

# **User Experience Design I (Interaction Design)**

Day 8 (June 21, 2018, 9am-12pm):

Simplicity and Graphical User Interface Design

# Recap Day 5:

# Overview

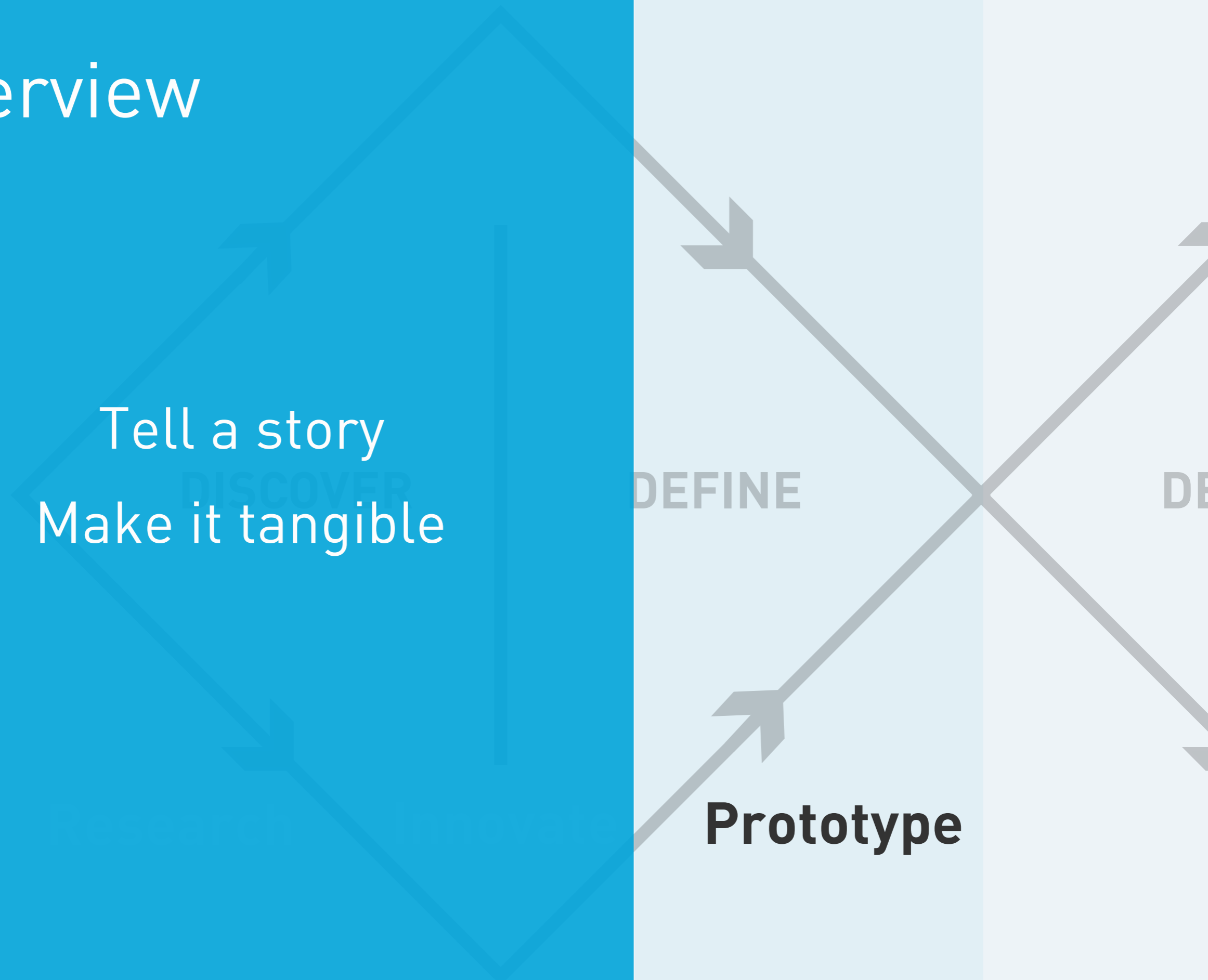
Tell a story  
Make it tangible

DISCOVER

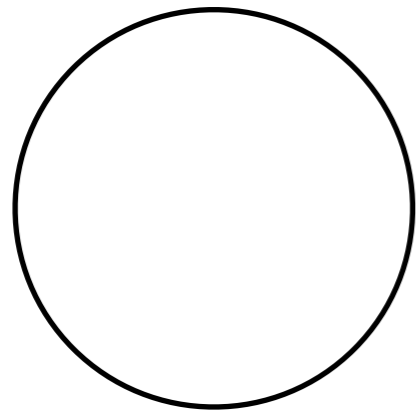
DEFINE

DE

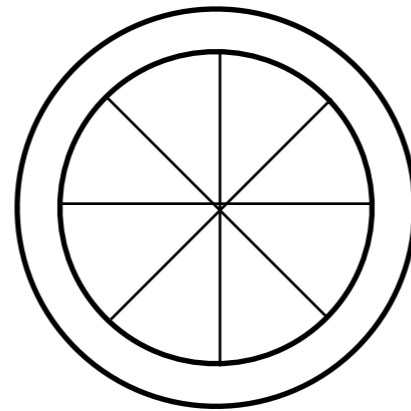
**Prototype**



# Fidelity v. Resolution



low resolution  
low fidelity



high resolution  
low fidelity

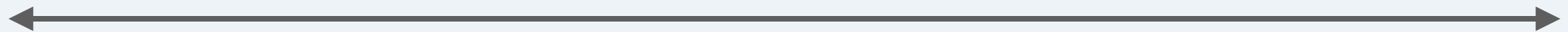


high resolution  
high fidelity



Low Fidelity

High Fidelity



Open Discussion

Sharp Opinions

Prompting Required

Self Explanatory

Quick and Dirty

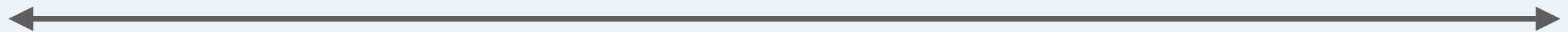
Deliberate and Refined

Early Validation

Concrete Ideas

Low Resolution

High Resolution



Less Details

More Details

Focus on core interactions

Focus on the whole

Quick and Dirty

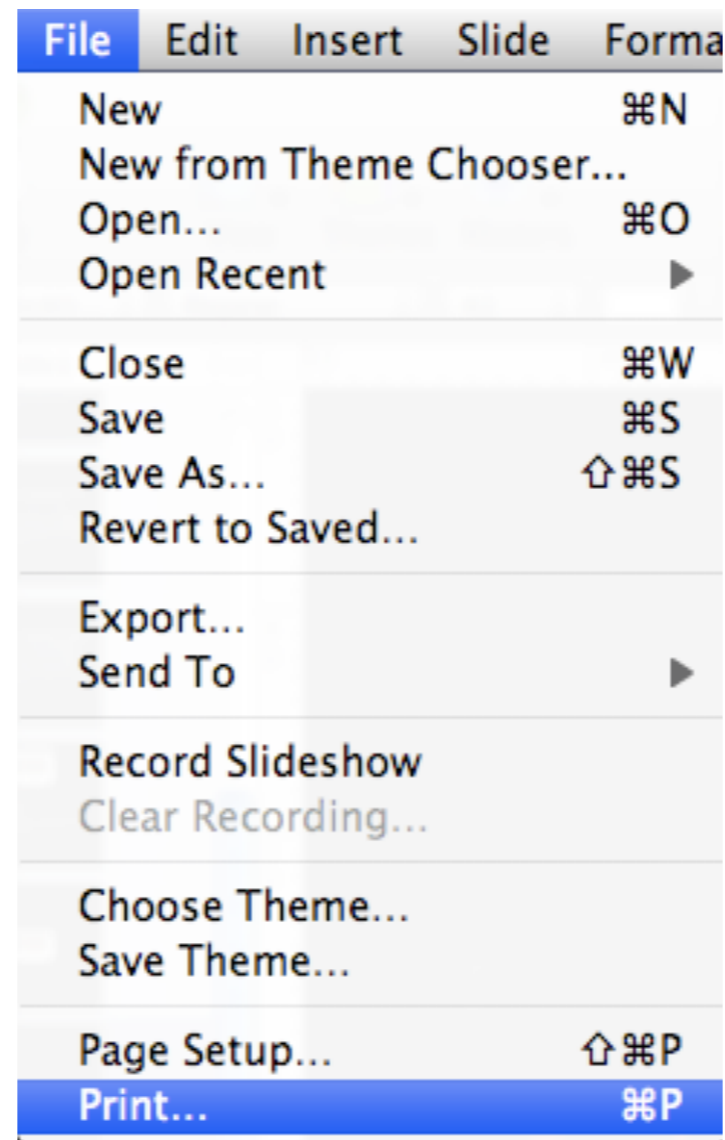
Deliberate and Refined

Early Validation

Concrete Ideas



80/20 rule



**A principle for setting priorities: users will use 20% of the features of your product 80% of the time. Focus the majority of your design and development effort (80%) on the most important 20% of the product.**

# **User Experience Design I (Interaction Design)**

Day 8 (June 21, 2018, 9am-12pm):

Simplicity and Graphical User Interface Design

# Part One

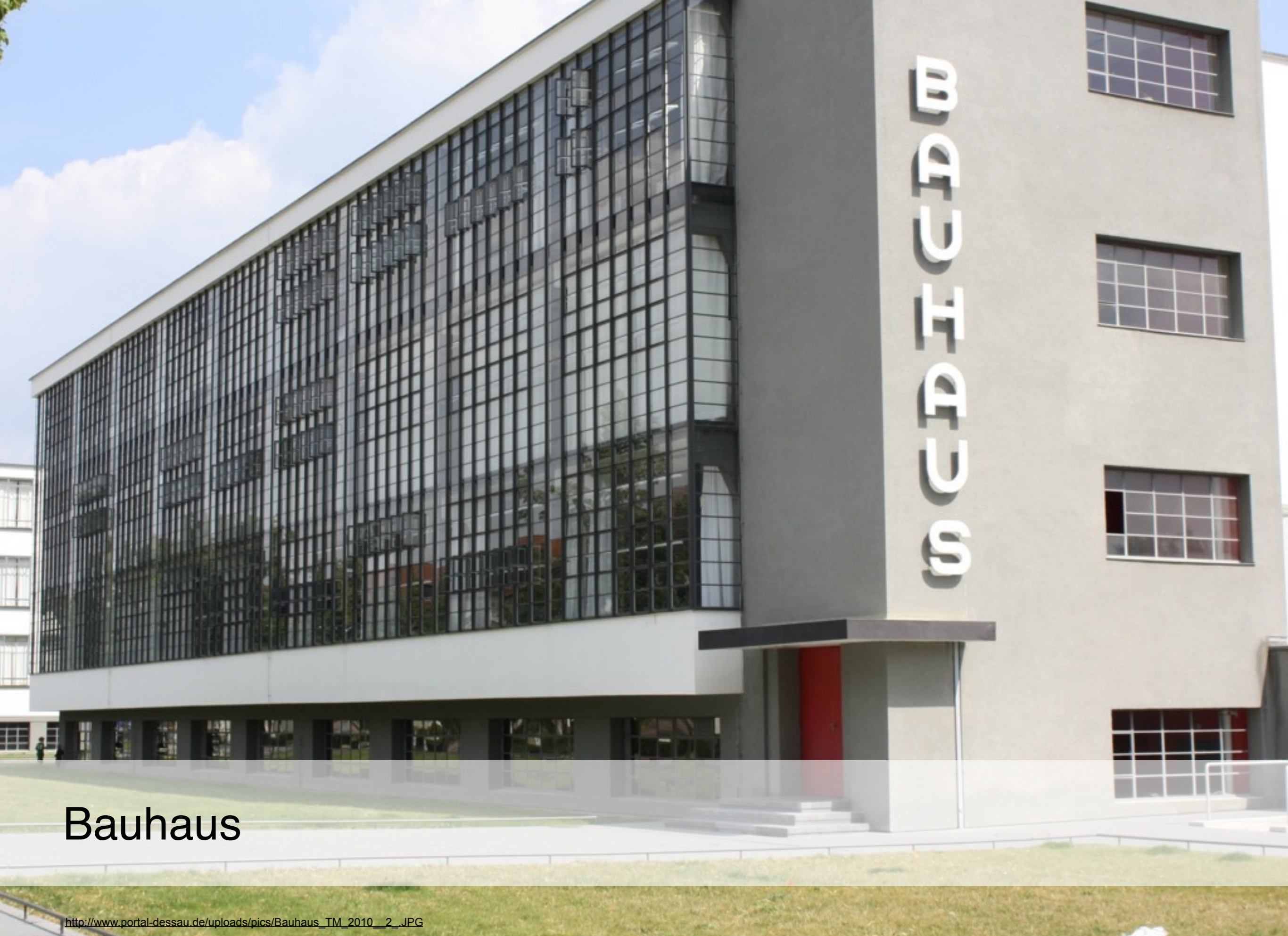
"Great design is as much about prospecting in the past as it is about inventing the future."

**Bill Buxton**

# Design and Simplicity

- Bauhaus: History and Directors
- Bauhaus: Structure and Products
- From Bauhaus to Braun





# Bauhaus

[http://www.portal-dessau.de/uploads/pics/Bauhaus\\_TM\\_2010\\_2.JPG](http://www.portal-dessau.de/uploads/pics/Bauhaus_TM_2010_2.JPG)





<http://www.flickr.com/photos/scoobyfoo/268308263/sizes/l/in/photostream/>



## Key Dates:

founded 1919 in Weimar  
closed down 1933 in Berlin

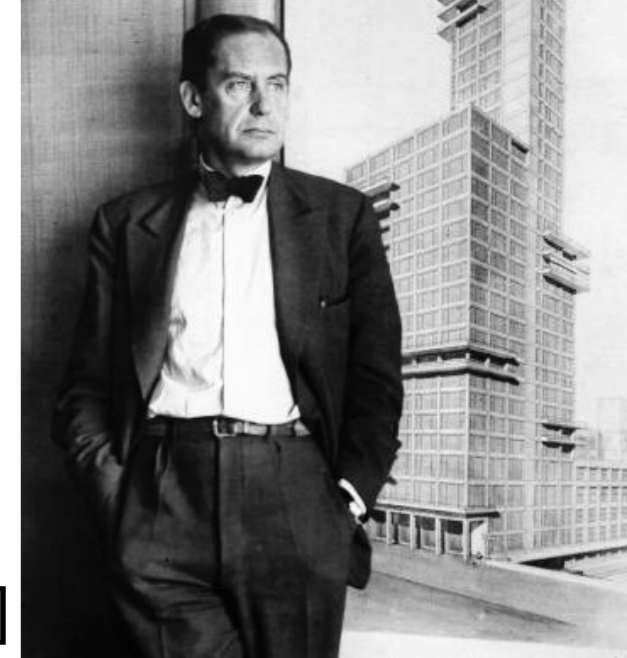
## Key People - 3 Directors:

[1] Walter Gropius (1919-1928)

[2] Hannes Meyer (1928-1930)

[3] Ludwig Mies van der Rohe (1930-1933)

[1]



[2]



[3]

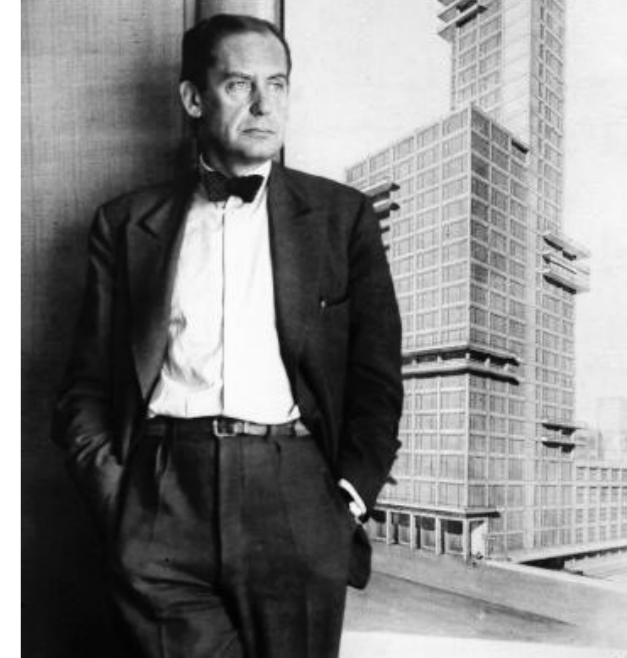


source: [7]

[http://www.stylepark.com/db-images/cms/designer/img/miesvanderrohe\\_320\\_336-1.jpg](http://www.stylepark.com/db-images/cms/designer/img/miesvanderrohe_320_336-1.jpg)

[http://einestages.spiegel.de/hund-images/2009/03/30/59/3d98cebcb31abdbc318ed82e888903d6\\_image\\_document\\_large\\_featured\\_borderless.jpg](http://einestages.spiegel.de/hund-images/2009/03/30/59/3d98cebcb31abdbc318ed82e888903d6_image_document_large_featured_borderless.jpg)

**Art and technology - a new entity.  
Walter Gropius**



**The investigation of human needs should  
be based on science - not formalism.  
Hannes Meyer**



**God is in the details.  
Ludwig Mies van der Rohe**



[http://www.stylepark.com/db-images/cms/designer/img/miesvanderrohe\\_320\\_336-1.jpg](http://www.stylepark.com/db-images/cms/designer/img/miesvanderrohe_320_336-1.jpg)

[http://einestages.spiegel.de/hund-images/2009/03/30/59/3d98cebcb31abdbc318ed82e888903d6\\_image\\_document\\_large\\_featured\\_borderless.jpg](http://einestages.spiegel.de/hund-images/2009/03/30/59/3d98cebcb31abdbc318ed82e888903d6_image_document_large_featured_borderless.jpg)

# Design and Simplicity

- Bauhaus: History and Directors
- Bauhaus: Structure and Products
- From Bauhaus to Braun





# Pre-Course



# Prototyping Design



# BAUHAUS

Hrsg.  
Jeannine Fiedler  
Peter Feierabend



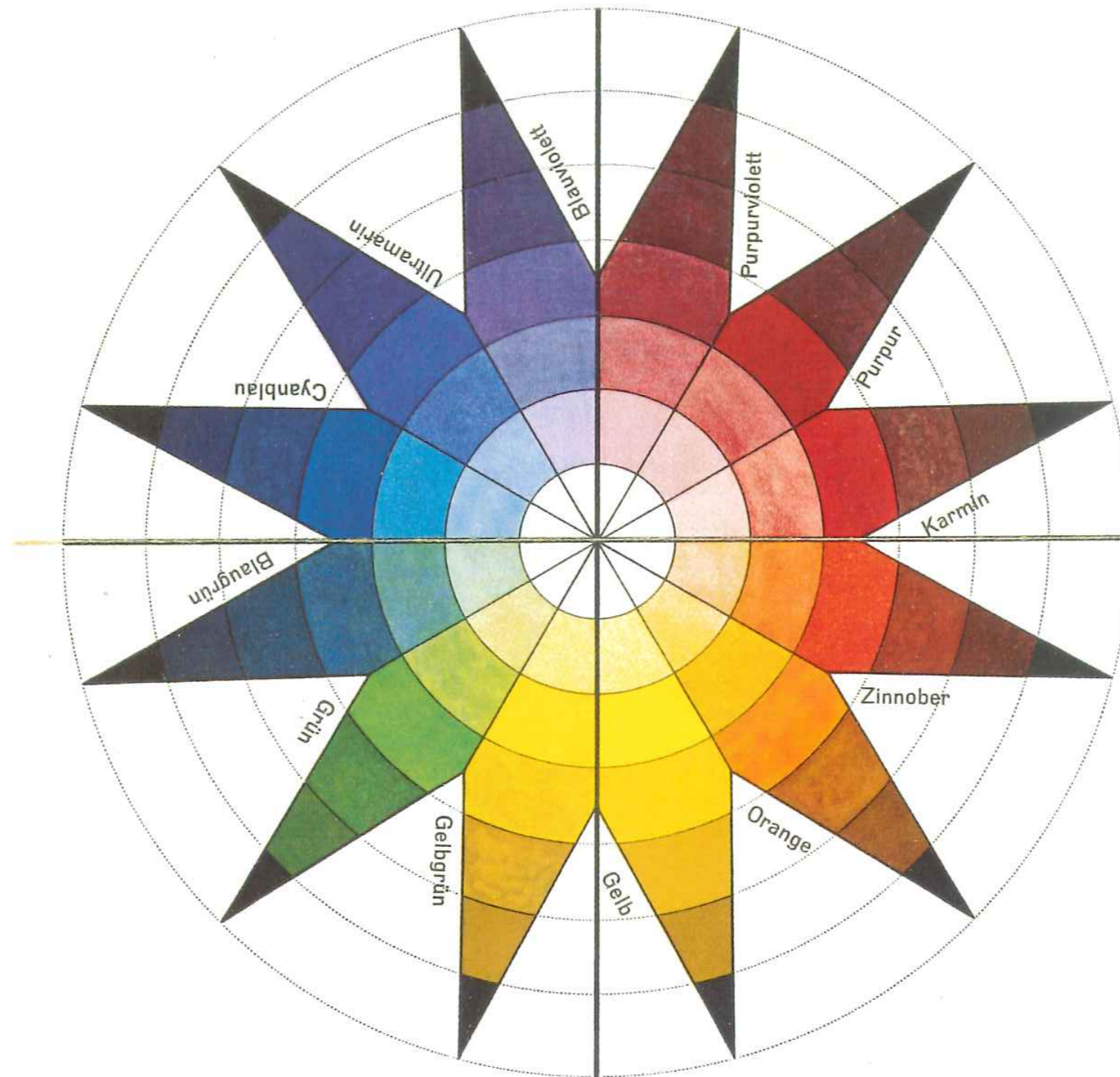
Basic Shapes

*h.f.*fullmann

[www.kunstbuch-shop.de](http://www.kunstbuch-shop.de)

source: [8]





