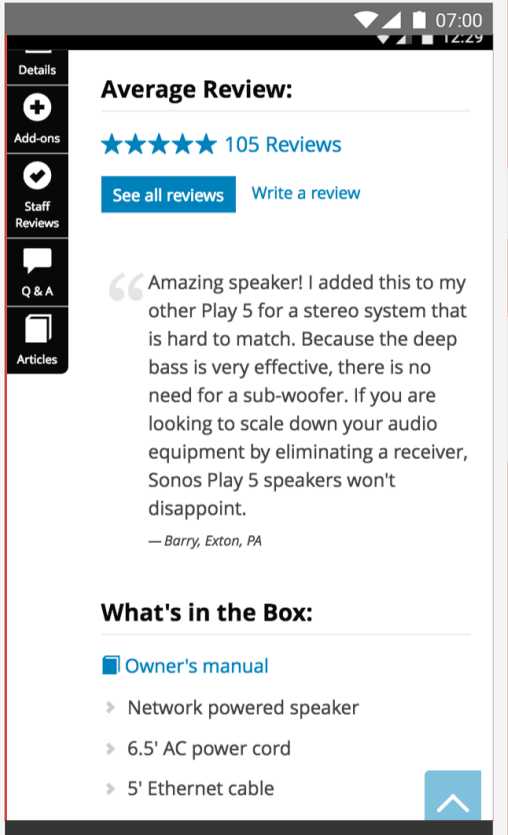


gap.com

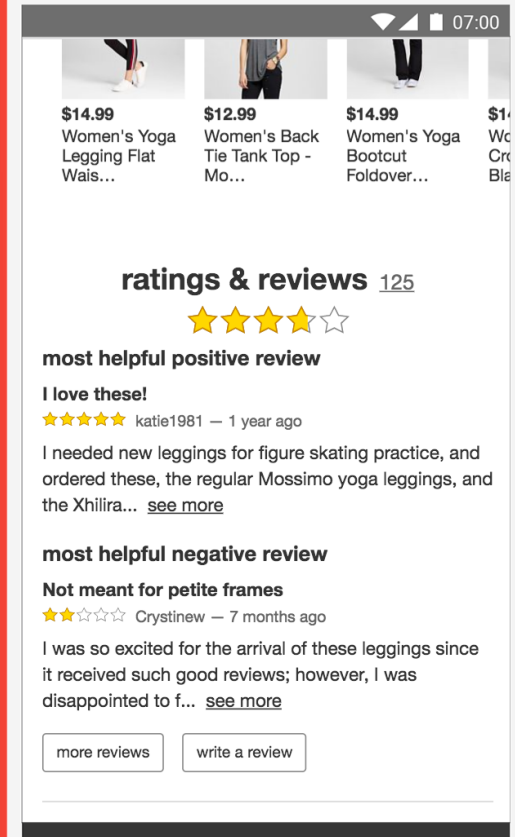


Bonus: IF LARGE NUMBER OF PRODUCTS, ADD REVIEWS

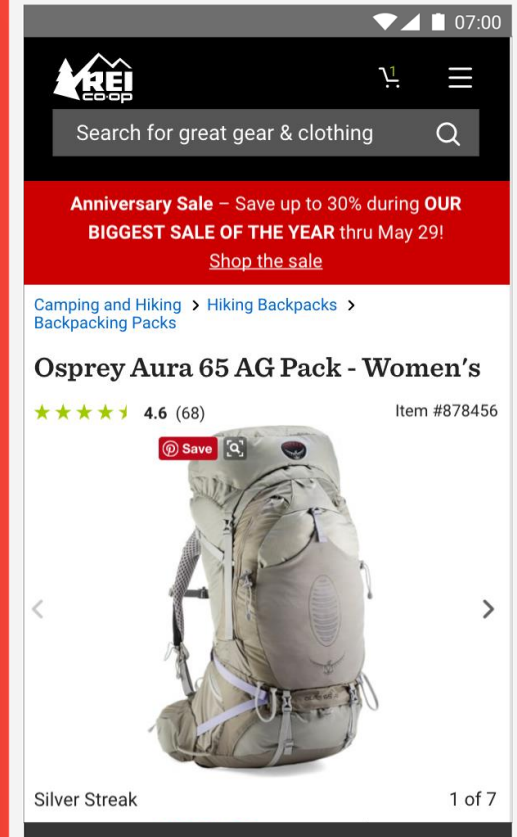
crutchfield.com



target.com

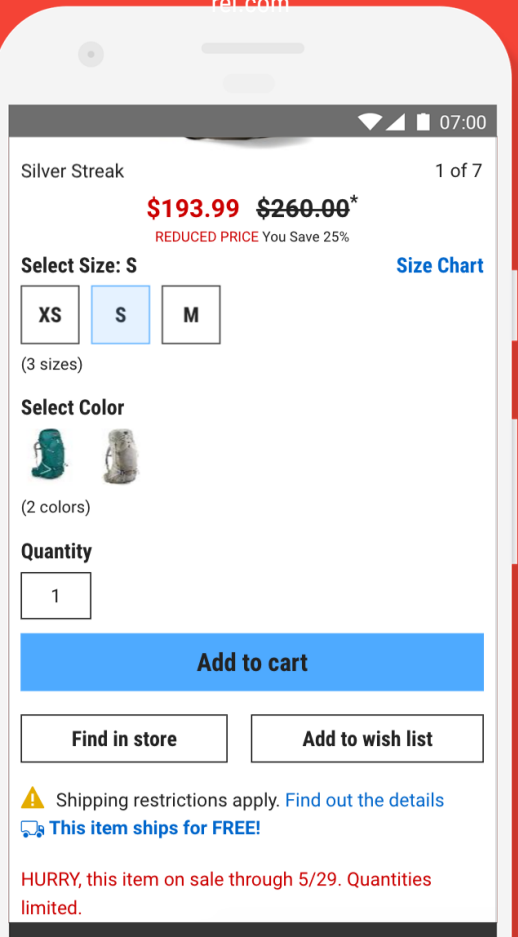


rei.com

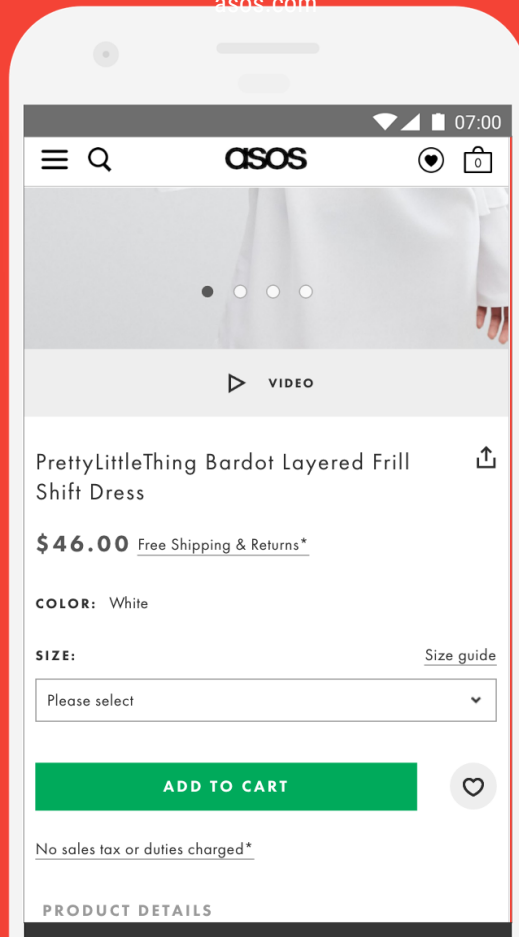


Bonus: ADD SECONDARY CTAS FOR ADDITIONAL CONVERSION ACTIONS

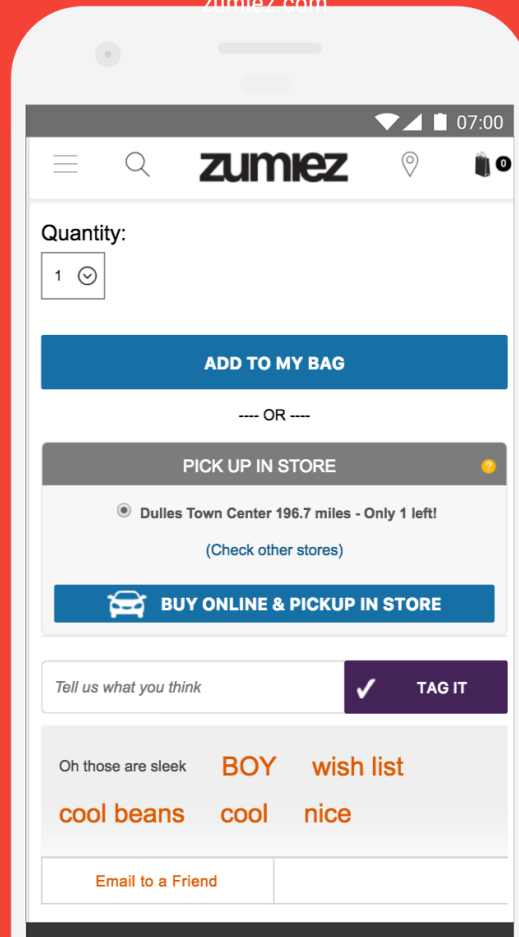
rei.com



asos.com



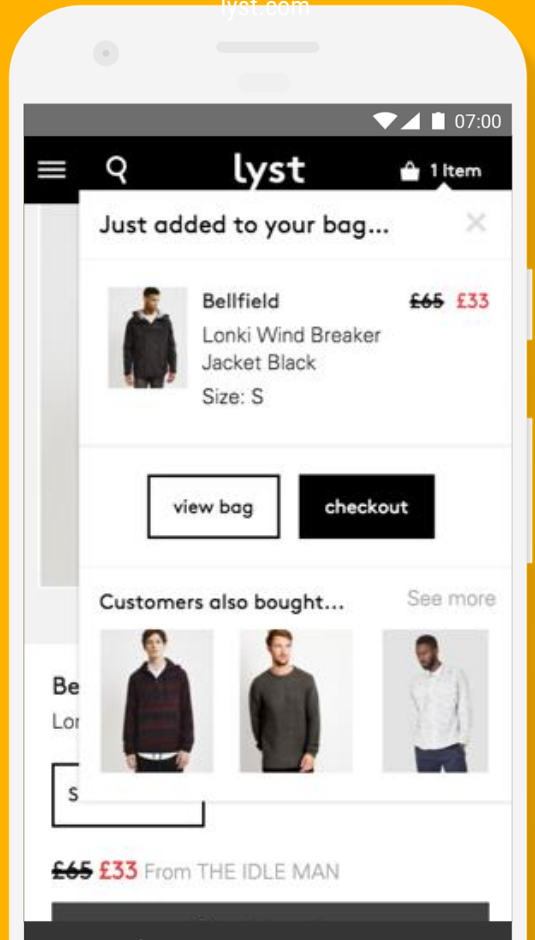
zumiez.com

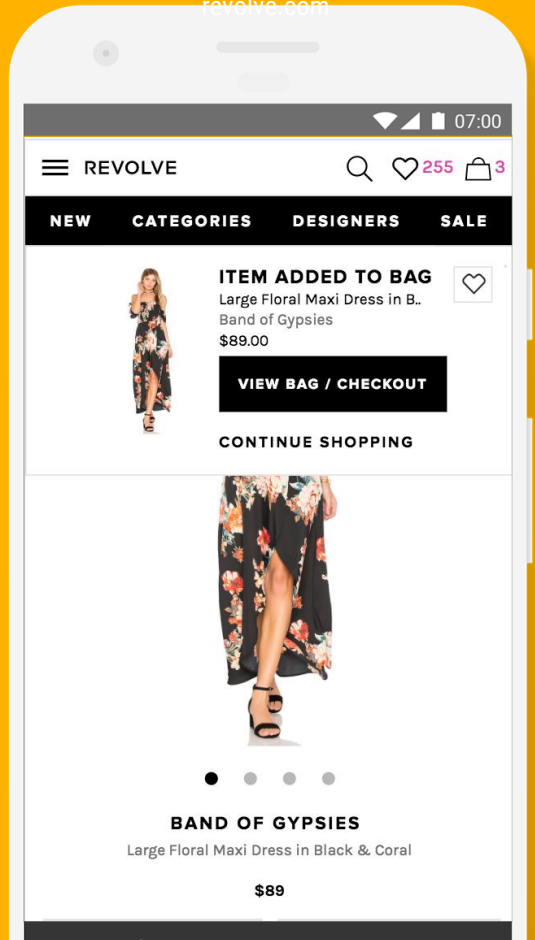


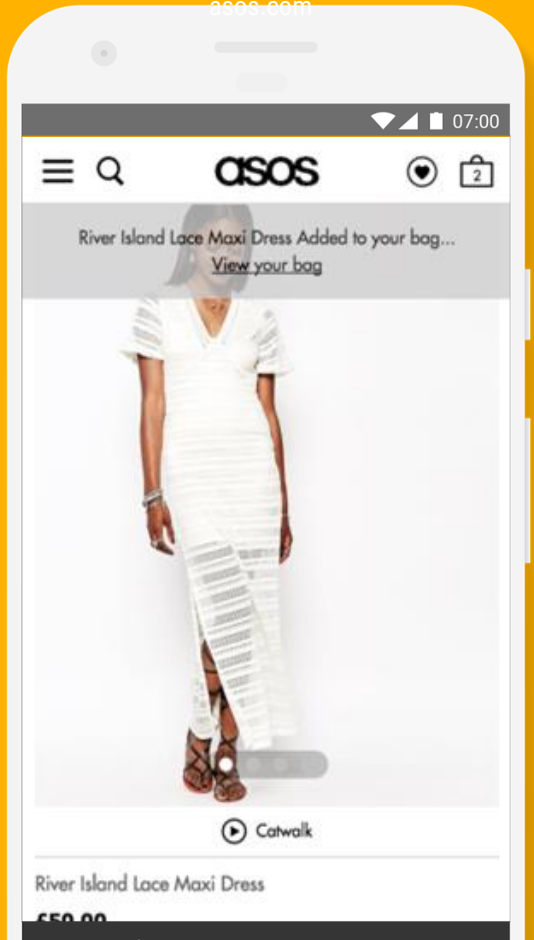
Conversion

SECTION	Conversion	Ease of implementation	Impact	Key Metric
KEY SUGGESTION	Don't redirect into checkout after adding to cart	Medium	High	pages/visit, cart size, AOV
	Re-iterate value prop (typically free shipping) in the cart	Easy	Medium	CVR, exit rate
	Allow users to update their carts (change quantity with steppers, remove)	Medium	Low	CVR, exit rate
	Allow users to continue on another device by emailing or saving for later	High	High	cross device conversions, track as micro-conversion
