

# Mobile Based Cloud Data Retrieval System

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**Abstract** - The growth of cloud services for mobile application, has greatly enhanced the scalability and security. The primary objective of "mobile based cloud data retrieval system" is to create a full-fledged android app where we can store all kind of data in cloud and access simultaneously. The mobile application would require connecting to database using General Packet Radio services (GPRS) or Wi-Fi technology. The user can retrieve all the data in mobile itself and can also access this data through web. Thus, it reduces the overhead of using only mobile to get back the data which serves the purpose of making our data secure and flexible i.e. to be available anywhere. Also, encryption algorithms helps in maintaining security for user's data.

**Key Words:** Cloud computing, mobile based cloud model, Android based cloud computing, Android, Cloud, data retrieval,

## 1. INTRODUCTION

Since competition is growing as the technology is rapidly growing. Any system needs to grow according to the technology to stay in the market. So using android application for buying and selling and managing a company inventory on a mobile phone is a good idea to be technologically advanced. So instead of using a standalone application we have used android application to develop the same system which is running on a desktop PC or on a laptop. This project is based on virtual cloud where information in database is stored on a virtual cloud. To store this information in database we have web application developed in PHP. A Mobile App created in Android which will access this information using GRPS technology. In the business model, using software as a service, users are provided access to application software and databases. The Web application will give the GUI for the administrator to maintain the database. MySQL will be used to Store and Retrieve Data.

### 1.1 CLOUD COMPUTING CONCEPTS

Cloud computing is a model for enabling ubiquitous network access to a shared pool of configurable computing resources. Cloud computing and storage solutions provide users and enterprises with various capabilities to store and process their data in third-party data centers. It relies on sharing of resources to achieve coherence and economies of scale,

similar to a utility (like the electricity grid) over a network. At the foundation of cloud computing is the broader concept of converged infrastructure and shared services. Cloud computing model for enabling ubiquitous, clear convenient, on-demand access to a shared pool of configurable computing resources. Cloud computing and storage solutions provide users and enterprises with various capabilities to store and process their data in third-party data centers [3]. It relies on sharing of resources to achieve coherence and economies of scale, similar to a utility (like the electricity grid) over a network. [4] At the foundation of cloud computing is the broader concept of converged infrastructure and shared services.

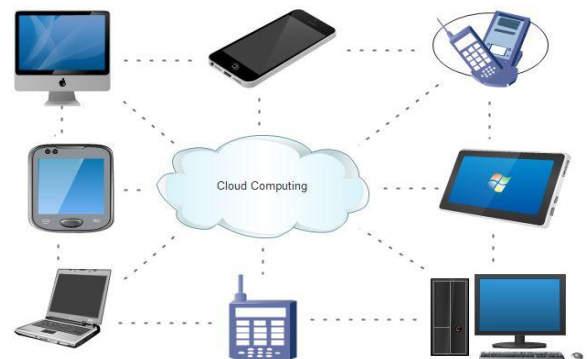


Figure 1: Cloud computing architecture

### 1.2 Introduction to Android

Android is a mobile operating system (OS) based on the Linux kernel and currently developed by Google. With a user interface based on direct manipulation, Android is designed primarily for touchscreen mobile devices such as smartphones and tablet computers, with specialized user interfaces for televisions (Android TV), cars (Android Auto), and wrist watches (Android Wear). The OS uses touch inputs that loosely correspond to real-world actions, like swiping, tapping, pinching, and reverse pinching to manipulate on-screen objects, and a virtual keyboard. Despite being primarily designed for touchscreen input, it has also been used in game consoles, digital cameras, regular PCs, and other electronics. As of 2015, Android has the largest installed base of all operating systems.

Android's source code is released by Google under open source licenses, although most Android devices ultimately ship with a combination of open source and proprietary software, including proprietary software developed and

licensed by Google. Initially developed by Android, Inc., which Google bought in 2005, Android was unveiled in 2007, along with the founding of the Open Handset Alliance – a consortium of hardware, software, and telecommunication companies devoted to advancing open standards for mobile devices.



