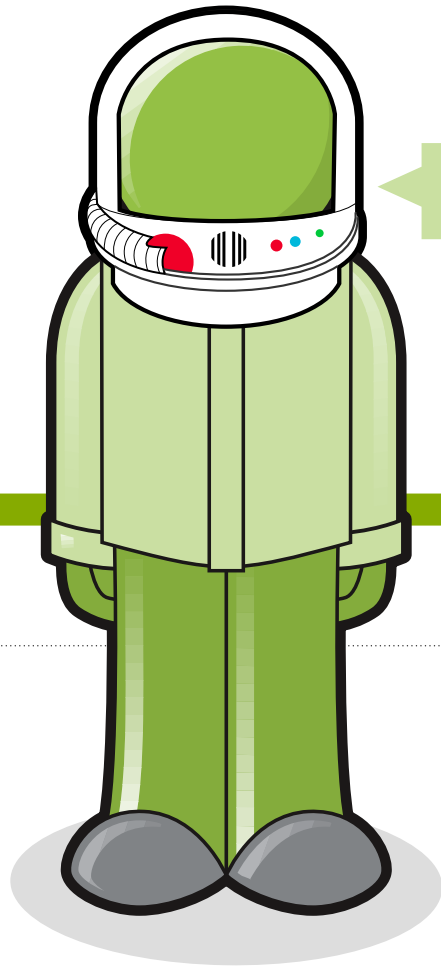


MOBILE TO THE FUTURE



@lukew

LUKE WROBLEWSKI

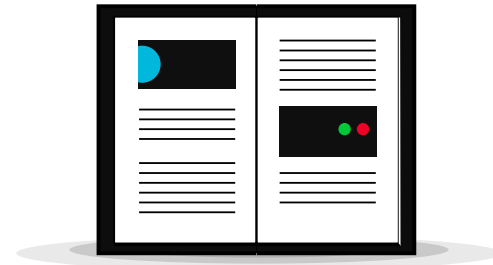
CASCADE SF

LUKEW
IDEATION + DESIGN

MASS MEDIA

1500

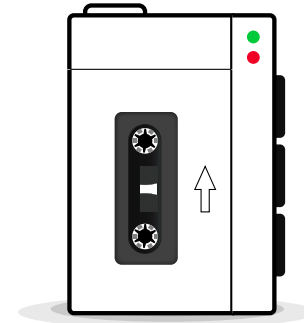
Print (books, pamphlets,
newspapers, magazines, etc.)



MASS MEDIA

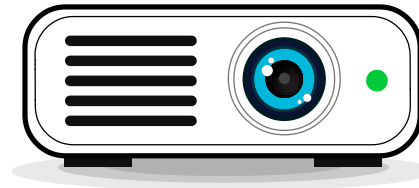
1890

Recordings (records, tapes, cartridges, CDs, DVDs)



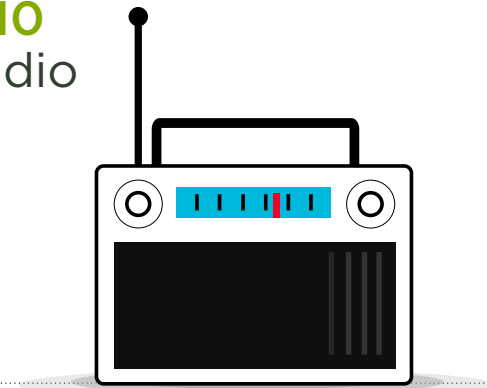
1900

Cinema



1910

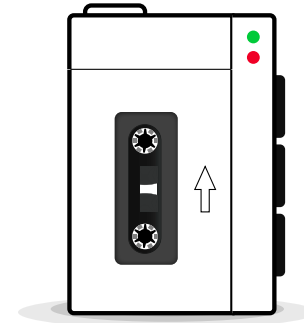
Radio



MASS MEDIA

1890

Recordings (records, tapes, cartridges, CDs, DVDs)

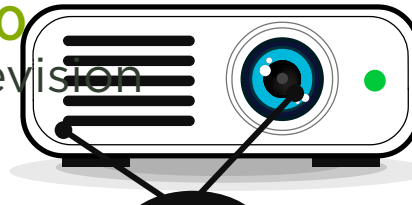


1900

Cinema

1950

Television



1910

Radio



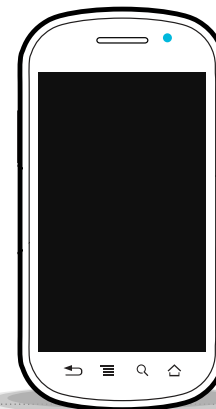
MASS MEDIA



1990
Internet

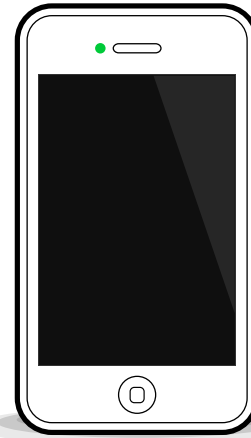
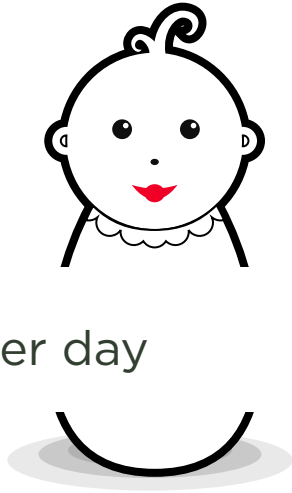


2000
Mobile Devices



371K

Babies born per day

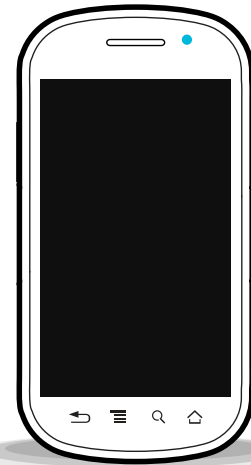


378K

iPhones sold per day

562K

iOS devices



1.3M

Android devices
activated per day

200K

Nokia smartphones

143K

Blackberry devices

5 YEARS

10 YEARS

15 YEARS

TELEPHONE

39 YRS

ELECTRICITY

COMPUTER

RADIO

MOBILE PHONE

INTERNET

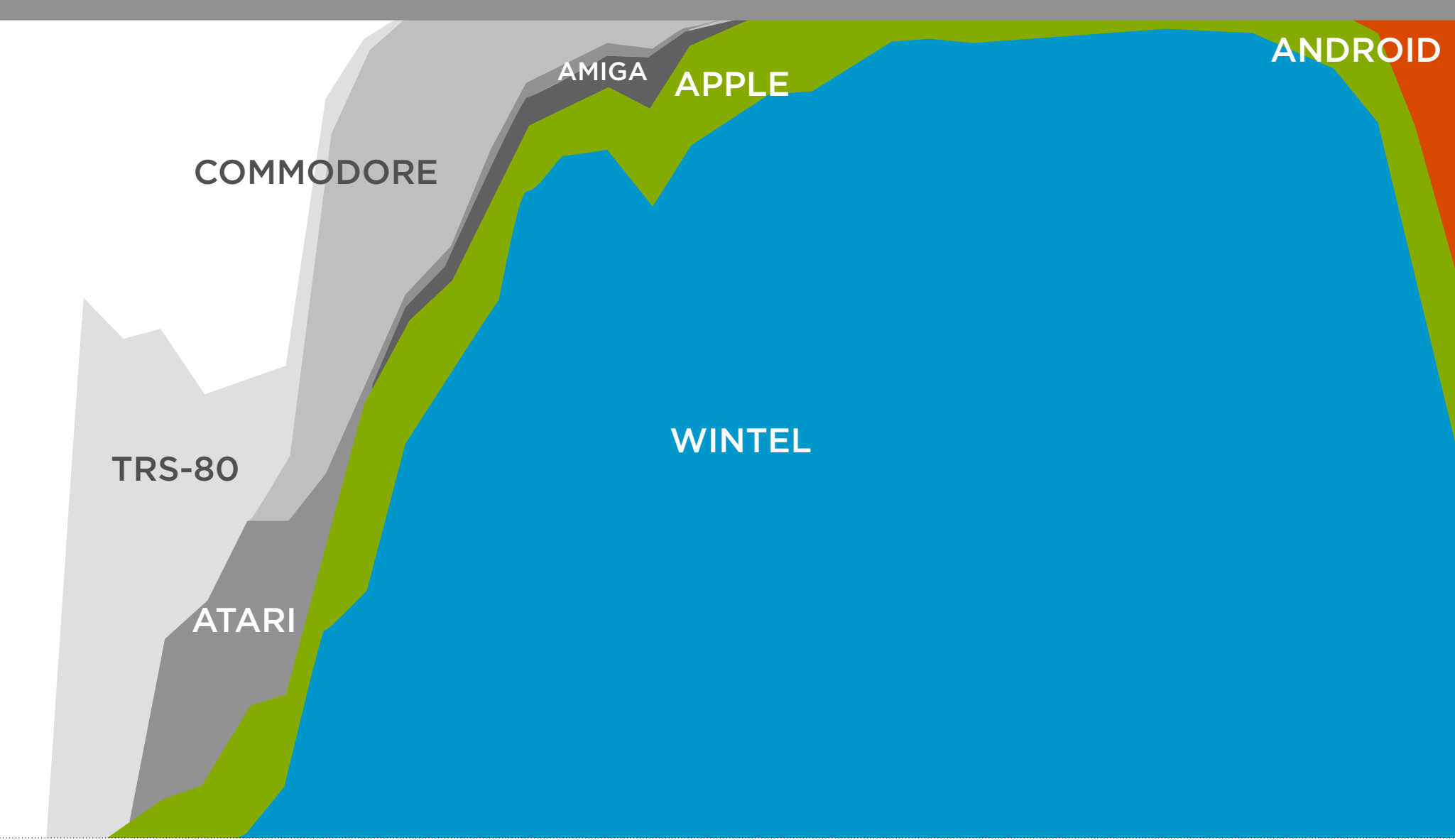
TELEVISION

SMARTPHONE

Share of Personal Computing

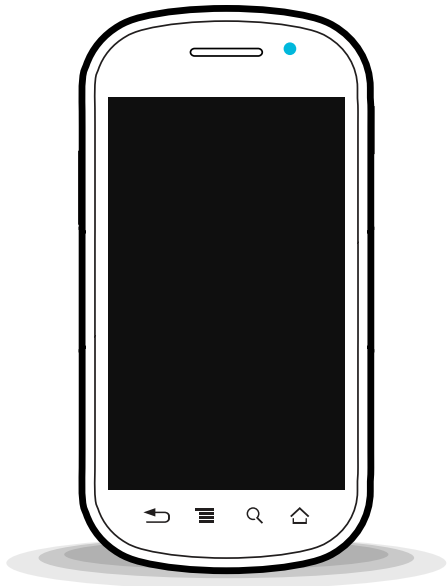


Share of Personal Computing



Source: <http://bit.ly/xDzag2>

MOBILE



6B

connections
today

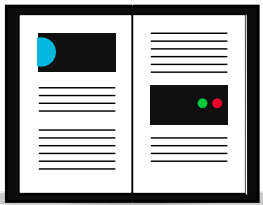
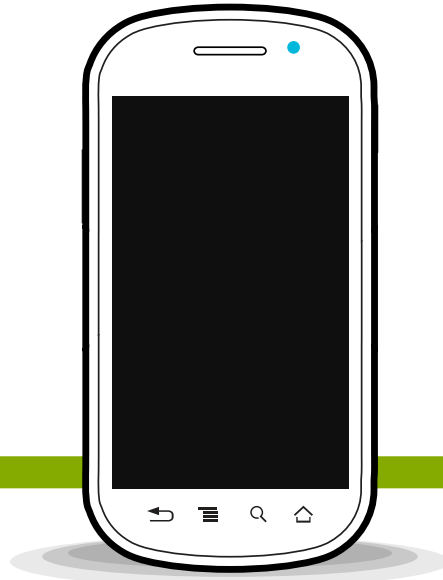
10B

connections
in 2016

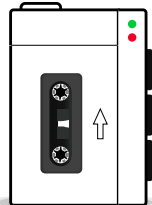
26X

worldwide
traffic growth

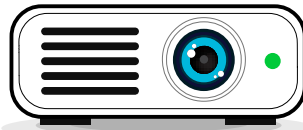
MOBILE



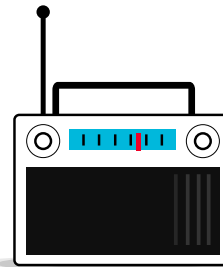
Print



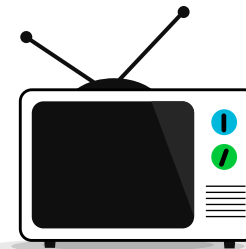
Recordings



Cinema



Radio

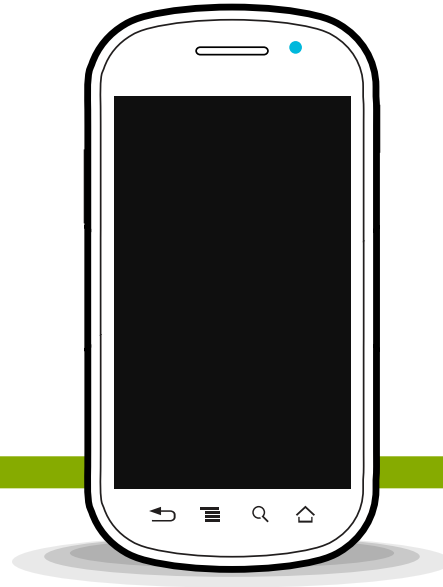


Television

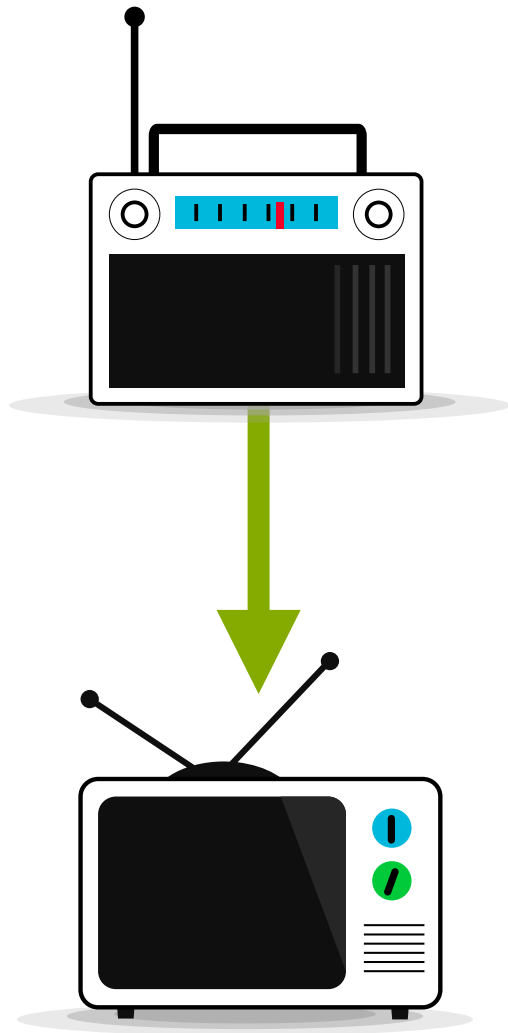


Internet

MOBILE



1. Permanently carried
2. Always on
3. Built-in payment mechanism
4. At point of inspiration
5. Accurate audience
6. Captures social context
7. Augmented reality
8. Digital interface to reality



Sponsors
Jingles
Spokesmen
Programs



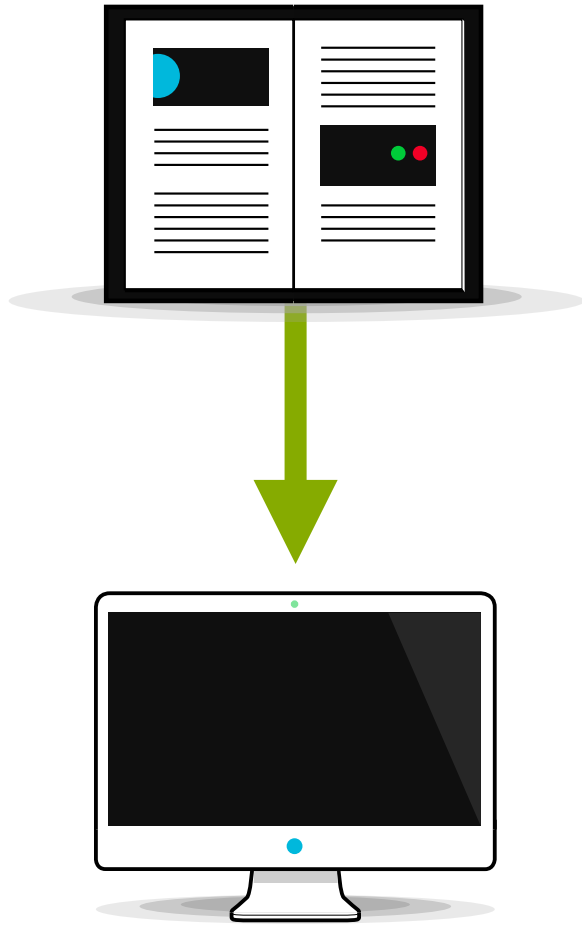
Flickr Photo: by OSU Special Collections & Archives



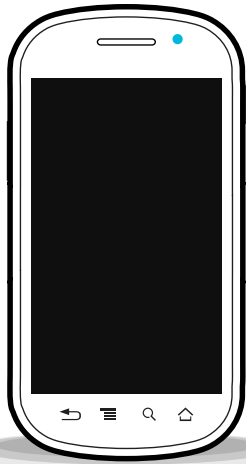
Photo: Robot Chicken Star Wars

RADIO
IS NOT
TV.





THE WEB
IS NOT
PRINT.

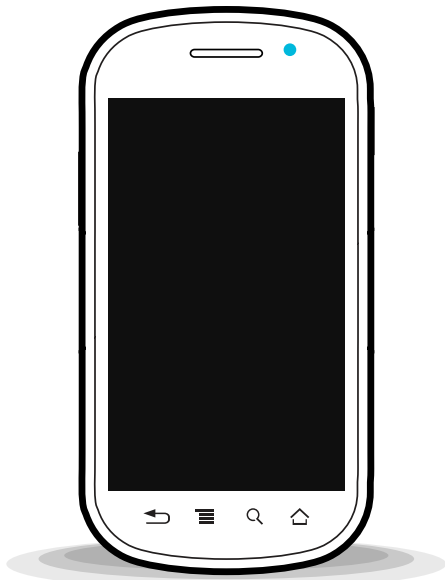


MOBILE
IS NOT A
DESKTOP
PC.



“...copy, extend, and finally, discovery of a new form. It takes a while to shed old paradigms.” -Scott Jenson

MOBILE



PayPal™

MOBILE PAYMENTS

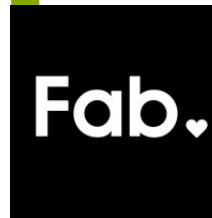
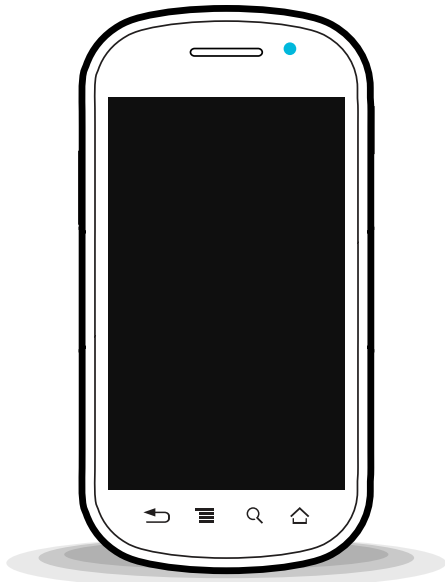
\$141M 2009

\$750M 2010

\$4B 2011

\$10B 2012

MOBILE



2X

more likely to buy on mobile



2.5X

more likely to subscribe



3X

engagement on mobile

MOBILE

“We’re doing a complete relaunch [...] inspired by our mobile experience” -CEO
Garrett Camp



800% mobile
growth

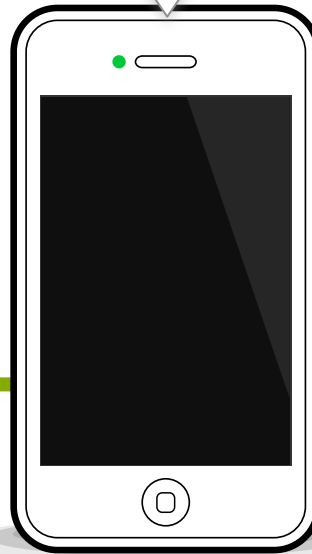
What we know from
desktop Web

How to adapt &
optimize for mobile

Ways to move
forward



YESTERDAY



TODAY



TOMORROW

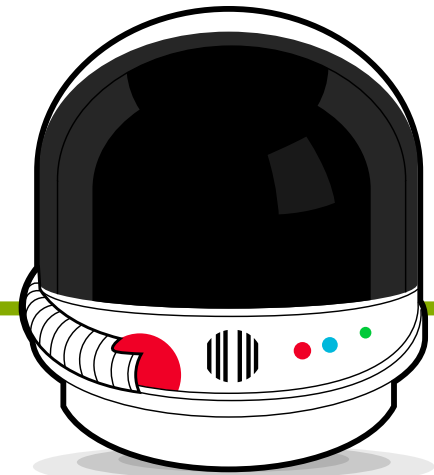
LOGIN



YESTERDAY

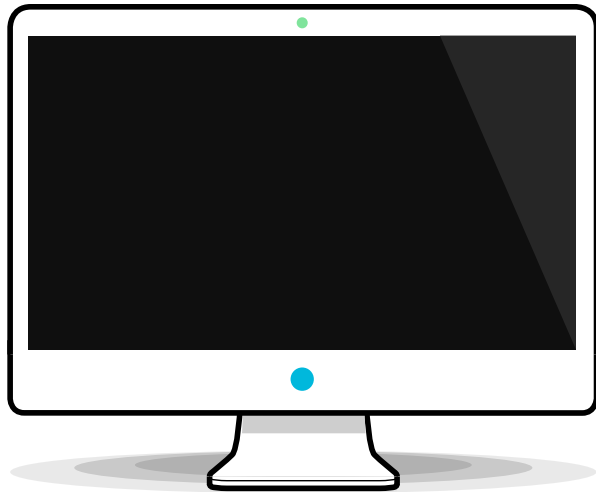


TODAY



TOMORROW

LOGIN



YESTERDAY

15

authentications
per day

82%

have forgotten a
site password

5-10%

request password

#1

request to
intranet help desk



Help: Change Password

Because you have logged in successfully, you can change your password here by entering your password in the **Current Password** field, entering the new password in the **New Password** field, and confirming the new password by entering it again in the **Confirm New Password** field. Then click **Submit**.

Remember that the new password must fulfill these requirements:

1. The password must be **exactly** 8 characters long.
2. It must contain **at least** one letter, one number, and one special character.
3. The **only** special characters allowed are: @ # \$
4. A special character must **not** be located in the first or last position.
5. Two of the same characters sitting next to each other are considered to be a "set." No "sets" are allowed.
6. Avoid using names, such as your name, user ID, or the name of your company or employer.
7. Other words that cannot be used are Texas, child, and the months of the year.
8. A new password cannot be too similar to the previous password.
 - a. Example: previous password - abc#1234, acceptable new password - acb\$1243
 - b. Characters in the first, second, and third positions cannot be identical. (abc****)
 - c. Characters in the second, third, and fourth positions cannot be identical. (*bc#****)
 - d. Characters in the sixth, seventh, and eighth positions cannot be identical. (*****234)
9. A password can be changed voluntarily (no Help Desk assistance needed) once in a 15-day period. If needed, the Help Desk can reset the password at any time.
10. The previous 8 passwords cannot be reused.