	Limit your exit points during the conversion flow	Medium	High	CVR, exit rate
	Allow checkout as guest	Medium	High	CVR, exit rate
	Let users sign up/sign in with social	Medium	Medium	CVR, exit rate
	Add value prop around why someone should create an account	Easy	Medium	Signup rate, exit rate
	Use pagination or a progress bar if more than 2 steps in conversion flow	Medium	High	CVR, exit rate
	Have descriptive CTAs	Easy	Low	CVR, exit rate

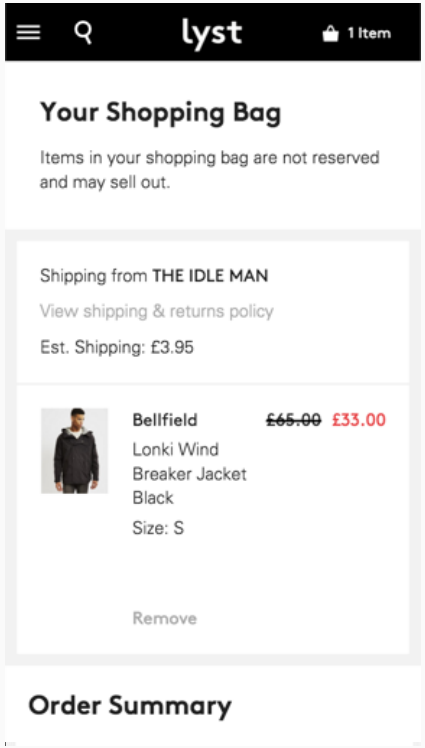
DON’T REDIRECT AFTER ADDING TO CART



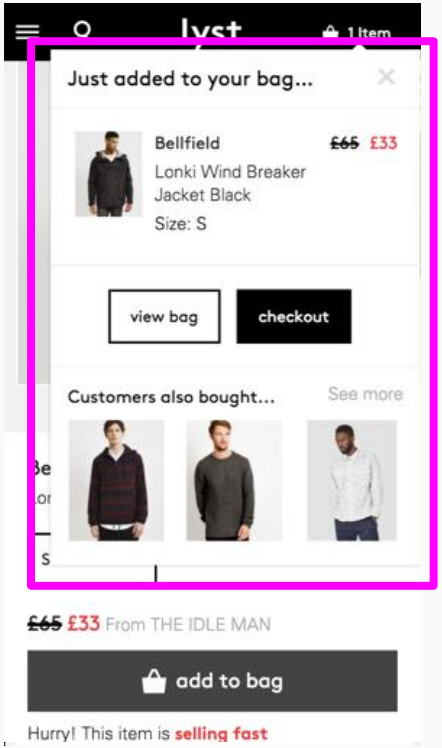




Case Study: LYST



Before -
User redirected to the cart



After -
Add-to-cart notification

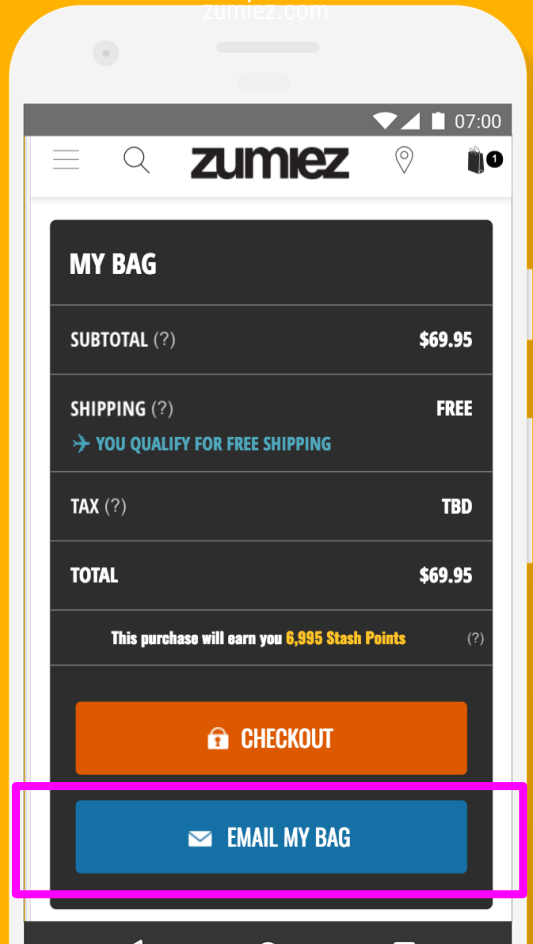
Lyst: Upgraded the add-to-cart process- Adding pop out add to car rather than redirecting to cart page

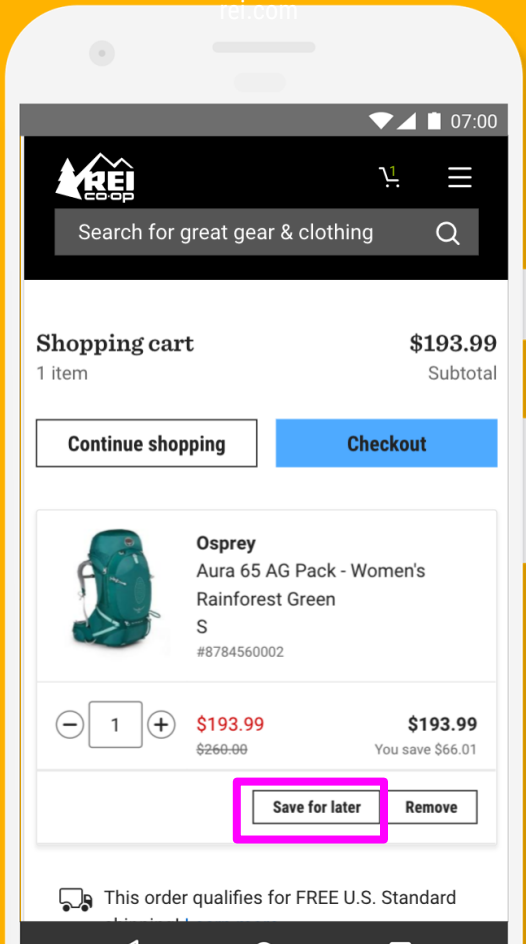
- **4%** higher average order value

Additional info:

- Give users the option to
  - keep shopping (x out or keep shopping button)
  - view bag
  - or checkout directly

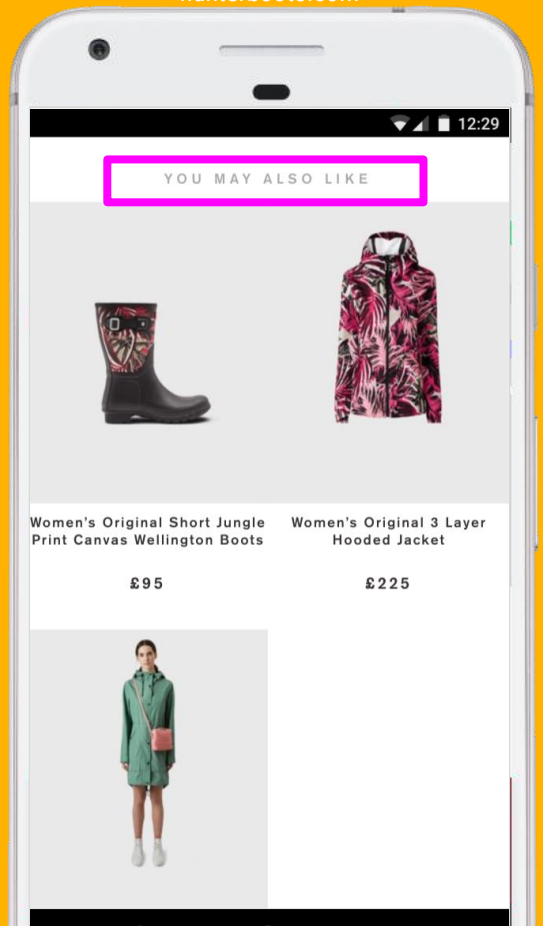
FACILITATE X-DEVICE MOVEMENT IN THE CART



