

Game Experience Design

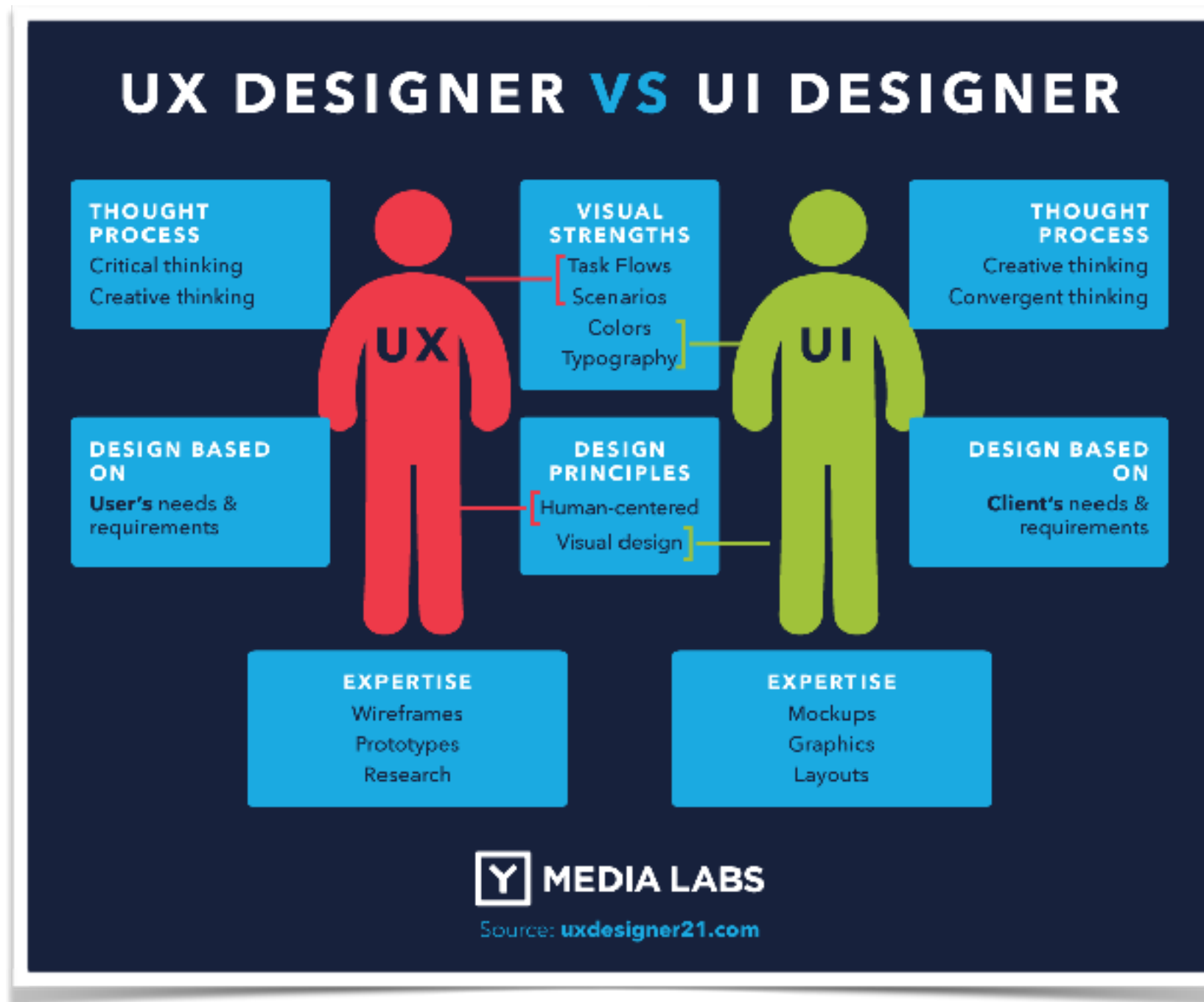
User Interface

Prof. Dr. Jochen Koubek

27. Juni 2017



UxD | GxD | UID



<https://ymedialabs.com/ux-vs-ui/>

Grundlagen



Vorlesung: Graphical User Interface

Widgets

Audiovisuelle, ludische, narrative,
performative Einbettung in das Spiel

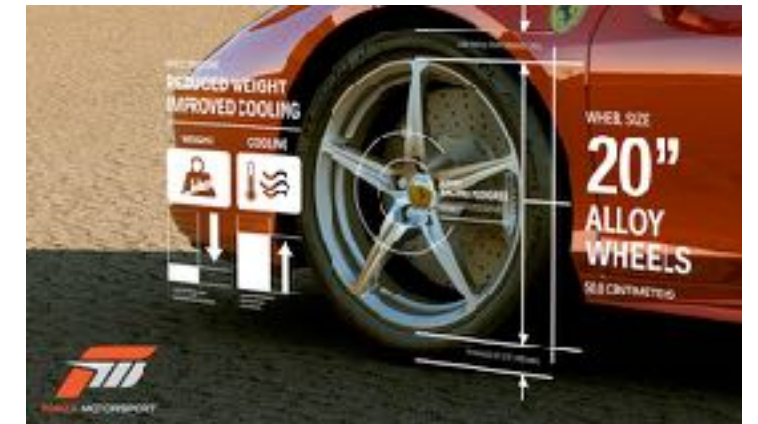
<https://medienwissenschaft.uni-bayreuth.de/wp-content/uploads/assets/Lehre/2016/GuA2016/Folien/13a-GUI.pdf>

GUI Taxonomie

Fagerholt, Lorentzon (2009): Beyond the HUD - User Interfaces for Increased Player Immersion in FPS Games



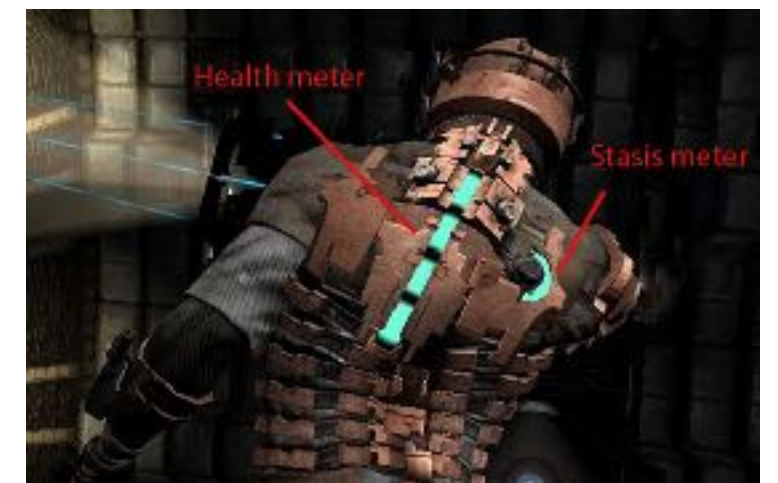
Mass Effect 3



Forza 4



Need for Speed: Hot Pursuit



Dead Space

http://www.gamasutra.com/view/feature/4286/game_ui_discoveries_what_players_.php?print=1

http://www.gamasutra.com/blogs/AnthonyStonehouse/20140227/211823/User_interface_design_in_video_games.php

Gute Beispiele

6 examples of UI design that every game developer should study

http://www.gamasutra.com/view/news/289637/6_examples_of_UI_design_that_every_game_developer_should_study.php



Spiral Menu in Beyond Good & Evil

<https://gamedevelopment.tutsplus.com/tutorials/game-ui-by-example-a-crash-course-in-the-good-and-the-bad--gamedev-3943>

Clash Royale



The key takeaway from Clash Royale's slick design is that information should be surfaced and as readily accessible as possible, and that it's no fun having to wait just to load one of a huge number of discrete menus.

Half-Life 2



Half Life 2 shows us that HUDs don't have to be afterthoughts, or an unfortunate necessity that detracts from a game's art. Instead, they can actually be additive (even beautiful). They also don't need to rely purely on visual elements to convey information.

Hearthstone



Integrating your HUD in a way that feels like an integral part of the game instead of an additional layer cluttering the screen lets players focus on the important stuff: gameplay.

Overwatch



The more information you can pack into a small area and still retain legibility, the better.

Assassin's Creed



Sometimes the mark of a strong design philosophy is how well a game plays with no HUD at all.

