iOS Print/Scan how to

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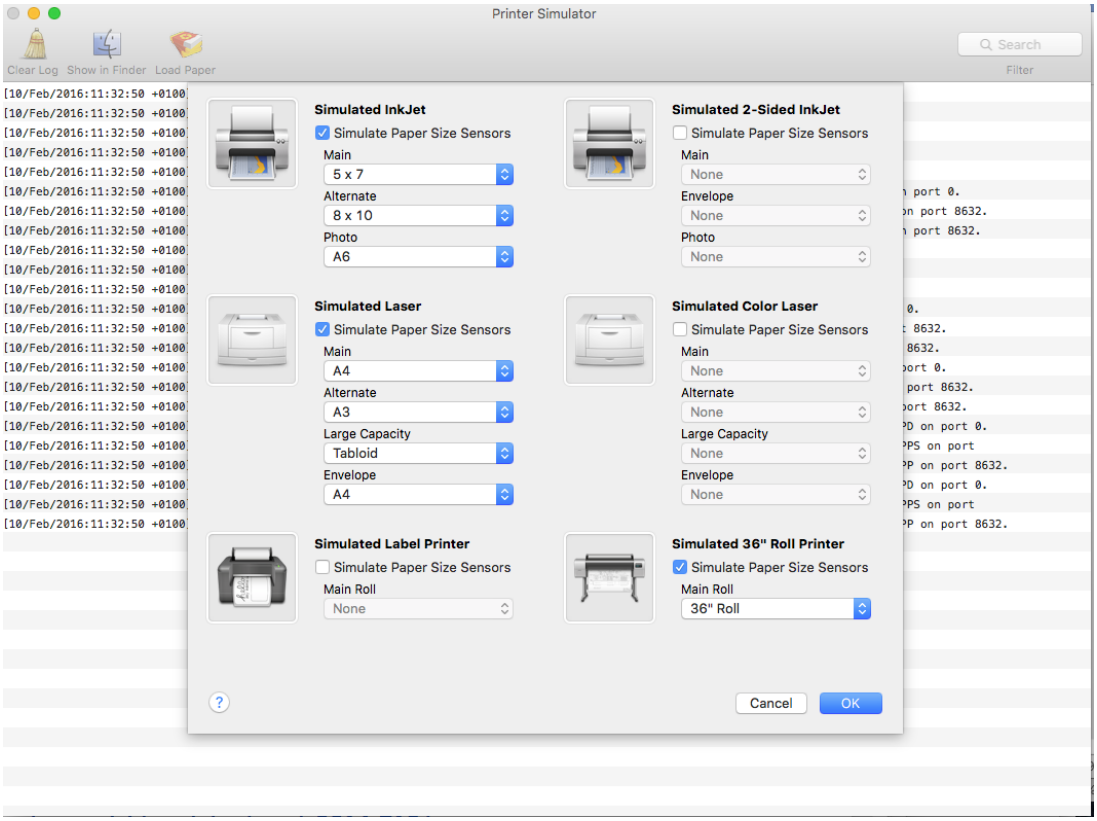
Introduction

All current HP Designjet printers support the Airprint protocol to print from iOS, so printing to a large format print could be as simple as print to any other printer in most cases. You just need to take into account some particularities if you need more control or have a format not natively supported by airprint.

How to start

To start developing printing functionality you just need Apple's printer simulator. You can download it from apple downloads page. It its bundled on the iOS hardware IO tools. Once you start the simulator you can select which printers you want to simulate. To simulate a designjet just select a "simulated 36" roll printer" and load the roll size you would like to test.

You can check that everything is working well by printing from any existing "print enabled" app like mail for instance. Just send a blueprint and see how it will be printed.



Send a job and the output will be shown on the preview app with some yellow borders; those borders indicate the paper margins (area were the printer cannot print, so if you place any content there it will be ignored).

