

MAR. 1, 2023. Lynn Sim

VIMM



VIMMM

VIMM stands for **VISUAL**, **INTELLECTUAL**, **MEMORY** and **MOTOR** model. These four simple concepts covered in the model, account for 80% of the usability issues.

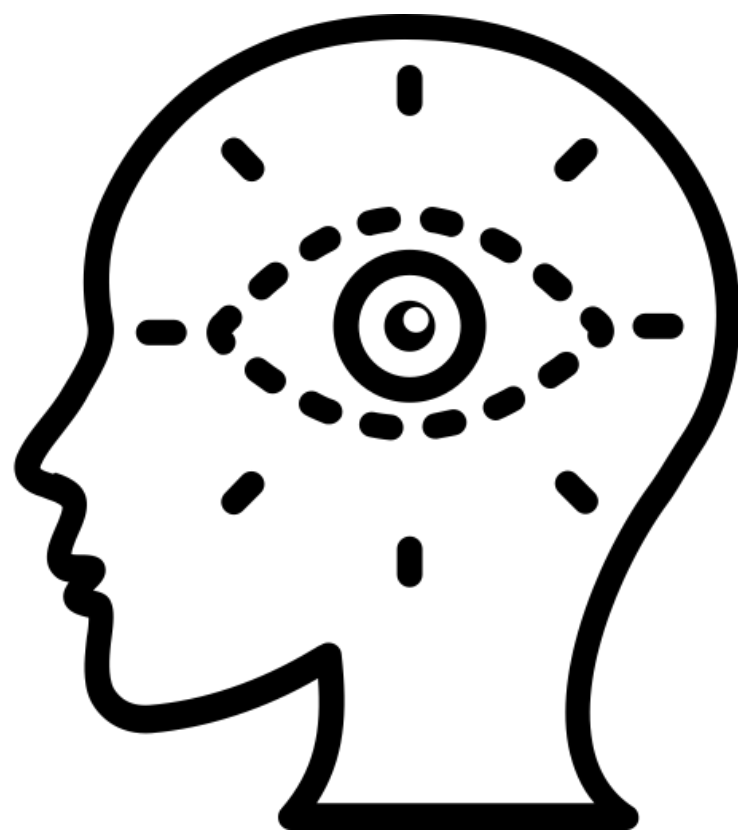
VIMM 代表视觉、智力、记忆和行动模型。这个模型中涵盖的这四个简单概念，占据了80%的可用性问题。



VIMM Model | VIMM模型

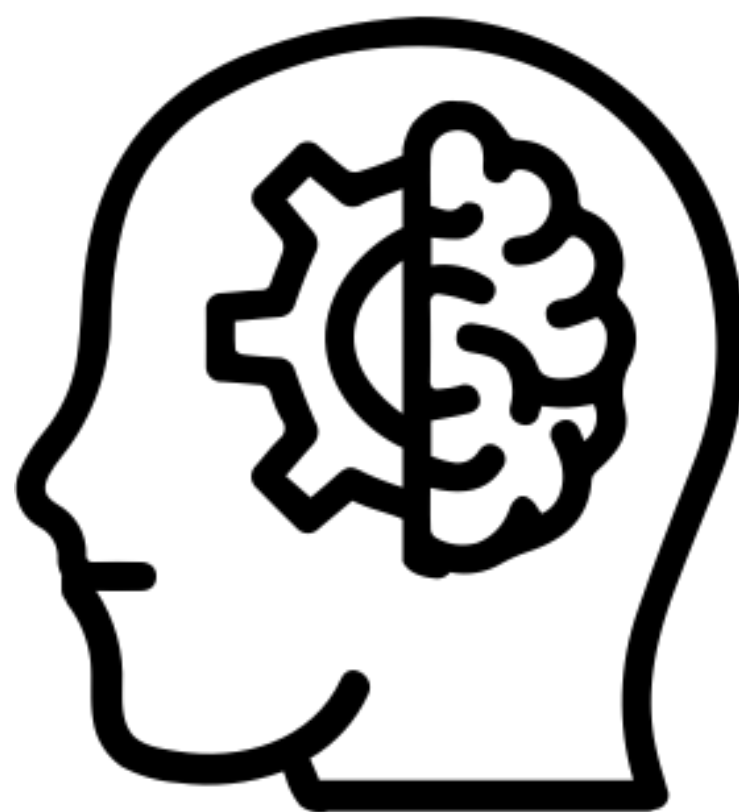
VISUAL (SEE)

视觉（优化视觉观感）



INTELLECTUAL (THINK)

智力（理解和决策力）



MEMORY (RECALL)

