

# Metaphors

User Mental Model

Direct Manipulation

Feedback & Communication

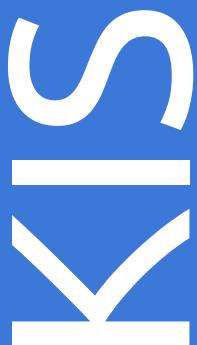
# Consistency

Clarity

User Control

Forgiveness

Aesthetics & Usability



Don't make me think



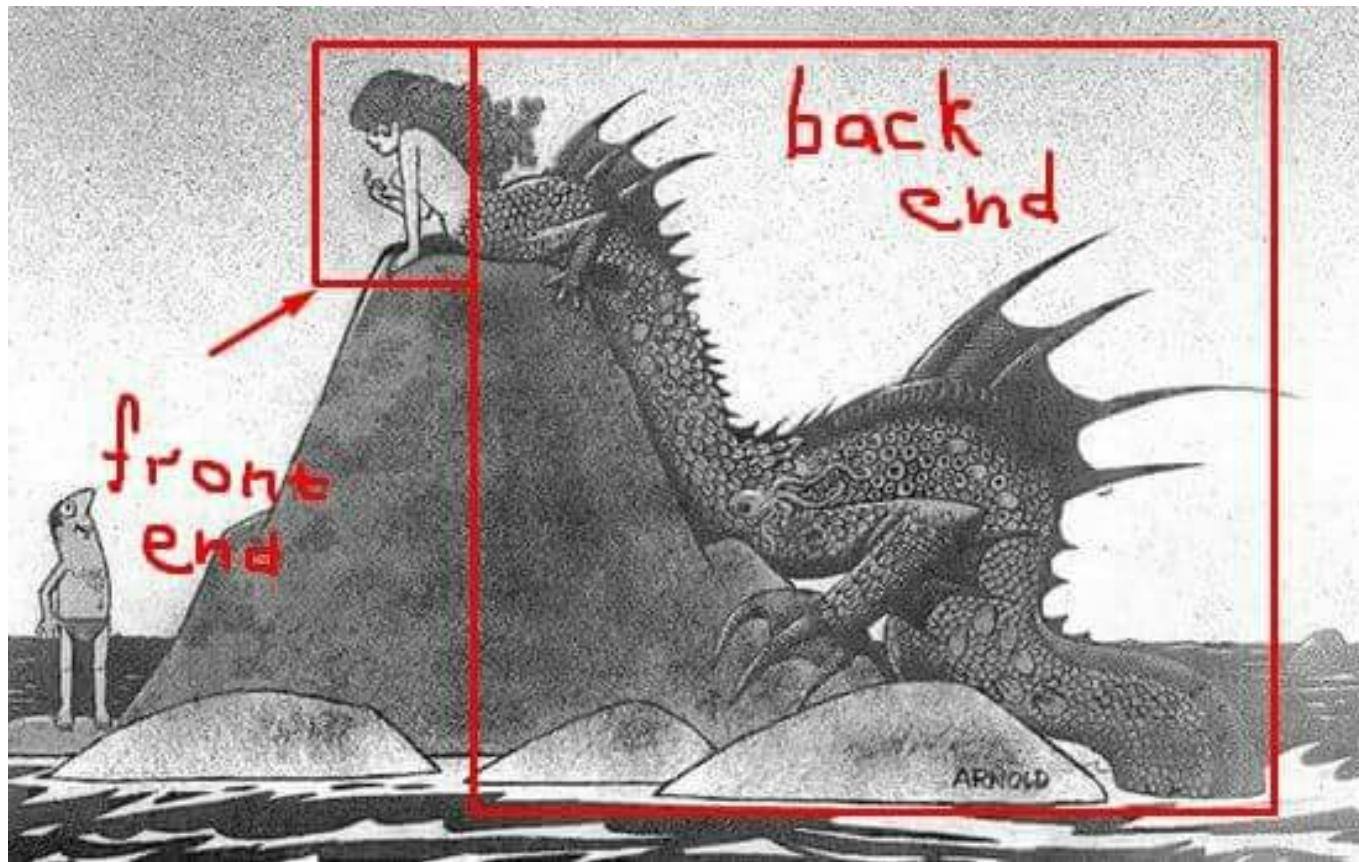
# Tyanko Yordanov

UX designer, senior

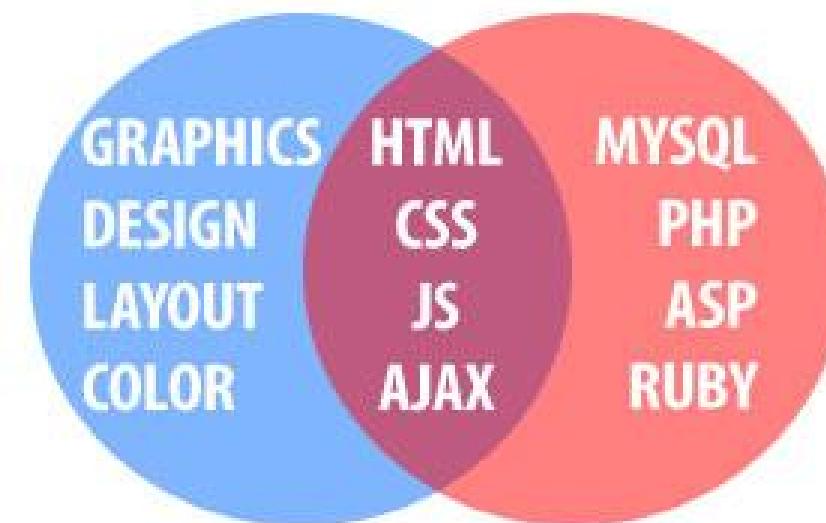
Developer Experiences Design Team

 **Progress®** DigitalFactory

# </Front-end> vs {Back-end}



# </Front-end> vs {Back-end}



WEB DESIGN / WEB DEVELOPMENT

# </Front-end> vs {Back-end}

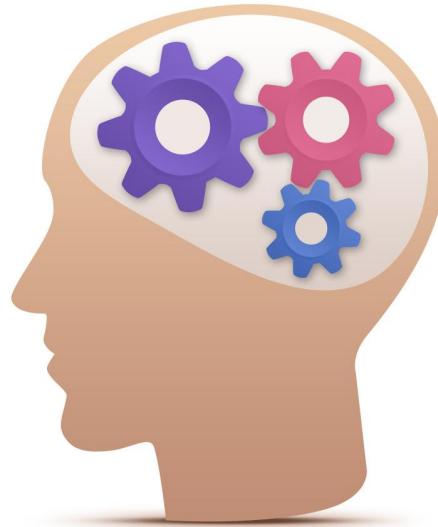


**WHY THE \*\*\* \* WOULD PUT  
BACKEND CODE**

**IN FRONTEND FILES**

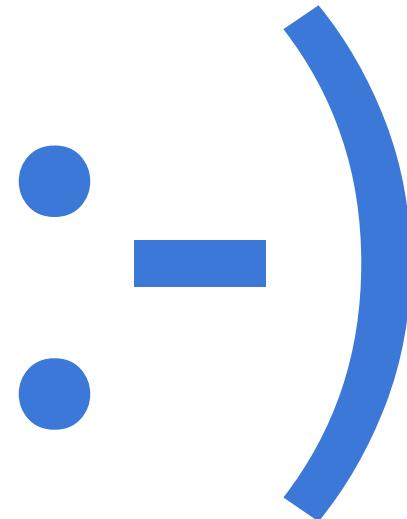
memegenerator.net

# What's the ?



# User Experience

(better)



# Better UX =

The benefits are

Easy to use    User friendly    High performance

Better usability    High efficiency

User satisfaction

=

# Better UX =

Benefits are

Easy to use

User friendly

High performance

Better usability

High efficiency

User satisfaction

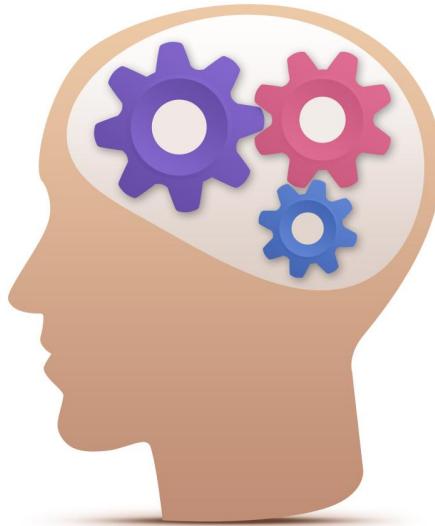
=

Jaxon Daniels says:

I Want it !

(better)

# User Experience



# UI = UX ?

What's the difference...

**UI = UX ?**

What the UX is...

# Content

What users are looking for



# User Interface

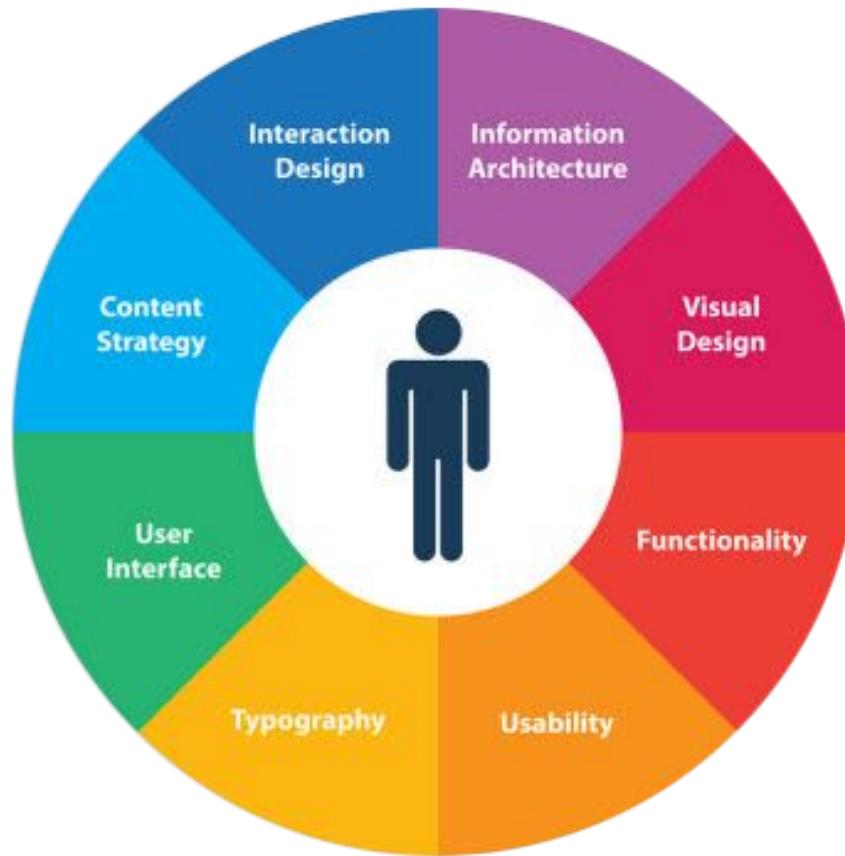
Tool to provide the content



# User Experience

All in One

# User Experience



Jaxon Daniels

# **UI = UX ?**

What is the difference...



**UI** = UX ?

What the UI is...

# User Interface ?

*"The way that you accomplish tasks with a product – what you do and how it responds – that's the interface"*

*Jef Raskin*

# User Interface ?



# User Interface ?



# User Interface ?



# User Interface ?



# User Interface ?

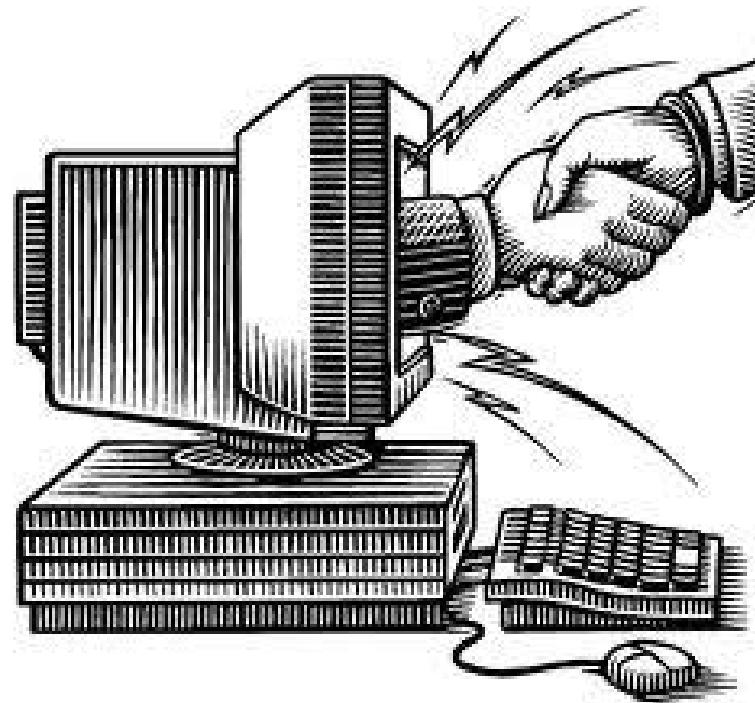


# HCI

Human - Computer Interaction



Nice to meet you!



