Applications of Fitts' Law

Images adapted from https://pixabay.com/de/photos/computer-laptop-arbeitsplatz-maus-2982270 by Skitterphoto

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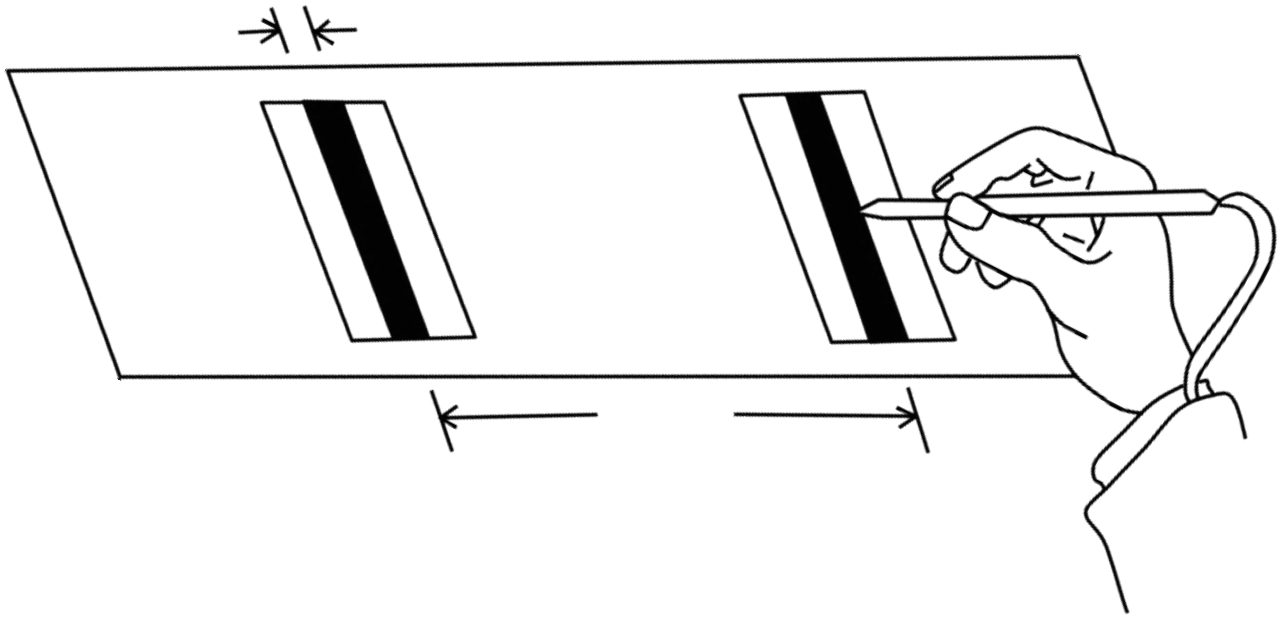
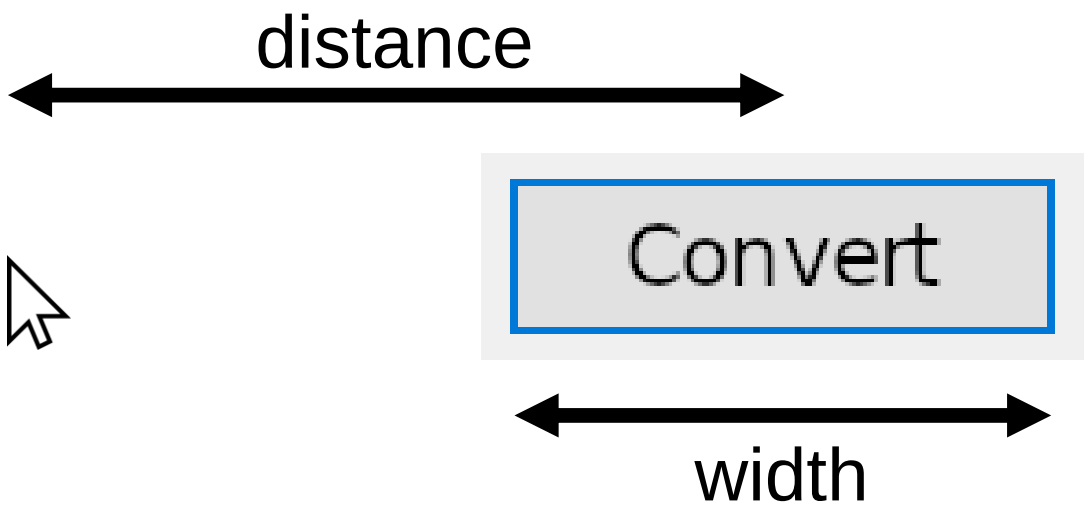
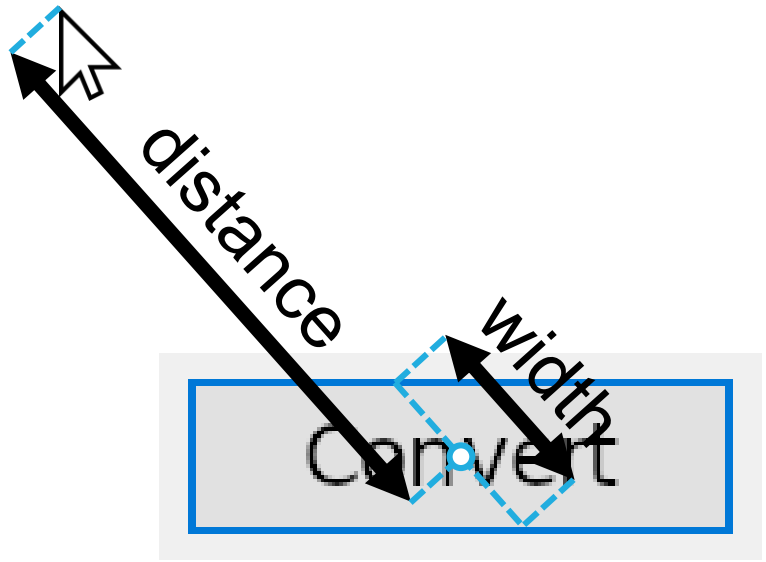
Learning Goals

