MOBILE TO THE FUTURE

@lukew

LUKE WROBLEWSKI

AN EVENT APART 2012
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
378K
iPhones sold per day

562K
iOS devices

371K
Babies born per day

1.3M
Android devices activated per day

200K
Nokia smartphones

143K
Blackberry devices

Source: http://tnw.co/yUafAx
5 YEARS

TELEPHONE

10 YEARS

ELECTRICITY

15 YEARS

COMPUTER

TELEVISION

SMARTPHONE

INTERNET

MOBILE PHONE

RADIO

Share of Personal Computing

MOBILE

6B connections today
10B connections in 2016
26X worldwide traffic growth

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

Source: http://amzn.to/a3PrlI
Sponsors
Jingles
Spokesmen
Programs
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


MOBILE PAYMENTS

$141M  2009
$750M  2010
$4B    2011
$10B   2012 EST
MOBILE

2X more likely to buy on mobile

2.5X more likely to subscribe

3X engagement on mobile

Source: http://bit.ly/x0ZVZM
MOBILE

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

800% mobile growth

Source: http://bit.ly/zR92VI
What we know from desktop Web

How to adapt & optimize for mobile

Ways to move forward
LOGIN

YESTERDAY

TODAY

TOMORROW
LOGIN

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?

Don't have a Windows Live ID? Sign up
I forgot my user ID or password
LOGIN

TODAY

90% of customer service inquiries TODAY
I forgot my user ID or password.
Log In Flow
Log In Flow

Forgot password
If you don’t have an account, please visit the Walmart.com full site to create one.
Log In Flow
“Mobile must never be a dumbed-down, limited experience.” -Steven Hoober

Source: http://oreil.ly/w1INmt
Log in 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

- **Email Field**
  - `type=email`
  - `autocapitalize=off`
  - `autocomplete=off`

- **Password Field**
  - `type=password`
  - `autocapitalize=off`
  - `autocomplete=off`
“Masking passwords doesn’t even increase security, but it does cost you business due to login failures.” -Jakob Nielsen
“...and it’s worse on mobile.”

Mobile is a magnifying lens for your usability problems.
Hey Luke,

You recently requested to use the easy login feature on your mobile device.

Please click the link below to easily login into your Facebook account:
Show Passwords

Smart Defaults

Hide password
Show Passwords
Show Passwords

@tkadlec @lukew Lots of clients worry about negative security perception from users when showing passwords...

Jonathan Heron 5 days ago

@tkadlec @lukew We rolled it out for a large client recently & had zero negative feedback from either user test participants or live users.

Jonathan Heron 5 days ago
Show Passwords

First time I removed masking/dupes was Sprint All 20mm customers needed new pswd (CPNI). Success, NO issues. Tested, well-measured. @lukew

steven hoober

5 days ago
Show Passwords

@lukew when I was at Y! We eliminated the second input field and displayed the full password prior to form submission. Eavesdropping unlikely

Mike Lee

5 days ago

@lukew We saw double digit improvements in the overall flow, but that was also influenced by other changes to the form. No security issues.

Mike Lee

5 days ago
Input Masks
Input Masks

Username @ lukew
Avoiding Errors

No account found for this email address. To create an account, sign up for Quora.
Saving Passwords

Let me login without a password on this browser.
Single Sign-On

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

Sign In to Bagcheck

Enter Your Name (or email)

Can't find your name or new here? Join Now

Source: http://bit.ly/mXlkoy
Sign in to Votizen

Enter your name (or email address)

Luke Wroblewski

Welcome back Luke, you can sign in with Twitter

Twitter

Sign in to Votizen

Enter your name (or email address)

Luke

Luke Fazio

Luke Bornheimer

Luke Burns

Previous  Next
Jon Skivenes I never leave the house without these. Over the years I have tried literally hundreds of digital tools for ideation and early-phase prototyping. Nothing beats the immediacy, modelessness and non-linearity of pen and paper. Here is my set of fine lines.

11 MONTHS

Show 2 earlier comments...

Ross Belmont suggests Behance Dot Grid Graph Paper Notebook: Call me an "inside the box" thinker, I find the light dots helpful (as opposed to full gridlines).
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:

************

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 house 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
Sign In

Email or Full Name

luke@taco.com

Password

mypassword

Luke, Sign In

Remember Me

Sign In Help
Jon Skivenes I never leave the house without these. Over the years I have tried literally hundreds of digital tools for ideation and early-phase prototyping. Nothing beats the immediacy, modelessness and non-linearity of pen and paper. Here is my set of fine lines.
11 MONTHS

Show 2 earlier comments...