[Top of page](#)

sign in

Windows Live ID:

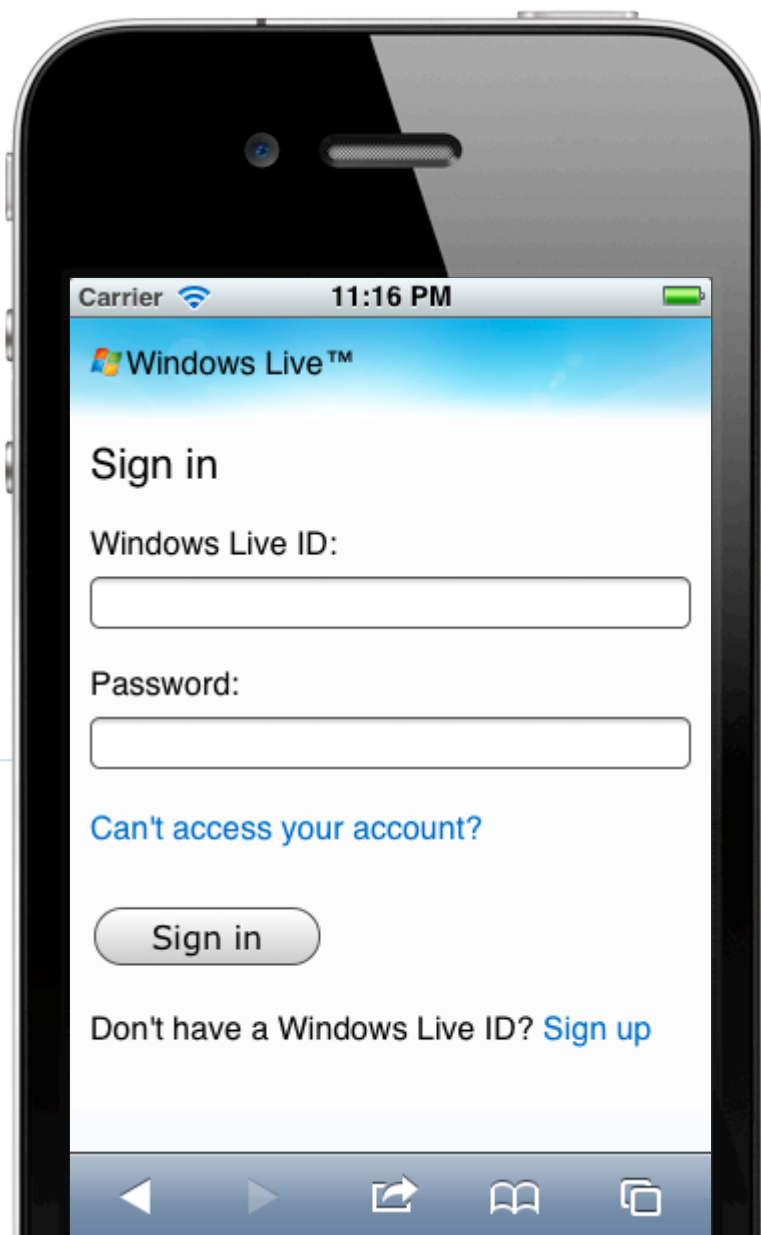
Password:

[Can't access your account?](#)

Keep me signed in

Not your computer?

[Get a single use code to sign in with](#)





Welcome to eBay - Sign in

Sign in to your account

User ID

Password

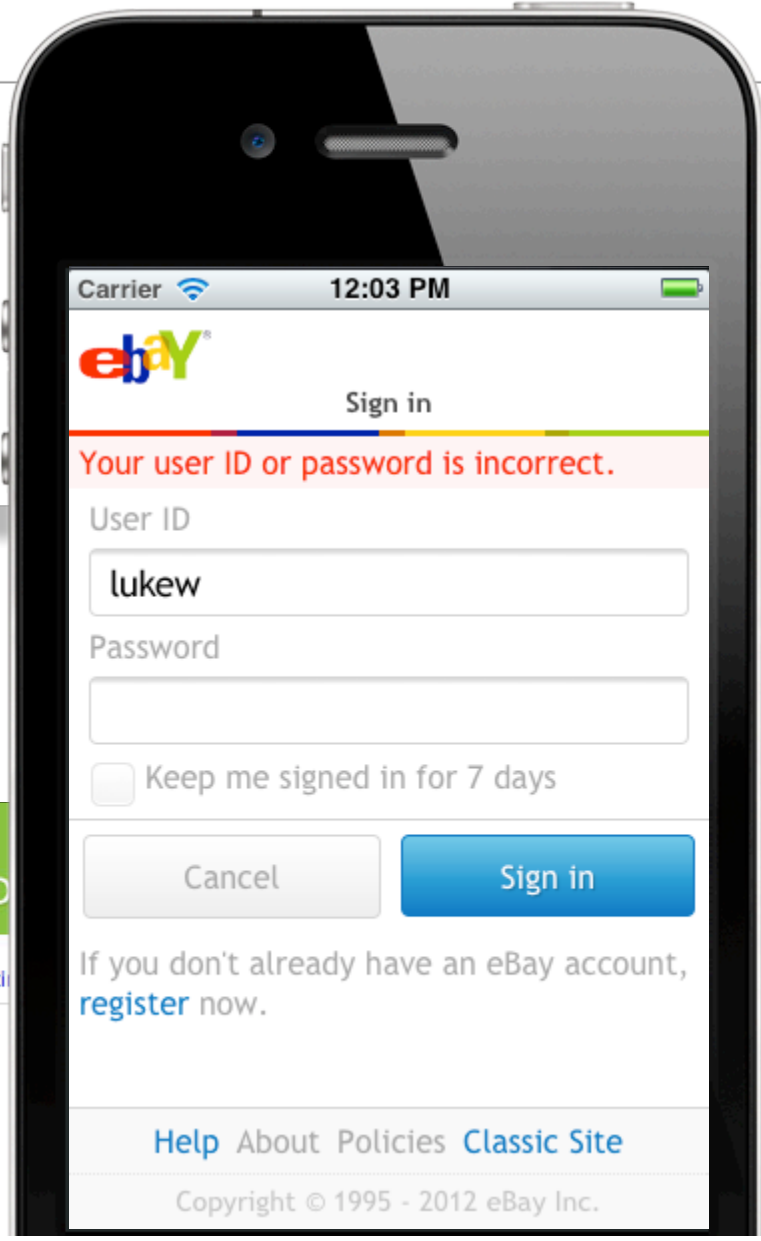
[I forgot my user ID or password](#)

I forgot my [user ID](#) or [password](#)

Sign in

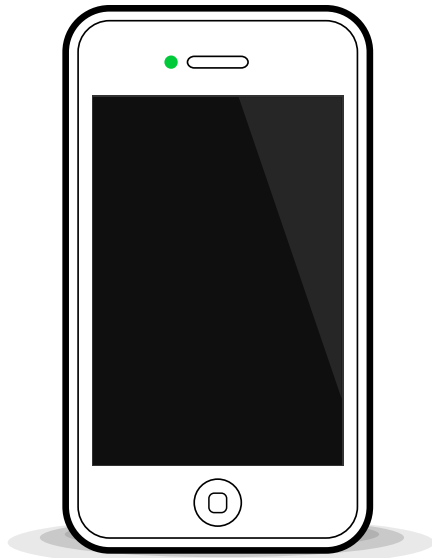
Not an eBay member?

Register



More shopping — Get the browser that gets you

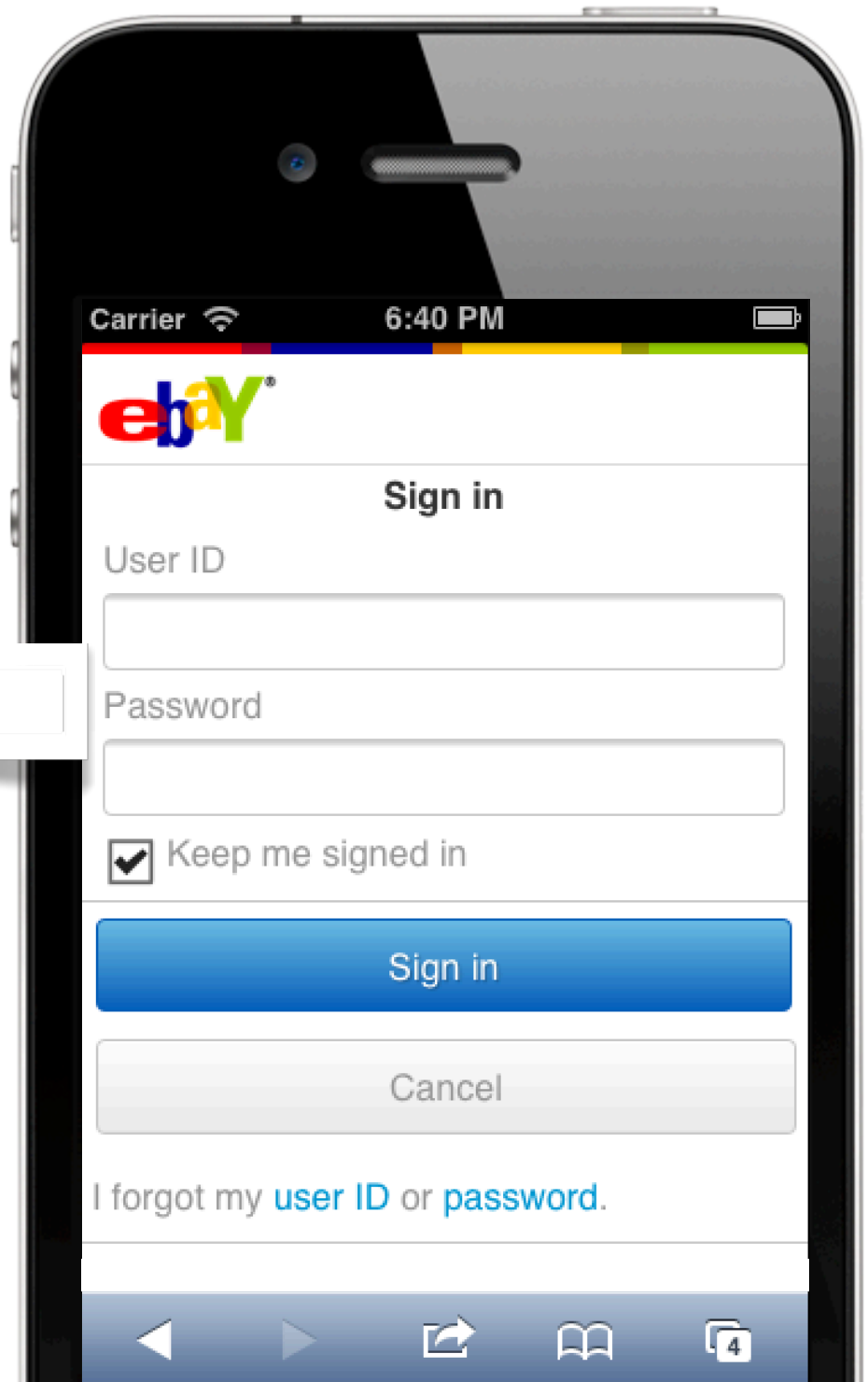
LOGIN



TODAY

90% of customer service inquiries

I forgot my [user ID](#) or [password](#)





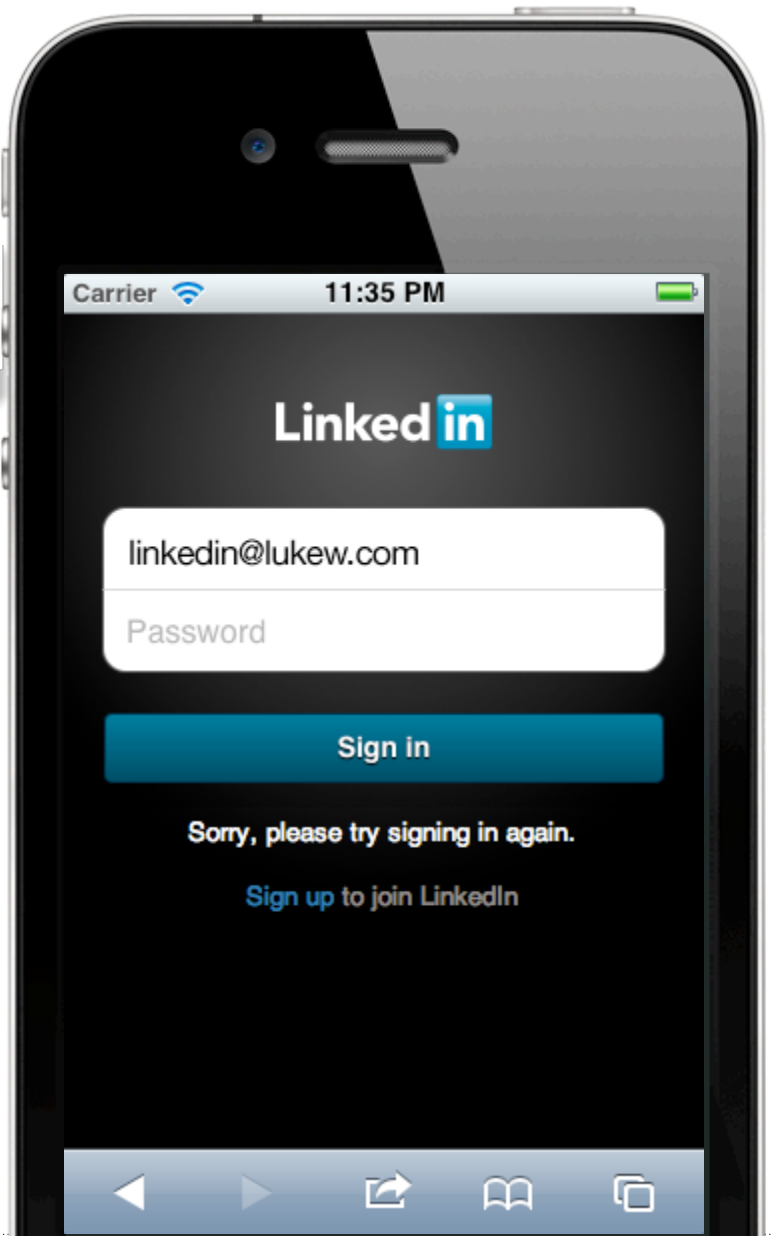
Sign in to LinkedIn

Email address:

Password:

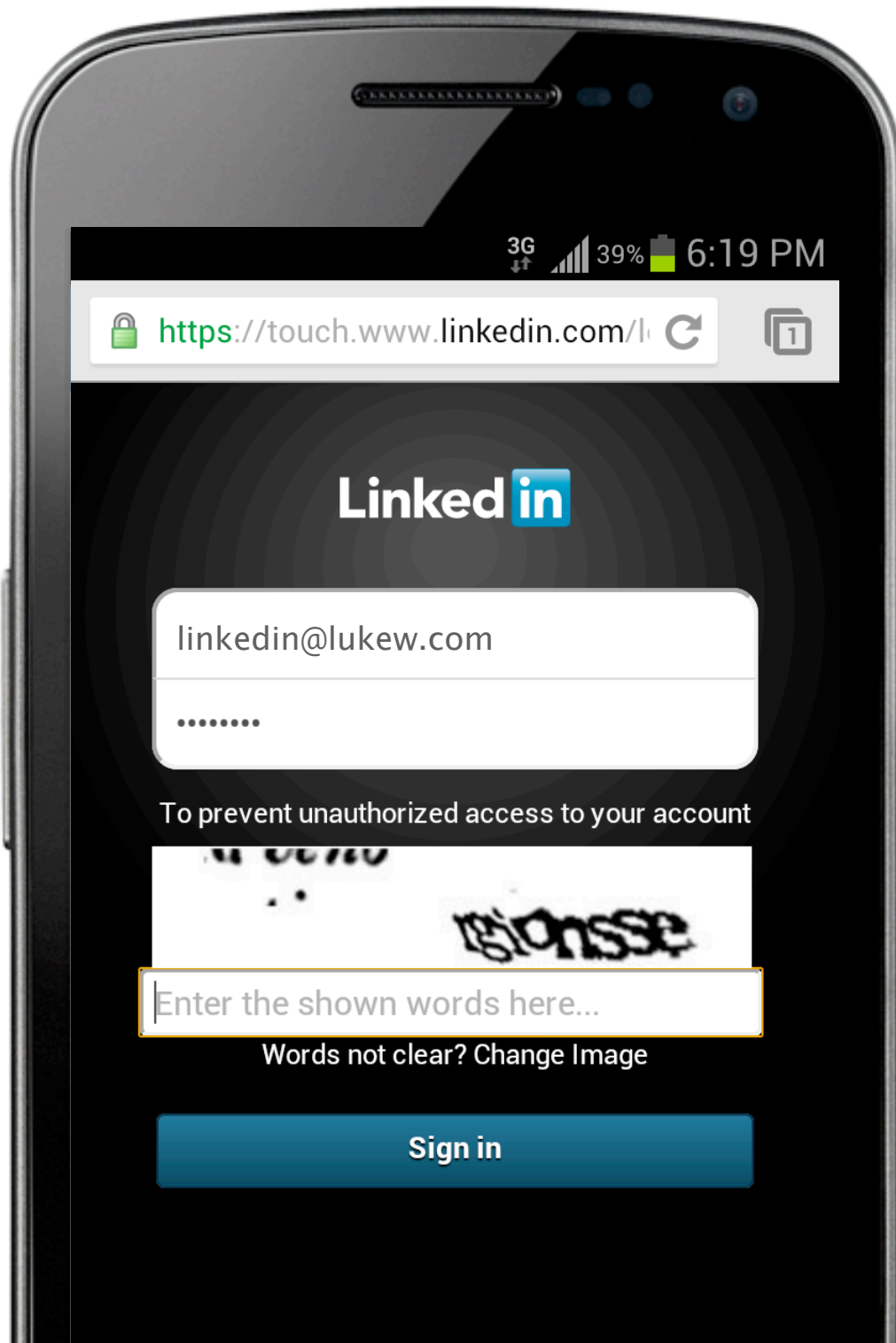
[Sign In](#) or [Join LinkedIn](#)

[Forgot password?](#)

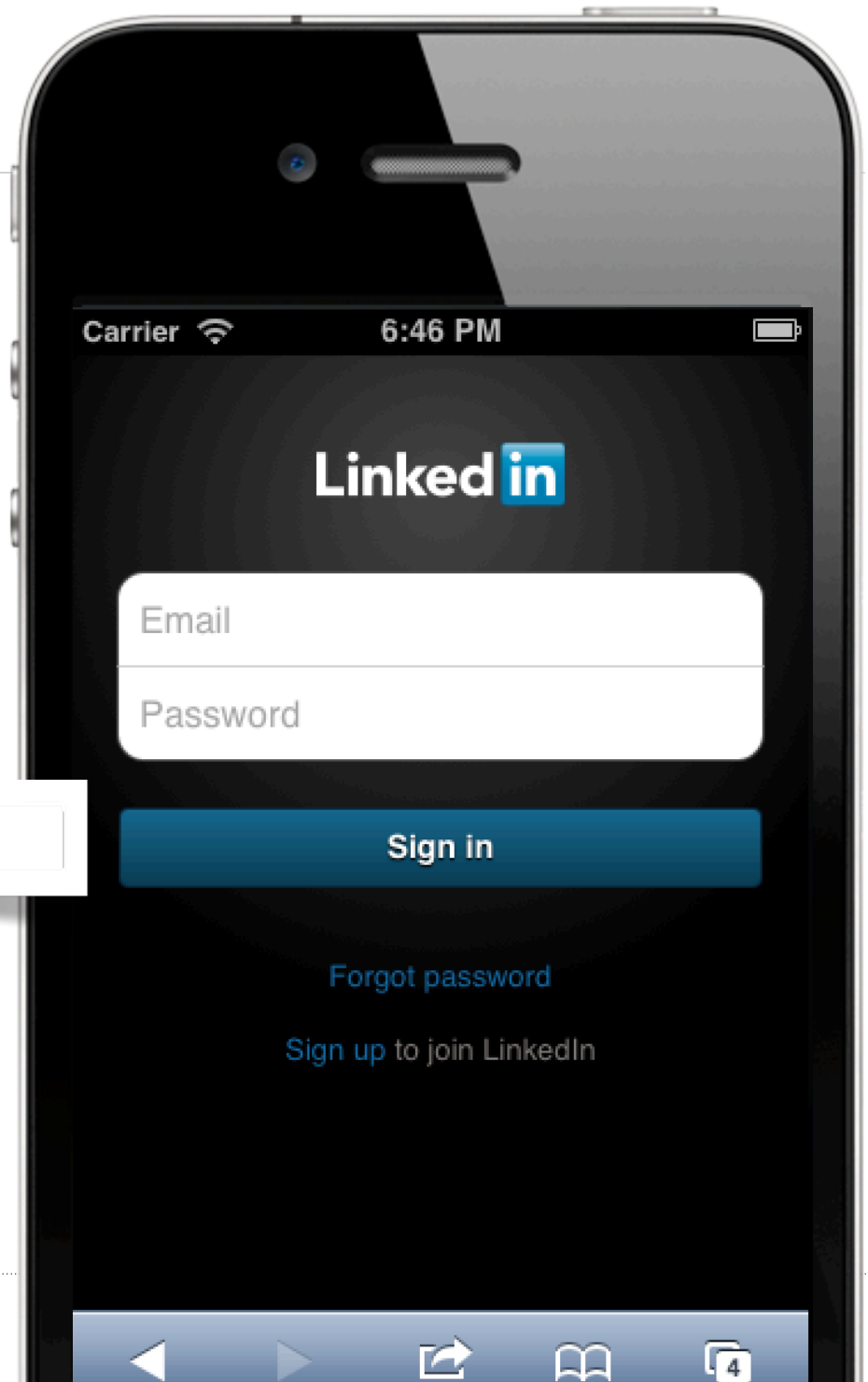


Log In Flow





Log In Flow



Forgot password

[See All Departments](#)

Search Search

[My Cart \(2\)](#)

[Choose My Store](#)

Sign In to Your Account

Sign in for faster checkout.

Email Address

Password

[Forgot your password?](#)

Email me monthly updates and special values available only at Walmart.

[Sign In](#)

Learn more about our [Privacy Policy](#).

New Online Users

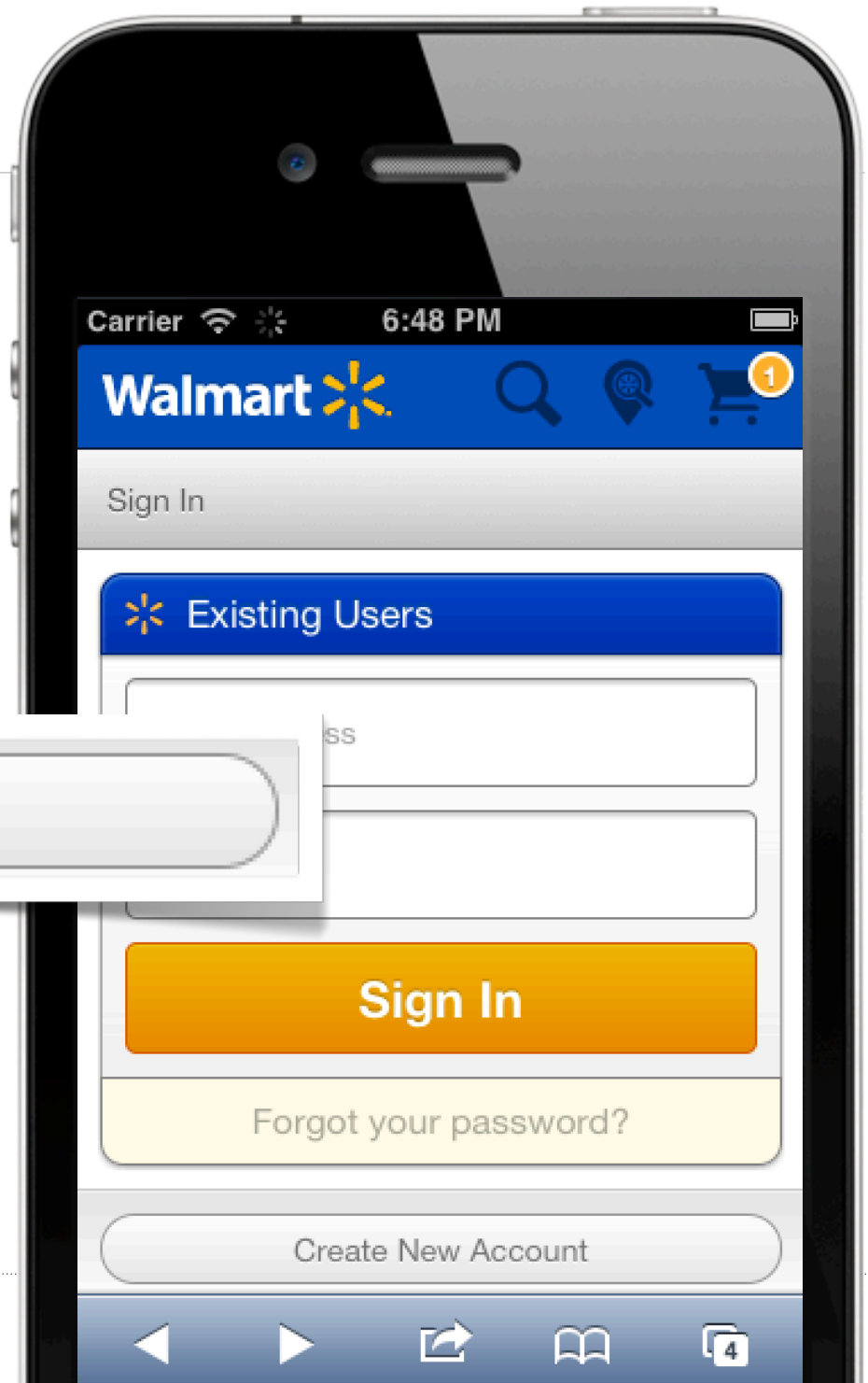
If you do not have a Walmart account, please click "Continue" to register.

[Continue](#)



If you don't have an account, please visit the Walmart.com full site to create one.

Log In Flow



Create New Account

Sign In

Forgot your password?