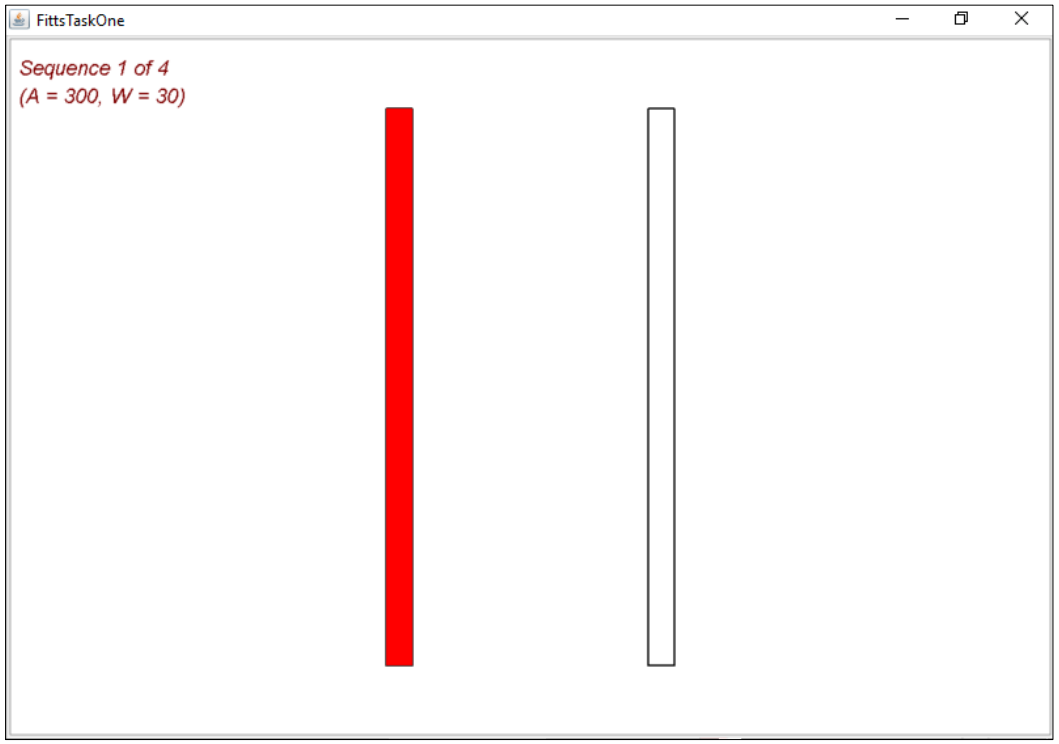
- Know how to extend Fitts' Law to two dimensions
- Understand how Fitts' Law can be helpful for HCI
- Being able to compare input devices using throughput