# Color Sphere

source: [7]





**Marcel Breuer**

[http://www.boecker-buerogestaltung.de/images/designer/marcel\\_breuer.01.jpg](http://www.boecker-buerogestaltung.de/images/designer/marcel_breuer.01.jpg)

source: [8]





Chair B3 “Wassily”

[http://upload.wikimedia.org/wikipedia/commons/1/19/Bauhaus\\_Chair\\_Breuer.png](http://upload.wikimedia.org/wikipedia/commons/1/19/Bauhaus_Chair_Breuer.png)

source: [8]

# Design and Simplicity

- Bauhaus: History and Directors
- Bauhaus: Structure and Products
- From Bauhaus to Braun



[http://www.impressionen.de/medias/sys\\_impressionen/8468670013361232.image.jpg](http://www.impressionen.de/medias/sys_impressionen/8468670013361232.image.jpg)



<http://remodelista.com/img/sub/oilcruet2.jpg>



[http://www.bauhaus-shop.de/templates/xt\\_bauhaus/img/categories/bauhaus\\_silberteekanne\\_pr.jpg](http://www.bauhaus-shop.de/templates/xt_bauhaus/img/categories/bauhaus_silberteekanne_pr.jpg)

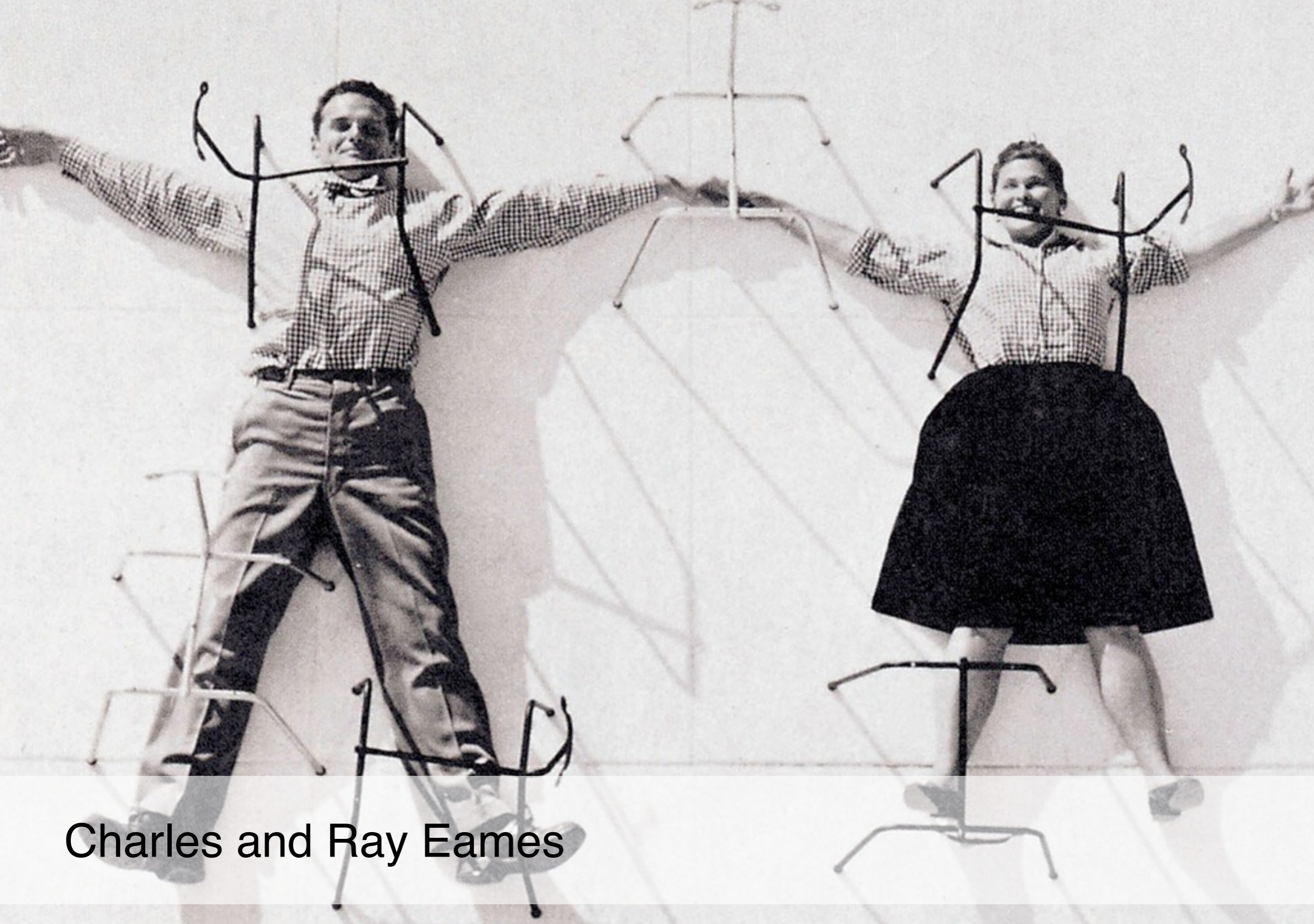
## Requirements:

Type (variations of the original design)

Basic shape - few simple parts (industrial manufacturing)

Functionality (design for human needs)





# Charles and Ray Eames

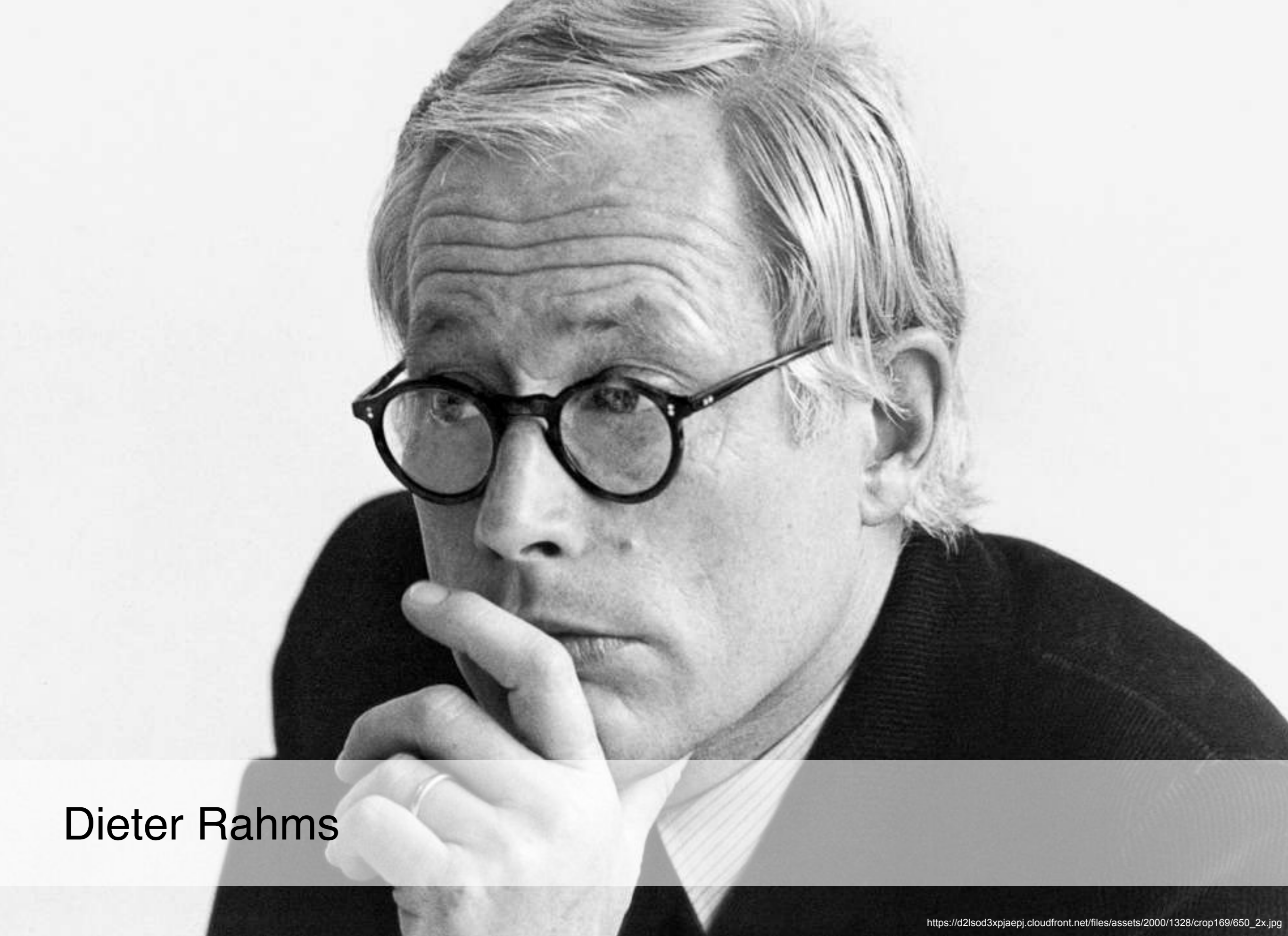
<http://luciotraficante.files.wordpress.com/2009/11/charles-ray-eames.jpg>



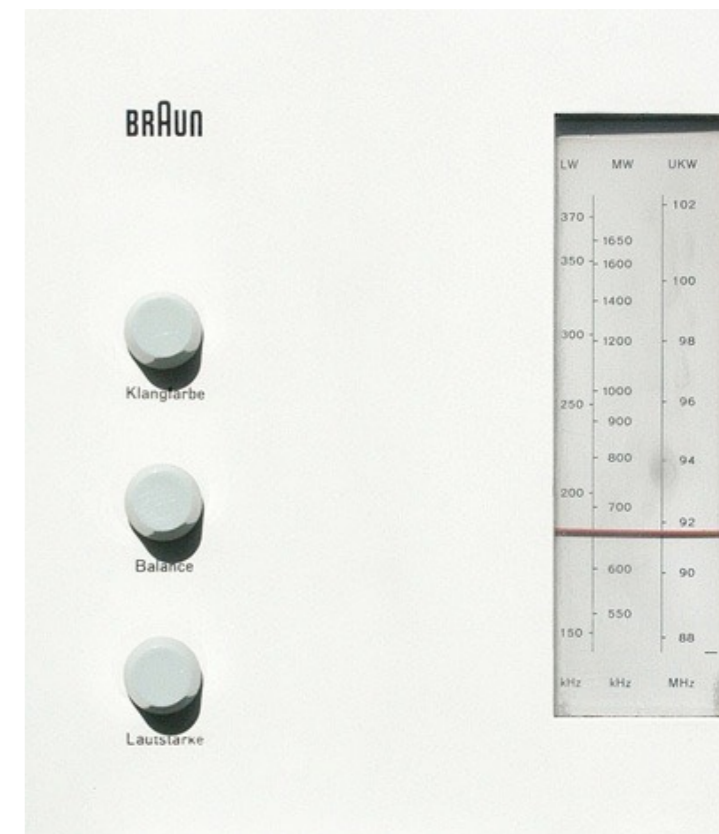
# Ray & Charles Eames







**Dieter Rahms**



<http://blog.smow.com/wp-content/uploads/2010/05/dieter-rams-braun-sixtant-sm2.jpg>

<http://www.kofferradios.de/rr/br/br030f01.jpg>

[http://www.ianclaridge.co.uk/blog/wp-content/uploads/0909/braun\\_sk6\\_1.jpg](http://www.ianclaridge.co.uk/blog/wp-content/uploads/0909/braun_sk6_1.jpg)





# Braun SK6

<http://www.flickr.com/photos/faasdant/3974968657/>

Braun Radio



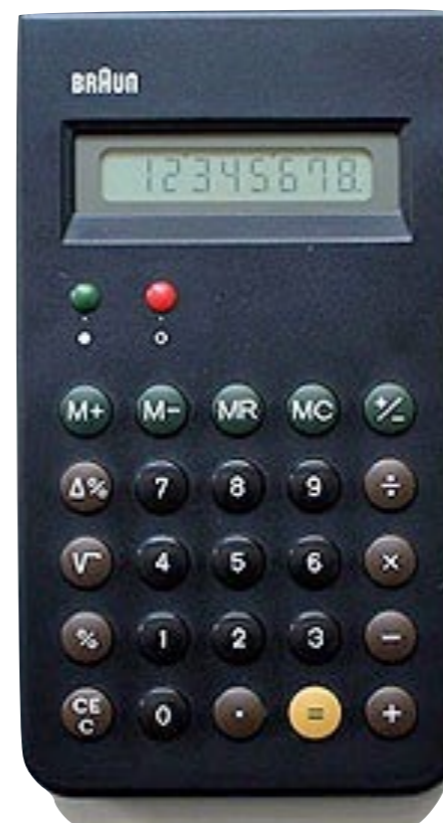
iPod



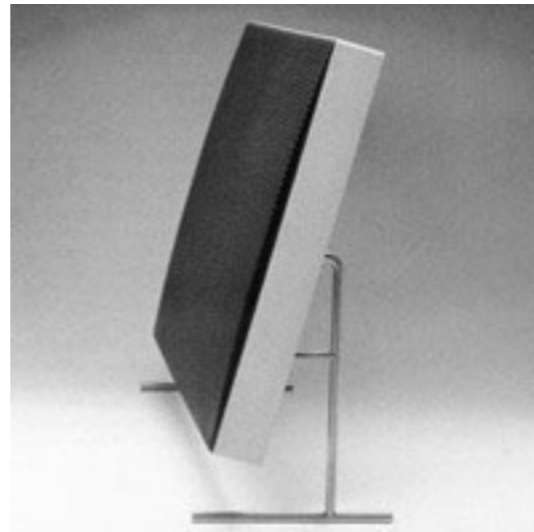
iPhone Calculator



Braun Calculator



Braun Speaker



iMac



Braun Radio



Powermac G5



# Part Two

# Graphical User Interface Design

- Principles
- Layout, Typography, Color & Contrast
- Controls and Widgets
- Simplicity



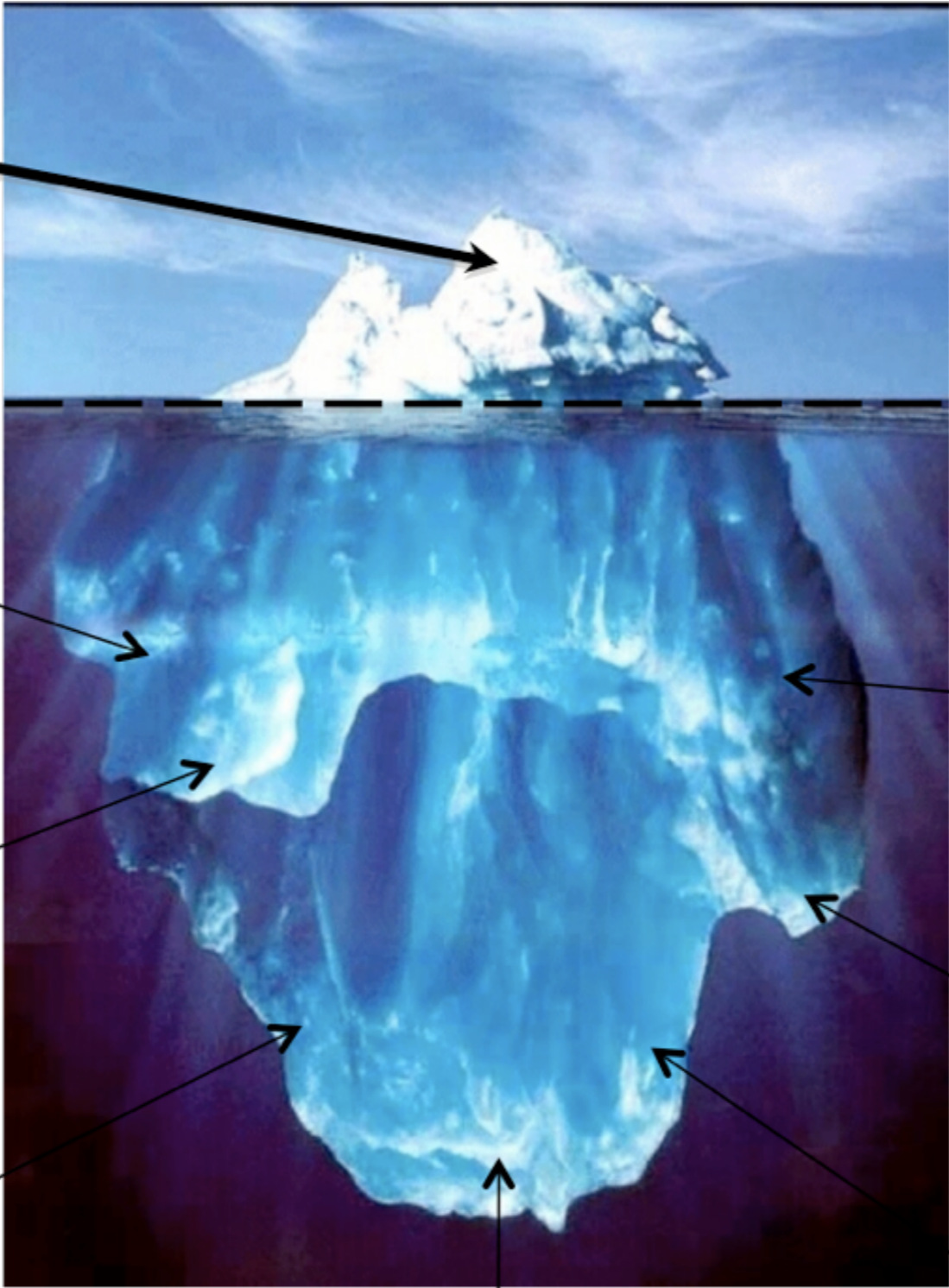
Like all forms of design, visual design is about problem solving, not about personal preference or unsupported opinion.

**Bob Baxley**



Interface design is only the experienced **representation** of the interaction, not the interaction design itself.





User Interface

*Visible*

*Behind the Scenes*

Capturing

Transferring

Connecting

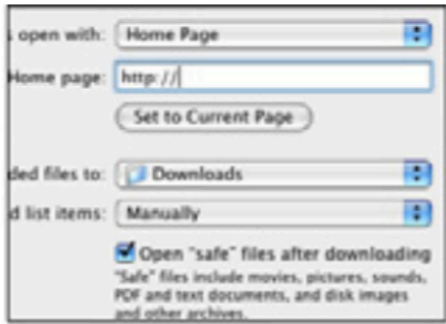
Coordinating

Combining

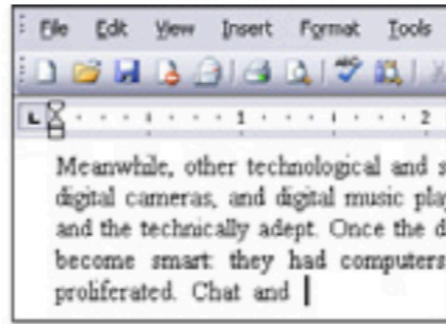
Contextualizing

Storing

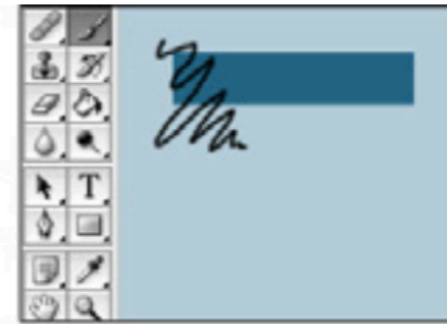
<http://orbitalrpm.com/wp-content/uploads/2008/12/cop-iceberg.png>



Forms



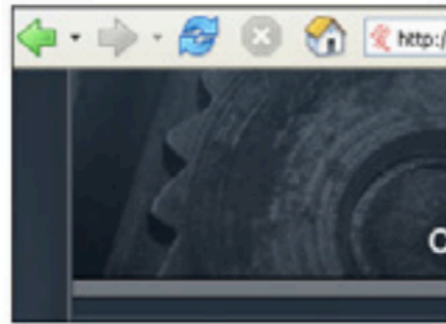
Text editors



Graphic editors

	A	B	C	
1	Time	XeX	XeY	XeZ
2		0	-12071.9	0 -30
3	5.12E-22	-12071.9	-5.7E-65	-30
4	1.54E-21	-12071.9	-9.8E-64	-30
5	3.6E-08	-12071.9	-1.1E-23	-30
6	2.16E-07	-12071.9	-2.5E-21	-30
7	1.12E-06	-12071.9	-3.4E-19	-30
8				
9				
10				

Spreadsheets



Browsers



Calendars



Media players



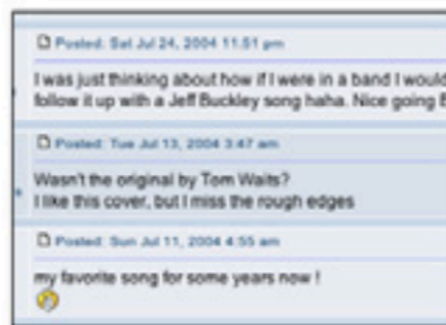
Information graphics



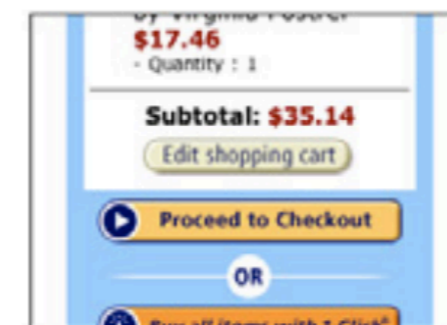
Immersive games



Web pages



Social spaces



E-commerce sites

- Desktop applications
- Websites
- Web applications or “rich internet applications” (RIAs)  
Professional products or embedded devices
- Software for mobile devices or other consumer electronics
- Turnkey systems like kiosks
- Operating systems

UI design communicates attributes such as reliability, excitement, playfulness, energy, calmness, strength, tension, and joy.