Coding

To start printing one of the iOS supported files like PDF, JPG or PNG you just need your UIViewController to conform to `UIPrintInteractionControllerDelegate` , create a `UIPrintInteractionController` and send a `printingItem` like in the example.

```
import UIKit

class ViewController: UIViewController,UIPrintInteractionControllerDelegate {

     @IBAction func print(sender : AnyObject) {


        if let myData =
NSData.dataWithContentsOfMappedFile(NSBundle.mainBundle().pathForResource("Dsize",
ofType: "pdf")!) as? NSData{
            let pic = UIPrintInteractionController.sharedPrintController()

            if UIPrintInteractionController.canPrintData(myData) {
                pic.delegate = self
                pic.showsPageRange = true;
                pic.printingItem = myData;
                pic.presentAnimated(true, completionHandler: nil)
            }
        }

     }

}
```

In most of the cases that's it. You have to do nothing else. The output will be optimized automatically based on the media available on the printer (rotated to save paper or avoid clipping if needed, scale down if does not fit etc..)

Tips and tricks

If your document format is not supported by the UIImage or in PDF format then you will need to go thru and extra step and create a UIPageRenderer where you will have to draw the document on a context. For more details on how to do that you can check the apple examples and the documentation. In HP we have done that several times so we can support you doing that.

Some examples where you would need to create a page renderer could be:

-You need control on where to place the document on the paper. For instance if you want to place a document on the left or right side of the roll paper to minimize paper cutting.

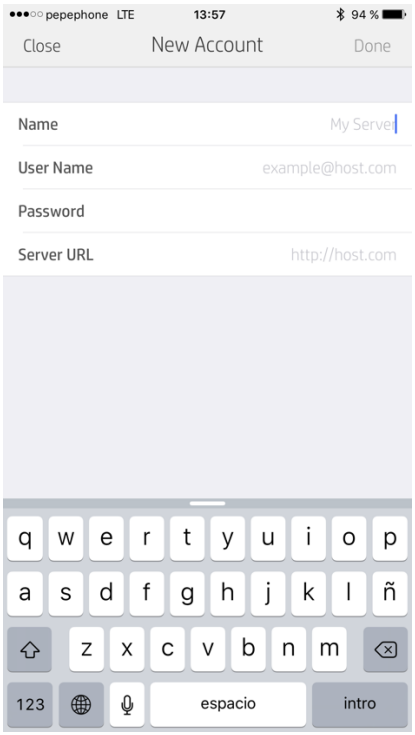
-You need to print a document to a different size that the one that is specified on the original document, for instance to print a half size version of a blueprint, to print an image to a specific size for instance to frame it with a standard frame.

-You have your document in tiles, like google maps, so you will need to create a document where you put draw all those tiles.

Scanning on the Designjet T830

Large format scanning is available on the T830 printer. In order to have this functionality accessible to a partner there are 2 options:

-Use AIO remote app : HP provides a a free app on the app store for customers where they can scan directly to some predefined cloud services like dropbox, box, drive, etc.. There is the possibility to scan to any repository by using webdav protocol. User configuration looks like:



-Implement scanning protocol: HP provides a RESTful API to access the scanner. In that way the developer has a full control on the scanning at some additional implementation cost. The API consists basically in these steps:

- GET Manifest file describing wich subset of the REST API is actually supported on that specific printer. As the API is supported on most of the HP mfp's including small format the client is responsible to use just the supported feature set.

- GET Scanner Capabilities from the MFP.
- GET Scanner Status , to make sure that everything is correct before the scanning.
- POST new scan job Request with a job ticket in XML including all the required scanning settings.
- GET Scan Results by calling the url returned when the job is sent.
- DELETE (or cancel from mobile device) Ongoing Scan Job

Other sources

Airprint page

Adopting airprint video

Hardware IO tools for the printer

Example from apple on how to print in a roll printer

Example on how to print to a roll print and a UI renderer doing half size and watermarking (swift and objective-c)

UIPageRenderer sample from Apple

Airprint printing tutorial