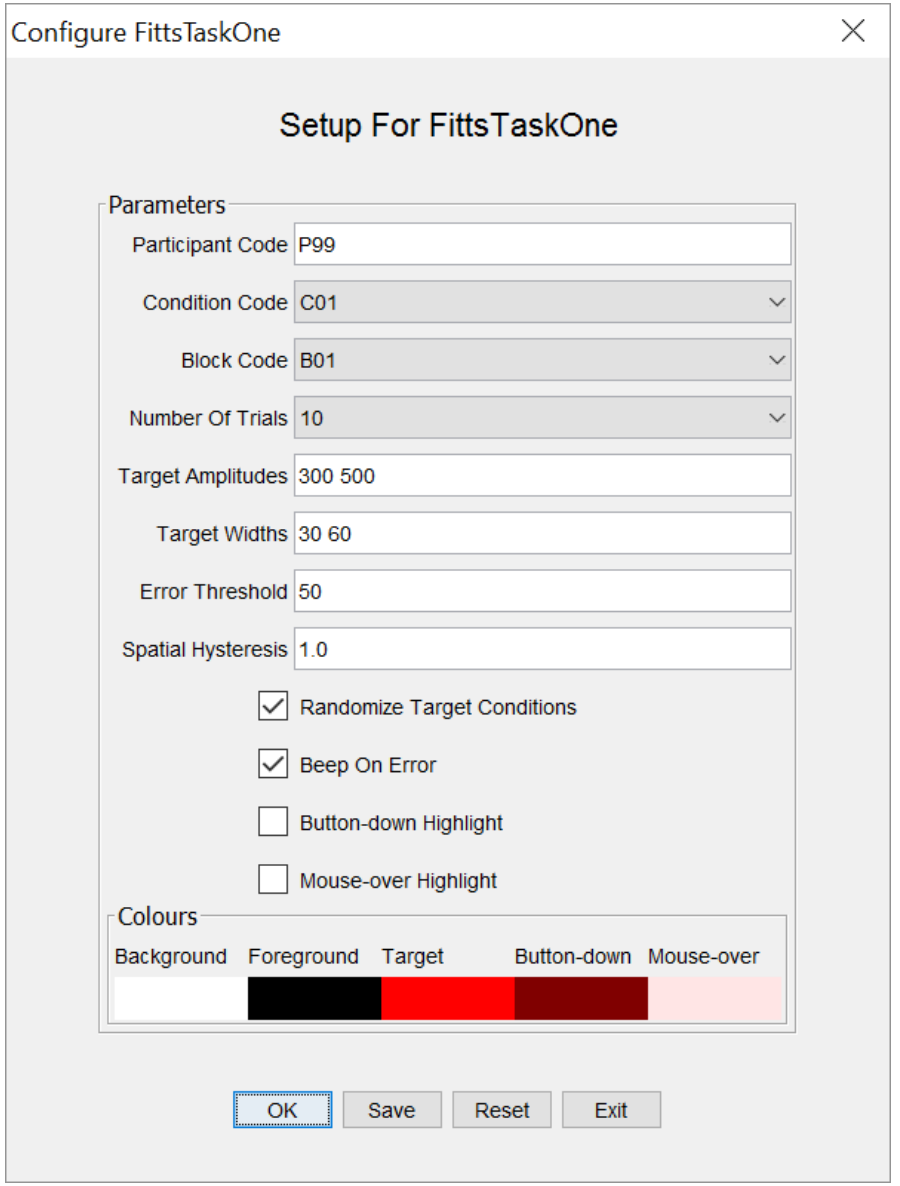



distance
Convert
width



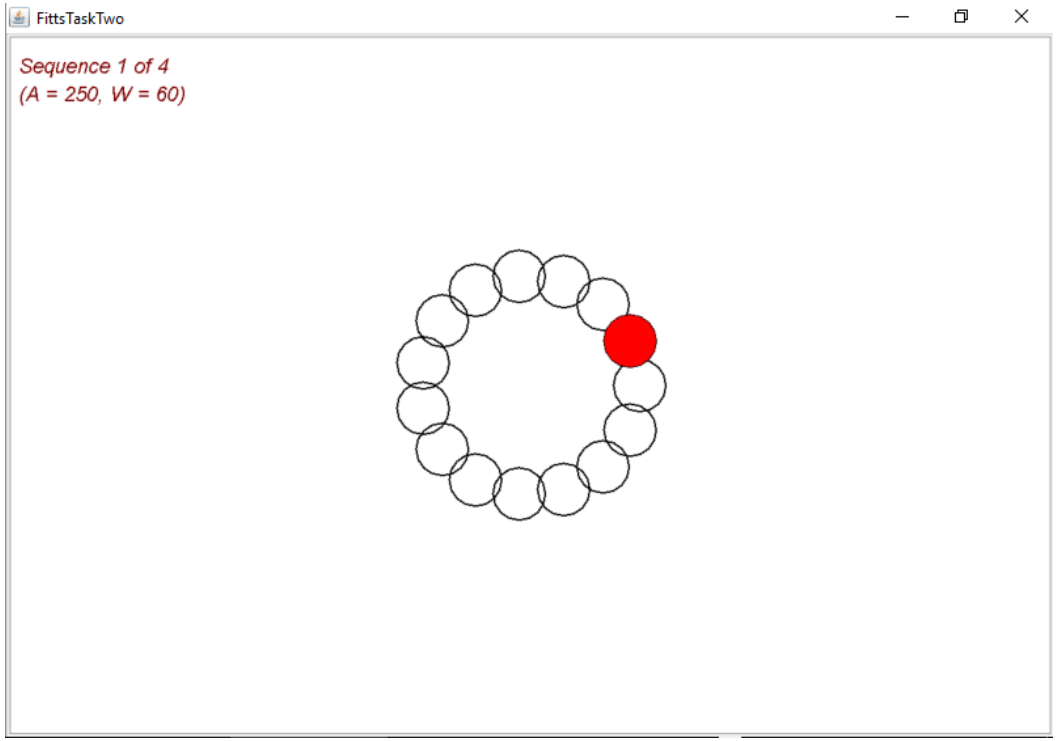
What are width
and distance?

