Introduction

Motivation

Kodak Picture Maker Kiosks allow customers to purchase high quality prints of pictures stored on virtually any form of media. Recognizing that many of the latest generation of mobile devices are equipped with digital cameras, Kodak wishes to enable a new audience of mobile device users to communicate with their kiosks. Kodak has embraced the Bluetooth standard of wireless data transfer protocols for transferring images to Picture Maker Kiosks.

Goal

The goal of this project is to enable Kodak Picture Maker Kiosks to print from mobile devices that utilize the Object Push Profile (OPP), File Transfer Profile (FTP), and Basic Printing Profile (BPP) to transfer images.

Our implementation will be a replacement of the current implementation in the kiosk (handling only OPP and FTP) from the Object Exchange (OBEX) layer upwards.

(see figure in center)

Process

Waterfall

Since the bulk of our requirements existed in Bluetooth and Kodak API specifications, we felt one waterfall iteration would produce what was needed.

Architecture

The layers can be clearly seen in our design. These layers directly mimic the layers of Bluetooth.

A detail that removes our design from the traditional protocol stack design is the reference upward from OBEX to the profile. This leverages the single user aspect of the system to allow for a much simpler “event driven” implementation.