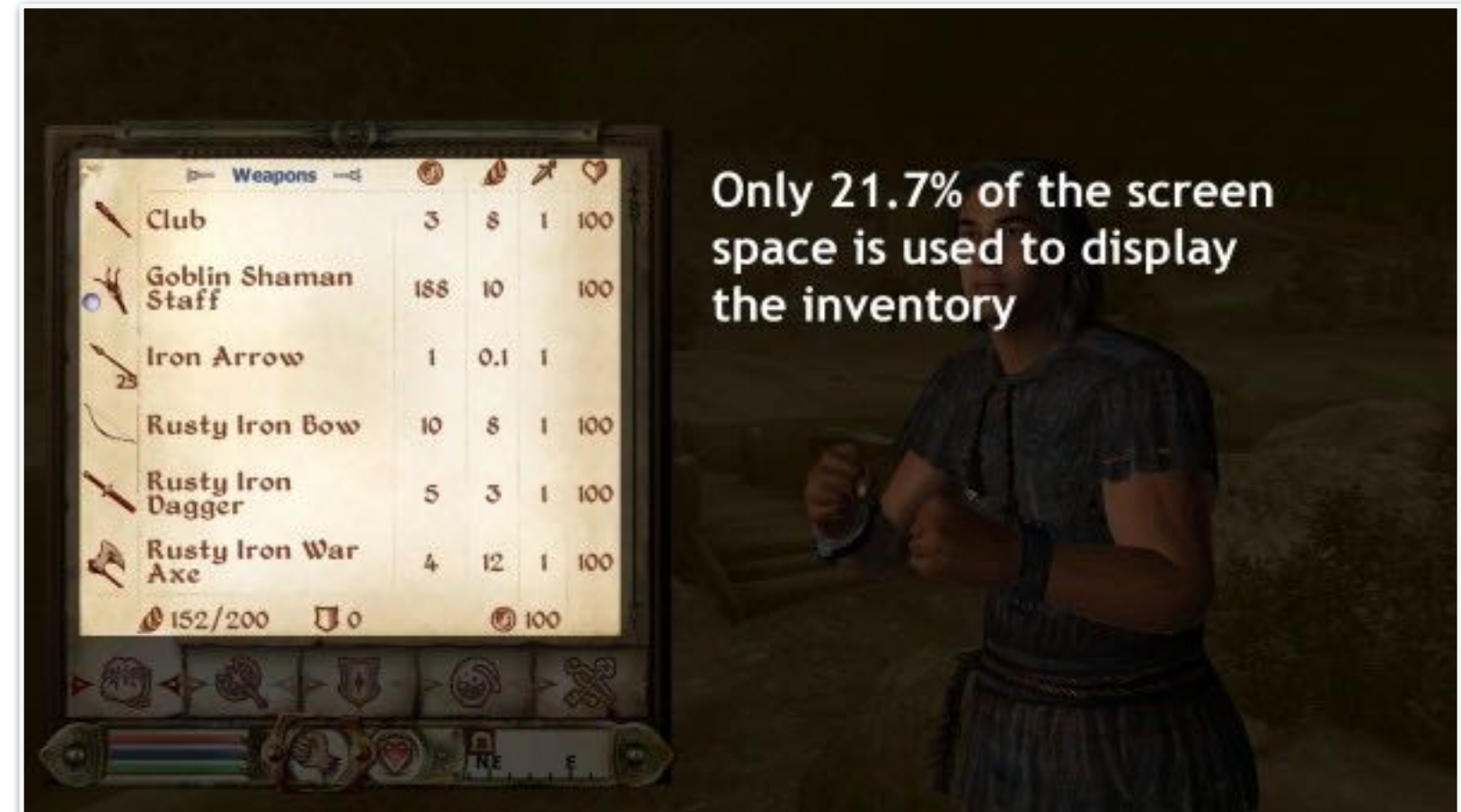
Dead Space



Dead Space teaches us that next-level design can be successfully integrated into something that other games treat as really banal and secondary. Done well, a HUD stops feeling like a HUD, and just feels like an intrinsic piece of the game world.

Schlechte Beispiele

<https://gamedevelopment.tutsplus.com/tutorials/game-ui-by-example-a-crash-course-in-the-good-and-the-bad--gamedev-3943>



Oblivion

I hope you're cool with viewing six items at a time; these windows aren't adjustable. The actual part of the menu that conveys the relevant information, such as the contents of your inventory, uses only 21.7% of the total screen space at a resolution of 1920x1080.

Mass Effect

<http://gamedesignreviews.com/reviews/mass-effect-interface-fail/>



Uh-oh! Complicated interface in Mass Effect. I have a bad feeling...



For the proper Mass Effect interface experience, try to take in all this in 4 seconds... while fighting alien cyber zombies.

UI Arten



Arktika

Menüs

Visualisierungen

HUD

Intradiegetische UI

Hybride Interfaces /
Second Screen



1 vs 0 0 0 0 0 04:24

FPS: 40

Recommended

All Items

trinity

All Items

Defense

- Health ☐
- Armor ☐
- Magic Resist ☐
- Health Regen ☐
- Tenacity ☐

Attack

- Damage ☐
- Critical Strike ☐
- Attack Speed ☐
- Life Steal ☐

Magic

- Ability Power ☐
- Cooldown Reduction ☐
- Spell Vamp ☐
- Mana ☐
- Mana Regen ☐

Movement

- Boots ☐
- Other Movement Items ☐

Consumables

Increases maximum health

Health Potion 35

Sight Ward 75

Vision Ward 125

Rejuvenation Bead 180

Faerie Charm 180

Crystalline Flask 225

Elixir of Fortitude 250

Elixir of Brilliance 250

Builds



Requires:



Ruby Crystal 475

+180 Health

BUY

SELL

Menüs

51 0 0.64 330 13 30 755

439 / 439 348 / 348



Visualisierungen





Tomb Raider



Batman



Last of Us



Shadow of Mordor



HUD

Ether Saga Online

Intradiegetische UI



Metro: Last Light

Hybride Interfaces



Dispositive

PC

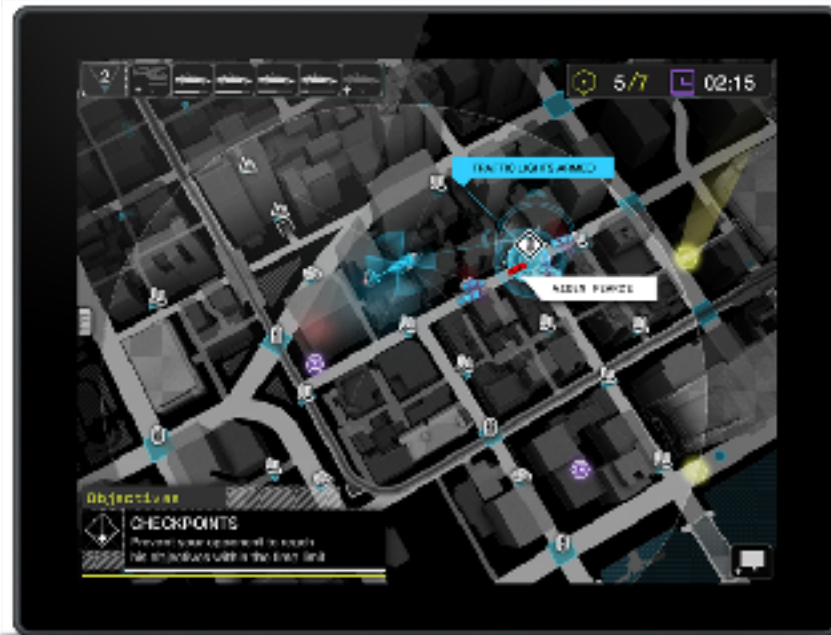
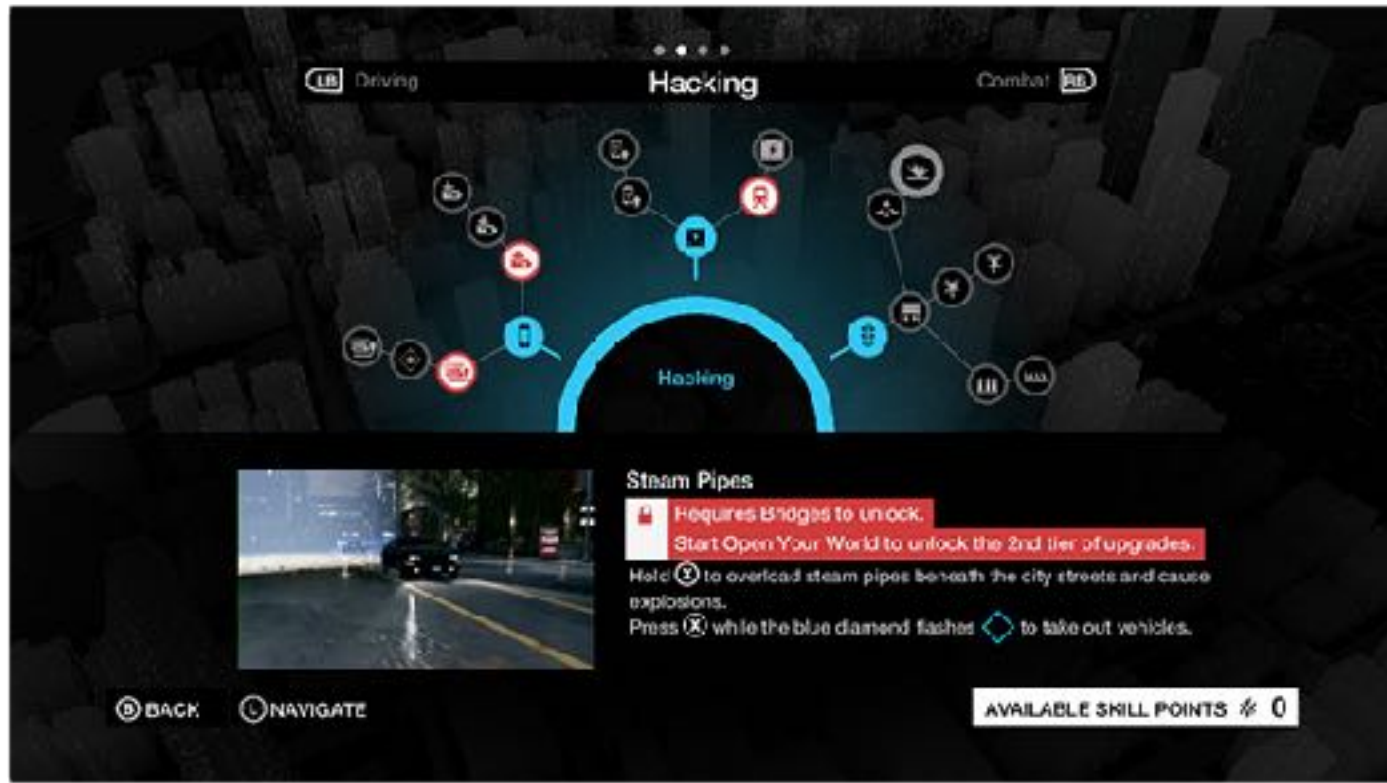
Konsole