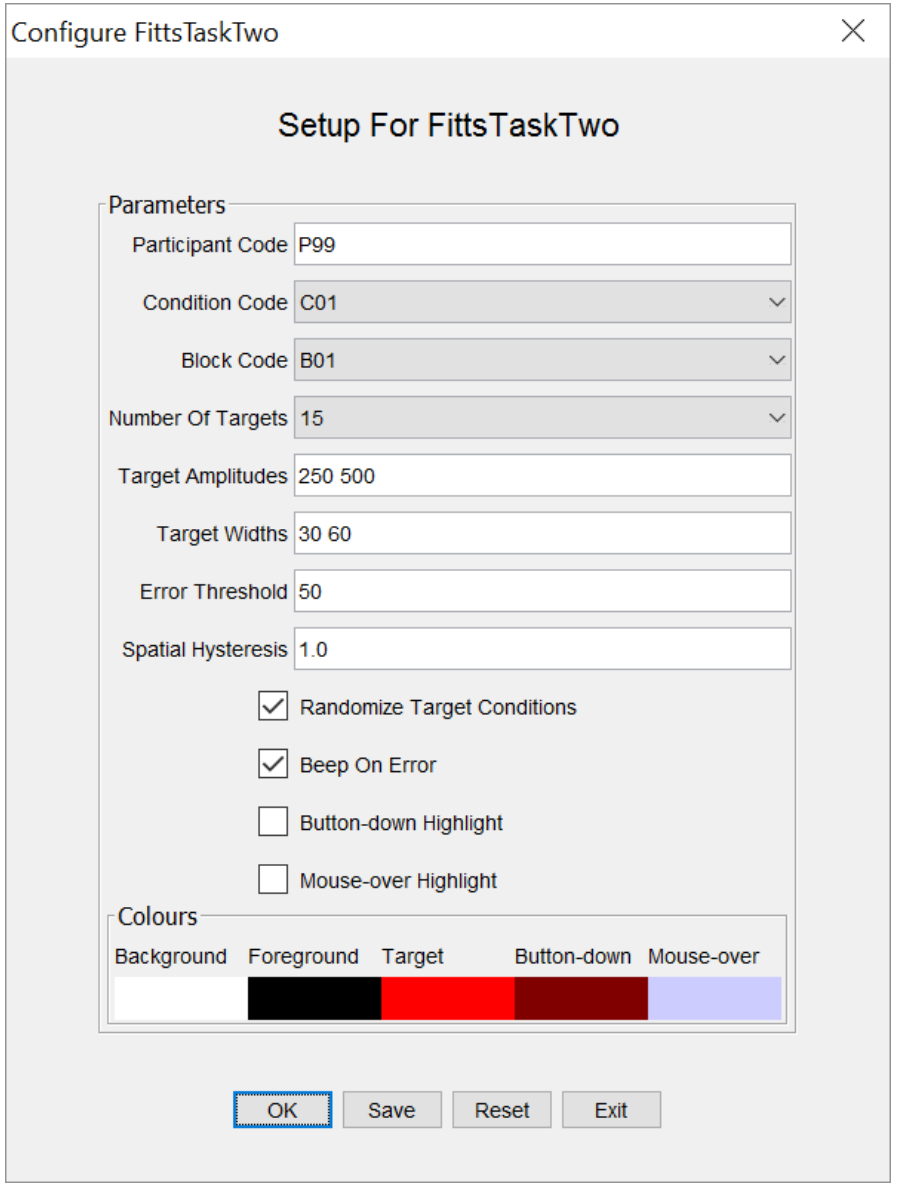




Commonly using a fixed set of amplitudes and Widths, e.g.:

- Amplitude (A): 64, 128, 256, 512 pixels
- Width (W): 8, 16, 32, 64 pixels

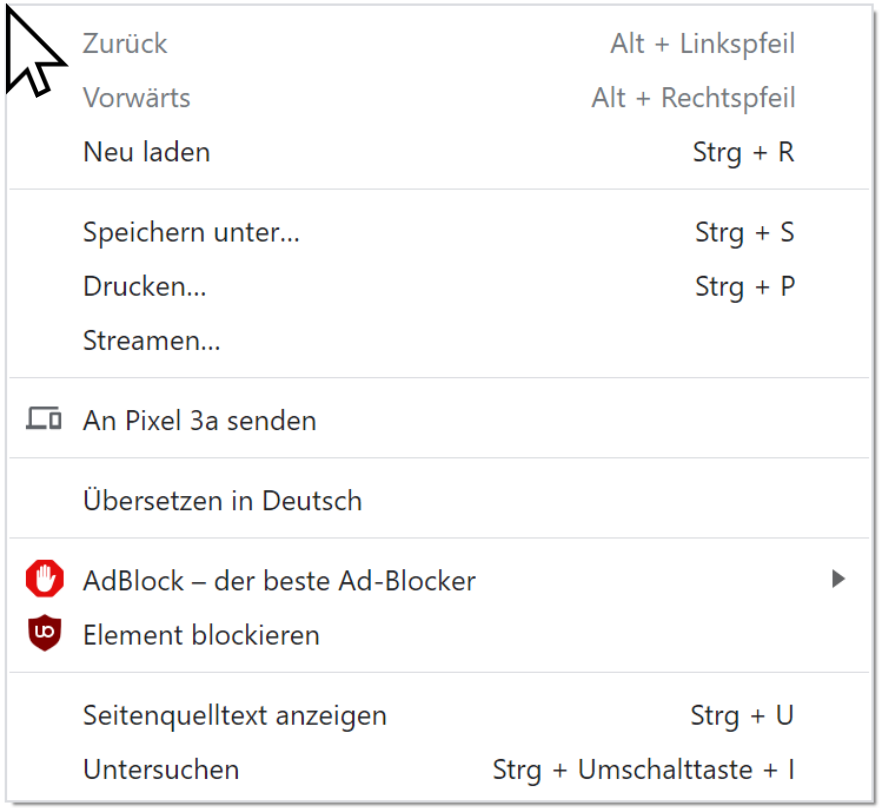




Commonly using a fixed set of amplitudes and Widths, e.g.:

- Amplitude (A): 64, 128, 256, 512 pixels
- Width (W): 8, 16, 32, 64 pixels

Convert


Zurück
Alt + Linkspfeil
Vorwärts
Alt + Rechtspfeil
Neu laden
Strg + R
Speichern unter...
Strg + S
Drucken...
Strg + P
Streamen...
An Pixel 3a senden
Übersetzen in Deutsch
AdBlock – der beste Ad-Blocker
Element blockieren
Seitenquelltext anzeigen
Strg + U
Untersuchen
Strg + Umschalttaste + I