<http://trentwalton.com/assets/uploads/2014/06/css-zen-garden-221-AL.gif>

<http://csszengarden.com/>





# Tools

source : [4]



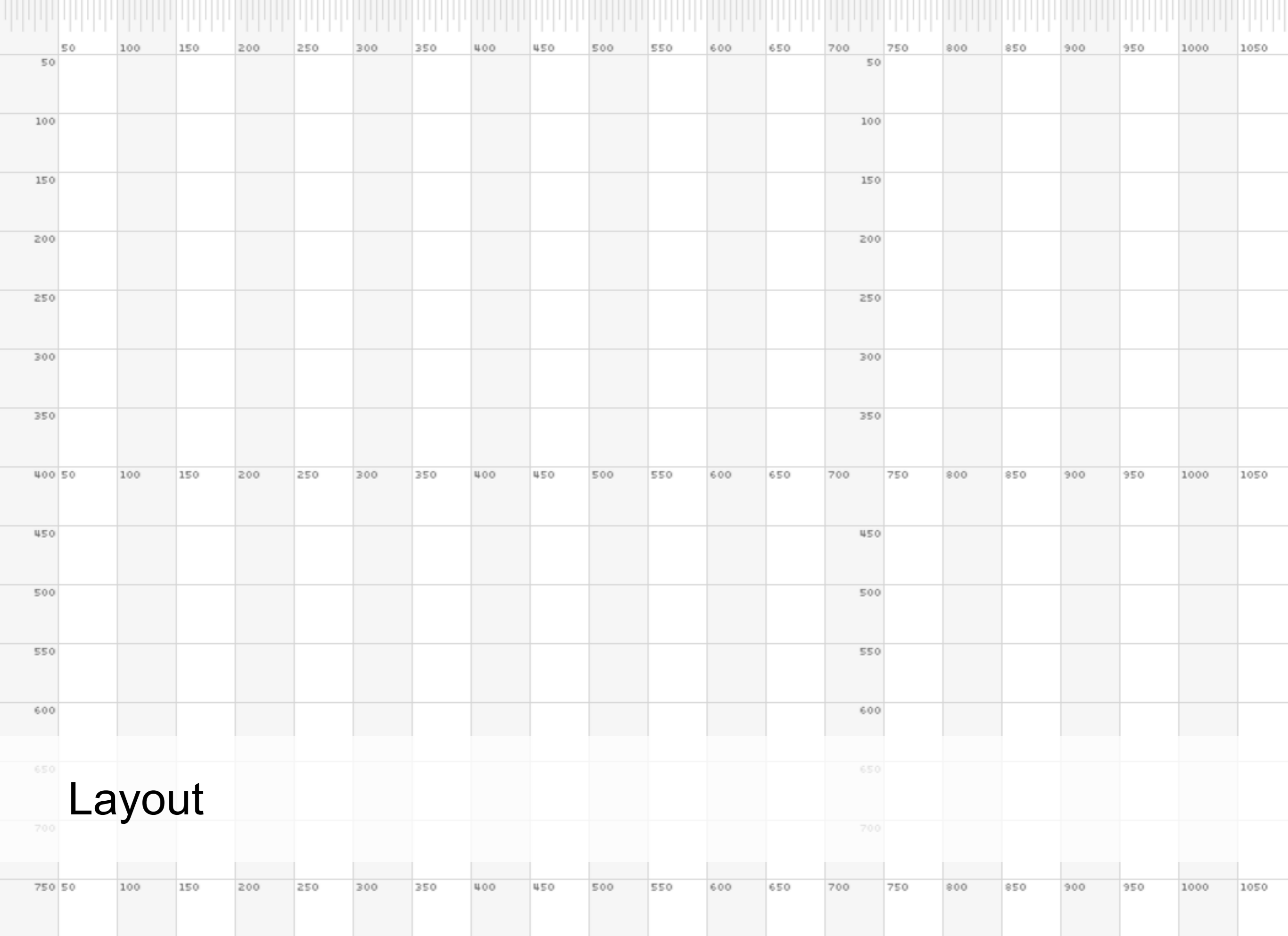
# UI Toolboxes



source : [4]

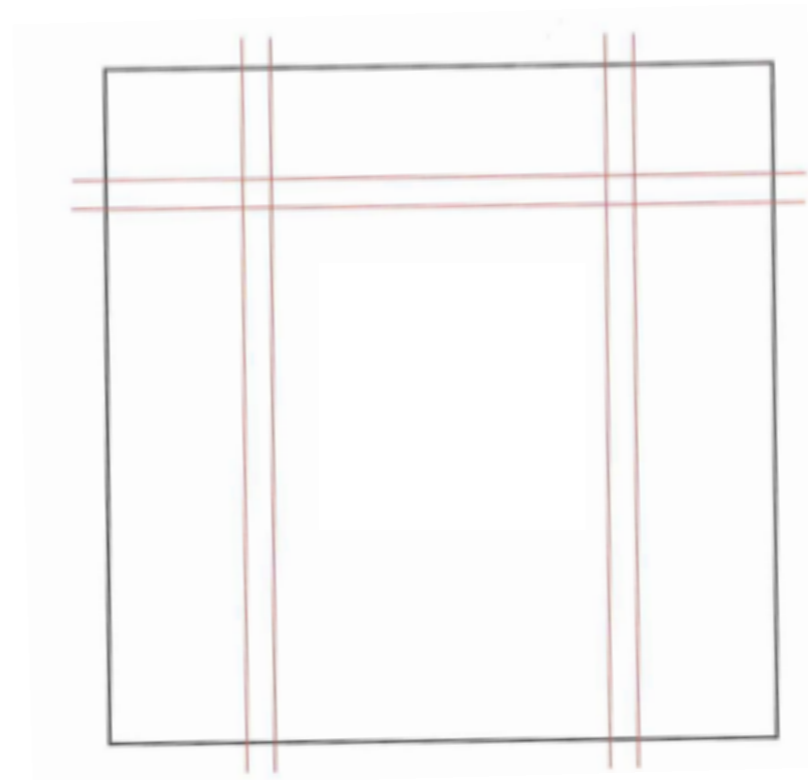
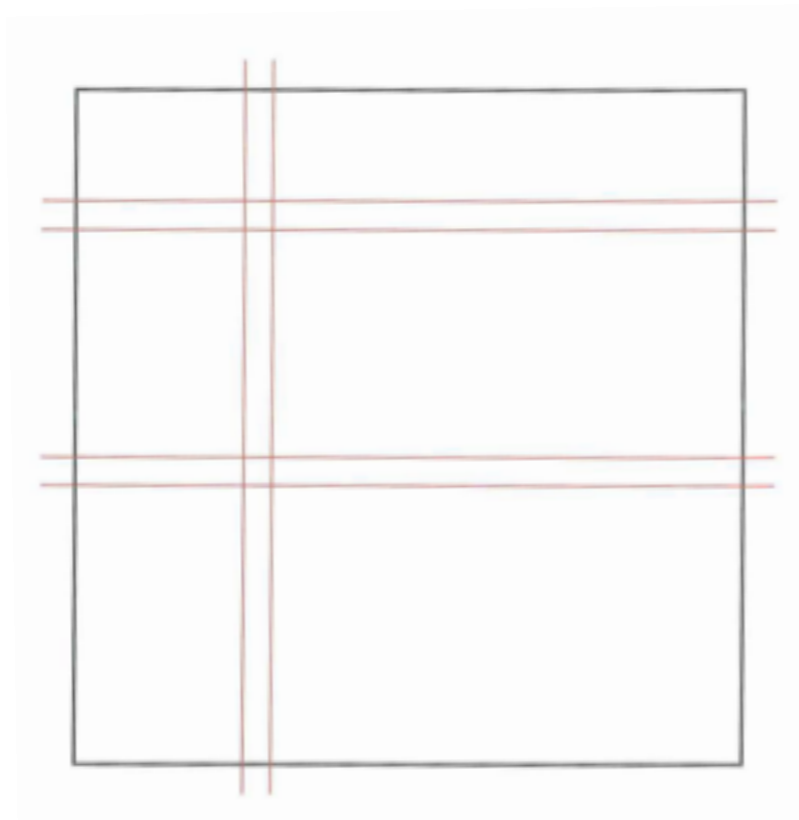
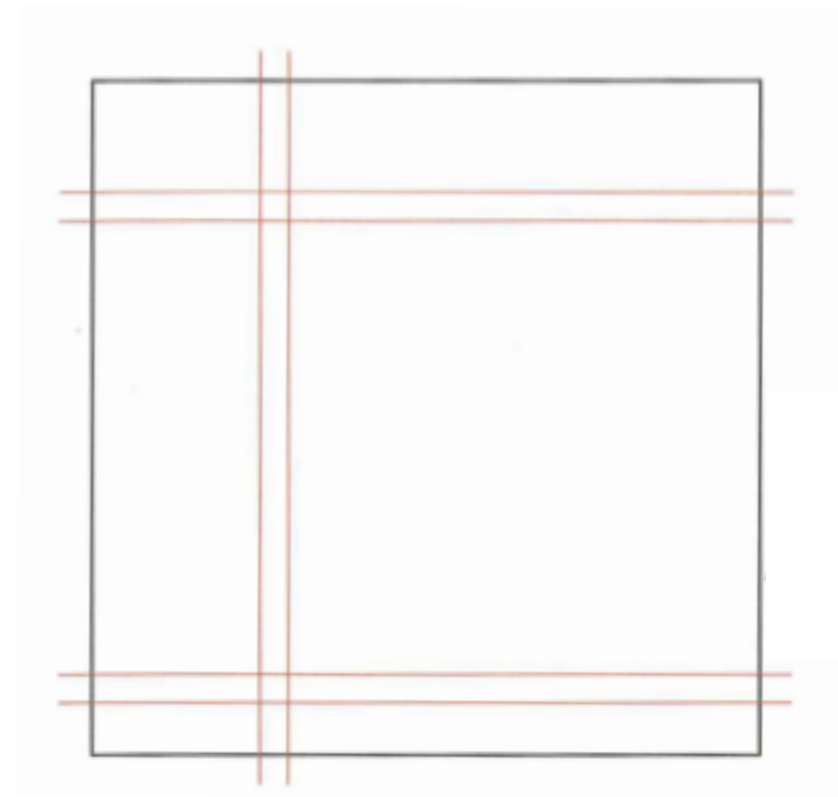
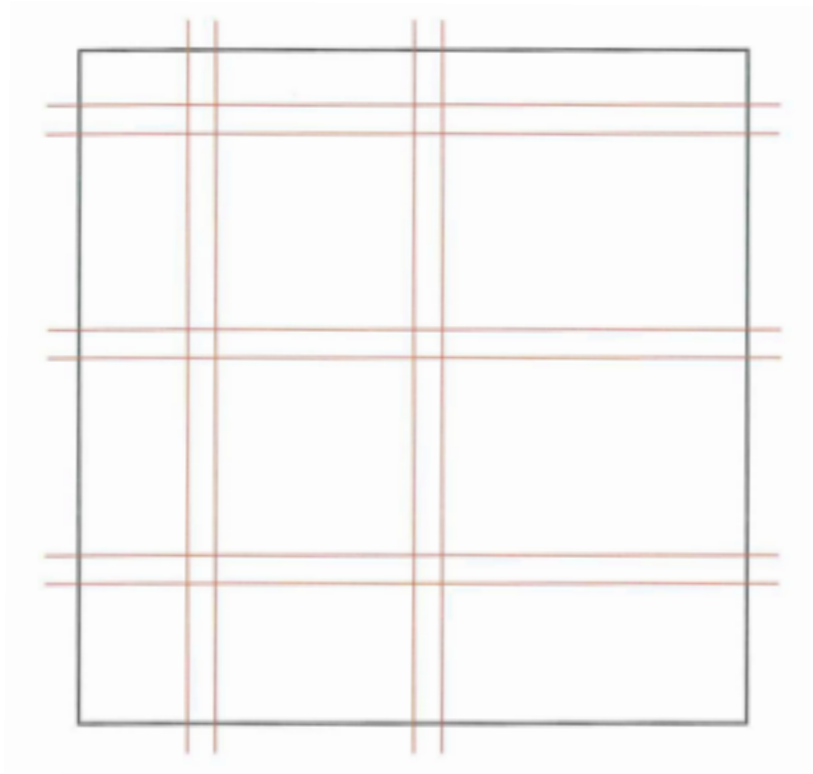
# Graphical User Interface Design

- Principles
- Layout, Typography, Color & Contrast
- Controls and Widgets
- Simplicity



Layout





source : [4]

The screenshot shows a presentation software interface. On the left, there is a 'Master Slides' panel with a vertical scrollbar. It contains two master slide thumbnails: 'SS10-Master' (checked) and 'SS10-Master copy'. Below this is a 'Slides' panel with a vertical scrollbar, showing a list of 14 slide thumbnails. The main workspace is a large white area with a horizontal ruler at the top and a vertical ruler on the left. The bottom of the workspace shows a footer: 'LMU München – Medieninformatik – Alexander Wiethoff + Heinrich Hussmann + Aurelien Tabard – Interaction Design – SS2012 11'.

# Grids



Welcome to Wikipedia, the free encyclopedia that anyone can edit. 3,994,652 articles in English

- Arts
- Biography
- Geography
- History
- Mathematics
- Science
- Society
- Technology
- All portals

- Main page
- Contents
- Featured content
- Current events
- Random article
- Donate to Wikipedia

- Interaction
  - Help
  - About Wikipedia
  - Community portal
  - Recent changes
  - Contact Wikipedia

- Toolbox
- Print/export

- Languages
  - Simple English
  - العربية
  - Bahasa Indonesia
  - Bahasa Melayu
  - Български
  - Català
  - Česky
  - Dansk
  - Deutsch
  - Eesti
  - Ελληνικά
  - Español
  - Esperanto
  - Euskara
  - فارسی
  - Français
  - Galego
  - 한국어
  - עברית

### Today's featured article



The **Cross of Gold speech** was delivered by **William Jennings Bryan**, a former congressman from **Nebraska**, at the Democratic National Convention in **Chicago** on July 9, 1896. In the address, Bryan supported **bimetallism** or "free silver", which he believed would bring the nation prosperity. He decried the **gold standard**, concluding the speech, "you shall not crucify mankind upon a cross of gold". Bryan's address helped catapult him to the **Democratic Party's** presidential nomination; it is considered one of the greatest political speeches in American history. For twenty years, Americans had been bitterly divided over the nation's **monetary standard**. Many Americans believed bimetallism (making both gold and silver **legal tender**) was necessary to the nation's economic health. Bryan's speech, delivered at the close of the debate on the **party platform**, electrified the convention and is generally credited with getting him the nomination for president. However, he lost the **general election** to **William McKinley** and the United States formally adopted the gold standard in 1900. [\(more...\)](#)

Recently featured: *Dendrocollybia* – *Killer7* – *Calgary Stampede*

[Archive](#) – [By email](#) – [More featured articles...](#)

### Did you know...

From Wikipedia's newest content:

- ... that during the **Antinomian Controversy**, **Anne Hutchinson** (*pictured*) withstood two separate trials without counsel before being banished from **Massachusetts**?
- ... that **Argentine nationalism** sees **José de San Martín**, **Juan Manuel de Rosas** and **Juan Perón** as a line of historical continuity?
- ... that one of the most popular Polish cabarets, **Pod Egidą**, performing since 1967, has faced persecution from the communist authorities in the People's Republic of Poland?
- ... that 2012 College World Series Most Outstanding Player **Robert Refsnyder** was born in South Korea and adopted by a California couple when he was three months old?
- ... that the print identity of UK music newspaper *The Stool Pigeon* is modelled on Victorian tabloids?
- ... that 2012 Australian Olympic canoeist **Hannah Davis** won a bronze medal in the sport at the 2008 Summer Olympics?
- ... that the starfish *Anasterias rupicola* feeds on the limpet *Nacella macquariensis*, sometimes hunting it in groups?



### In the news

- At least 141 people are killed in a **flash flood** in the **Krasnodar Krai** region of **Russia**.
- **The Shard** (*pictured*) in **London** is inaugurated as the tallest building in **Europe**, with a height of 310 metres (1,020 ft).
- In **association football**, the **Copa Libertadores** concludes with **Corinthians** defeating **Boca Juniors** in **the Finals**.
- **CERN** announces the discovery of a new particle with properties consistent with the **Higgs boson** after experiments at the **Large Hadron Collider**.
- **GlaxoSmithKline** pleads guilty to criminal charges of health care fraud and is fined a record US\$3 billion.
- In **association football**, **UEFA Euro 2012** concludes with **Spain** defeating **Italy** in **the final** to win a second consecutive **European Football Championship**.



[Wikinews](#) – [Recent deaths](#) – [More current events...](#)

### On this day...

**July 9:** Independence Day in **Argentina** (1816) and **South Sudan** (2011)

- 455 – Roman military commander **Avitus** was proclaimed Emperor of the Western Roman Empire.
- 869 – **An earthquake and subsequent tsunami** struck the area around **Sendai**, Japan, leaving sand deposits up to 2.5 miles (4 km) inland.
- 1850 – Following **Zachary Taylor's** death, **Millard Fillmore** (*pictured*) became **President of the United States**, the last member of the **Whig Party** to hold that office.
- 1962 – In a seminal moment for pop art, **Andy Warhol's** *Campbell's Soup Cans* exhibition opened at the **Ferus Gallery** in **Los Angeles**.
- 2008 – Under the belief that **Israel** and the **United States** were planning to attack its nuclear programme, **Iran** conducted the **Great Prophet III** missile test and war games exercise.



More anniversaries: [July 8](#) – [July 9](#) – [July 10](#)

[Archive](#) – [By email](#) – [List of historical anniversaries](#)

Grids





# Visual Clutter



Clutter creates visual noise and  
makes an application hard to use

# Gestalt Psychology

- The Gestalt laws prescribe for us what we are to recognise as one thing' (Köhler, 1920)
- How smaller objects are grouped to form larger ones
- Rules of the organisation of perceptual scenes (Heuristics)

# Gestalt Laws

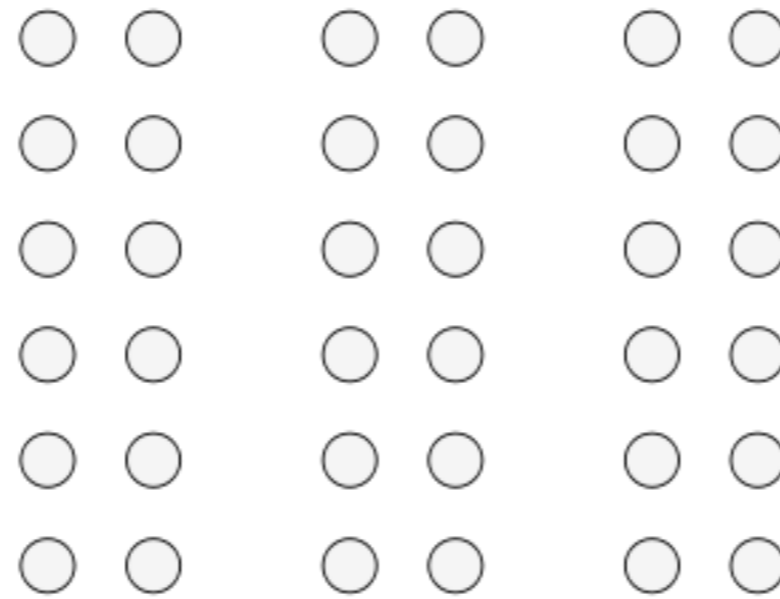
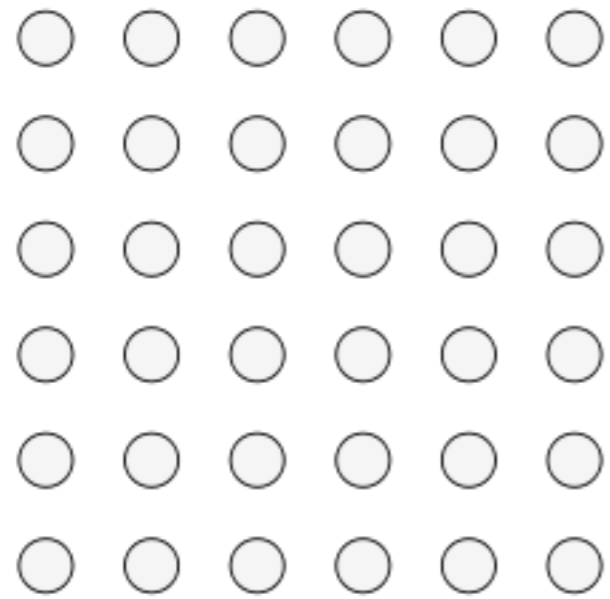
- Proximity
- Collinearity
- Co-circularity
- Continuity
- Parallelism
- Symmetry
- Closure
- Convexity

...