Create New Account



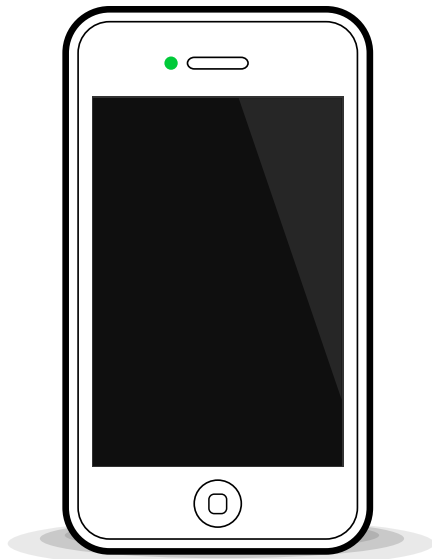
“Mobile must never be a dumbed-down, limited experience.” -Steven Hooper

Interfaces

O'REILLY®

*Steven Hooper
& Eric Berkman*

LOGIN



TODAY

- Don't remove **critical** features
- Use input types & attributes
- Show passwords by default
- Use input masks, if needed
- If possible, save passwords
- Consider single sign-on

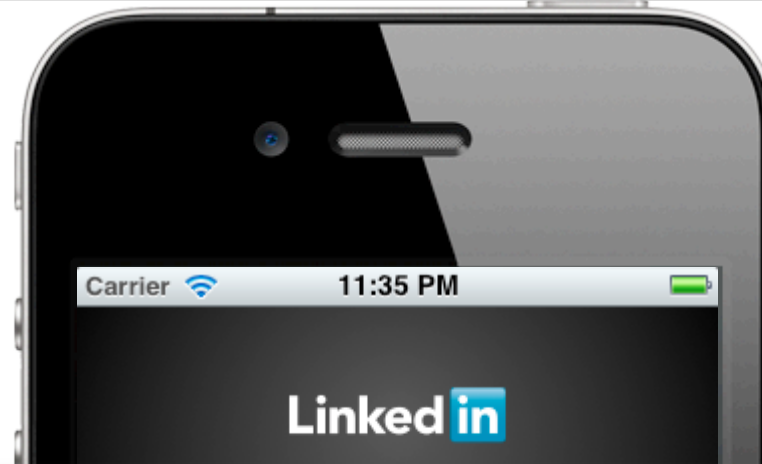
Input Types & Attributes



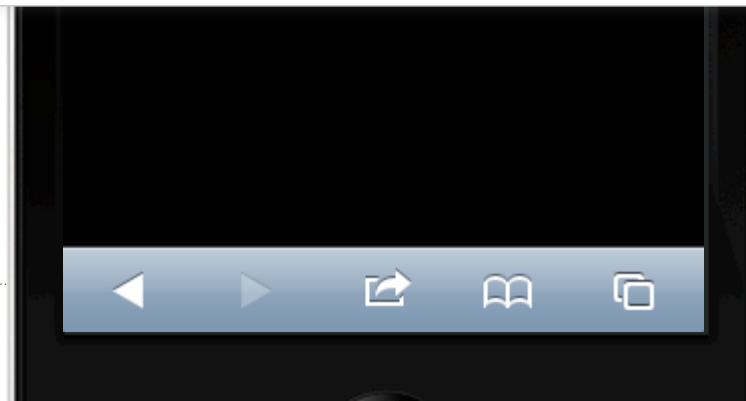
type=password
autocapitalize=off
autocomplete=off

type=email
autocapitalize=off
autocomplete=off

Show Passwords



“Masking passwords doesn’t even increase security, but it does cost you business due to login failures.” -Jakob Nielsen

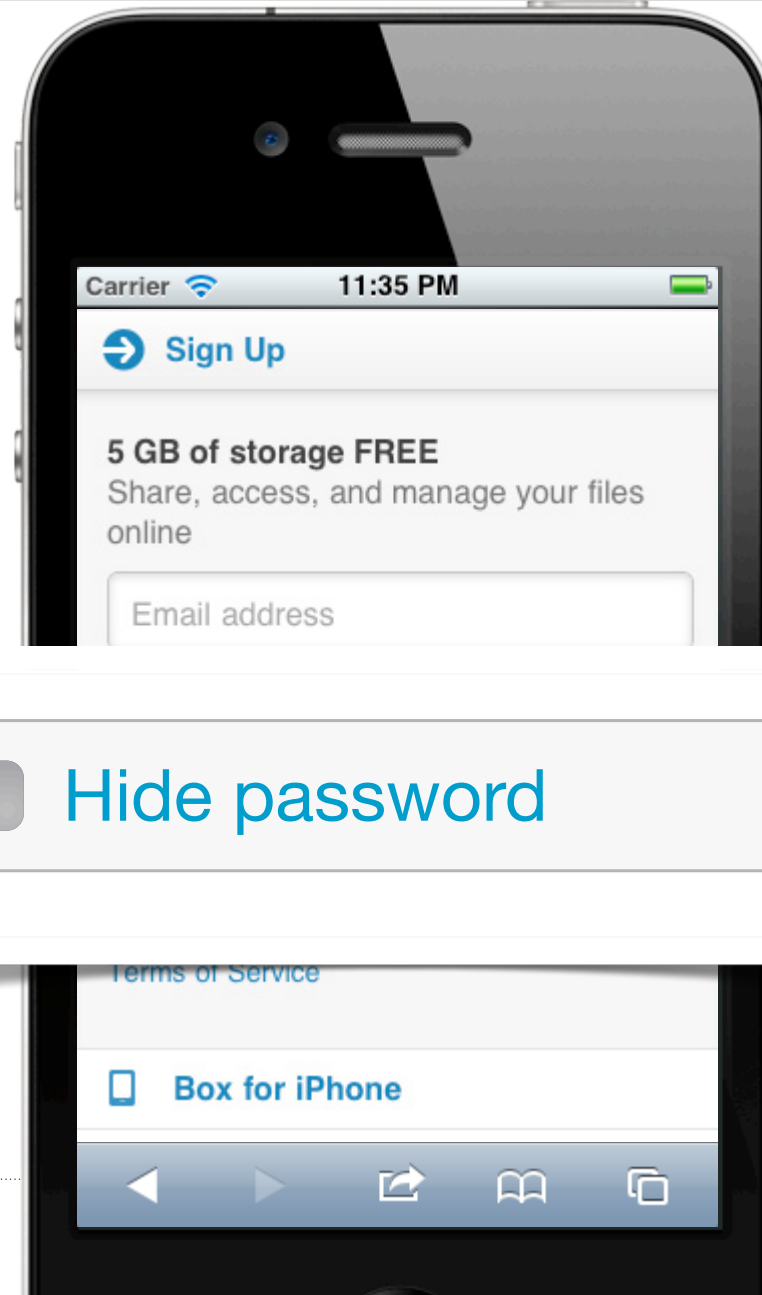


A photograph of a man with glasses and a dark suit, holding a magnifying glass over his nose. The nose is significantly enlarged and magnified. A white speech bubble is positioned to the left of the magnified nose.

“...and it's worse
on mobile.”

Mobile is a magnifying lens for your
usability problems.

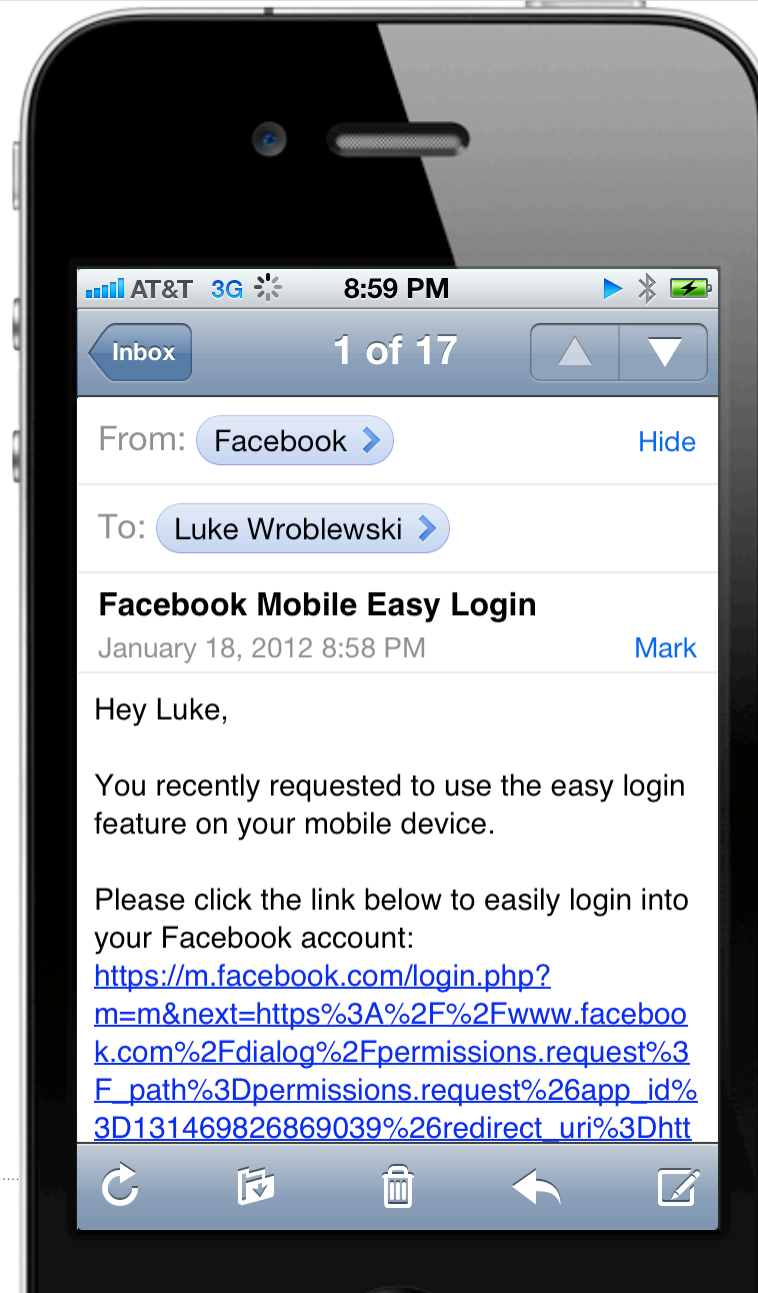
Show Passwords



Smart
Defaults

Hide password

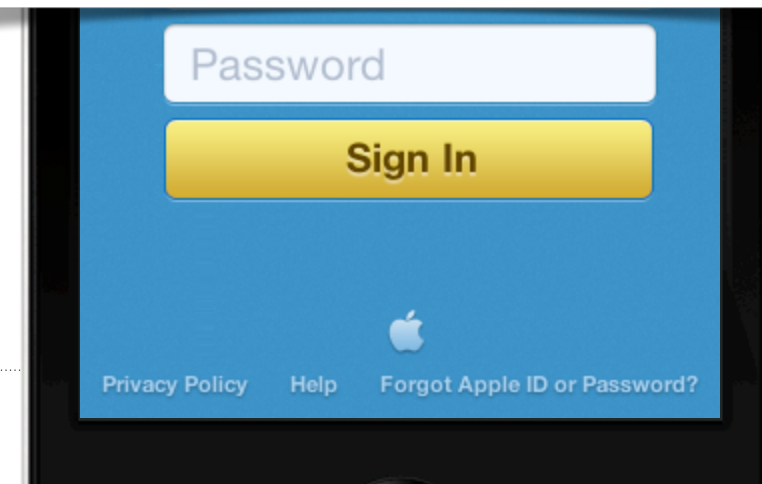
Show Passwords



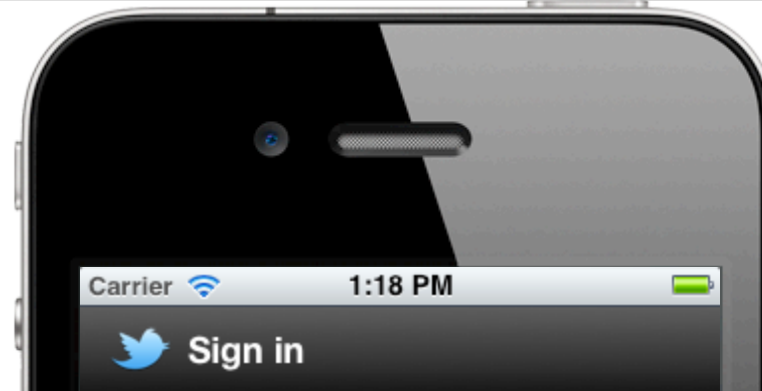
Input Masks



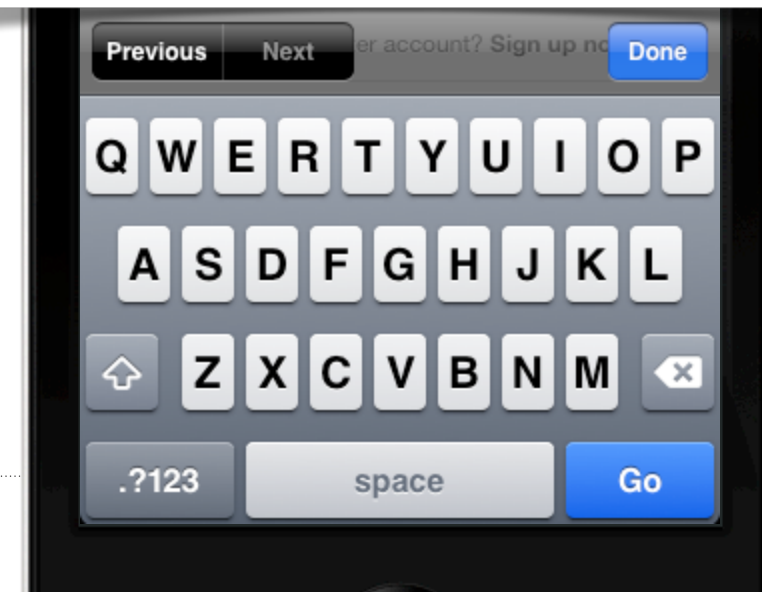
steve@|me.com



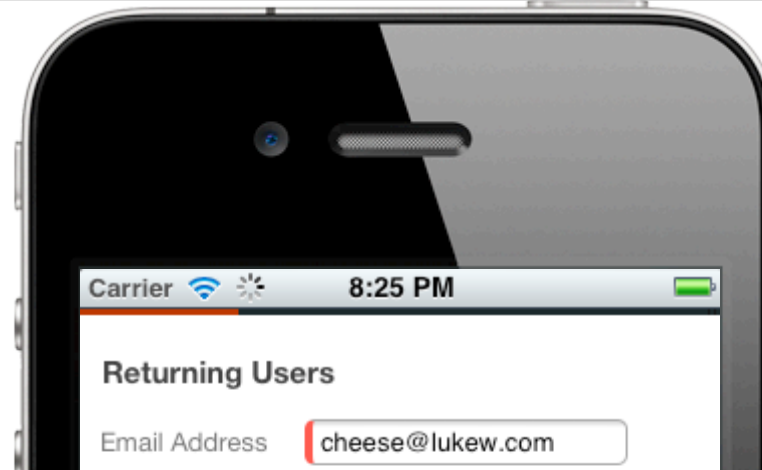
Input Masks



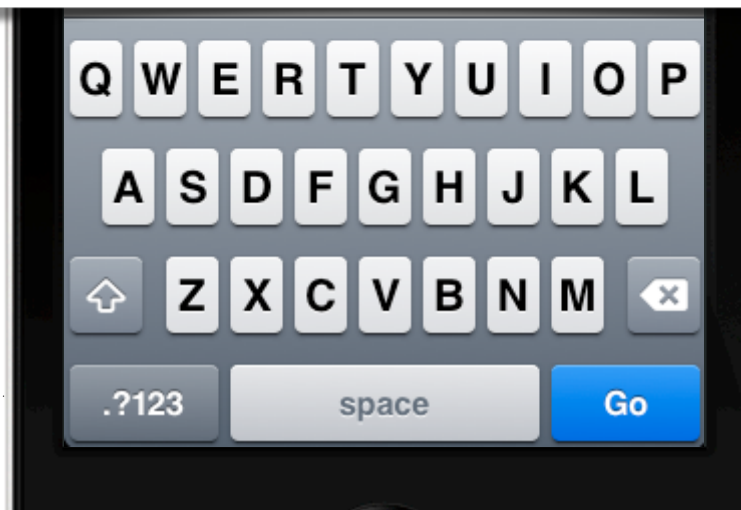
Username @lukew|



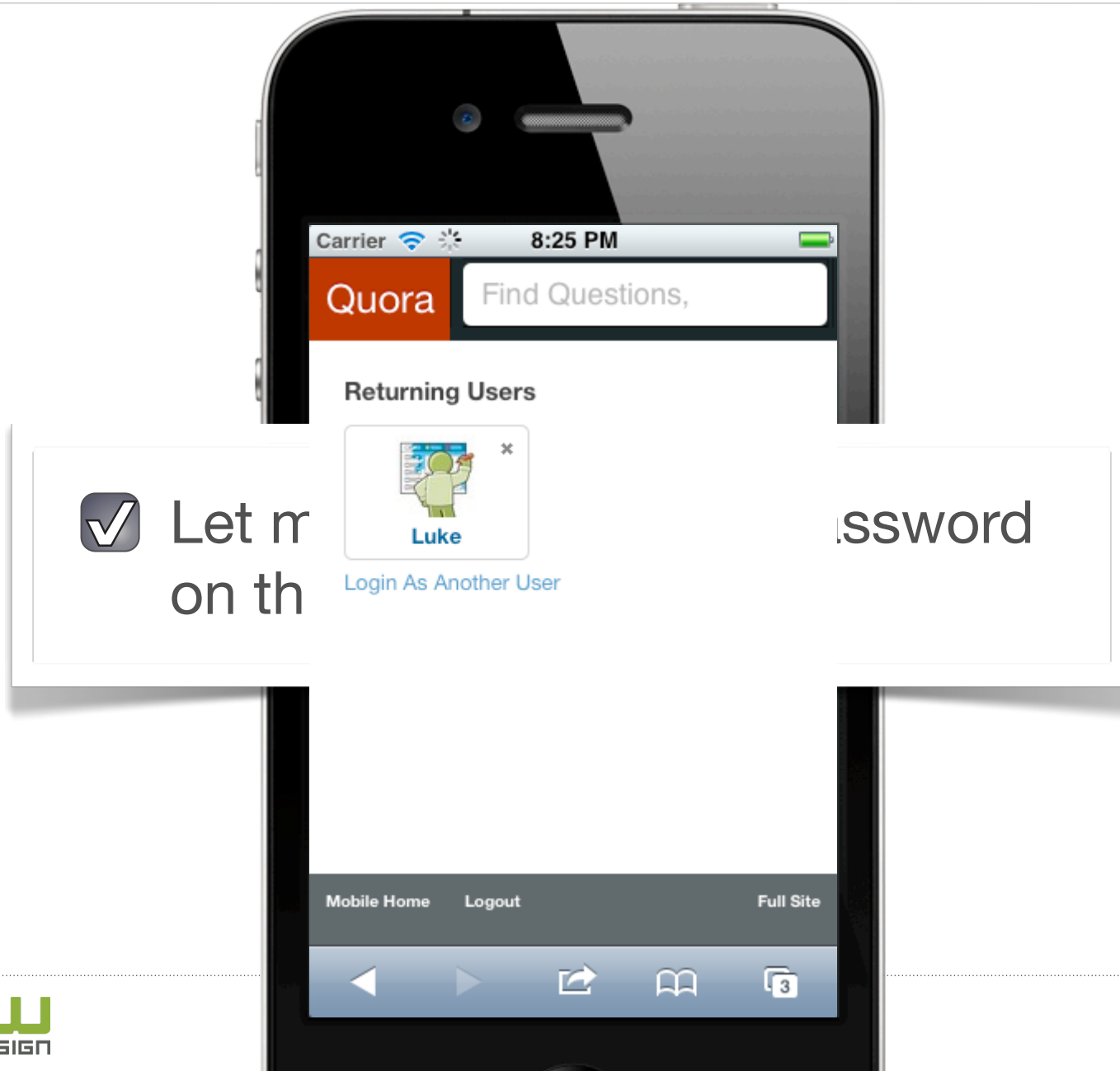
Avoiding Errors



No account found for this email address.
To create an account, [sign up for Quora](#).

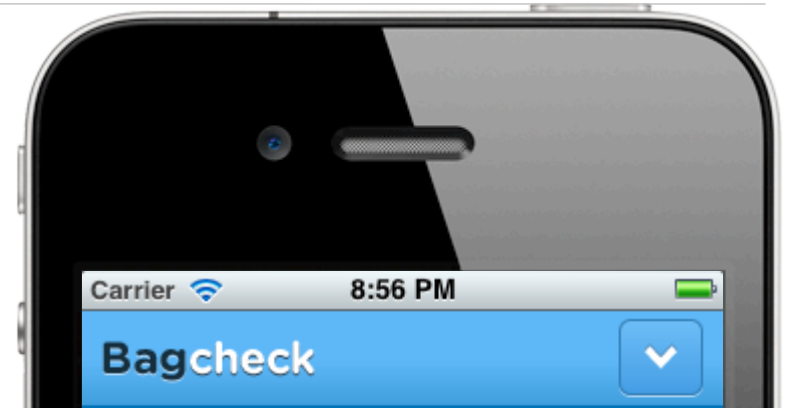


Saving Passwords



Single Sign-On

- **910M** active users
- **50%** log in daily
- **500M** use platform



Sign In



USING FACEBOOK

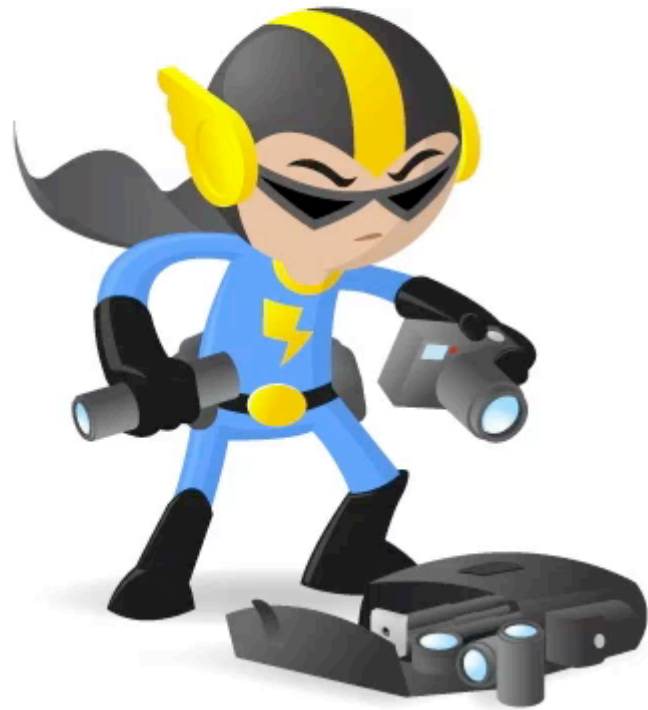


USING TWITTER

Password

SIGN IN

[FORGOT PASSWORD?](#)



Sign In to Bagcheck

Enter Your Name (or email)

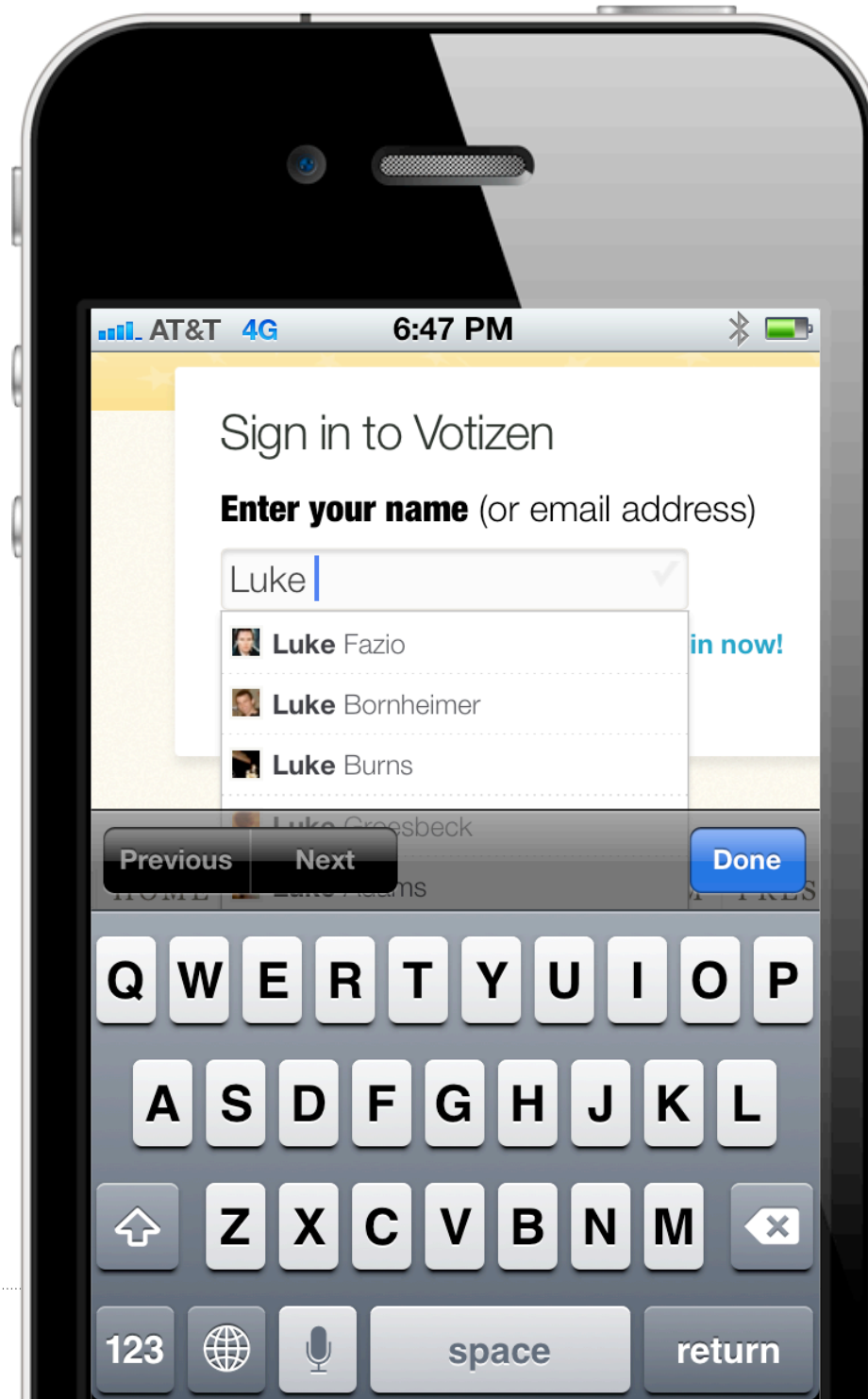
Can't find your name or new here? [Join Now](#)

Sign in to Votizen

Enter your name (or email address)

Welcome back Luke, you can sign in with **Twitter**





Sign In



USING FACEBOOK



USING TWITTER

Or Your Bagcheck Account

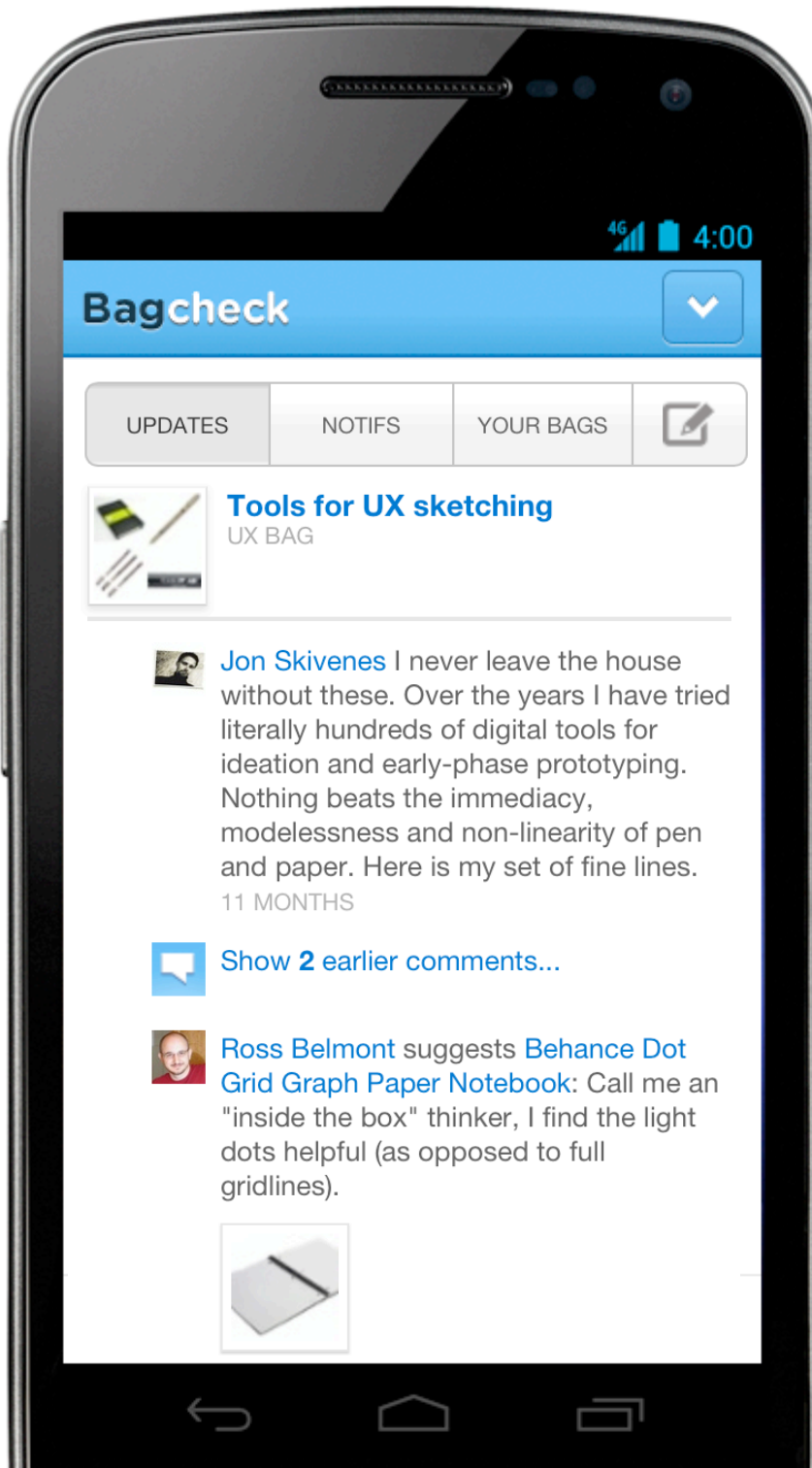
Email Address

Password

SIGN IN

[FORGOT PASSWORD?](#)

[ABOUT](#) | [BLOG](#) | [TERMS](#) | [FULL SITE](#)



Congratulations!

We're happy to have you aboard!

Your Simple card should arrive in the mail in five to seven business days. Until then, let's set up the rest of your account.



1 Create your credentials

Username ✓

Passphrase

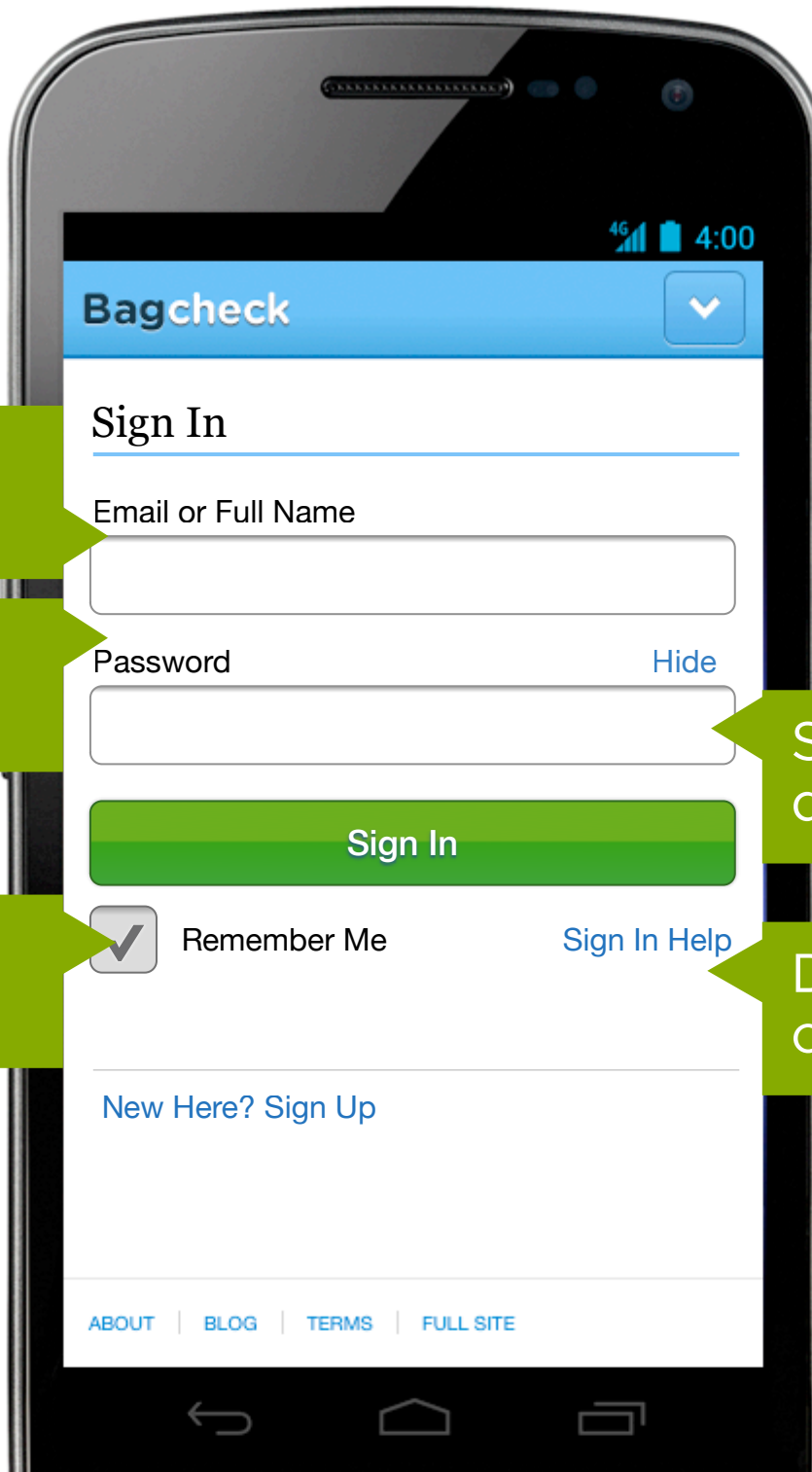
.....

show passphrase

Your passphrase grade is **C**. Acceptable, but only minimally secure.

Passphrase? Yes. Passphrases are easier to remember and more secure than traditional passwords. For example, try a group of words with spaces in between, or a sentence you know you'll remember. `Correct horse battery staple` is a better passphrase than `r0b0tz26`.

Save username and passphrase



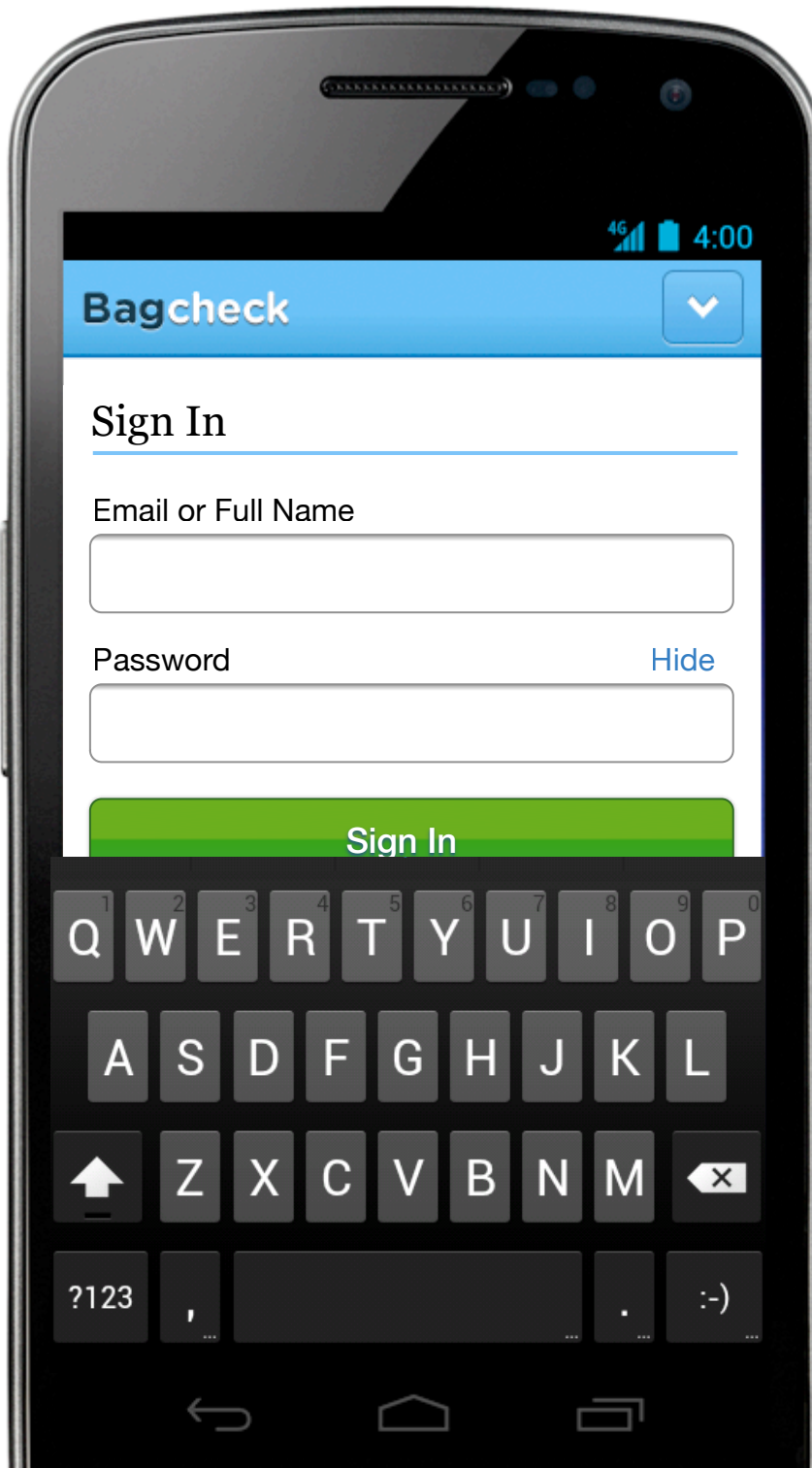
Be flexible in what you accept

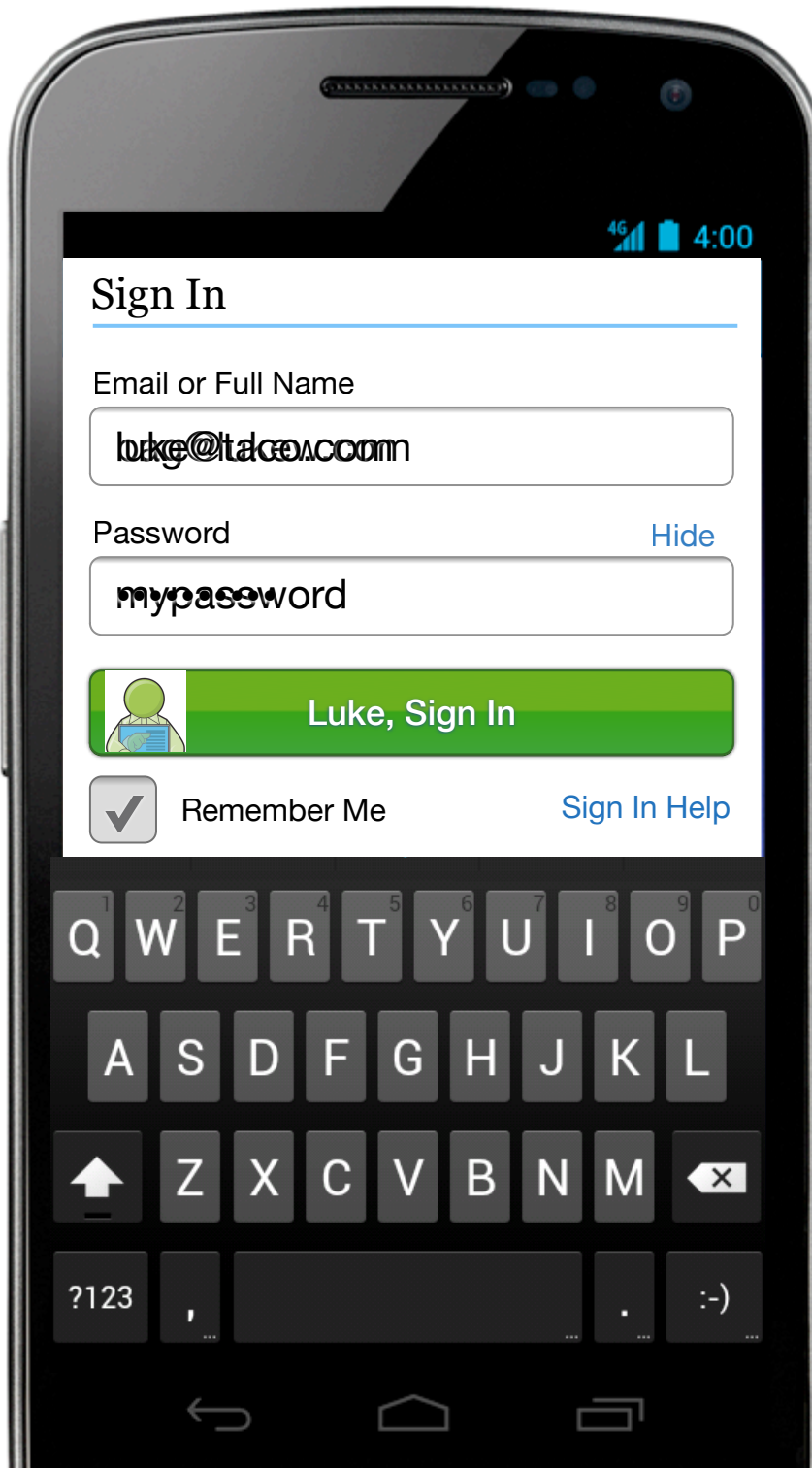
Use input types & attributes

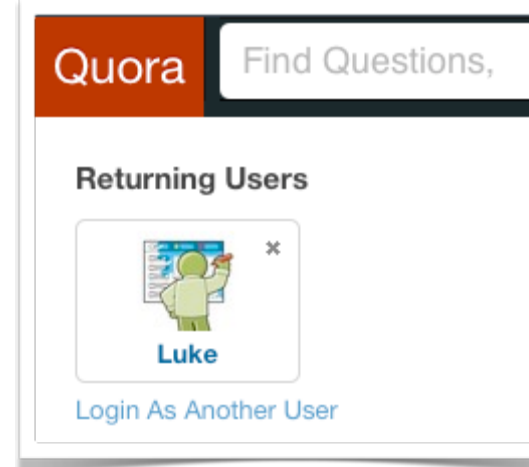
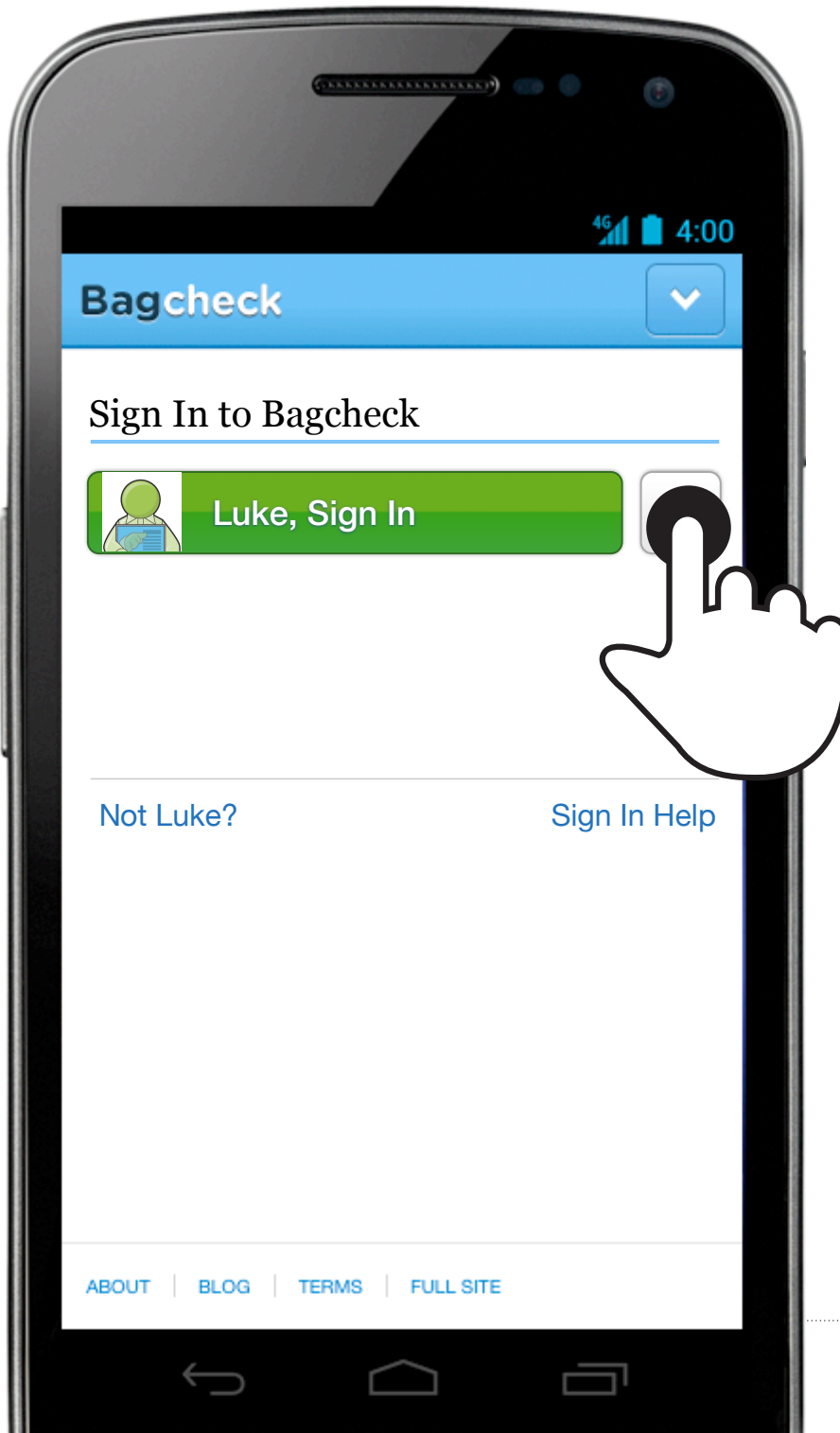
If possible, save passwords