记忆内存（最小记忆负担）

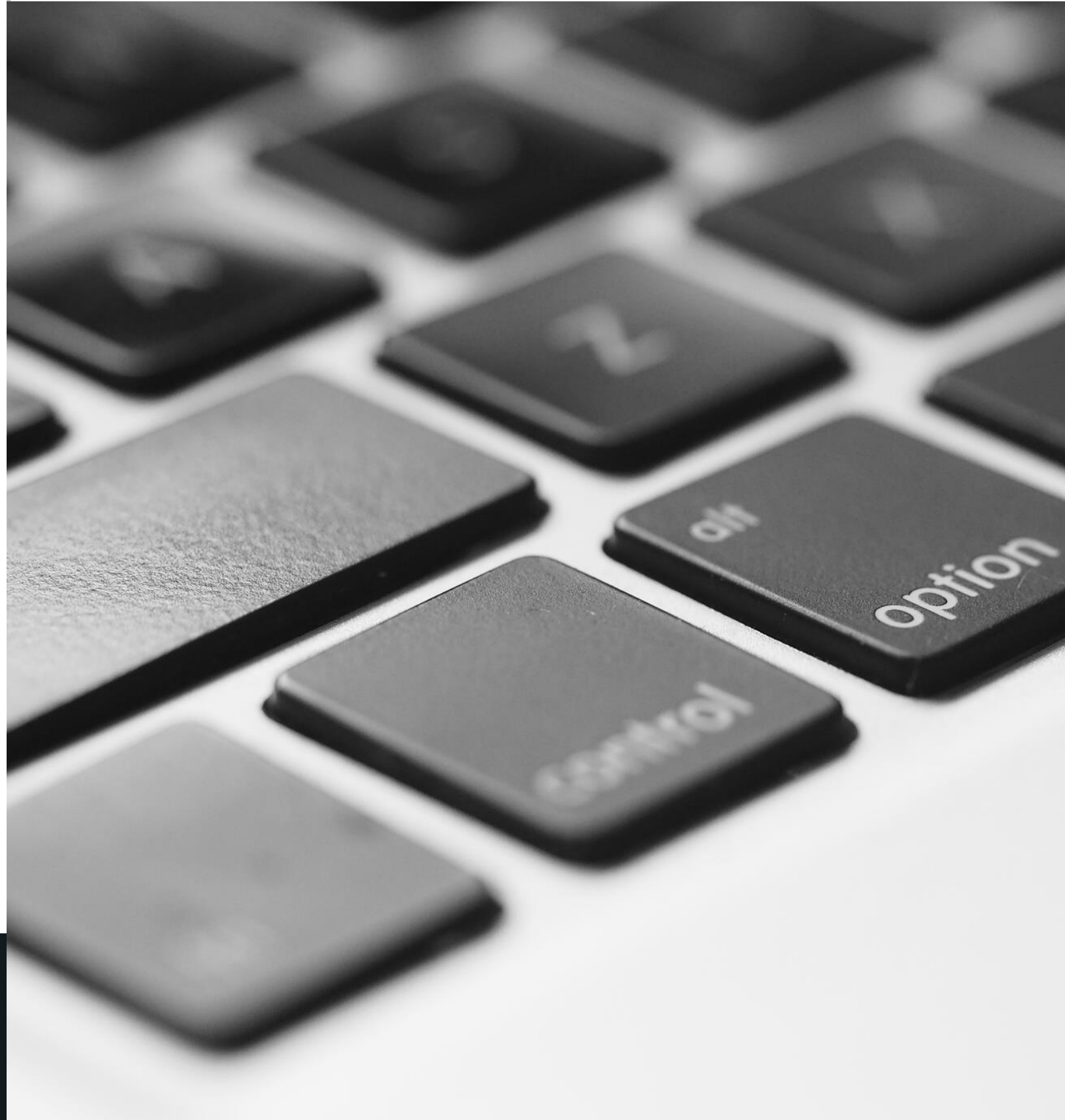


MOTOR (ACTION)

行动（优化操作效率）



Discussion Outline



VIMM Model | VIMM模型

Visual:

- Human Eyes Attraction
- Fixations & Saccades

Intellectual:

- Hick-Hyman Law
- Signal Detection Theory

Memory:

- Chunking Rule
- Phi Phenomenon
- Screen Transitions

Motor:

- Fitt's Law
- Screen Target Size
- Phone Holding Research in 2013

视觉:

- 智能人眼吸引
- 注视和扫视

认知:

- 希克海曼定律
- 信号检测理论

记忆:

- 分块规则
- 似动现象
- 屏幕转换

效率:

- 费茨法则
- 目标屏幕尺寸
- 2013 手机握持研究



Visual: Human Eyes Attraction

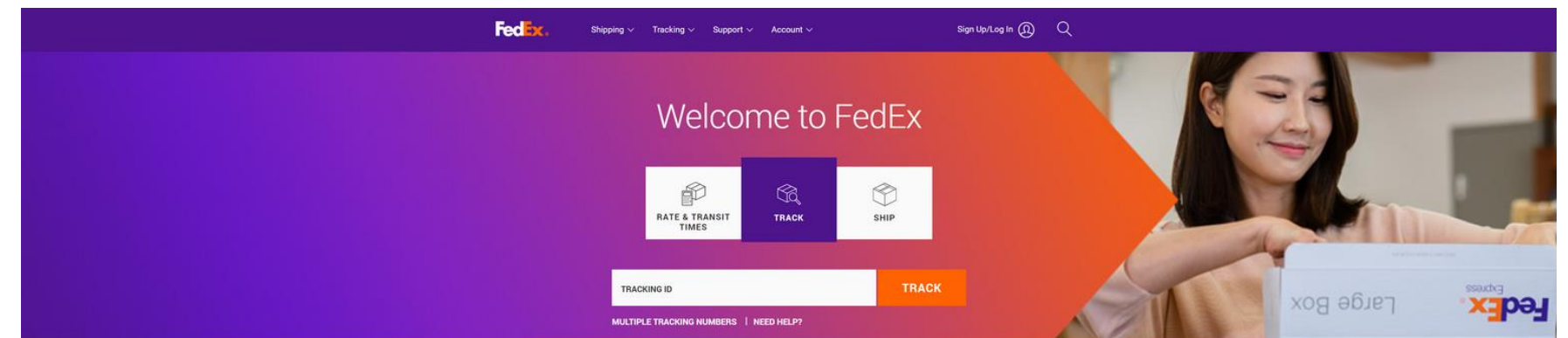
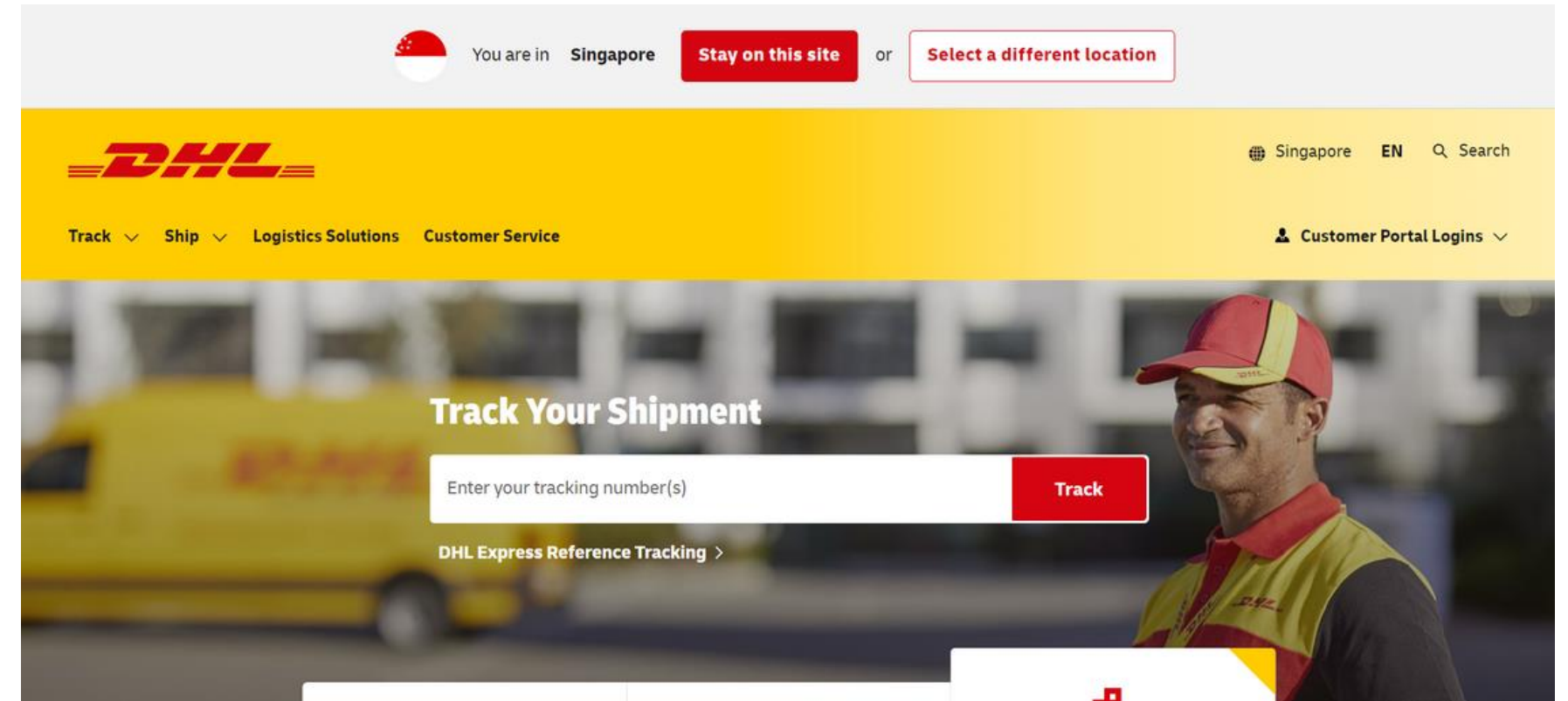
视觉的: 人眼吸引力

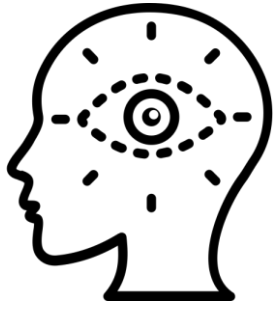
Visual:

- Complex Areas
- Saturated Color
- Dark Areas
- Human Faces

视觉:

- 组合区域
- 饱和色彩
- 暗色区域
- 人脸

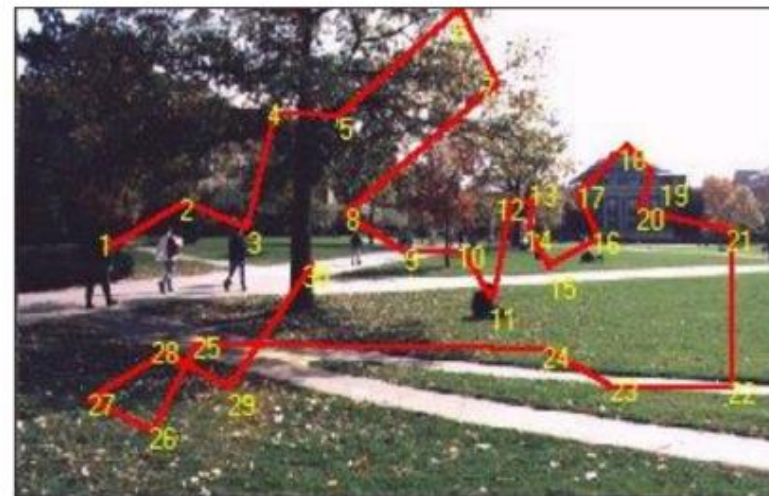




Visual: Fixations & Saccades | 视觉: 注视和扫视

Unlike fixations, saccades are rapid eye movements, meaning that the eyes voluntarily shift from one target to another.

不同于注视，扫视是快速的眼球运动，这意味着眼睛有意识地从—个目标转移到另—个目标。设计时尽量减少扫描显示器时的视觉工作。

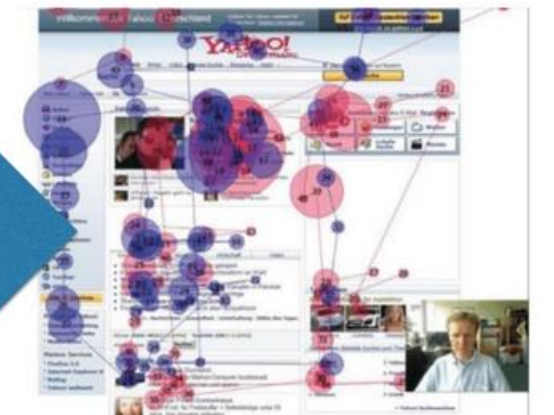


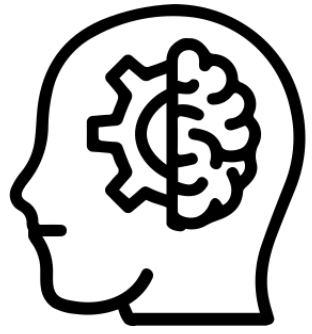
Minimal
Scanning



- When watching an eye track, if there are lots of points of fixation the design is making the scan difficult.

Lots of
Fixations





Intellectual: Hick-Hyman Law | 智能的: 希克海曼定律

- Hick-Hyman Law

The more choices a person is presented with, the longer the person will take to reach a decision.

- 希克海曼定律

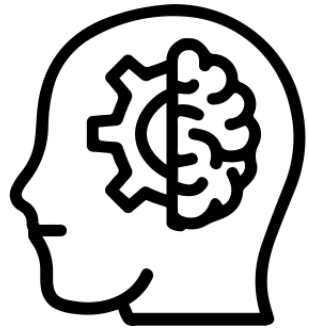
一个人面临的选择越多时，他做出决定所需的时间就越长。

1998 ▶
Too many options, Crowded page



2020 ▶
Streamlined Page





Intellectual: Signal Detection Theory |

智能的: 信号检测理论

- Signal Detection Theory

A method for measuring a system's ability to detect patterns/stimuli/signals in information despite background noise.

- 信号检测理论

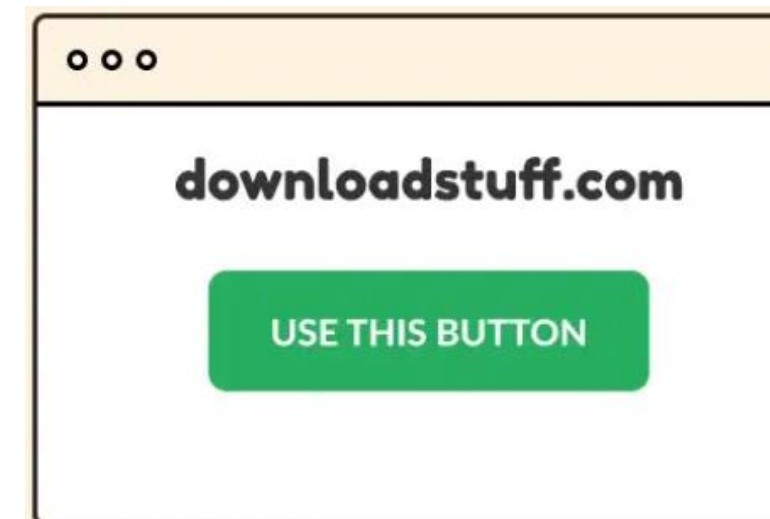
一种用于测量系统在背景噪音中检测信息中的模式/刺激/信号能力的方法



Let the user know what to expect.
让用户知道会呈现的内容



Use Visual Hierarchy
使用可视化分级



Remove Distractors
消除干扰因素



Memory: Chunking Rule | 内存：分块规则

Chunking Rule

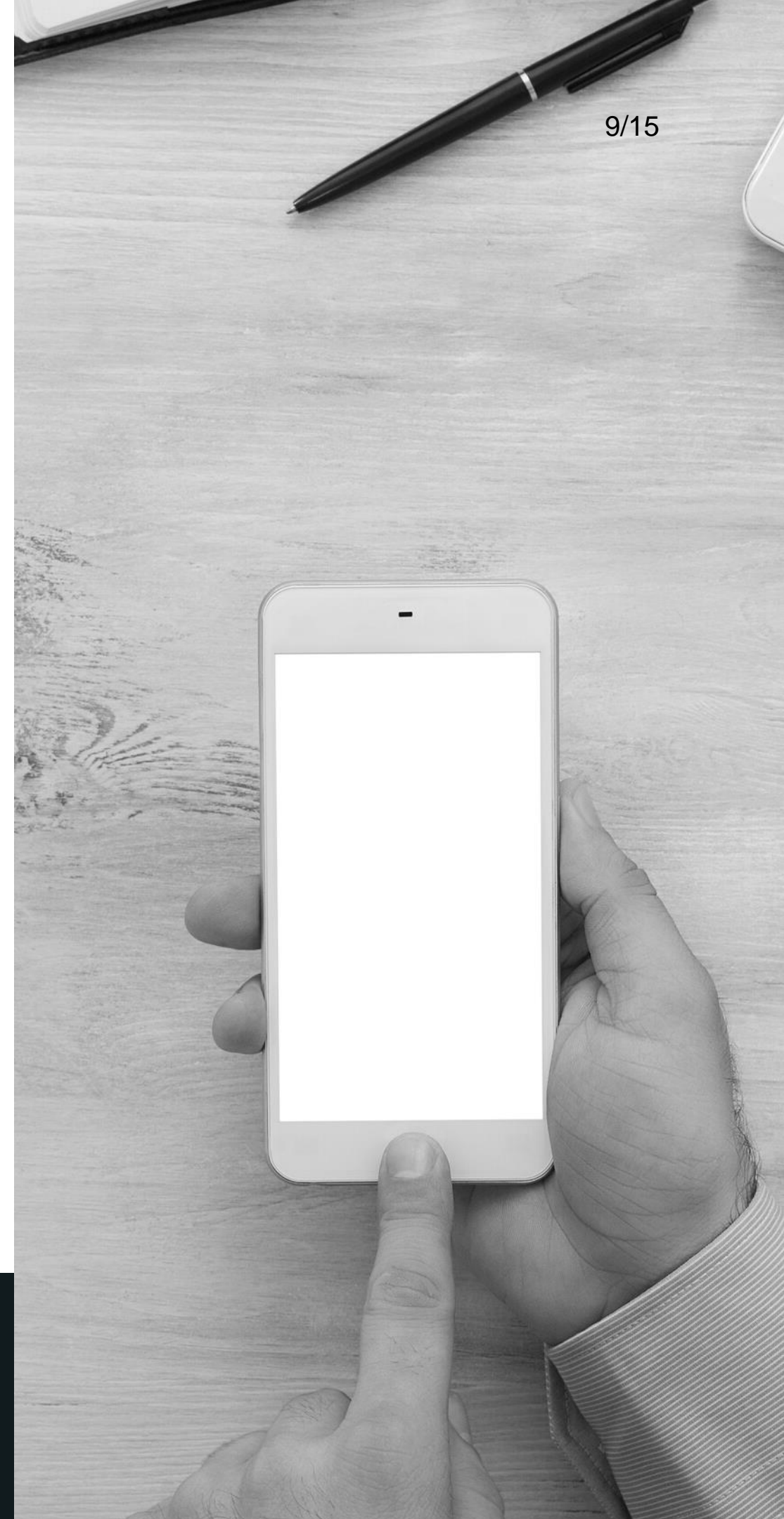
Grouping information in smaller sections. 3-4 chunk/3-4 items each chunk.