# < User Interface / >

Command line UI

Graphical UI

Natural UI

CLI    >    GUI    >    NUI

Codified

Metaphor

Direct

Strict

Explanatory

Intuitive

```
calling mpo_policy_init for mb
Seatbelt MACF policy initialized
Security policy loaded: Seatbelt Policy (mb)
Loading security extension com.apple.nke.applicationfirewall
Loading security extension com.apple.security.TMSafetyNet
calling mpo_policy_init for TMSafetyNet
Security policy loaded: Safety net for Time Machine (TMSafetyNet)
Copyright (c) 1982, 1986, 1989, 1991, 1993
    The Regents of the University of California. All rights reserved.
```

```
MAC Framework successfully initialized
using 5242 buffer headers and 4096 cluster IO buffer headers
IOAPIC: Version 0x11 Vectors 64:87
PS2Controller: Created dev /ps2controller
ACPI: System State [S0 S4 S5] (S0)
Extension "com.apple.driver.AppleACPIPlatform" has immediate dependencies on both com.apple.kernel and com.apple.kpi components;
use only one style.
Extension "com.apple.driver.AppleACPIPlatform" has immediate dependencies on both com.apple.kernel and com.apple.kpi components;
use only one style.
ACPI: Button driver prevents system sleep
Using new IRQ layout 0,1
mbinit: done
Security auditing service present
BSM auditing present
From path: "uuid",
Waiting for boot volume with UUID 3AF39A9D-5718-3F85-9A26-849CB93A0AB9
Waiting on <dict ID="0"><key>IOProviderClass</key><string ID="1">IOResources</string><key>IOResourceMatch</key><string ID="2">boot-uuid-media</string></dict>
FusionMPT: Notification = 10 (Event Change) for SCSI Domain = 0
FusionMPT: Resetting SCSI Domain 0
Extension "com.apple.driver.iTunesPhoneDriver" has no explicit kernel dependency; using version 6.0.
netkas presents fakesmc, a kext which emulates smc device
Got boot device = IOService:/AppleACPIPlatformExpert/PCI0@0/AppleACPIPCI/scsi@10/AppleLSIFusionSCSI/IOSCSIParallelInterfaceDevice@0/IOSCSITargetDevice/IOSCSILogicalUnitNub@0/IOSCSIPeripheralDeviceType0@0/IOBlockStorageServices/IOBlockStorageDrive
BSD root: disk0s2, major 14, minor 2
jnl: unknown-dev: replay_journal: from: 6973440 to: 830464 (joffset 0x140000)
jnl: unknown-dev: journal replay done.
Singleuser boot -- fsck not done
Root device is mounted read-only
```

If you want to make modifications to files:

```
/sbin/fsck -fy
/sbin/mount -uw /
```

If you wish to boot the system:

```
exit
```

CLI

```
:/ root#
```

# CLI

*Demo*

CLI

# 1984

Hello.



# Introducing Macintosh. For the rest of us.

In the olden days, before 1984, not very many people used computers. For a very good reason.



*Some particularly bright engineers.*

Not very many people knew how. And not very many people wanted to learn.

After all, in those days, it meant listening to your stomach growl through computer seminars. Falling asleep over computer manuals. And staying awake nights to memorize commands so

complicated you'd have to be a computer to understand them.

Then, on a particularly bright day in Cupertino, California, some particularly bright engineers had a particularly bright idea: since computers are so smart, wouldn't it make more sense to teach computers about people, instead of teaching people about computers?

So it was that those very engineers worked long days and late nights and a few legal holidays, teaching tiny silicon chips all about people. How they make mistakes and change their minds. How they refer to file folders and save old phone numbers. How they labor for their livelihoods, and doodle in their spare time.

For the first time in recorded computer history, hardware engineers

actually talked to software engineers in moderate tones of voice, and both were united by a common goal: to build the most powerful, most portable, most flexible, most versatile computer not-very-much-money could buy.

And when the engineers were finally finished, they introduced us to a personal computer so personable, it can practically shake hands.

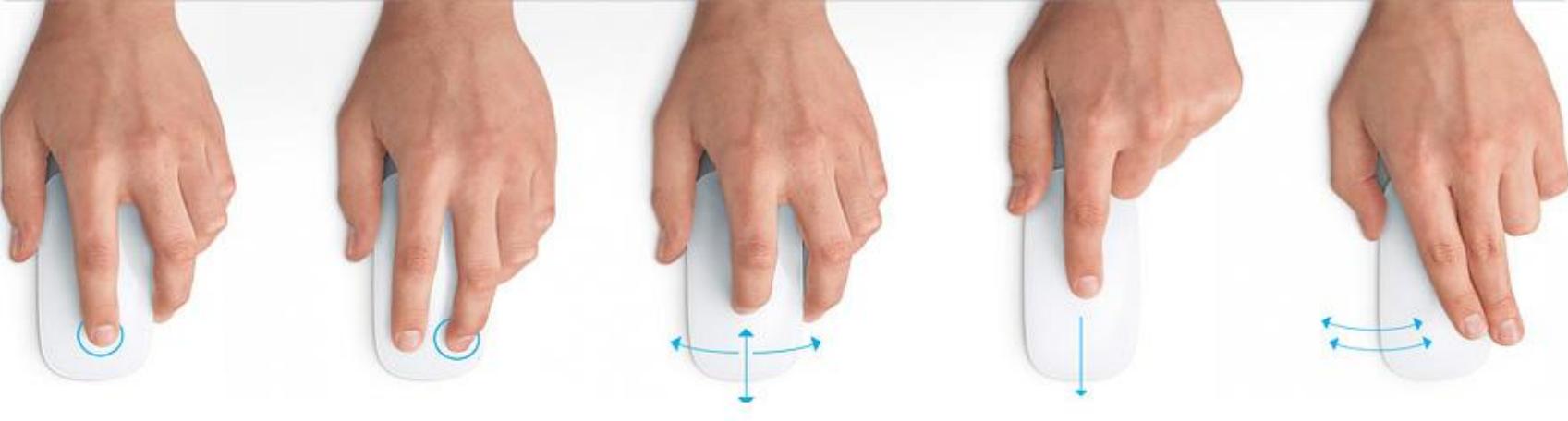
And so easy to use, most people already know how.

They didn't call it the QZ190, or the Zipchip 5000.

They called it Macintosh.<sup>™</sup>  
And now we'd like to introduce it to you.



GUI



Click once? > tap, swipe, pinch...



GUI



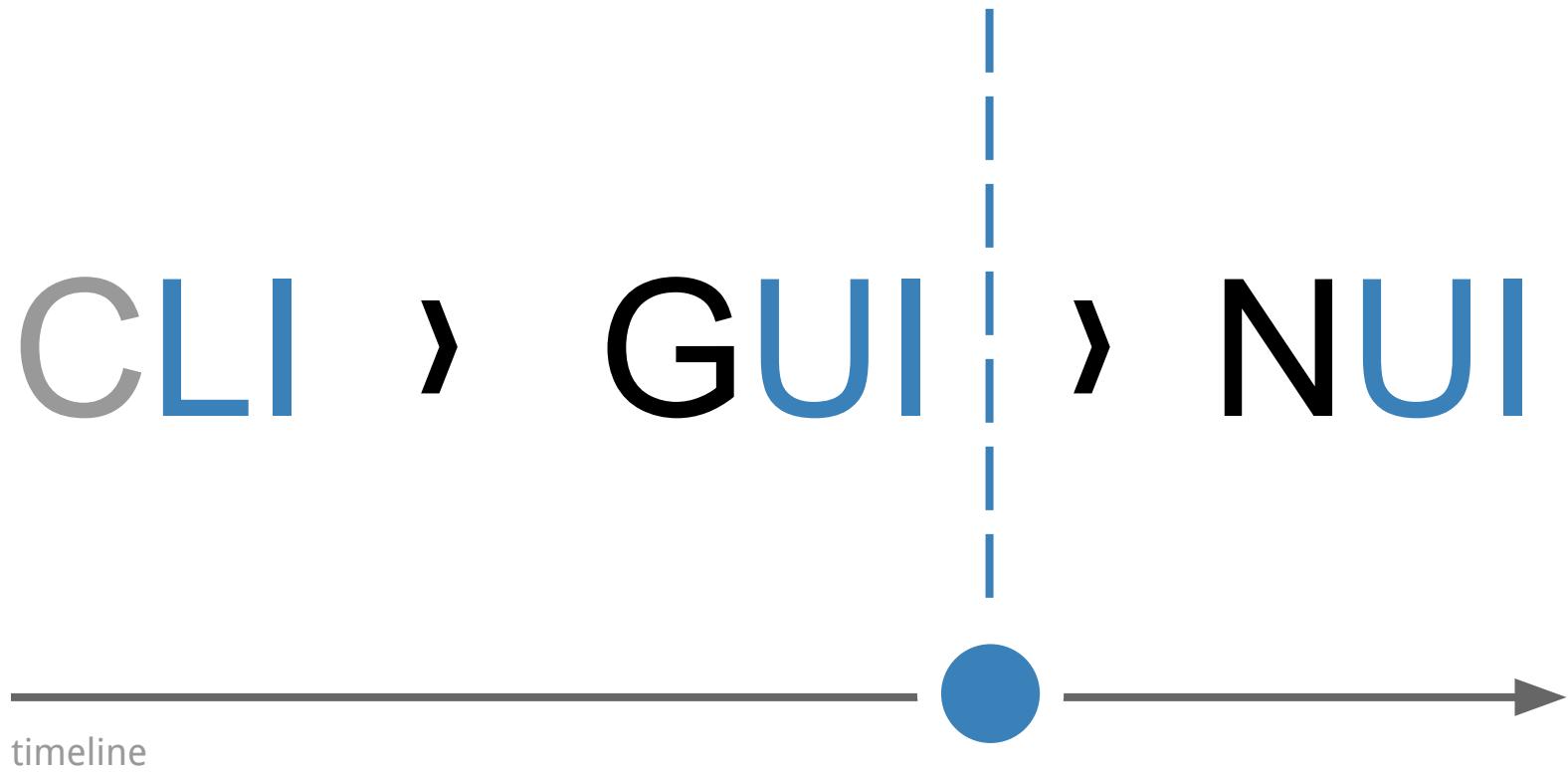
GUI

# Direct, Intuitive



GUI

# < User Interface >

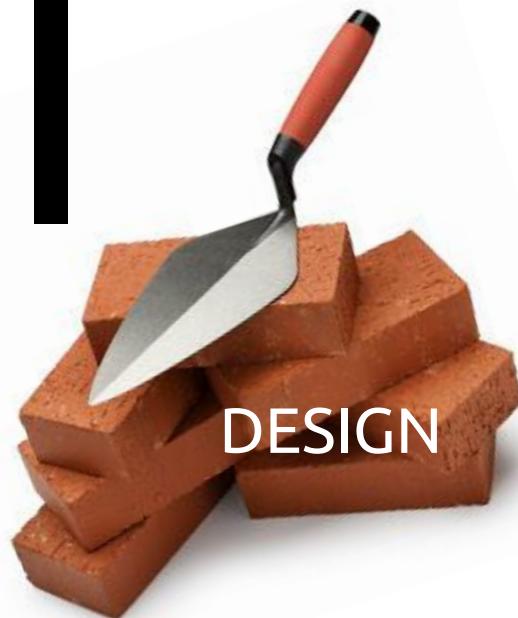


# Natural UI



10+ Fundamental Principles of

UI UX



# Metaphors

User Mental Model

Direct Manipulation

Feedback & Communication

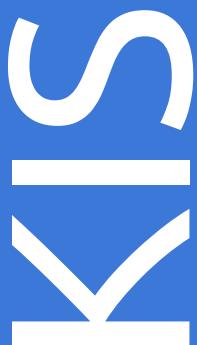
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Clarity

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Aesthetics & Usability



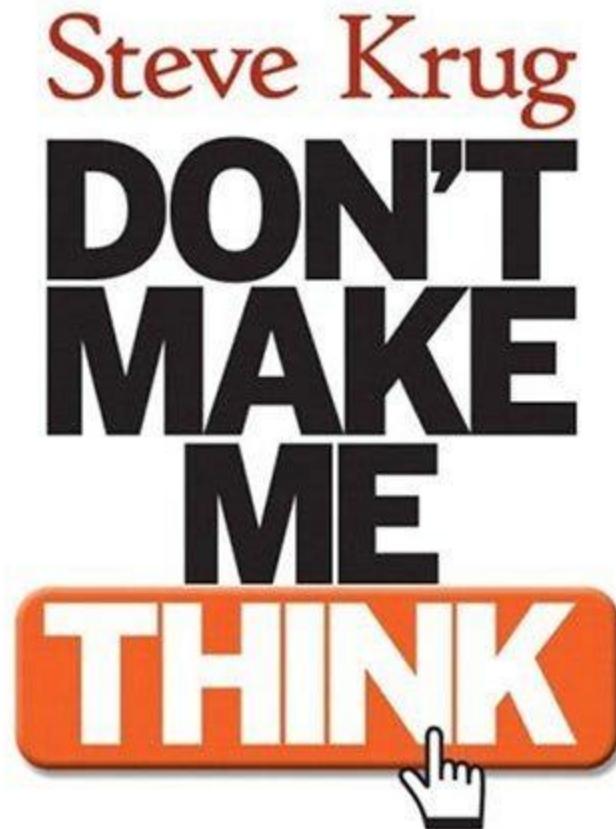
Don't make me think

# Don't Make Me Think !

A black and white close-up photograph of a person's face. The person is wearing dark-rimmed glasses and has their hand resting near their chin in a thoughtful pose. The background is blurred, showing some bright lights.