Mobile

VR

AR

Watch Dogs



PC



Europa Universalis IV

Online / Browser



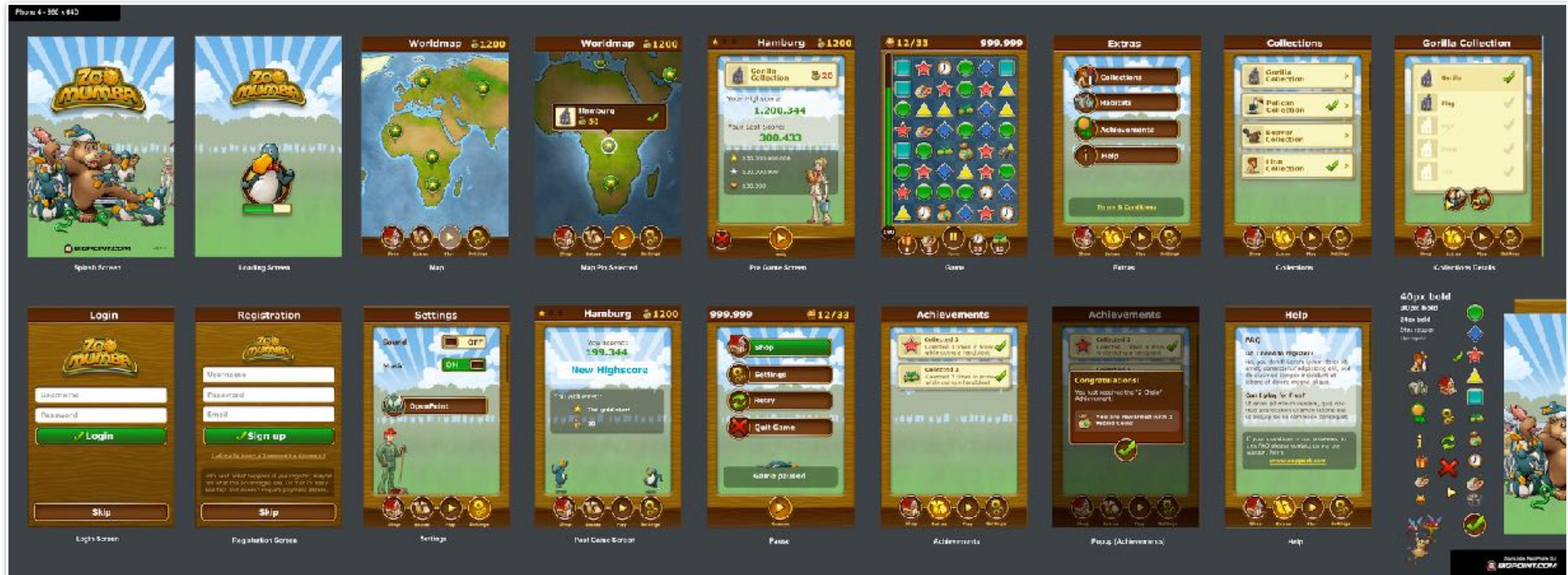
Zoo Mumba

Konsole



Dragon Age II

Mobile



Zoo Mumba für Android, iOS

VR



AR



Bedienung

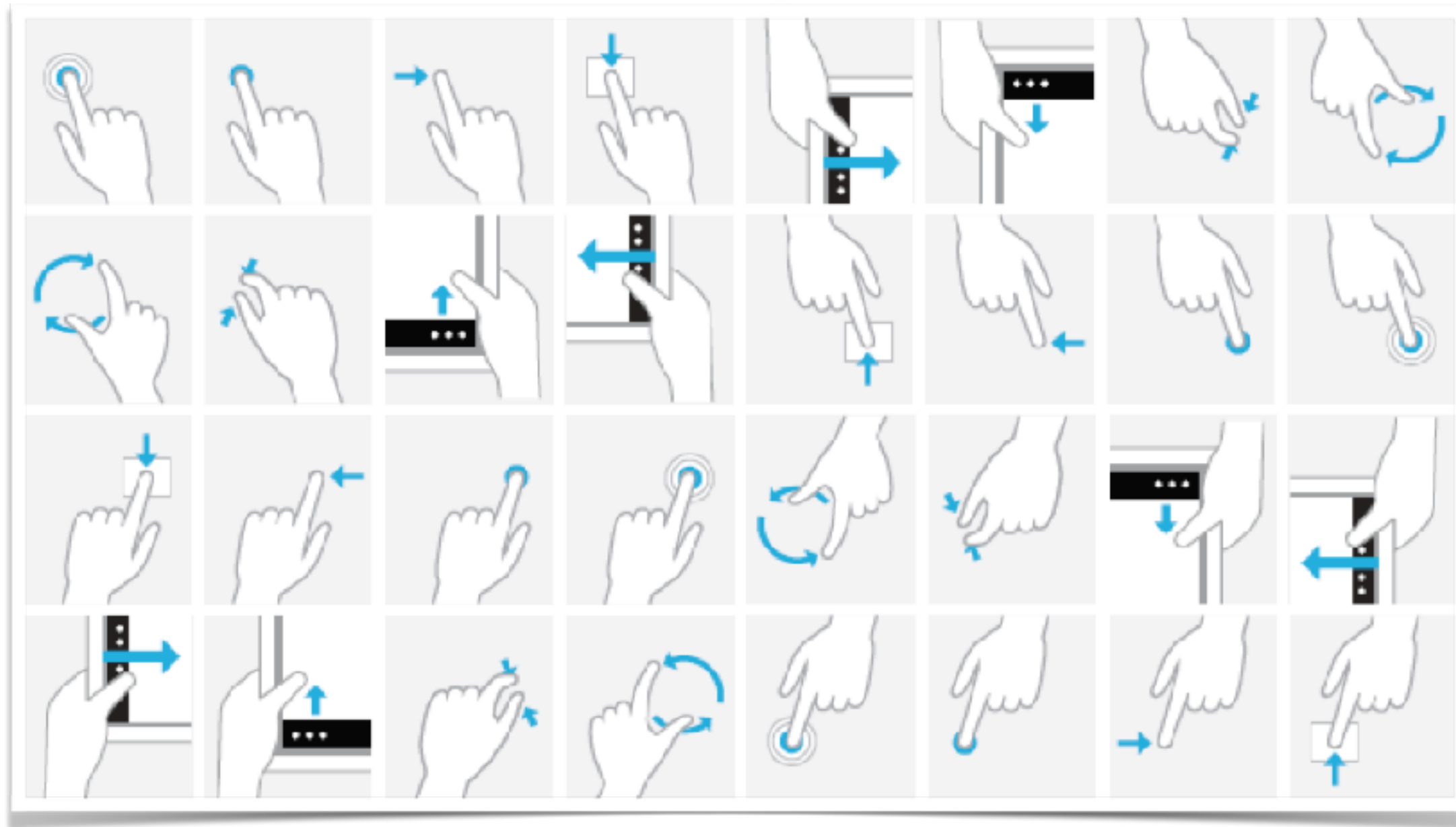


<http://history-computer.com/ModernComputer/Basis/mouse.html>

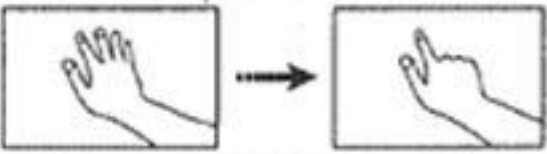
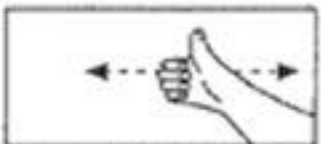
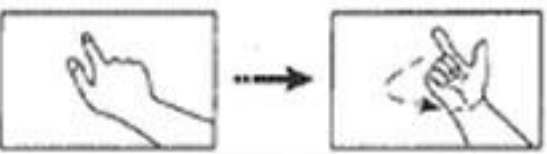
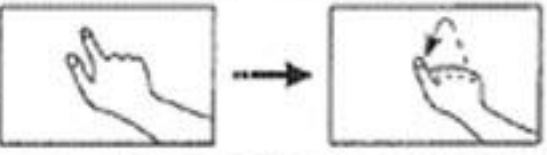
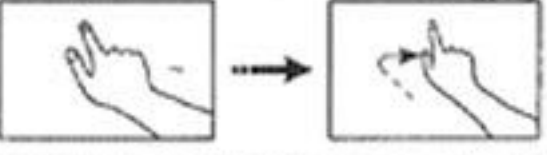
1967

Multi-Touch Gesten

<https://www.pinterest.de/soziotech/multi-touch-gestures/?lp=true>



Hand Gesten

1		POINTER ACTIVATION	ACTIVATE POINTER ON SCREEN
2		Z AXIS INTER-LAYER NAVIGATION	NAVIGATE BETWEEN LAYERS ALONG Z AXIS
3		VIRTUAL WORK SPACE NAVIGATION	NAVIGATE BETWEEN WORK SPACES ON IDENTICAL LAYER
4		OBJECT FLIP	FLIP OBJECT ON IDENTICAL LAYER
5		LEFT CLICK	PERFORM LEFT CLICK EVENT OF POINTER
6		RIGHT CLICK	PERFORM RIGHT CLICK EVENT OF POINTER

Mobile Hand Gestures

AR Gesten

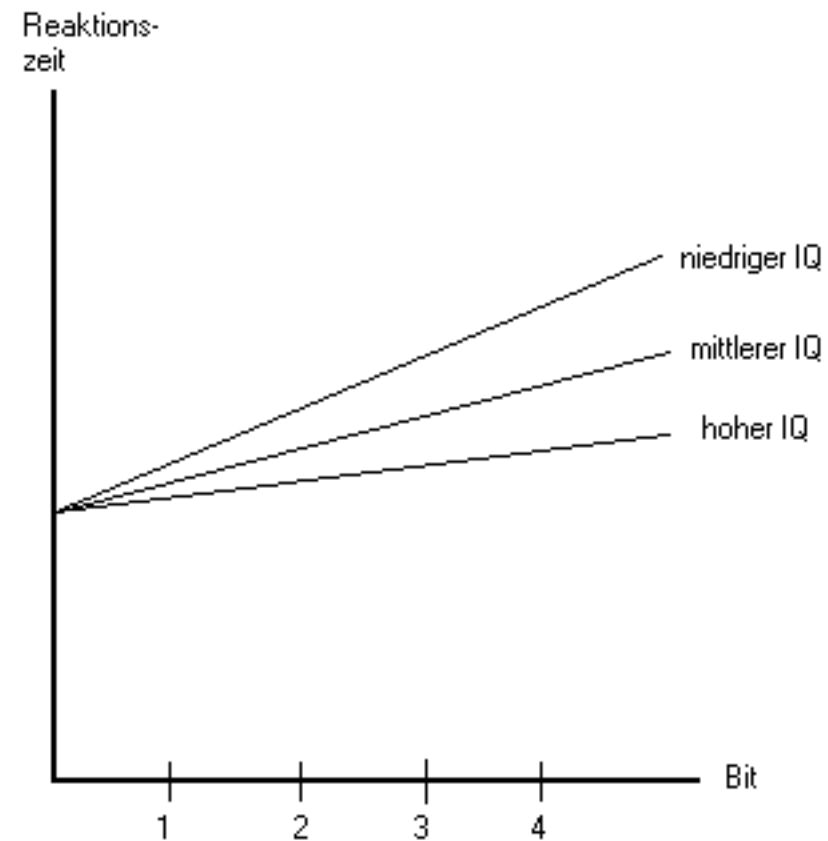


<https://www.youtube.com/watch?v=PJqbivkmOMs>

Hick's Law

Die Reaktionszeit steigt um ca. 150 ms für jede Verdopplung der Wahlmöglichkeiten.