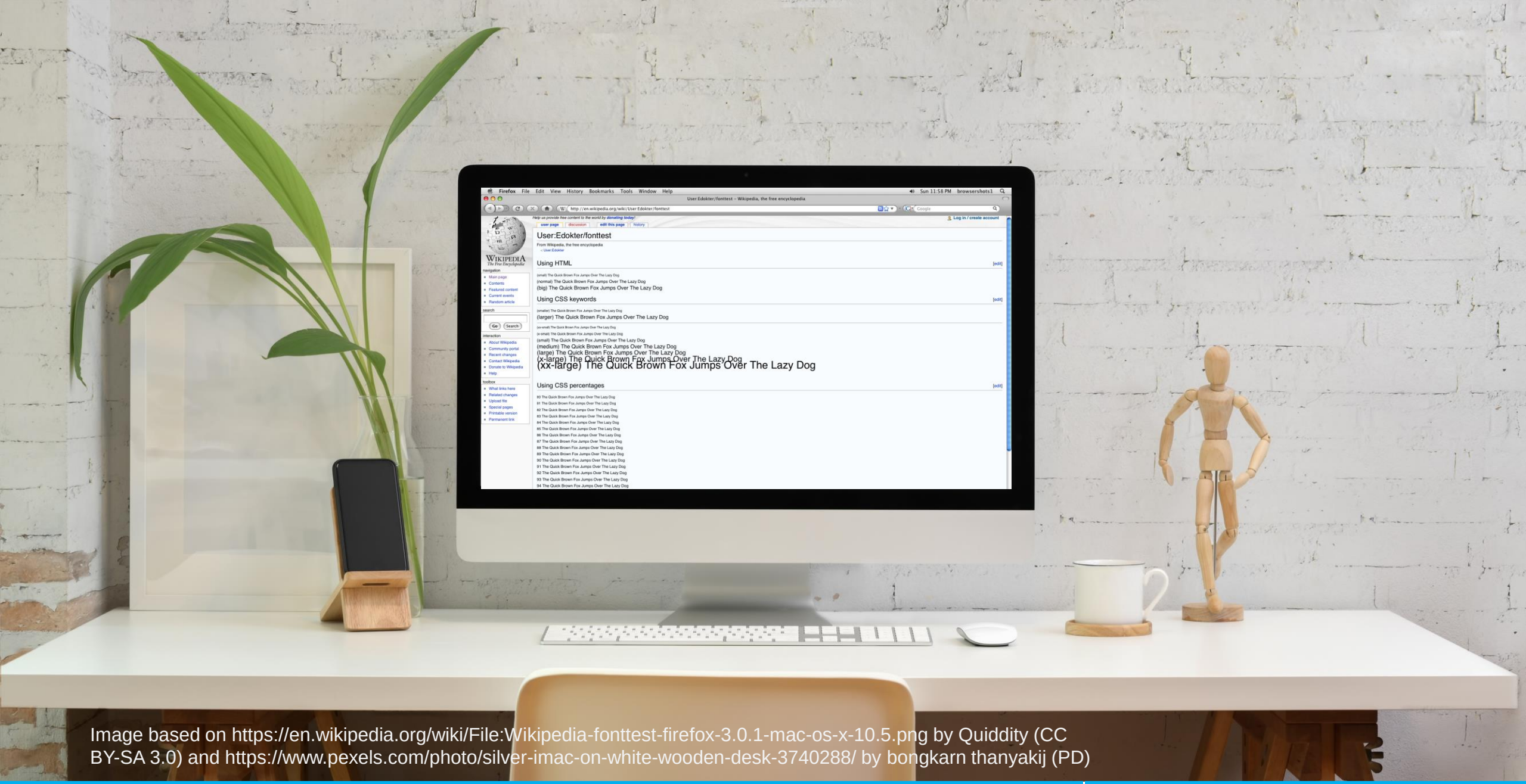
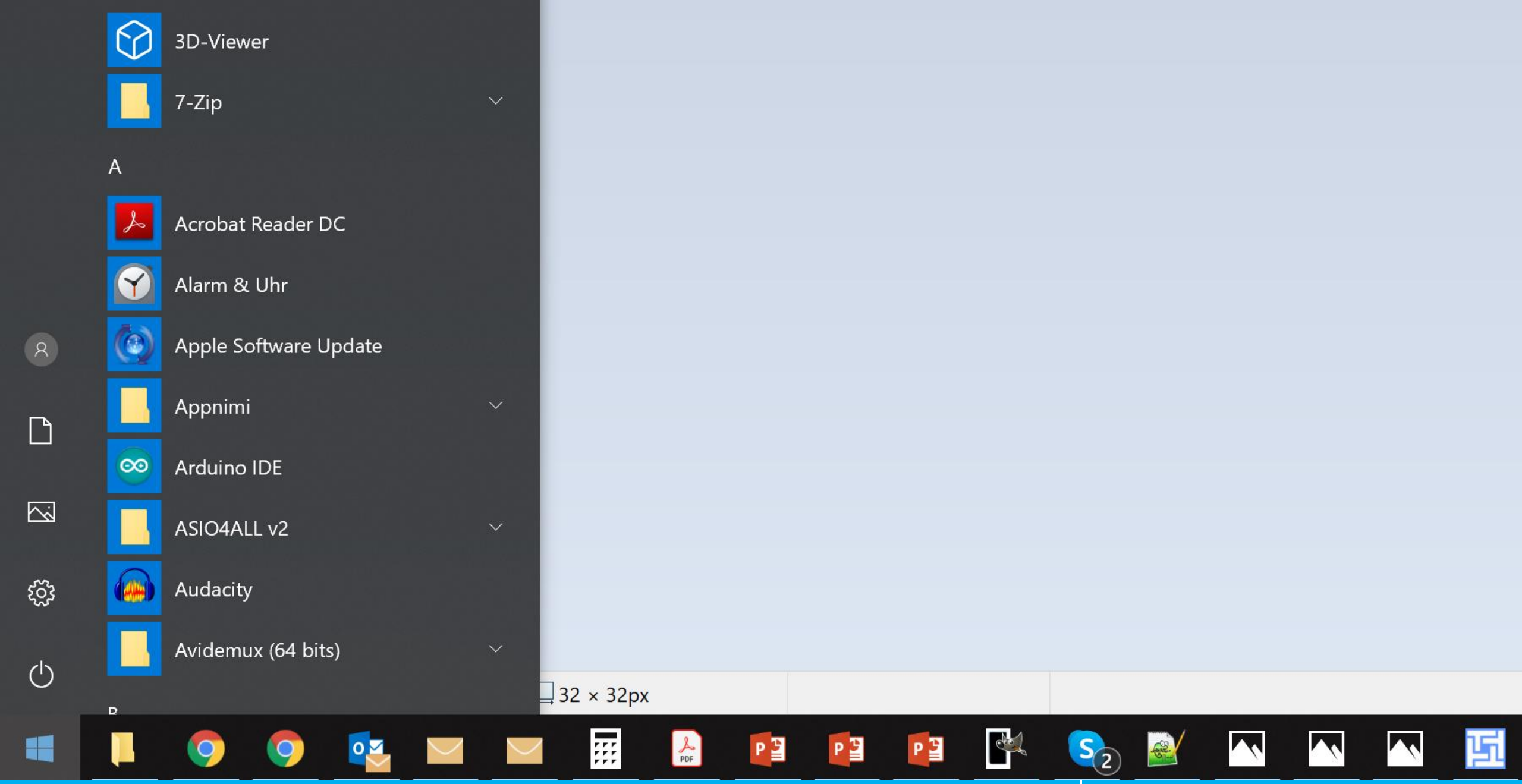