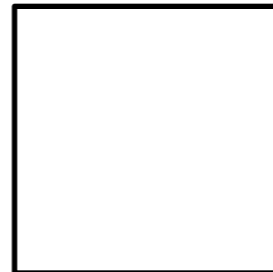
In summary the Gestalt Theory believes individuals use insight and their **prior experiences** to determine the response to stimuli.

....(uses) Gestalt Theory to try to make sense of, and provide order to, information in their perception.

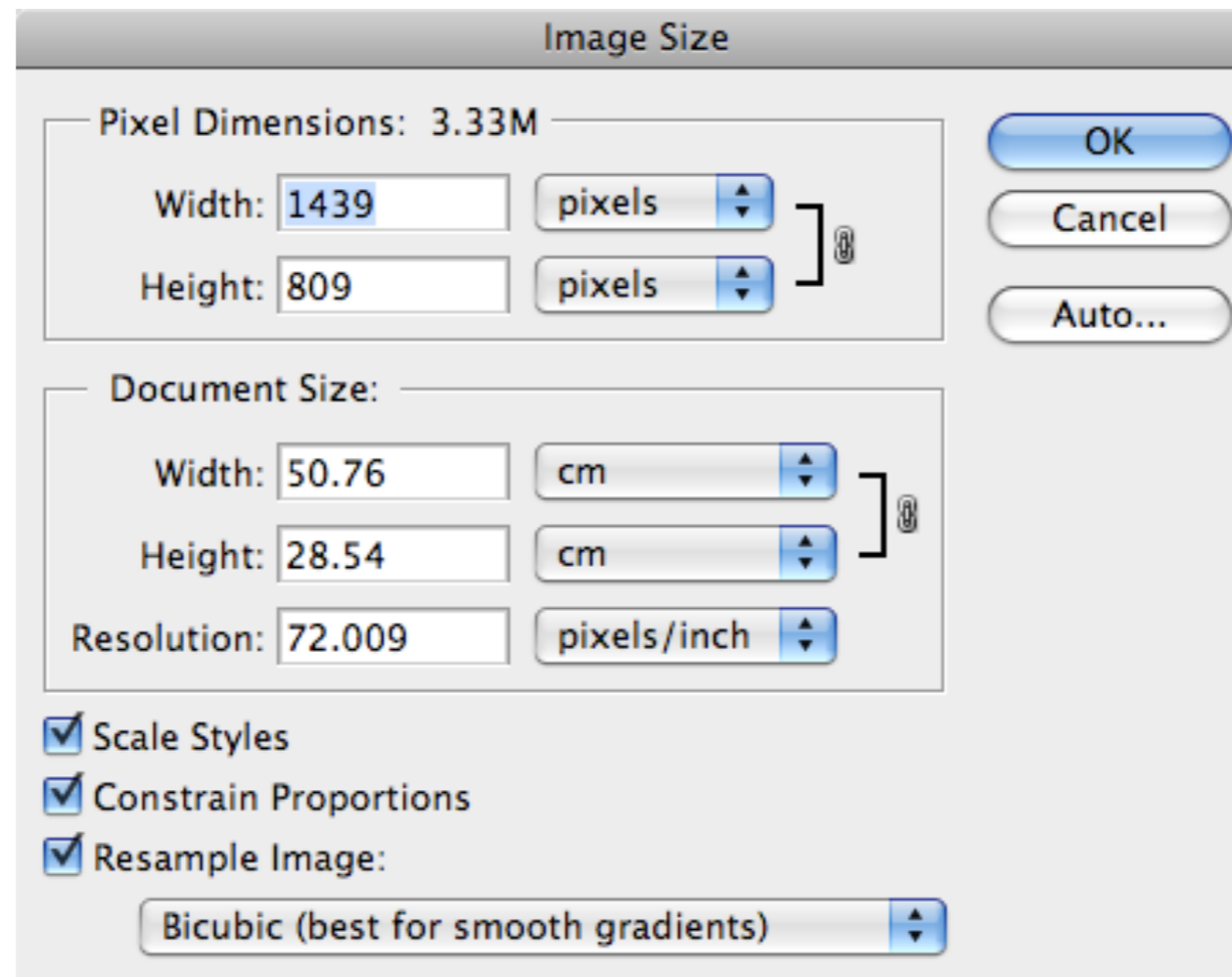




# Proximity & Grouping



# Alignment



By grouping similar elements together, the designer helps the user deal with a complex information display by reducing it to a manageable number of units.



## Primary Action / Secondary Action





All form actions are not equal, and therefore the visual presentation of actions should match their importance to make it easier to complete a form.

Visual distinction helps users make “good” choices.



Example: "Web Design, Filling the Blanks"



Yammer



# Constraint

source : [2]

Constraints are closely related to real affordances: For example, it is not possible to move the cursor outside the screen: this is a physical constraint.

Locking the mouse button when clicking is not desired would be a physical constraint. Restricting the cursor to exist only in screen locations where its position is meaningful is a physical constraint.



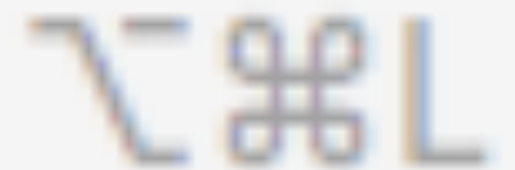
Flip Horizontally

Flip Vertically

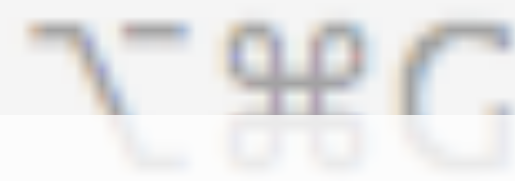
Lock



Unlock

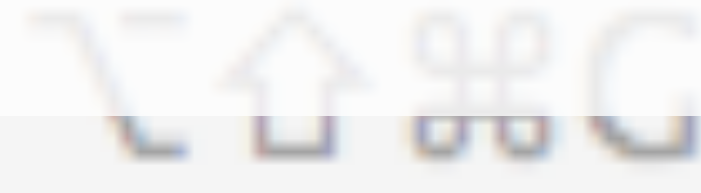


Group



Visual Constraint

Ungroup



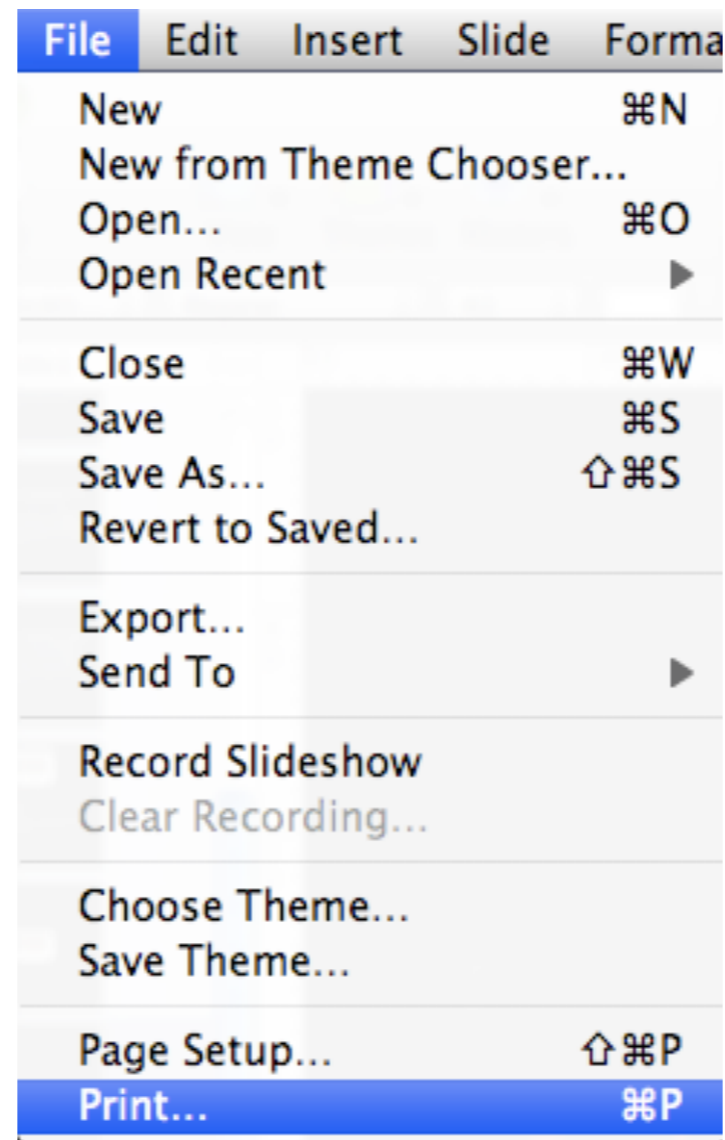
source : [2]

# Scalability of Interfaces / Flexibility



80/20 rule

source : [1]



A principle for setting priorities: users will use 20% of the features of your product 80% of the time. Focus the majority of your design and development effort (80%) on the most important 20% of the product.



URL:

Hosts  
 Span All  
 Allow List ->

Reject List ->

Accept/Reject  
 Accept:  Reject:  
 htm(l)  gif  
 jpg  txt  
 zip  exe  
 doc  All  
Custom list:

Special  
Retries:   
Additional Parameters:  
  
 Act like a browser  
 Convert links  
 Ignore robots.txt

Running Options  
 Go 2 background  
 No info  
 All info  
 Some info  
 Append to logfile  
 Overwrite Logfile  
Logfile:

Retrieval Options  
 No clobber  
 Timestamping  
 Continue file download  
Quota (kB):   
 Spider (check for files)  
 No directories  
 Force directories  
 Save to custom dir:  
  
 Clear Server Cache  
 Recursive Retrieval  
Depth:   
 Download "as-is"  
 Mirror site  
 add HTML suffix  
 Only go deeper

Overcrowded Widget

Users are overwhelmed by options, limitless flexibility

Only show me what I need to see

Implement one easy to discover and easy to learn core pattern for common actions across the platform.

Adjust to users' preferences.

Make less common actions harder to reach.



## Aesthetic-Usability Effect

source : [1]



## **Aesthetic-Usability Effect**

Aesthetic designs are perceived as easier to use than less-aesthetic designs.

Aesthetic designs look easier to use and have a higher probability of being used, whether or not they actually are easier to use.

source : [1]

The flexibility-usability tradeoff is exemplified in the well known maxim “jack of all trades, master of none”.

Flexible designs can perform more functions than specialised designs, but they perform the functions less efficiently.









**Akkolade** (Nasenklammer, geschwifft, Klammer, geschwungene Klammer, Binde, systematische Klammer)  
→ Metazette, Seite 345

In Manuskripten sind mehrezellige Akkoladen schwer zu setzen und später noch schwerer in das Layoutprogramm zu konvertieren. Man behilft sich, indem man ans Ende jeder Zeile, die »akkoladiert« (Susanne Fischer) werden soll, eine einzelne Akkolade setzt:  
so }  
wie }  
hier }

Akkoladen können nach links, rechts, oben oder unten weisen, je nach Art und Ausrichtung der zusammenzufassenden Elemente. Sie weisen von den Listenelementen zu den Erklärungselementen, nicht umgekehrt.

Oft ist es schöner und kaum mühsamer, große Akkoladen aus alten Schriftmusterbüchern zu scannen und als Bild einzubauen; die zusammengebastelten Nasenklammern sind meist nicht sehr schwungvoll.

rechts oben: »englischer Schnitt«  
rechts unten: »französischer Schnitt«

unten: Akkoladen aus einem Stück werden bei Skalierung, je nach Umfeld, fett und plump (Thesis Sans extraleicht in den Punktgrößen 10/12/14/18/24/36/48/60/72/96).



# Fonts

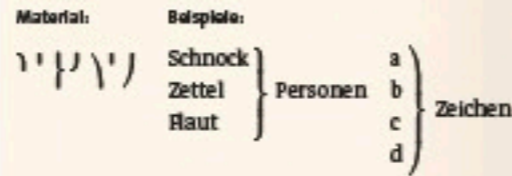
Akkoladen in der Größe normaler Klammern werden gesetzt wie normale Klammern.

Akkoladen, die über mehrere Zeilen gehen, dienen als Zusammengehörigkeits-Zeichen über mehrere Zeilen hinweg, etwa in Personenverzeichnissen. Man muß sie nicht mühsam aus einzelnen Teilen zusammensetzen, die in Sonderfonten zu finden sind.

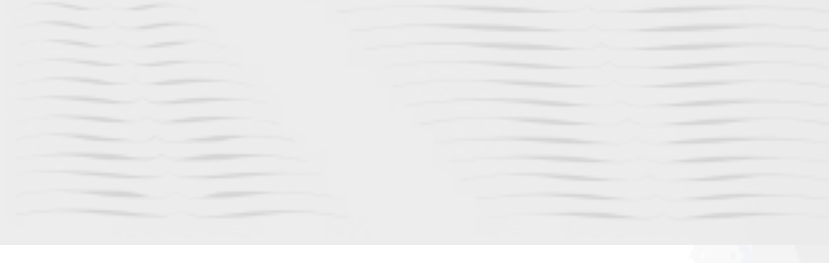
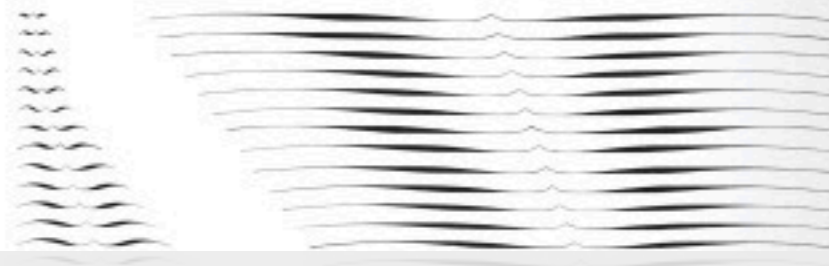
Wenn man eine Akkolade in der Größe einer normalen Klammer über mehrere Zeilen vergrößert, wird sie fett, groß und plump, sogar bei Verwendung eines extraleichten Schnittes. Statt einer Akkolade tut es übrigens auch eine Linie.

Hier ein hübsches Beispiel für Akkoladen-Verschachtelung im Tabellensatz. Die Auspunktierungen sind höchst verzichtbar, da Tabellen nicht mehr auf Kolumnenbreite ausgetrieben werden müssen.

Die (Akkoladen) als Parenthesen im Text dienen der Differenzierung in wissenschaftlicher Typografie.



Supervision of timber sales	1-hour jobs	District 1	Sales conducted monthly from May to July.
	2-hour jobs	District 7	
	2-hour jobs	District 6	
	2-hour jobs	District 4	
	2-hour jobs	District 2	
		District 3	
		District 5	



## Alltägliche Sonderzeichen

- Gradzeichen ° und Hoch-»O« °
- Minute ' und Sekunde '' / ASCII-Strichlein ' und ''
- Paragraphzeichen §
- Währungszeichen \$ € £ ¥ €
- Nummer-Zeichen #
- »Et«-Zeichen &
- »At«-Zeichen @, Mail- und Internet-Adressen
- Gleich = und Plus + und Minus -
- kleiner als < und größer als >
- höchstens ≤ und mindestens ≥
- Alinea-Zeichen ¶
- Kreuz † und Doppelkreuz ‡ und Stern \*
- Copyright-Zeichen ©
- Eingetragene Marke ®
- Mal-Zeichen ×
- Unterstrich \_
- Durchschnittlich ∅
- Unendlich ∞
- Akzente und ungefähr-Zeichen ≈
- Vorsicht bei Sonderzeichen auf dem Macintosh

<b>Grad-Zeichen: °</b>	Bei Winkelgraden wird das Grad-Zeichen unmittelbar an die Zahl gesetzt, vielleicht etwas spationiert.	Ein Winkel von 360°.
	Temperaturangaben ohne Einheit: Das Grad-Zeichen steht direkt an der Zahl. Mit Einheit: Es steht direkt vor dem Einheitenkürzel, von der Zahl durch ein geschütztes Flexibles Leerzeichen getrennt.	Bei 15° gehe ich nicht ins Wasser. Es müssen 25 °C sein. Ein 15°-Bad. Ein 25-°C-Bad.
	Es ist kein hochgestellter Buchstabe »O«, sondern ein spezielles Zeichen.	15°: richtig 15°: falsch
<b>Hochgestellter Buchstabe o und weitere hochgestellte Buchstaben und Zeichen</b> → Textbelegung, Seite 358	Das hochgestellte kleine »o« findet in Abkürzungen wie »N°« oder »r°« Verwendung. Hier darf das Grad-Zeichen nicht stehen, das kein kleines »o« ist, sondern ein Kreis.	N° 6: falsch N° 6: richtig Gesprochen: »Numero 6« Band 1: 8°°, Blatt 12 1° und 2 v°. Gesprochen: »Band eins: Octavo, Blatt 12 recto und 2 verso.«
<b>Minute: ' und Sekunde: ''</b> Fuß: ' und Zoll: '' Auch Orgelregister bezeichnet man mit diesen Strichen (Fuß-Länge der Orgelpfeifen). Die ASCII-Strichlein ' und '' sind hier und für Anführungen falsch. → Anführungen sehen, Seite 199	Die kleinen etwas schrägen Strichlein verwendet man nur für Zeit- und geographische Angaben sowie für Fuß und Zoll. Sie stehen direkt an der Zahl, vielleicht etwas spationiert, danach ein Wortzwischenraum. (Zeitangaben besser mit »:«) → Zeitangaben, Seite 199	1. Satz Allegro 9' 40" »neun Minuten vierzig Sekunden« 11' 14' 30" östlich Greenwich, 47' 12' 7" nördlicher Breite »elf Grad vierzehn Minuten dreißig Sekunden«  11° 14' 30" 11° 14' 30" 11' 14' 30" alles falsch 11° 14' 30" einzig richtig
<b>Paragraph-Zeichen: §</b> »das §-Zeichen hat auch so was wie halbFrau halb Sehpfardchen« Arno Schmidt	Das Paragraph-Zeichen steht immer vor einer Zahl. Es kann nicht das Wort »Paragraph« in einem Text ersetzen. Es ist von der Zahl durch ein gFL getrennt – wie auch ein eventuell folgender Buchstabe.	Ich zitiere hier § 59, vor allem § 59 b. Plural: Die §§ 59 bis 61 sind zu tilgen. falsch: 14 §§ nach dem ersten § tilgen! richtig: 14 Paragraphen nach dem ersten Paragraphen tilgen!
<b>Währungszeichen: \$, €, £, ¥, € etc.</b> → Textbelegung von Zahlen, Seite 197	Währungs-Zeichen oder Währungs-Abkürzungen wie »\$Fr« stehen mit gFL hinter oder vor dem Betrag. Reihenfolge in Texten: »Summe-Währung« (noch besser: ausschreibbar). In Listen: »Währung-Summe«. Währungsabkürzungen wie »dkr«, »\$Fr« oder »kan\$« setzt man ohne Abkürzungspunkt.	Text: Geben Sie mir 50.000 \$ in kleinen Scheinen! – In meinem Geldbeutel waren 76 SPr, 63€, 63.000 ¥ und 480 kan\$.
Wenn das Euro-Zeichen in der verwendeten Schrift nicht existiert (bei neu gekauften Schriften sollte man darauf bestehen), muß man es aus einer ähnlichen Schrift nehmen, oder man nimmt das geometrische Euro-Zeichen der EU. Die EU-Kommission akzeptiert auch die Schreibweise »EUR« als offizielles Kürzel mit	Ausgeschriebene Währungen setzt man nach der Summe und einem Wort abkürzen.	Urte: \$ 3.455,00 \$ 30.985,60  Geben Sie mir 50.000 Dollar in kleinen Scheinen!

