Automated Digital Comics Reading System Based on Image Processing

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The goal of this project is to add auditory dimension to digital comics using Optical Character Recognition (OCR) and Text-To-Speech (TTS) technologies, as well as improving accuracy of existing MODI OCR library. The following are ideas to increase the accuracy of OCR library. First, the system separates areas with text from the original image by labeling and merging algorithms, then applies predefined preprocessing filters, and then passes the results to OCR library. Afterwards the system filters wrong results of OCR from areas without texts through Google search. Google search is used as a measurement to see if the words make sense. We achieved the main goal of adding auditory dimension to the experience of enjoying digital comics. The accuracy of the MODI OCR library was improved utilizing the methods we provided. These methods can be applied to increase the accuracy of other OCR libraries with small data sets. With this system, everybody, including visually impaired people can experience digital comics at a whole new level.

Awards Won: