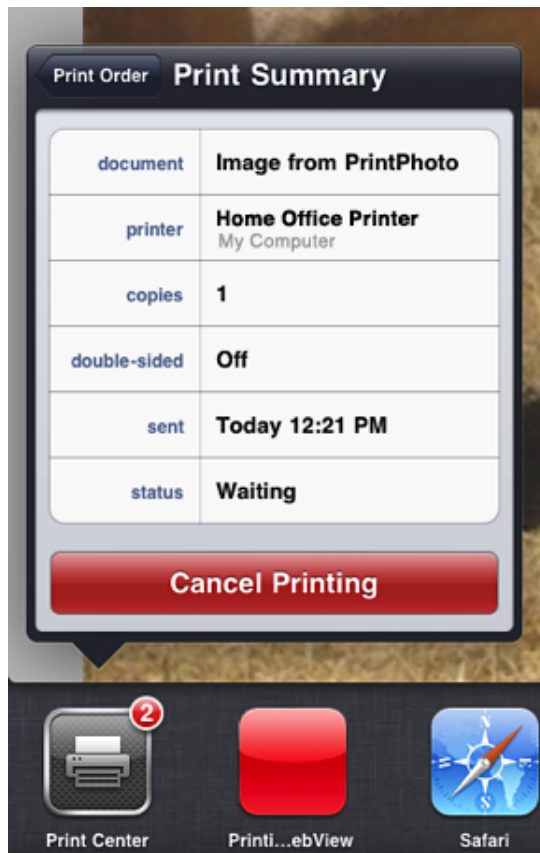


Figure 6-5 Print Center: detail of print job



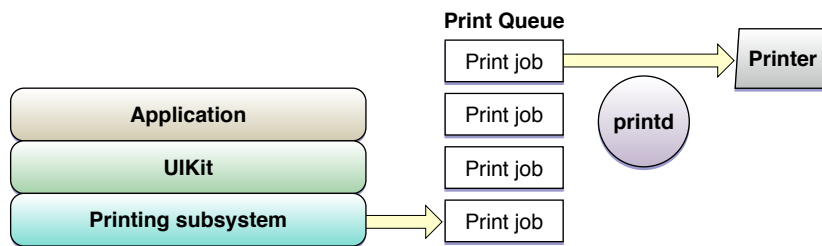
How Printing Works in iOS

An application uses the UIKit printing API to assemble the elements of a print job, including the content to print and information related to the print job. It then presents the printer-options view described in [“The Printing User Interface”](#) (page 55). The user makes his or her choices and then taps Print. In some cases, the UIKit framework then asks the application to draw the content to be printed; UIKit records what the application draws as PDF data. UIKit then hands off the printing data to the printing subsystem.

The printing system does a few things. As UIKit passes the print data to the printing subsystem, it writes this data to storage (that is, it spools the data). It also captures information about the print job. The printing system manages the combined print data and metadata for each print job in a first-in-first-out print queue. Multiple applications on a device can submit multiple print jobs to the printing subsystem, and all of these are placed in the print queue. Each device has one queue for all print jobs regardless of originating application or destination printer.

When a print job rises to the top of the queue, the system printing daemon (`printd`) considers the destination printer's requirements and, if necessary, converts the print data to a form that is usable by the printer. The printing system reports error conditions such as "Out of Paper" to the user as alerts. It also reports the progress of print jobs programmatically to the Print Center, which displays information such as "page 2 of 5" for a print job.

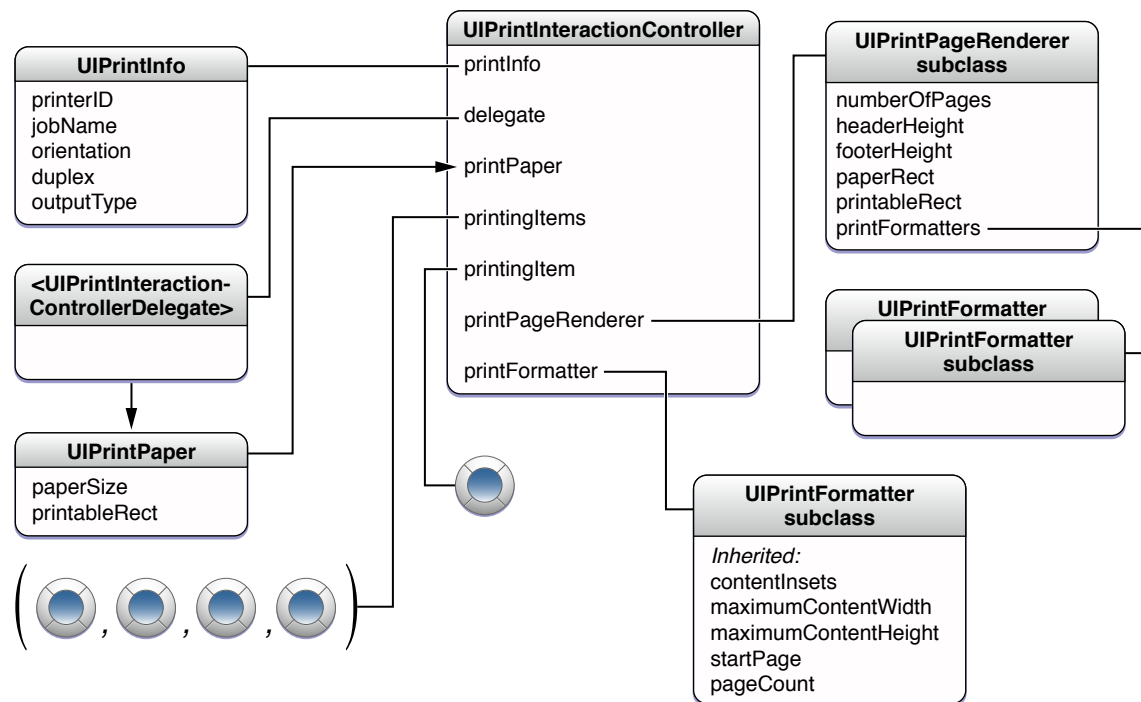
Figure 6-6 Printing architecture



The UIKit Printing API

The UIKit framework publishes the programmatic interface for printing. The API includes eight classes and one formal protocol. Objects of these classes and the delegate implementing the protocol have runtime relationships as depicted in Figure 6-7.

Figure 6-7 Relationships of UIKit printing objects



Overview of the Printing Classes and Protocol

Objects of the UIKit classes for printing have specific roles and responsibilities.