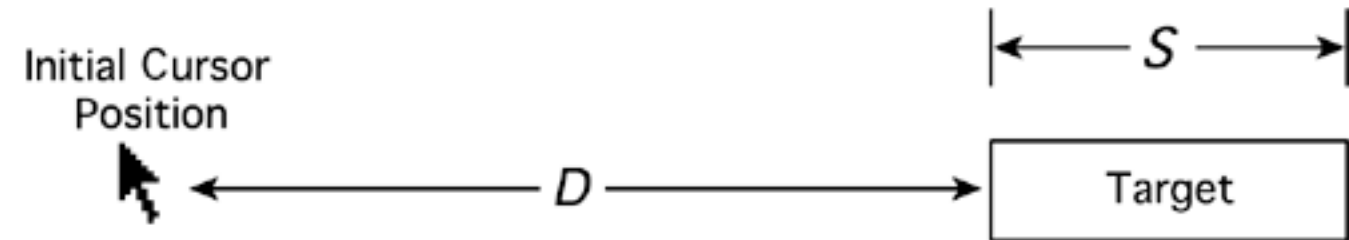
$$\text{Time (in msec)} = a + b \log_2 (n + 1)$$

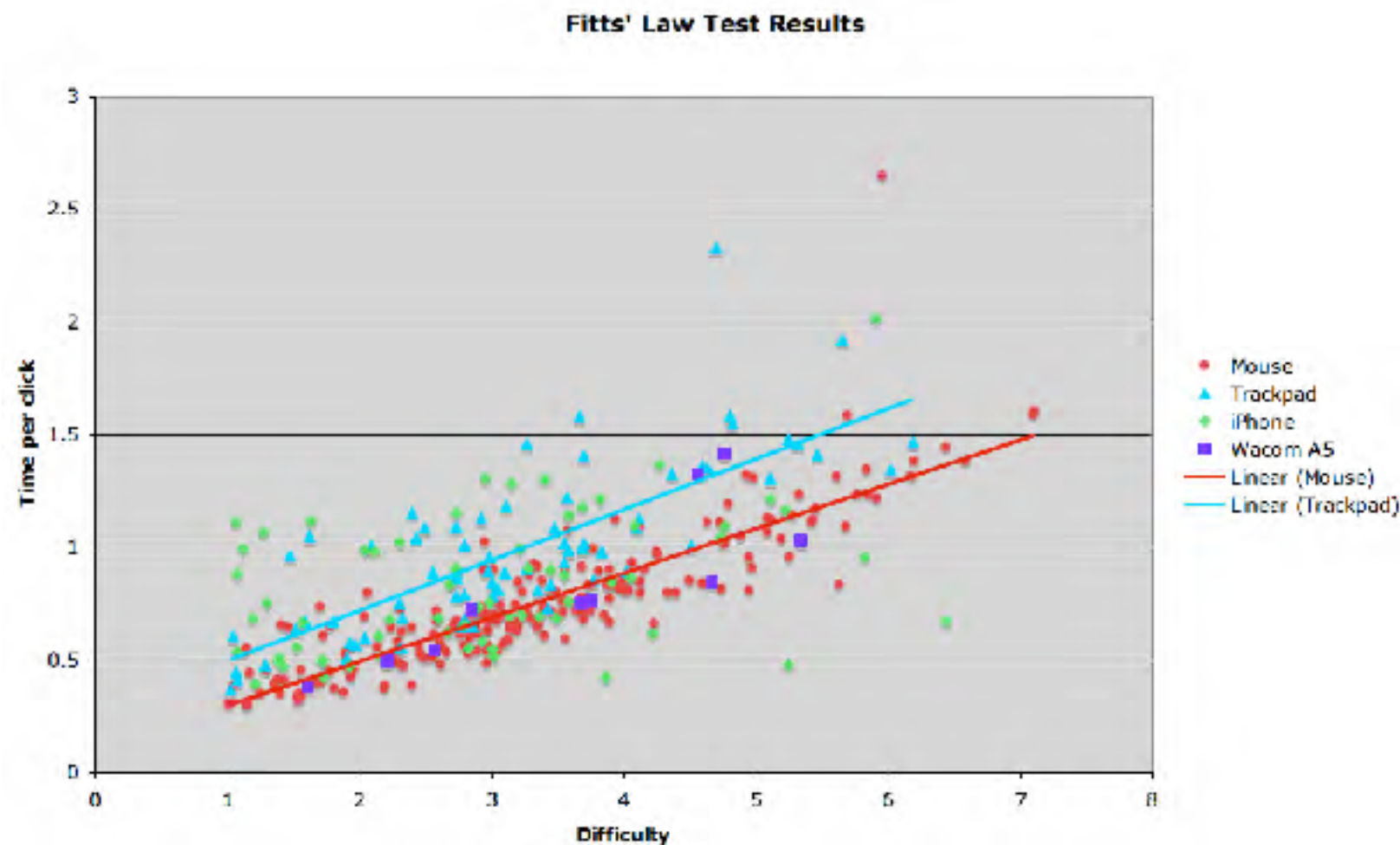
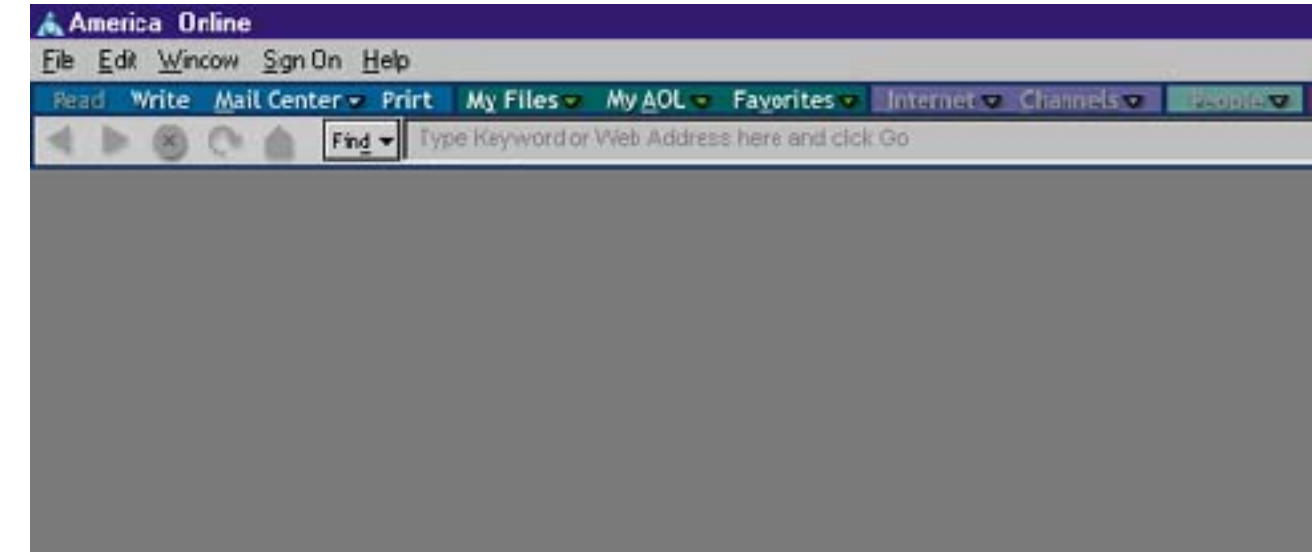


Fitt's Law

Die Zeit um ein Interfaceobjekt auszuwählen (Klicken, Drücken) hängt ab von der Entfernung zu dem Objekt sowie von dessen Größe.

$$\text{Time (in msec)} = a + b \log_2(D / S + 1)$$





Fitt's Law

Fitts' Gesetz sagt aus, dass die Pulldown-Menü-Umsetzung unter Macintosh fünfmal schneller ist als die Menü-Umsetzung unter Windows, und dies konnte nachgewiesen werden. Fitts' Gesetz sagt aus, dass die Windows-Taskleiste Benutzern dauerhaft und unnötig im Weg stehen wird, und dies konnte nachgewiesen werden. Fitts' Gesetz indiziert, dass die Punkte, auf die auf einem Computerbildschirm am häufigsten zugegriffen werden, (aufgrund ihres »stützenden« Verhaltens) die vier Ecken des Bildschirms sind, und dennoch scheinen sie von allen Designern um jeden Preis gemieden zu werden.