Ross Belmont suggests Behance Dot Grid Graph Paper Notebook: Call me an "inside the box" thinker, I find the light dots helpful (as opposed to full gridlines).
LOGIN

- 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);
Touch Gestures

“Microsoft Windows 8 shows mobile’s influence.”

Source: http://dthin.gs/jVlsAw
## Password Combinations

<table>
<thead>
<tr>
<th>10-digit</th>
<th>A-Z character</th>
<th>Complex character</th>
<th>Multi-gesture</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>10</td>
<td>26</td>
<td>n/a</td>
</tr>
<tr>
<td>2</td>
<td>100</td>
<td>676</td>
<td>n/a</td>
</tr>
<tr>
<td>3</td>
<td>1,000</td>
<td>17,576</td>
<td>81,120</td>
</tr>
<tr>
<td>4</td>
<td>10,000</td>
<td>456,976</td>
<td>4,218,240</td>
</tr>
<tr>
<td>5</td>
<td>100,000</td>
<td>11,881,376</td>
<td>182,790,400</td>
</tr>
</tbody>
</table>

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+

```html
<input type="file" accept="image/*" capture="camera"/>
```
Android 3.0 +

```html
<input type="file" accept="image/*" capture="camera"/>
```
Facial Recognition
Configurer Face Unlock

Placez votre visage ici.

Montrez votre visage.

Annuler
WHAT ABOUT THE BROWSER?

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

Source: http://bit.ly/rOw96f
“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

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

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

YESTERDAY

TODAY

TOMORROW
CHECKOUT

YESTERDAY

75% 2011 shopping cart abandonment rate
71% 2010 shopping cart abandonment rate
REDUCE EFFORT
• 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

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

TODAY
Multiple Fields
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

Daytime Phone Number

+ Ext.

+ Another Number
Phone Numbers

Daytime Phone Number

input type=tel

Another Number
Phone Numbers

Daytime Phone Number
(555)-123-_____.

input mask
Addresses

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

70% of Internet users have purchased content or services online

Source: http://read.bi/GFBGs
METRICS

MOBILE PURCHASES

$4B  2011 mobile GMV
3 purchases on mobile per sec
2M listings added on mobile per week
Credit Cards

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]*"

Enter card number, expiration date & CVV code

Source: http://bit.ly/A6T0N1
Credit Cards

Credit or Debit Card

Enter card number, expiration date & CVV code
Credit Cards

Credit or Debit Card

Enter card number, expiration date & CVV code

1905
07/12
5123 4356 12 912

Stay on the keys

reduced number of controls/inputs

Source: http://bit.ly/n3Rz1n
Type=month

Credit Card Number

Expiration Date
September 2012

ZIP Code

as it appears on your credit card bill

September 2012
Type=month

Credit Card Number
are accepted
Expiration Date
09/2012
ZIP Code
as it appears on your credit card bill

Expiration Date
07/12

Input mask

as it appears on your credit card bill
Progressive Enhancement

Type: month

Expiration Date

Select menus

Source: http://bit.ly/yrFCmK
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

By selecting “Continue” I agree to the terms of sale.

Continue

reduced number of controls
Touch Targets
**WHY BOTHER?**

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

---

**Stay on keys**

**Reduced controls**
One-Click

130% more spent
20% of all US sales

1-Click Buying

Source: http://bit.ly/pSWtGT
CHECKOUT

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

TOMORROW
Contacts API

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

Local Purchases

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

Source: http://tcrn.ch/tASWp0
CHECKOUT

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

TOMORROW
CHECKOUT

VS.

Thank you

Your Dell Purchase ID is:
2003031124714
What is Dell Purchase ID?

Your receipt is being sent to:
cdr@lukew.com

Order Confirmation will be emailed when your order has been processed (usually within 1 business day). This will include:
• Your Dell Order Number(s)
• Your Dell Customer Number

Thank you.
You're all set.
If you'd like a bag, just show your receipt to a Specialist.

View Receipt

Your receipt has been sent to:

Please note that your purchase is governed by Apple's Sales and Refund Policies.
MOBILE

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

And opportunity
That’s good for all devices
Even on the Web!
THANKS

@LUKEW

LUKEW.COM