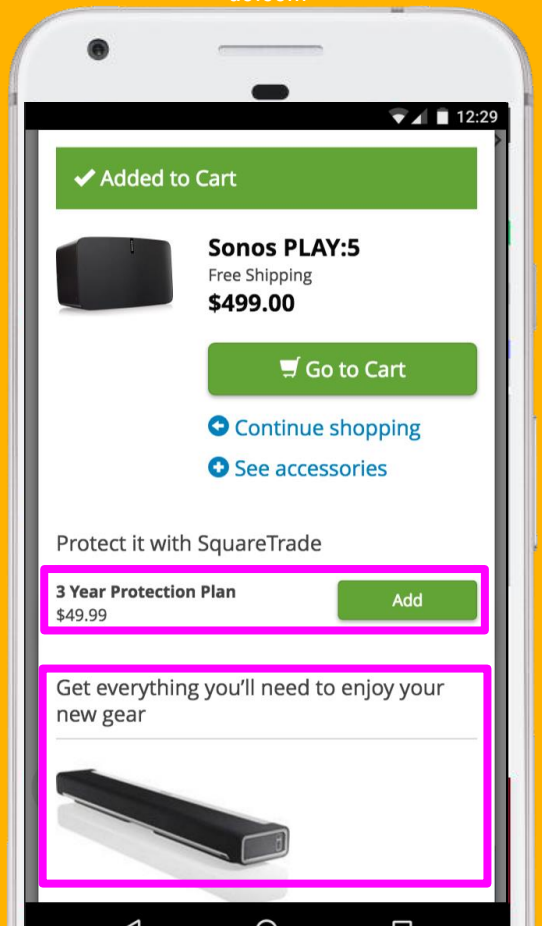


Bonus: UPSELL IN CART

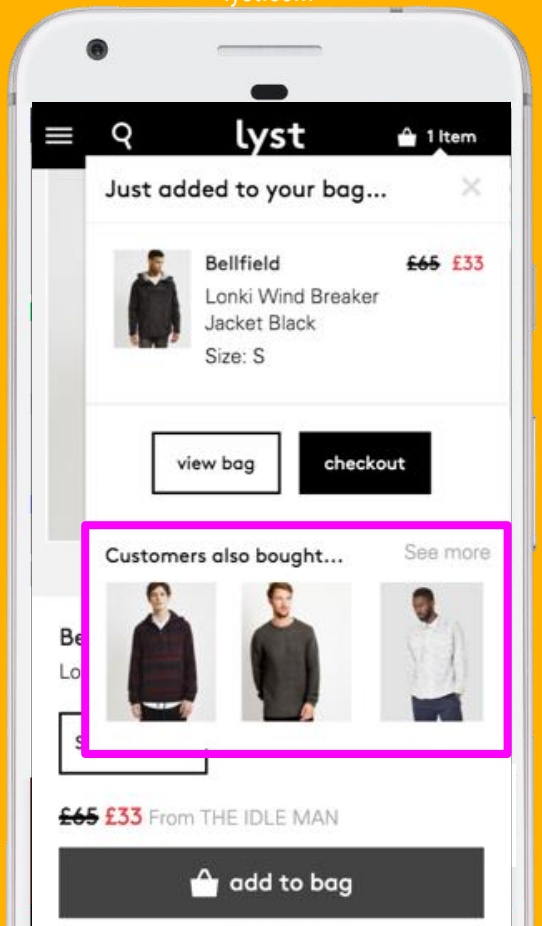
hunterboots.com



ao.com

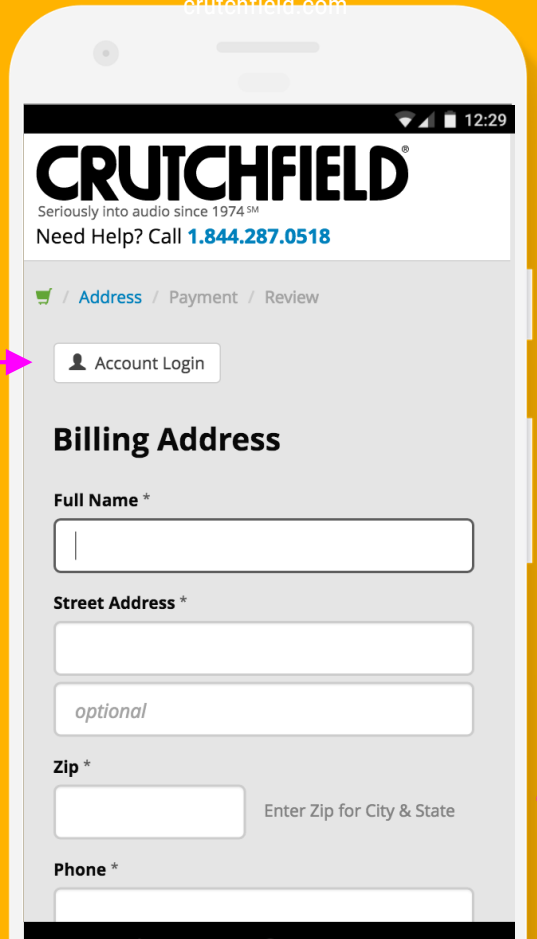


lyst.com

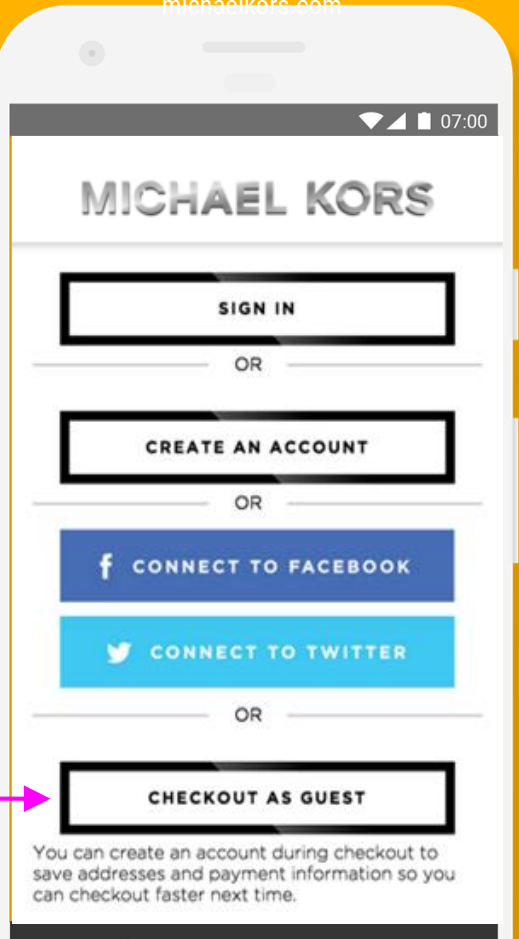


ALLOW CHECKOUT AS GUEST

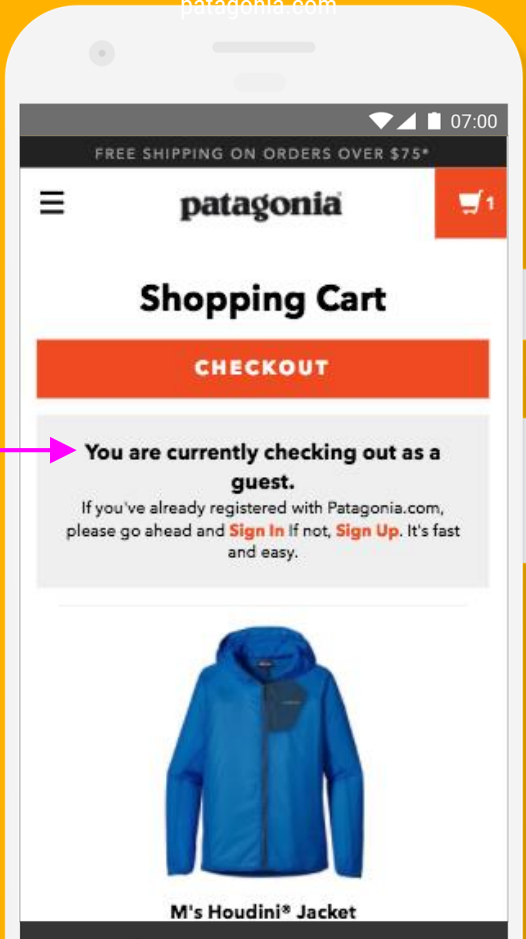
crutchfield.com



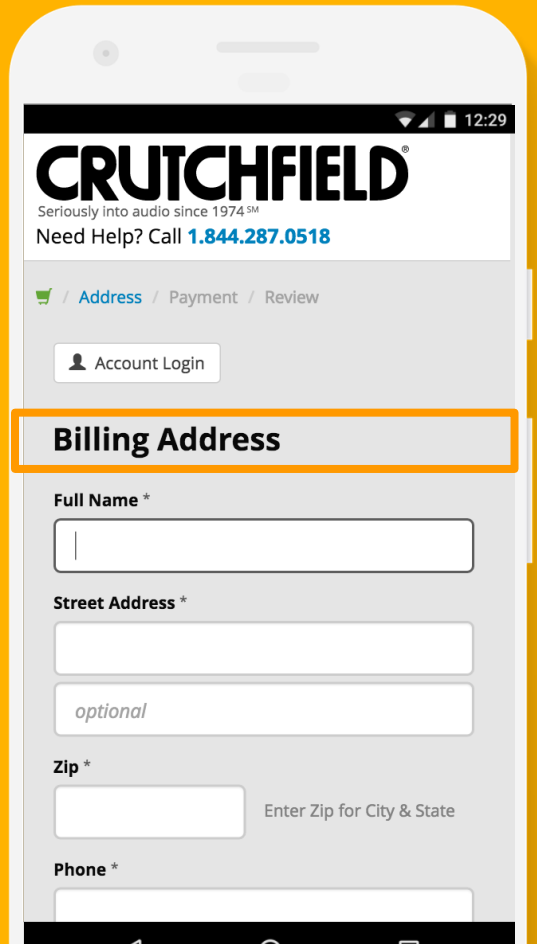
michaelkors.com



patagonia.com



ALLOW CHECKOUT AS GUEST

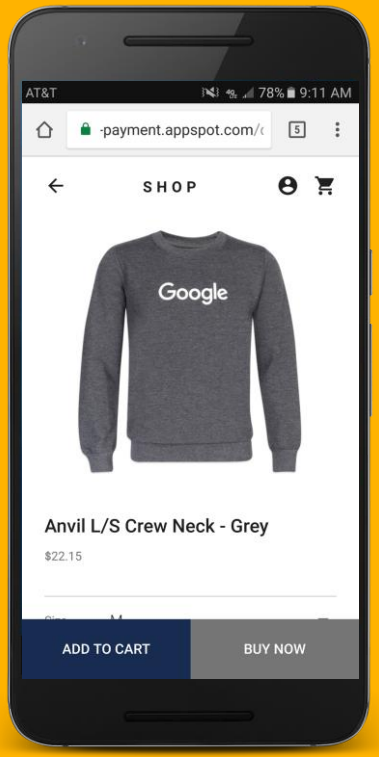


35% of users would abandon the checkout if retailer does not offer guest checkout.

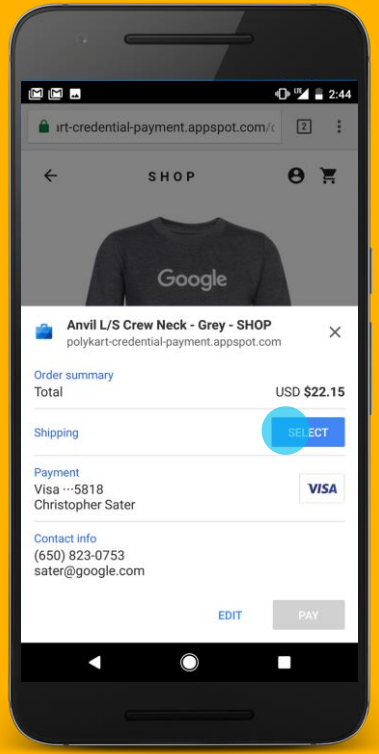
Full research.