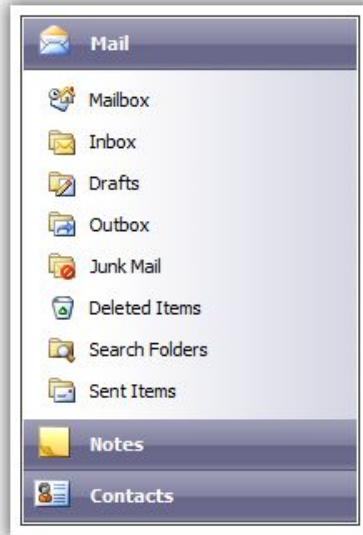
<http://www.uxbooth.com/articles/10-usability-lessons-from-steve-krug%80%99s-dont-make-me-think/>

Make it easy to go home!



A Common Sense Approach to Web Usability  
FOREWORD BY ROGER BLACK

# Metaphors



Select Dropdown

Option 1 ▾

Radio 1

Radio 2

Radio 3

**Disable All** **Reset All** **Change Theme**

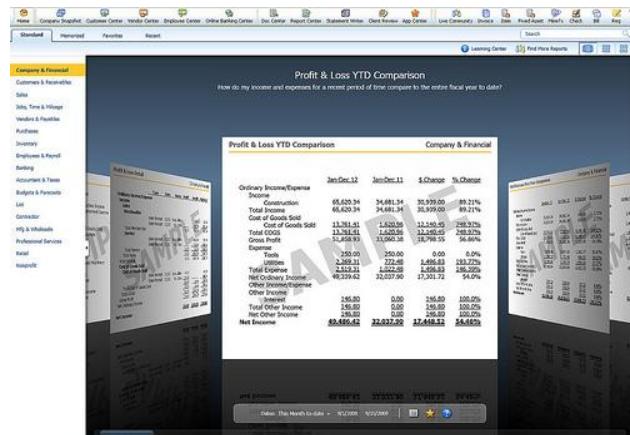
File Upload

Bro

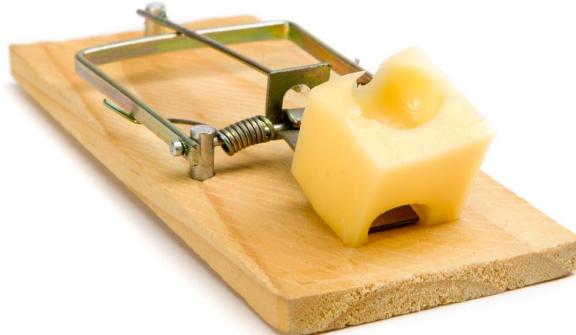
Checkbox 1

Checkbox 2

Checkbox 3



# Metaphors CAN:



- ★ Put Abstract Concepts in Concrete Terms
- ★ Create Familiarity
- ★ Trigger Emotions
- ★ Draw the Attention of Users
- ★ Motivate Users into Action



# Skeuomorphism vs FLAT



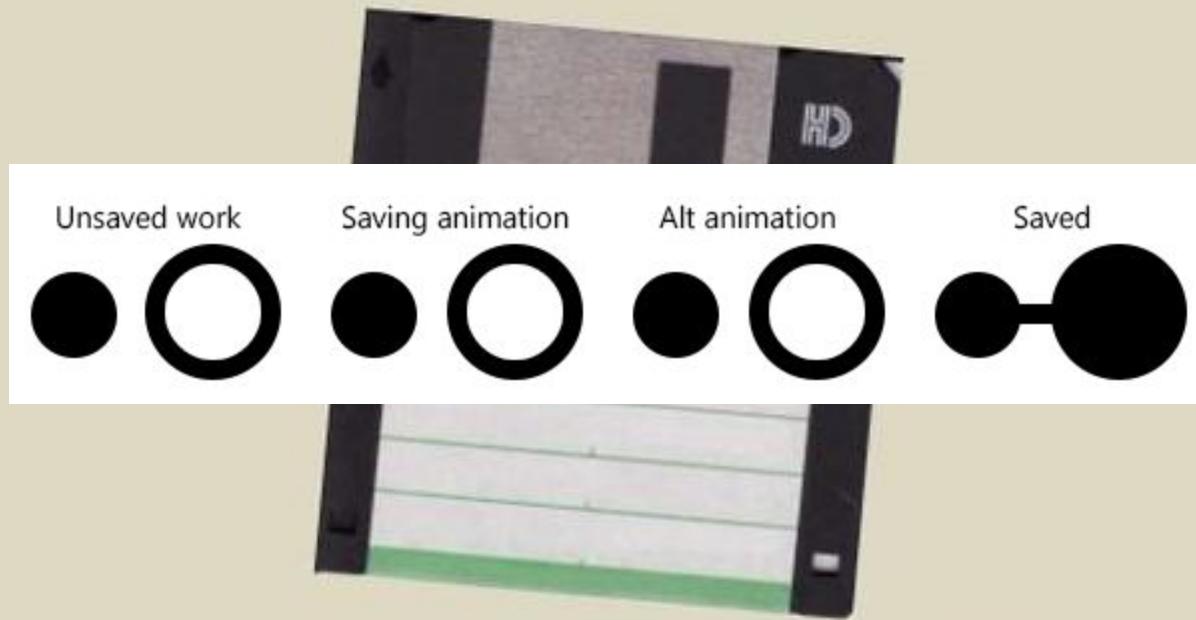
# Skeuomorphism vs FLAT



*examples*

Save...

I showed my 12 year old son an  
old floppy disk....

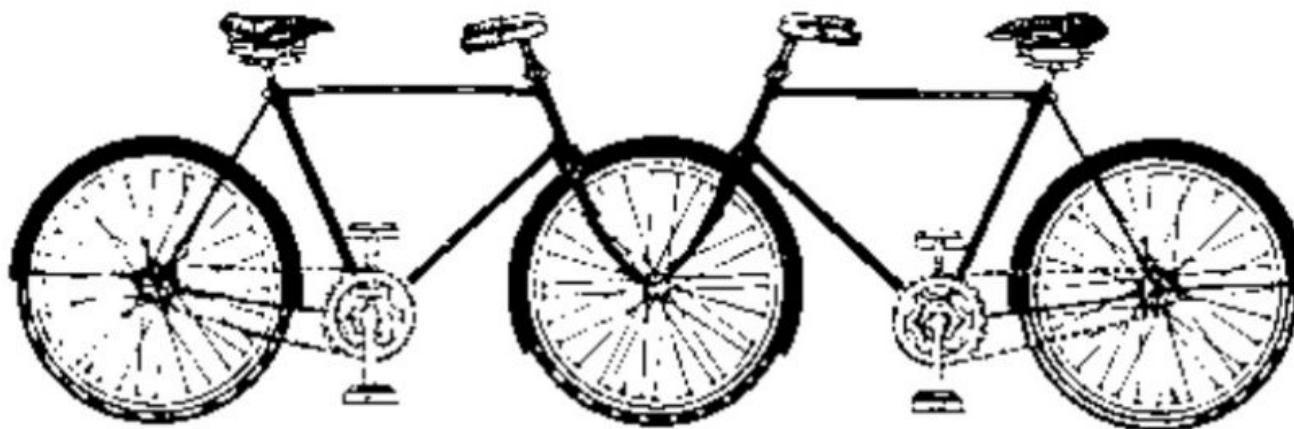


He said “Wow... Cool!  
You 3D printed the Save Icon!”

# Old school metaphors or not ?

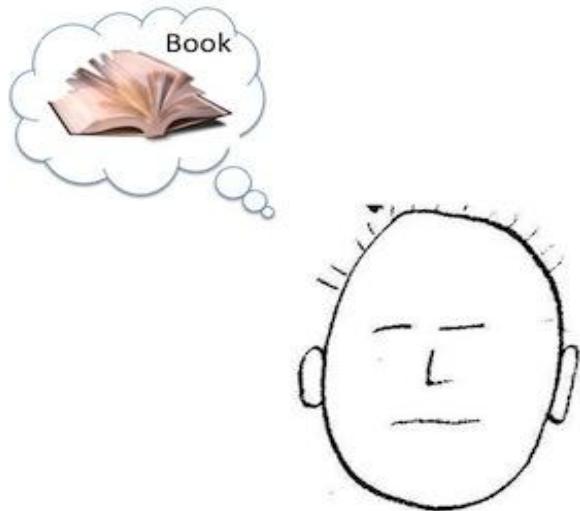
*examples*

# User Mental Model



Mental model is what a user believe is true, not necessarily what is actually true.

# User Mental Model



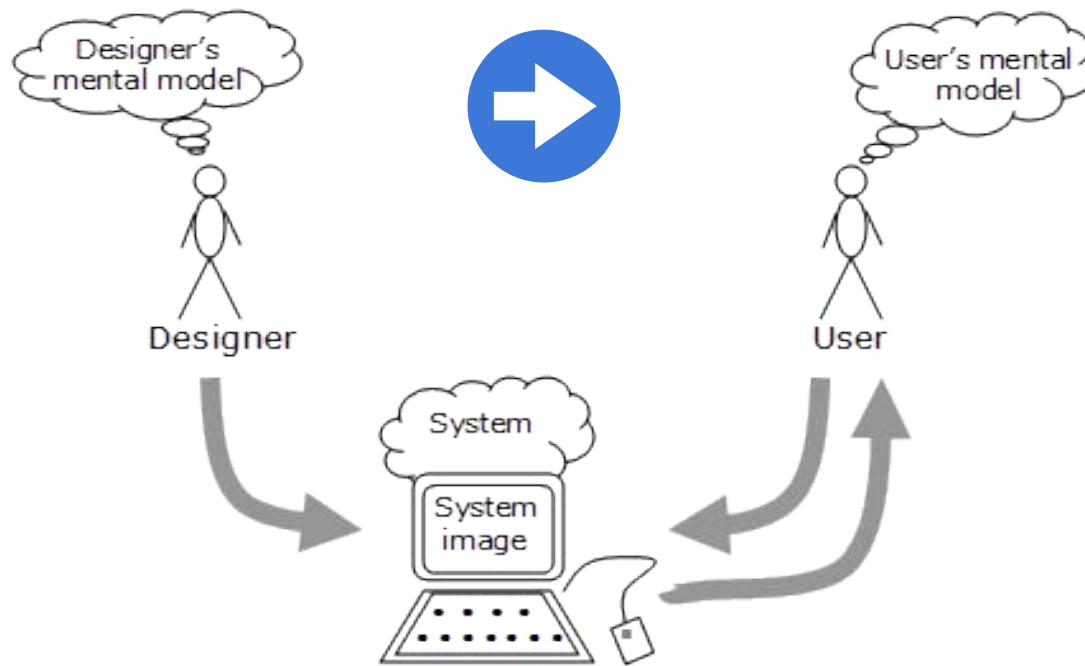
"Imagine that you've never seen an iPad, but I've just handed one to you and told you that you can read books on it. Before you turn on the iPad, before you use it, you have a model in your head of what reading a book on the iPad will be like. You have assumptions about what the book will look like on the screen, what things you will be able to do, and how you will do them—things like turning a page, or using a bookmark. You have a "mental model" of reading a book on the iPad, even if you've never done it before."

