

Provisional Patent Application for a process to automatically convert books from normal typography to audiovisual typography

I, Oliver R Song, have invented a process to convert books from their normal typographical layout to an “audiovisual” layout using computer software and user voice input. The process is to use the relative volumes and inflections of a selected reader’s voice to change the font sizes of the typed words accordingly and automatically change a text of normal typography to this enhanced audiovisual typographical format. The setup involves a computer, a microphone or other audio input device connected to the computer, text adjusting software, an algorithm relating audio volume and inflection to font size, and the book to be converted. The detection of volume/font size relationships can either be through a computer software or manual input.

There have been multiple instances in the past of people manipulating typography to make text have impact. The culmination of changing typography has been coined “Kinetic Typography” and is used in movies and short films as a stunning audience attention getting device. However “Kinetic Typography” has not been used to modify books and print or publish books in special typographical formats. Even if font size has been changed in books, there have never been established systems of converting books to different typographical formats. With my system, multiple versions of a single text may be possible- depending on who read the book for the converting font size algorithm. I believe that books published in the special typographical format will increase readers’ reading speeds as well as comprehension rate. This system is important because it may help people read faster and more easily- especially on standardized tests where speed and comprehension can dramatically impact a student’s score.

In the past people have experimented and have made an art form out of “Kinetic Typography”. It is a style of making films in which only words are presented in a way that emphasizes their inflection. The following is a description of kinetic typography by Johnny Lee Chung:

“Kinetic typography refers to the art and technique of expression with animated text. Similar to the study of traditional typography of designing static typographic forms, kinetic typography focuses on understanding the effect time has on the expression of text. Kinetic typography has demonstrated the ability to add significant emotive content and appeal to expressive text, allowing some of the qualities normally found in film and the spoken word to be added to static text. Kinetic type has been widely and successfully used in film as well as in television and computer-based advertising. Perceptual psychology research on attention, reading performance, and comprehension has indicated that time-based presentation of text can be used effectively to capture and manipulate a viewer’s attention and in some cases improve overall reading performance.”

My system of converting normal typography texts into audiovisual typography is preferable over other systems because it is efficient, mostly automated, and increases reading speed and comprehension rate.

I’ve included a few drawing sheets:

FIG. 1a is an example of normal typography excerpted from Catch-22 (Heller 18)

FIG. 1b is an example of the same text in audiovisual typography style.

FIG. 2 is a flowchart overview of the conversion system.

FIG. 3a is a representation of the logic the algorithm will carry out to decide font size.

FIG. 3b is an alternate representation of the logic of the algorithm with different font styles included as well as changes in font size.

The components of my invention are:

- The book or transcript of the book that is to be transcribed and changed.
- A audio input device
- A computer to run the software
- Software running an algorithm to choose font size based on speaker volume and inflection
- A printer
- An OCR scanner

The method of making the software and algorithm for the conversion process will be well known to those with ordinary skill in the computer science field.

My method achieves its results as follows: a person will obtain the book to be converted. This can alternatively be a text file transcript of the book on the computer. The OCR machine will convert the book into a text transcript. The specified reader of the book will open up the software program on the computer and insert the audio input device to the computer. The reader will read the book through when specified by the program. Optionally, the software may alert the user to which word it is trying to match up with in every line. This is similar to a “karaoke” word highlighting setup. The program will automatically generate a corresponding text file transcript of the modified book. Optionally the computer will automatically print this file onto a similar book. Also alternatively a software program to assign volume values based on decisions made by artificial intelligence “fuzzy logic” may scan the book to generate the new text file transcript.

There are many alternative ways that my system can be implemented:

- The reader may use many different tools to access audio input
- The reader may manually change the font size after the algorithm changes it automatically
- An OCR machine in the beginning is optional in the case where a digital transcript of the book is already accessible.
- A “karaoke” style word highlighting setup may be used in the software to help the user and computer match up words to audio input.
- This does not necessarily need to be for books; the method can also be applied to magazines, pamphlets, or any other types of publications
- The font size may not necessarily be the only thing to change- font, italics, bold, color, or any other attributes may also be changed as defined by the creator of the computer algorithm or by the discretion of the user
- This process could be fully automated for mass production or go in steps with multiple user checks for such things as custom changes to typography