Access Font | Background Info
April 20, 2021

The 'Access Font' (formerly 'Ceramic' and 'Infinite Font') is a research project led by designer, Emily Carr University alum and project lead Tyler Hawkins to create the first font customizable to the individual needs of people with low vision.

The Access Font is a flexible font for low vision, using the recently introduced 'variable font format' as a foundation. A web tool assesses the needs of individual readers, and translates those needs into an individualized font. A browser extension then "reads" text from the Internet, displaying it on-screen in the user's personalized font. The technology has the potential to improve Internet accessibility and the experience of reading for an estimated one billion people worldwide with visual impairments.

Quick Facts:

- On Thursday, April 15, 2021, the Government of Canada announced $125,750 for the Access Font. The funding is part of a suite of project grants announced by the government through its Accessible Technology Program at Innovation, Science and Economic Development Canada (ISED).

- The Access Font is the first typeface built on the variable font format, Opentype 1.8, for individuals with low vision and visual impairments. The Access Font allows users to tailor shapes to individual needs, both by choosing relevant typographic error-mitigation strategies and by adjusting the degree to which these strategies are used. For example, one person might find it most helpful to expand the size of punctuation in order to have a better grasp of sentence structure. Another user might find text more readable if the spacing is wider. Others benefit from increased distinction in word shape, or differentiation between similar letters.

- Over the next year, Hawkins will work with a web developer and a font engineer as well as the Shumka Centre for Creative Entrepreneurship and Health Design Lab at Emily Carr University, and Disability Alliance BC (DABC) to develop, test and release the Access Font software.

- The Access Font began as a grad project during Hawkins' Bachelor of Design studies at Emily Carr University. (Hawkins graduated in 2020 with a major in Communication Design). The project was then incubated through Shumka Centre's Satellite Residency – a program to support emerging artists and designers by connecting them with industry partners to realize self-directed projects. This led to a partnership with the Health Design Lab and DABC to apply to ISED for a grant under the Accessible Technology Program.

Statistics on Low Vision:

- The WHO World Report on Vision states that 2.2 billion people worldwide have a vision impairment, and at least one billion people have a vision impairment that has yet to be addressed. This includes 826 million with unaddressed presbyopia (age-related visual impairment), 123.7 million with unaddressed refractive error, 65.3 million with cataracts, 6.9 million with glaucoma, and 4.3 million with corneal opacities. Many of these sources result in a variety of blurs and a lack of focus in sections of the visual field. Rates are higher in aging populations and women, but impact all populations.

- A study by researchers at the University of British Columbia and Queens estimates that between 135 and 270 thousand Canadians are impacted by some form of low vision, defined as vision below 20/40 but above 20/400 by the World Health Organization. Some 16 million Americans are affected by low vision with the highest growth due to a rise in diabetic retinopathy (Braille Institute, 2020).

- Text is a major component of communication, and is central to screen-based information delivery. Common fonts are not designed specifically for people with low-vision, hindering their access to information and the Internet. Current fonts designed for the low-vision community cannot be shaped to each individual. The Opentype 1.8 variable font format enables the Access Font to be the first to adapt to each user, improving their access to the digital economy.

- We expect the Access Font to improve the experience of reading on-screen for 1.35 million Canadians and one billion people worldwide, improving their access to information, employment, and community.

Workflow Overview:

- **Shumka Centre for Creative Entrepreneurship**
  The Shumka Centre will contribute expertise and mentorship on technology development, strategy, and implementation.

- **Health Design Lab**
  The Health Design Lab will design and lead participatory design activities to engage low-vision communities in partnership with the DABC.

- **Disability Alliance BC (DABC)**
  DABC will engage constituents in participatory design activities and user-testing at different phases of project development. DABC will also contribute to the formation of a network of organizations to release the beta version of this software.

- **Quinn Keaveney**
  Keaveney will create the web tool and browser extension. He is a designer, developer, and Emily Carr instructor.

- **Mirko Velimirovic**
  Velimirovic will be helping to build the font technology. He is a font engineer with a focus on developing open source variable fonts for Google.

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