

TYPEFACE

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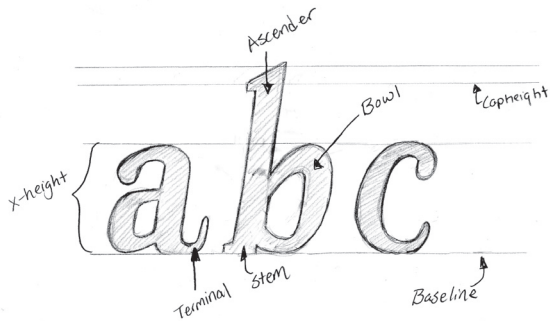


Figure 1: Some type anatomy and terminology.

1 Introduction

The design of typefaces is founded upon principles from the days of metal type, when creating individual fonts was a laborious process and constrained by physical requirements. Most digital type design follows those same conventions, even though fonts are now drawn with vectors and pixels. Fonts are still largely based on historical references and are created in the context of publishing.

Technology gives us opportunities to make type design more spontaneous and personal. TYPEFACE is software that uses camera vision to translate facial dimensions into generative type design.

2 Approach

Letters are drawn from mathematically generated curves controlled by distinct variables that determine such characteristics as x-height, bowl curvature, stroke weight, and slant.

This design approach allows for a more natural, handwriting-like rendering. Not only does this contrast with the geometric qualities generative type experiments tend to take, but also challenges the conventions of typing versus writing. Since the type generation runs live, typing a note in the software accumulates a range of natural variation.

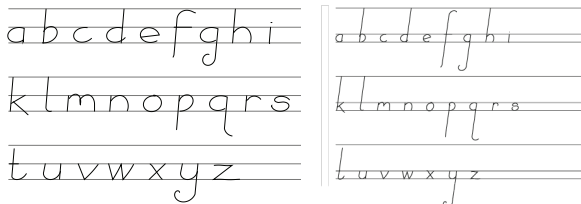


Figure 3: Samples of alphabets created with the software

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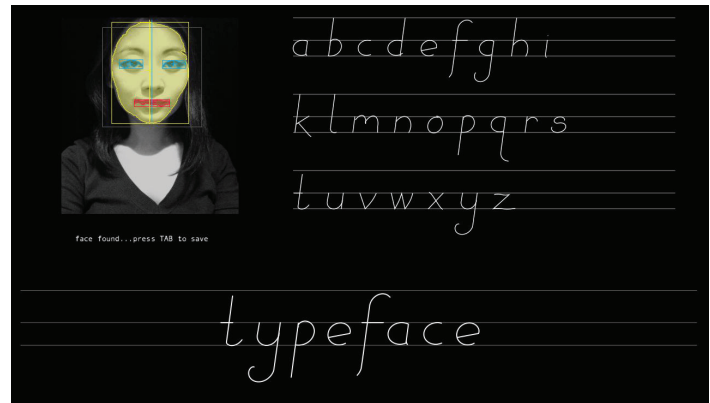


Figure 2: Screen capture from the program.

3 Implementation

The software uses open-source software for facial recognition and blob detection. It finds blobs associated with the face, eyes, and mouth of the user and uses the respective values to determine the variables in the type design. Mapping the face variables to the type variables can have a number of different implementations for varying effects. For instance, in the current model, smiling or moving the mouth increases the width of the letters, and widening the eyes and mouth will draw letters with larger x-height. If you yawn, the letters will yawn with you.

Individual typefaces can be saved and exported as pdf files. Since the software is built with open-source tools, this makes the project easily accessible for continued development and exploration.

TYPEFACE was originally intended as a typographic photobooth installation in which visitors step in front of a backdrop and interact with the program running on a computer with a webcam, and then a typographic photostrip can be printed. Previous exhibition experience has revealed that people largely enjoy manipulating the type by making faces. As the project progressed, there was much interest in a standalone application that people could try on their own.

Digital typography becomes an engaging individual experience. In exploring the potential of now readily accessible interactive technologies, we not only can redefine basic standards of computing like font formats, but we can redefine our expectations of digital communication.