# Rule of thumb

Courier  
CourierBold  
*CourierBoldOblique*  
Helvetica  
HelveticaBold  
*HelveticaBoldOblique*  
*HelveticaOblique*  
TimesBold  
*TimesBoldItalic*  
*TimesItalic*  
TimesRoman

- two general groups: serif & sans serif
- sans serif can be scanned quickly
- avoid very heavy or light typefaces for UIs
- avoid combining too similar typefaces
- stick with standards first

- On computer displays, sans-serif fonts often work better at very small point sizes, unlike print, in which the serified fonts tend to be more readable as body text.
- Avoid italicized, cursive, or otherwise ornamental fonts;
- Highly geometric fonts tend to be difficult to read at small point sizes, as the circular letters (e, c, d, o, etc.).

Courier  
CourierBold  
*CourierBoldOblique*  
Helvetica  
HelveticaBold  
*HelveticaBoldOblique*  
*HelveticaOblique*  
TimesBold  
*TimesBoldItalic*  
*TimesItalic*  
TimesRoman



Courier  
CourierBold  
CourierBoldOblique  
Helvetica  
HelveticaBold  
HelveticaBoldOblique  
HelveticaOblique  
TimesBold  
TimesBoldItalic  
TimesItalic  
TimesRoman

- All-caps is too hard to read for body text, though it works fine for headlines and short texts. Capital letters tend to look similar, and are hard for a reader to differentiate.
- Set large amounts of text in a medium-width column when possible—say, around 10 to 12 English words on average. Don't right-justify narrower columns of text; let it be "ragged right."

A B C D E F

A B C D E F

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Sed a sem. Nullam nonummy libero id libero. Donec libero erat, consequat in, tincidunt at, malesuada id, urna. Fusce tincidunt consectetur ante. Nam sit amet lorem. Nulla nec ante ac risus tincidunt suscipit. Aliquam luctus. Vivamus lobortis odio at risus porttitor ultrices. Maecenas odio libero, rhoncus et, dignissim id, rhoncus at, quam. Vivamus dolor. Quisque feugiat fringilla enim.

### Didot

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Sed a sem. Nullam nonummy libero id libero. Donec libero erat, consequat in, tincidunt at, malesuada id, urna. Fusce tincidunt consectetur ante. Nam sit amet lorem. Nulla nec ante ac risus tincidunt suscipit. Aliquam luctus. Vivamus lobortis odio at risus porttitor ultrices. Maecenas odio libero, rhoncus et, dignissim id, rhoncus at, quam. Vivamus dolor. Quisque feugiat fringilla enim.

### Georgia

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Sed a sem. Nullam nonummy libero id libero. Donec libero erat, consequat in, tincidunt at, malesuada id, urna. Fusce tincidunt consectetur ante. Nam sit amet lorem. Nulla nec ante ac risus tincidunt suscipit. Aliquam luctus. Vivamus lobortis odio at risus porttitor ultrices. Maecenas odio libero, rhoncus et, dignissim id, rhoncus at, quam. Vivamus dolor. Quisque feugiat fringilla enim.

### Goudy Old Style

**Lorem ipsum dolor sit amet, consectetur adipiscing elit. Sed a sem. Nullam nonummy libero id libero. Donec libero erat, consequat in, tincidunt at, malesuada id, urna. Fusce tincidunt consectetur ante. Nam sit amet lorem. Nulla nec ante ac risus tincidunt suscipit. Aliquam luctus. Vivamus lobortis odio at risus porttitor ultrices. Maecenas odio libero, rhoncus et, dignissim id, rhoncus at, quam. Vivamus dolor. Quisque feugiat fringilla enim.**

### Futura

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Sed a sem. Nullam nonummy libero id libero. Donec libero erat, consequat in, tincidunt at, malesuada id, urna. Fusce tincidunt consectetur ante. Nam sit amet lorem. Nulla nec ante ac risus tincidunt suscipit. Aliquam luctus. Vivamus lobortis odio at risus porttitor ultrices. Maecenas odio libero, rhoncus et, dignissim id, rhoncus at, quam. Vivamus dolor. Quisque feugiat fringilla enim.

### Verdana

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Sed a sem. Nullam nonummy libero id libero. Donec libero erat, consequat in, tincidunt at, malesuada id, urna. Fusce tincidunt consectetur ante. Nam sit amet lorem. Nulla nec ante ac risus tincidunt suscipit. Aliquam luctus. Vivamus lobortis odio at risus porttitor ultrices. Maecenas odio libero, rhoncus et, dignissim id, rhoncus at, quam. Vivamus dolor. Quisque feugiat fringilla enim.

### Arial Narrow

THIN

Roboto

BLACK SMALL CAPS

**SUNGLASSES**

ITALIC

*Self-driving robot ice cream truck*

BOLD

**Fudgesicles only 25¢**

BOLD CONDENSED

**ICE CREAM**

MEDIUM

Marshmallows & almonds

LIGHT

#9876543210

BOLD ITALIC

***Music around the block***

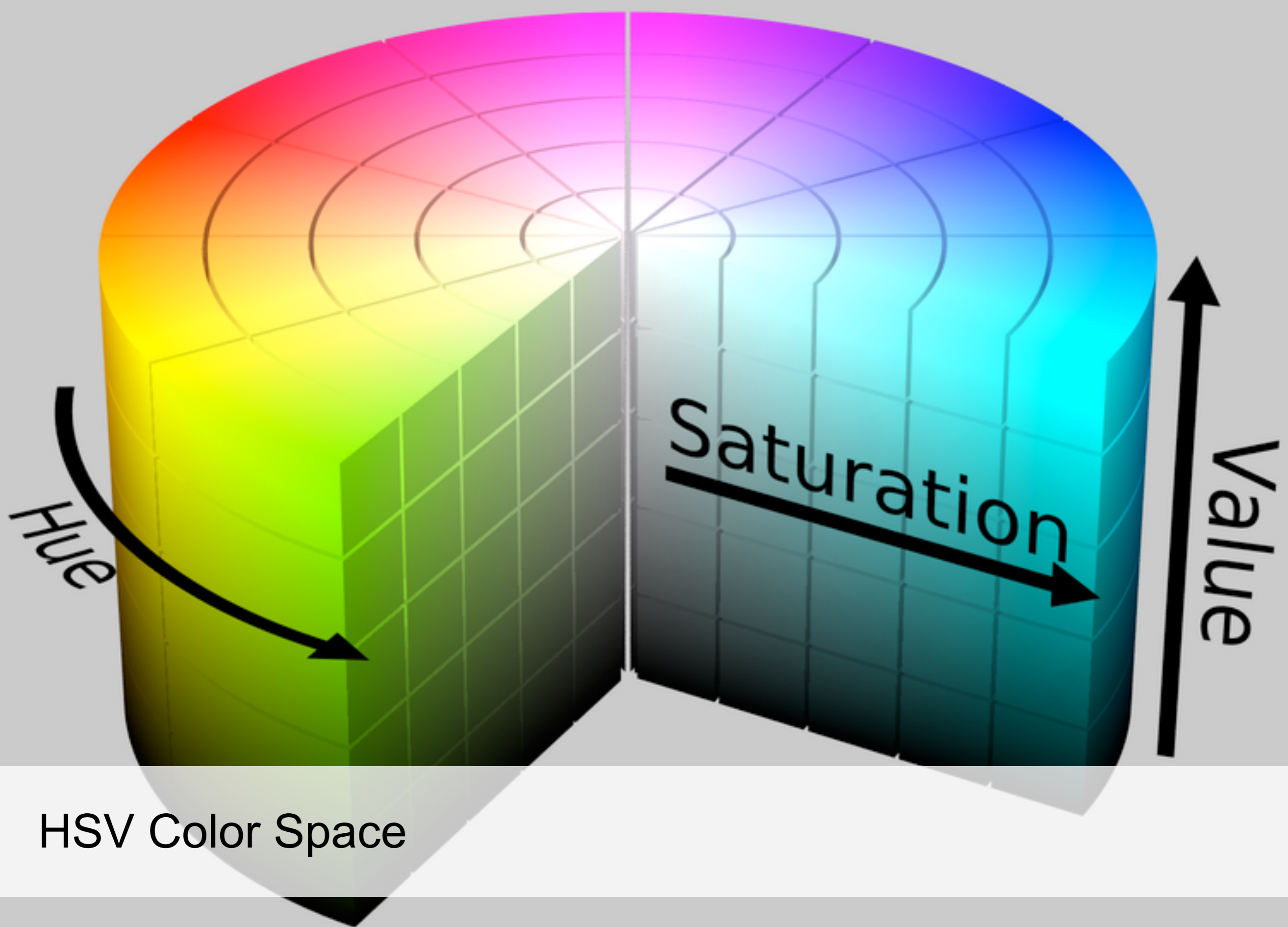
REGULAR

Summer heat rising up from the sidewalk

source : [5]



# Color

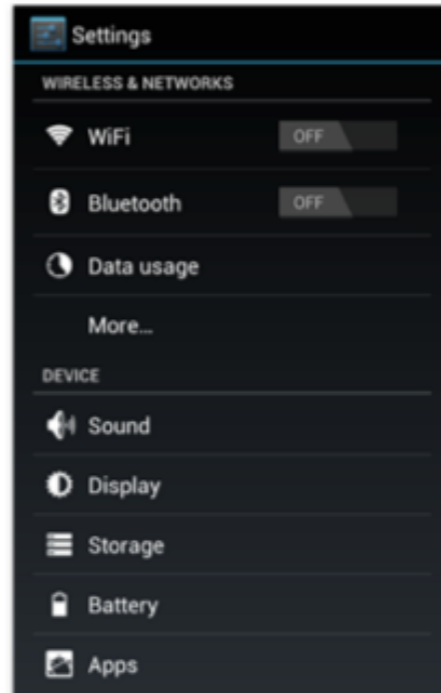
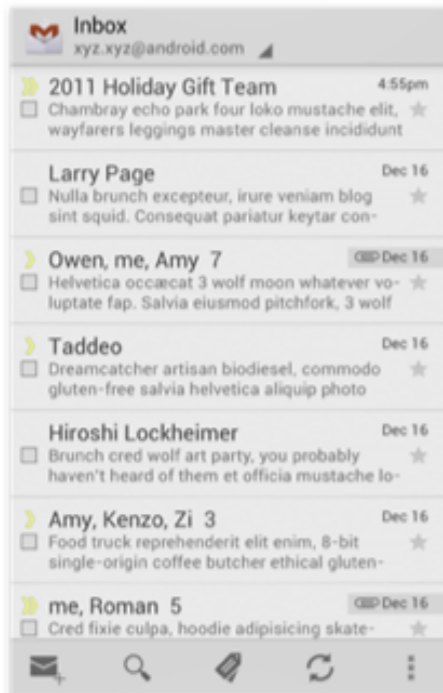


HSV Color Space

- three main properties: hue, saturation (or intensity) and value (or brightness)
- hue refers to the color itself (the particular color within the optical (visible) spectrum of light), saturation refers to the brightness, value refers to the amount of black in a color
  
- color can provide cues for use
- color can establish a relationship
- color can indicate importance
- consider human factors such as color blindness and cultural differences

Warm versus cool  
Dark versus light background  
High versus low contrast  
Saturated versus unsaturated  
Combinations of hues

# Colors



source : [5]



*Welcome to*  
[www.hosanna1.com](http://www.hosanna1.com)  
 PORTAL Page HOME OF  
 The Most Beautiful Pages On The WWW  
 Hosanna Afghan Hounds  
 & AAA World Wide Web Design

3A Home Business Resources and Education

Background ~ MY RESUME ~ ASP

NEW! The Most Beautiful MUSIC On The WWW!

hosanna1.com JUKEBOX!!!

**AN AMERICAN who LOVES FREEDOM? CLICK HERE**

We **BOYCOTT ALL Smoking Ban Areas- CLICK HERE**

**EMERGENCY - HELP SAVE OUR PETS!**

CA Smoking Ban Costs them 100 Billion\$

Smoker's Health & Rights hosanna1.com Weblog

JOHN & LYNDA FARLEY EDMONTON, KENTUCKY  
 CLICK HERE TO EMAIL US

Hoopla Sculpture  
 EMAIL ARTIST AT: kvalimaki@aol.com

# Questionable Website



Click Here

*Enter*

*Hosanna Hounds*

**SOME SAY TIMES ARE CHANGING,**  
**Hosanna Afghans HISTORY Page CLICK HERE**

*From the Mouths of Babes  
 ~~~~~  
 My daughter said, 'I wonder...'  
 ~~~~~  
 I had NEVER thought of  
 that, so I did a Bible Search...*

# NEVER FORGET!



**LOST AFGHAN HOUNDS**  
**Joy - in Indiana**  
**CLICK HERE**

**PRECIOUS is still lost**

We have **BEAUTIFUL PUPPIES** available **SOON**, whelped **JUNE 17, 2010**, with **AKC Champion sire & dam!**

We also have some **BEAUTIFUL** Champion sired young male and female Afghan Hounds **AVAILABLE NOW**. If you have room in your heart to love one of these 'most beautiful dogs in the world, please check out **THIS PAGE**

**COME SEE THE MOST BEAUTIFUL ART CAR IN THE WORLD, AWARD WINNING PARADE CAR, AND OUR HOSANNA AFGHAN HOUNDS DOG SHOW**

VISIT their pages **ALL** *Samson Happy Precious Ruby Bliss Red Man*





Google

Google Search

I'm Feeling Lucky

## Google Search Page



Inter



Show All

Language For

Region: Custom

**Dates**

Saturday, 5 January 2008

5 January 2008

5 Jan 2008

Contrast

source : [2]

Effective design creates no more contrast than necessary.

This allows the viewer to easily identify the elements in question as a strongly defined subset of the available information.



Show All

Language **For**

Region: Custom

**Dates**

Saturday, 5 January 2008

5 January 2008

5 Jan 2008





# Symmetry

source : [2]

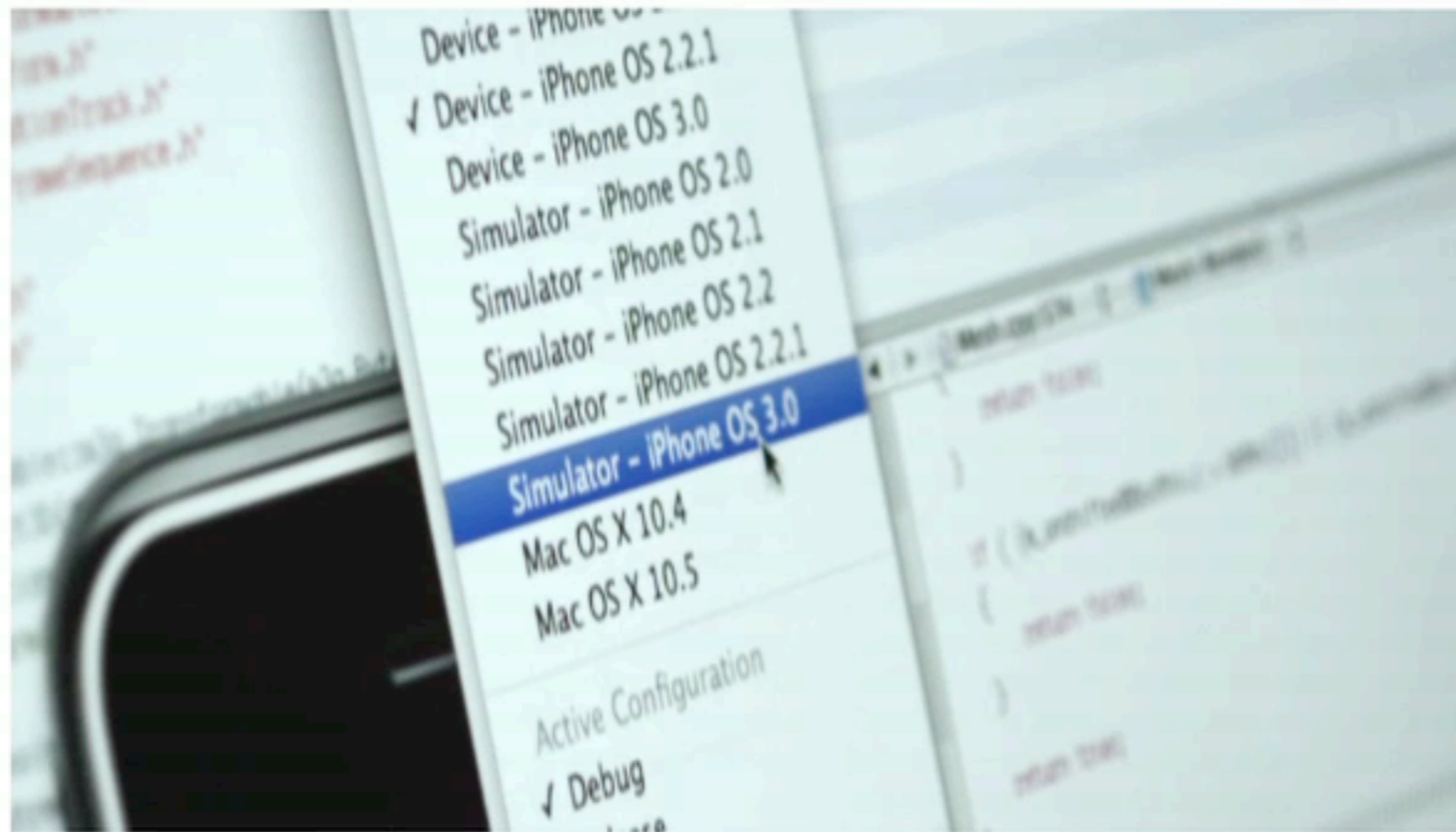


**Symmetry** ensures balance and clear organisation, if sometimes at the expense of visual interest. While this may be a drawback for a poster or retail packaging, it is perfectly appropriate for a user interface.

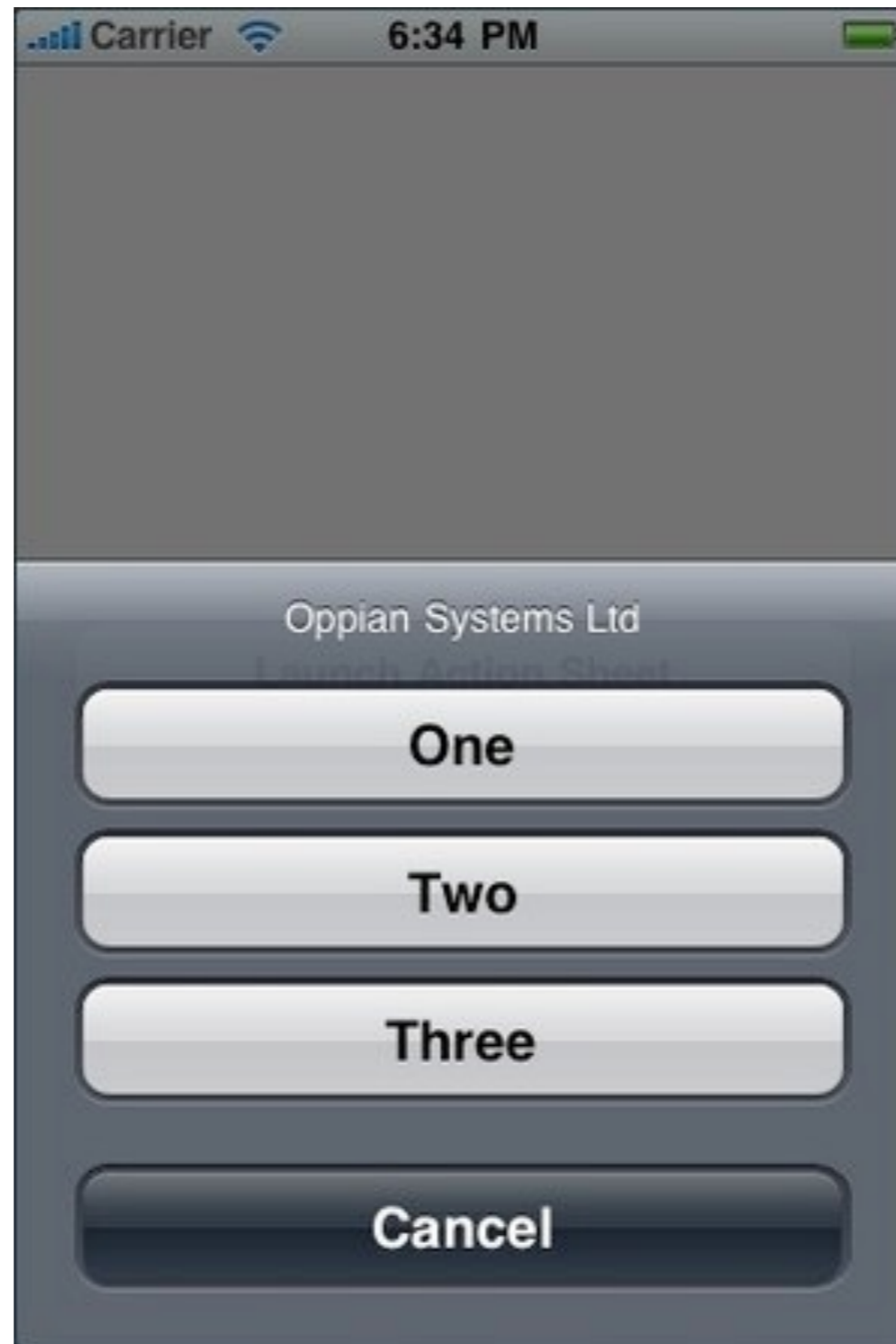
# UI Kits

# iPhone

## Developing Apps for iPhone







## Explore Over a Million Color Palettes

You'll find over 1,666,068 user-created color palettes to inspire your ideas. Get the [latest palettes RSS feed](#) or use our [color palette maker](#) to create and share your favorite color combinations.