- a chunked phone number (+1-919-555-2743)
- chunked verification code 123-321

分块规则

分块规则：将信息分成更小的部分进行分组。3-4 个区块/每个区块 3-4 个项目。

- 分块电话号码 (+1-919-555-2743)
- 分块验证码 123-321





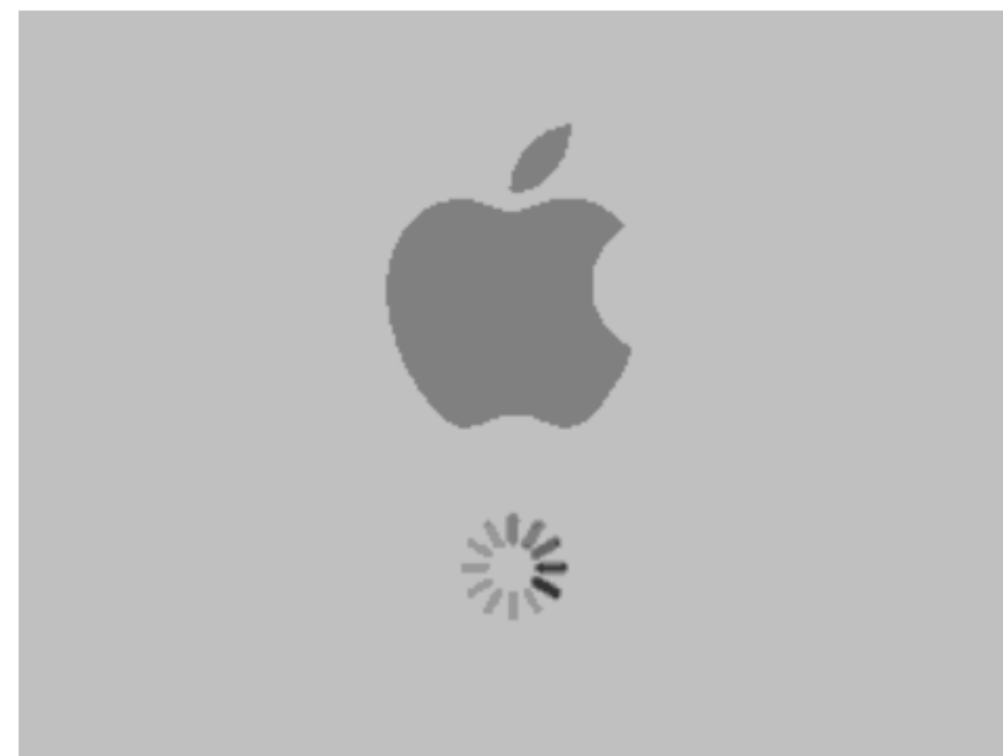
Memory: Phi Phenomenon | 记忆内存：似动现象

- [Phi Phenomenon](#)

Motion perceived by a subject, especially the illusion of movement produced when stationary stimuli.