Bonus: USE PAYMENT REQUEST API FOR THREE-TAP GUEST CHECKOUT

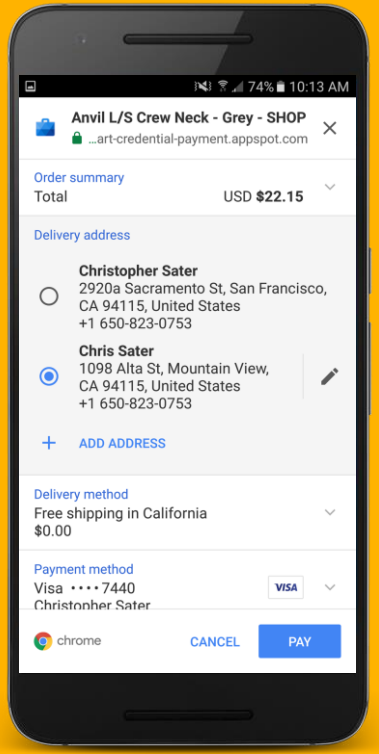
User taps buy button



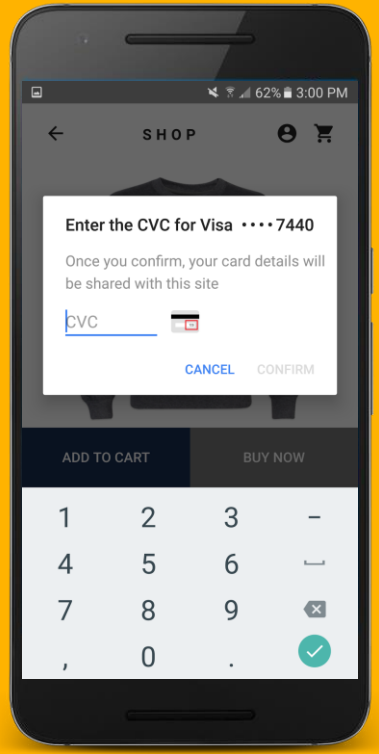
User selects shipping address



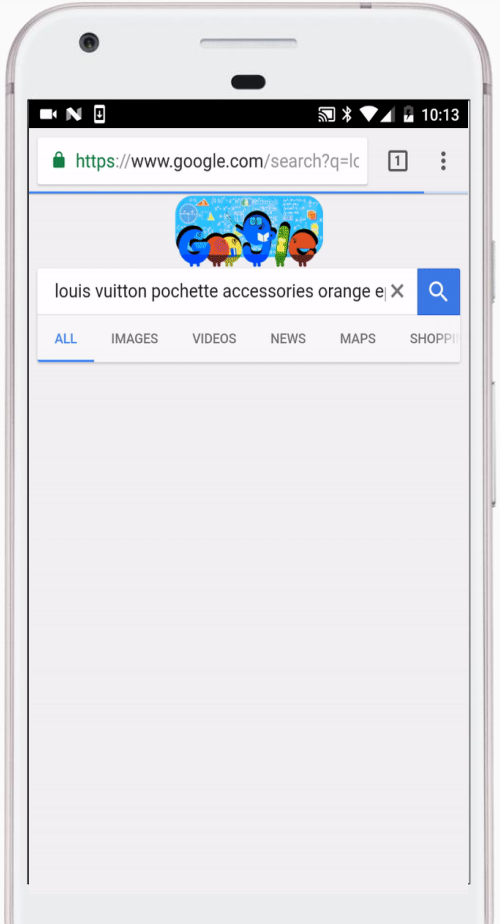
User taps **"Pay"** to complete checkout



User enters CVV… that's it!



USE PAYMENT REQUEST API: Takes advantage of users stored information



Why:

25% increase in CVR from autofill
30% decrease in form completion time with autofill

What:

- Leverages autofill
- Eliminates forms
- One tap to check out
- Replaces experience for ‘buy now’ or guest checkout

Google Developers implementation docs:

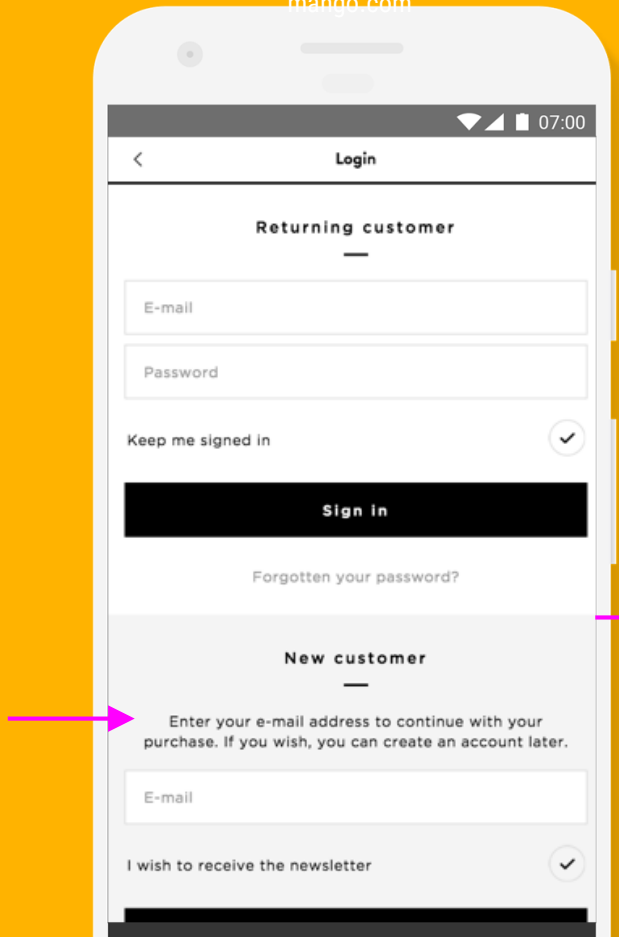
- Introducing the Payment Request API
- Deep dive
- UX Considerations

Research:

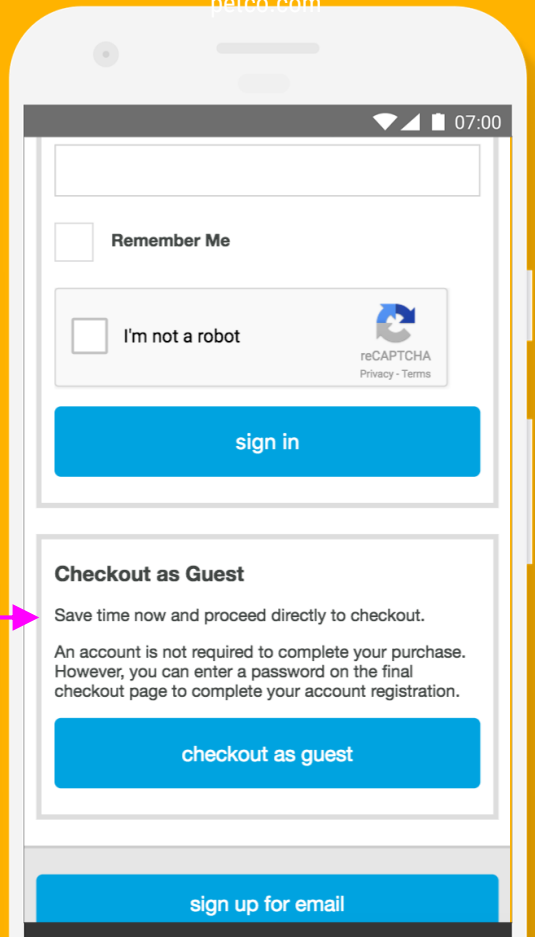
goo.gl/9FwBh4

ADD VALUE PROP AROUND WHY CREATE AN ACCOUNT

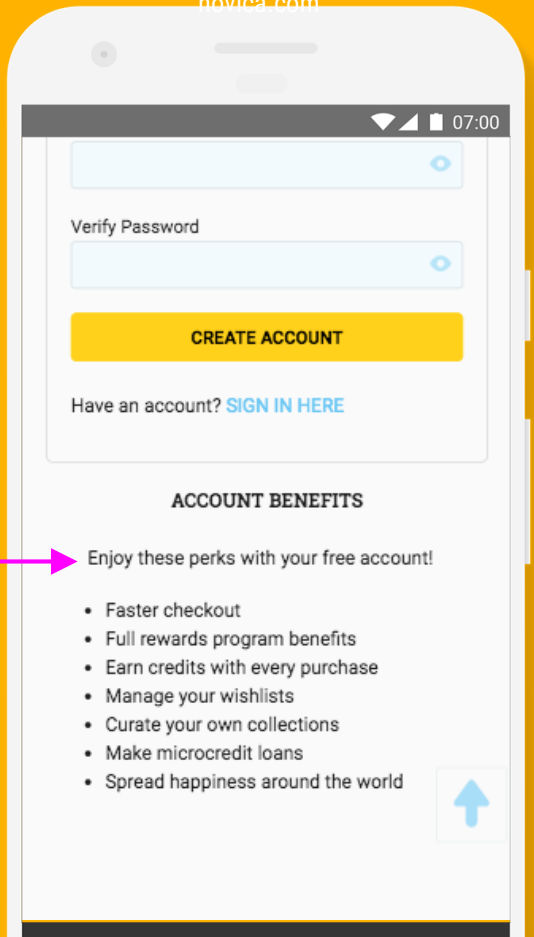
mango.com



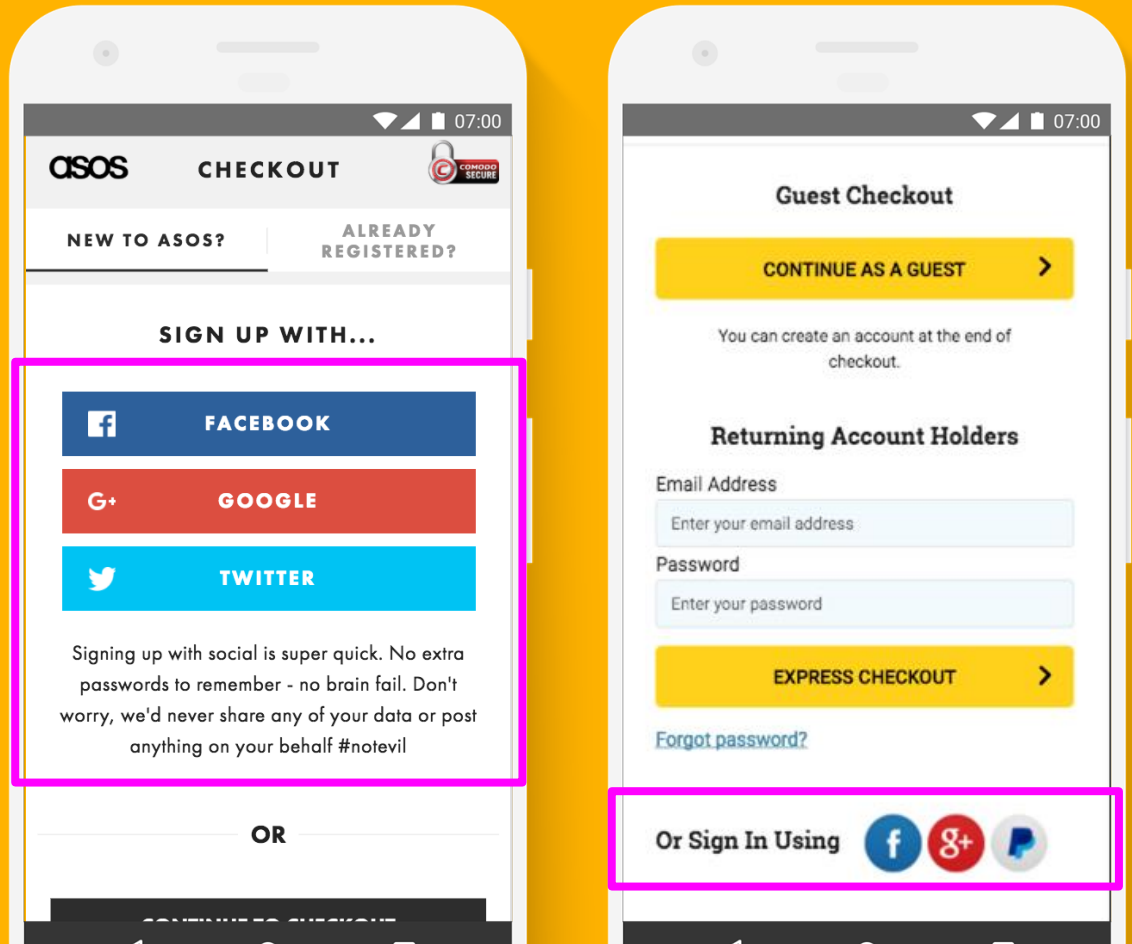
petco.com



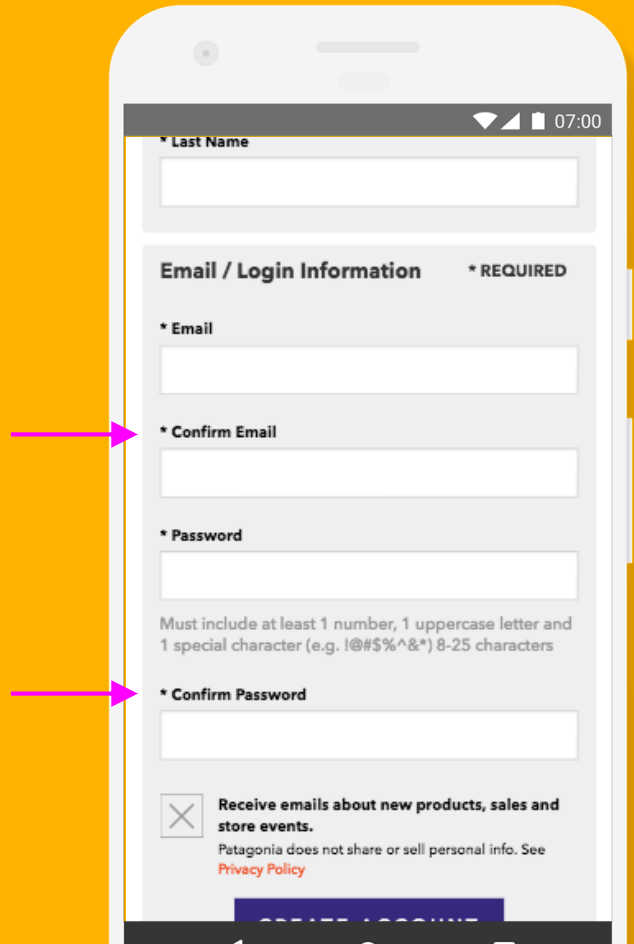
novica.com



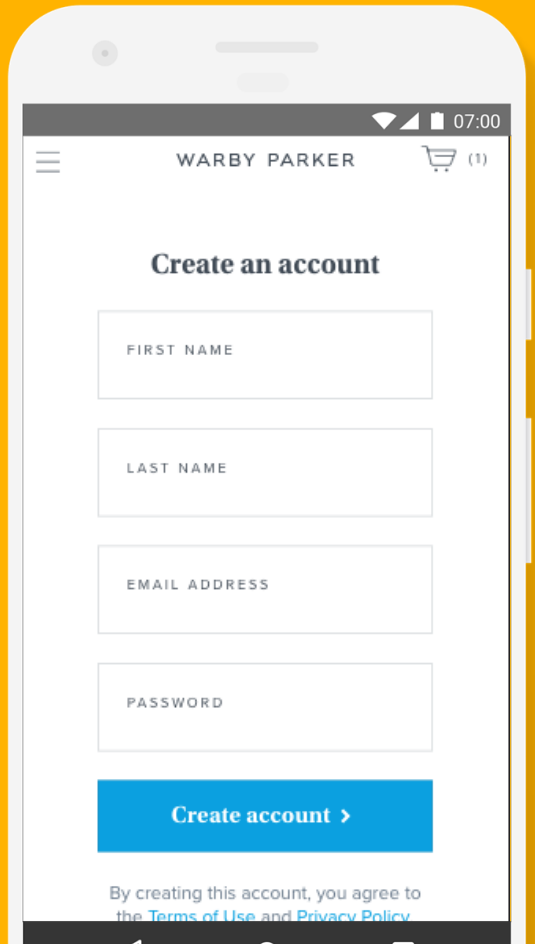
LET USERS SIGN UP WITH SOCIAL ACCOUNTS



Additional: DON'T MAKE USERS CONFIRM ACCOUNT INFO

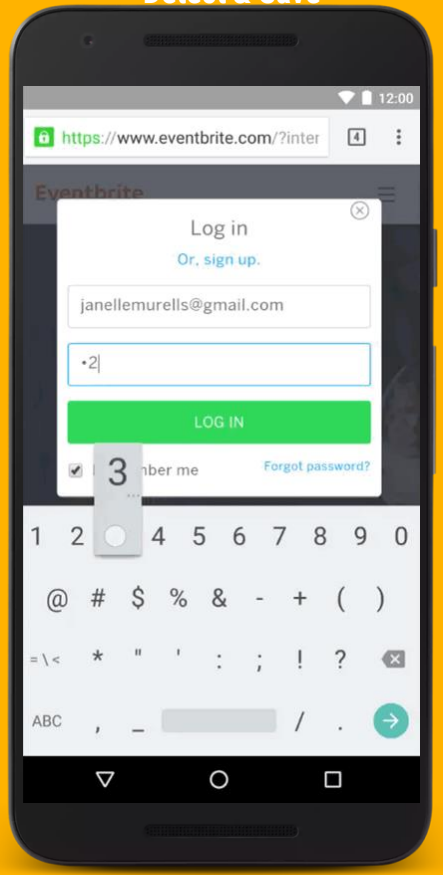


VS.

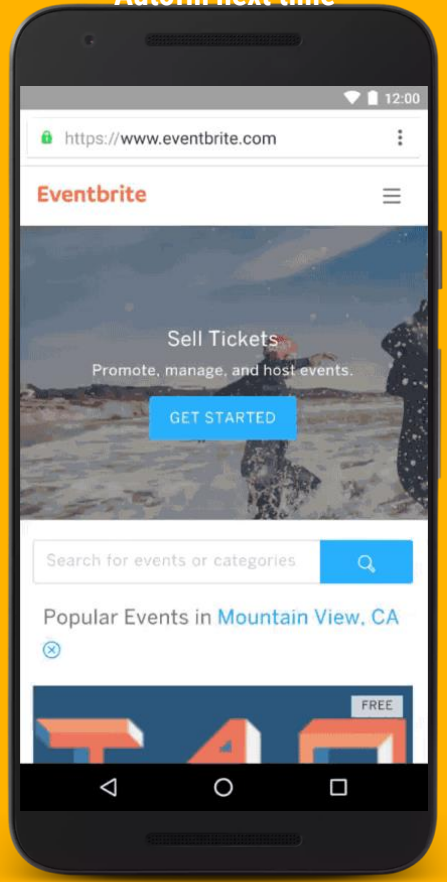


Bonus: USE CREDENTIAL MANAGER API (aka SMARTLOCK) TO REDUCE FAILED SIGN IN LATER

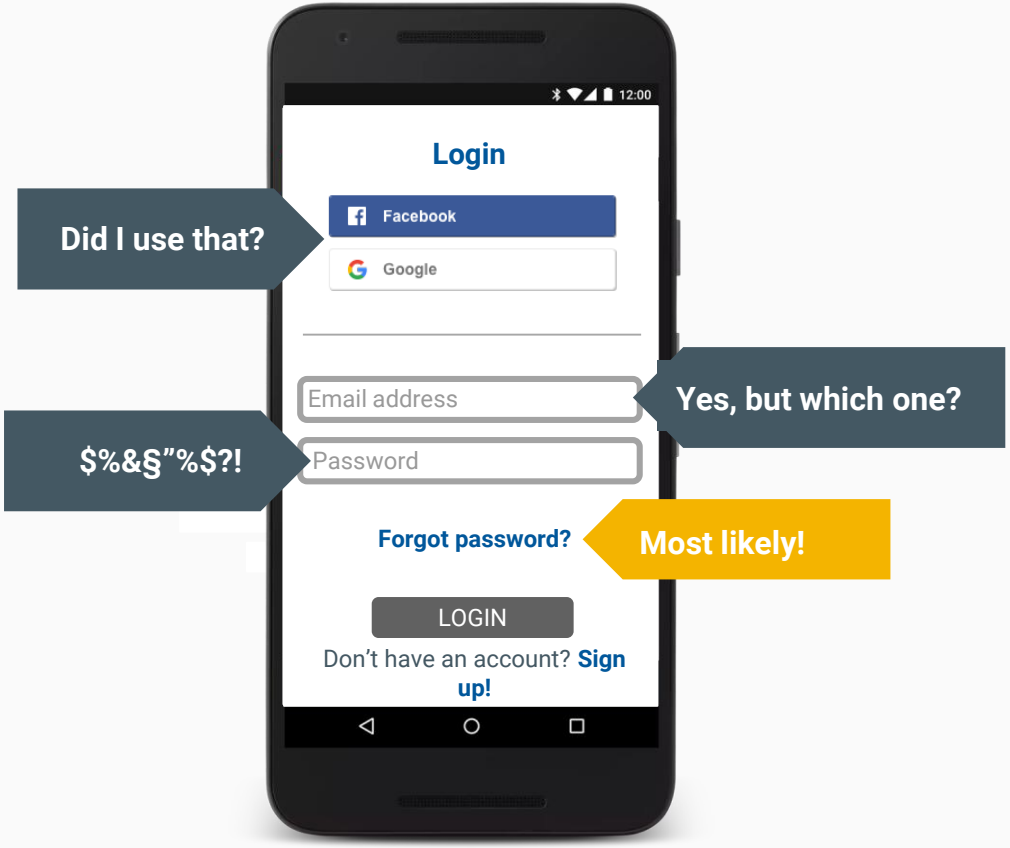
Detect & Save



Autofill next time



USE CREDENTIAL MANAGER API (aka SMARTLOCK) TO REDUCE FAILED SIGN IN LATER



Why:

Most popular password (2015): **12345**
2nd most popular: **password**
3rd most popular: **123456**

8 billion assisted sign ins per month
Works across devices

What:

- Saves password to browser
- Auto-signs in returning users

Google Developers implementation docs:

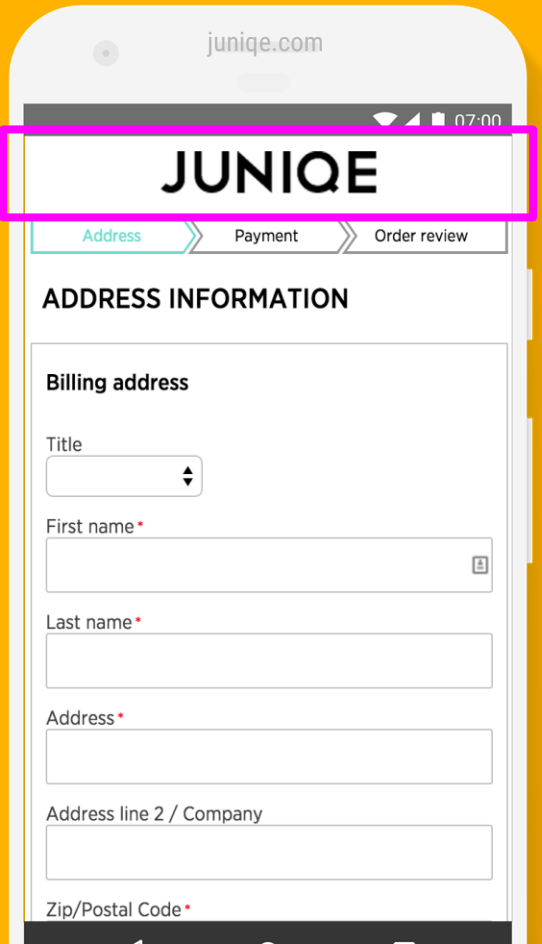
- Streamlining the sign-in flow using credential manager API
- Integration guide

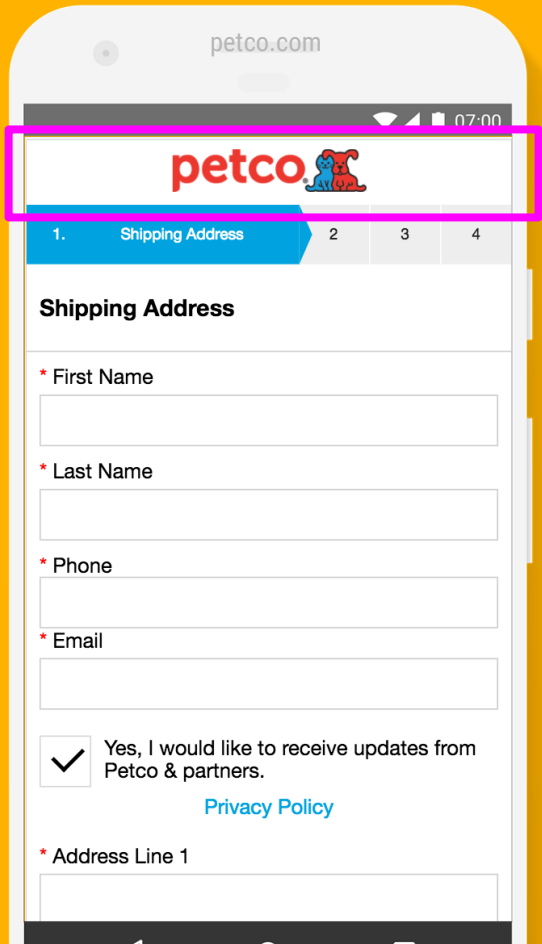
Research:

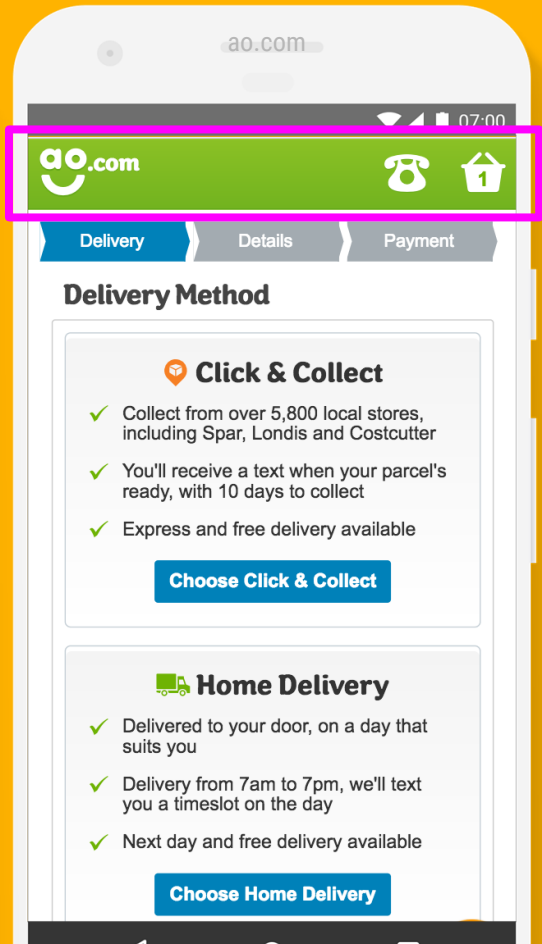
goo.gl/9FwBh4

LIMIT EXIT POINTS DURING CONVERSION FLOW

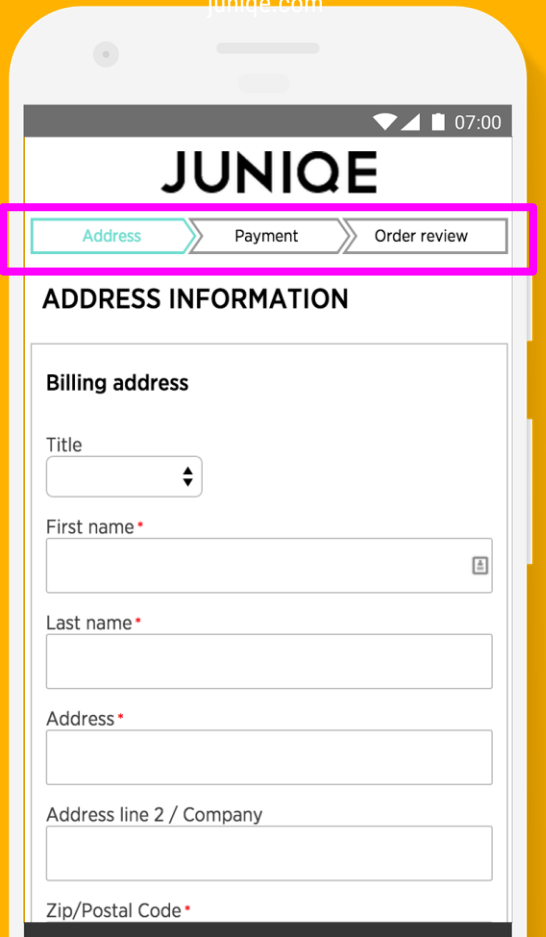
(only allow uses to go to homepage, back to cart or contact support... NO menu)

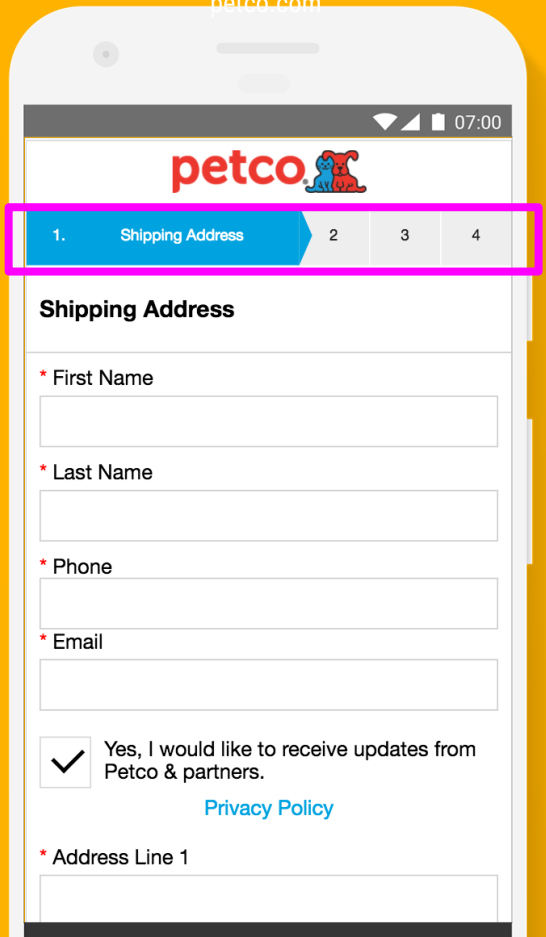


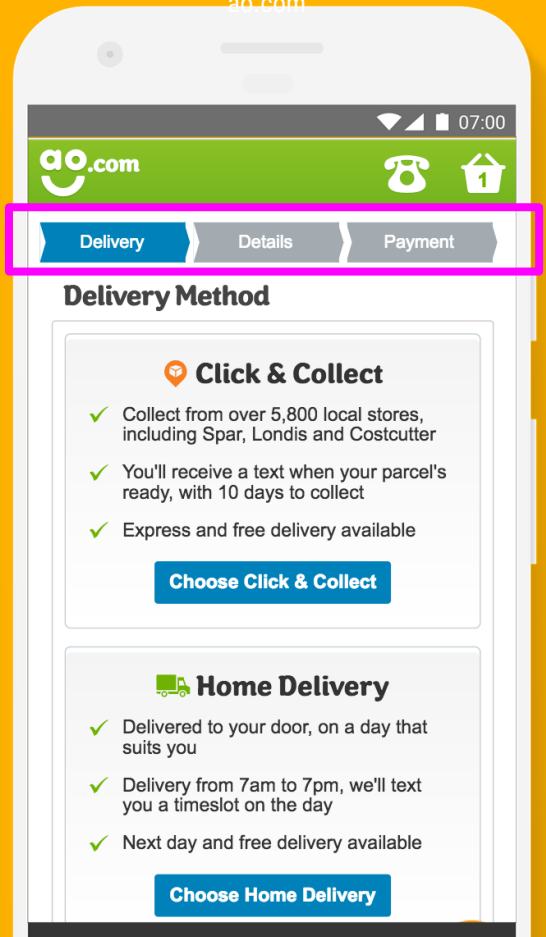




USE PAGINATION IF MORE THAN TWO STEPS IN CONVERSION FLOW





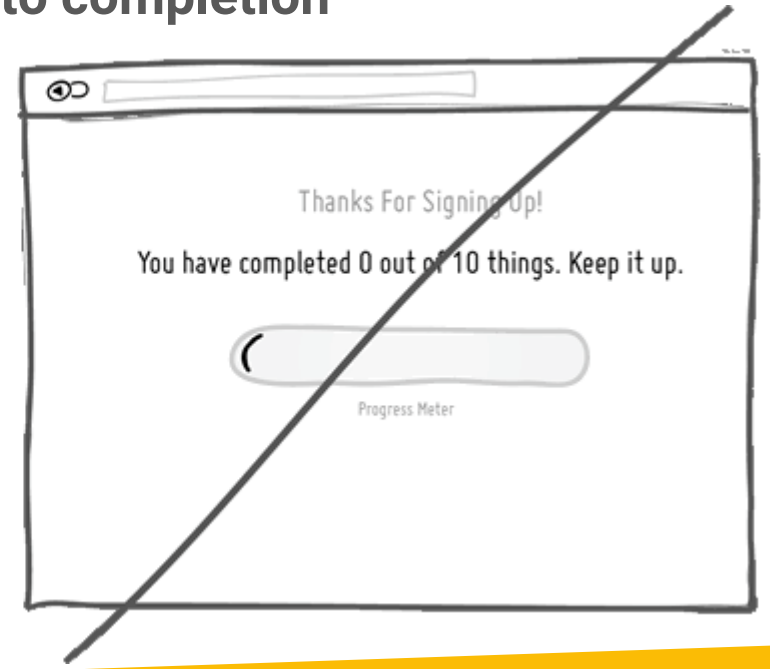


RESEARCH

Try Upfront Progress instead of starting at zero

Proprietary + Confidential

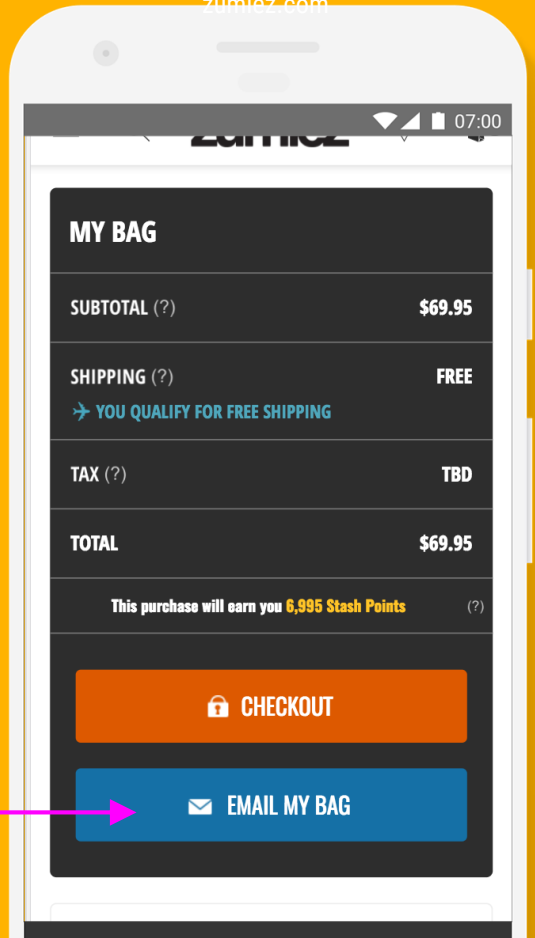
There is more motivation for getting things done the closer we are to completion



