



Easy Mobile Cable Management System Using Android Application

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ABSTRACT

The cable industry is evolving from analogue to digital. The current system that Cable Operators follow doesn't help in implementing the TRAI (Telecom Regulatory Authority of India) regulations to implement subscriber management. There is Smartphone movement in India where the availability of Smartphone's & mobile internet is more and cost effective. By considering the fact, the solution for the said problem will be implemented as **android** mobile application. The required business logic will be implemented through Web Services and designed android application will use those Web Services hosted on to the cloud. This ensures to provide cost effective solution to the Cable Operator. Cable Operators can manage their subscribers, billing & collection from anywhere & anytime through the android application.

KEYWORDS: TRAI, Smartphones, Subscribers, Billing, Android application

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I. INTRODUCTION

Cable Television first became available in the United States in the year 1948, with subscription services following in 1949. For the public access television, The first basic cable network, launched via satellite in 1976 that, cable providers with systems of 3,500 subscribers or more had to provide (PEG) Public Educational and Government services with facilities and equipment necessary to use Channel capacity. Digital Signal Processing become advances, starting from late 1990s (primarily Motorola's digisipher2 Video compression technology in North America) gave rise to wider implementation of the Digital cable services.

Many more television channels can be provides by digital cable television. Subscribers wishing to have access to digital cable channels must have a special cable covert box- setup box (or, more recently, a "Digital Cable Ready" television) and a Cable Card to receive them. As enabling from analog to digital and match to TRAI regulations implementing the suitable cable software.

II. PROBLEM IDENTIFICATION

Most of the Service Providers who maintaining wide area of signal supply of Cable TV are not maintaining Subscribers data properly and working in manual Process (manual Registers, Cards, Excel Sheets, Bill generation, Receipt Books etc...) Which results in inconvenience and inaccuracy of Revenue Calculations, mishandling Payment Collections.

TRAI (Telecom Regulatory Authority of India), has issued Directions to Multi System Operators (MSOs) and their linked Local Cable Operators (LCOs), providing services of Cable TV in the notified Digital Addressable cable tv System (DAS) area.

III. LITERATURE SURVEY

Telecom regulatory Authority of India (TRAI), has issued Directions to Multi System Operators (MSO) and their Linked Local Cable Operators (LCOs), Providing Cable TV services in the notified Digital Addressable Cable TV Systems (DAS) area, regarding the implementation of Subscriber management Systems. Many of the multi system operators are not maintained and submitted the current measure of Counting to the Government

and have not enrolled with the Proper TAX. It's observed that Also in many cases of LCO's have not provided the completed subscription forms to their linked MSOs.

However in most of the case it has been revealed that the Service Providers who are Supplied the channels or package connectors are not knowing about the exact Subscriber base to which they are providing Services. The main management is unsecured and inefficient due to lack of information regarding latest management tools, Lack in accommodate to records may involve customers subscription, bill collectors and consumers details, billing data, subscribers Provisional products or setup box details etc..

3.1 Existing System

Most of the Service Providers who enabled with wide area signal supplies of cable TV are not maintaining Subscribers data properly and working on manual process (maintaining manual Registers, Cards, Excel Sheets, bill Generation, Receipt Books etc..) which results in :

- Inconvenience and incomplete management information about Setup box, Subscribers and their Subscriptions
- Inaccuracy of Revenue Calculations,
- Mishandling and mistakes in fee collection from consumers By employees
- and moreover the LCOs also unknown of how much revenue collections are done by bill collectors from where and all,
- Billing difference in actual and SMS database,
- And ultimately some of the cable companies rarely provided their descriptions and facilities with (UI)User Interface are computerized are even still not accessible everywhere and unreachable to no knowledge and no computer holders.
- The current manual System that cable operators follow doesn't help in implementing the TRIA Regulations.

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3.2 Proposed System

The essential motivation behind why we automating and preparing this manual framework is that because of expansive number of clients and exchanges are included, it would be very cumbersome to maintain track of the task manually. They require a cost effective and believable platform to maintain said guidelines.

This android app is an helper to billing and service management, is an automated software for the bill collectors and tool for cable operators or service providers. With its simplistic user Interface as well as its very easy to use of and appealing features it is a must have and supportive app to cable service providers.

TRAI states that the addressability would bring by the Subscriber Management System and subscribers can exercise their choice of Services and their Bills accordingly to theme's budget. It also assists the MSO to manage effectively their accounting and Billing Services. The Service Providers that may include cable operators or bill collectors can understand the strength of these management applications and forwarded facility of billing, if maintains their day-to-day network operations through this app.

Migration from analog to digital, this is an automated software helps to manageable easily.

Bouquets of channels are provided as packages to the subscribers allow them to opt their own choice of channels.

Billing adjustments, proper and accurate Receipt generation, to drive additional revenues, reduce the operational risk, less cost and time consuming and deepen relationship with users. And more over all of these can made possible in your hand held device such as mobile or tab, flexible to use.

