Smart (Google) Android Photo Frame with Wireless Connectivity

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ABSTRACT
In this project, we are designing a smart photo frame which can do a lot more than simply displaying photos. Armed with a powerful ATM processor and a DSP chip, this device makes multimedia sharing and photo browsing fun!

INTRODUCTION
This is an innovative project because it designs a Digital Photo Frame (DPF) using a mobile phone operating system (Google Android) and this is indeed a new and a more economical solution. We believe that a DPF should be fun and easy to use and the user’s experience is the most important factor that needs to be considered while designing this photo frame.

FEATURES
- Basic Photo viewing, slideshow and editing features
- File Manager, 3D icons, menus and Graphics
- OpenGL special Effects and Coverflow
- Audio and Video players
- Internet Connectivity
- Web Browser

METHODOLOGY
The initial program prototype was designed with a very basic 4-activity layout android application in November last year. Since then, each module was coded and deployed into the main program and tested regularly in the emulator. The synchronization and multi-thread management was the most tedious programming challenge with the all the 3D applications.

RESULTS
The fully functional Photo Frame was the final result as expected. The kit’s performance was amazing and the graphics were crisp. However, the internet connectivity performance was not quite satisfactory. Due to some manufacturing issues in the development kit, the Wi-Fi was unstable and unreliable.

Menus and Features
The interactive menus were the center of attention. The intuitive program structure was very easy-to-operate and the 3D affects were smooth. The program was quite stable after many stages of testing and development.

Coverflow View
This was a very useful feature that was implemented using OpenGL (ES) in our system. The original idea was adapted from the Apple iPhone Coverflow. Here the cover-flow displays images instead of music album art.