似动现象

通过瞬间两点刺激而产生的运动错觉，是一种运动知觉现象。特别是主体感知到运动的时候其实是静止时候刺激产生的运动错觉。

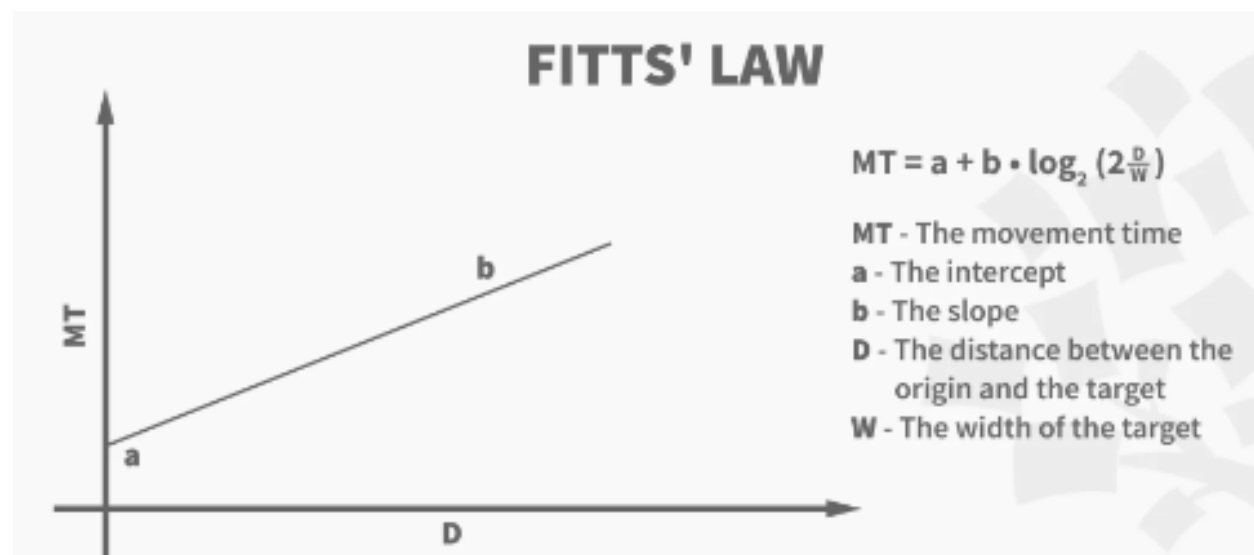




Motor: Fitt's Law | 电机：菲茨定律

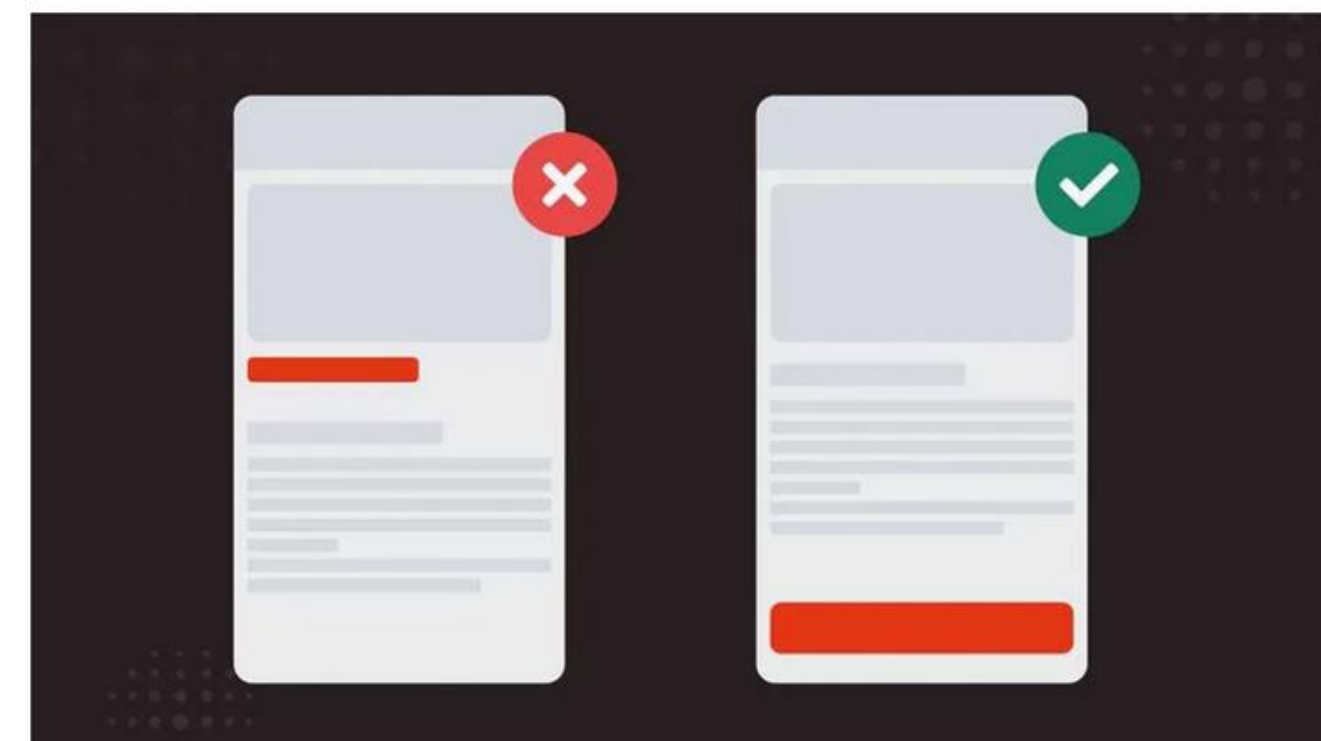
- Fitt's Law

Fitts's Law **provides a model of human movement**, established in 1954 by Paul Fitts, which can accurately predict the amount of time taken to move to and select a target.



- Screen Target Size! Make Target Obvious!
 44 x 44pixels according to WCAG (Web Content Accessibility Guideline).

- Fitts 定律提供了一种人体运动模型，由 Paul Fitts 于 1954 年建立，可以准确预测移动到目标和选择目标所需的时间。
- 屏幕目标尺寸使目标明显！ 44 x 44 像素，符合 WCAG（Web 内容可访问性指南）。





Motor: Phone Holding Research in 2013 | 电机：2013 年电话持有研究

Phone Holding Research in 2013: Most phone users are single-finger tab at 85% (49%+36%)

