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A METHOD TO CORRECT AND REPRINT AN IMAGE AT THE PRINT DEVICE USING A LIST OF COMMONLY MADE PRINT CUSTOMER ERRORS

HP INC

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Title

A method to correct and reprint an image at the print device using a list of commonly made print customer errors.

Abstract

Many times a customer walks to their shared printer to retrieve their printed document only to find they made a common mistake in the print set up. This mistake might include simple things like; image rotation, image scale, simplex images, number of copies, address orientation on an envelope, color/monochrome or many others. This mistake would require a customer to return to their desk, make the necessary corrections, resend the job and then walk to retrieve the job again. This innovation would allow the customer to quickly identify and fix the issue right at the printer, saving valuable time and frustration.

Problem(s) Solved

Networked and shared print devices are more and more common. In effort for companies to reduce their printer management costs they often reduce the number of printers per employee. This requires the end user to walk further to retrieve print jobs. When the end user makes a mistake in the print job set up they waste paper and toner but more importantly, valuable time walking back and forth between the printer and their desk. This innovation saves the end user time and the company money by allowing the end user to fix and reprint common printing errors right at the shared printer.

Prior Solutions

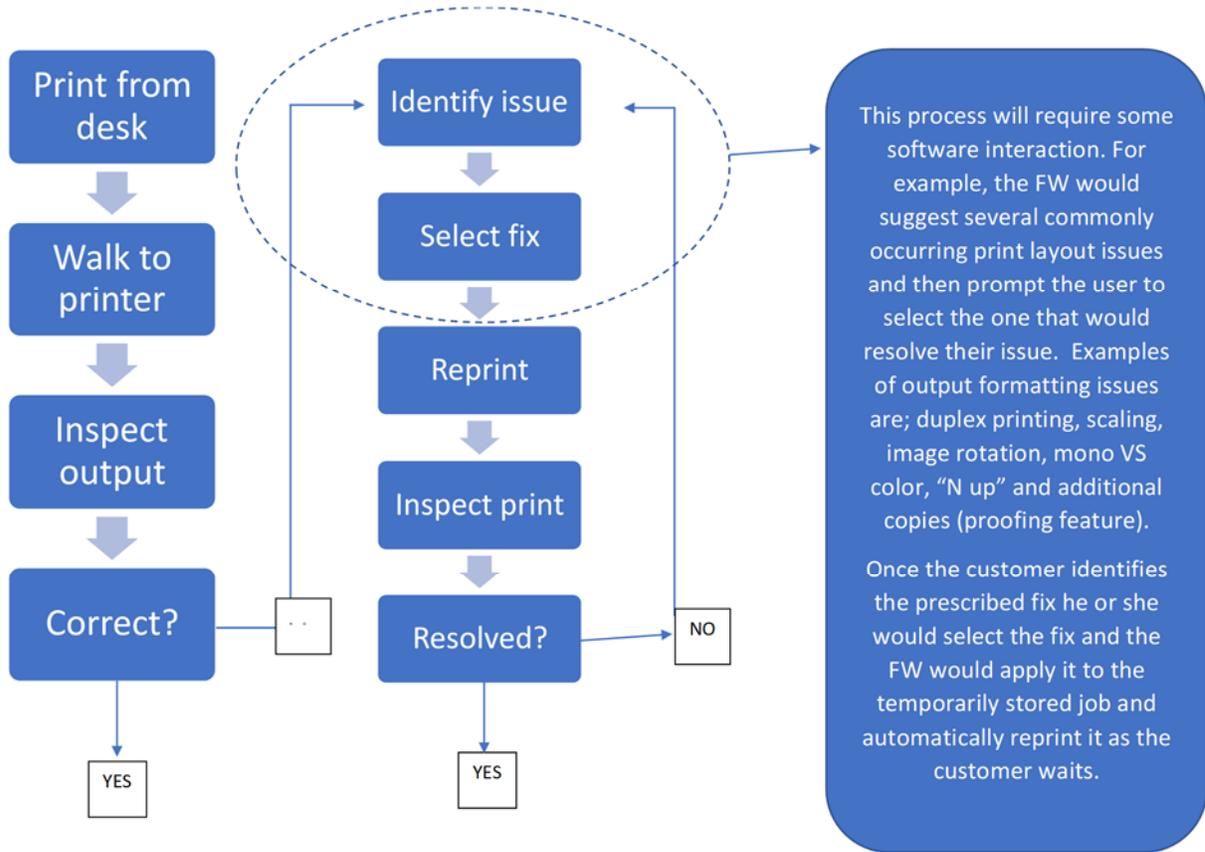
Print preview (e.g., US5963216, US20020046238). Print preview does not always capture the error the customer made. Print preview also does not address the case where the customer changes his / her mind in between the time when the job is printed from the print driver until output is picked up at the print device. Many customers simply do not use the print preview feature available from a driver.

