Mental Marginality: Dyslexia

Chosen Diversity Group: Dyslexic people (3-7% of the population).

Problem Set/Space: A focus on dyslexics in competitive environments (school and workplaces, where they may feel extra marginalization or pressure). Every manifestation of dyslexia is unique to the individual, but they all relate and have similar obstacles. Dyslexics generally have issues with reading, writing, spelling, pronunciation, and reading comprehension with similar associative issues with numbers and language learning difficulties. Issues with the brain’s language and visual processing, and may also pair with dysgraphia (writing and typing difficulties).

Concept: A framework or system that aids dyslexics in overcoming, or leveraging their “disability” to help them catch up, compete, or get ahead of their peers. Perhaps, treating it less as a cognitive/learning disability but more as a uniquely wired brain, a different way of thinking/problem solving.

Design Rationale:
The concept could take many forms, one digital font interface overlay (OpenDyslexic type) interface, a master software bundle that includes teaching/learning resources and aids for dyslexics and those who teach/raise dyslexic children, and even physical keyboard/cap sets or web overlays for existing hardware sets.

1. Motivation: Make learning and life easier for dyslexics.

2. Form: Multiform – web/mesh overlays, plastic/metal keycaps and hardware, digital software and interfaces.

3. Eng. Ideals: Developed to augment or override existing typefaces and interweave with all programs, replace physical peripherals with niche devices. Open source and free software, with purchasable hardware.

4. Sensuality: Perception/vision

5. Sense-making: At the end of the day it would be nothing more than an available toolbox for dyslexic users to have access too, allowing for the user to move along unhindered, or even more comfortably than the majority, without harming said majority.

6. Outcomes: The outcome of the concept draft system is to make the lives of dyslexics much easier, to avoid the emotional toll of falling behind in school, impacting every aspect of one’s life, and just making things easier.
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### Design:

The concept will take 2 main forms: (Almost no change to 6 facets of design, so they won’t be restated!)

1. **Hardware:** Physical keyboard/cap sets & web/mesh overlays for existing hardware sets.

2. **Software:** A software bundle that includes browser extensions of font overlays, and teaching/learning resources and aids (for both the chosen diversity group and those who handle the population). The bundle also includes software for advanced spell-checking, reading & writing translation aids, and other resources and knowledge bases that the user can choose.

This takes the form in an easy to use application that can function as a HUD specifically for dyslexics, to aid them in all forms of avenues, whether it be casual entertainment consumption or studying, the HUD would be constantly working in the background.

### Example Keycap (Hardware):

![Example Keycap](image)

### Example HUD Overlay (Software):

![Example HUD Overlay](image)
Primary Attributions
source: Research Project 6 (source: Christopher Dillon @11/15/17)
image: Concept draft (source: Christopher Dillon @11/27/17)
image: Keycap design example (source: Christopher Dillon @11/27/17)
image: Software HUD design (source: Christopher Dillon @11/28/17)

Secondary Attributions
source: Dyslexic Advantages; “[a dyslexic brain] ... is organized in such a way that maximizes strength of making big picture connections at the expense of weakness in processing fine details…” (source: https://www.wired.com/2011/09/dyslexic-advantage/ @11/14/17)
source: Advantages of Dyslexia? (source: https://www.scientificamerican.com/article/the-advantages-of-dyslexia/ @11/14/17)
source: What’s a logographic cue? (source: https://en.wikipedia.org/wiki/Logographic_cues @11/14/17)