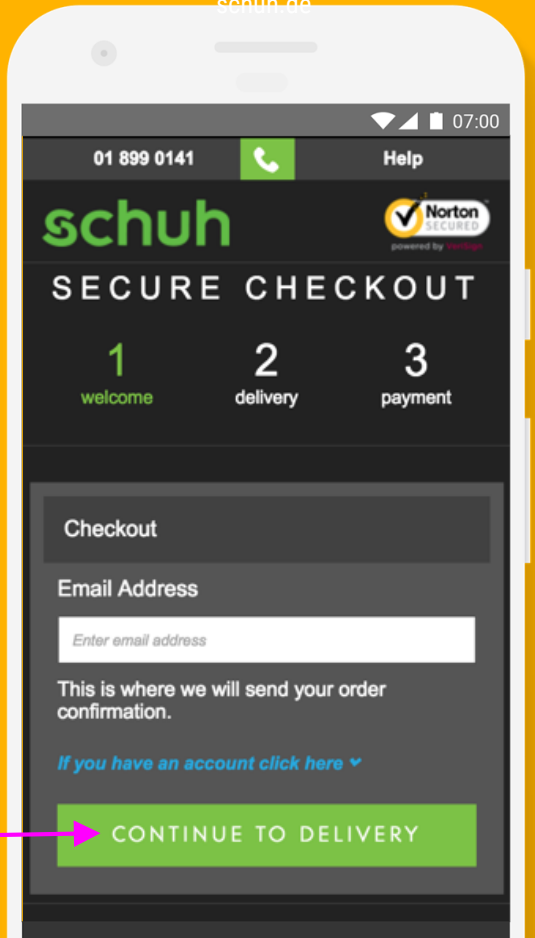
source: https://goodui.org/#42

HAVE DESCRIPTIVE CTAS

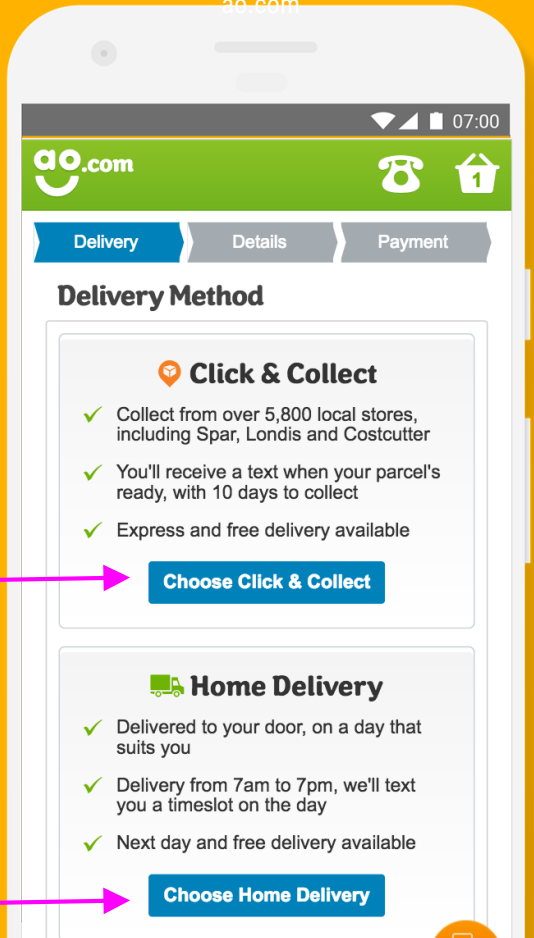
zumiez.com



schuh.de



ao.com



Form Optimization

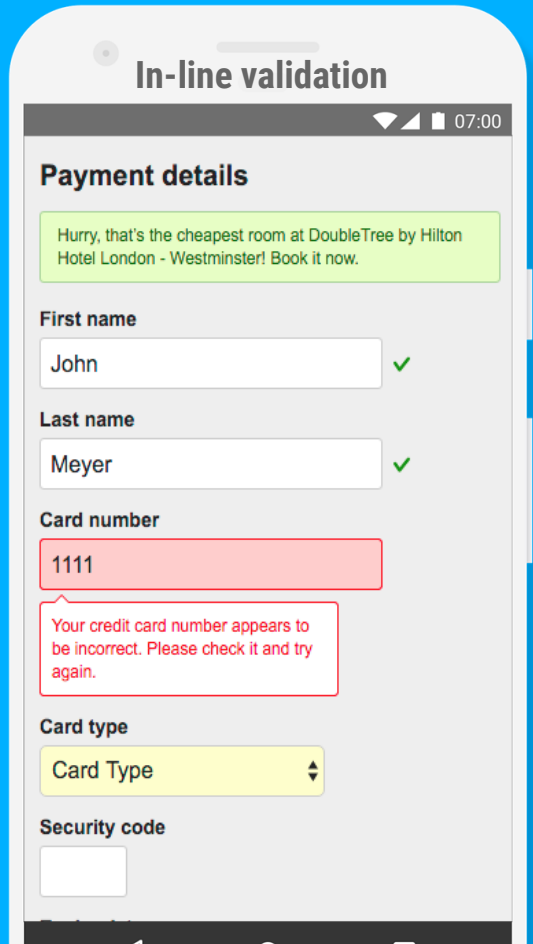
Creating frictionless experiences across the funnel (RETAIL)

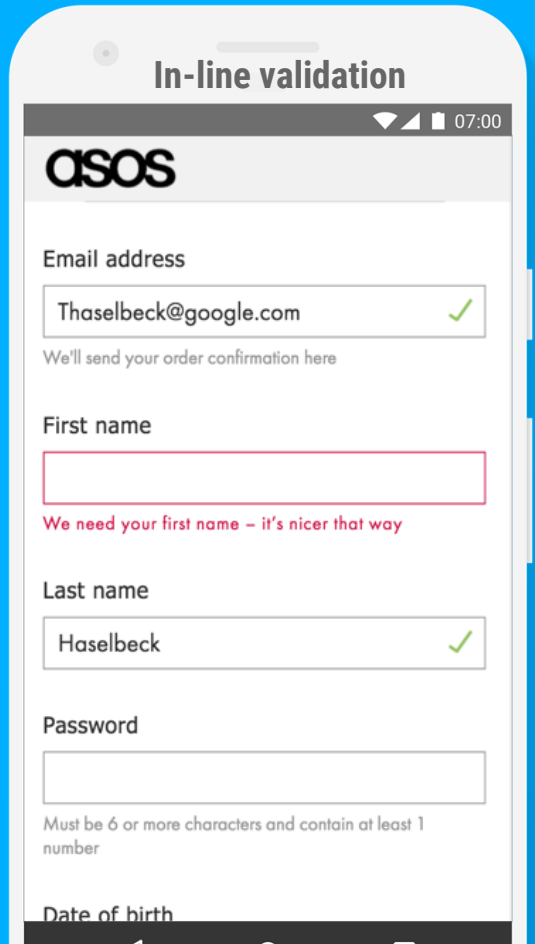
SECTION	Form Optimization		Ease of implementation	Impact	Key Metric
KEY SUGGESTION	Use inline validation & autofill		Medium	High	Exit rate
	Reduce number of fields	• Remove optional fields • Use full name instead of first/last • Hide company and address line 2 • Check billing as shipping by default	Medium	High	Exit rate
	Don't use dropdowns for inputs with < 4 options, instead opt for buttons		Easy	Medium	Exit rate
	Use steppers, sliders, or open field input for numerical entry rather than large dropdowns		Easy	Medium	Exit rate
	Use correct keypads		Easy	Medium	Exit rate

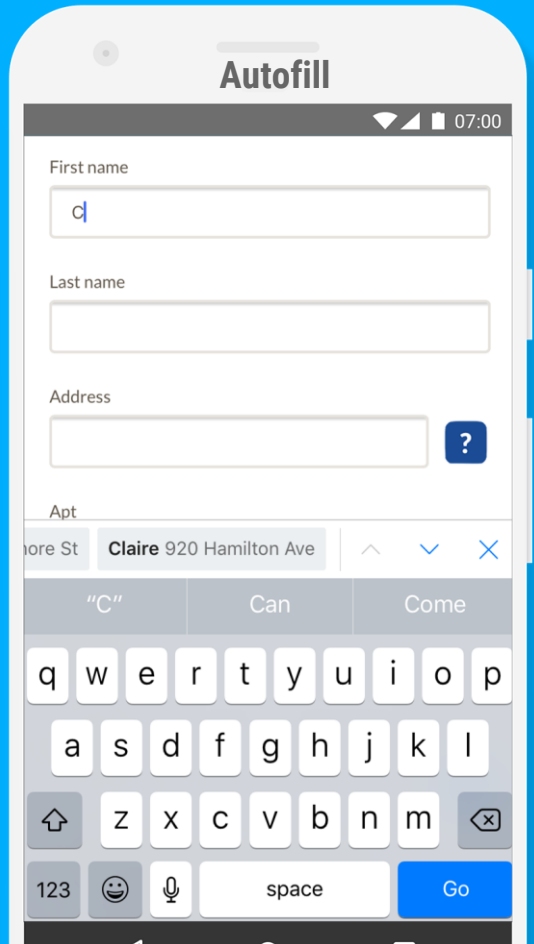
Typing on mobile **is hard**

me_every_time@

USE INLINE VALIDATION & AUTOFILL

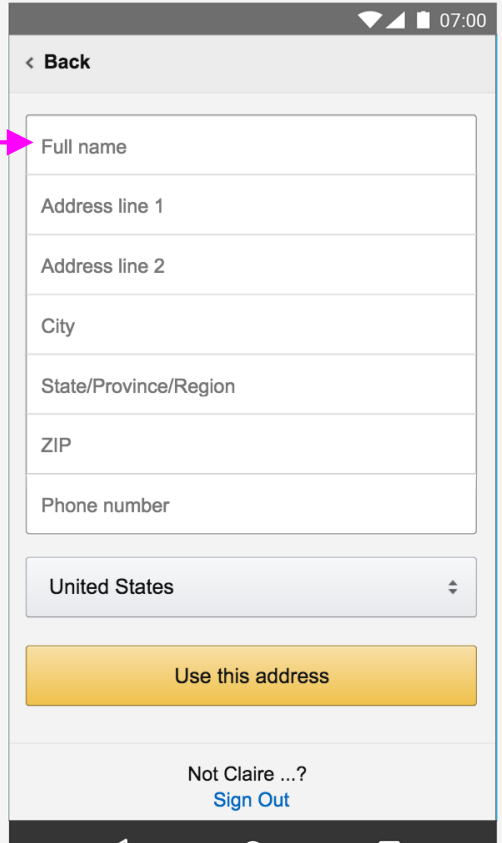




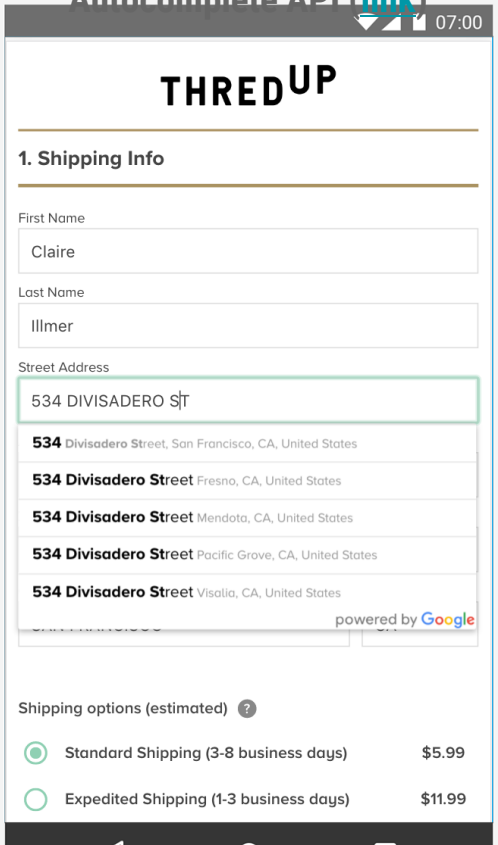


REDUCE THE NUMBER OF FIELDS

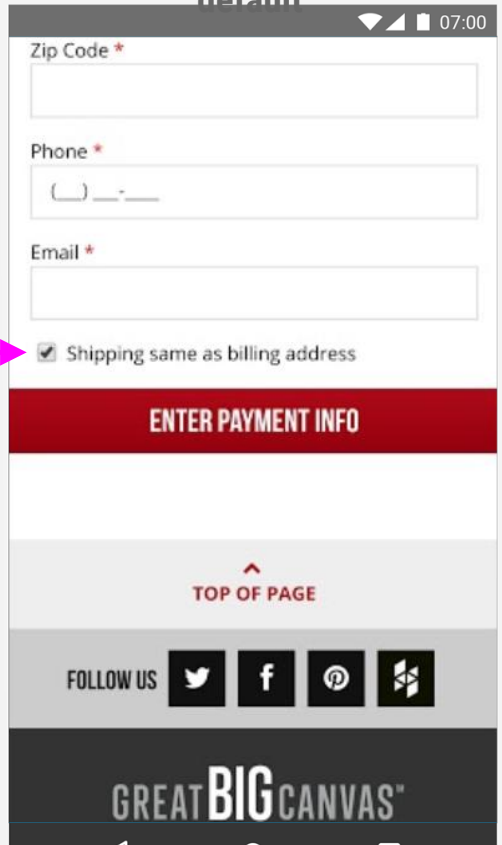
Use full name



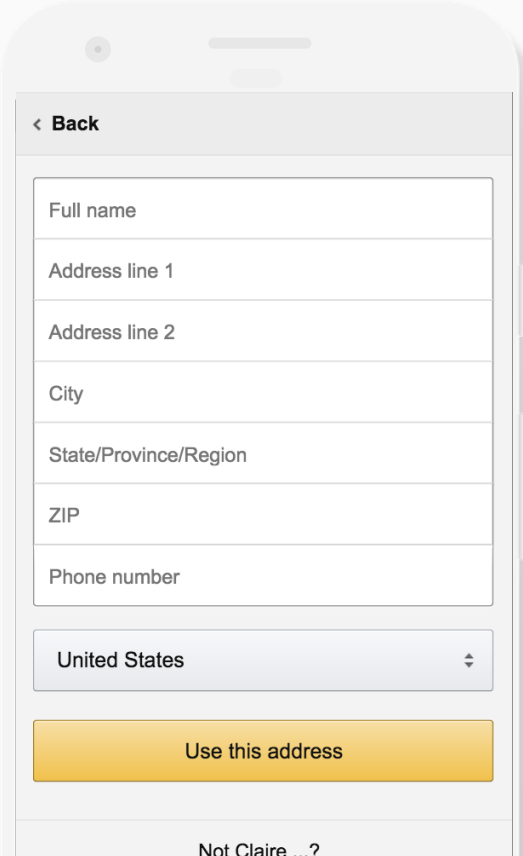
Use Google Places Autocomplete API (link)



Check billing as shipping by default



REDUCE NUMBER OF CHECKOUT FIELDS



27% of users abandon orders due to a “too long / complicated checkout process”.