It is important to note the use cases described in this invention are not print preview. Print preview allows the customer to see an image of their job as it would be printed. The solution described here prints the job as it was submitted, then, after the job is printed, asks the user if the output was rendered as intended.

Pull print. Pull print jobs are equally susceptible to customer print setup and configuration errors as standard print jobs. A job rendered and sent to the server (cloud) may later be found to have an incorrect setting by the customer, or the customer may change his / her mind about a setting used.

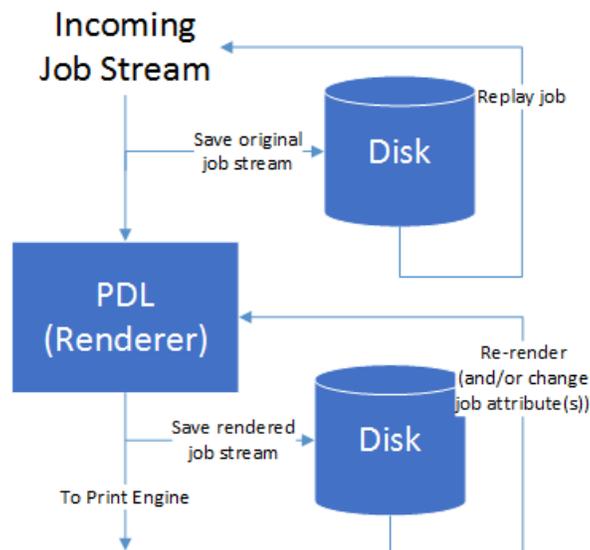
Description

A customer sends a print job to the printer, walks all the way to the device and then sees the printed output is incorrect. This failure is usually a result of the customer's print job set up but causes frustration none the less. This new process would prompt the customer to correct the print job on the screen. The customer would identify his/her error from a list of defaults on the control panel screen. The user interface would help the customer zero in on the exact issue and allow the customer to see what the image will look like once reprinted. Once the customer is satisfied with the new image she or he can initiate the reprint command and watch the newly corrected print emerge from the printer. This is all done while standing at the device, saving time and money.



Implementation Variants

In order to reprint the job the original job must be saved so it can be replayed if the user wants to apply a change. There are options here: 1) the original job stream must be saved, 2) the job as rendered by a Page Description Language (PDL) must be saved, or 3) both.



Arguably the most straightforward approach is to save the original job stream. When the customer decides, for example, that the originally printed simplex document should be duplexed, the original job stream can be fed back into the PDL as a new job stream. The new job stream can change a Printer Job

Language (PJL) string, included in the original job stream or added by the replay process, to indicate duplex printing.

We are not aware of existing art in this area, specifically a device saving the original job stream for replay.

An alternative approach is to save the rendered job. Changing the job plex mode could be as simple as changing a ticket associated with the job that describes the job intents. Changing other job characteristics, for example, a switch from printing on Letter paper to A4, may not be as straightforward since re-rendering the job may be needed in order to get the image to properly scale on the new media size.

Saving a rendered job is similar to the way the 'print stored job' feature works, with the exception that printing a stored job does not require re-rendering the job. That is one aspect of this invention that is likely novel. (Re-rendering an already rendered job may require a "PDL" that knows how to, for example, interpret a rendered job and/or the metadata associated with the rendered job, change the attribute(s) desired by the customer, then repackage the rendered job.)

Finally, there may be some combination of the two options that provides a richer solution to the customer, depending on the specific set of attributes the customer wants to change. The implementation ultimately selected will depend, at least in part, on the set of job attributes made available to the customer for possible change.

Advantages

This approach offers numerous advantages.

A customer that prints a job simplex, when they intended to print the job duplex, could make that change at the print engine, without needing to return to their desk and reprint the source file. In addition to plex mode, other job settings that may be candidates for changing at the print engine include: monochrome / color mode, page orientation (portrait vs landscape), finishing options (stapling location, hole punch, etc.).

This invention could be applied to stored jobs and pull print jobs, again, saving the user the time of resending the original job with the attribute changed.

Disclosed by David M Payne and Bruce Mayes, HP Inc.