Figure 2: Android logo and some Google apps logo

Source: [www.google.co.uk](http://www.google.co.uk)

### 1.3 RELATED WORK

Different methods are discussed below which reveals relevant past literature that made use of the various reference extraction and error removal techniques.

The use of m-learning tools, if correctly conceptualized and built, constitutes an efficient complementary tool to the traditional teaching methods. Distance education, particularly e-learning and m-learning, has been receiving increased attention from diverse institutions, conferences and publications [4]. Combined services of the power of cloud and at the same time giving a well secure storage and retrieving through the web client. This can be used anywhere anytime with the same facility and same power. Hence the overall view say that this project perfectly fits the demand of the generation and current times on the lines of its reliability, flexibility and scalability[5]. Mobile Cloud Computing at its simplest refers to an infrastructure where both the data storage and the data processing happen outside of the mobile device. Mobile cloud applications move the computing power and data storage away from mobile phones and into the cloud, bringing applications and mobile computing to not just smart phone users but a much broader range of mobile subscribers [1]. An Android based mobile application for Attendance Monitoring is presented. The application offers reliability, time savings and easy control. It can be used as a base for creating similar applications for tracking attendance in offices or any workplace. It can be also integrated in healthcare sector to keep track of nurse to patient visits by streamlining the time entry, time approval and management processes [3]. WhereStore, a location-aware storage system for mobile devices. WhereStore provides mechanisms to allow application developers to specify what data would be typically accessed in various places. This information, along with the user's current and future predicted location, is used to improve data access latencies and availability [2]. Cloud computing is revolutionizing how information technology resources and services are used and managed, but the revolution always comes with new problem In the future, we will extend our research by providing implementations and

producing results to justify our concepts of security for cloud computing [6].

## 2. OBJECTIVES AND SCOPE

Main objective is to develop an Android application which will enable the user to access the company database using Cloud technology. The Administrative person will be the one who will manage the records and overall data in the database. The Admin must log the data to the system hence the application will be developed which will log data to the database. The user will be registered user and will have to get the application installed in his hand held device. The Client application will be able to access the data after only Login. The Android applications are small apk files developed and will be stored on Mobile hand held device of the user. The cloud server is the will communicate with the database and will provide response to the user. The Internet technology will be used to communicate between the user and the cloud server. The main responsibility of the Android application is to get the details from user and send it in the query format to the cloud server. The Android application will have the options which will be used by user to fetch data from database. The main responsibility of the cloud server is to identify the request parameter sent by the user and to provide the result to the user with fetched data from database system. The cloud server needs to be designed in a way to have connection to database server and to get the data from it and provide it back to user in message format. The Output will be in the designed format as per the request the cloud server will respond. Admin will have the application to log details about company. The admin application will be in PHP which will connect to MySQL Server to log details. The database can be accessed by the user who has authorized access by the administrator only. The application for database will be accessed by admin to log the details into the system. The client will have the Android GUI installed on the device to access the data from database. The Internet Technology will enable the communication between the User and the database to desired fetch data.

## 3. PROBLEMS IN EARLIER MODELS

There are few applications which work if the user is accessing the data using company network only. Hence if the user is in not in territory of the company then does not work. Hence the concept of cloud server has eliminated this failure and user can access the data securely over the time from any location. Serial processing will take more time to execute the lengthy tasks since it doesn't allow task or problem to be divided into parts: We can't process tasks concurrently, we can't use non-local resources.



Figure 3: Earlier mobile computing model

In existing system user doesn't have any system where he/she can directly view products by seating at home and can give order for the same. So the existing system is very time consuming and is also available only when the seller shop is open.

#### 4. SYSTEM ARCHITECTURE

##### 4.1 Register:

The user need to register first using the android application that is developed for the android OS. After registering, with all the valid credentials of the user, the user gets a success message. The user can now login using the registered email address and password provided at the time of registration.

##### 4.2 Authenticate:

The user uses the valid credentials to login to its accounts. Only valid users with admin's permissions to access the data are allowed to login. If there is any mistake or any error in entering the credentials, an error message is generated. If the credentials are valid the user gets to login inside the application successfully.

