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A SYSTEM TO GENERATE PRINTING OPTIONS AND MITIGATE PRINTING OUTCOME ISSUES

HP INC

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A system to generate printing options and mitigate printing outcome issues

Abstract

This publication disclosures a system that can automatically generate optimized printing setting based on the printer model and the document metadata. Printers have different settings that can be tuned to have the best print out. The settings setup can be hard to the end user, that may not know all the capabilities and options of the printer. In order to minimize this problem, we propose a solution that analyze the document and the printer to find the best match.

Description

The general steps involved in the interaction with the system and its processing are shown on Fig. 1. Possible variations of this flow include the case when the user may not select print options or not select the printer.
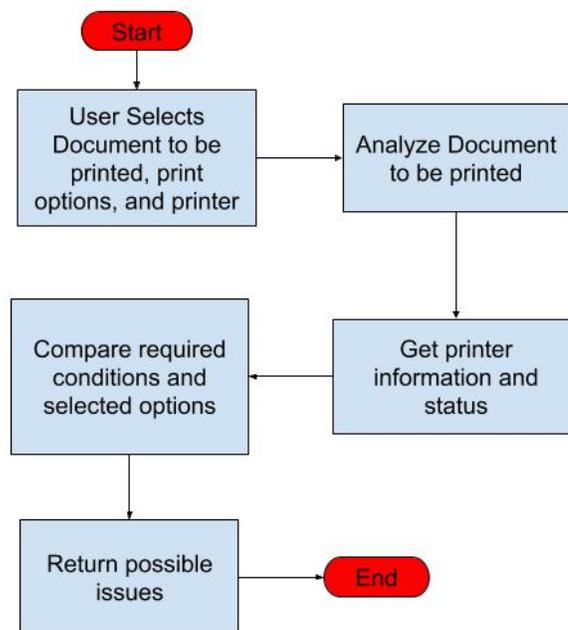

Fig. 1

Fig. 2 shows an example of the system in use with a voice assistant, where the system would generate the printing options for that document and return to the assistant application possible printing issues that may occur. The client (virtual assistant) can automatically use the recommended settings or ask the user to decide. This is important in this scenario to reduce the number of manual setting that the user needs to configure in order to have a better experience.
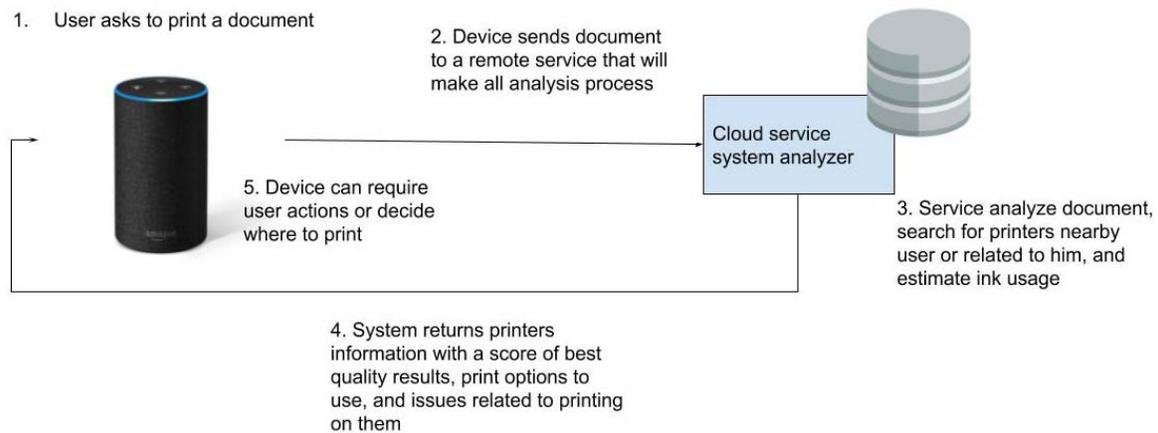
Fig. 2

The analysis step extracts content information from the document to identify existent areas of text and images. In some cases when the file format needs to be analyzed as an image format, text recognition, segmentation, or other image processing algorithms can be used to identify the real content that is present (a text or image region).

After the document analysis, the system requests the capabilities and the status of the printers available, and in the case that more than one printer is available compare against the document information to identify where the document can be printed with a suitable quality for the given content. In this step also ink usage can be estimated and compared against the current printer ink levels. The information considered include location, printer type, ink levels, duplex, colored, loaded paper, number of jobs in the queue and others.

At the end the system will return the preferred setting, suggested printer and also may return possible issues (in the case that the problems found could not be fixed just with settings) that the user may face, such as possible ink shortage, bad quality, or incompatible paper size for the printing of the selected document and a printer.

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