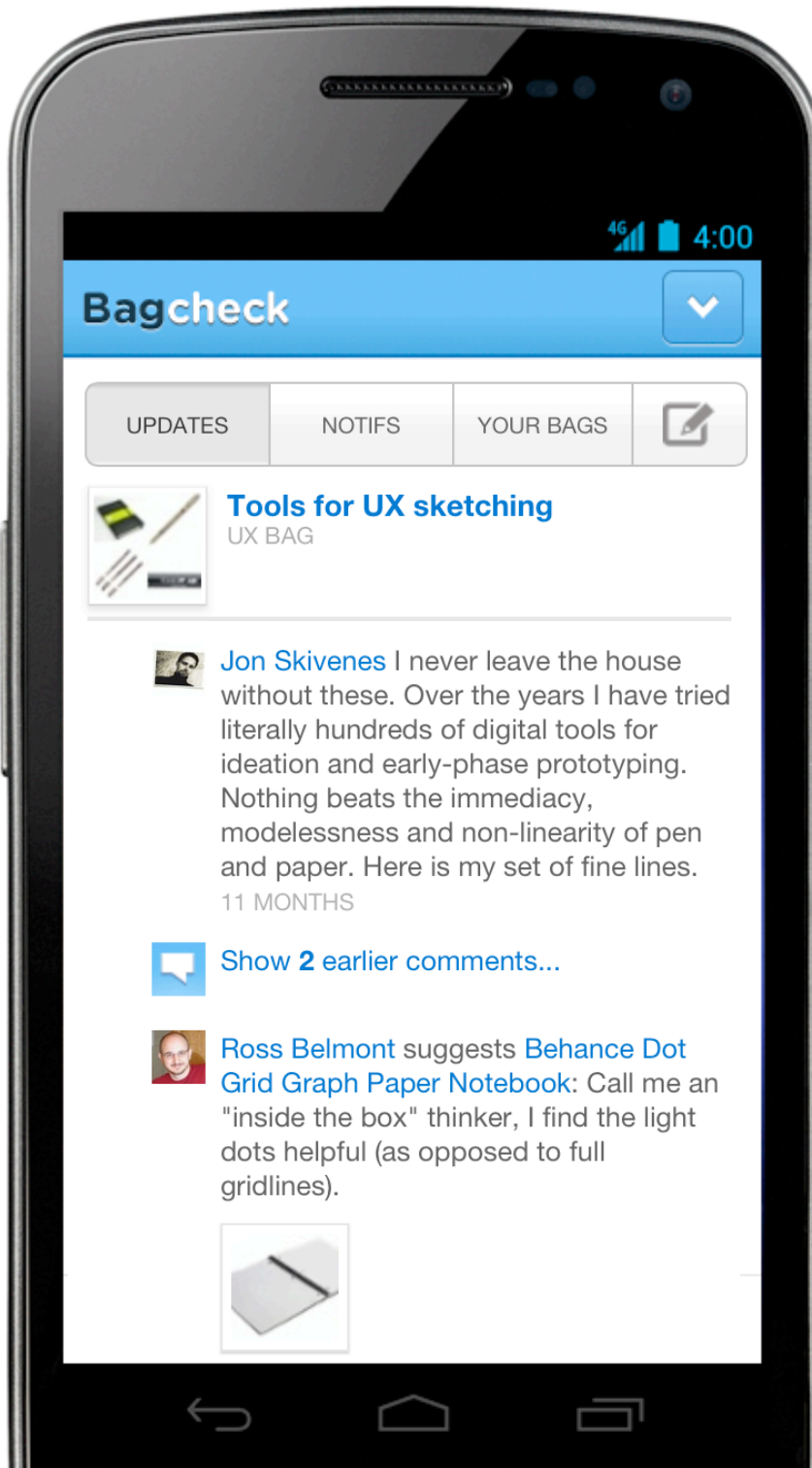
Show password by default

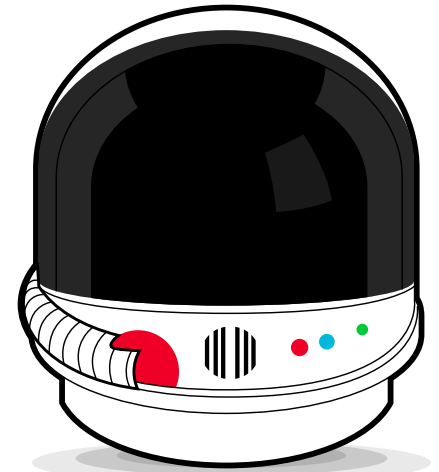
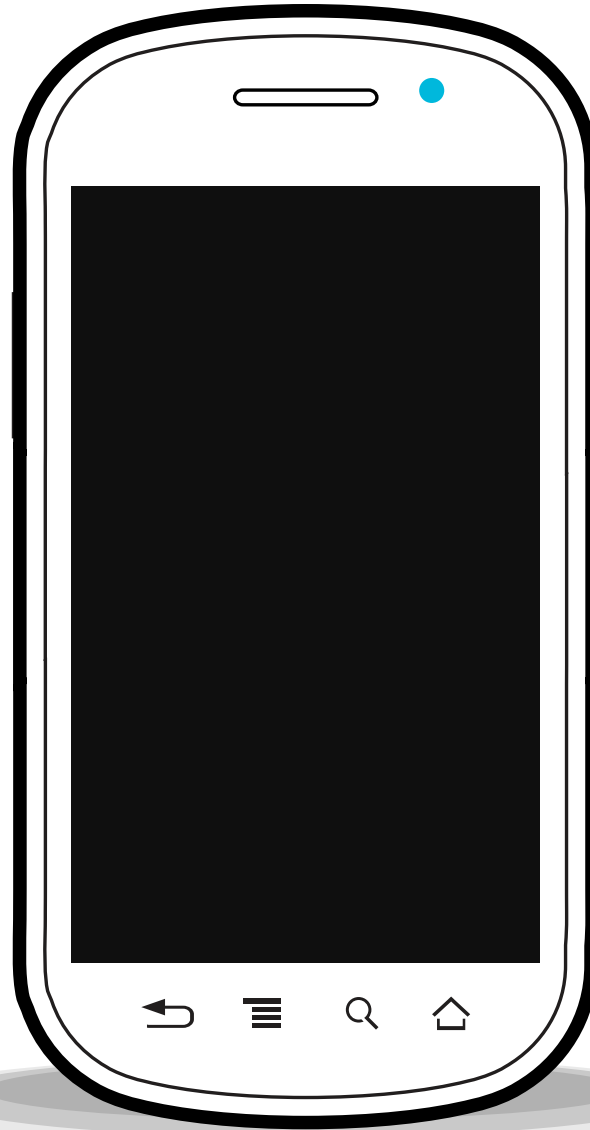
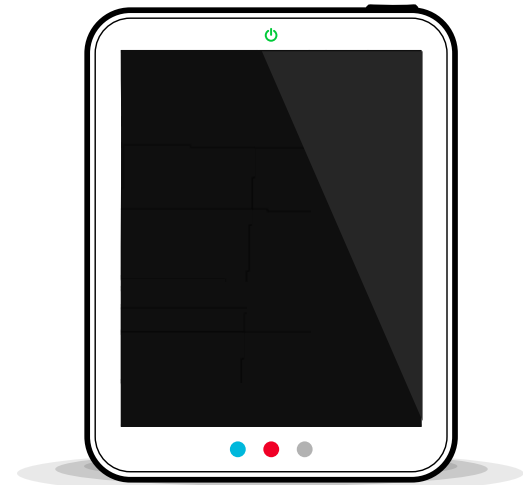
Don't remove critical features



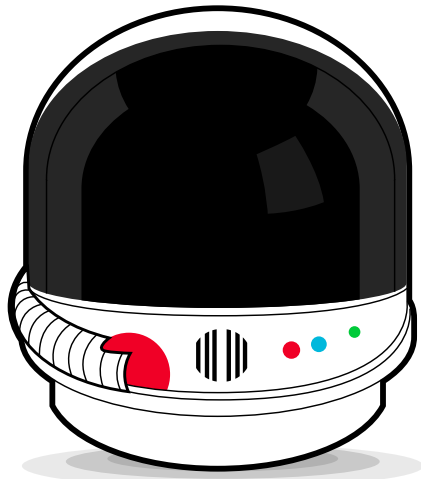






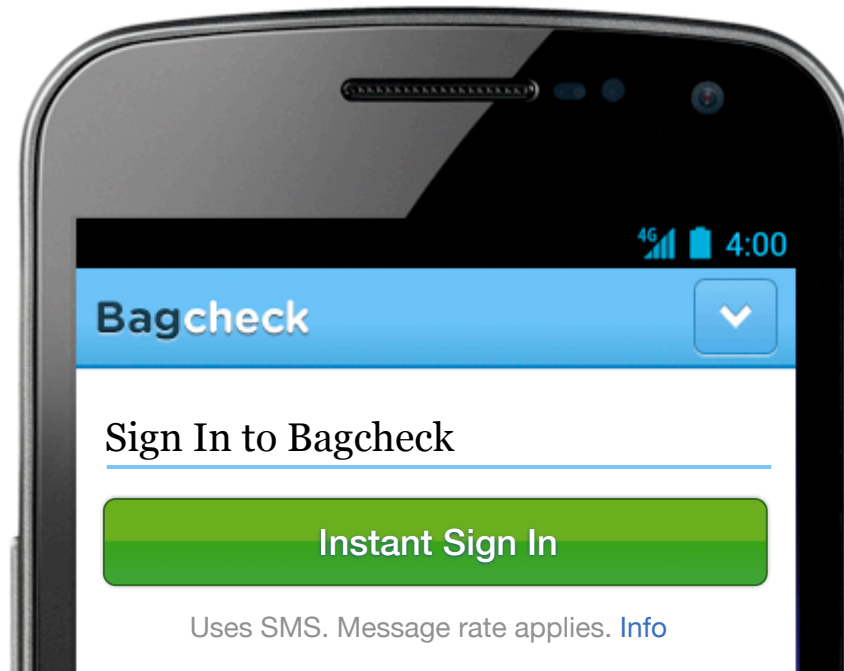


LOGIN



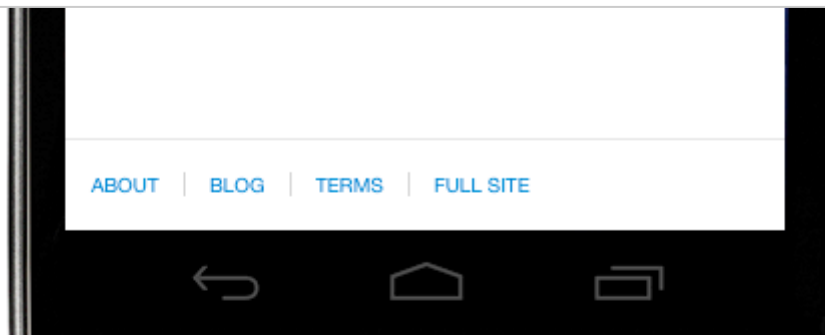
TOMORROW

- SMS Authentication
- Touch Gestures
- Facial Recognition
- Finger Identification



```
navigator.sendMessage("sms:16505551234?" +  
"body=Sign%20me%20in");
```

```
bondi.messaging.subscribeToSMS(alert("Let In");  
, {from: "16505551234"},true);
```



Source: <http://slidesha.re/zBTZ3U>

Touch Gestures

“Microsoft Windows 8 shows mobile’s influence.”



Building "Windows 8"

Signing in with a picture password

© 2011 Microsoft

Password Combinations

	10-digit	A-Z character	Complex character	Multi-gesture
1	10	26	n/a	2,554
2	100	676	n/a	1,581,773
3	1,000	17,576	81,120	1,155,509,083
4	10,000	456,976	4,218,240	6.12157E+11
5	100,000	11,881,376	182,790,400	3.98047E+14

WHAT ABOUT THE BROWSER?



- Touch Events API
- **touchstart** finger on
- **touchmove** finger dragged
- **touchend** finger removed

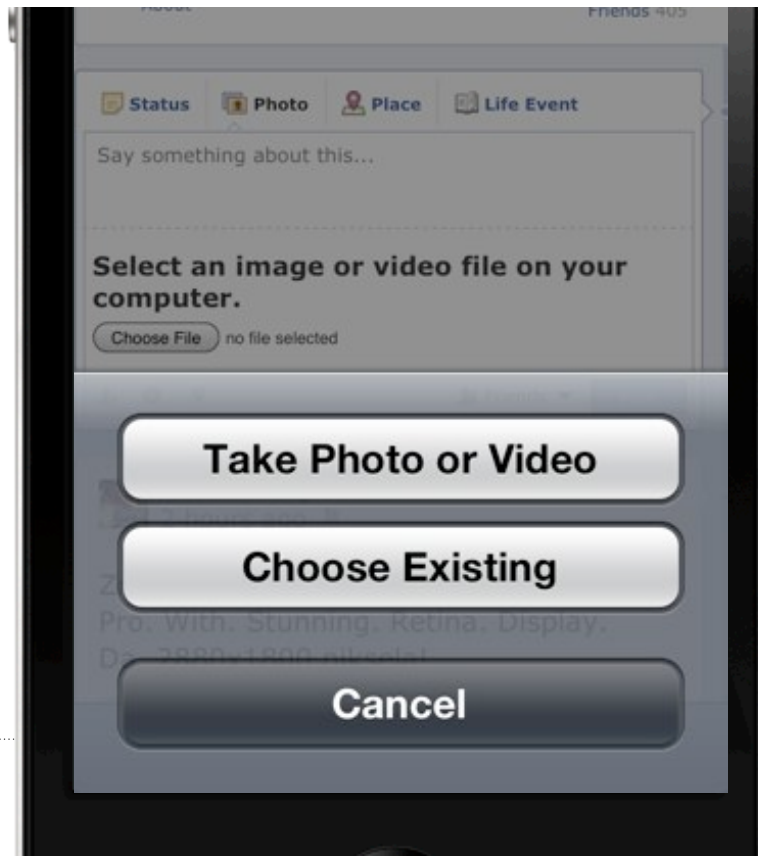


- HTML Media Capture
- Form enhancements that provide access to the audio, image and video capture capabilities of the device

iOS 6.0+



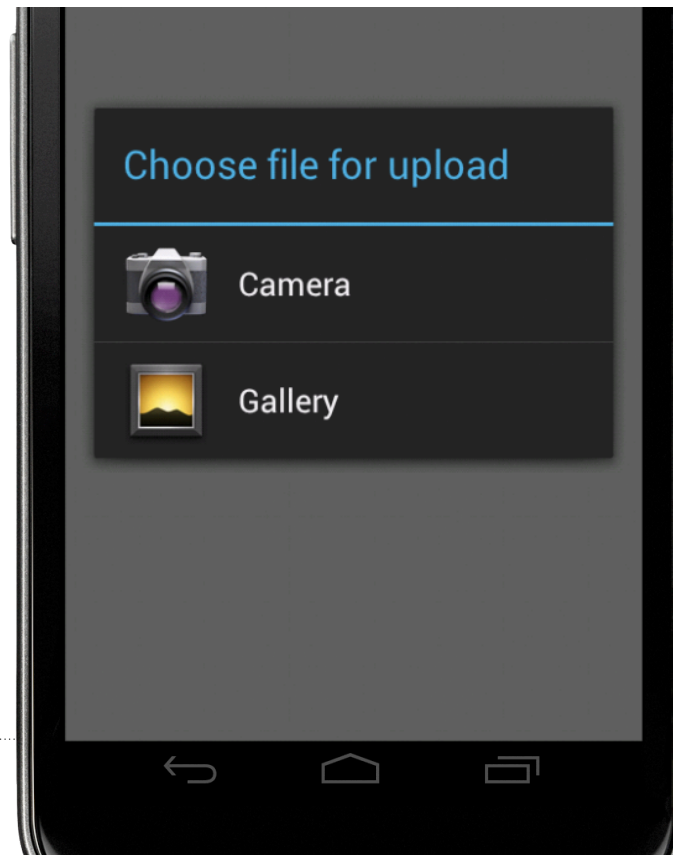
```
<input type="file" accept="image/*" capture="camera">
```



Android 3.0 +

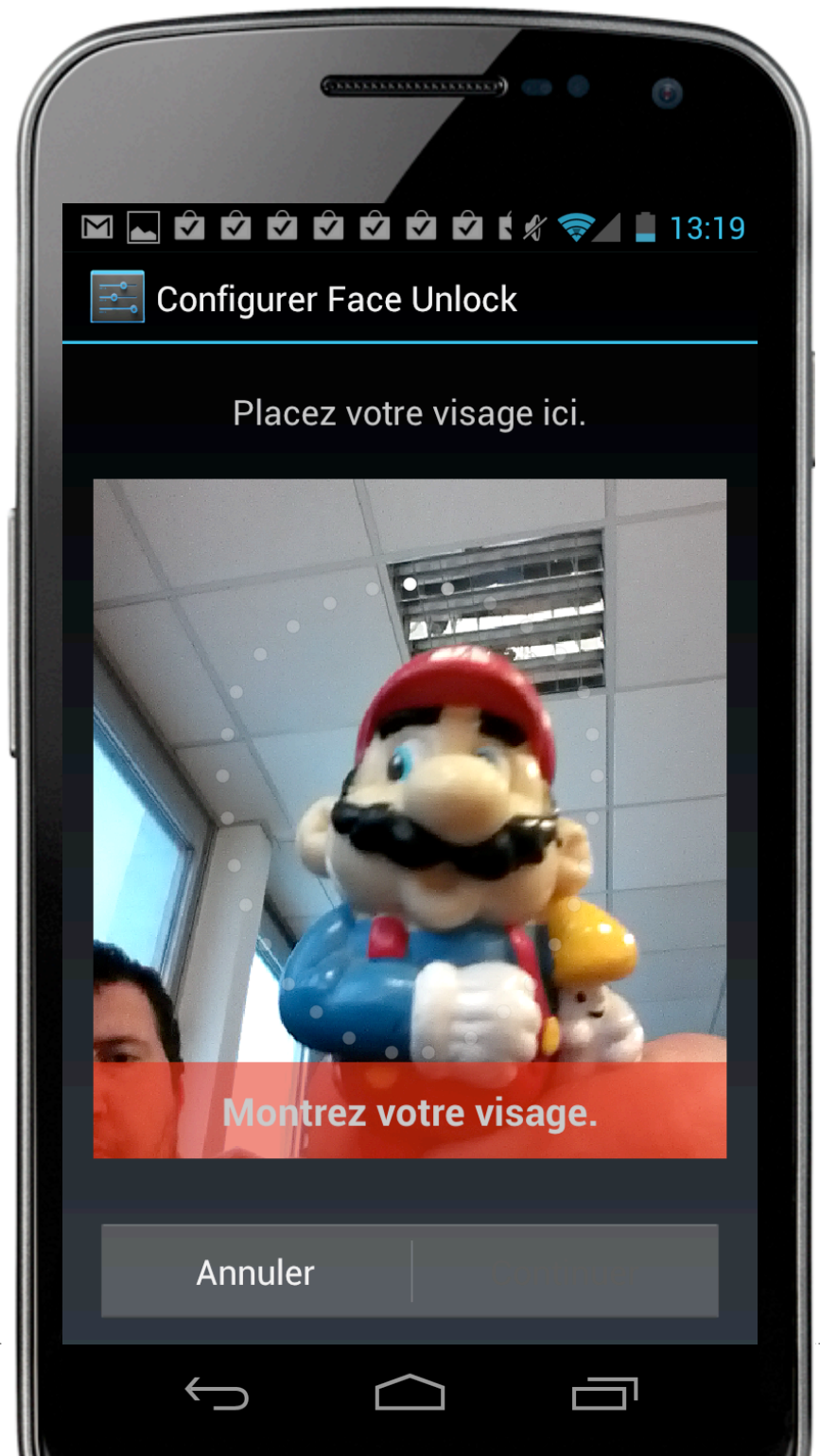


```
<input type="file" accept="image/*" capture="camera">
```



Facial Recognition

GALAXY NEXUS





ABOUT THE BROWSER?



- GetUsermedia API
- Access to local device multimedia data streams
- Video cameras, microphones, Web cams



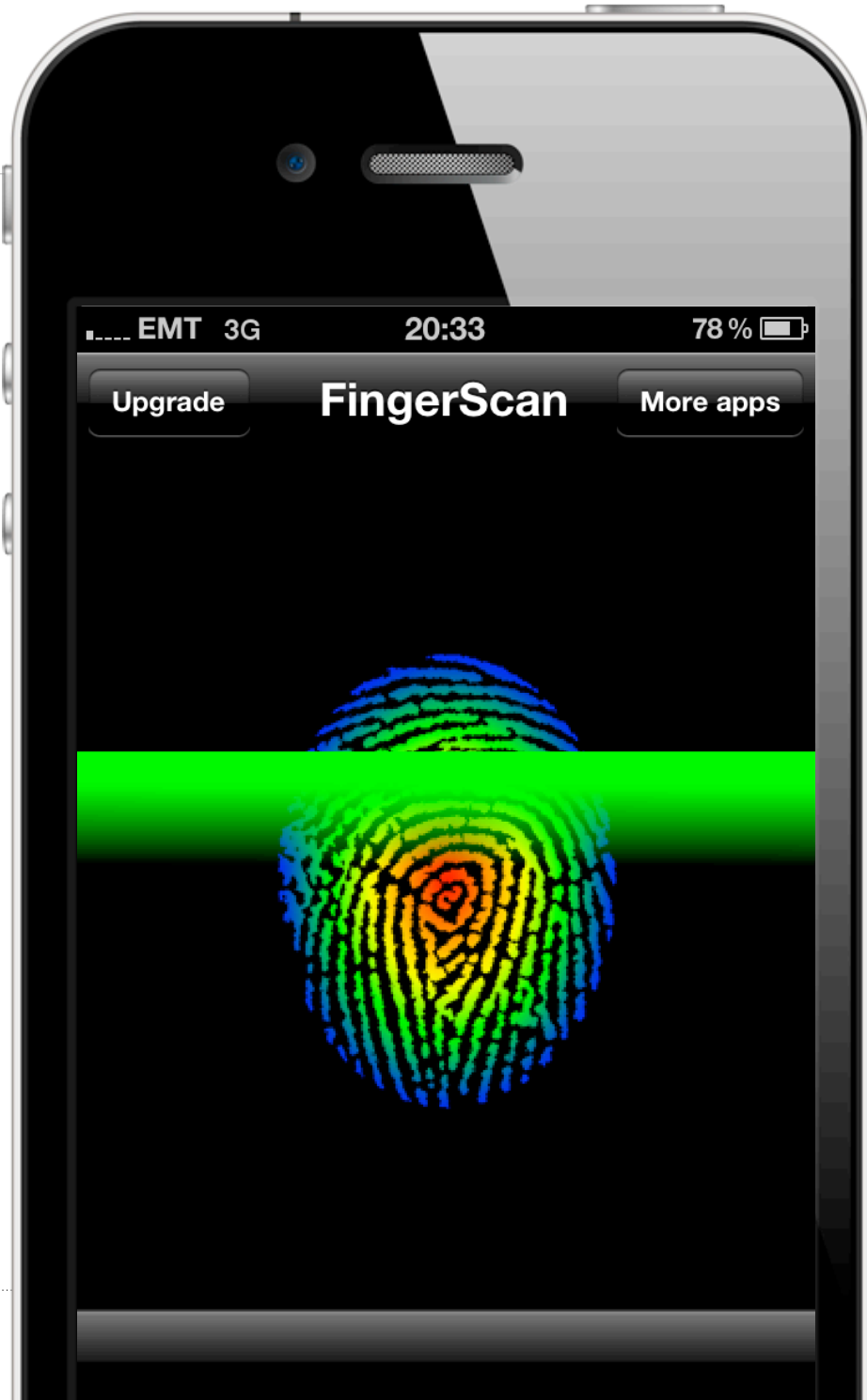


“You are the cash card.”

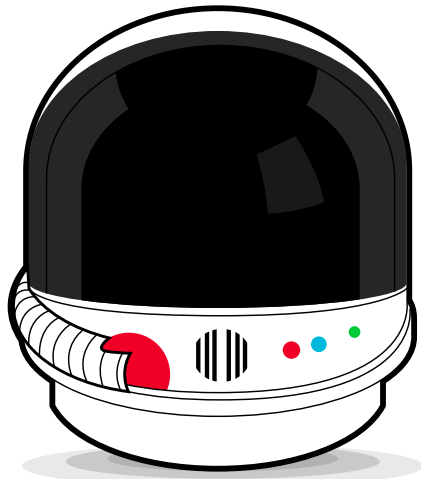


Finger ID

- Specific functions depending on which finger is being used
- Index finger press might perform one action
- While a middle finger press could perform another



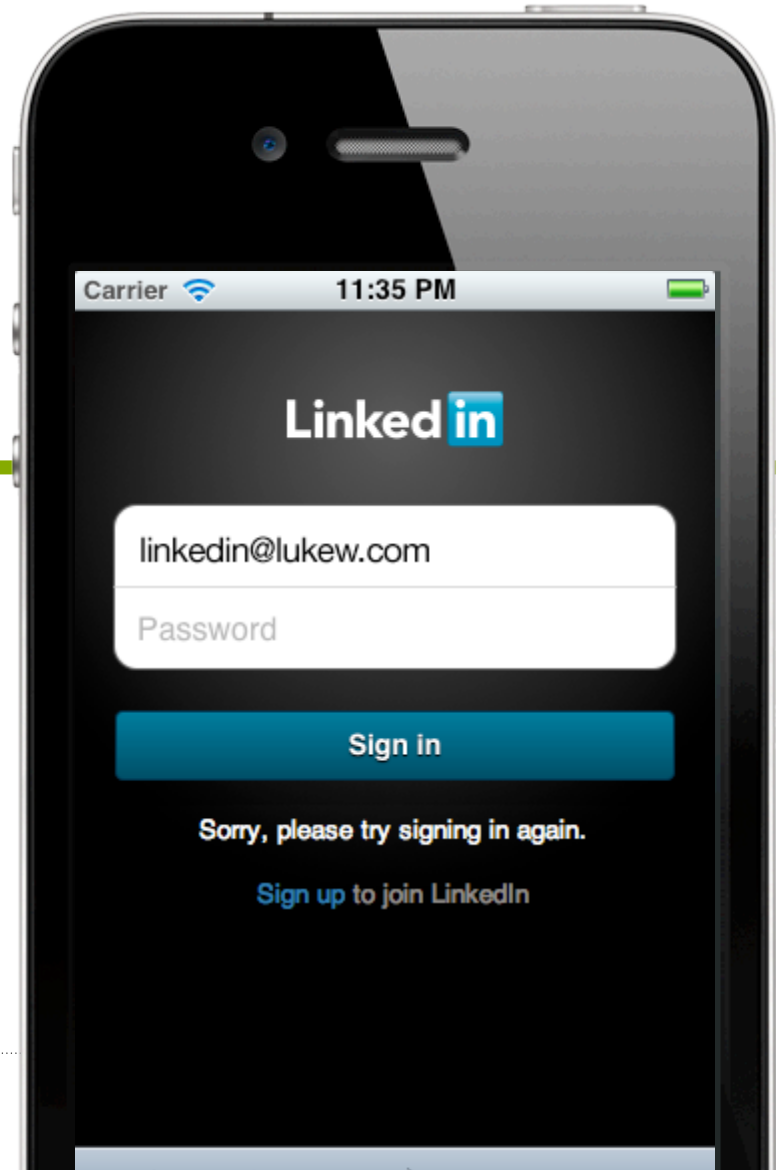
LOGIN



TOMORROW

- SMS Authentication
- Touch Gestures
- Facial Recognition
- Finger Identification

LOGIN



LOGIN

WHY BOTHER?

1. Permanently carried
2. Always on
3. Available at point of inspiration

Email not found. New Here?