Visuelle Gestaltung

Beispiele

Pinterest

<https://www.pinterest.de/nerealism/game-ui>

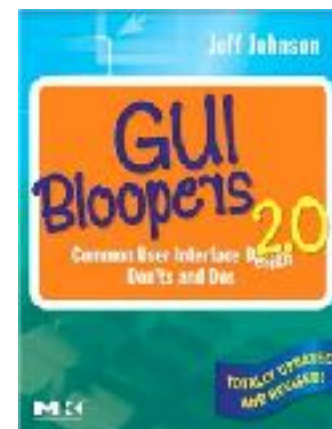
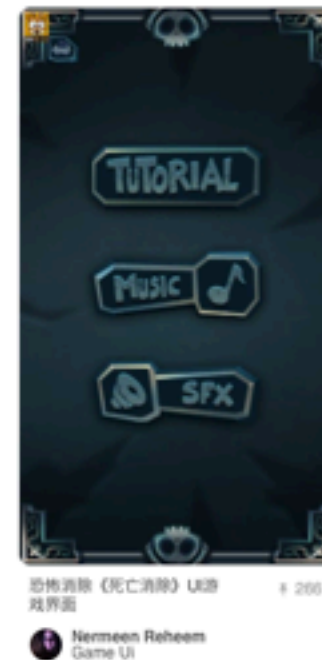
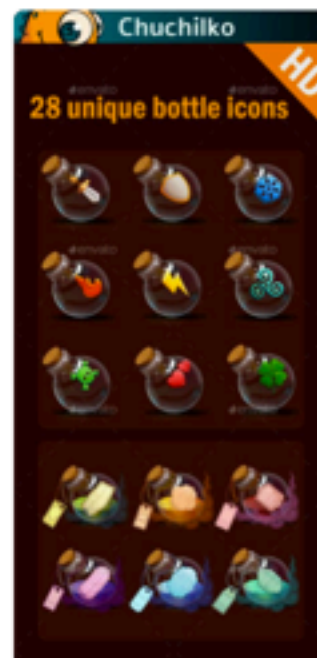
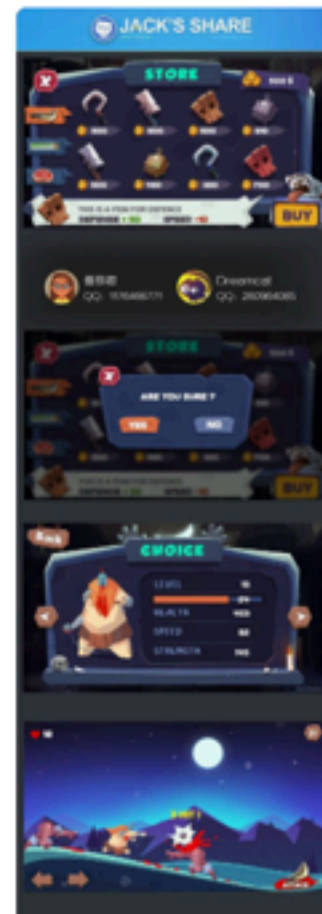
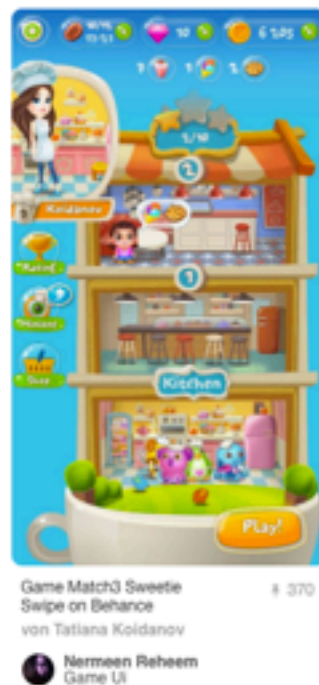
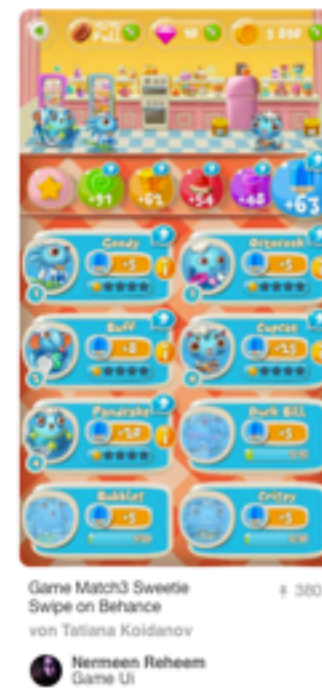
<https://www.pinterest.de/pin/285415695110525817/>