- Additional services are amenities offered extend the past traditional TV cable structure.
- SMS alerts on every payment and Due date. SMS wishes sends on special occasions to customers which leads to maintaining good relationship.
- Bills are generated on door steps to customers through android mobile.
- Maintains consumer data and accounting details in consistent way.
- Integrated with external systems for Spot Billing, Spot collection.
- Quick Service, more Secured transactions, cost effective solution.

IV. SYSTEM ARCHITECTURE

In the process of Developing System technical level requirements and a Top-Level model of system architecture is the core activities. which is foundation for planning and describes the external user perspective and interoperate & integrate with other systems. It shows the entire system as a single process and describe interaction with outside world and the core activity done in the system. In this diagram each of which deals with one or more data flows to or from an external agent or activity within system which together provide all of the functionality of Cable TV Subscriber Manage app as a whole.

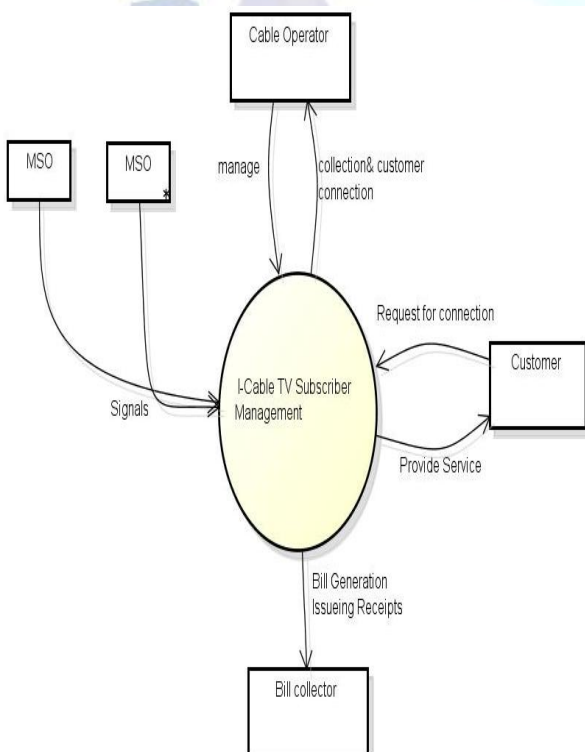


Fig1: System Architecture

V. RESULTS

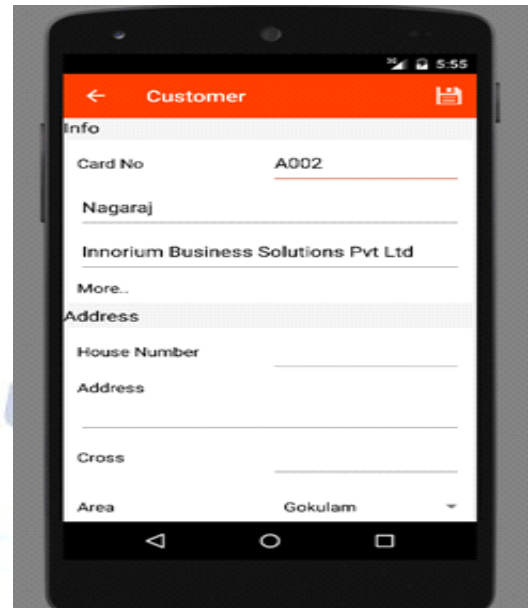


Fig 2: Customer Edit Screen

Fig 2 shows the user interface for the customer where the customer can add the details requested.



Fig 3: Customer Bill Detail tab

Fig 3 shows the detail about the bill the customer need to pay and the other details.

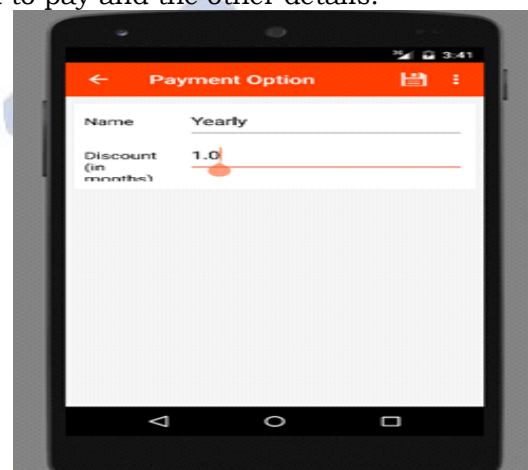


Fig 4: Payment Options

Fig 4 shows the payment options given to the customer. That is the customer can pay the bill yearly, quarterly or once in 6 months.

VI. CONCLUSION & FUTURE WORK

This Mobilized Cable TV Subscriber Management System ensures to provide cost effective solution to the Cable Operator. Cable Operators can manage their subscribers, billing & collection from anywhere & anytime through the android application.

- Simplified and reduced the manual work.
 - Large volumes of data can be stored.
- It provides Smooth workflow and easy to Use.

This project can be extend for Future Scope by providing the Customer Portal, which enables the Subscribers/Customers to vie the facilities and services providing by this cable operators and to enable subscribers to online bill payment(Online Payment gateway Interface), and allow subscribers to raise complaint when no connection. This mobile application can enable with GPS tracking for collection (to identify bill collecting place).

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