# How do we think? How the things work?

- ★ Provide obvious conceptual models
- ★ Make things visible
- ★ Make users 'see' how things work



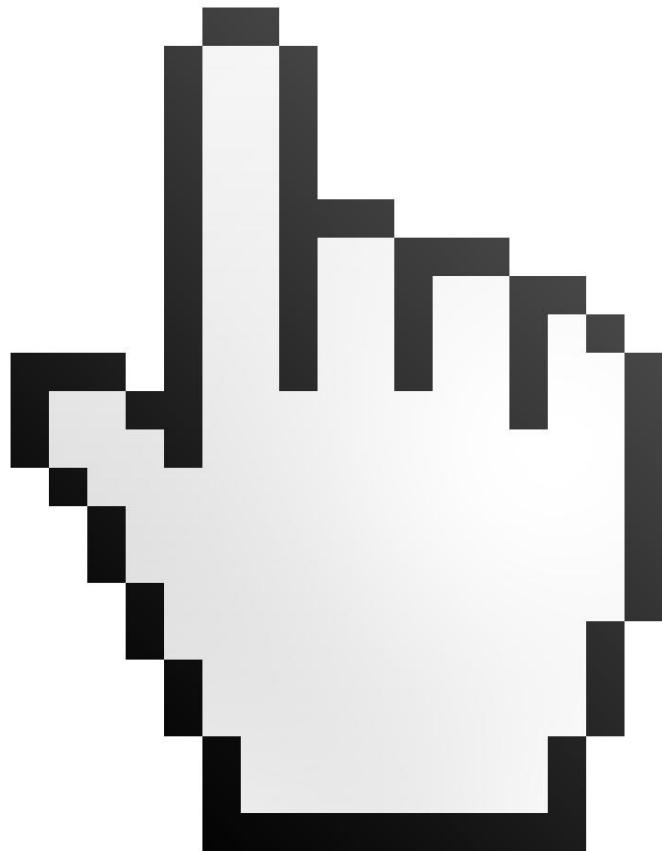
# User Mental Model



What users believe they know about a UI strongly impacts how they use it.

# User Control

Give users control



# User Control



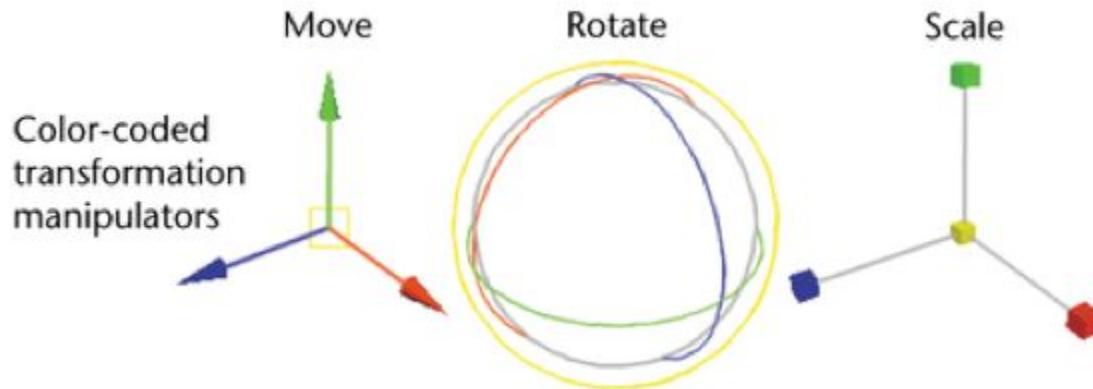
- ★ Allow the user, not the computer, to initiate and control actions
- ★ “if you do this that will happen”
- ★ Provide the level of user control that is appropriate for your audience.

# Direct Manipulation

Allows users to feel that they are controlling the objects



# Direct Manipulation



- ★ Keep users focus on action
- ★ One primary action per screen ( area )

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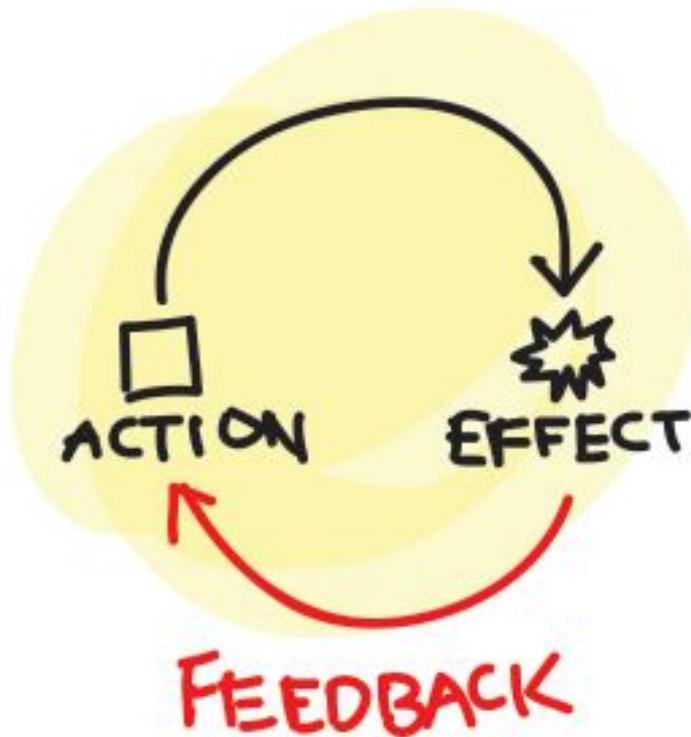
Examples : ★ Drag and drop ( vs cut & paste )

★ Resizing directly via handles

# Feedback and Communication



# Feedback and Communication



# Feedback and Communication

## Validation forms

 Some information was missing. Please see below for details.

 To join LinkedIn, sign up below... it's free  
Already a LinkedIn user? [Sign In](#).

First Name:	Anders
Last Name:	Toxboe
Email:	Please enter a valid email address. info@ui-patterns
Password:	***** 6 or more characters
Re-enter Password:	*****
Country:	Denmark
Postal Code:	Please enter a valid postal code. Only your region will be public, not your postal code

**Find out why:**

- 148,000 executives sign in everyday
- 23 professionals join every minute
- More people have joined LinkedIn than live in Sweden

# Feedback and Communication

## Password Strength Meter

<b>Choose a password:</b>	<input type="text" value="..... "/>	<b>Password strength:</b> Too short
Minimum of 8 characters in length.		
<b>Choose a password:</b>	<input type="text" value="..... "/>	<b>Password strength:</b> Weak
Minimum of 8 characters in length.		
<b>Choose a password:</b>	<input type="text" value="..... "/>	<b>Password strength:</b> Fair
Minimum of 8 characters in length.		
<b>Choose a password:</b>	<input type="text" value="..... "/>	<b>Password strength:</b> Good
Minimum of 8 characters in length.		
<b>Choose a password:</b>	<input type="text" value="..... "/>	<b>Password strength:</b> Strong
Minimum of 8 characters in length.		

From google.com

# Feedback and Communication

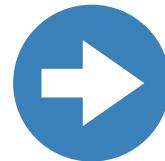
Provide users information about system



- ★ What is happened ?
- ★ Where the things go?

# Feedback and Communication

Provide users information about system



blog.tice.de

A large pile of colorful LEGO bricks and pieces, including plates, beams, and connectors, all mixed together in a chaotic, scattered arrangement.

# Consistency

# Consistency Tips:



# Consistency Tips:



- ★ Create own assets of common UI Elements
- ★ Reuse UI Elements
- ★ Follow the design patterns (autocomplete etc.)
- ★ Typography: size, labels, colors

---

hint: Fibonacci sequence ( ...8, 13, 21, 34, 55, 89, 144... ) p06

# Consistency Questions

Consistency of your product meets ... ?



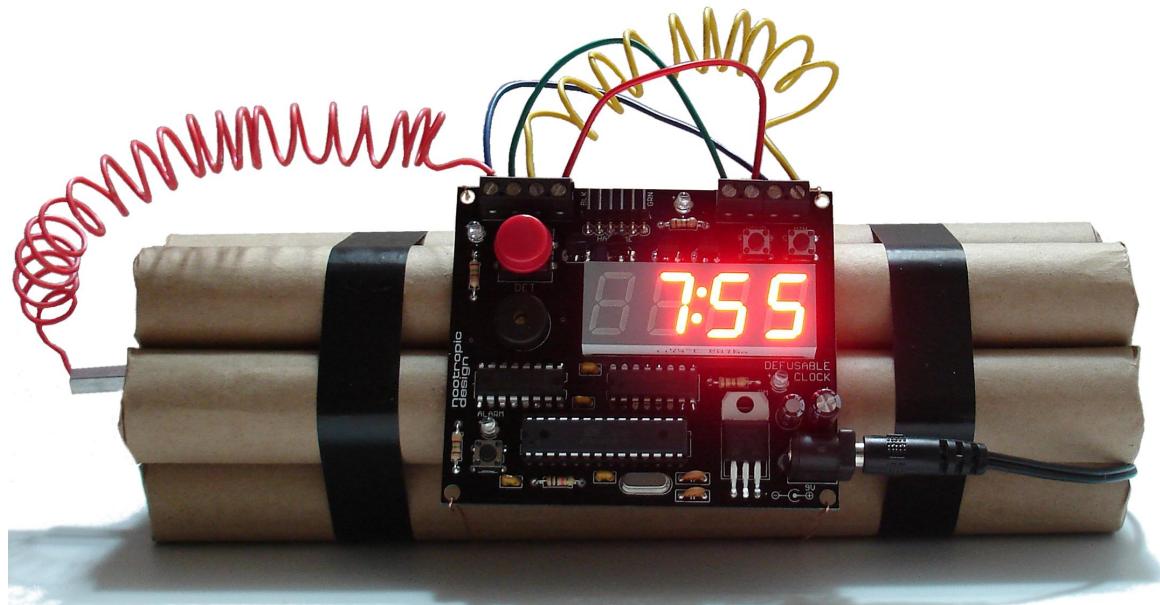
- ★ System standards ...
  - Within Itself...
- ★ Earlier versions ...
- ★ User's expectations ...

# Forgiveness

Support for errors !

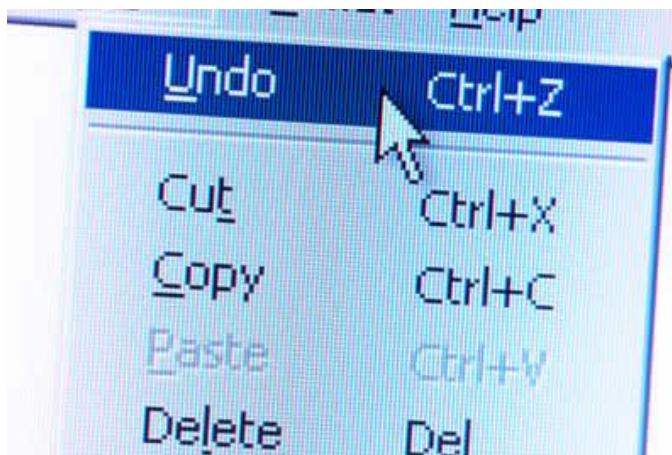
# Forgiveness

The most forgiving design is one which helps people avoid making mistakes.



# Forgiveness

Warning Users  
of any potentially serious consequence of a given action.



# Aesthetics or Usability?



# Aesthetics or Usability?

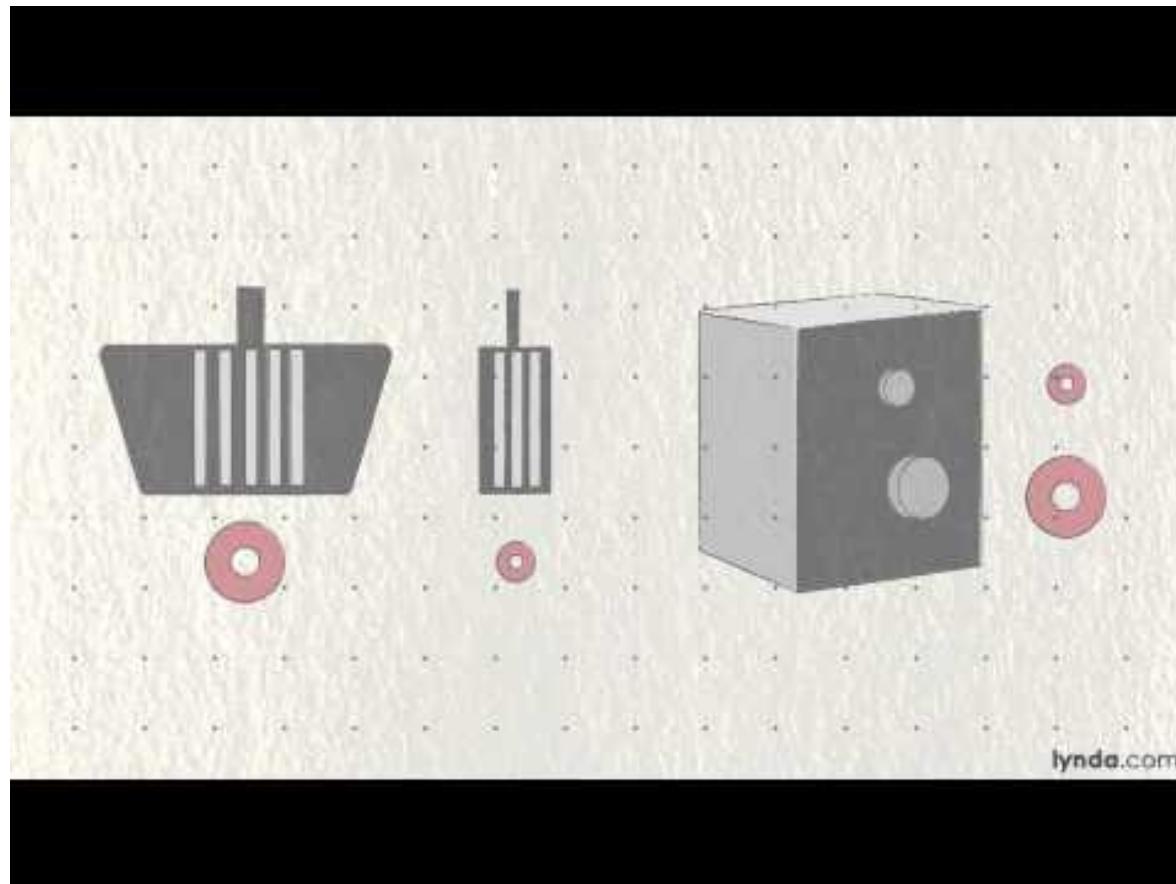
Both.



# Fitt's Law

The time to acquire a target is a function of the distance to and size of the target.

Paul Fitts in 1954



# Clarity

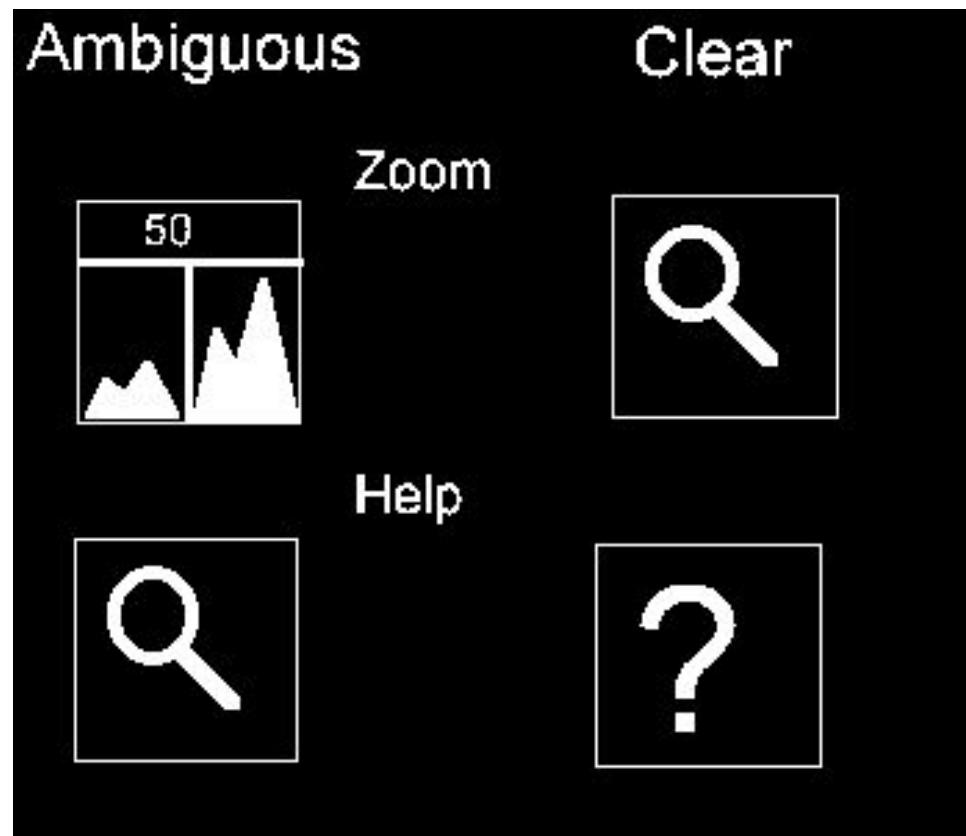
The information content has to be provided quickly and accurately



What does that do?

"If people can't figure out how your application works or where to go on your website they'll get confused and frustrated."

# Clarity

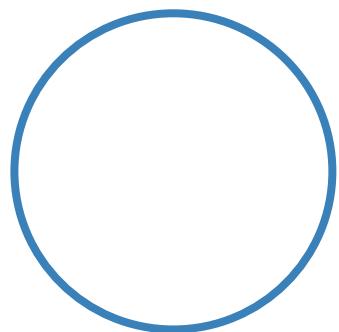
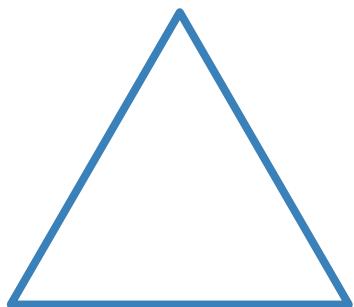




Keep it simple

# KIS

Do more with less!



*"Everything should be made as simple as possible, but not simpler."*

*Albert Einstein*

*"A modern paradox is that it's simpler to create complex interfaces because it's so complex to simplify them."*



*"A modern paradox is that it's simpler to create complex interfaces because it's so complex to simplify them."*

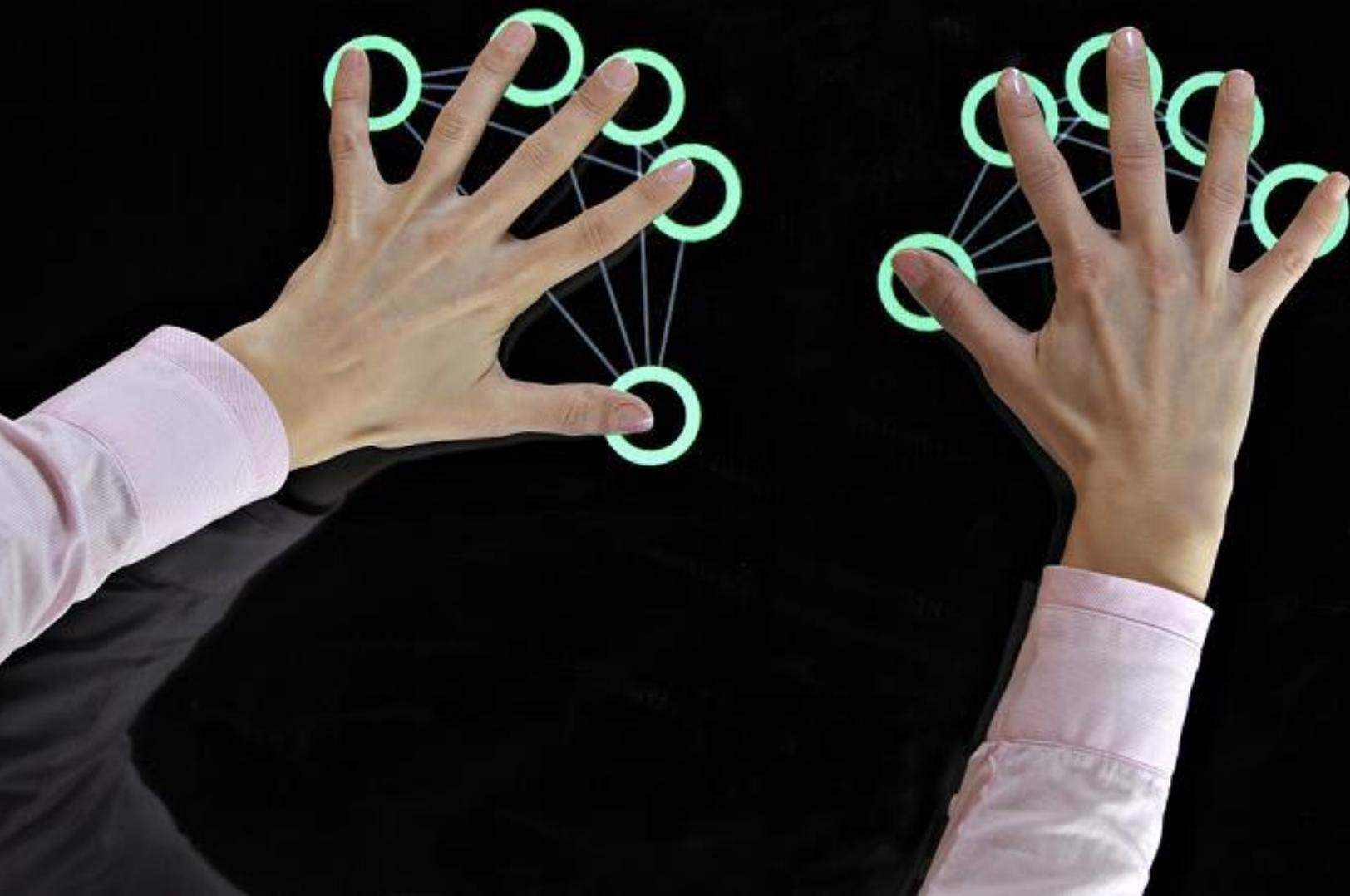


Keep it simple

Good UI is obvious.

# Great UI is invisible!

# The real thing...



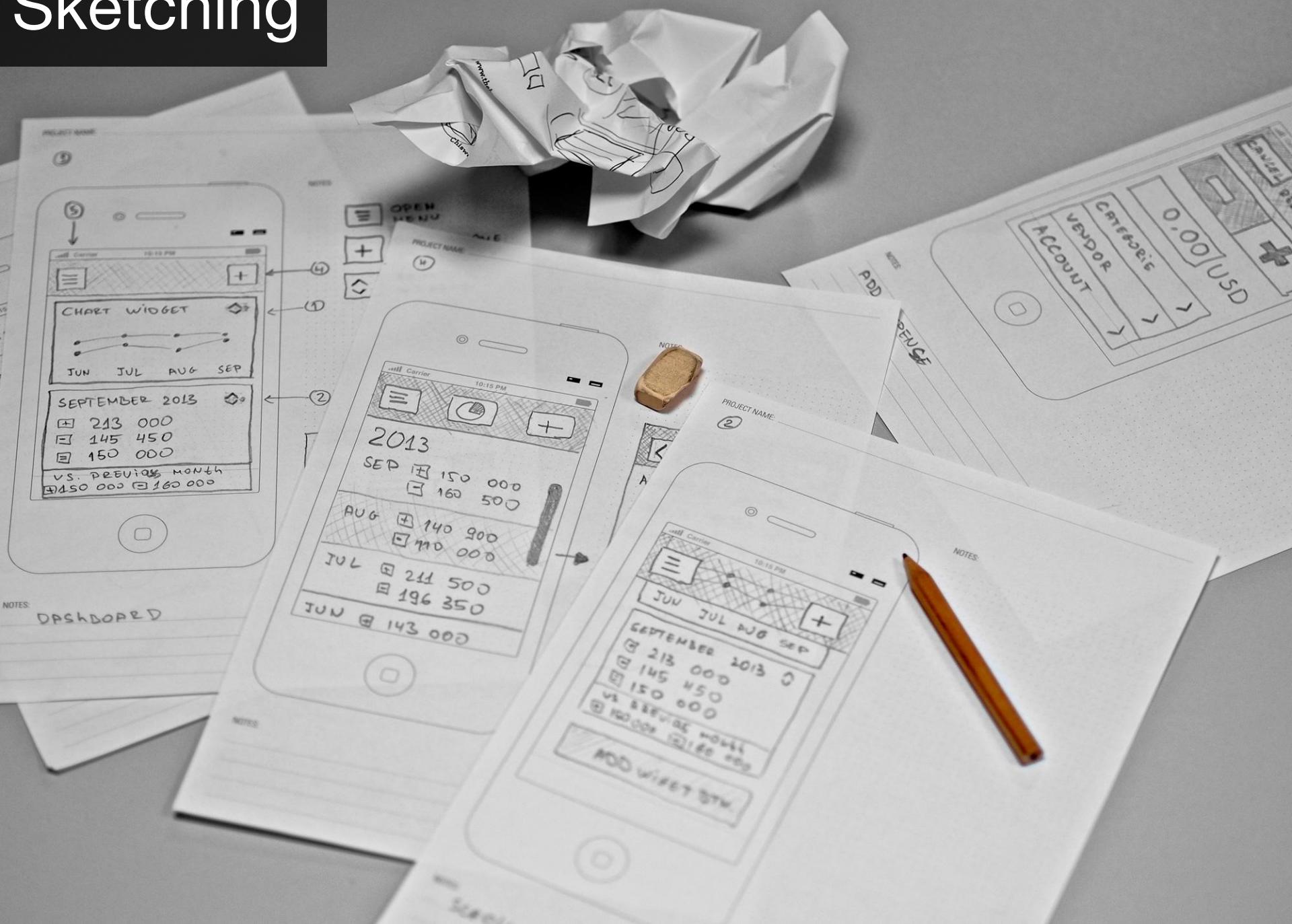
# UI and UX design process



# Brainstorming

- ~~REBALANCE~~ ~~INVESTMENT LISTVIEW~~
- ~~TRANSACTION~~
- ADD - CANCEL
- Accounts
  - HISTORY
  - CURRENT MONEY
  - MANAGING
    - ADD
    - REMOVE
    - EDIT NAME
  - TRANSACTION
    - REMOVE
- Hesitant category  
- DATA, PAYEE  
- Buyer or seller or name
- expense / revenue
- ws60P MA EXP./REV.
- ANOTHER ACCOUNT (Swift)