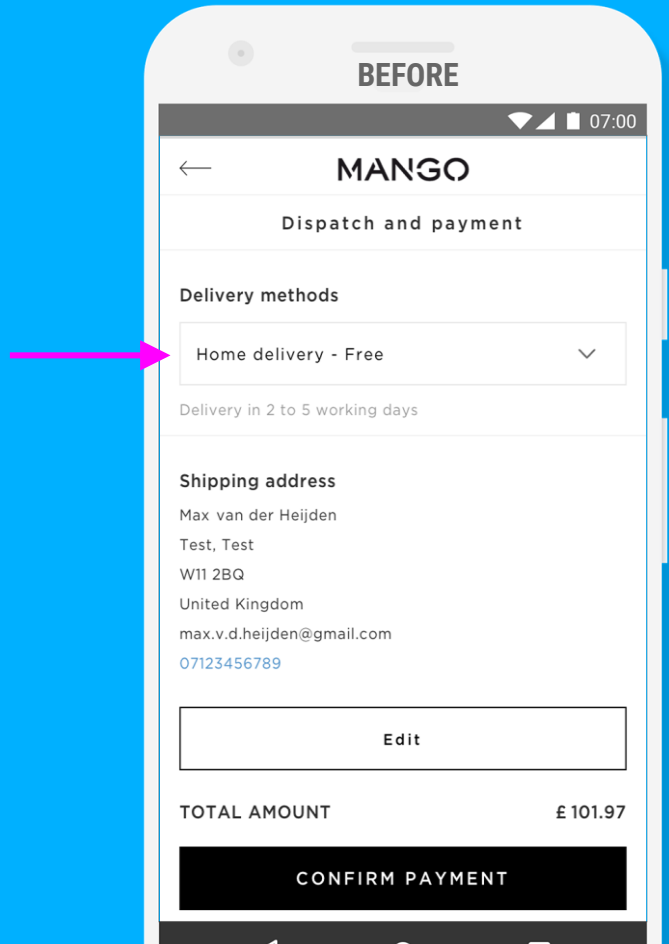
Best performing e-commerce sites have 6-8 fields, total of 12 form elements. Average retail checkout flow has 14.88 form fields.

Optimize forms:

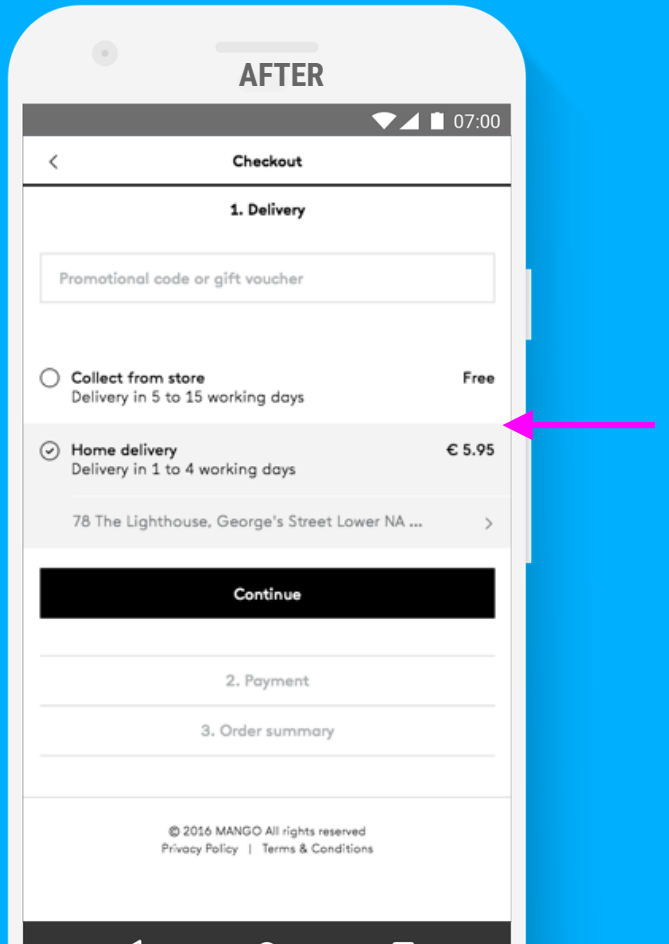
1. Use Full name field, lose the title.
2. Default Billing = Shipping address.
3. Collapse Address Line 2 + Company Name behind a link.

Full research.

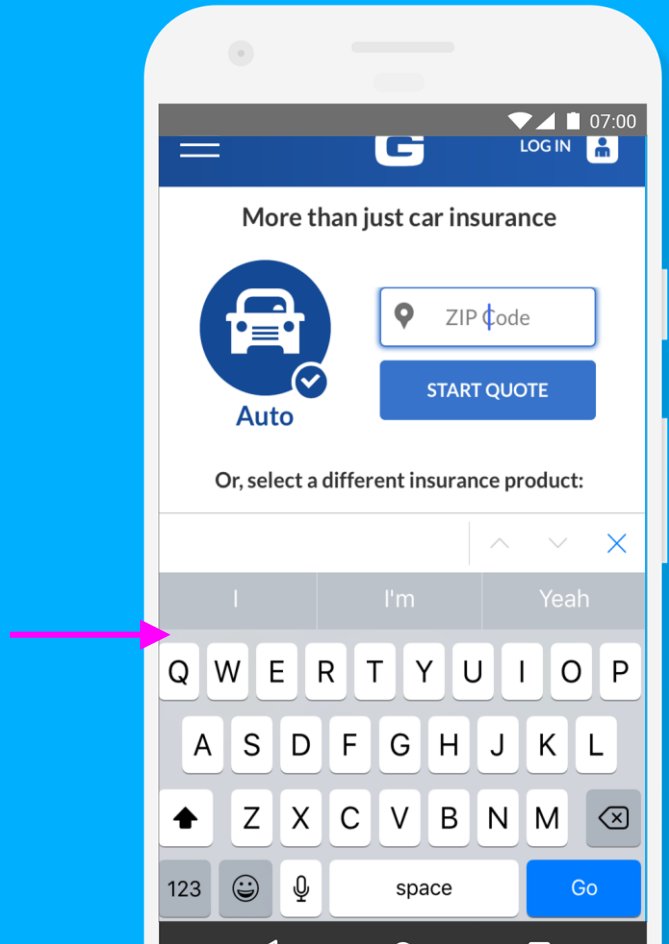
DON'T USE DROP DOWNS IF LESS THAN 3 OPTIONS



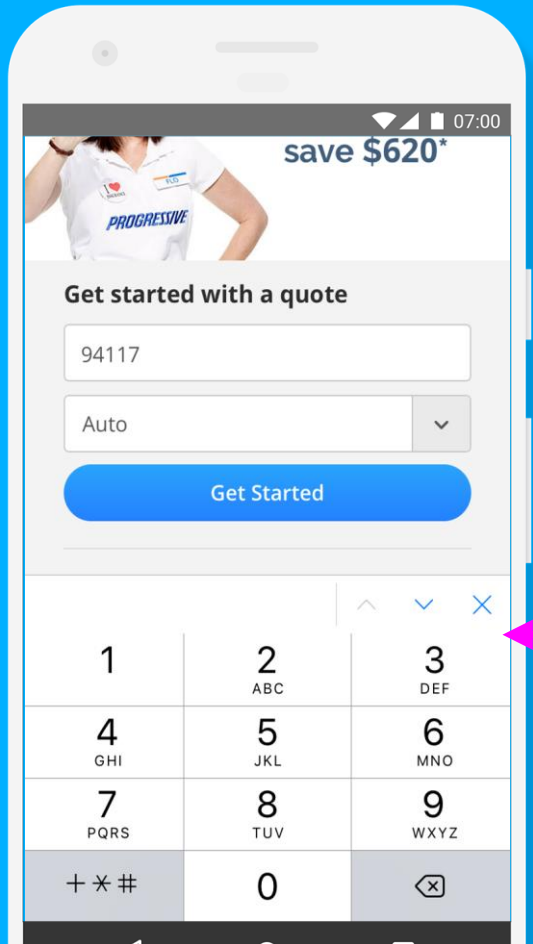
VS.



USE THE CORRECT KEYPADS

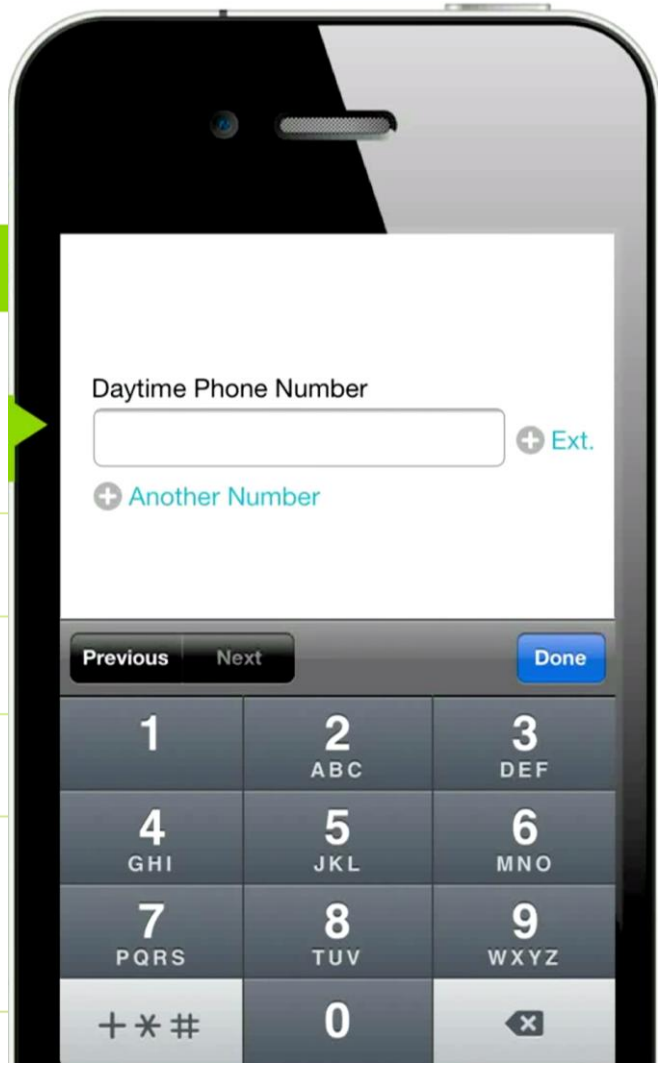


VS.



Ensure that the correct input type is used

Input Type	HTML
number	`<input type="number" min="2" max="10" step="2" value="6">`
email	`<input type="email">`
url	`<input type="url">`
date	`<input type="date">`
range	`<input type="range" min="2" max="10" step="2" value="6">`



EXAMPLE

How much is...

15 + 5

$$3 + 56$$

89 + 2

12 + 53

$$75 + 26$$

$$25 + 52$$

63 + 52

123 + 5

Think of a **color** and a **tool**