##### 4.3 Place order:

After successful login, the main screen shows several option, in order to place an order the user needs to click on the place order button. For placing order the user needs to select the product and mention the amount of the product it requires. After placing order the user screen displays a cart with the final amount of product details. Here if any changes have to be made by the user can be made, if not, the user can proceed to check out. After check out the user is provided with a track ID of the order to track the product details.

##### 4.4 Process Order:

The data processing and order processing is done at the admin panel section. The admin notes down the orders from the valid users and update the orders accordingly.

##### 4.5 Track Order:

On every purchase of a product, the user is provided by a track ID that is used for tracking the product status, i.e. Pending, In Process, Completed or Rejected.

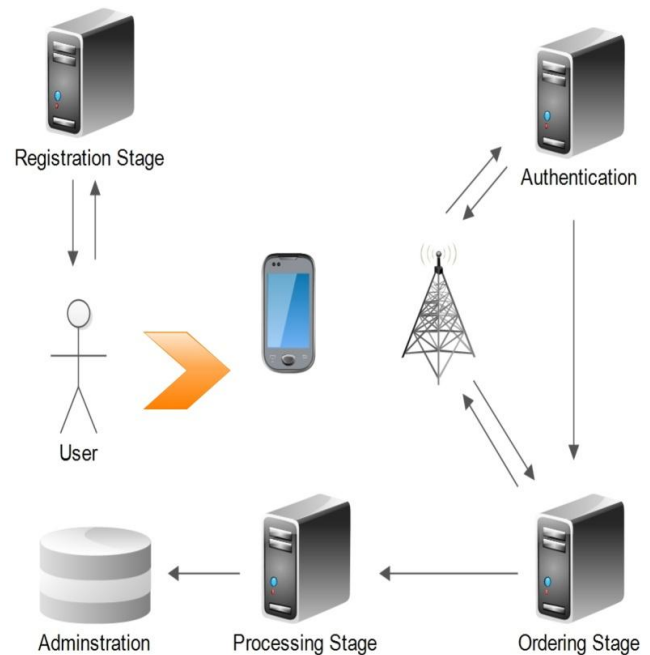


Figure 4: A high-level illustration of the MBCRS. Every user is equipped with a mobile device. Every user has internet in their device that can be used to order or track their products.

#### 5. ALGORITHM

The MD5 algorithm takes as input a message of arbitrary length and produce as output a 128-bit "fingerprint" or "message digest" of the input. It is conjectured that it is computationally infeasible to produce two messages having the same message digest, or to produce any message having a given predefined target message digest. The MD5 algorithm is intended for digital signature applications, where a large file must be "compressed" in a secure manner before being encrypted with a private (secret) key under a public-key cryptosystem such as RSA.

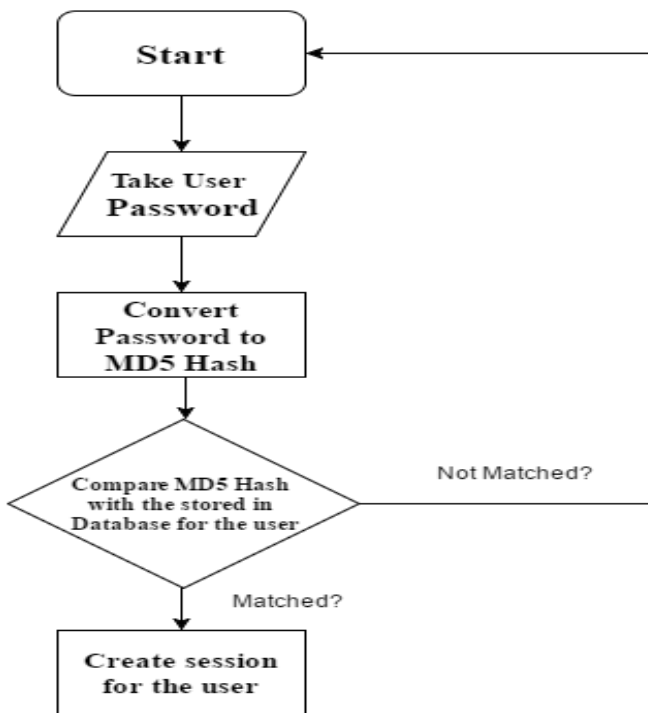


Figure 5: MD5 Encryption Match & Login Flowchart

The user needs to enter valid credentials to login to the admin panel. If the credentials are wrong there will not be access to the panel.

### 6.1.2 Product Details:

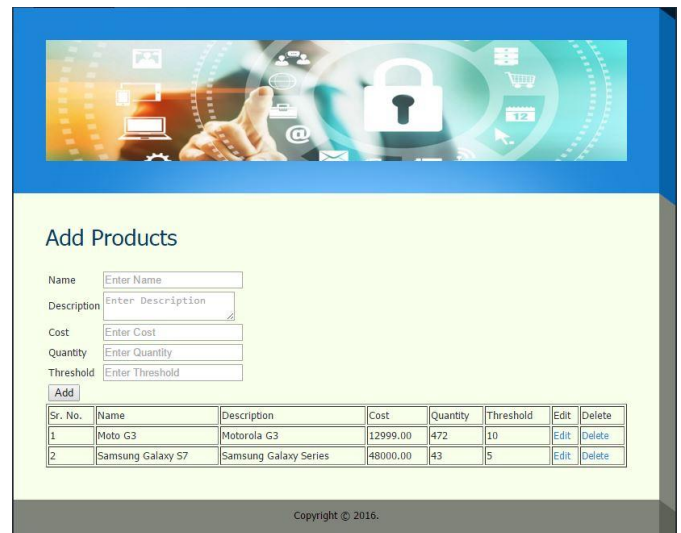


Figure 7: Product Details

The product details show the different product details along with the cost, quantity present in the inventory and threshold for different products.

## 6. PROPOSED MODEL

### 6.1 Admin Panel:

#### 6.1.1 Login:

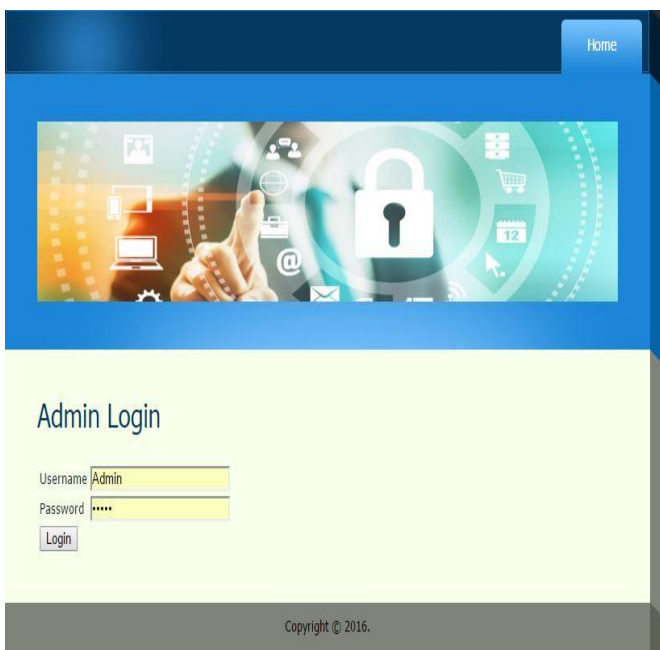


Figure 6: Admin Panel Login

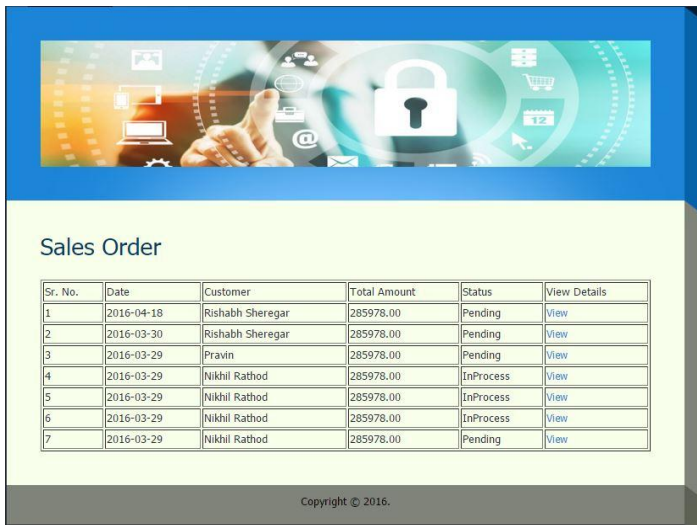
#### 6.1.3 User Details:



Figure 8: User Details

The window displays the customers detail along with the encrypted password in md5 and also the status of the user either it is blocked or unblocked.