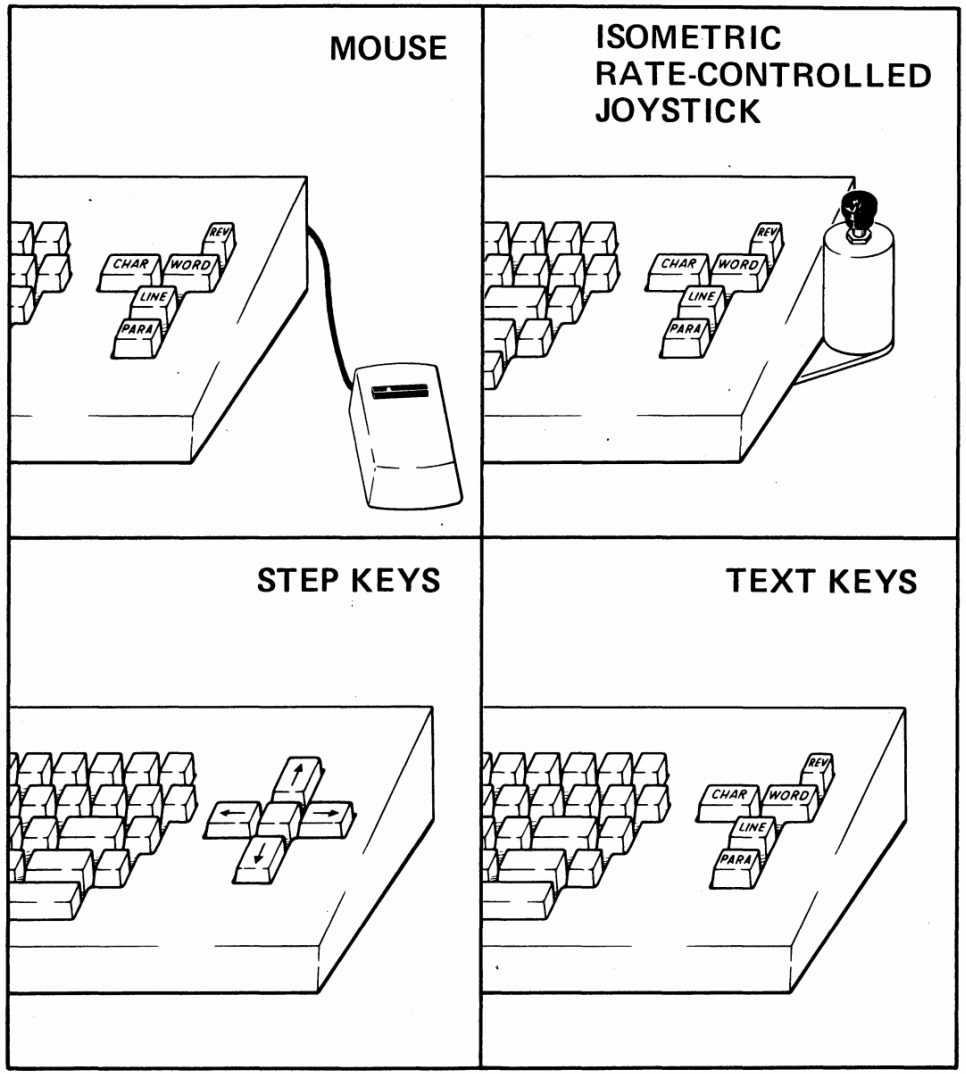


