Generating PowerPoint Slides from Hand-Drawn Sketches

Jeff Wheeler - jeffwheeler@stanford.edu
Muneeb Ahmed - ahmedm@stanford.edu

Description

As engineers, we often find ourselves spending a non-trivial amount of time converting sketched diagrams and figures into digital format. To solve this problem, we aim to convert hand-drawn sketches (including shapes, texts, arrows, etc.) to PowerPoint slides. The goal is to accomplish this by using techniques such as OCR and shape recognition algorithms. Upon searching the internet, we came across several papers on shape-recognition but none of them are in the context of presentation slides. There are several algorithms out there that aim to detect shapes and other hand-drawn figures. We aim to bring together these algorithms along with our own to make an effective program for conversion of hand-drawn sketches to PowerPoint presentations.

Implementation

We intend to initially detect slide boundaries and then detect the interior contents after aligning the frame based on the boundaries. We will be able to detect shapes of variable size via the linear components and a collection of other similar algorithms.

We intend to capture photos using Android, then send photos to a server to generate slides and combine them into a PPT presentation, and return them to the phone for viewing and sharing (e.g. via email). The server side code will perform all image recognition and formatting for the resulting presentation.

References