# Sketching

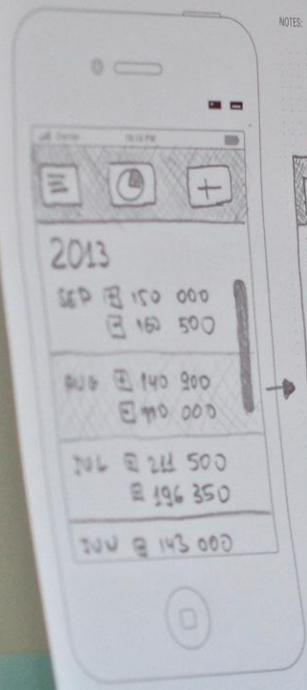


# A/B Testing

2013  
140 000  
150 000  
160 500

2013  
140 000  
150 000

2013  
140 000  
150 000



NOTES:

2013

SEP 日 150 000  
月 160 500

AUGUST 20

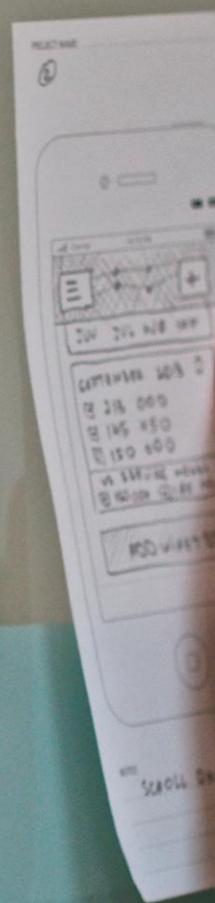
CAT 1 日 20 000  
月 7 000

CAT 2 日 5 000  
月 7 000

CAT 3 日 15 000  
月 17 000

CAT 4 日 6 000  
月 17 000

CAT 5



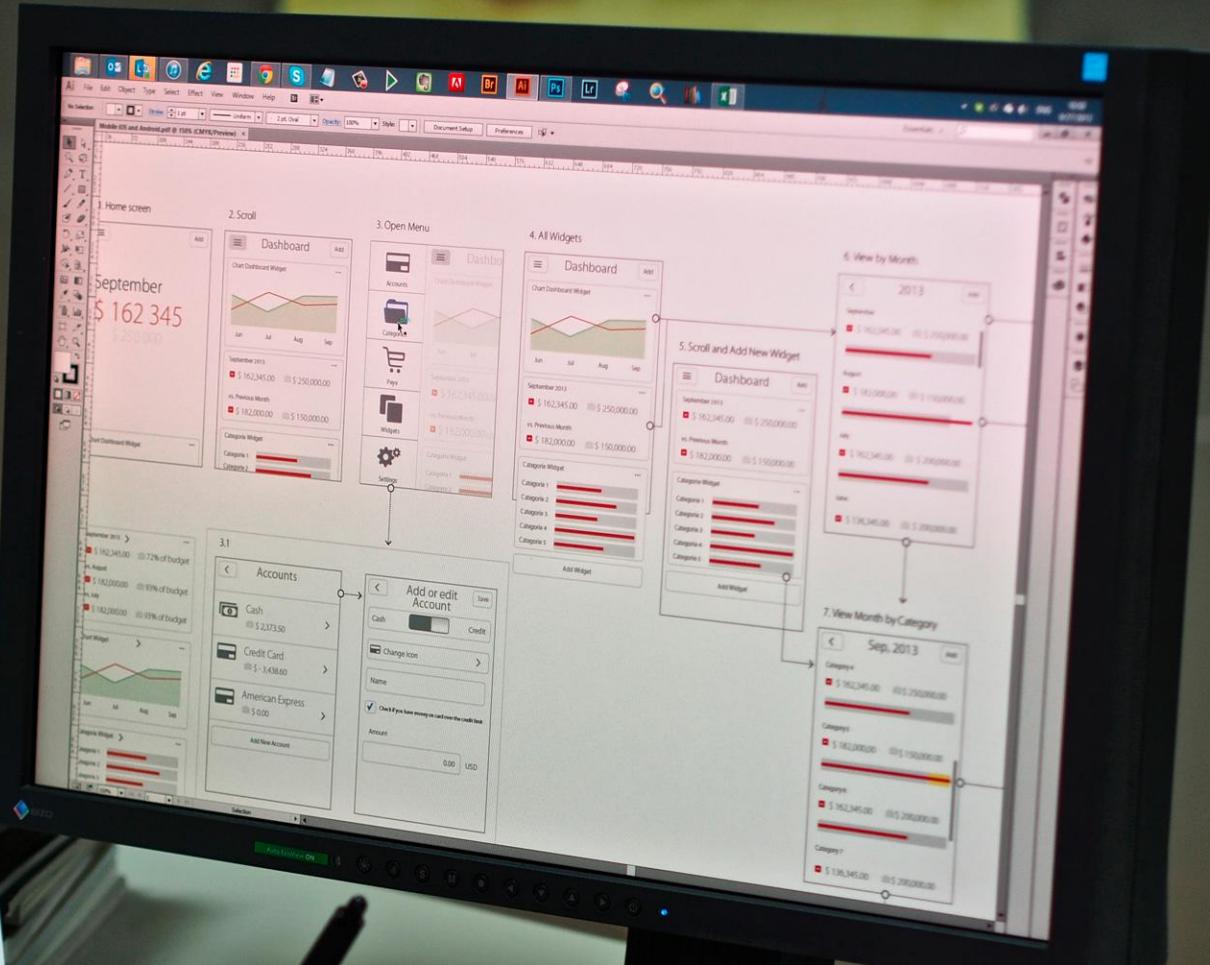
2013 140 000  
150 000



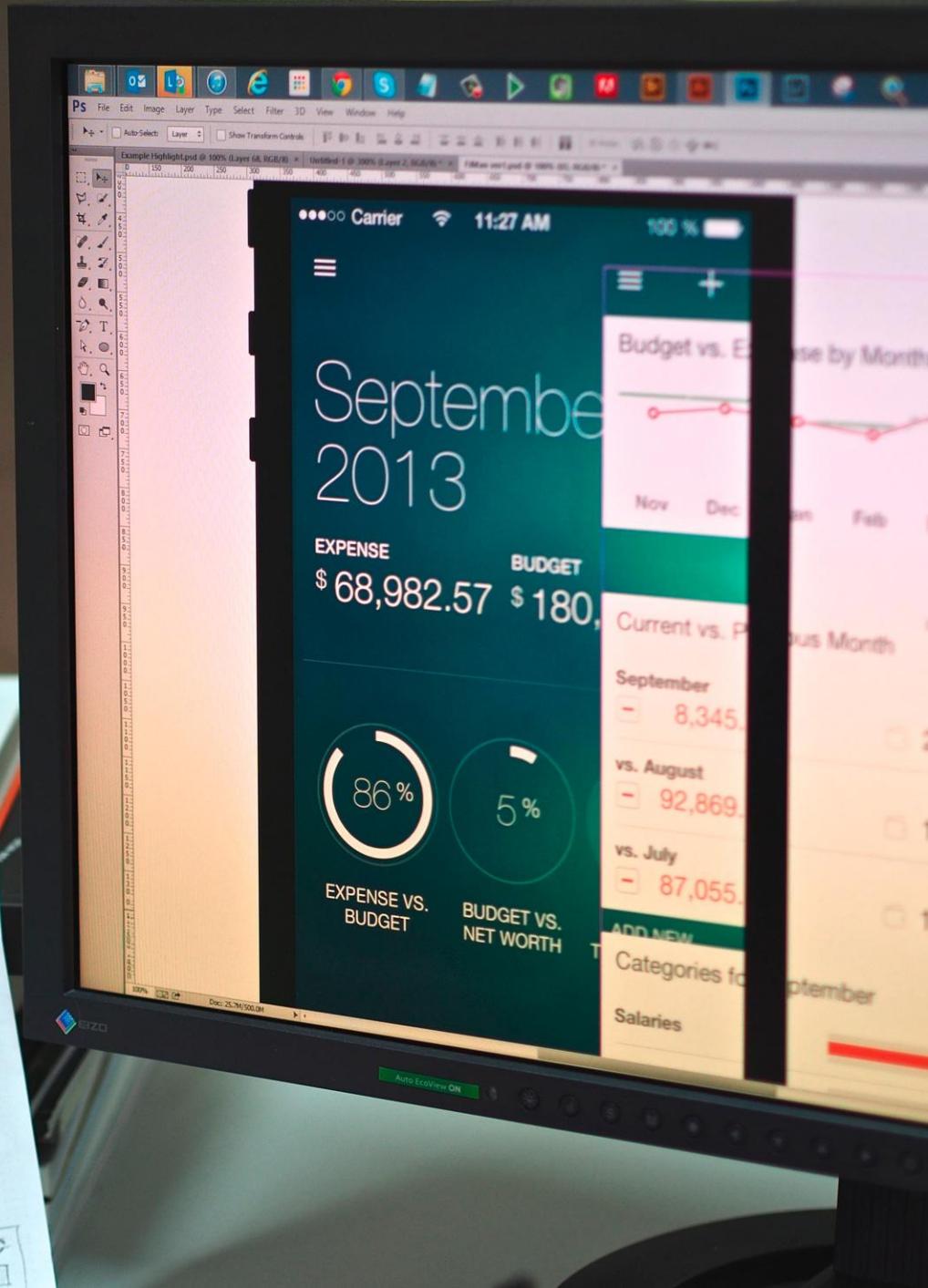
# Tiny tweaks and modifications

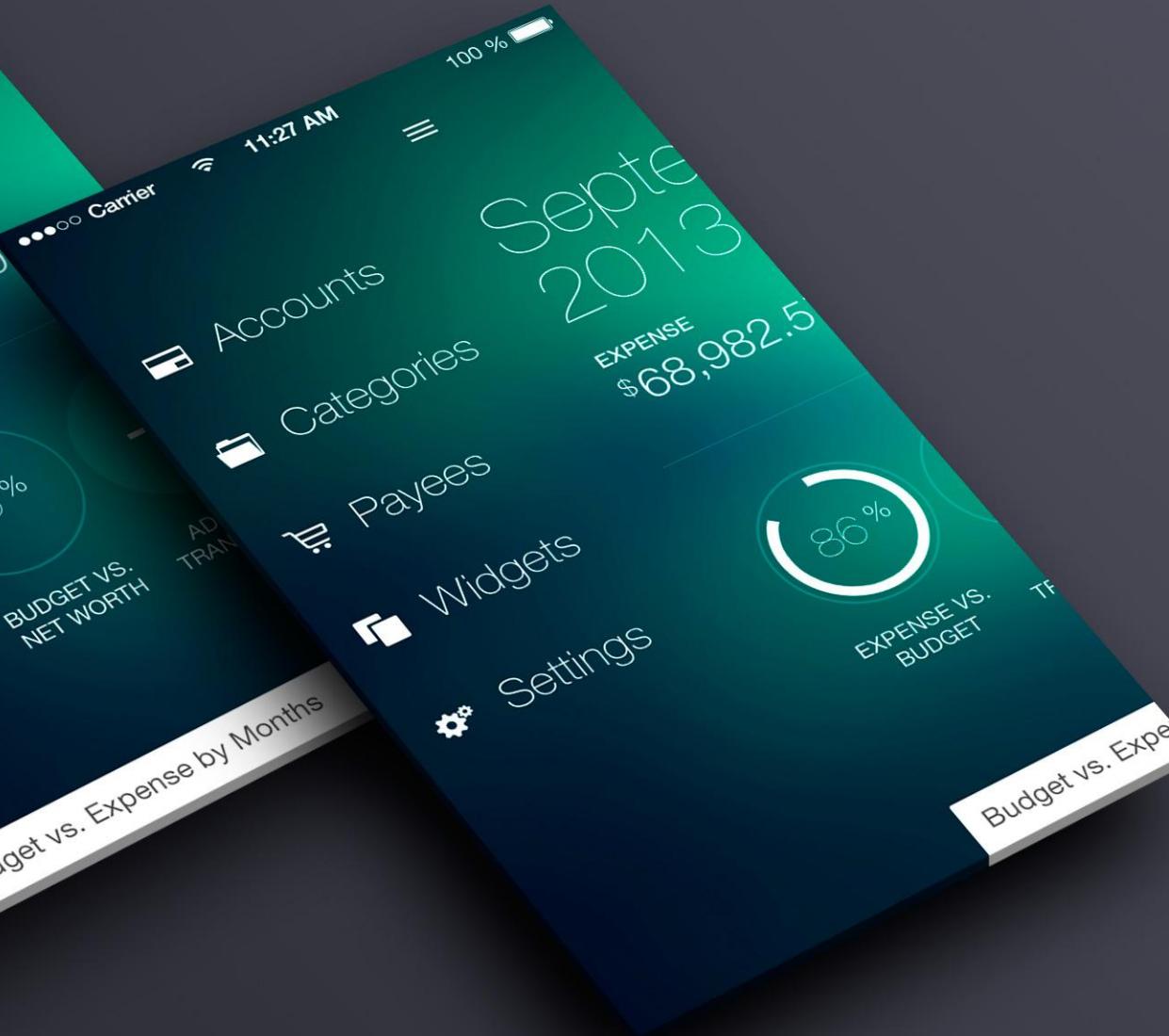


# Wireframes

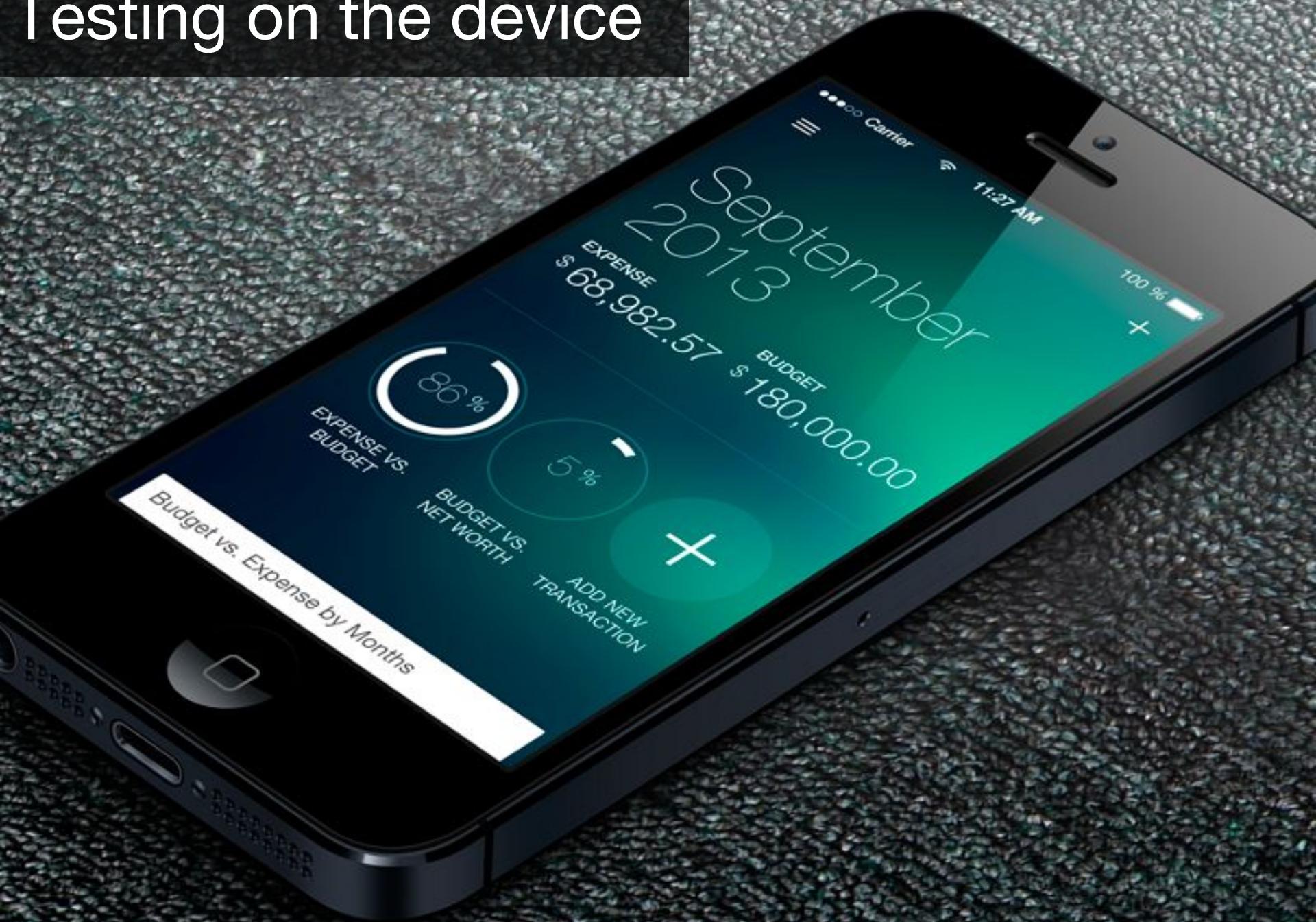


# Design for mobile





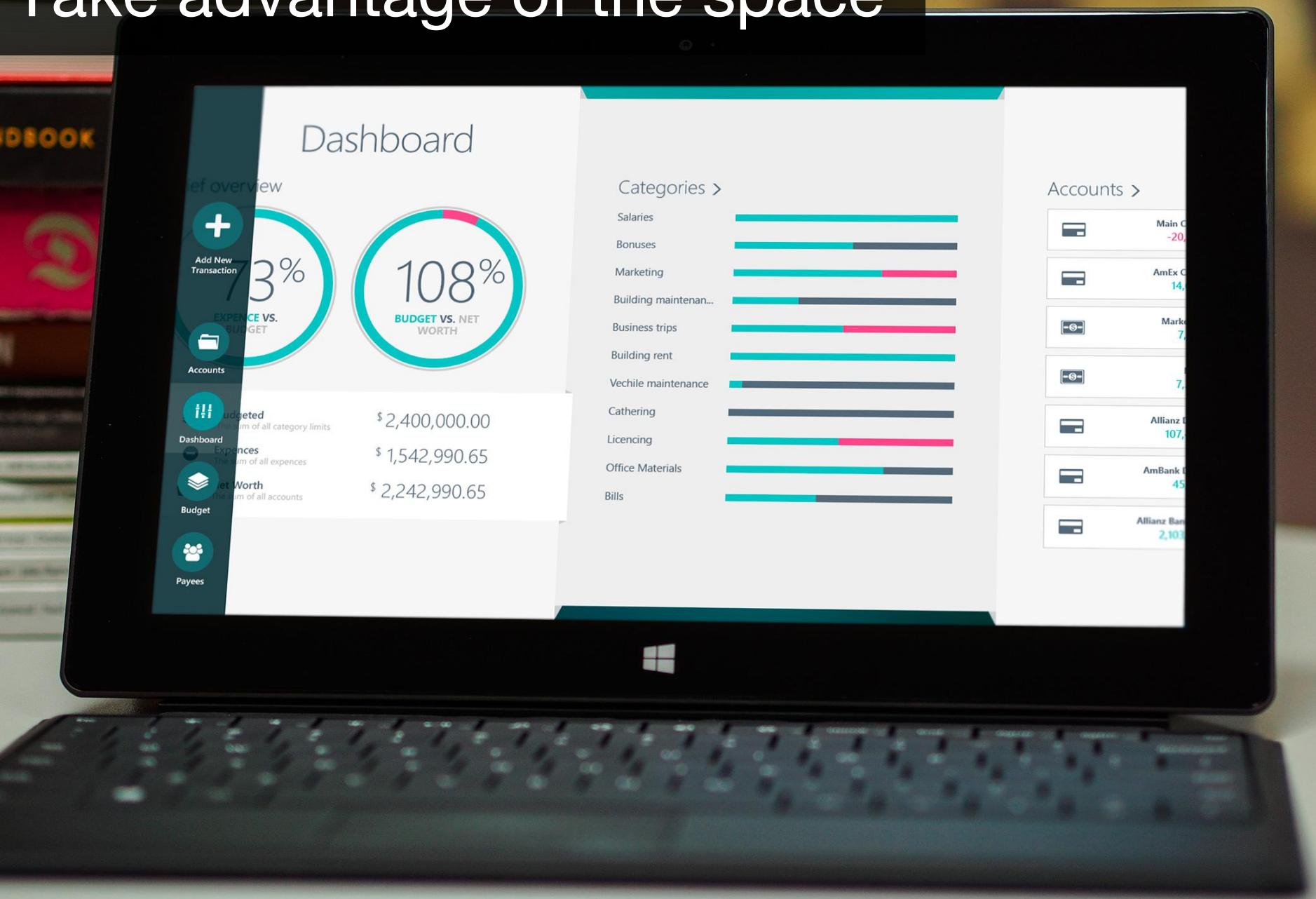