NEW MOST LOVED MOST VIEWS MOST COMMENTS **MOST FAVORITES**



### Browse Palettes

DAY WEEK MONTH **ALL**

- Giant Goldfish** by manekineko  
  
 508 COMMENTS 3005 FAVORITES 232796 VIEWS 3510 LOVES
- Thought Provoking** by Miss\_Anthropy  
  
 285 COMMENTS 1938 FAVORITES 139170 VIEWS 2738 LOVES
- Terra?** by GlueStudio  
  
 442 COMMENTS 1567 FAVORITES 89562 VIEWS 1463 LOVES

### RECENT PALETTE COMMENTS

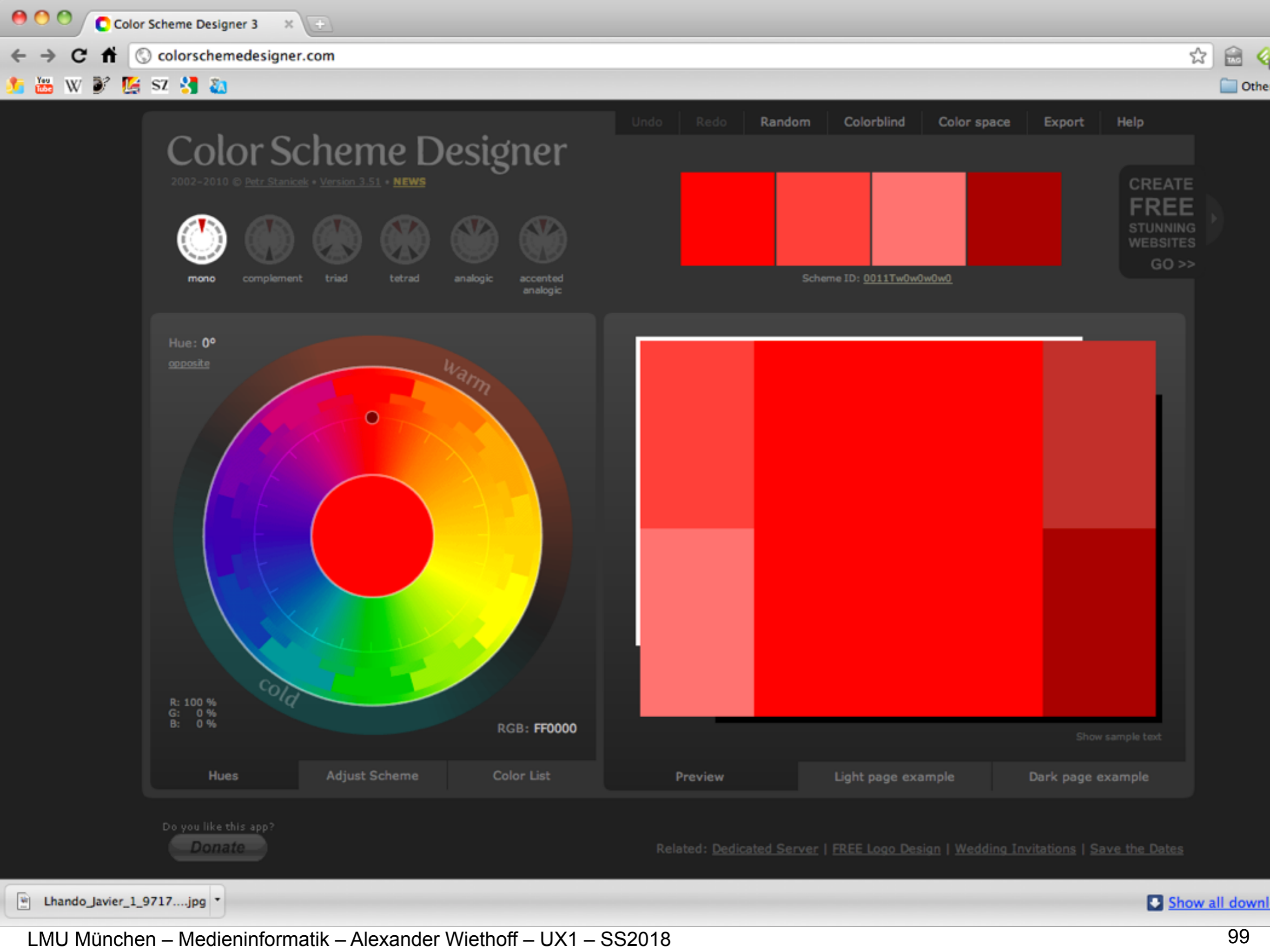
**huege**  
POSTED 2 MINUTES AGO

Lovely pattern Dawn! After a few minutes of looking at it, I realized she had a cigarette :)  
 American Women wrote:

**Smoking Lady**  
 by American Womer  
 3 LOVES 0 COMMENTS  
 Rank #137256  
 COLOURlovers.com

huege wrote:

*I love it! I don't know why, but to me this looks like the palette should on a package of cigarettes. I don't even smoke, but I love the palette so much that I think it's making me want to start smoking?!?!*



# Color Scheme Designer

2002-2010 © Petr Stanicek • Version 3.51 • [NEWS](#)



mono



complement



triad



tetrad



analogic



accented analogic

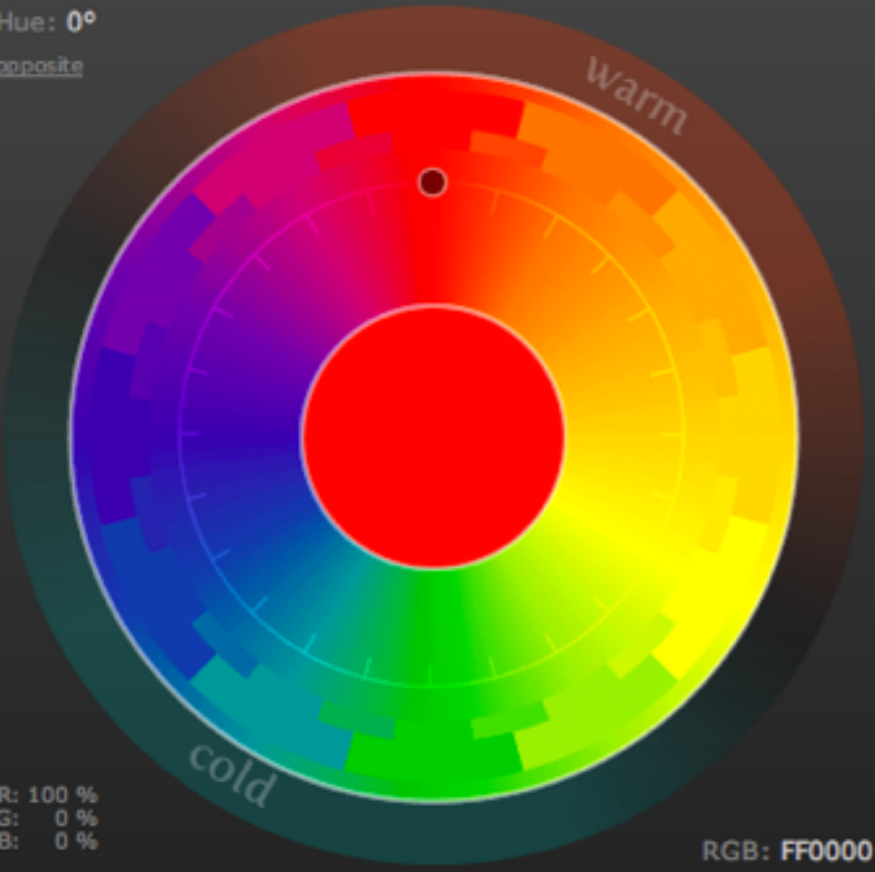


Scheme ID: [0011Tw0w0w0w0](#)

CREATE  
FREE  
STUNNING  
WEBSITES  
GO >>

Hue: 0°

[opposite](#)



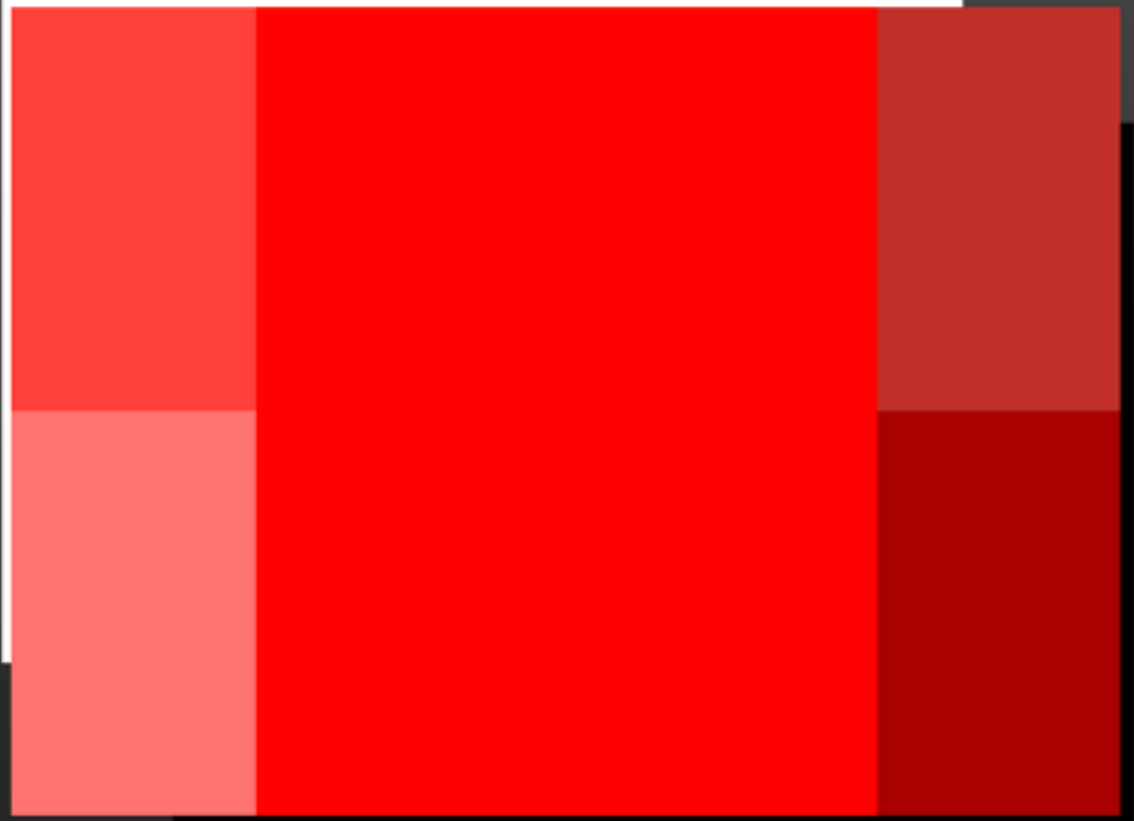
R: 100 %  
G: 0 %  
B: 0 %

RGB: FF0000

Hues

Adjust Scheme

Color List



Show sample text

Preview

Light page example

Dark page example

Do you like this app?

Donate

Related: [Dedicated Server](#) | [FREE Logo Design](#) | [Wedding Invitations](#) | [Save the Dates](#)

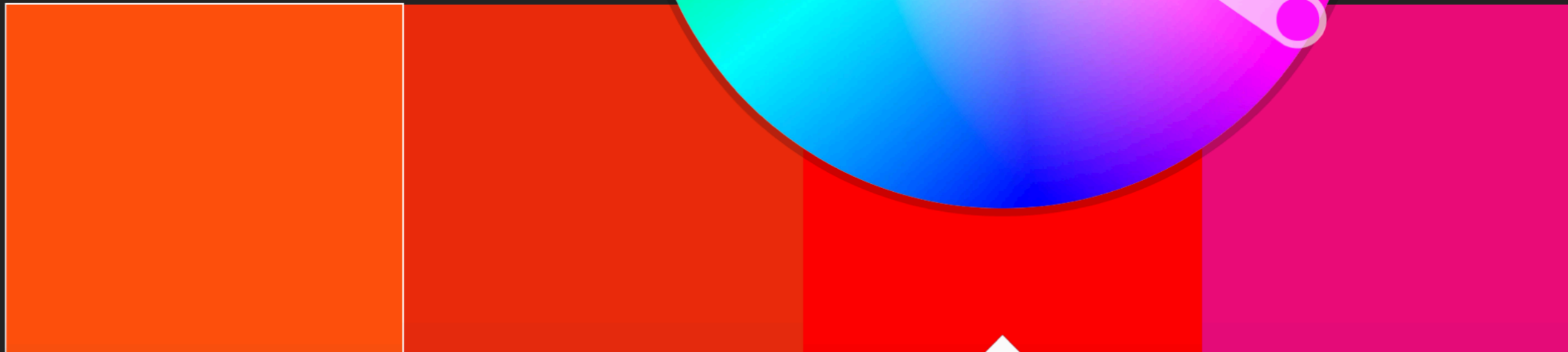
Lhando\_Javier\_1\_9717....jpg

Show all download

IMPORT IMAGE COLOR WHEEL

Change Color Harmony

Analogous



# Graphical User Interface Design

- Principles
- Layout, Typography, Color & Contrast
- Controls and Widgets
- Simplicity





Switch

<http://fbeleec.en.made-in-china.com/product/QeZnlxqKZikC/China-Switch.html>



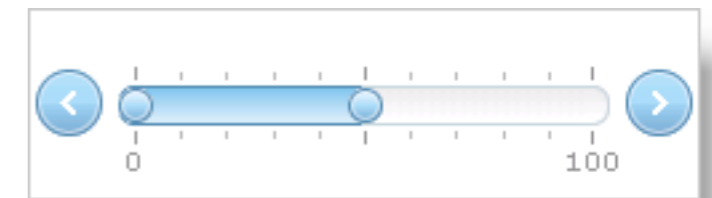
Button

[http://www.conrad.de/ce/de/product/701855/Vandalismusgeschuetzter-Taster-16-mm-mit-Ringbeleuchtung-48-VDC-2-A-GQ16F-10EJB12V-Loetpins-48-VDC-2-A/SHOP\\_AREA\\_17386&promotionareaSearchDetail=005](http://www.conrad.de/ce/de/product/701855/Vandalismusgeschuetzter-Taster-16-mm-mit-Ringbeleuchtung-48-VDC-2-A-GQ16F-10EJB12V-Loetpins-48-VDC-2-A/)



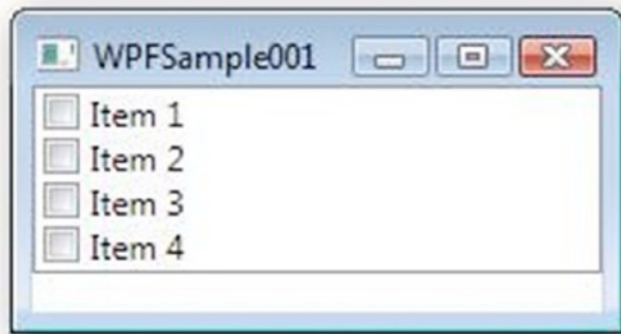
Dial

<http://www.conrad.de/ce/de/product/718295/Universal-Geraetknopf-mit-Skala-A-x-B-x-C-mm-23-x-37-x-233-Aluminium-eloxiert-Aluminium-eloxiert-Achs-Durchmesser/?ref=search>

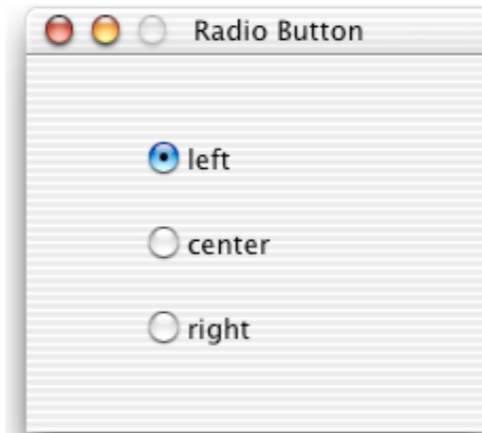


Slider

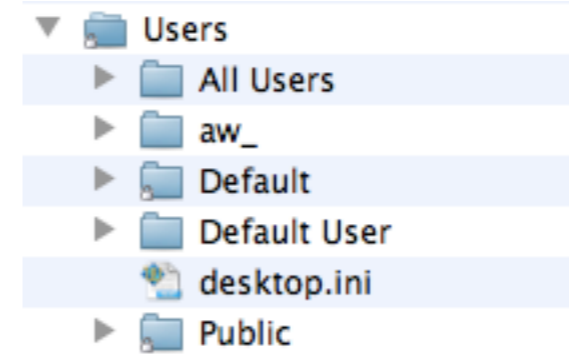
[http://help.infragistics.com/Help/NetAdvantage/ASPNET/2011.2/CLR4.0/html/images/Web\\_New\\_WebSlider\\_Control.png](http://help.infragistics.com/Help/NetAdvantage/ASPNET/2011.2/CLR4.0/html/images/Web_New_WebSlider_Control.png)