Image based on https://en.wikipedia.org/wiki/File:Wikipedia-fonttest-firefox-3.0.1-mac-os-x-10.5.png by Quiddity (CC BY-SA 3.0) and https://www.pexels.com/photo/silver-imac-on-white-wooden-desk-3740288/ by bongkarn thanyakij (PD)


3D-Viewer
7-Zip
A
Acrobat Reader DC
Alarm & Uhr
Apple Software Update
Appnimi
Arduino IDE
ASIO4ALL v2
Audacity
Avidemux (64 bits)
32 × 32px



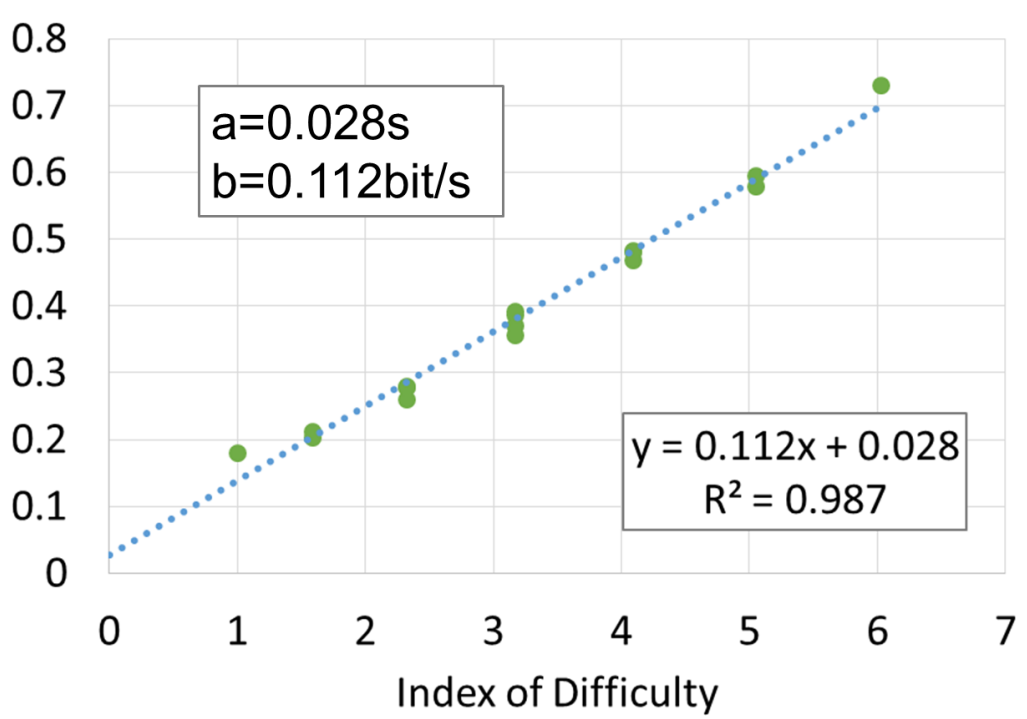
Using Fitts' Law "was a major factor leading to the mouse's commercial introduction by Xerox"

http://www2.parc.com/istl/groups/uir/people/stuart/stuart.htm

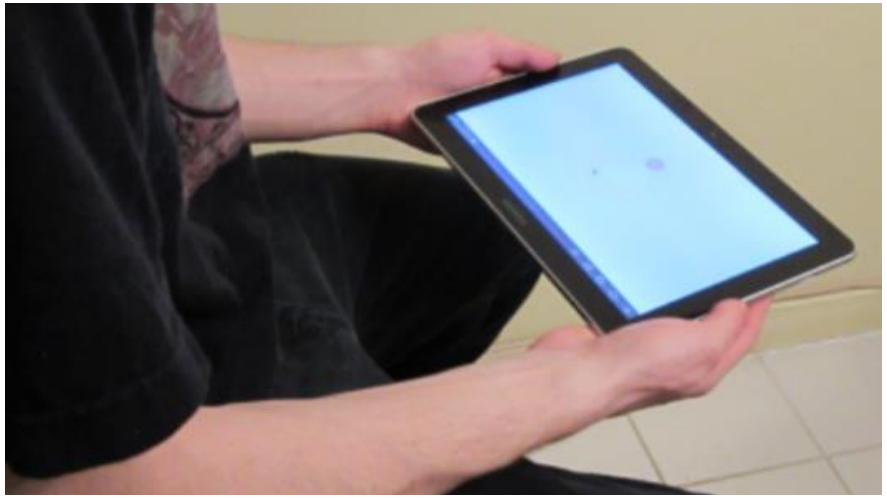
Image from Card, S. K., English, W. K., & Burr, B. J. (1978). Evaluation of mouse, rate-controlled isometric joystick, step keys, and text keys for text selection on a CRT. Ergonomics, 21(8), 601-613.