# Testing on the device



# Designing Win 8 App



# Take advantage of the space



# Specific actions for the platform





best practices

# Crowded UI

Manage my Money

Total \$810.00 Main \$810.00

< << <<< 30 Mar 2013 << 6 Apr 2013 >>>

All Accounts All Categories All Counterparts All Status

Amount	Account	Category	Date	Status	Action
\$0.00	Main	Home	6 Apr 2013	Pending	
\$90.00	Main	Automobile	6 Apr 2013	Pending	
\$1,000.00	Main	Salary	6 Apr 2013	Pending	
\$100.00	Main	Home	6 Apr 2013	Pending	

Recurring

Transactions

Transfers

Calendar View

Analysis

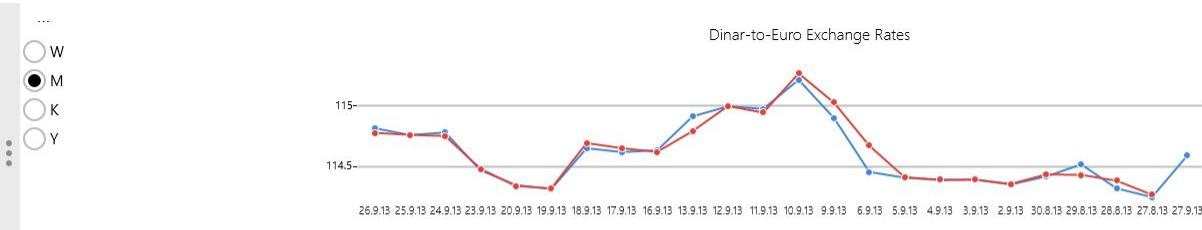
Administration

Help us Improve.

Known Issues

Add past and today's transactions.