Games Inspirations

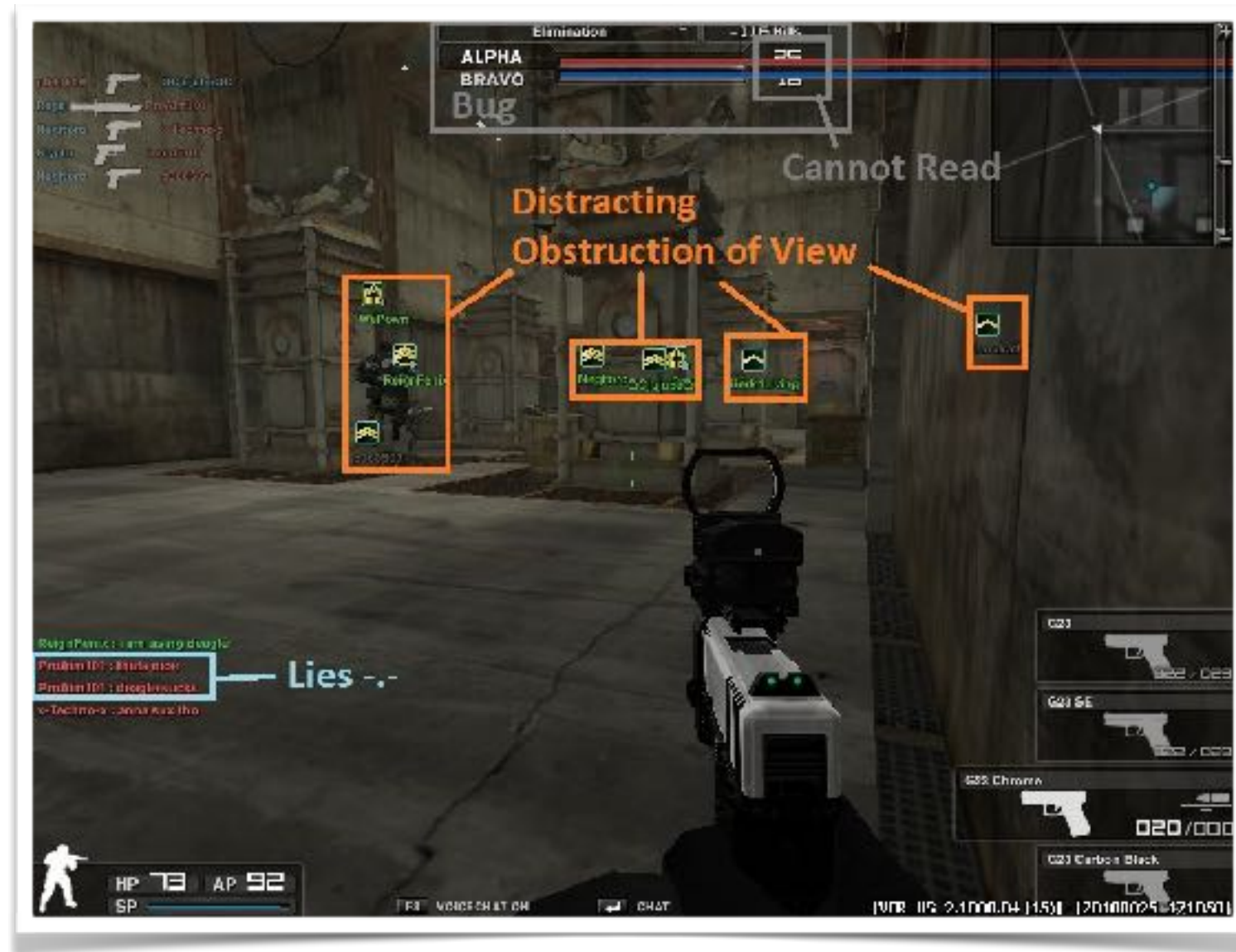
<http://gamesinspiration.com/>

GUI Bloopers

<http://web.cs.wpi.edu/~dcb/courses/CS3041/Blooper-examples.html>



Interaktionsdesign



Affordance

Visibility

Mapping

Konsistenz

Feedback

Mentale Modelle

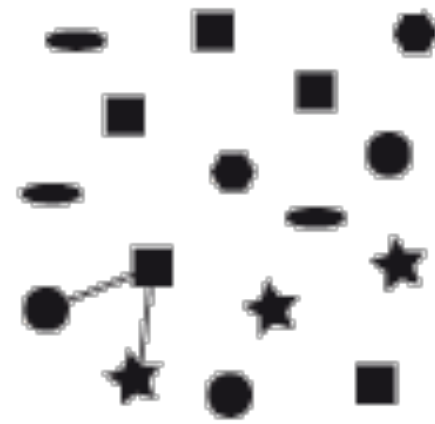
Gestaltgesetze



Ähnlichkeit



Nähe



Verbundenheit



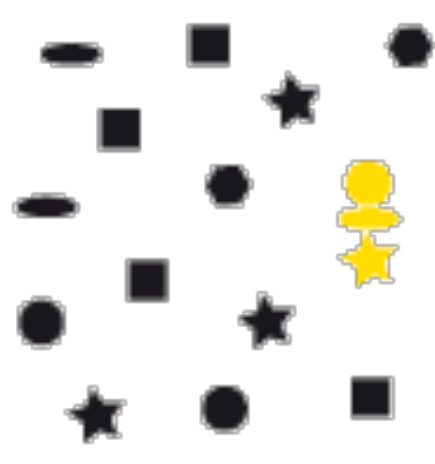
Geschlossenheit



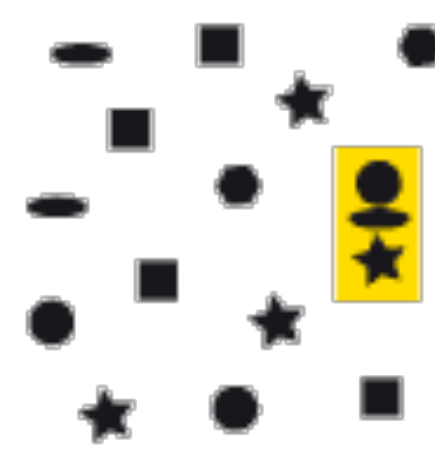
Gesetz der Erfahrung



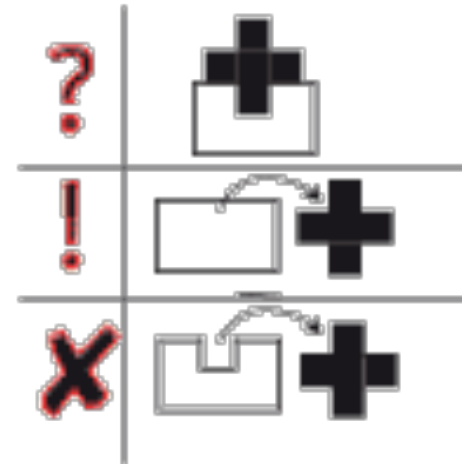
Figur und Grund:
Rubins Vase



Nähe und Ähnlichkeit



Nähe und
Verbundenheit

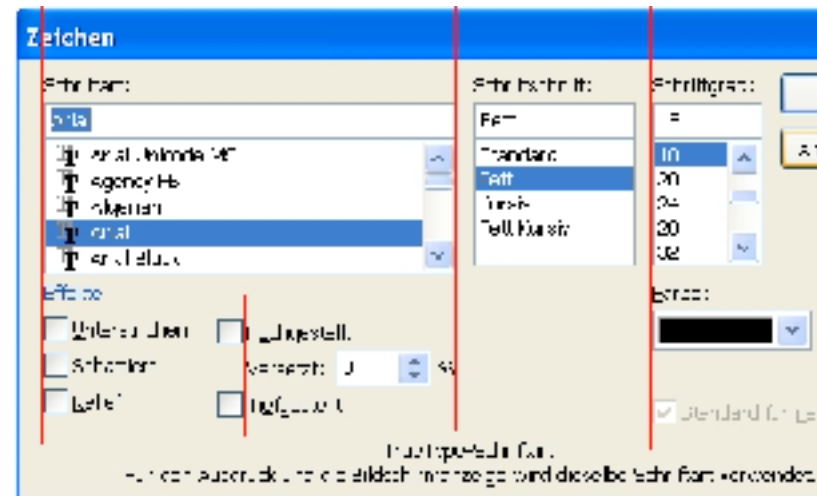
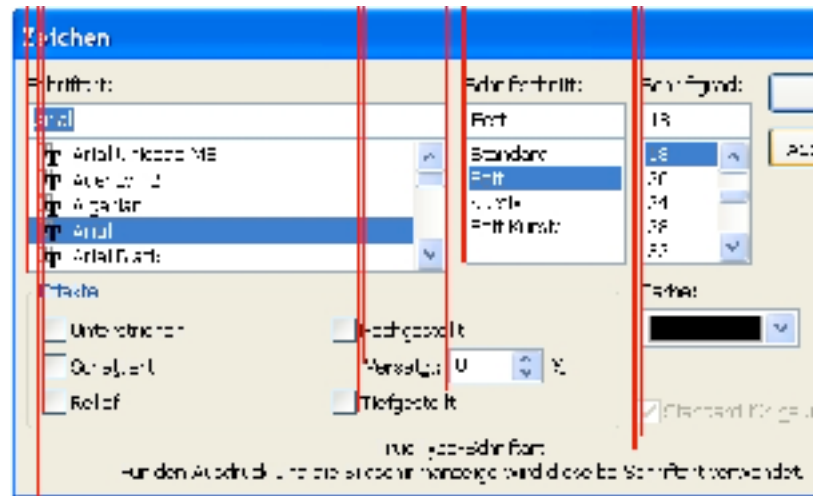


Beste Kontinuität



Gesetz des gemein-
samen Schicksals

Fluchtlinien



http://www.ergo-online.de/site.aspx?url=html/software/ergonomische_masken_und_dialo/fluchtlinien_und_abstaende.htm

Die Reduktion der Fluchtlinien schafft visuelle Ruhe und unterstützt die Orientierung.

Repeat: **Weekly** Until: **4/21/99**

10:18 PM

Personal Ledger

Amount \$:

USD

Credit (Money You lent)

Debit (Money You owe)

Transaction Type :

Transaction With :

John Doe

Date

Time

February-21-2009 | 22:38

Short Description :

Notes :

Optional

Save Transaction

Discard Changes

Blicksteuerung

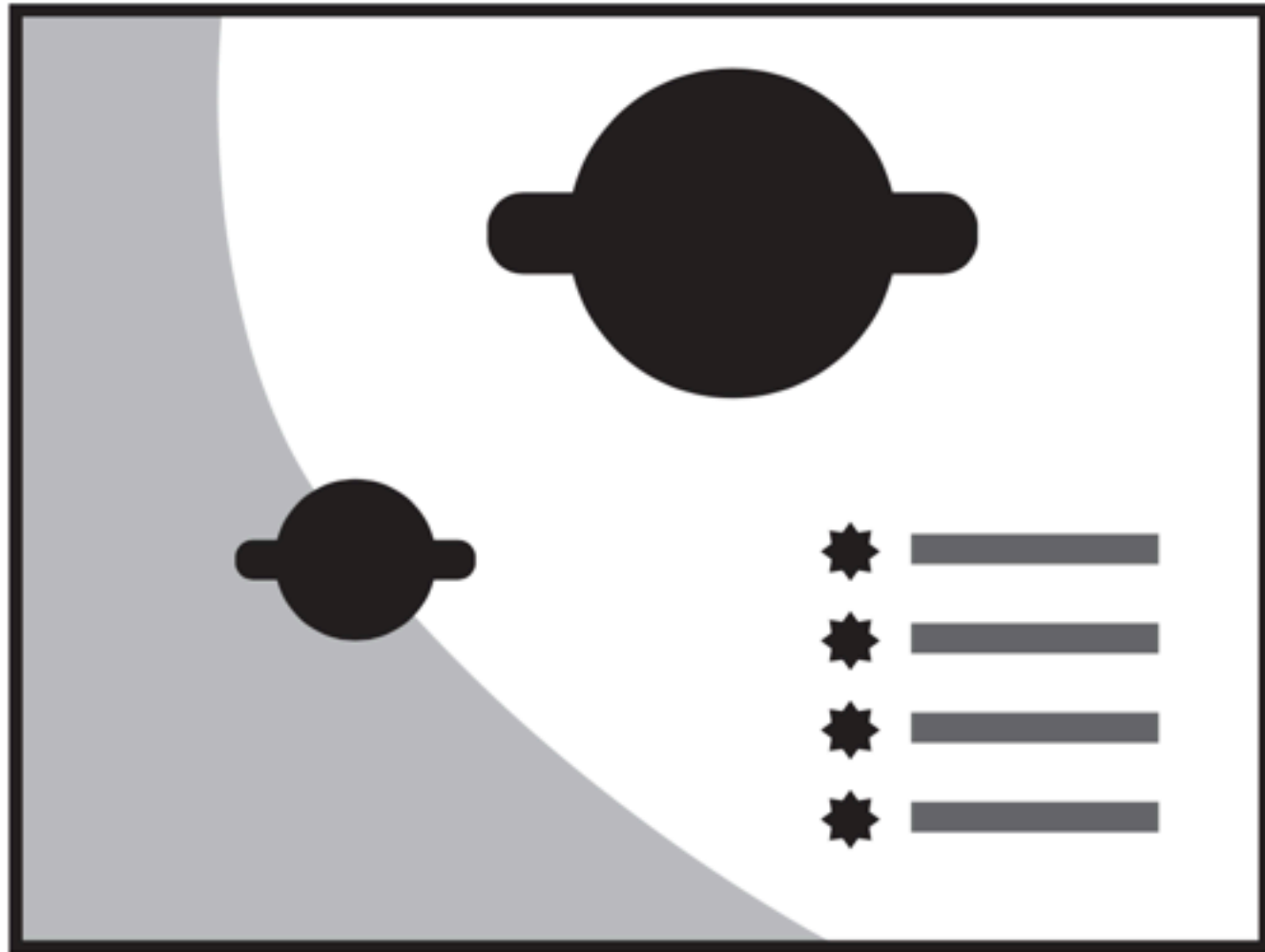


Figure 4.19 The eye movement starts at the large shape, moves to the medium shape, and then the curved line draws the eye to the shapes in the bottom-right.

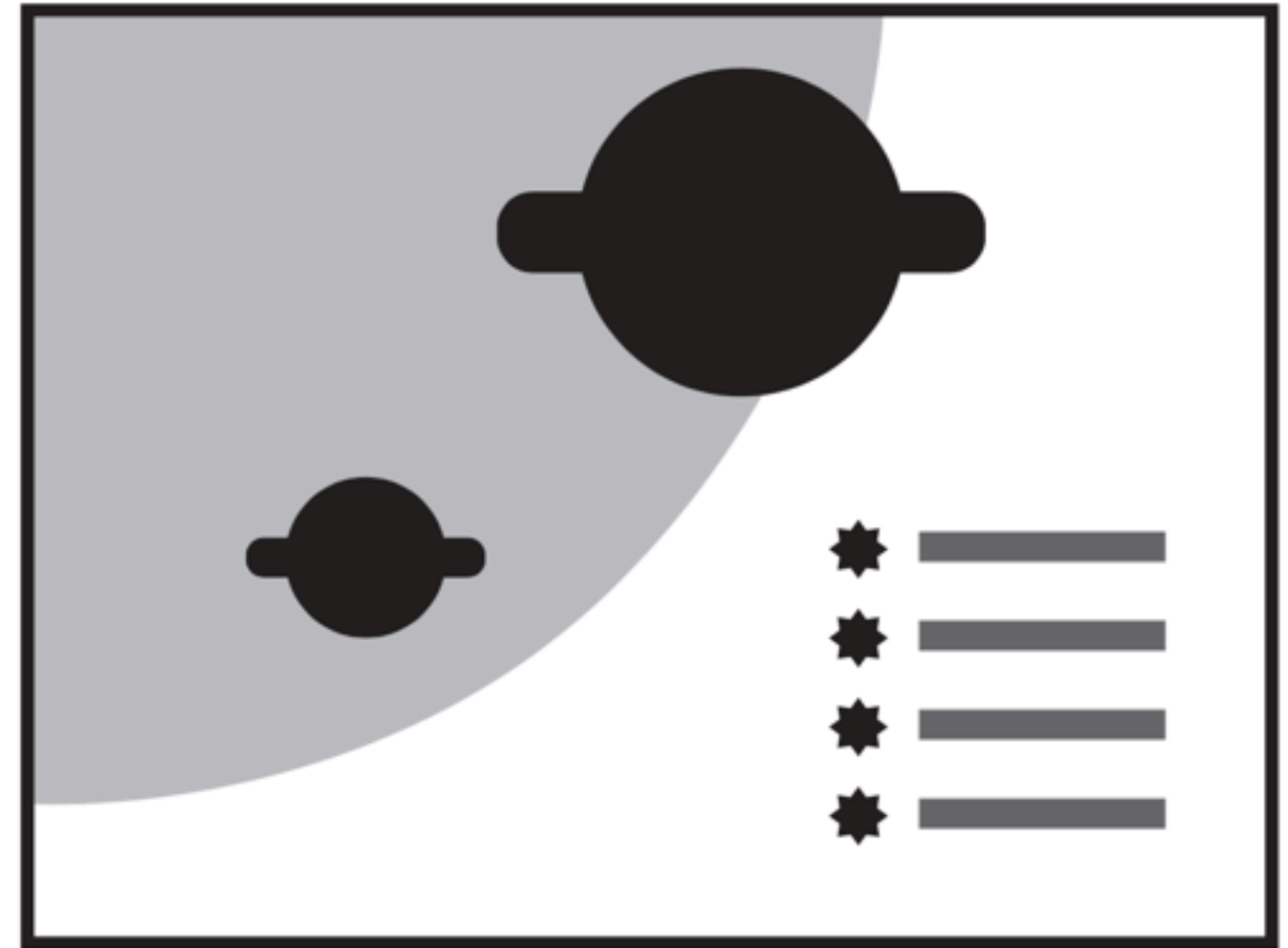
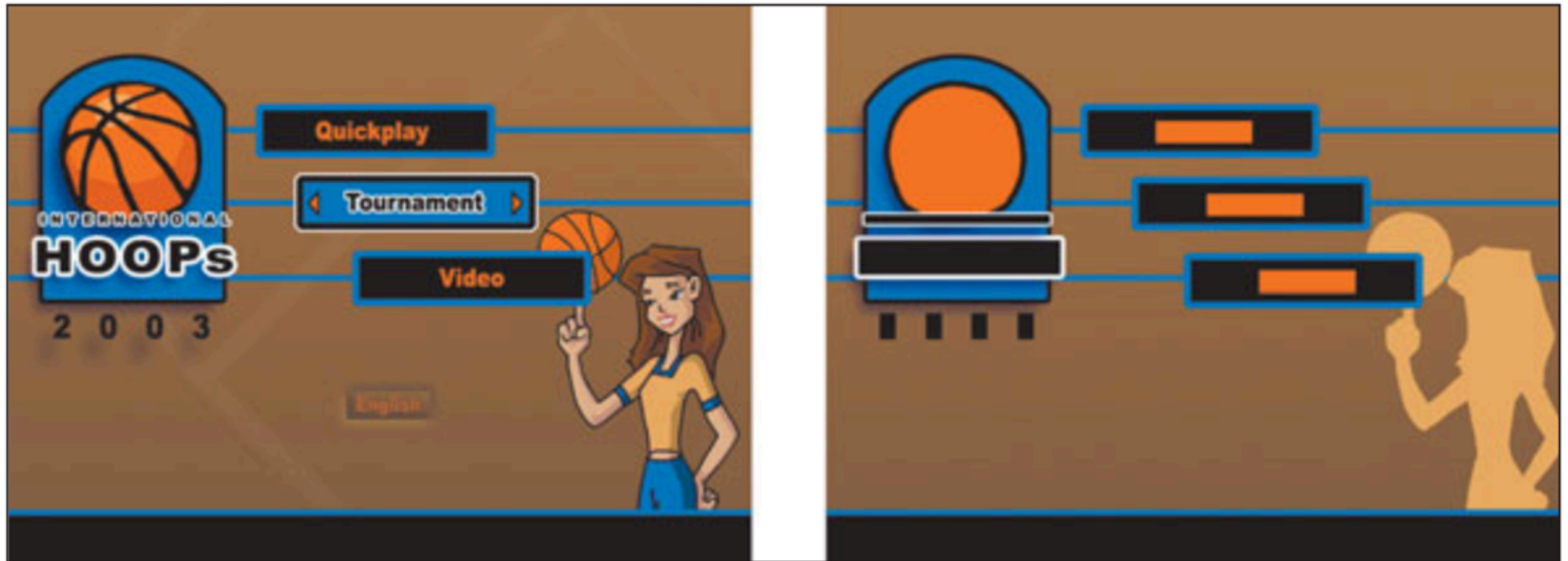