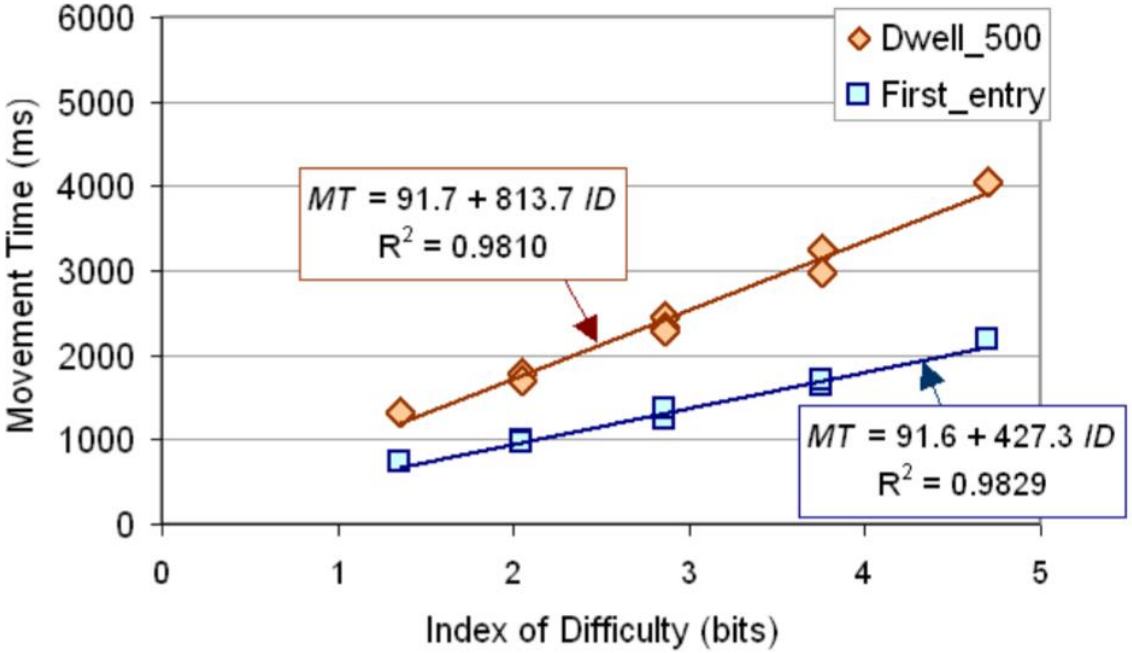
Throughput

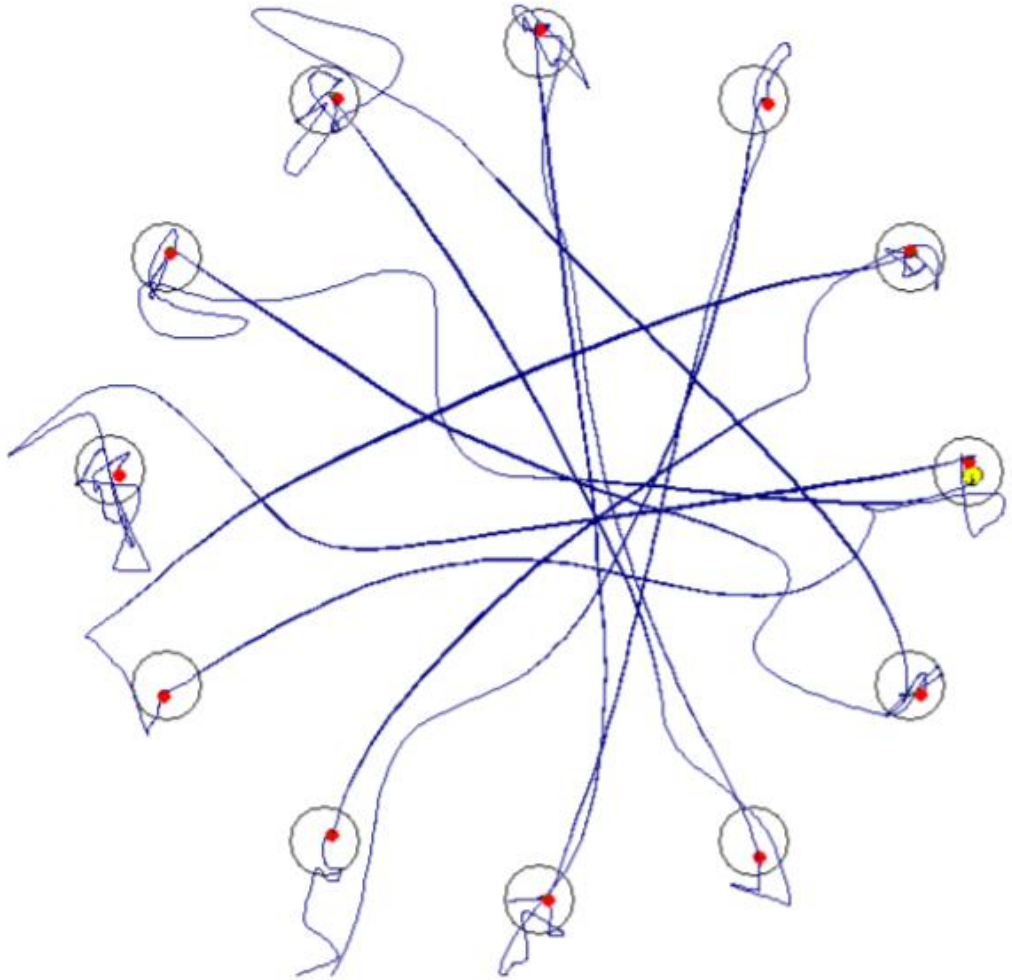
- Single metric for a pointing device
- Different definition:
  - TP = ID / MT (average ID and MT)
  - TP = 1 / b (equivalent to ID / MT if a=0)



- Sufficient to test 6 IDs to determine the device-specific constants a and b
- 6 IDs are enough to compare pointing devices







MacKenzie, I. S., & Teather, R. J. (2012). FittsTilt: the application of Fitts' law to tilt-based interaction. NordiCHI

mouse

touchscreen

Which device has the highest throughput?

touchpad

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