# Too heavy background



Foreign Exchange >

EUR EMU Euro 27.09.2013	JPY Japan Jen 27.09.2013	CHF Švajcarska Švajcarski franak 27.09.2013
Buying Rates 115.1141	Buying Rates 86.5195	Buying Rates 93.8251
Selling Rates 114.4255	Selling Rates 86.0019	Selling Rates 93.2639
AUD Australija Australijski dolar 27.09.2013	NOK Norveška Norveška kruna 27.09.2013	GBP Velika Britanija Funta sterlinga 27.09.2013
Buying Rates 79.7908	Buying Rates 14.2708	Buying Rates 136.9754
Selling Rates 79.3134	Selling Rates 14.1854	Selling Rates 136.1560
CAD Kanada Kanadski dolar 27.09.2013	RUB Ruska Federacija Ruska rublja 27.09.2013	USD SAD Američki dolar 27.09.2013
Buying Rates 82.7386	Buying Rates 2.6385	Buying Rates 85.3456
Selling Rates 82.2436	Selling Rates 2.6227	Selling Rates 84.8350
DKK Danska Danska kruna 27.09.2013	SEK Švedska Švedska kruna 27.09.2013	
Buying Rates 15.4330	Buying Rates 13.3045	
Selling Rates 15.3406	Selling Rates 13.2249	

Cash >

EUR EMU Euro 27.09.2013	Average 114.7698
Average Buying Rates 115.5732	
Selling Rates 113.9664	
CHF Švajcarska Švajcarski franak 27.09.2013	Average 93.5445
Average Buying Rates 94.1993	
Selling Rates 92.8897	
USD United States US Dollar 27.09.2013	Average 85.0903
Average Buying Rates 85.6859	
Selling Rates 84.4947	

Average >

EUR EMU Euro 27.09.2013	Average 114.7698	KWD Kuwait Kuwaiti Dinar 27.09.2013
CZK Czech Republic Czech Koruna 27.09.2013	Average 4.4750	Average 30
AUD Australia Australian Dollar 27.09.2013	Average 79.5521	Average 1
DKK Denmark Danish Krone 27.09.2013	Average 15.3868	Average 1
NOK Norway Norwegian Krone 27.09.2013	Average 15.3868	Average 1
CAD Canada Canadian Dollar 27.09.2013	Average 82.4911	RUB Russian Federation Russian Ruble 27.09.2013
HUF Hungary Hungarian Forint 27.09.2013	Average 38.2184	Average 1
HRK Croatia Croatian Kuna 27.09.2013	Average 15.1088	JPY Japan Yen 27.09.2013
SEK Sweden Swedish Krona 27.09.2013	Average 86.2607	Average 1

# Inactive content

## ROI Calculator

Original Investment

Calculate

Reset

Returned Value

Investment Term(years)

Calculator Result :

Gain or Loss On Investment

Return on Investment (%)

Annualized ROI (%)

# Inconsistent UI

StockMap

+0.4% +\$ 120.12 tap to show total

MSFT -2.6%	AAPL +1.1%	NOK -1.1%	FB -0.7%	GOOG +0.1%	AMZN +0.4%	BAC +0.9%	INTC -0.4%	GE +0%	F +0.6%	HPQ -1.8%	DIS +1.1%	C +0.8%	CSCO -0.3%	NFL +2.6%
------------	------------	-----------	----------	------------	------------	-----------	------------	--------	---------	-----------	-----------	---------	------------	-----------

Enter stock symbol (e.g. MSFT) and number of shares (e.g. 10)

symbol	# of shares	Add
Symbol		
ROST	\$ 56.69 11 s. 623.59	X = +2.7 +16.51 \$ 66.03 -14 -102.74 →
DIS	\$ 47.99 15 s. 719.85	X = +1.1 +8.11 \$ 53.04 -9.5 -75.75 →
UST	\$ 58.01 75 s. 4,350.75	X = +0.1 +2.17 \$ 56.24 +3.1 +132.75 →
TSO	\$ 38.49 20 s. 769.80	X = +0.7 +5.58 \$ 41.61 -7.5 -62.40 →
TM	\$ 78.05 42 s. 1,000.00	X = +0.4% +\$ 120.12 -2.9% -\$ 947.89 →

Exchanges List Map Chart News Currencies Portfolios Live Tiles

Edit

Stock list

# Wrong focus

12:58

Status

Add revenue

Add expenditure

Add transfer

Standing orders

Templates

Categories

Last entries

Detailed search

Uncategorized

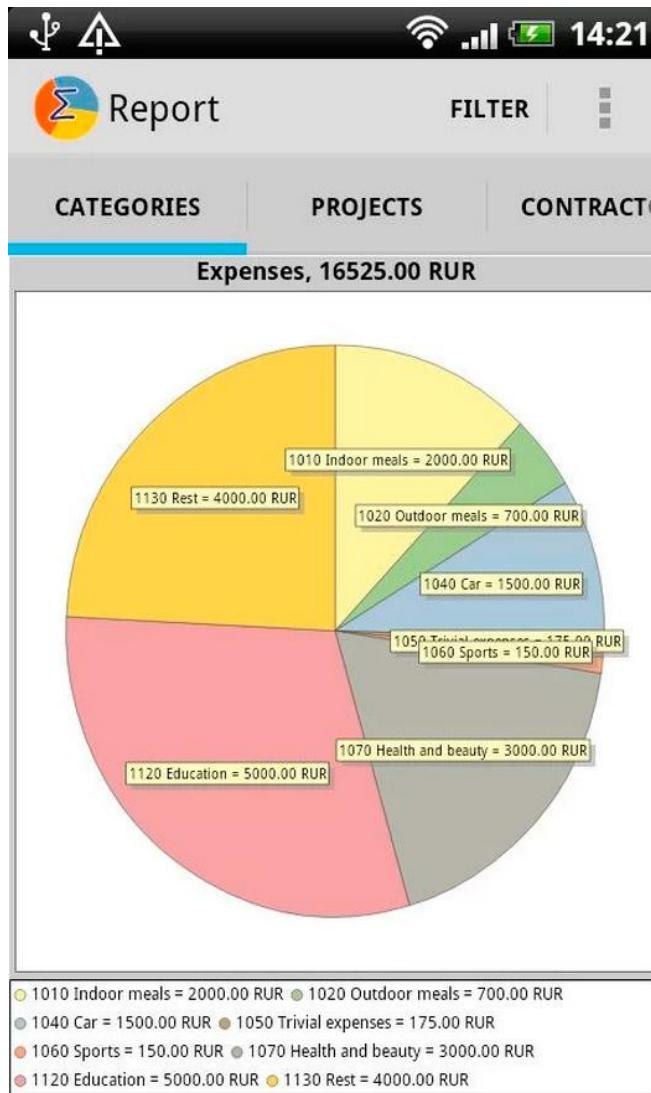
Current balance **\$1,150.00**  
All accounts

8/1/2013 - 8/31/2013  
② \$2,500.00

④ \$1,350.00

Status Overview Transactions Statistics Diagram Budgets

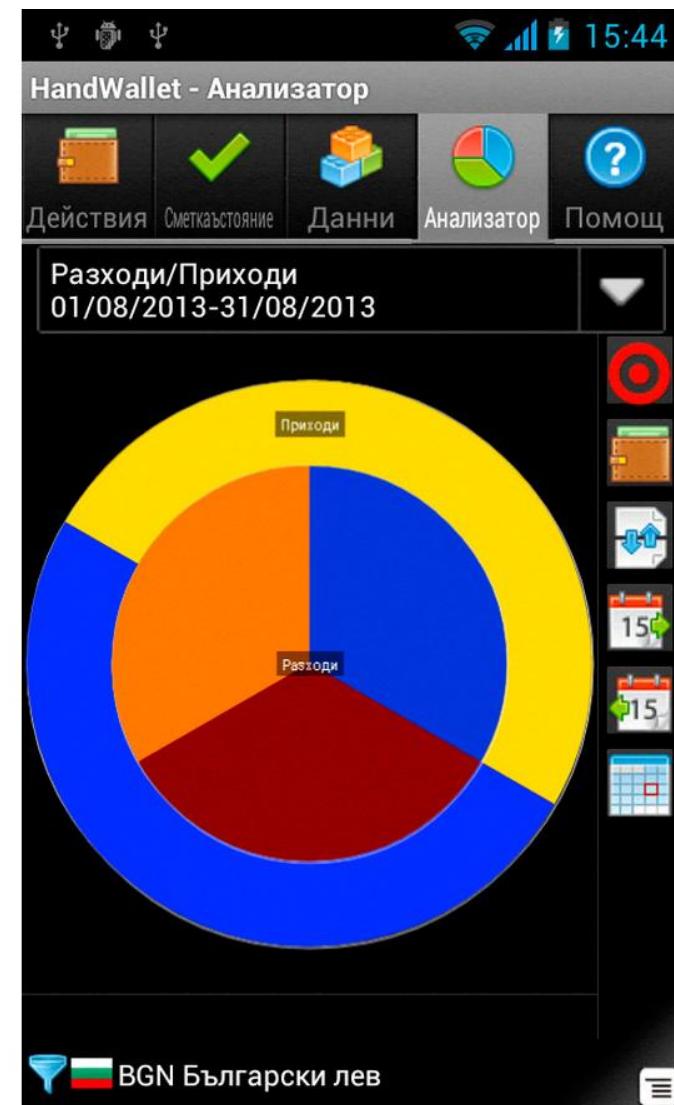
# Too much data



A table titled "Actual and plan..." showing financial data. The table has three columns: CATEGORIES, PROJECTS, and CONTRACTS. The data is organized into sections: Wallet, Actual expenses, Planned expenses, Actual and planned expenses deviation, Actual incomes, Planned incomes, and Actual and planned incomes deviation.

CATEGORIES	PROJECTS	CONTRACTS
Wallet	-16525.00	45000.00
RUR (1.00)	-27000.00	30000.00
	10475.00	15000.00
1010 Indoor meals	-2000.00	0.00
RUR (1.00)	-20000.00	0.00
	18000.00	0.00
Actual expenses	0	0
Planned expenses	0	0
Actual and planned expenses deviation. Red color used when actual value is more than planned.	0	0
Actual incomes	0	0
Planned incomes	0	0
Actual and planned incomes deviation. Red color used when actual value is less than planned.	0	0
1070 Health and beauty	3000.00	0.00
RUR (1.00)	0.00	0.00
	-3000.00	0.00

# Confusing information



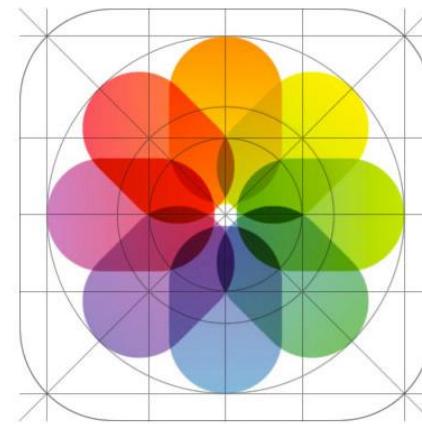
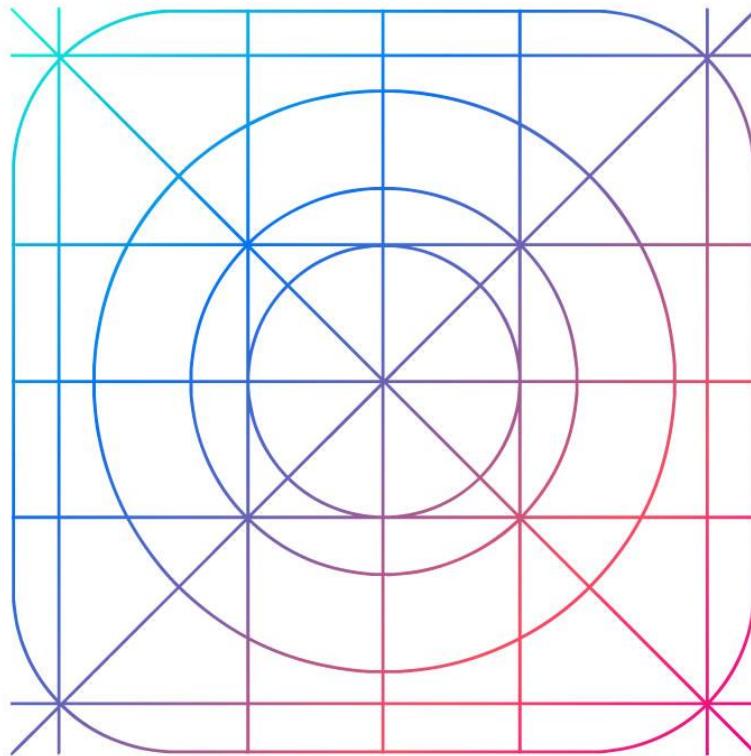
# Inconsistency



1

1

# Pay attention to detail!



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# Thank You!



Tyanko Yordanov

UX designer , senior  
Platform & Cloud Services Interaction Design Team  
[tyanko.yordanov@telerik.com](mailto:tyanko.yordanov@telerik.com)



[Telerik Platform](#)

Thanks to: Vesselin Dochkov  
Georgi Atanasov  
a.k.a - xLabs Team

# Thank You!



Tyanko Yordanov

UX designer, senior

Developer Experiences Design Team

 **Progress® DigitalFactory**

[tyanko.yordanov@progress.com](mailto:tyanko.yordanov@progress.com)

# Resources

[http://en.wikipedia.org/wiki/Jef\\_Raskin](http://en.wikipedia.org/wiki/Jef_Raskin)

<http://www.1stwebdesigner.com/design/user-interface-metaphor-links/>

<http://www.sensible.com/>

<http://uxdesign.smashingmagazine.com/>

<http://blog.teamtreehouse.com/10-user-interface-design-fundamentals>

<http://www.allaboutux.org/>

[https://developer.apple.com/library/mac/documentation/UserExperience/Conceptual/AppleHIGuidelines/HIPrinciples/HIPrinciples.html#/apple\\_ref/doc/uid/TP30000353-TP6](https://developer.apple.com/library/mac/documentation/UserExperience/Conceptual/AppleHIGuidelines/HIPrinciples/HIPrinciples.html#/apple_ref/doc/uid/TP30000353-TP6)

<http://nilosarraf.com/2011/06/14/metal-models/>

<http://sixrevisions.com/user-interface/5-reasons-why-metaphors-can-improve-the-user-experience/>

<http://www.nngroup.com/courses/hci/>