Remember Me

[Sign In Help](#)

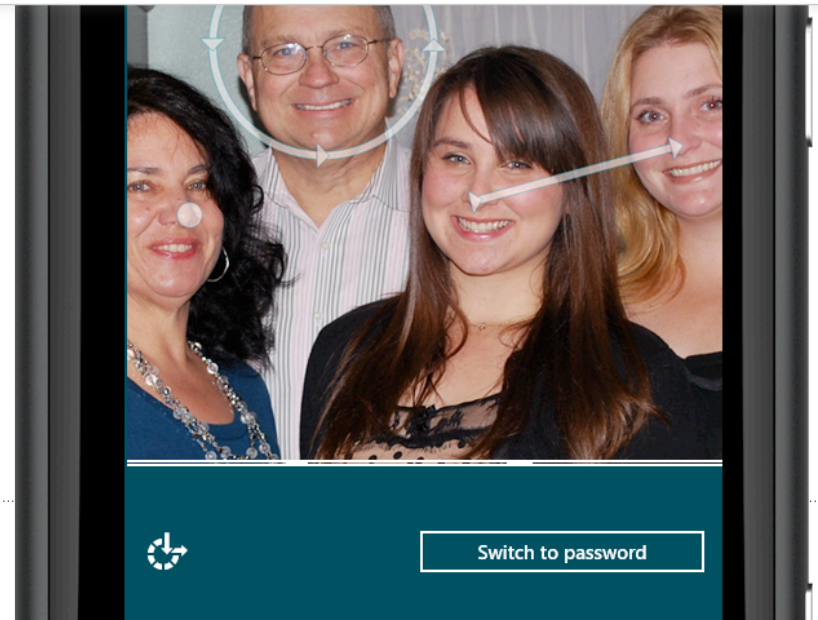
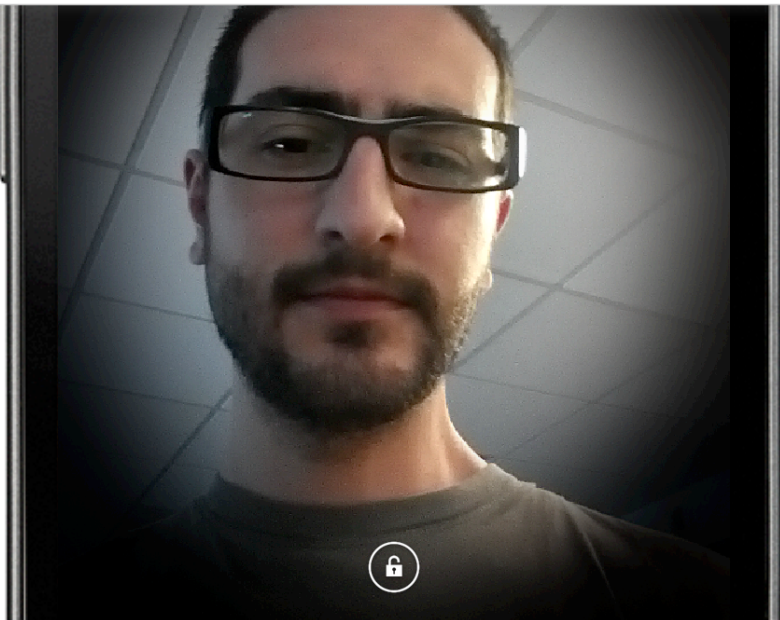
[Not Luke?](#)

[Sign In Help](#)

LOGIN



Our focus on layout keeps us from seizing big opportunities on mobile.



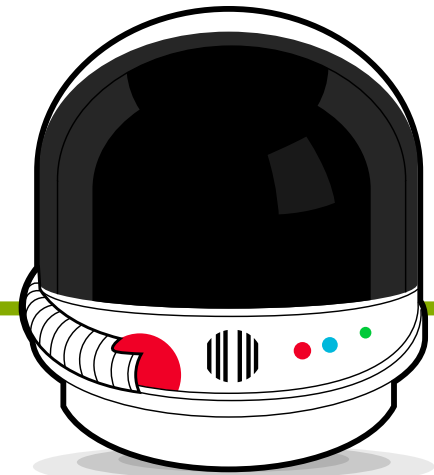
LOGIN



YESTERDAY



TODAY



TOMORROW

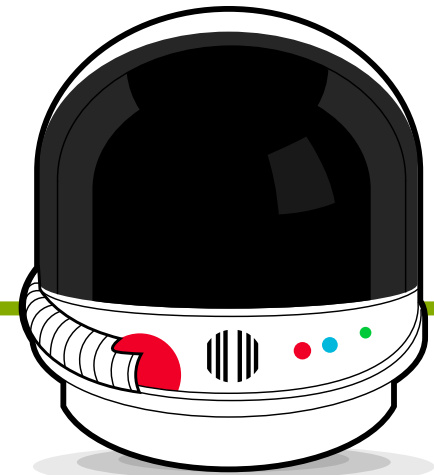
CHECKOUT



YESTERDAY

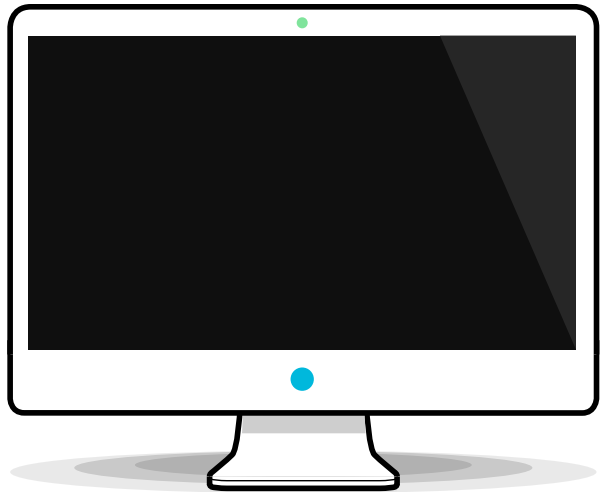


TODAY



TOMORROW

CHECKOUT



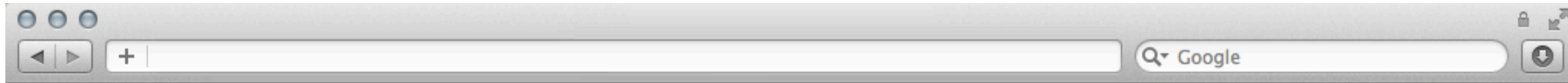
YESTERDAY

75%

2011 shopping cart abandonment rate

71%

2010 shopping cart abandonment rate



United States ▼ Contact Us: Click to Chat (24/7) or Call 1-877-717-3355



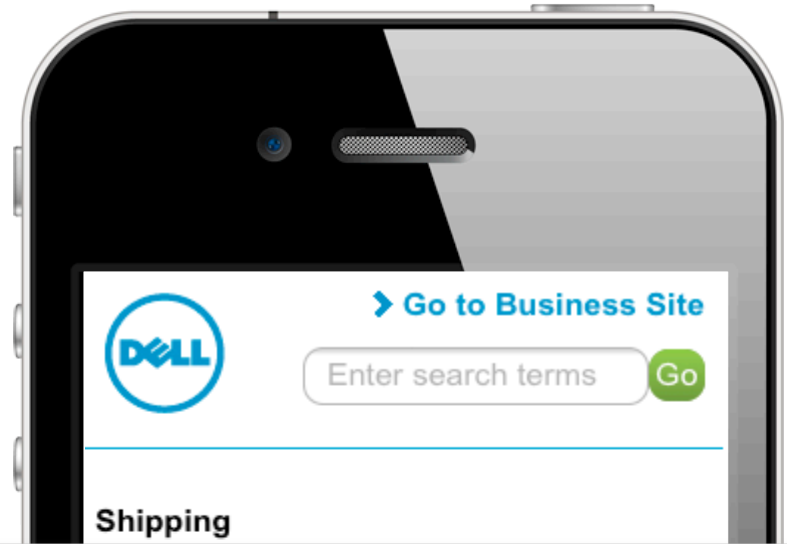
Shipping



▶ Need Help?

Chat with a Product Advisor for help building your system. Product Advisors are available from 7am to 10p.

* Indicates Required Fields



REDUCE EFFORT

* Address

Please see address guidelines. [More Info](#)

* City

* State

 Choose a state / province ▼

* Zip Code

4-digit Ext.

 -

* Daytime Phone Number Ext.

 () -

Home Phone Number Ext.

 () -

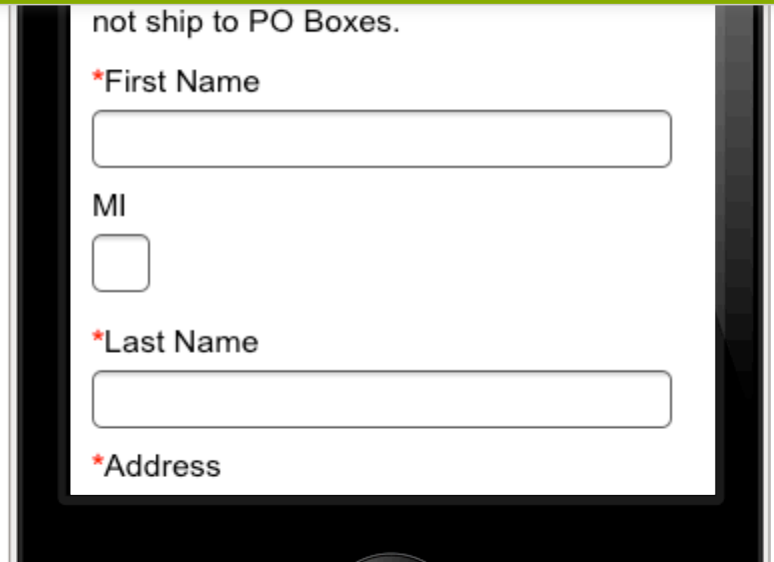
not ship to PO Boxes.

*First Name

MI

*Last Name

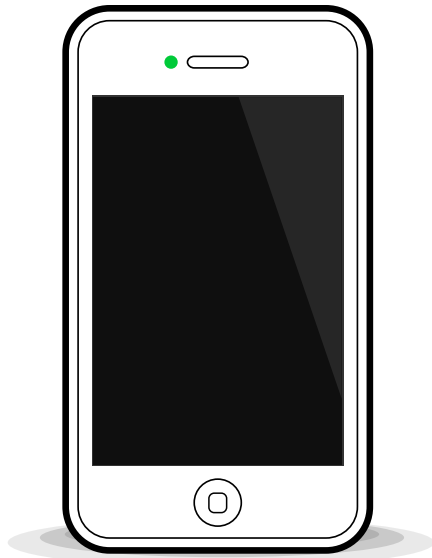
*Address





- Clicked **Buy Now** but did not complete transaction
- Form had an optional field under Name titled Company
- **\$12M** of profit a year overnight
- Found 50 or 60 of these kinds of issues

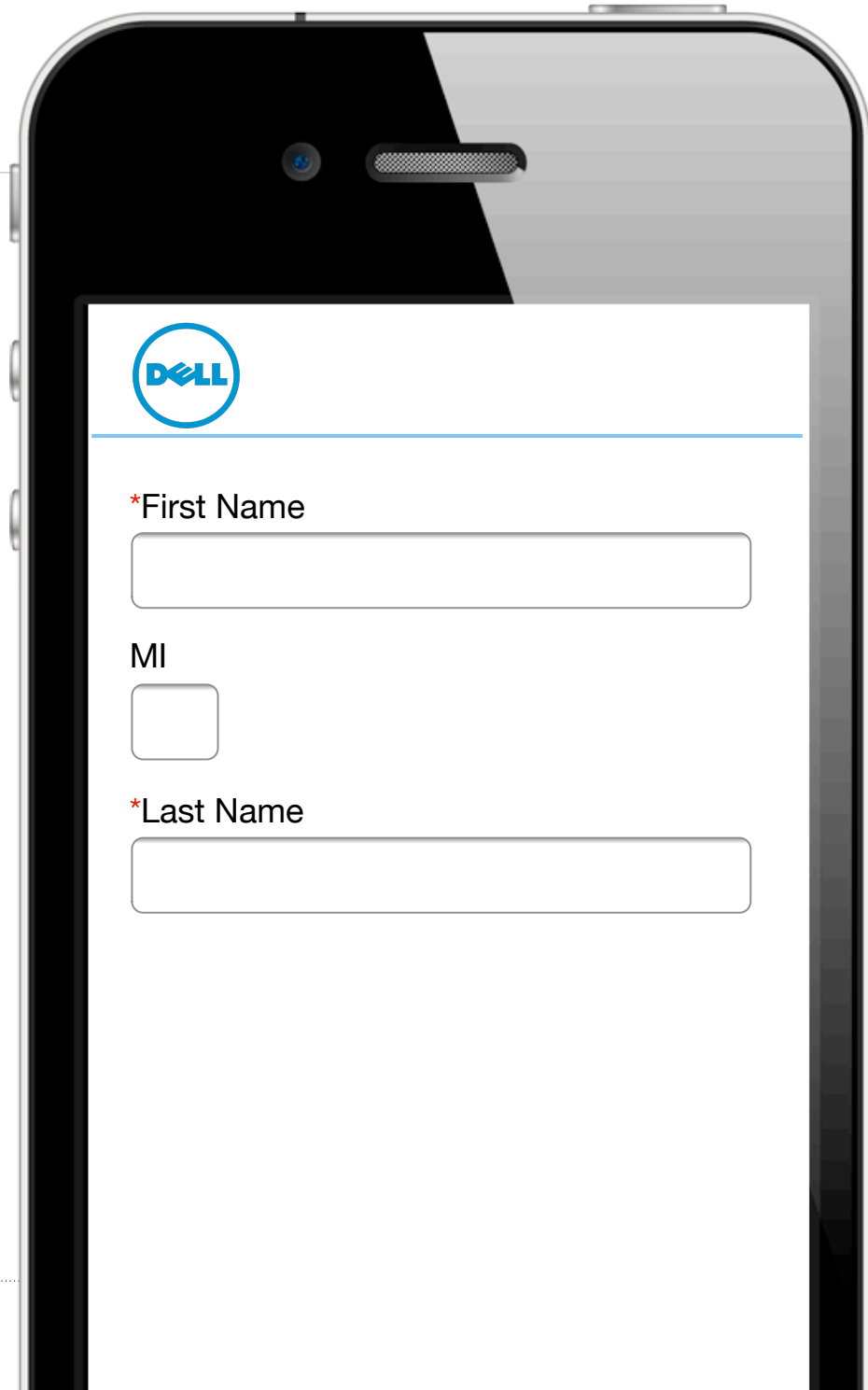
CHECKOUT



TODAY

- Remove **unnecessary** questions
- Keep people on the keys
- Reduce number of controls
- Progressive input types

Multiple Fields



A smartphone mockup displaying a form with the following elements:

- DELL** logo in a blue circle at the top left.
- A horizontal blue line separator.
- A label ***First Name** followed by a text input field.
- A label **MI** followed by a square checkbox.
- A label ***Last Name** followed by a text input field.

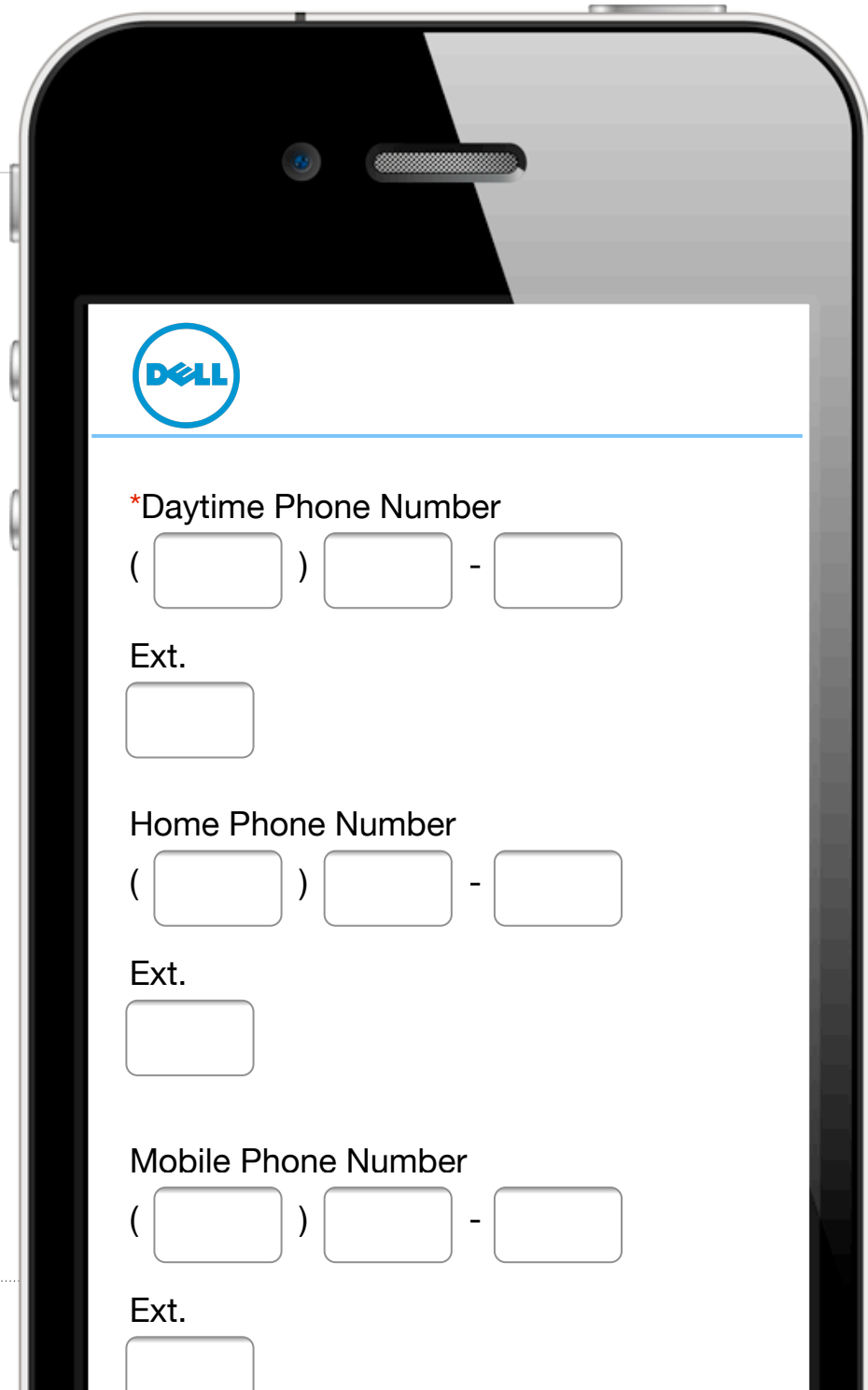
Multiple Fields


Remove optional fields

Stay on the keys



Phone Numbers





*Daytime Phone Number
() -

Ext.

Home Phone Number
() -

Ext.

Mobile Phone Number
() -

Ext.

Phone Numbers

input type=tel

hide irrelevant controls

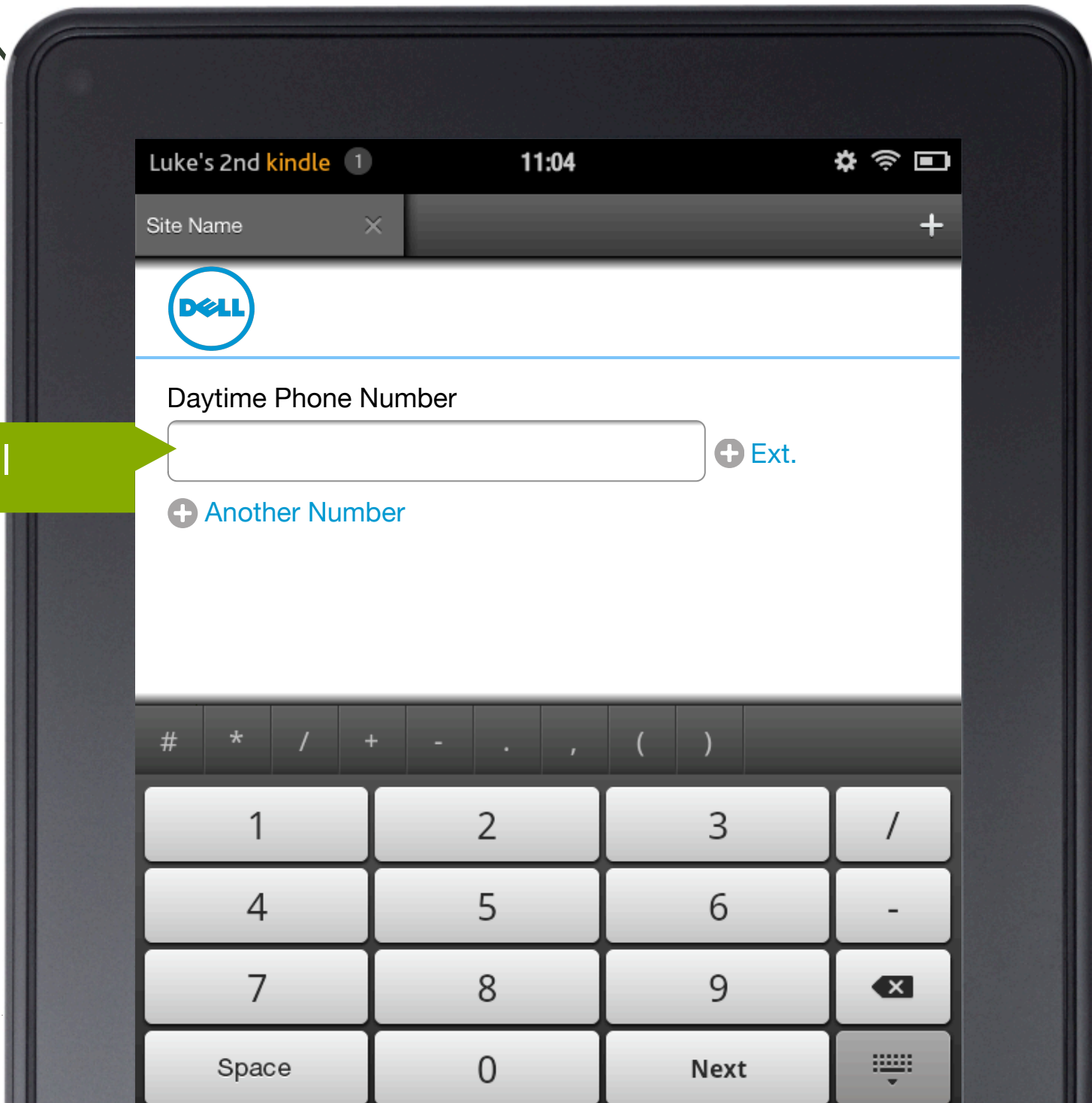


Phone Numbers

input type=tel



Phone M



input type=tel

Phone Numbers



input mask

Addresses

*Last Name

*Address

*City

*State
Choose a state / province ▼

*Zip Code
 -
4-digit Ext.

*Daytime Phone Number

Remove optional fields

Addresses



4 tap operation

Addresses



still 4 taps

Addresses

cut down 2 fields

stepper



Addresses

Stay on the keys

Address

ZIP Code

Enter ZIP for City & State



 Your Cart

CHECKOUT

[Billing](#) > [Shipping](#) > [Payment](#) > [Review Order](#)

After entering your zip code above, you must select (click to highlight) your city/state combination from the display on the left. After selection, the city/state will auto-fill in the appropriate category.

* City:

* State:

Shipping to the Contiguous United States, Hawaii, and Alaska only available at this time.

Use this address as the shipping address

Enter Contact Information for this order.