2013 年持机研究：85% (49%+36%) 大多数手机用户是单指操作

Diagram 1

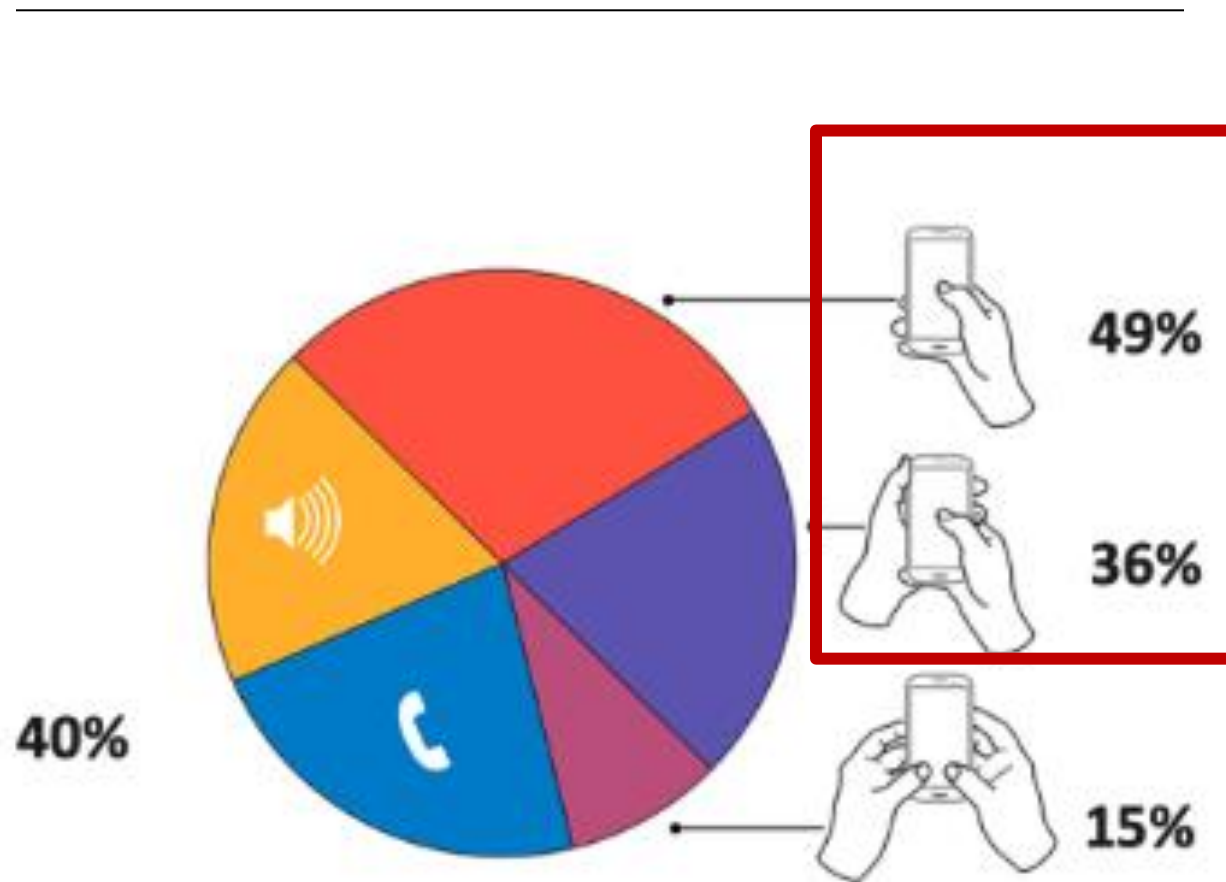
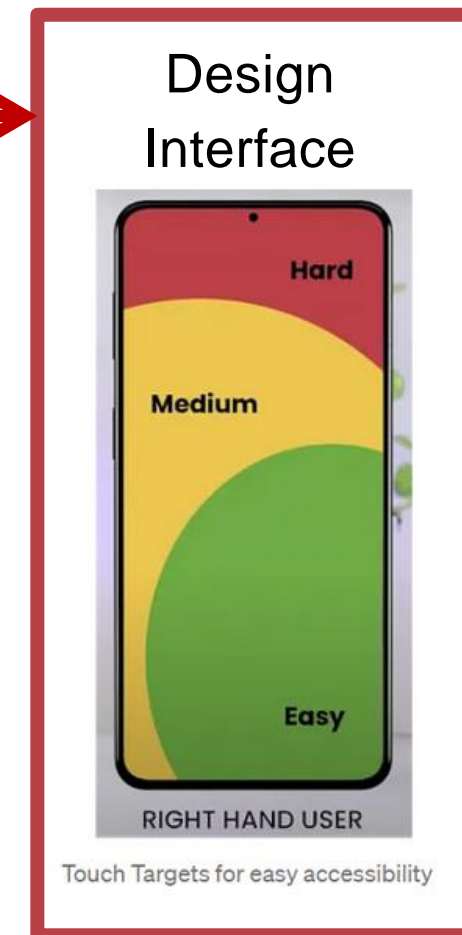
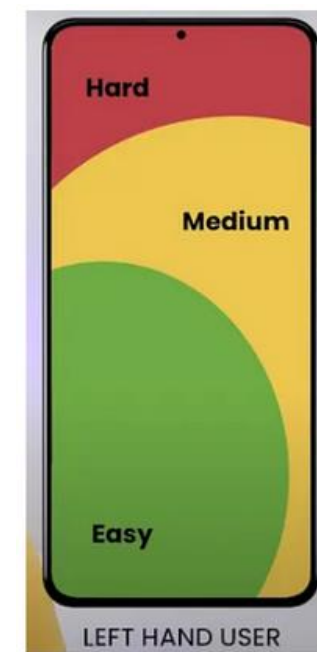


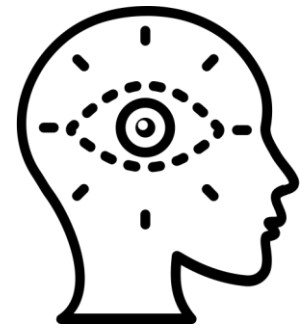
Diagram 2



Touch Targets for easy accessibility

Visual Intellectual Memory Motor (VIMM) 视觉智能记忆马达 (VIMM)

DESIGN PRINCIPLES 设计原则



VISUAL
Optimize visual comprehension by..
视觉的
通过..优化视觉理解

- Matching screen flow to task flow
- Using good grouping and labeling
- Include no gratuitous color

匹配屏幕流程与任务流程
使用良好的分组和标签
不包含不必要的颜色



INTELLECTUAL
Simplify decision making by...
知识分子
通过...简化决策

- Use controls consistently

使用控件时保持一致



MEMORY
Minimize the memory load by...
记忆
通过...最小化记忆负担

- Making options visible
- Designing for recognition vs recall

使选项可见化
设计以识别为导向而非回忆
为导向



MOTOR
Minimize movement time and interactions by...
效率
通过...最大限度地减少移动时间和交互

- Use short distance and large targets
- Optimize for input device
- Use natural response mappings
- Reduce windows and steps

