Zoltán Szabó

Gatsby Unit, Tea Talk

June 19, 2015
My tablet got blown away by the wind. Any suggestions?
Electronic ink (=:E-ink)

- Enables electronic paper displays (EPD).
- Pigments as in printing industry.
- Ink rearranges electronically ⇒ graphics.
- Creator:
  - E-Ink (http://www.eink.com),
How does electronic ink work?

- Electronic ink = millions of microcapsules.
- Microcapsule =
  - \(\oplus/\ominus\)-ly charged white/black particles.
- \(\Delta\) electric field: the
  - corresponding particles move to the top,
  - \(\Rightarrow\) white/black 'pixels'.

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How does electronic ink work? - demo
EPD - bistable display

- Power off: image remains.
- Consumes power only upon changing.
  - Example: eReader → page flip.
- Traditional LCD: refreshed at 60Hz.
EPD - reflective display

- **LCD (emissive):**
  - light from a backlight,
  - projection through the display towards the eyes.

- **E-ink display:**
  - reflective surface,
  - no backlight,
  - more ambient light $\Rightarrow$ brighter display.
EPD: lightness + flexibility

- Microcapsules ⇒ E-ink film can be affixed to
  - ≈ any surface,
  - glass, plastic, fabric, even paper.
  - ⇒ light + flexible displays.
- Thin: \( \leq 380 - 560 \ \mu \).
- Rugged: non-glass, shatterproof ⇒ durability.
Sony digital paper (13", 2014, $799)

- ≈ 357.2g, 3 weeks battery, 1,600 × 1,200.
- USB: drag & drop PDFs.
- Memory: 4 GB + micro SD slot.
- Wifi: WebDAV → cloud.
- Stylus.
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Note: Netronix 13.3" (Android, 2015, coming).
E-ink reconfigurable keyboard (Sonder, 2015, $199)

- Keys can change
  - appearance and function
  - application-specificly.
- Works with: PCs, Macs, tablets, smartphones.
- Connects via Bluetooth.
Indicators

- Lexar JumpDrive Secure II Plus:
  - available storage space,
  - platform independent.

- Motorola’s intelligent battery:
  - state of charge & health.
Sony’s E-paper watch (2014)

Battery life: 2 months.
Shelf labels, E-bar, dual-screen phone

- Electronic shelf labels, changeable price tags,
- E-bar: motion sensors → advert when picked up:

- Active phone decoration, dual-screen phone (YotaPhone 2, 2014), E-ink case (e.g., boarding pass, map):
Customization from smartphone.

Example: visualize
- notes, photo, to-do-list, favourite recipe,
- access feeds (daily weather, exchange rates, ...).
- Fully programmable colors and patterns.
  - Example:
    - change wall/ceiling/room color instantly.
  - Interactive surfaces:
    - doors: conference room = occupied?
    - wall: respond to noise/temperature.
Thank you for the attention!
Authors: Pam A. Mueller, Daniel M. Oppenheimer.

Task: taking notes; recall/understanding.

Laptop users:
- tend to transcribe lectures verbatim,
- minimal processing/reframing.

Hypothesis: writing stimulates RAS (reticular activating system), a filter.