* E-mail Address:

* Re-enter E-mail Address:

(for confirmation)

Reach Us Recipes Register Your Grill International Sites Find a Dealer Enter Zip Hello! Log in Sign Up


weber EXPLORE GRILL OUT **SHOP** HELP SEARCH

AT&T 4G 6:49 PM

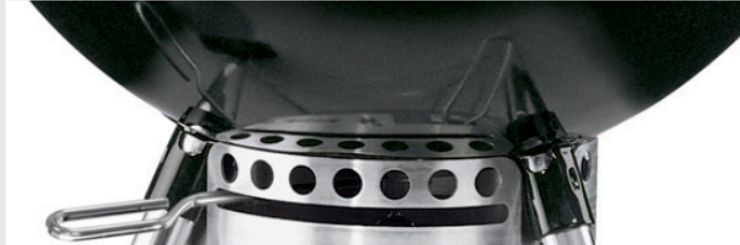
weber

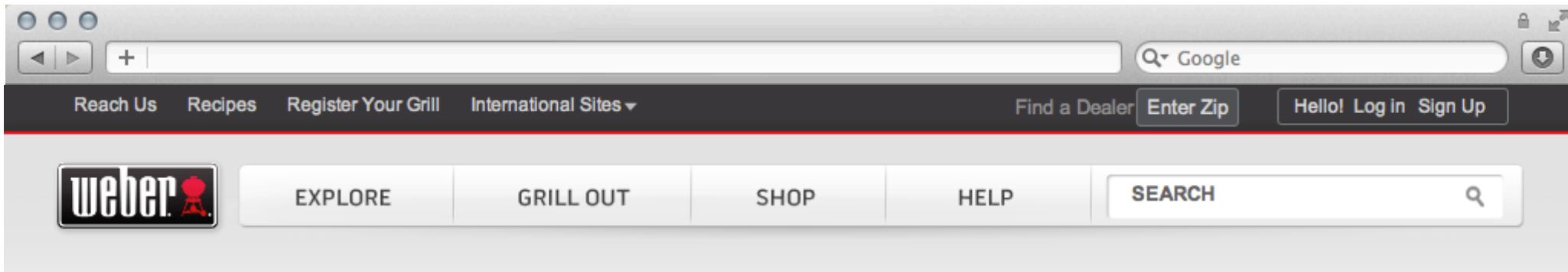
GRILLS RECIPES HELP REACH US

One-Touch® Gold 18.5



GET CLOSE SPECS ACCESSORIES LINKS

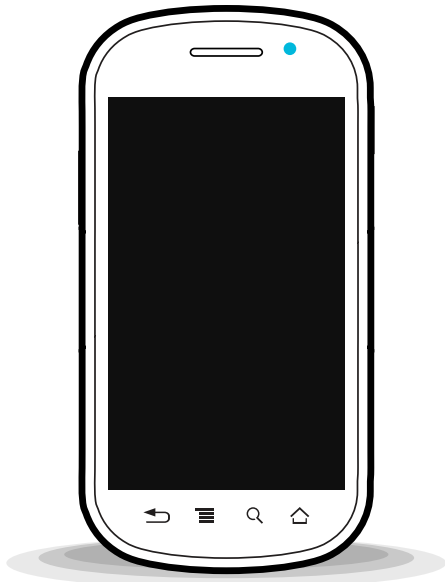




38% of US consumers have used smartphones to buy content or services

70% of Internet users have purchased content or services online

METRICS



MOBILE PURCHASES

\$4B 2011 mobile GMV

3 purchases on mobile per sec

2M listings added on mobile per week

Credit Cards

DELL

Card Information

*Credit card type
VISA

*Card number

*Expiration date
[Month] ▾ [Year] ▾

*Name as it appears on card

*Card identification number

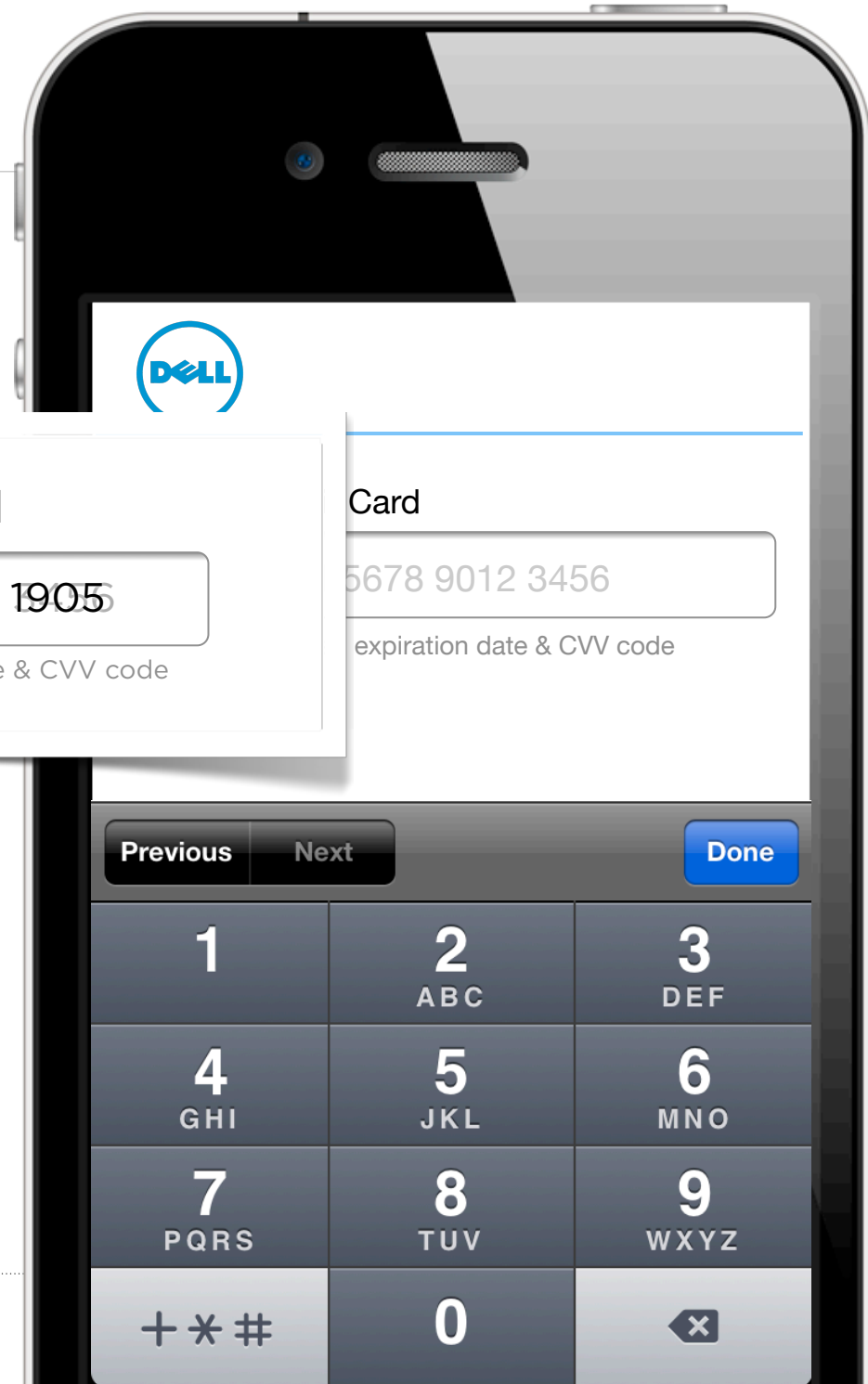
Required for Visa, MasterCard, Amex and Discover

Credit Cards

`input type="text"`
`pattern="[0-9]*"`



Credit Cards



Credit or Debit Card



5123 4356 1234 1905

Enter card number, expiration date & CVV code

Card

5678 9012 3456

expiration date & CVV code

Previous

Next

Done

1

2

3

ABC

DEF

4

5

6

GHI

JKL

MNO

7

8

9

PQRS

TUV

WXYZ


+ * #

0

⌫

Credit Cards

Credit or Debit Card

 5123 4356 12 912

Enter card number, expiration date & CVV code

Card

5678 9012 3456

expiration date & CVV code

reduced number of
controls/inputs

Stay on the keys

Previous

Next

Done

1

2

3

ABC

DEF

4

5

6

GHI

JKL

MNO

7

8

9

PQRS

TUV

WXYZ

+ * #

0

⌫

Type=month

type=month

Credit Card Number

AMERICAN EXPRESS MasterCard VISA DISCOVER are accepted

Expiration Date

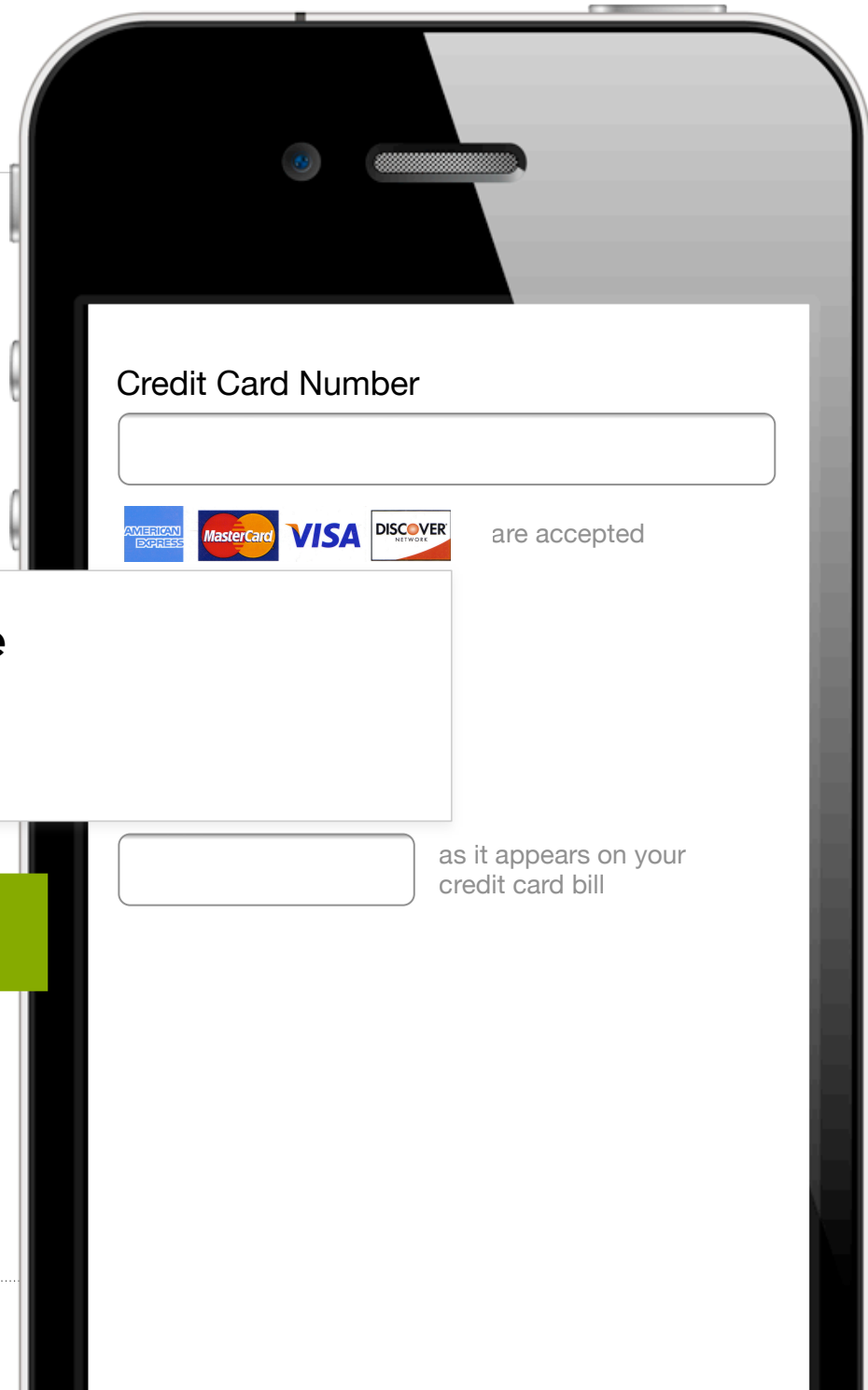
September 2012 ▼

ZIP Code

Previous Next Clear Done

July	2010
August	2011
September	2012
October	2013
November	2014

Type=month



Expiration Date

07/12|

input mask

as it appears on your credit card bill

Bank Name



1234 5678 9876 5432

1234

VALID THRU ▶ MONTH/YEAR
12/99

CARDHOLDER

Progressive Enhancement

type=month

June 2011



Javascript

Expiration Date

__ / __

select menus

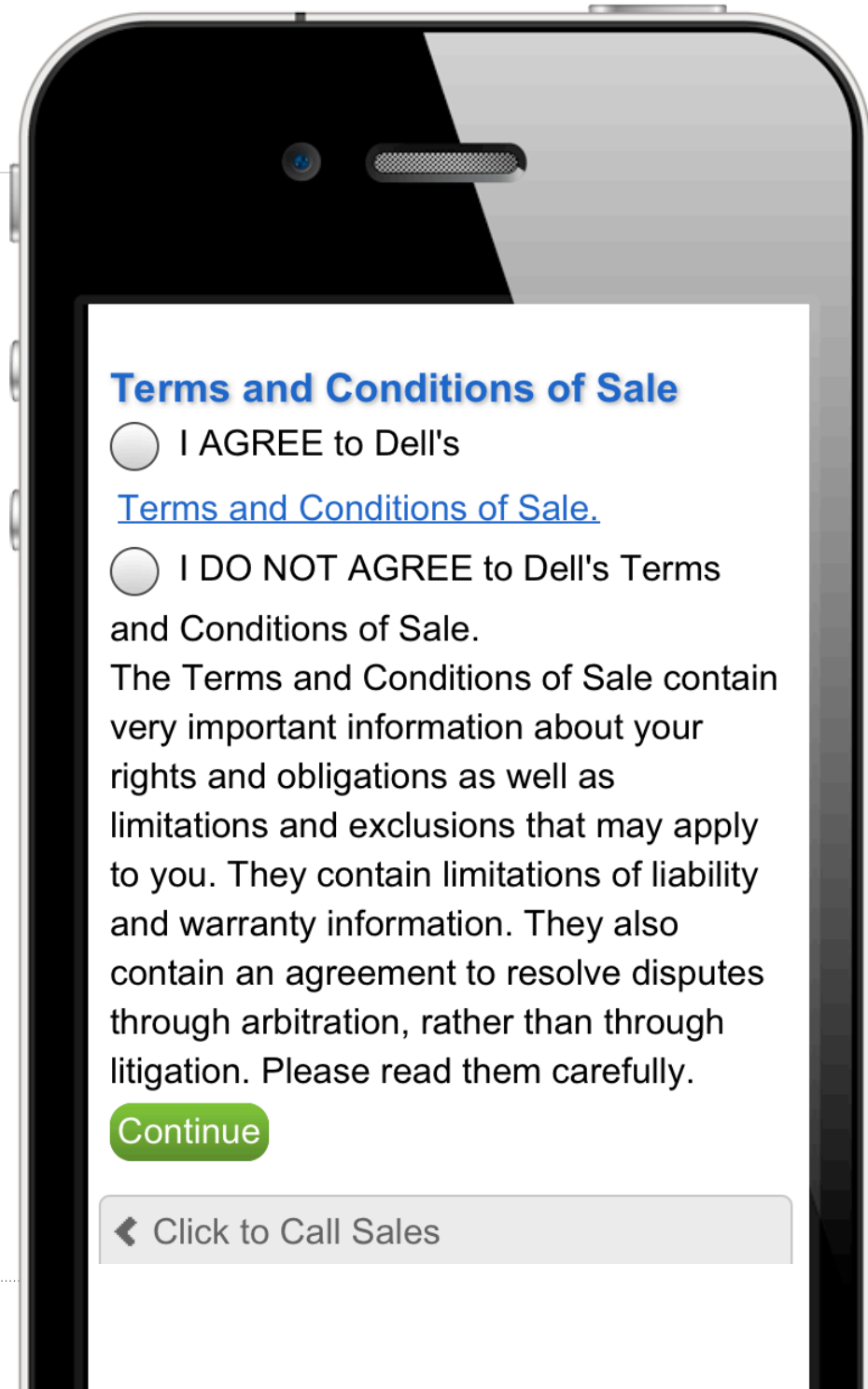
07



2011



Terms of Use



Terms and Conditions of Sale

I AGREE to Dell's

[Terms and Conditions of Sale.](#)

I DO NOT AGREE to Dell's Terms and Conditions of Sale.

The Terms and Conditions of Sale contain very important information about your rights and obligations as well as limitations and exclusions that may apply to you. They contain limitations of liability and warranty information. They also contain an agreement to resolve disputes through arbitration, rather than through litigation. Please read them carefully.

Continue

← Click to Call Sales

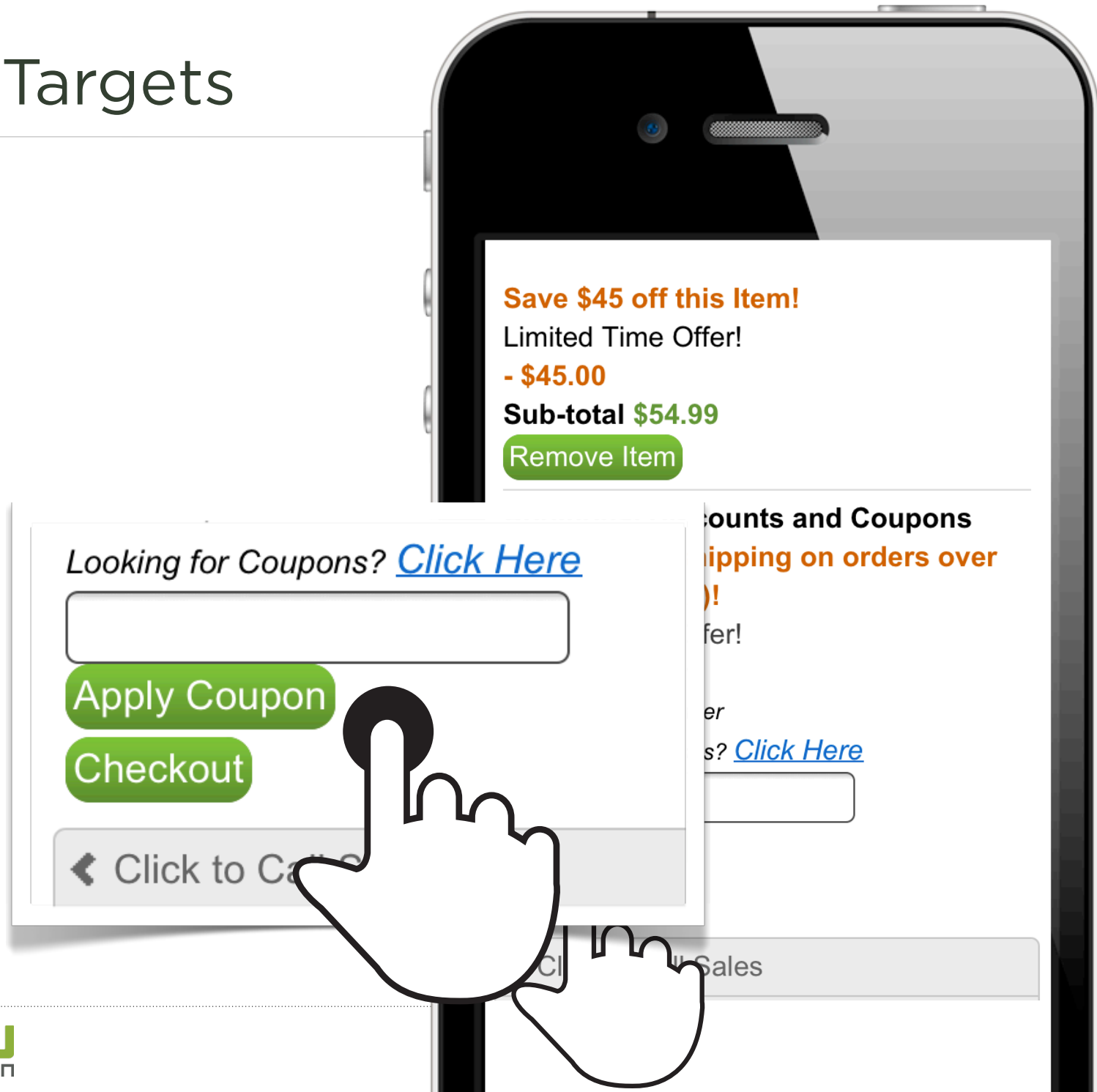
Terms of Use

reduced number of controls

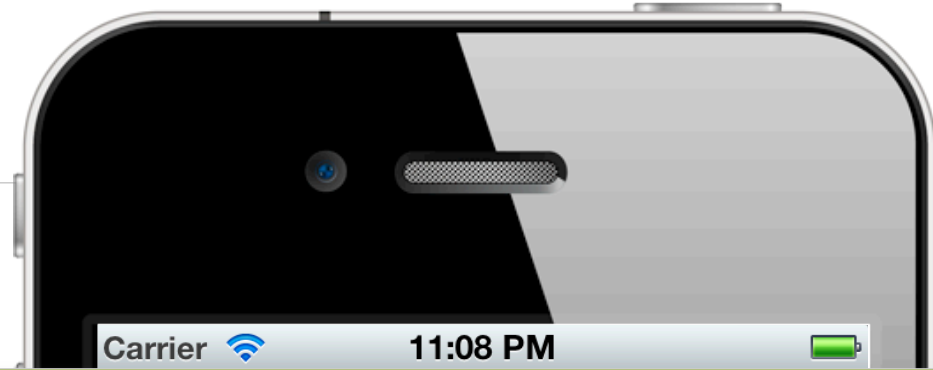
By selecting "Continue" I agree to the [terms of sale](#).

Continue

Touch Targets



Digital Content



WHY BOTHER?

1. Permanently carried
2. Always on
3. Available at point of inspiration

stay on keys

reduced controls

Enter card number, expiration date & CVV code

Cardholder Name

[+ Pay with Gift Certificate or Promo](#)

Purchase

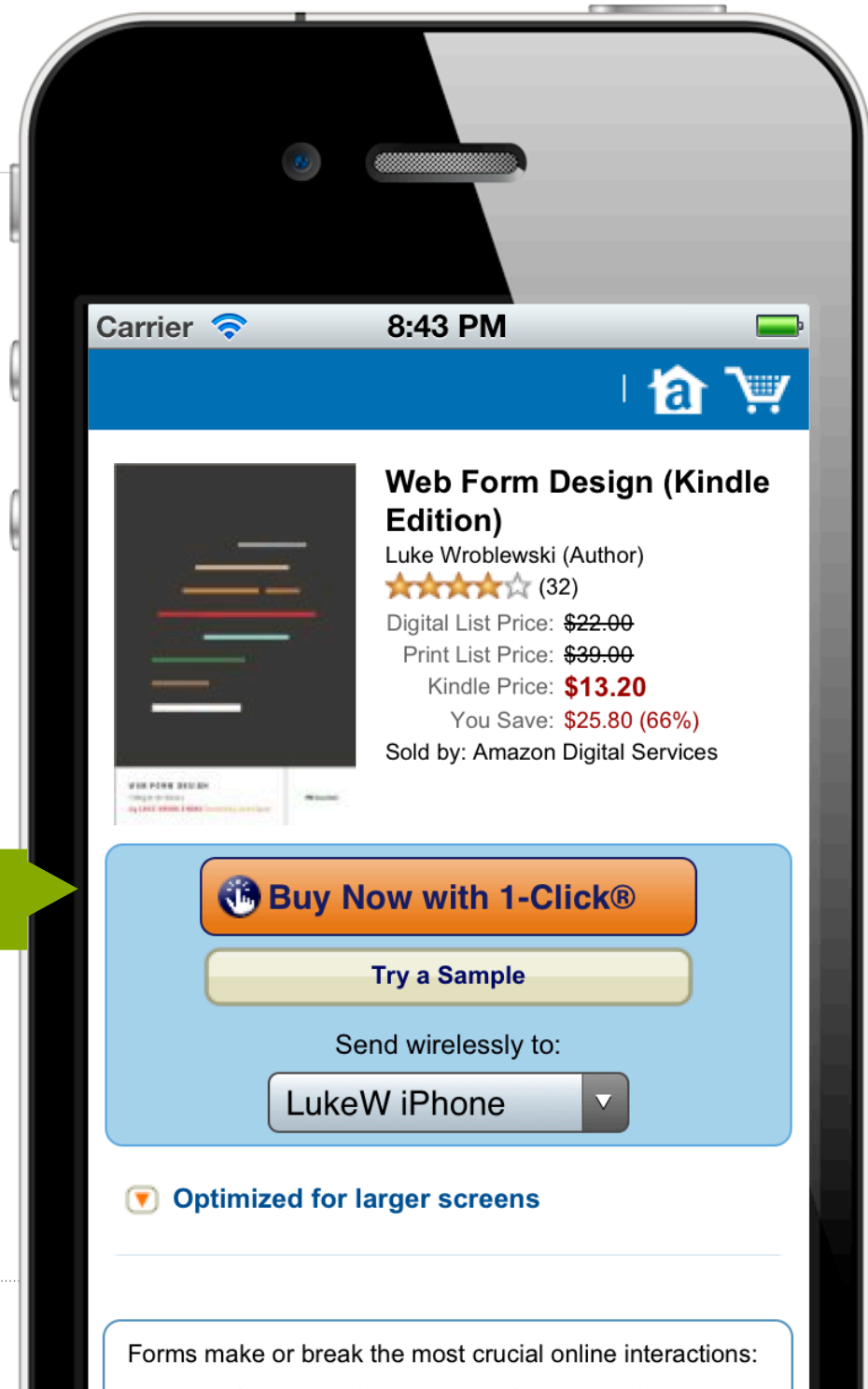
& read your book now!