#### 6.1.4 Sales Details:



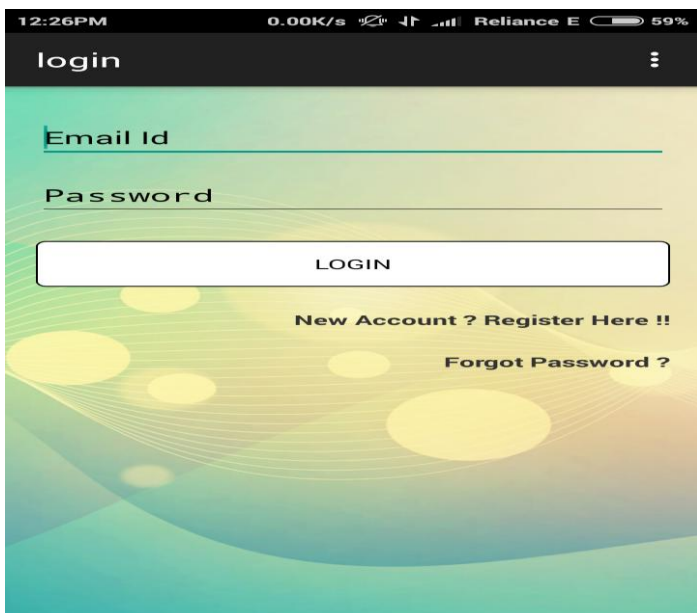
Sr. No.	Date	Customer	Total Amount	Status	View Details
1	2016-04-18	Rishabh Sheregar	285978.00	Pending	<a href="#">View</a>
2	2016-03-30	Rishabh Sheregar	285978.00	Pending	<a href="#">View</a>
3	2016-03-29	Pravin	285978.00	Pending	<a href="#">View</a>
4	2016-03-29	Nikhil Rathod	285978.00	InProcess	<a href="#">View</a>
5	2016-03-29	Nikhil Rathod	285978.00	InProcess	<a href="#">View</a>
6	2016-03-29	Nikhil Rathod	285978.00	InProcess	<a href="#">View</a>
7	2016-03-29	Nikhil Rathod	285978.00	Pending	<a href="#">View</a>

Figure 9: Sales Details

The sales details windows show the total amount of orders placed along with the status of the order and the total amount to be paid by the customer is also displayed here.

## 6.2 Android:

### 6.2.1 Login Page:



login

Email Id

Password

LOGIN

New Account ? Register Here !!

Forgot Password ?

Figure 10: Login Page

The login page is used to enter the valid credentials, so that the user can get access to the app data. It's the first screen of the app after the flash screen.

### 6.2.2 Home Screen:

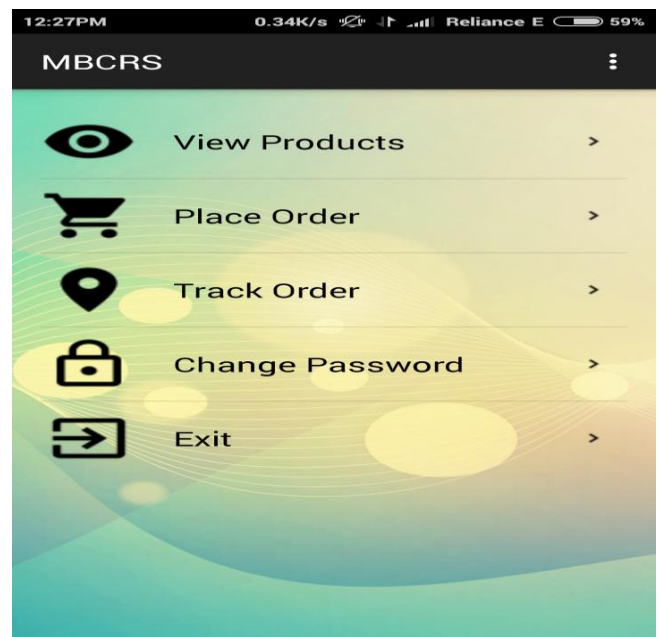
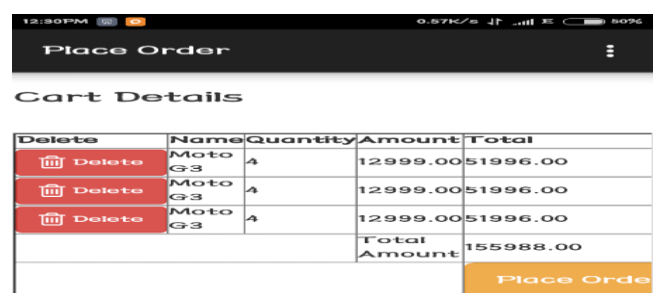


