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Paper Free Document Shearing Android Application

Miss.Anamika Bandopant Jewalikar¹, Miss.Tejas Ashok Kale², Mr.Kalbande M.S³

Student, Department of Computer Engineering, Jayawantrao Sawant Polytechnic Hadapsar, Pune, India¹⁻²

Head of the Department, Department of Computer Engineering, Jayawantrao Sawant Polytechnic Hadapsar,
Pune, India³

ABSTRACT: Use of paper is increasing day by day. To make 1 ton of paper, many big and small trees are being cut down. About 20,000,000 trees are cut down annually for virgin paper, which are used for production of books. Over 30 million acres of forest are destroyed annually. The entire process of creating paper is damaging the environment. It starts off with a tree being cut down and ends its life by being burned, emitting carbon dioxide into the atmosphere. Chopping down trees decreases the amount of oxygen in the ecosystem, thus adversely affecting all other life-forms. To avoid these circumstances and reduce the use of paper this android application can be used. In this application, User needs to register first with basic registration details and needs to create valid login credentials in order to access the application. After successful creation of account, users can login using valid credentials and access the application. There will be list of documents where user can Add, Update and Delete Documents. While Adding Documents, the Documents will be verified by the Certificate Parameters from the Database. Documents are captured and can be resized or Cropped to get the correct edges. Documents are Uploaded on the Server through FTP. Users can share documents to the users who are registered in the system by searching them by Name or Shared Id. They can also view all the list of the documents shared, they can be downloaded and viewed. It will notify when the documents will be shared. By using this application, we can reduce the use of paper.

I. INTRODUCTION

File sharing is the practice of distributing or providing access to digitally stored information, such as computer programs, multimedia (audio, images and video), documents, or electronic books. It may be implemented through a variety of ways. Android is a relatively new mobile operating system developed by Google and the Open Handset Alliance. [1] Officially released in October 2008, it has revolutionized mobile application development due to the fact that it is open source. It allows developers unparalleled freedoms to create varied and interesting applications. Based on the Java programming language, it is touted as being easy to pick up and master, whilst the underlying is a modified Linux kernel. Some of Android's biggest draws for developers include the relative simplicity of developing using Java syntax, which means quickly producing applications. Also, Android provides easy yet secure access to first and third party applications, allowing deeper integration between components in different programs, and encourages software sharing and reuse. The user interface can be built quickly and simply through XML or graphically, and once an application has been finished it can be submitted to Android market, a portal through which developers can make their creations available to Android users, either free or for profit. [2] Cloud computing has been viewed in several forms. There has been no single view that has decidedly become the obvious candidate; however there are some common elements between them all. The most glaring of these is that it is a form of distributed computing, in that distinctly separate systems link together to form a cloud. [3] Also, there is an idea of on-the-fly scalability, that machines can join and leave the cloud as required. One definition of cloud computing is that of a pool of computational resources, linked together to provide a greater processing power. [4]

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These are projects which involve supporters installing software on computers at home, which connect, when idle, to their respective clouds over the internet and compute small parts of complex scientific calculations. Another use of the term is to provide some form of data syncing. One more idea of cloud computing is that of peer-to-peer systems. This form has been used for many years for file sharing, recently implemented for services such as Skype. These services reduce load on their servers by passing data directly from user to user. Java is a general-purpose, concurrent, class-based, object-oriented computer programming language that is specifically designed to have as few implementation dependencies as possible. It is intended to let application developers "write once, run anywhere" (WORA), meaning that code that runs on one platform does not need to be recompiled to run on another. Java applications are typically compiled to bytecode (class file) that can run on any Java virtual machine (JVM) regardless of computer architecture. Java is, as of 2012, one of the most popular programming languages in use, particularly for client-server web applications, with a reported 10 million users. Java was originally developed by James Gosling at Sun Microsystems (which has since merged into Oracle Corporation) and released in 1995 as a core component of Sun Microsystems' Java platform. The language derives much of its syntax from C and C++, but it has fewer low-level facilities than either of them.[5] The aim of this project is to design and implement a file sharing application for Android based devices. This project will allow multiple users to share files to multiple devices. This project would provide a stable platform to enable collaboration through file sharing. To this end, files may be uploaded by one user and available to another, all simplified through an easy to use application on an Android device.

II. DESIGN REQUIREMENT

These are broken into functional requirements, which explain what the application should accomplish, and non-functional requirements, which explain or communicate how the application should work, listed in order of descending practical functionality and desirability.

Functional Requirements

- Must have a graphic user interface (GUI)
- Ability to find other handsets
- Replication of files
- Regular updates of content
- Replication to server
- Push updates
- Individual boxes
- Sharing boxes with friends
- User logins
- Content menus

Non Functional Requirements

- Must be scalable
- Must be accessible by as many android users as possible.

III. PROPOSED METHODOLOGY

Android applications are made up of classes called activities. Activities are classes which encapsulate the user interface and the program execution. An activity generally has a specific task to perform, and an application can be made of several activities, each performing part of the job of the application. For communication between activities and to the OS, Android provides intents. These are simple objects which carry information around the system, and can be used to start an activity, pass along application data, or request the OS to open a file. [6] The application design diagram which shows possible paths through the application, and the activities used to act on the requested functions is shown below. As shown, should

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a user request to open a file, the application send a request to the Android OS to display the contents using a relevant program. Other actions such as uploading a file or saving one to the device start off activities internal to the application, but separate from the main thread of execution.

This will consider the technical options available to implement the project application. By discussing the merits and weaknesses of each approach, an informed decision can be made as to how to build a professional program. This chapter will focus on the Android SDK, possible technologies for server side support, and data structures for transmitting information.

Android SDK: The Android SDK is a Java based language, which enables developers to build powerful programs in a neat, object oriented design. Whilst it is a relatively compact development kit, it contains libraries for many varied functions, allowing access to virtually every component of the Android handset and operating system.

Whilst offering such unseen control over the handset, Android enforces rigorous security protocols on developers to protect users from unsavory or malicious code. Users are alerted to all required access to handset operational equipment on installation, and so are informed of such uses before accepting any software.

Androids graphical user interfaces are built from the libraries included in the SDK, using XML or graphical input. This enables developers to create a scheme that is consistent throughout the application, as well as between applications. Android has been updated constantly since its release, reaching version 2.1 in under two years. As such new functions are available every few months, and development and maintenance of applications requires much more attention than longer lifecycle systems. To ensure maximum compatibility with handsets currently in the market, this project will be built on Android 1.5. As this technology is a requirement for this project, there does not need to be an in depth review of alternative systems. As a matter of record, operating systems such as Windows Mobile, iPhone OS, Symbian or Palm OS could have been used, though most of these are not as open as Android (Symbian became open-source in February 2010)[7], neither are they based in such a widely studied language as Java.

Server Side Technologies

Using a generic web host to serve the storage and interaction with the client would give great freedom as to how to develop the application as a whole. This option could be run on a private machine, or rented from a hosting company. By renting a server, setup and maintenance are left to the supplier. This reduces complexity and time spent on enabling the machine to run the required software, for example Apache. Many hosts are available at competitive prices, with some even offering free hosting. Most have options available as to services required, including extra storage space, or some form of database, generally some favour of SQL.

However, free hosting sites often require placement of adverts on pages, such as click through links. This would pose a problem for an application simply connecting to pages to retrieve data. If such a link were placed in between, the application would not understand the response it received and so not react as expected. Also, by using third party services, only those offered are available. There can be restrictions on the services able to be provided from a given host. Often the required extras would require some form of payment. By running a private machine as a web host, these issues are resolved, at the cost of ease of setup. Running a private server with a database involves time to setup the underlying server and installing the database. If something goes wrong there is no guaranteed external support. Nonetheless, once up and running the integrity and quality of service can be higher than an external server as it is maintained personally.

Modifications can be made to requirement, such as extra storage space or installation of any further required software. Again, this would cost even more money to run, especially if a computer were obtained or built simply for the purpose of being a dedicated server. One large obstacle to either of these options is scalability. The application is expected to be released to the public through Android Market, and as such will be available to many thousands of users. Should reception be positive, and uptake high, many users would upload and store many bytes of data, sharing with many friends and this

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would therefore lead to many accesses to the server at any given time.

To allow for such an eventuality, the server side of the application should be scalable, so load could be balanced between several different machines serving the application, acting as one server. This could easily be achieved using a cloud computing server. Such a server would provide a minimum level of service, and should there be an increase in requirements, further services may be made available. These requirements may include an increase in storage, in which case more disk space may be made accessible. If more processing power is needed to serve requests or more bandwidth to receive them, more machines can be loaded with the server application and the load balanced between them. Should the demand fall, resources can be released for use by other applications. All of this is done automatically, and is known as elastic cloud computing. Data Structures for Data Transmission The data structure and technology used to transfer information between client and server is a very important decision. It can affect the work load put on the devices to encode and decode data, which can affect battery life on mobile handsets. It would also alter transmission times, which would bear upon the quality of service to the user. One option of technology which could be used as a data structure for transmission is JSON. This is simply an array of key-value pairs. Data is parsed into strings, stored in the array, and transmitted as a single string. At the other end the string is parsed as an array, and then each pair must be parsed again into the required types. This is a simple structure, which is relatively easy to implement. However, there are several issues with this format. First, all data to be sent must be parsed to strings; this is not always a suitable format for certain information. Secondly, there is a computational strain put on the devices to parse data to and from strings. This can increase the time required to act on information, and use more battery, which reduces quality of service to the user. XML is another technology capable of storing data in a structured manner. It provides a simple, hierarchical structure to information that is human readable. Using generic tags similar to HTML, it is extensible with user created tags to define relations between objects and their contents. This involves the use of some software to build the XML schema, a file which lays out a definition of acceptable XML documents which could be used with an application. Again, however, XML uses text to transfer data, which as stated is not always suitable for all data types. It is also not built for efficiency, which is a major concern when using mobile devices. A third option to consider is Google's own protocol buffers. They offer a data structure built natively in C++, Java or Python. For this project Java would make the most sense.

IV. CONCLUSION

"Android Based Department App Using Smartphone" is a Department system with Students feedback. This system is convenient, effective and easy thereby improving the performance of Department staff's. It will also provide quality of service and students satisfaction. Overall conclusion is that, this is a Department app system for the department sector, made by combining the Android and Wireless technology. In this, we compare the 3 major automaton tools in Department sector namely, the PDA based System, and Android based system. The user interface of Android based system is more attractive and informative than the PDA and Multi-touch systems. The processing speed of Android system and Multi-touch system is almost the same whereas the PDA based systems are slower than the other two systems. This system is convenient, effective and easy thereby improving the performance of Department staff. It will also provide quality of service and customer satisfaction

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