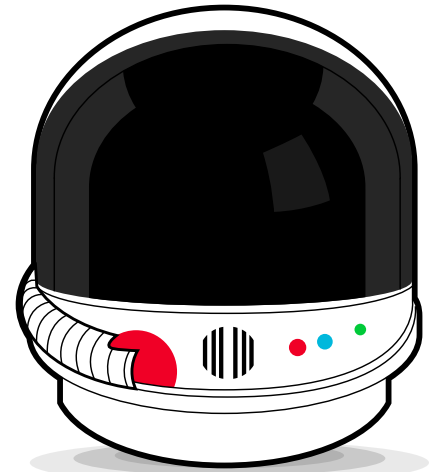
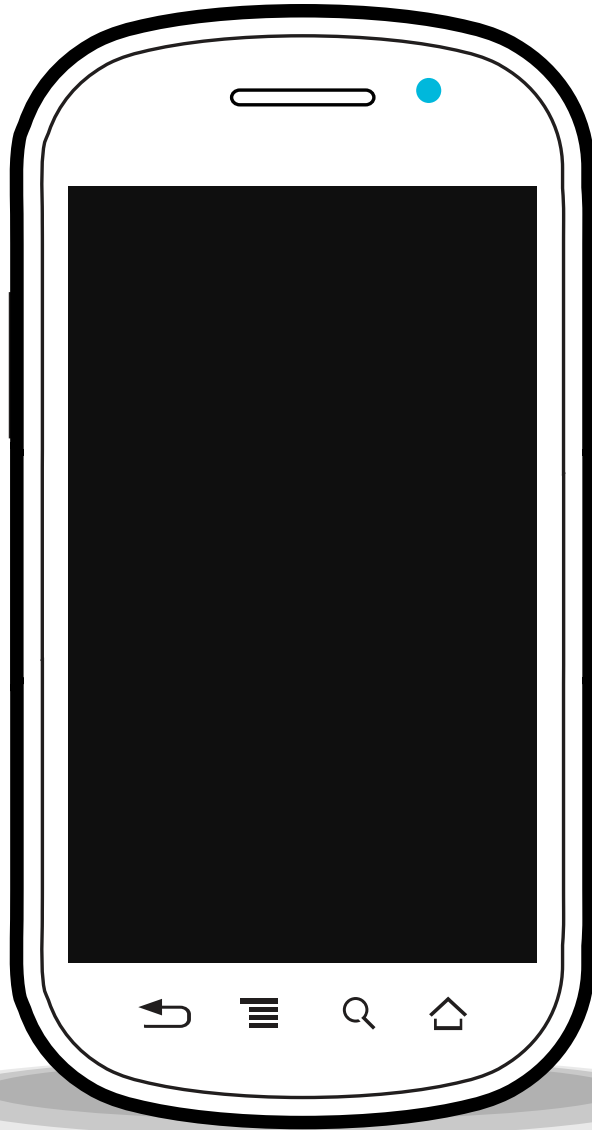
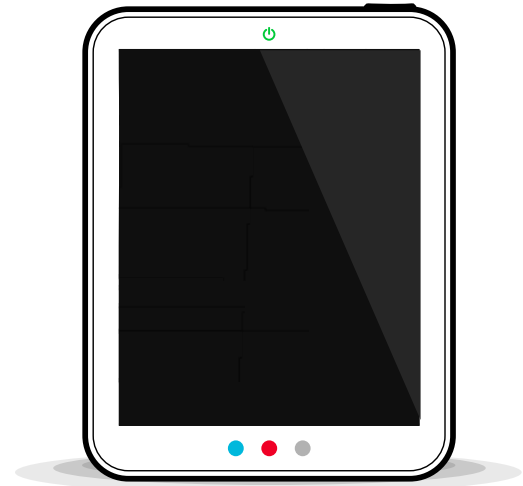
One-Click



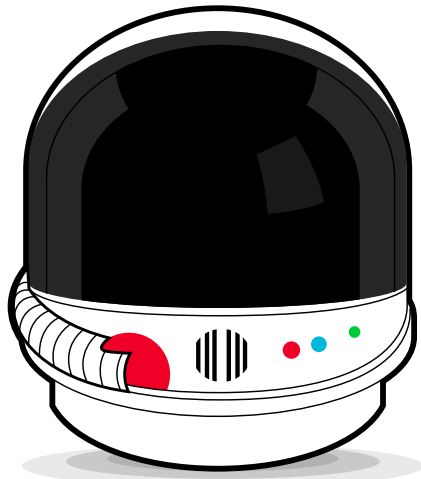
130% more spent
20% of all US sales

1-Click Buying





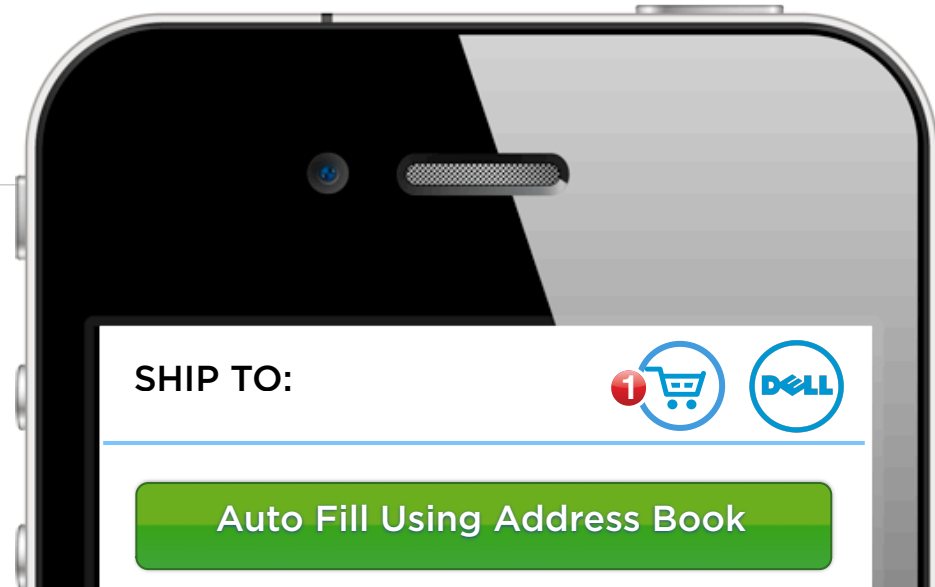
CHECKOUT



TOMORROW

- Contact Autofill
- Location Detection
- Virtual Shopping
- Self Checkout

Contacts API



```
navigator.contacts.find({_id: owner});
```



Signature required for delivery. No P.O. boxes

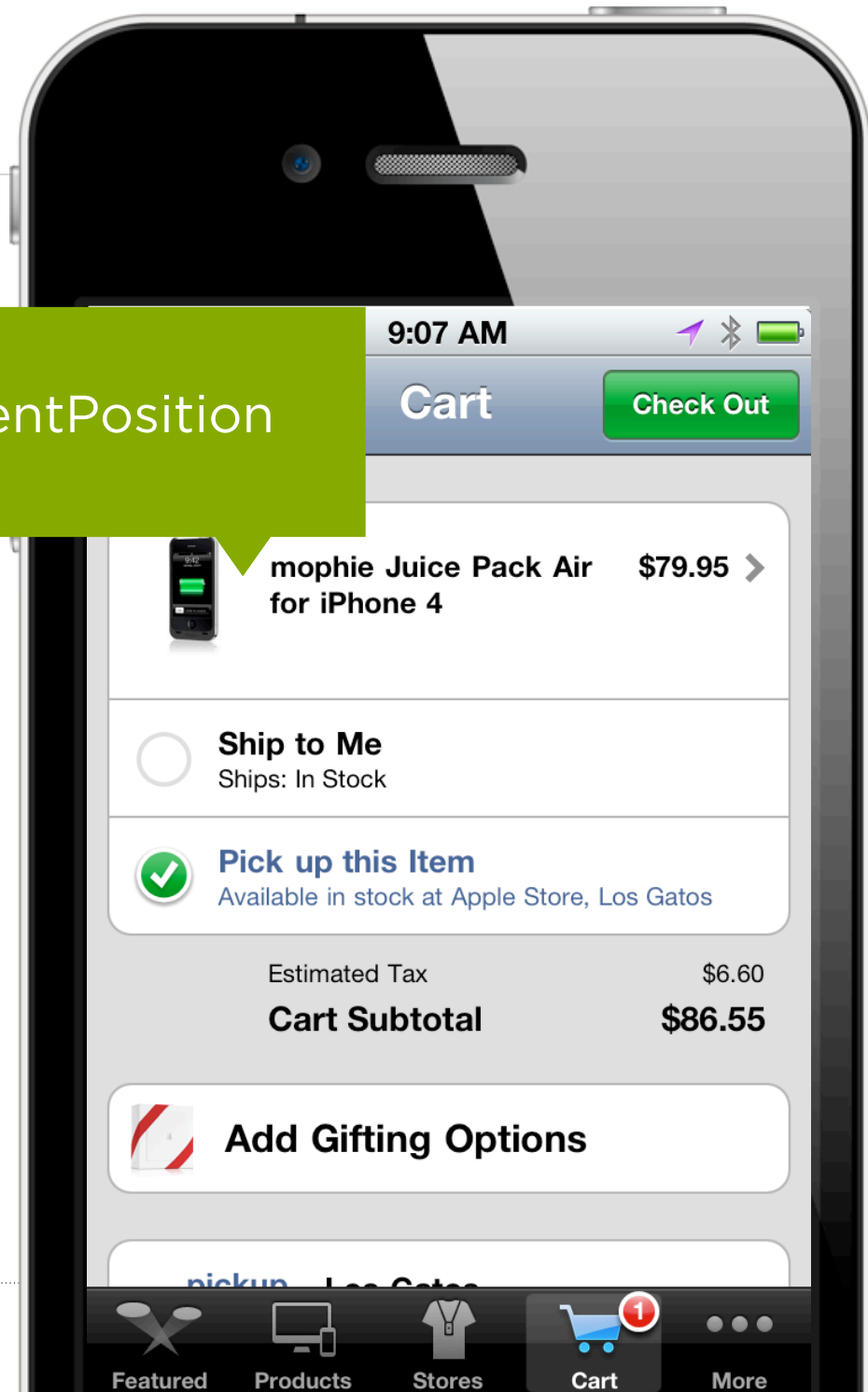
City

State

ZIP Code

Local Purchases

```
if (navigator.geolocation) {  
  navigator.geolocation.getCurrentPosition  
}
```

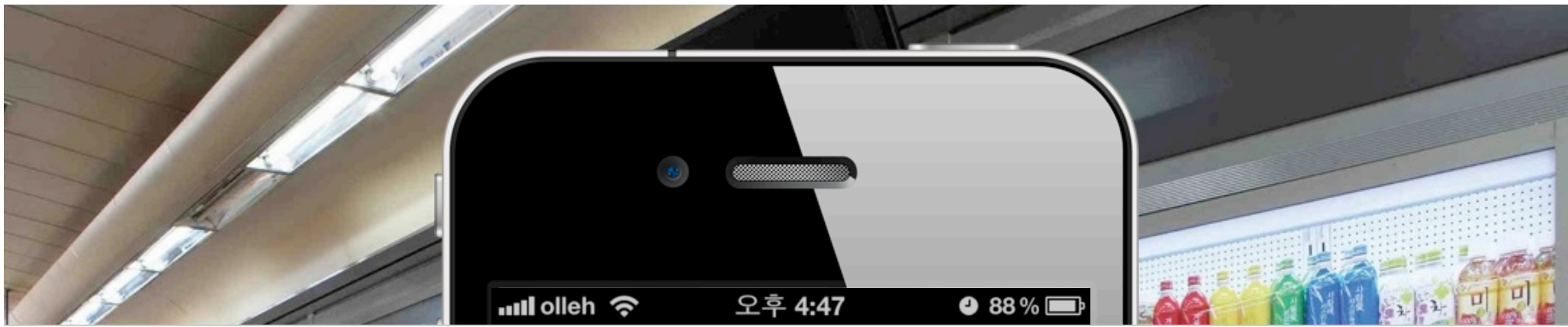


Local Purchases



Web Workers: API for spawning background scripts in your web application.





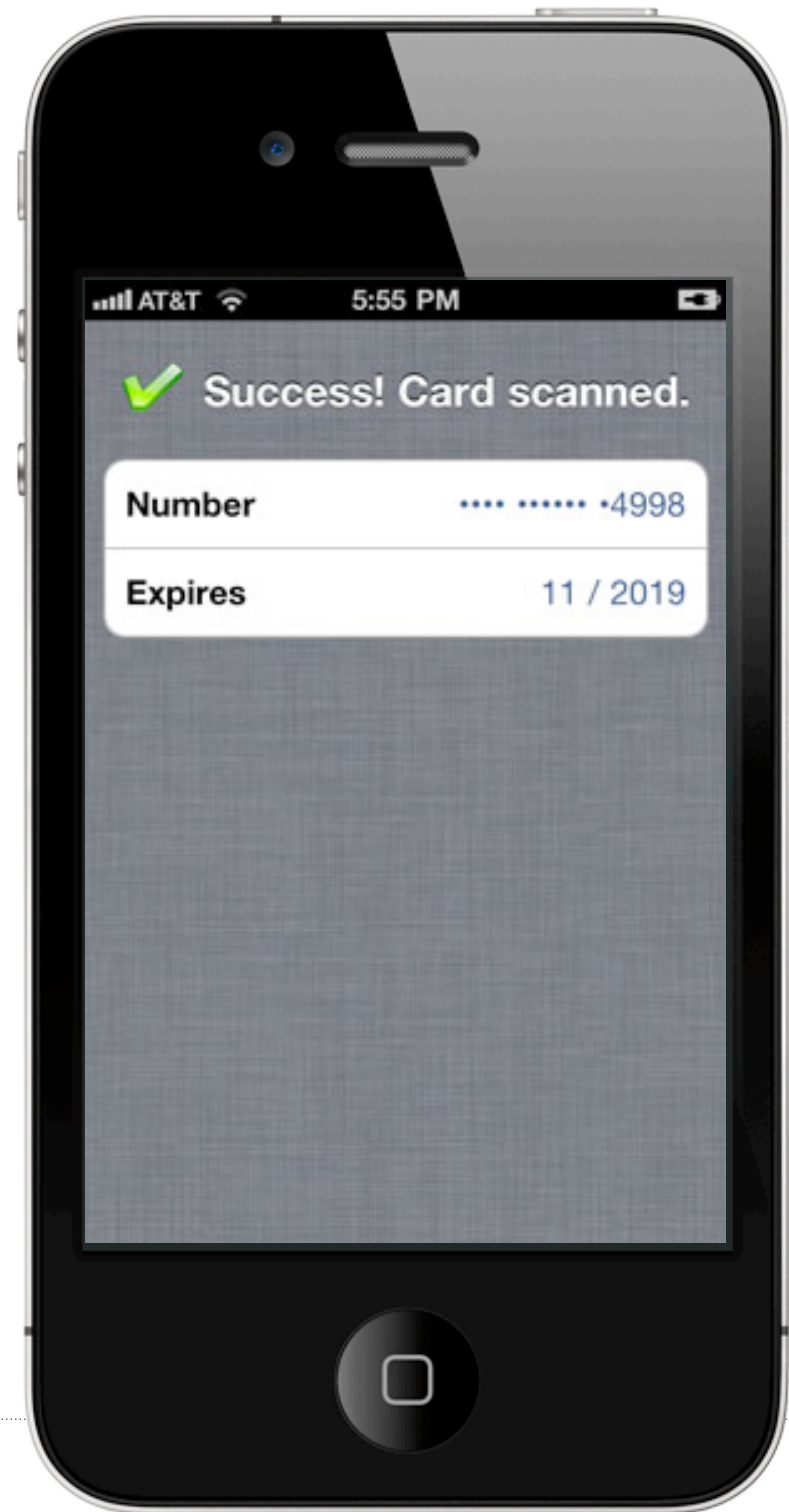
```
navigator.getUserMedia({video: true}, gotStream);  
function gotStream(stream) {  
    // ... use 'stream' ...  
}
```





2X faster registration
(60 sec to 25 sec)

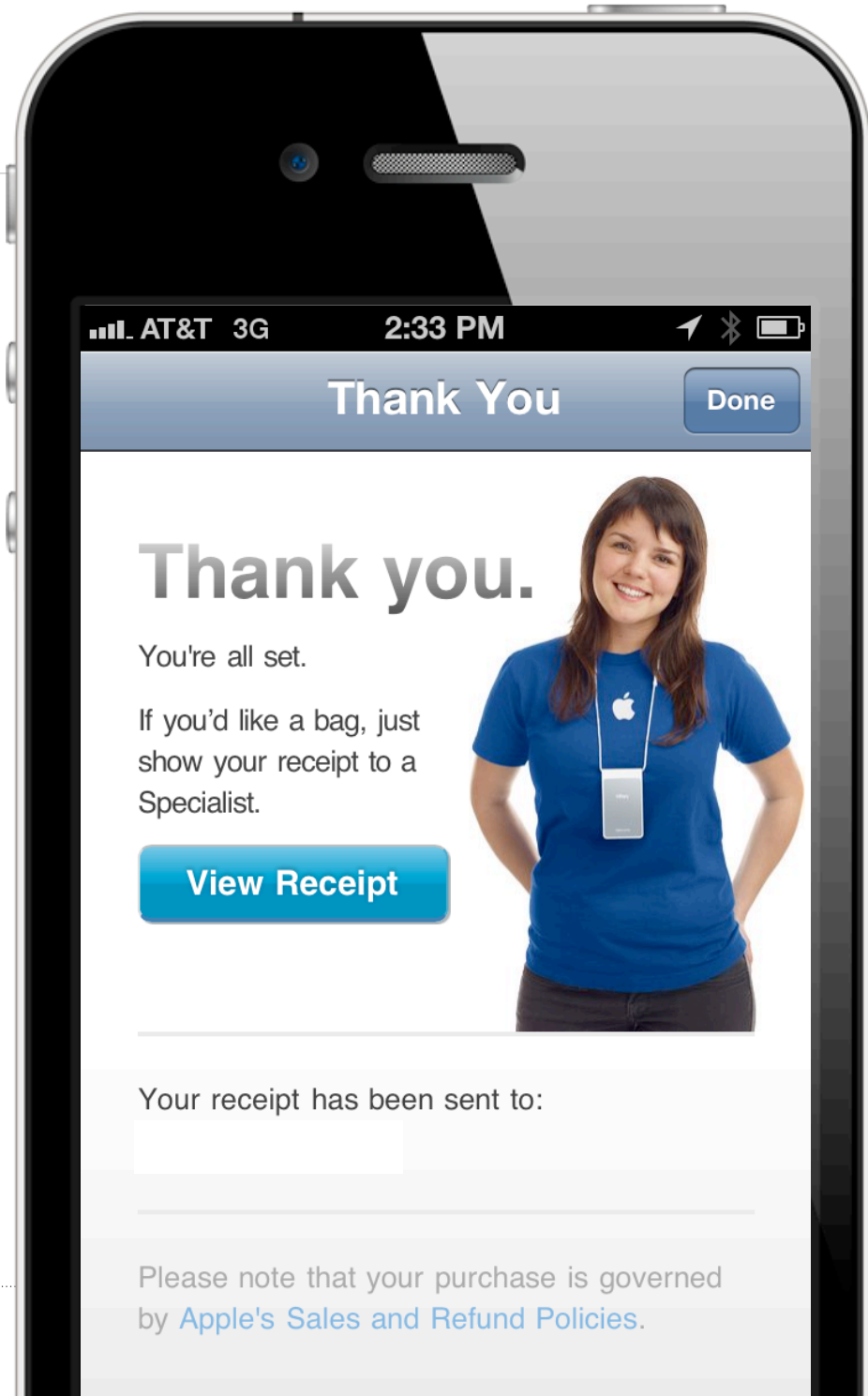
13% sales lift with
card.io integration



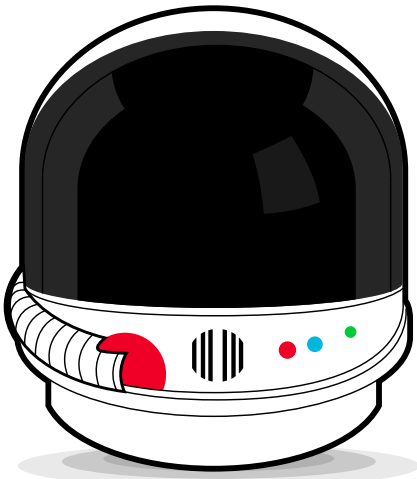
Self Checkout

50% increase in
barcode scans
last year

40% online
prescriptions
scanned on
mobile



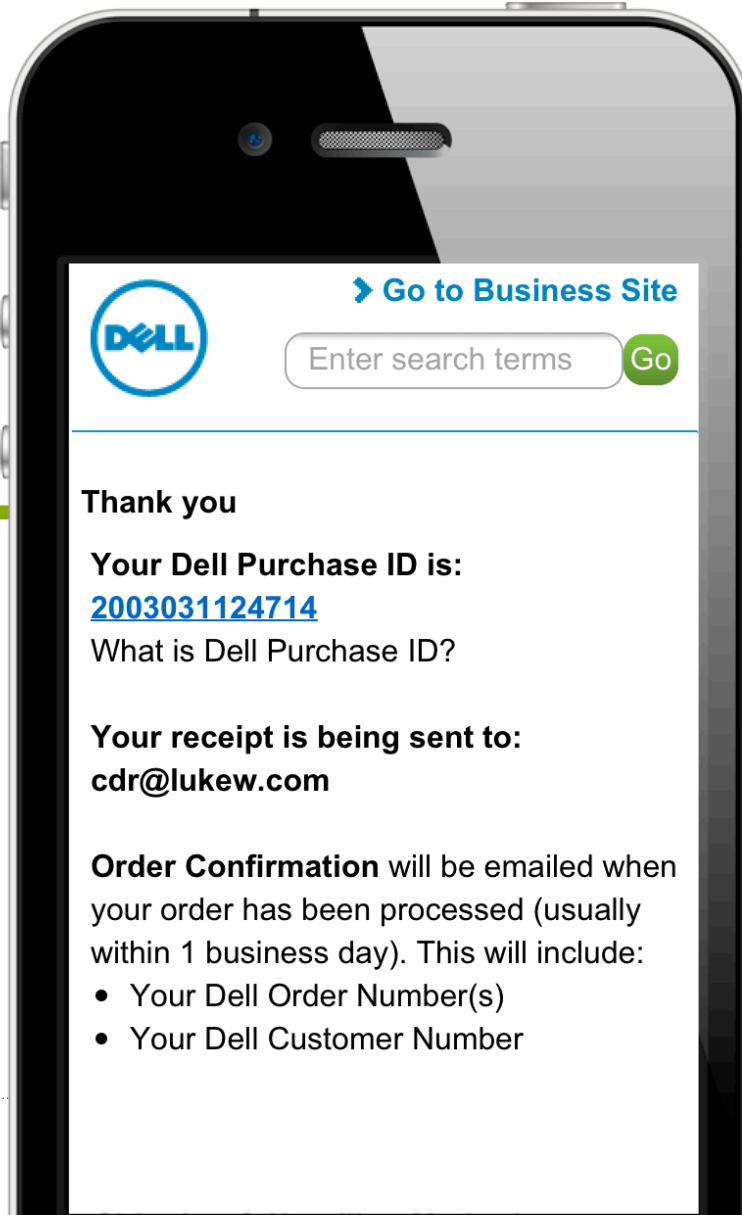
CHECKOUT



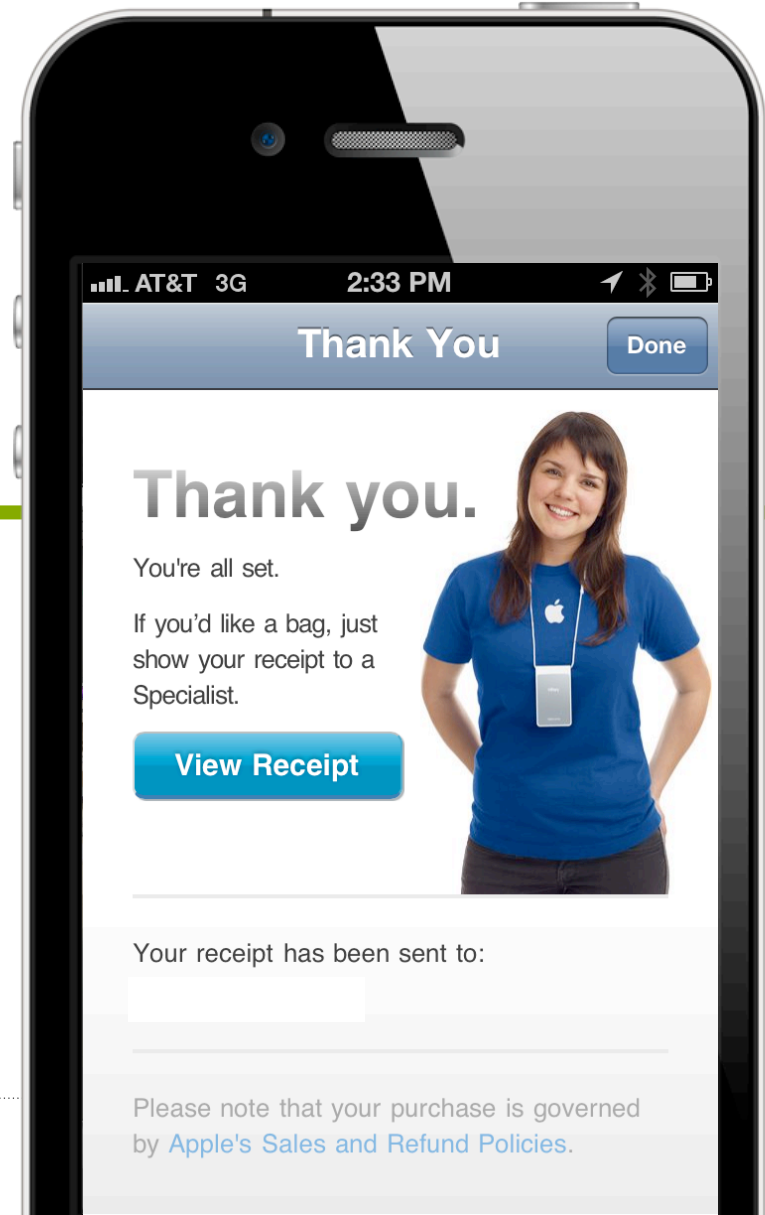
TOMORROW

- Contact Autofill
- Location Detection
- Virtual Shopping
- Self Checkout

CHECKOUT



VS.



MOBILE

And opportunity

That's good for all devices

Even on the Web!

1. Is a massive new medium
2. Forces us to adapt & optimize our solutions
3. Moves us towards the future

THANKS

@LUKEW

LUKEW.COM