Figure 11: Home Screen

The Home Screen displays all the options available that can be used to interact with the database. The home screen consist of View Products for viewing all the products, Place Order for placing orders, Track Order to trace down the placed orders, Change Password to change the existing password, and exit to end the application.

### 6.2.3 Place Order:



Place Order

Cart Details

Delete	Name	Quantity	Amount	Total
	Moto G3	4	12999.00	51996.00
	Moto G3	4	12999.00	51996.00
	Moto G3	4	12999.00	51996.00
Total Amount				155988.00

Place Order

Figure 12: Place Order

The place order section is used for placing the order for the goods that the user needs to purchase. The user needs to

select a product out of many and enter the quantity of items it wants to purchase. After entering the quantity the user needs to click on add to cart button which gives a Product Added to Cart Successfully message on success. A track ID is generated to track down every orders that are placed.

#### 6.2.4 Track Order:

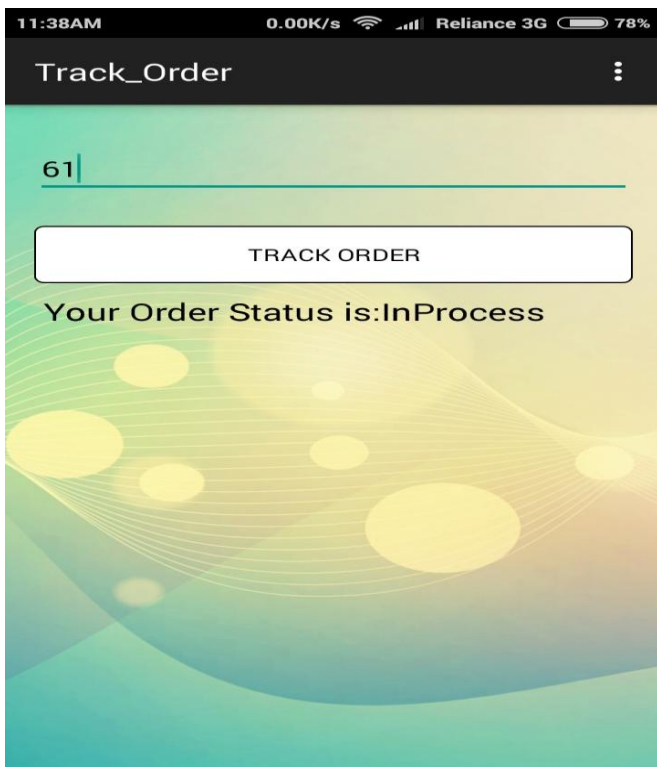


Figure 13: Track Order

The track Order Option is used to track down the orders placed by the customers as and when needed just by using the Track ID provided at the time of purchase of orders. The user needs to only enter the track ID (in the above case "61") to track the order of that ID. The responses that may generate are In Process, Pending, Completed or Rejected (in the above case In Process).

## 7. CONCLUSIONS

In this paper, we proposed a real time product ordering and tracking system based on android phones. The system is first analyzed for android app based ordering and tracking and retrieving from cloud. The usability of this system is very high if it will be used in real life process. It will definitely helpful for the users who wish to order eating at home and the ordering process will be made very easy by using this application.

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