Figure 4.20 This design is similar to that in Figure 4.19, but the curved line now draws the viewer's eye off the screen before it reaches the shapes in the bottom-right.

Reduktion



Typographie

<https://medienwissenschaft.uni-bayreuth.de/lehre/vergangene-semester/sommersemester-2010/typografie-und-schrift/>

Kennwort: typo

Das Ziel der klassischen Typografie ist die gute Lesbarkeit von Text



Schriftarten

Serif
Sans serif
Slab serif
Cursive
DECORATIVE
Monoline

Georgia
Helvetica
Rockwell
Monotype Corsiva
PHOSPAHTE
Andale Mono

Berühmte Fonts

<http://www.100besteschriften.de/>

Open Sans

Roboto

Oswald

Lato

Slabo

Droid Sans

Roboto Condensed

PT Sans

Source Sans Pro

Open Sans Condensed

Lora

Droid Serif

Ubuntu

Quellen

Freie Schriften

Gui To Meet You Two: Free Ui
Resources For Game Developers

Dafont

Font Squirrel

1001 Fonts

Google Font

40 Free Fonts for Flat Design



SPEZIALSCHRIFTEN

<https://www.pinterest.de/pin/615445105297712769/>



Schriftschnitte

Myrida Pro Light Condensed

Myrida Pro Light Condensed Italic

Myrida Pro Condensed

Myrida Pro Condensed Italic

Myriad Pro Semibold Condensed

Myriad Pro Semibold Condensed Italic

Myriad Pro Bold Condensed

Myriad Pro Bold Condensed Italic

Myriad Pro Black Condensed

Myriad Pro Black Condensed Italic

Myriad Pro Light SemiCondensed

Myriad Pro Light SemiCondensed Italic

Myriad Pro SemiCondensed

Myriad Pro SemiCondensed Italic

Myriad Pro Semibold SemiCondensed

Myriad Pro Semibold SemiCondensed Italic

Myriad Pro Bold SemiCondensed

Myriad Pro Bold semiCondensed Italic

Myriad Pro Black SemiCondensed

Myriad Pro Black SemiCondensed Italic

Myriad Pro Light

Myriad Pro Light Italic

Myriad Pro Regular

Myriad Pro Italic

Myriad Pro Semibold

Myriad Pro Semibold Italic

Myriad Pro Bold

Myriad Pro Bold Italic

Myriad Pro Black

Myriad Pro Black Italic

Myriad Pro Light SemiExtended

Myriad Pro Light SemiExtended Italic

Myriad Pro SemiExtended

Myriad Pro SemiExtended Italic

Myriad Pro Semibold SemiExtended

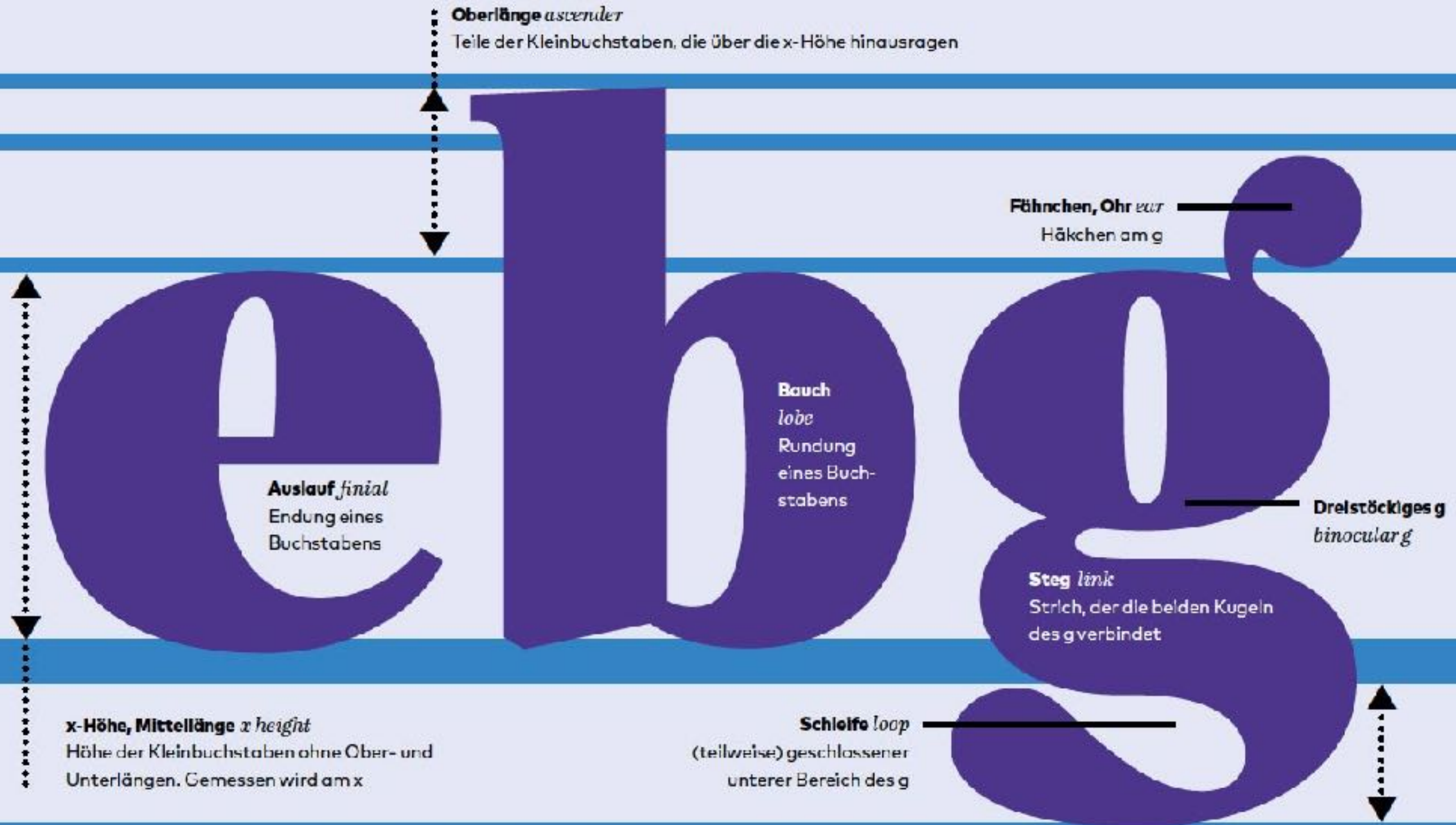
Myriad Pro Semibold SemiExtended Italic

Myriad Pro Bold SemiExtended

Myriad Pro Bold SemiExtended Italic

Myriad Pro Black SemiExtended

Myriad Pro Black SemiExtended Italic

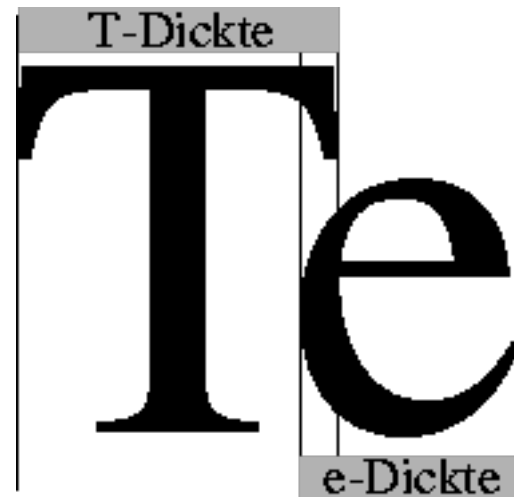


Unterlänge *descender* Teile der Kleinbuchstaben, die unter die x-Höhe reichen

Kerning

Typische Unterschneidungspaare:

Av, AV, Aw, AW, LT, LV, Ly, Ta, To, Ty, Te, T., Va, Vo, V., Ya, Yo, Y., ff, fl, fi



WATER
WATER

ECHE KAPITÄLCHEN
PSEUDOKAPITÄLCHEN

Normal Hamburgetonstiv
Slanted *Hamburgetonstiv*
Italic *Hamburgetonstiv*

st st
ff ff
ft ft

good kerning
bad kerning

Qualitätsschriften

http://beza1e1.tuxen.de/articles/high_quality_fonts.html

1. Upper and Lower Case Letters
2. Lots of Unicode Symbols like Umlauts
3. Regular, Italic, Bold and Bold-italic Variants
4. Good Kerning
5. Ligatures
6. Serif, Sans-serif, Fixed-width Siblings
7. Very-thin, Very-bold Variants

Palatino

Sprache wird durch Schrift erst schön

Sprache wird durch Schrift erst schön

	2	1	0	1	2
Form					
weich/rund anmutig lesefreundlich vermittelnd					
Zeitgeist					
konservativ traditionell alt geschichtlich bewahrend					
Auffälligkeit					
langweilig abgegriffen wertlos still alltäglich nivellierend					
Dynamik					
würdevoll statisch tot schwerfällig					

hart/eckig
technisch
nicht lesefreundlich
aggressiv

modern
avantgardistisch
neu
futuristisch
erneuernd

abwechslungsreich
frisch
kostbar
schreierisch
selten
auffällig

stillos
dynamisch
lebendig
leichtfüßig

Hermann Zapf

(geb. 8.11.1918 in Nürnberg)

Schriftentwürfe:

Palatino 1950

Aldus 1954

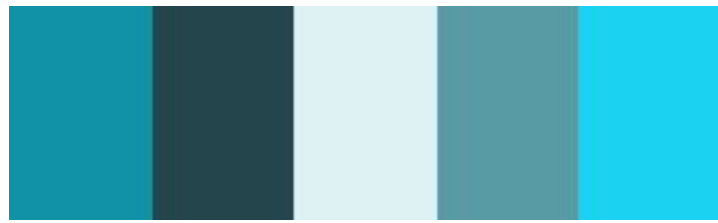
Textura 1969

ITC Zapf Dingbats 1978

ITC Zapf Chancery 1979



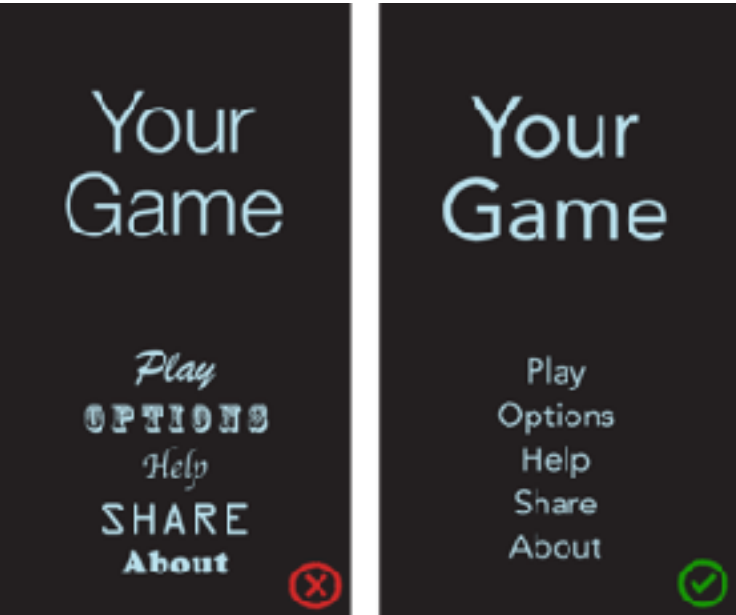
0 1 2 3 4 5 6 7 8 9



Simple Color Scheme

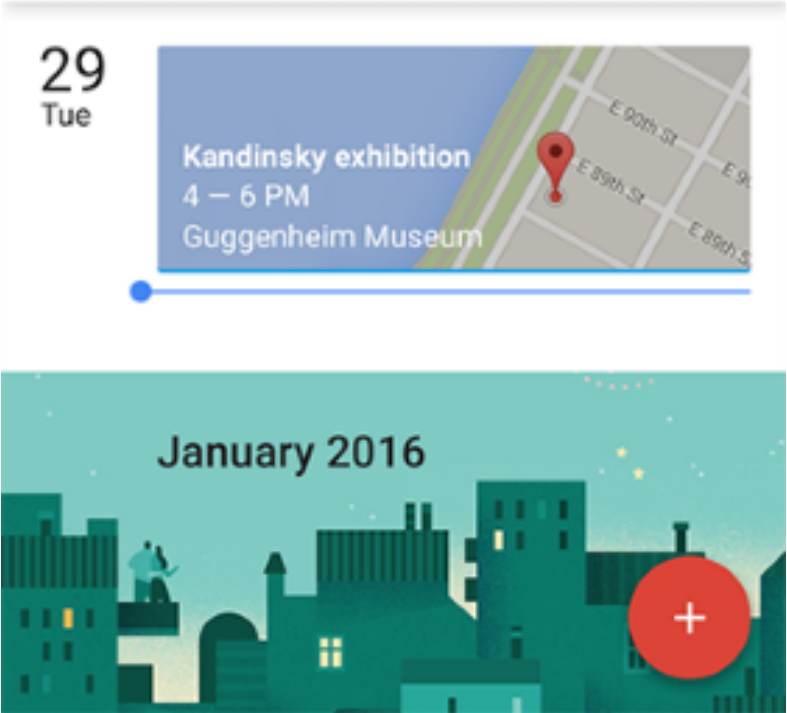
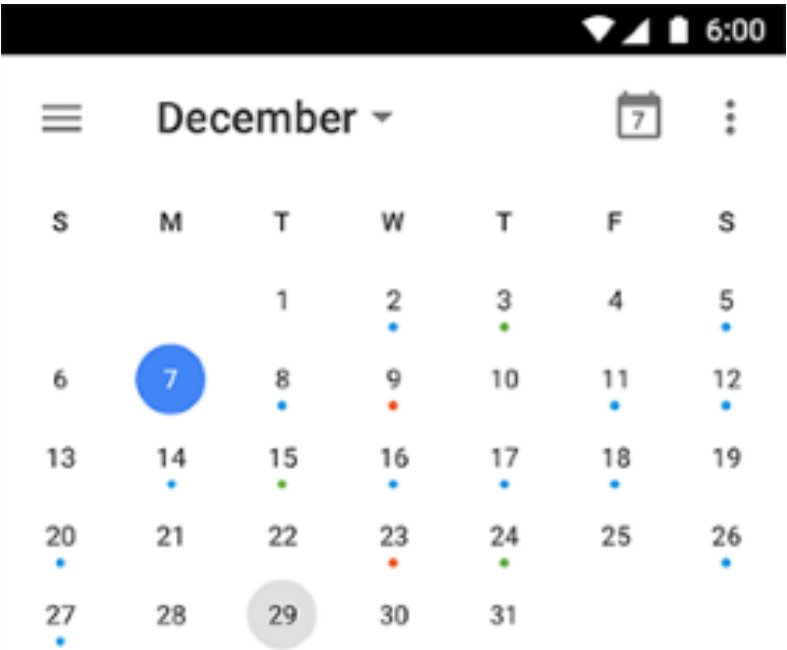


Blur Effects



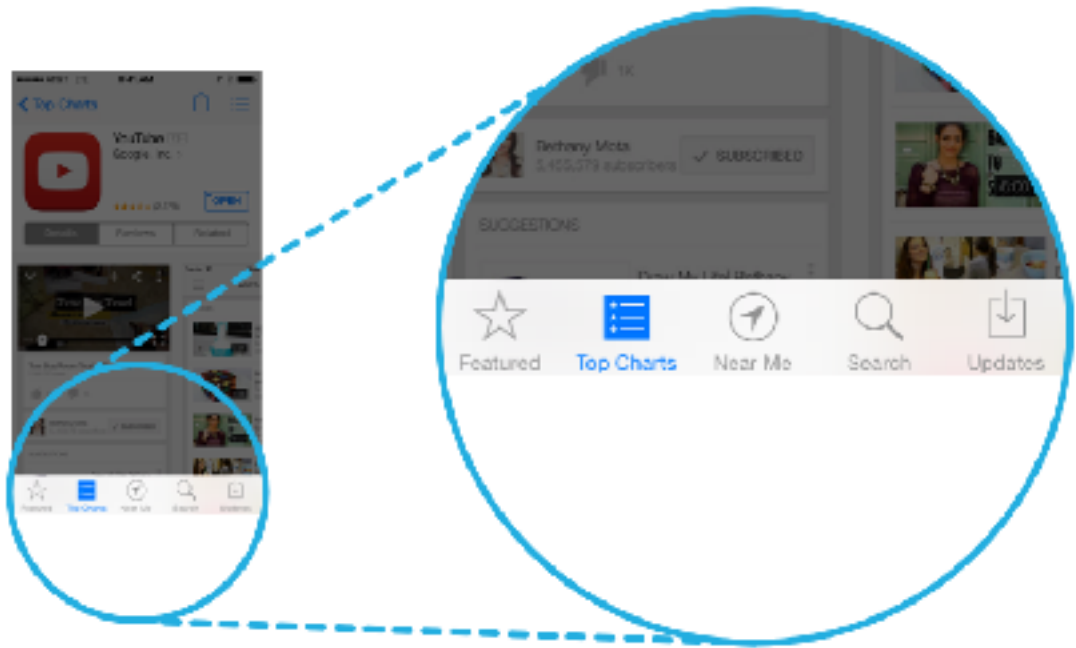
One App, One Typeface

<https://uxplanet.org/the-art-of-minimalism-in-mobile-app-ui-design-b21aa671dd7f>



Divide by Elements and Spacing, Not Lines

Gestaltungsregeln



Icons: Stroke and Fill



Button



Icon



Look & Feel

Widgets

Color Schema



Button States



Standard



Selected



Pressed



Active



Active-selected



Disabled