使用近距离和大目标
优化输入设备
使用自然响应映射
减少窗口和步骤

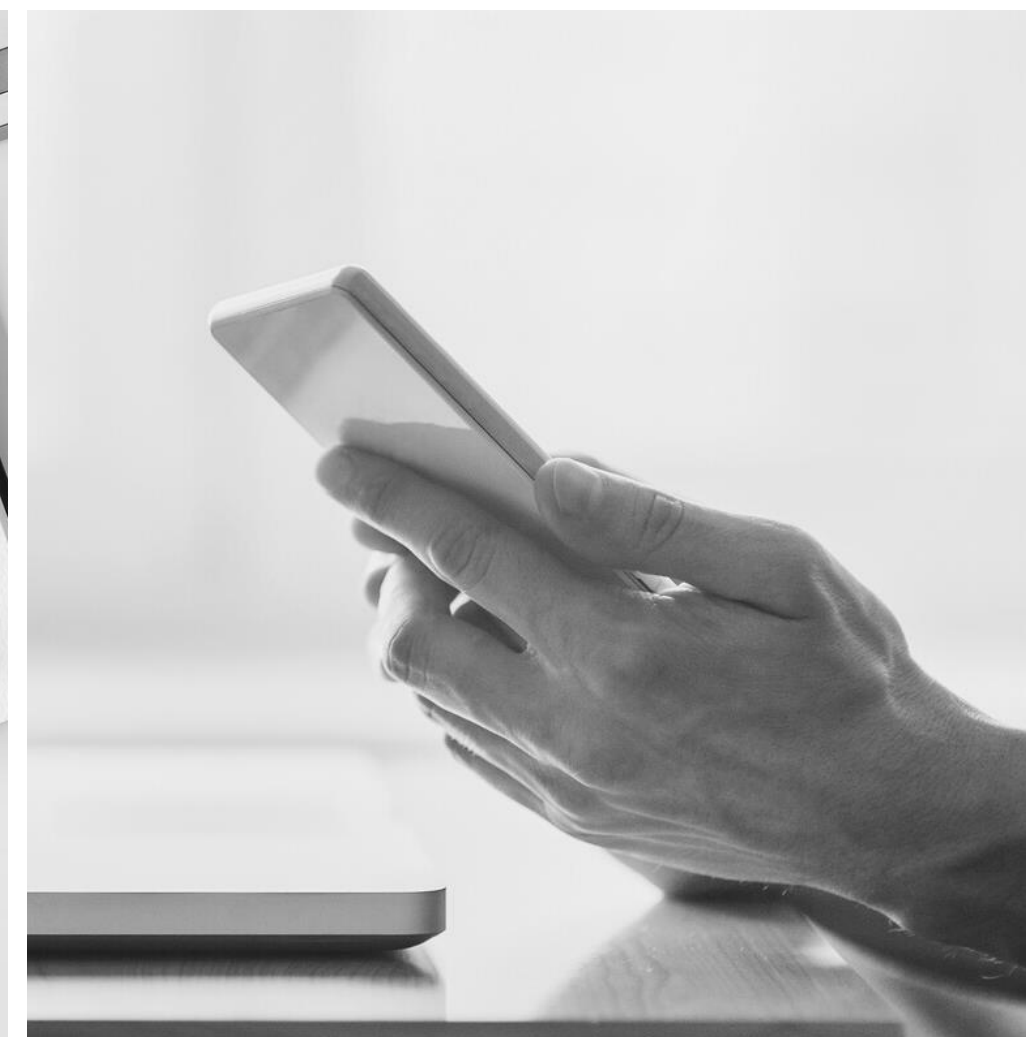
WHAT THE FUTURE BRINGS 未来会带来什么

Personalization, scrollytelling, data storytelling, and button-less UIs are some of the most exciting 2023 UI design trends.

Interesting trend toward larger screens, with Instagram improving its desktop experience to accommodate the growing demand.

个性化、滚动讲述、数据讲述和无按键 UI 设计是 2023 年最令人兴奋的 UI 设计趋势之一。

更大更有趣的屏幕趋势，并使用 Instagram 改进了设备的桌面体验以适应不断增长的需求



VIMM MODEL:

<https://medium.com/@purnimar/vimm-model-for-better-usability-ab558e3cd9d1>

SIGNAL DETECTION THEORY

<https://uxdesign.cc/5-minute-cognitive-ergonomics-the-signal-detection-theory-e5947a1ba779>

FITT's LAW:

<https://medium.com/nyc-design/fitts-law-the-secret-to-an-intuitive-ux-a8a985811d23>

<https://www.interaction-design.org/literature/article/fitts-s-law-the-importance-of-size-and-distance-in-ui-design>

PHI PHENOMENON:

<https://www.psychologynoteshq.com/phi-phenomenon/>

UXUI TREND:

[https://www.uxpin.com/studio/blog/ui-ux-design-](https://www.uxpin.com/studio/blog/ui-ux-design-trends/#:~:text=Personalization%2C%20scrollytelling%2C%20data%20storytelling%2C,to%20accommodate%20th)

[trends/#:~:text=Personalization%2C%20scrollytelling%2C%20data%20storytelling%2C,to%20accommodate%20the%20growing%20demand](https://www.uxpin.com/studio/blog/ui-ux-design-trends/#:~:text=Personalization%2C%20scrollytelling%2C%20data%20storytelling%2C,to%20accommodate%20the%20growing%20demand).

MOBILE RESEARCH

<https://www.uxmatters.com/mt/archives/2013/02/how-do-users-really-hold-mobile-devices.php>



-end-

Thanks!