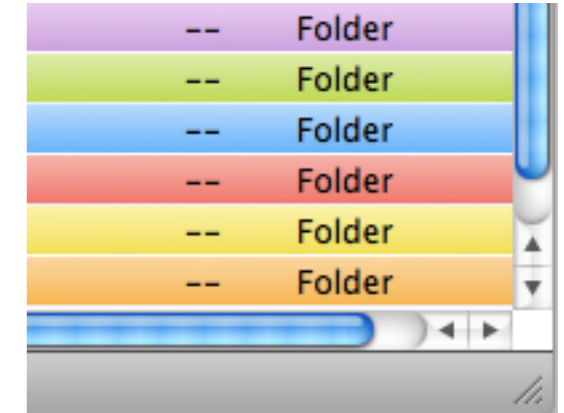
Checkbox



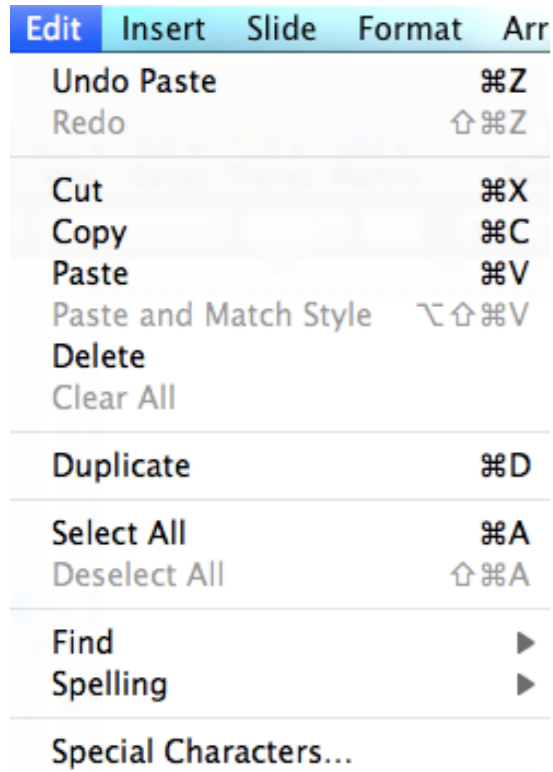
Radio Button



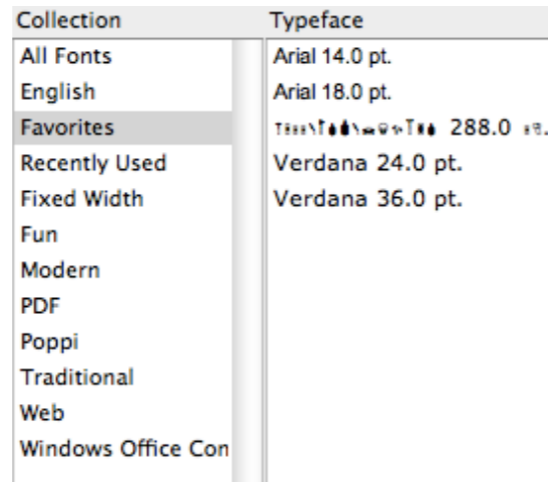
Twist



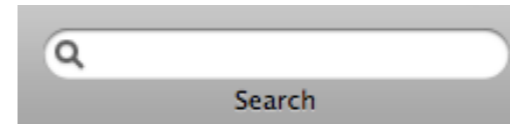
Scroll Bar



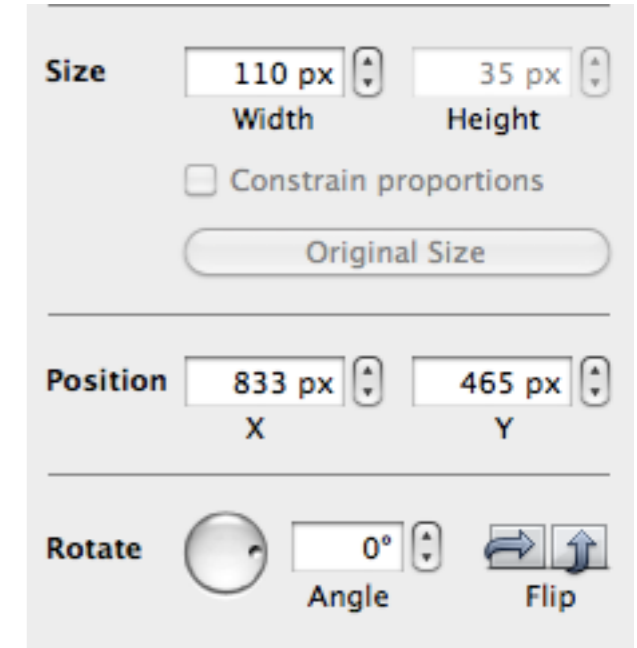
Drop-down menu



Multiple Selection List



Text Box



Spin Box





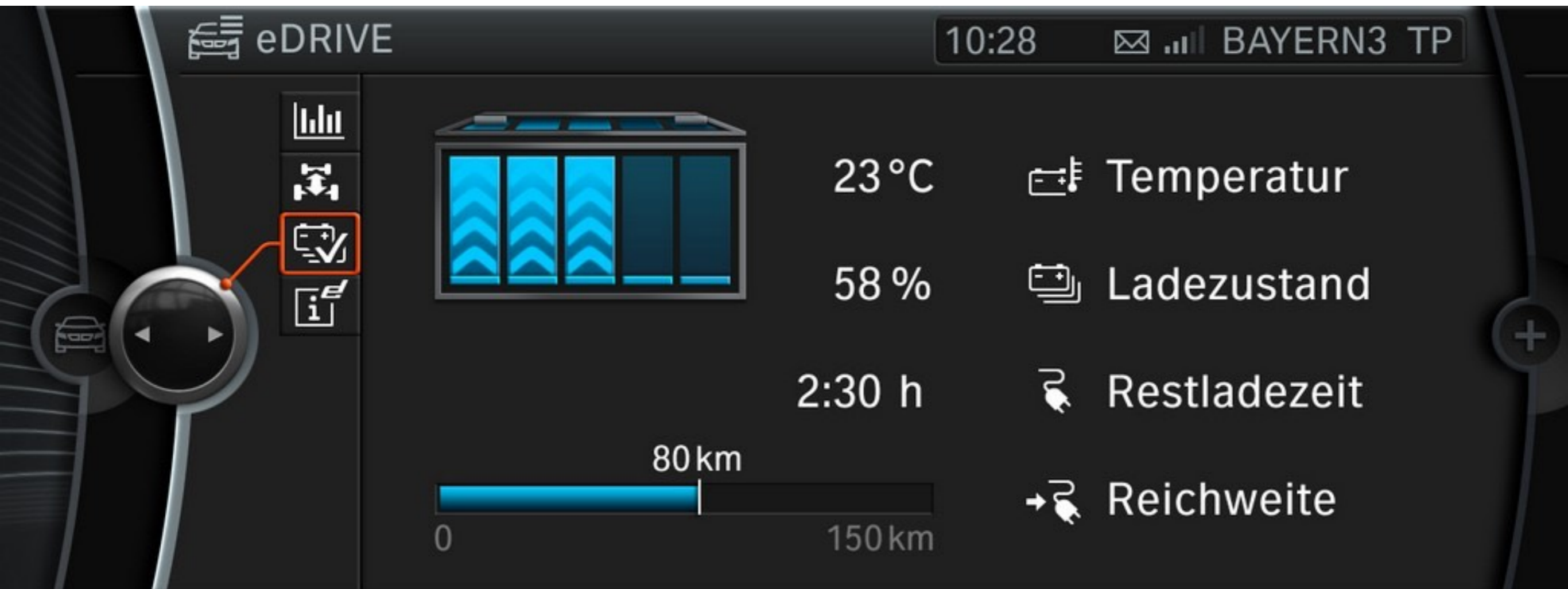
# Controls





# Controls





## Mapping of Representation and Control

# Graphical User Interface Design

- Principles
- Layout, Typography, Color & Contrast
- Controls and Widgets
- Simplicity



Simplicity



## Approachability

Simple designs can be rapidly apprehended and understood well enough to support immediate use or invite further exploration.





## Recognisability

Simple designs can be recognised more easily than their more elaborate counterparts. Because they present less visual information to the viewer, they are more easily assimilated, understood and remembered.



## Immediacy

Simple designs have a greater impact than complex designs, precisely because they can be immediately recognised and understood with a minimum of conscious effort.



## Usability

Improving the approachability and memorability of a product necessarily enhances usability as well. Simple designs that eliminate unnecessary variation or detail make the variation that remains more prominent and informative.

source : [2]

**Reduction** through successive refinement is the only path to simplicity



**Reduction** means that you eliminate whatever isn't necessary. This technique has three steps: (1) decide what essentially needs to be conveyed by the design; (2) critically examine every element (feature, label, UI widget, etc.) to decide whether it serves an essential purpose; (3) remove it if it isn't essential.

GRAPHIC  
DESIGN



**2D**

PRODUCT  
DESIGN



**3D**

+Z-axis  
(spatial depth)

INTERACTION  
DESIGN



**4D**

+T-axis  
(temporal dimension)

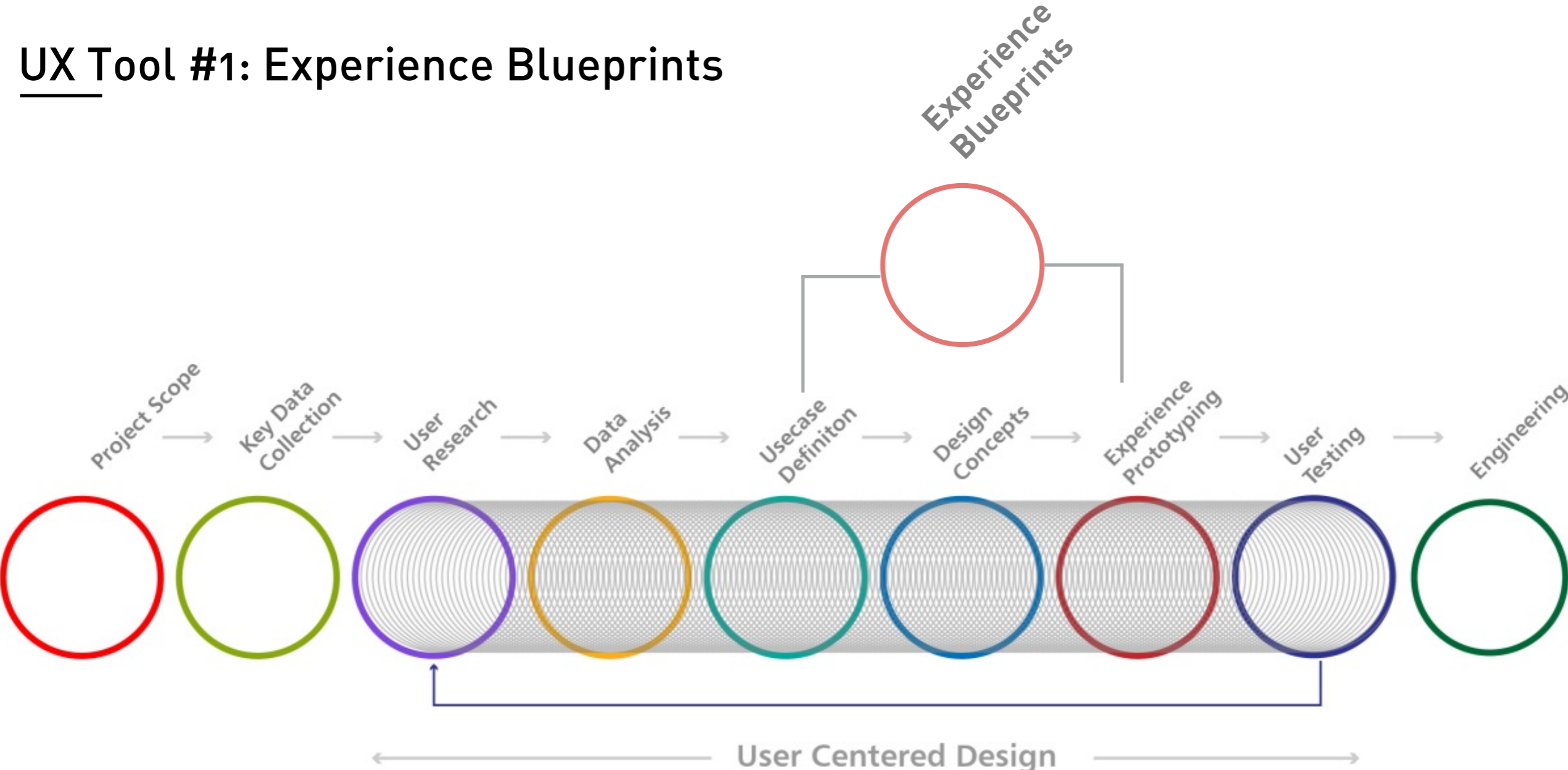
SERVICE  
DESIGN



**5D**

+W-axis  
(multi-local simultaneity)

# UX Tool #1: Experience Blueprints



# What is an Experience Blueprint?

An experience blueprint is a diagrammatic representation of the user journey that maps processes, touch points, people and support activities involved in creating the experience.

It helps in **visualising the correlation between the front stage (user end) and the back stage (provider end)**. It also helps to interconnect the tangible elements with intangible and deal with them more objectively.



# History and Use

Blueprinting services was pioneered by G. Lynn Shostack, former VP of Citibank, in the 1980's as a way to plan the cost and revenue associated with operating a service.

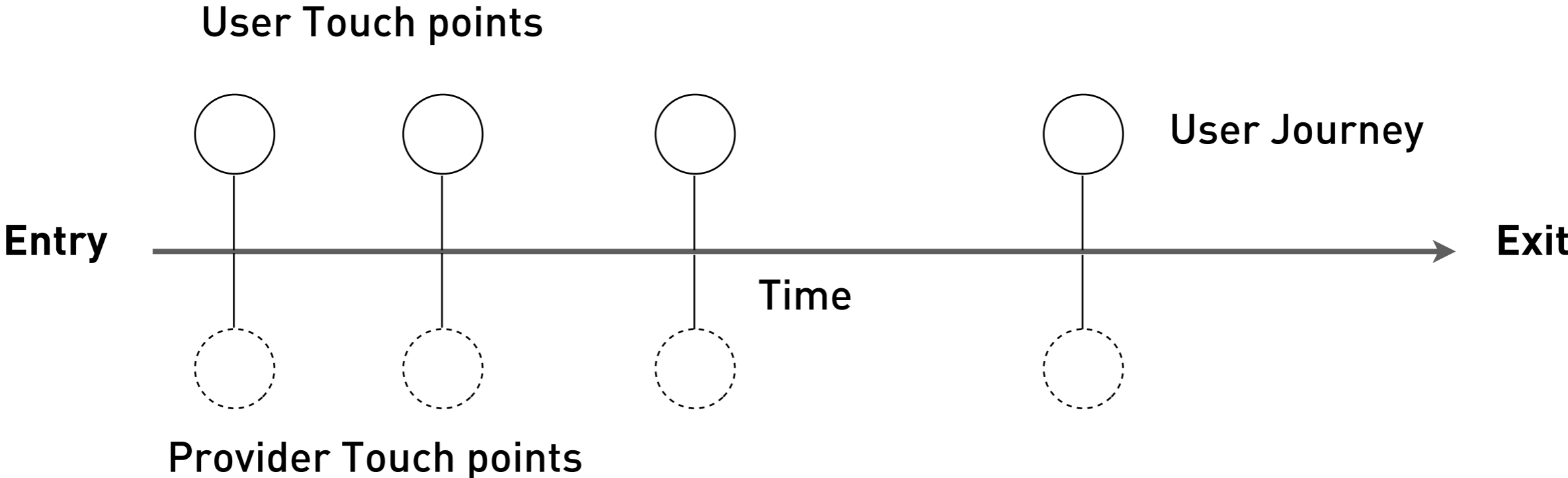
Ever since it has been **interpreted in many different ways** and used by many leading design and management consultancies.

# Definition

In the British Standard for Service Design (BS 7000 -3, BS 7000 -10, BS EN ISO 9000), blueprinting is described as the mapping out of a service journey identifying the processes that constitute the service, isolating possible fail points and establishing the time frame for the journey.

We interpret this in a much broader sense. We look at it as an experience blueprint which covers both the **service elements as well as the product interactions.**

# Front Stage



Support Processes

# Back Stage

**User Actions**



Line of interaction



**Touch Points**



Line of visibility



**Backstage activity**



Line of internal  
interaction



**Support process / Stake  
Holders**



USE CASES

USER ACTIONS

TOUCHPOINTS

BACKSTAGE

STAKEHOLDER

STAKEHOLDER 1

STAKEHOLDER 2

STAKEHOLDER 3

STAKEHOLDER 4

STAKEHOLDER 5

STAKEHOLDER 6

# UX Blueprint Template

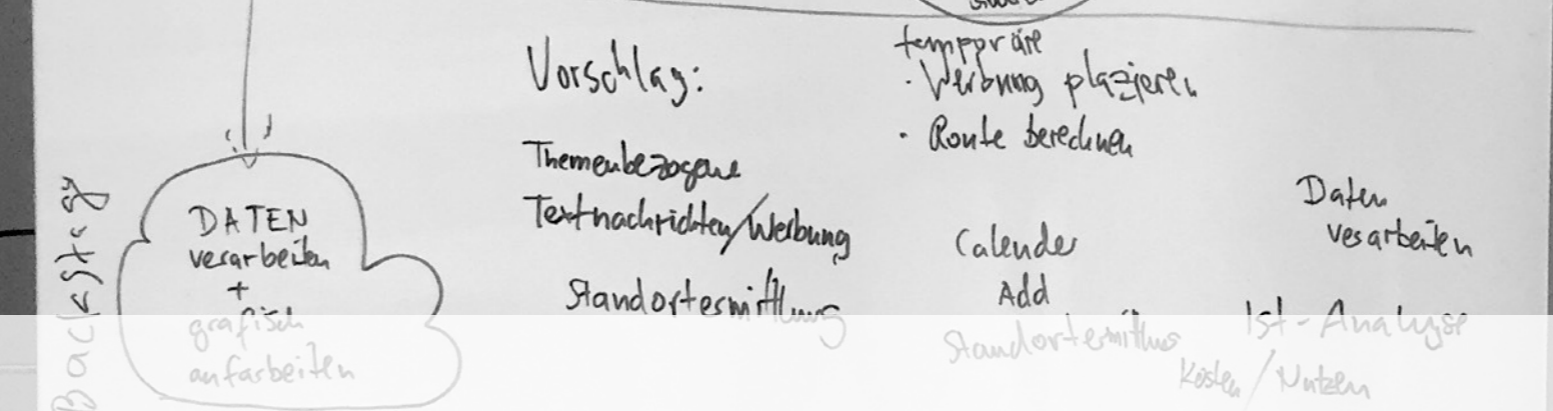
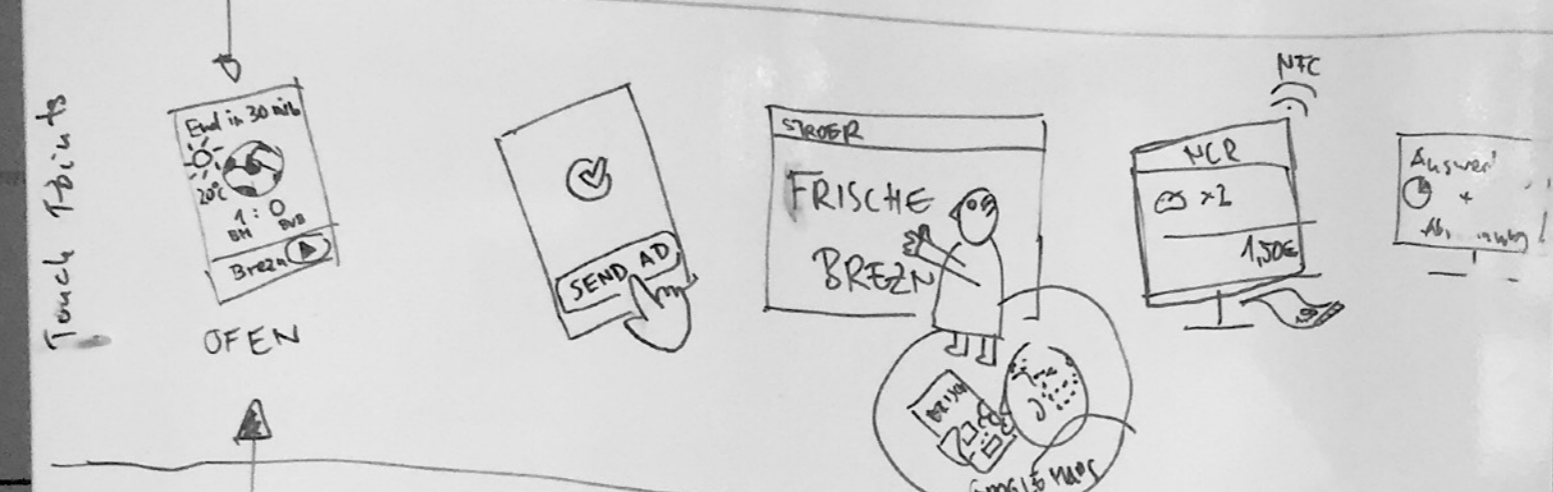
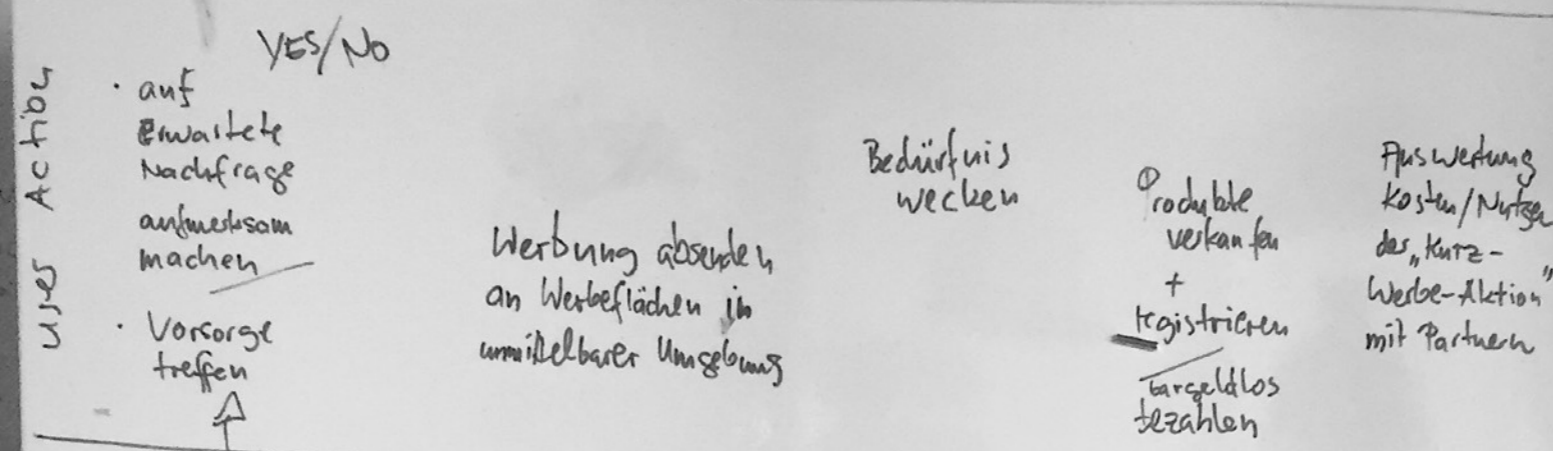


