**Background**

Consumer electronics such as cell phones, cameras, picture frames, and laptops have made great advancements in the last few years. The amount of storage and the capabilities of these devices have increased dramatically. However, difficulty remains in transferring multimedia files between these devices.

**Motivation**

To create a communication platform that would allow Kodak Research Labs to implement system prototypes for research experimentation that transfer multimedia content between different personal devices in a household environment. The connection between devices should be seamless and transparent to both experienced and inexperienced users.

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**Process - Evolutionary Prototyping**

1. Develop Abstract Specification
2. Build System Prototype
3. Use System Prototype
4. Deliver System

- **Yes**: System Adequate?
- **No**: Revisit Cycle

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**Technologies**

- Microsoft .NET Framework
- Bluetooth
- Universal Plug and Play
- Digital Living Network Alliance

**Deliverables**

- Communication Platform API
- Communication Platform Documentation
- 2 Demonstrations of Use Cases Using Communication Platform

**Challenges**

- Large Project Scope
- Unfamiliar Technologies
- Bulky Protocol Standards

**Future**

- Complete Compliance to UPnP and DLNA Specifications
- Support Additional Bluetooth Profiles
- Unified Authentication Mechanism Applicable for All Protocols
- Can Be Extended for Alternative Communication Protocols

**Platform Features**

- Discovery of Devices
- UPnP Devices
- Bluetooth Devices
- Browse Shared Multimedia Files
- Transfer of Shared Multimedia Files
- Translation for UPnP Devices to Communicate with Bluetooth Devices
- Common Interface Between UPnP and Bluetooth Devices