**Example: FoodSense® Connected Kitchen**

# Professional Foodservice Equipment







# Ideation: Sketching out Experience Blueprint(s)



# FOODSENSE®

USE CASES



USER ACTIONS

Reagieren auf Information zu Events

Ofen mit zusätzlichen Produkten bestücken

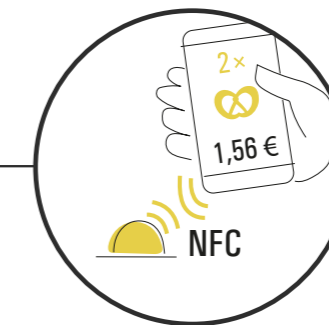
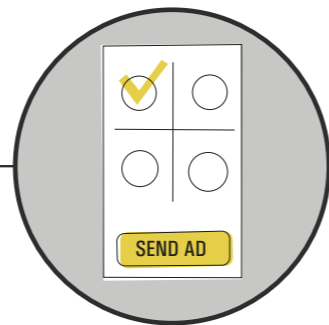
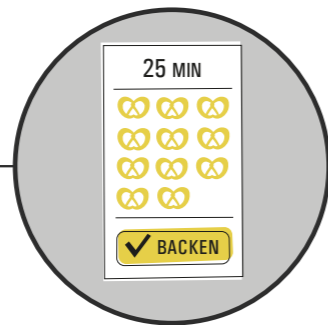
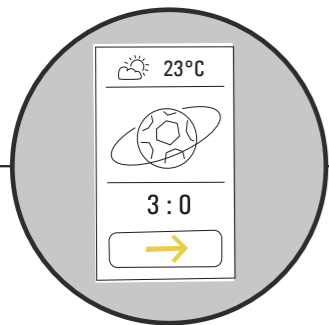
Werbung an digitale Werbeflächen in unmittelbarer Nähe senden (Guerilla-Kurzwerbeaktion/Promo-Aktionen)  
Sich über neue Events informieren

Information erfassen (Endkunde)  
vom Smartphone in den Shop leiten lassen (Endkunde)

Mit Eintrittskarte Rabatt erhalten (Endkunde)  
Produkte verkaufen und über das Kassensystem registrieren  
Bargeldlos bezahlen (z.B. per Smartphone / NFC)

Auswertung von Kosten und Nutzen der Kurzwerbe-Aktion mit Partnern  
Planung

TOUCHPOINTS



BACKSTAGE

Daten verarbeiten und Informationen bereitstellen  
Über erhöhte Nachfrage informieren  
Standortermittlung

Ofen vorheizen (automatisch)  
Rezepte vorschlagen (passend zu Event / Saison / Tageszeit / Wetter)

Werbetext generieren (passend zum Rezept / Backgut)  
Standortvorschläge digitaler City-Light-Poster  
Temporäre Werbung platzieren  
Neue Events anzeigen

Daten verarbeiten

Abrechnung  
Daten verarbeiten  
Umsätze / Werbekosten vergleichen

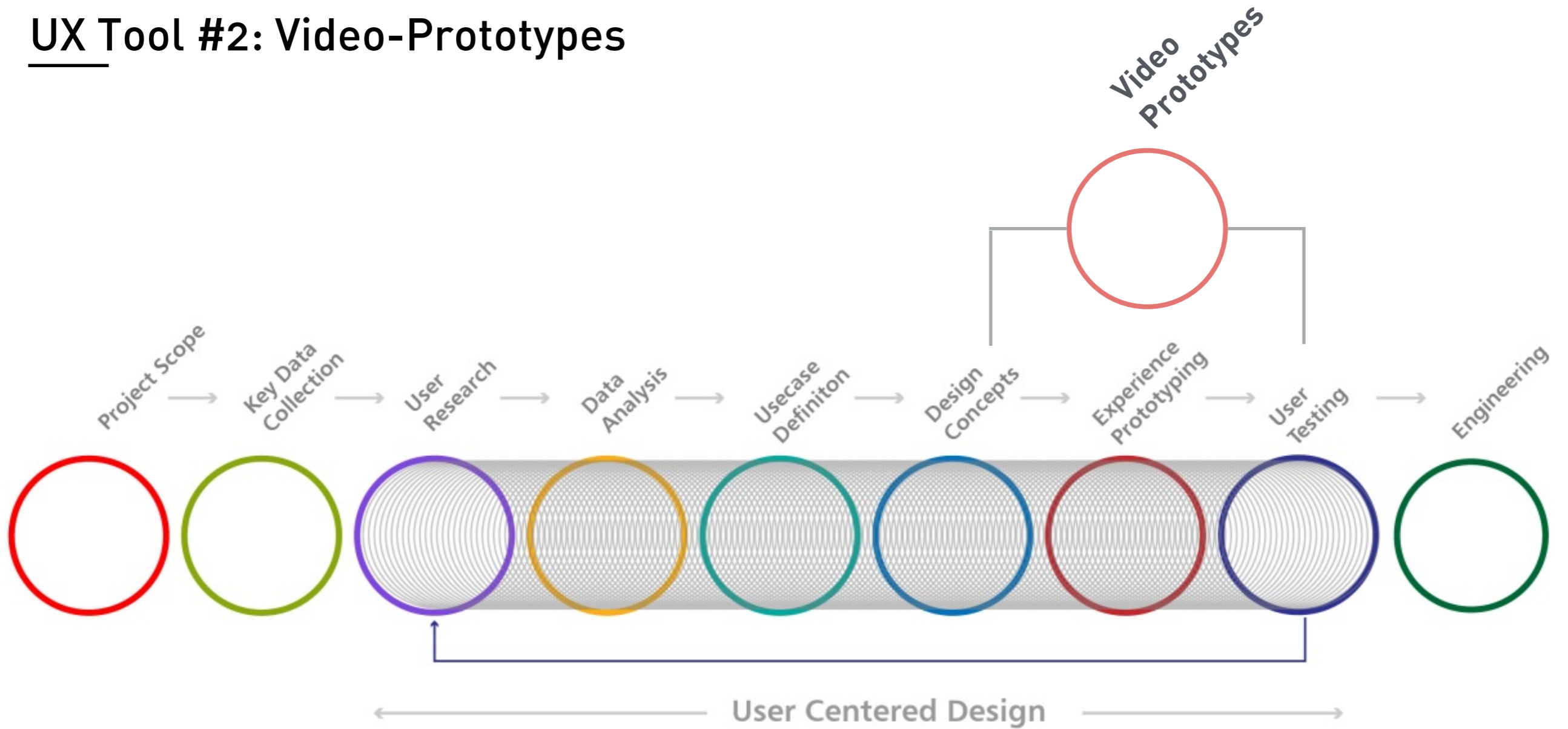
Daten verarbeiten und grafisch aufbereiten (Dashboard)  
Werbekosten („ABO Sekunden-Ad“) mit Partner abrechnen auf Grundlage der zusätzlich verkauften Produkte

STAKEHOLDER



# Selection: Refined Experience Blueprint

# UX Tool #2: Video-Prototypes





# Why Video-Prototypes ?

Representing complex relationships, new behaviours and attitudes are an integral part of user experience design.

These can be represented through many means including sketching and making physical prototypes.

However, capturing a journey **over time and at multiple locations** requires a linear medium like video.

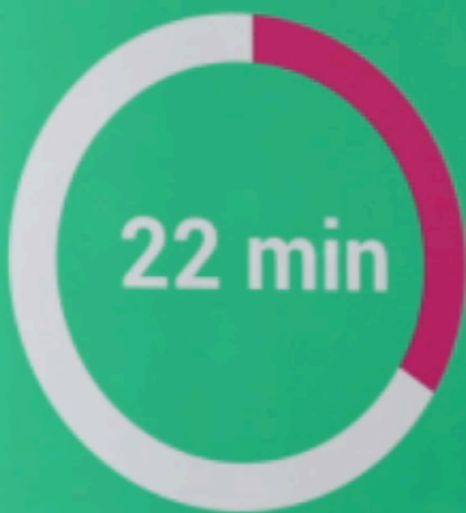
## **Example: 2 Video-Prototypes for IoT Kitchen Services**

The smartwatch display features a multi-colored interface with a gold top bar, a white middle bar, a green main area, and a pink bottom bar. The top bar contains a home icon, the time 21:30, and a close icon. The middle bar has a heart icon, a soccer ball icon with 3:0 below it, and a close icon. The green area displays a circular progress indicator with 22 min in the center. The white area below shows three person icons, an arrow, and 38 min. The pink bar at the bottom has a square icon.

21:30



3:0



22 min

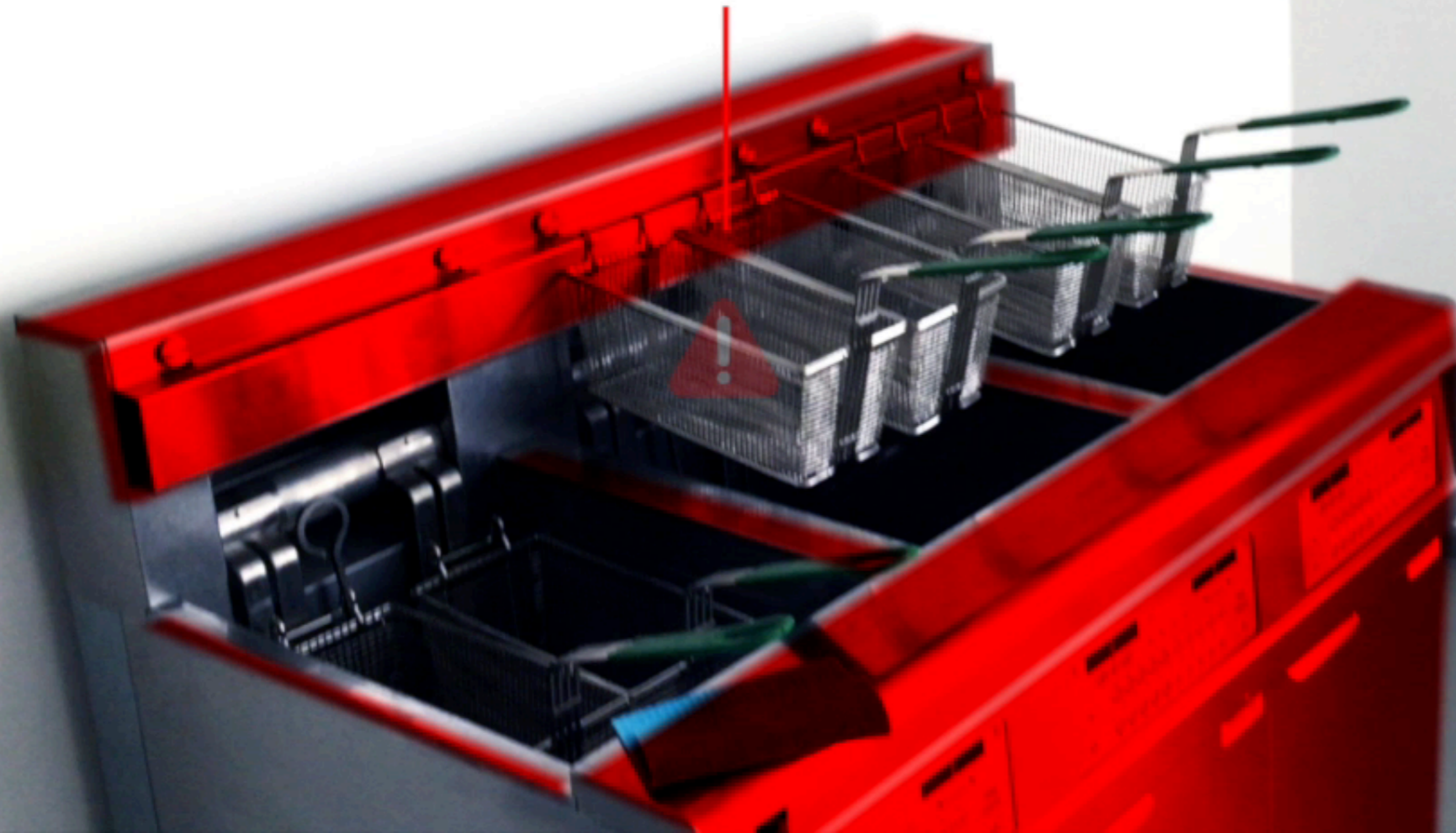


38 min



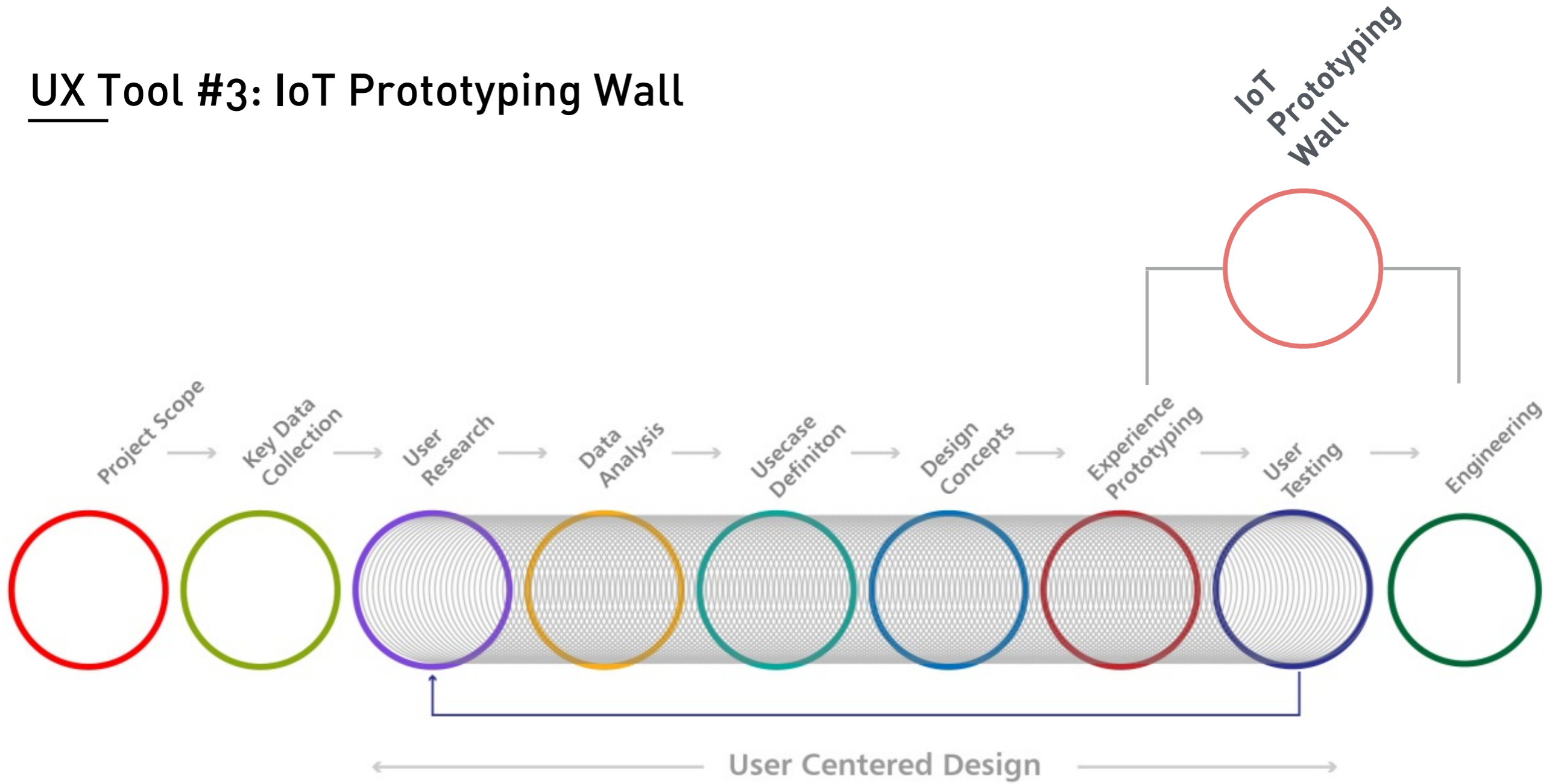
# WARNING CLEANING NEEDED!

Proceed to first cleaning step

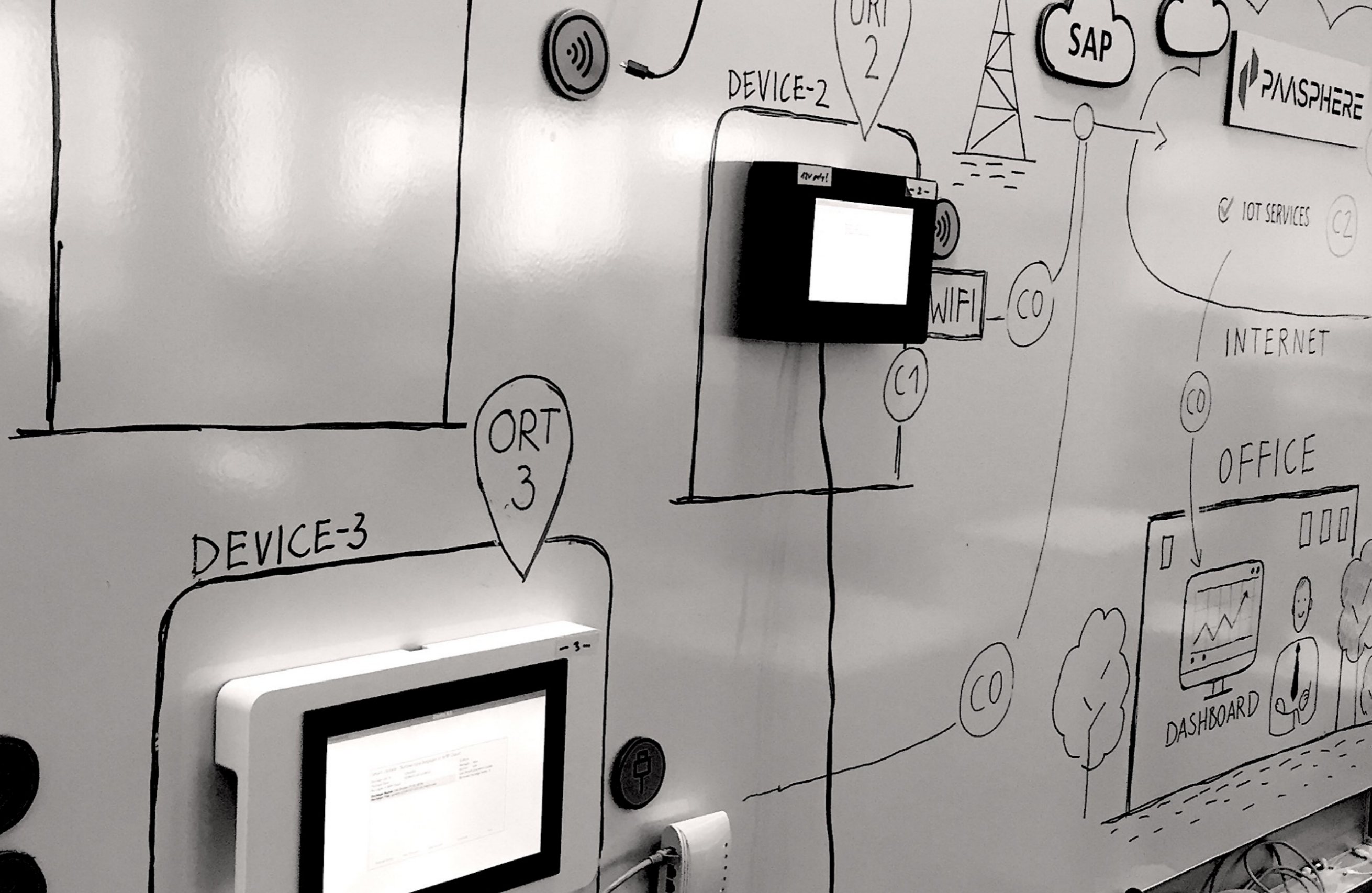




# UX Tool #3: IoT Prototyping Wall







Sketching in Technology: IoT Prototyping Wall

## References (Books):

- [1] Lidwell, W., Holden, K. and Butler, J. Universal Principles of Design, Revised and Updated: 125 Ways to Enhance Usability, Influence Perception, Increase Appeal, Make Better Design Decision, Second ed. *Rockport, 2010.*
- [2] Mullet K. and D. Sano, Designing Visual Interfaces: Communication Oriented Techniques, 1st ed. *Prentice Hall, 1994.*
- [3] Moggridge, B. Designing Interactions, *MIT Press, 2006.*
- [4] Saffer, D. Designing for Interaction, *New Riders 2009.*
- [5] Ouilhet, H. The soul of the new machine: A story about Android design, *UX LMU Talks 2011-12.*
- [6] Buxton, W. Sketching the User Experience, Elsevier 2007
- [7] Droste, M. Bauhaus, *Taschen 2010.*
- [8] Fiedler, J. & Feierabend, P. Bauhaus, *Könemann in der Tandem Verlags-GmbH 2005.*
- [9] Tidwell, J. Designing Interfaces, *Wiley and Sons Publishers 2010.*
- [10] Kapr, A. (1971). *Schriftkunst: geschichte, anatomie und schönheit der lateinischen buchstaben. Verlag der Kunst.*
- [11] Forssman, F., & De Jong, R. (2008). *Detailtypografie:[Nachschlagewerk für alle Fragen zu Schrift und Satz]. Schmidt.*
- [12] Clark, D. (1999). *Gestalt Theory.*