

# Automation of Credit Co-operative Society with Predictive Daily Collection, Registration, Loan Application Management

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**Abstract**— Credit co-operative society not developed well in rural areas as compared to co-operative societies in urban areas. Generally, Moto of credit co-operative society is to encourage members for daily savings. Cash collector i.e. agent daily collects cash from their respective vendors & consumers as well as consumer. Our project focuses on to improves the working of cash collectors & automate the daily collection process of credit co-operative society by introducing android application. This application provides prediction based daily collection facility for agent. Through this application cash collector able to add members, add cash amount, generate PDF of report etc. Application will predict the next member nearby agent from which cash has to be collect. Android application notifies to the agent about missed members on that day or previous days. Daily & monthly reports as per collection automatically generated by android application so at the end of the day cash collector show their report in respective branch. Prediction based daily collection system reduces human efforts helpful for newly joint agents.

**Index Terms**— Application, Android, realm, Agent, daily collection, prediction.

## I. INTRODUCTION

Credit Co-operative Society in India plays big role in economic development of middle class peoples. They provide financial support to their members. They encourage habit of savings among members. This people can save small amount daily into their account. For this daily collection cash collectors are appointed by credit co-operative society known as agent. These agents daily visit to their members and collect specified amount.

In credit co-operative societies the procedure of daily collection and its management is totally depends on the agents. Agents are responsible for collecting money from the vendors & consumers & consumers, also maintaining the account balance sheet. An agent faces many problems like at the time of collection vendor not present or miss by agent or not paying amount during daily collection that leads to very problematic for making account balance sheet. So that co-operative society is often do not receive vendors & consumers invested money time to time so, it's the society's loss but which cannot be detected easily. That's why we provide prediction based collection facility in android application through which, no any vendors & consumers miss during daily collection. And also reduces the efforts of agents during maintaining that account balance sheet.

## II. RELATED WORK

From above description we understand the complete working of an agent i.e. an agent of co-operative societies daily collects the cash from members. In small level co-operative societies all collected cash information & daily report are maintained in ledgers. This method of collection having no any automation, it is totally depends upon cash collectors. So, there might be chance of errors or fraud because those ledgers can be easily edited by agents. Also it is often seen that, there is a difference between the ledgers present in bank and ledgers of cash collectors. This may leads to huge amount of loss of credit co-operative societies. Now a day, such type of credit co-operative societies presents in rural areas which need to maintain ledgers during cash collection. As agent's point of view, this collection process is very time consuming & co-operative society's point of view this process was not trustworthy. Manual collection process is quite difficult and it can lead to confusions and discrepancies. There is increasing risk of miscalculations too.

Now a day, there are many credit co-operative societies which uses spot billing machine for daily collection. Initially, name, account number, saving amount and all relevant details of vendors & consumers uploaded into these devices. During collection, after receiving the amount from vendors & consumers agent gives printed receipt. On that receipt necessary information related to vendor's account is present. Similarly when print is given same information stored in the memory of that spot billing machine. All collected information moved from spot billing machine to computer which updates vendors & consumers account information. But, this may leads problem like; Printed receipt by thermal printer gets erased after some days, such machine gets overloaded some time & agents have to wait until machine not started.

## III. MOTIVATION

Primary motive of this project is to automate agent collection process by introducing android application. Agent may sometime miss some vendors & consumers during collection and having no any facility available to automatically predict the next vendor during collection. Our application provides facility of prediction of next vendors & consumers with address. So if there is any new agent joins then also he/she can able to collect money & efficiently handle their all work through android application.

#### IV. PROBLEM STATEMENT

The problem with current credit co-operative society system is account registration, loan management process is very time consuming and also huge amount of efforts taken by agent during collection.

To atomize credit cooperative system such as user & agent registration, daily collection by predictive based method to reduce agent complexity and efficient loan application by web and android based system.

#### V. ISSUES

Following are the issues in the existing system:

- Manual collection process is quite difficult and it can lead to confusions and discrepancies.
- There is increasing risk of miscalculations too.
- There might be chance of fraud & error.
- Printed receipt by thermal printer in spot billing machine gets erased after some days.
- Technical skill required for agent to handle spot billing machine.
- Spot billing machines get overloaded sometime & agents have to wait until machine not started.
- Weight of spot billing machine is up to 600 to 750 gm. approximately.

#### VI. PROJECT SCOPE

The system provides prediction based android application for daily collection of credit co-operative society. This also makes the system paperless with elimination of spot billing machine & also eliminate ledger maintaining. We provide SMS facility & android application for customer. Agent can also predict the next customer as we providing prediction based daily collection facility in android application. Admin can check all the updated information such as daily collection, monthly collection, loan application management and account holder registration. We provide SMS service which make system transparent. Thus, our system provides fraud free and trustworthy.

System Feature:

##### A. Customer Module:

- Transactions Report- All transactional information like withdraw and deposit cash, remaining amount present in this report.
- Generate PDF- All transaction activities report generated in PDF Format.

##### B. Agent Module:

- Daily Collection- Collect the cash from customer & update information into android application.
- Upload data- Agent will upload data after all collection.
- Prediction- Agent gets next person detail automatically.

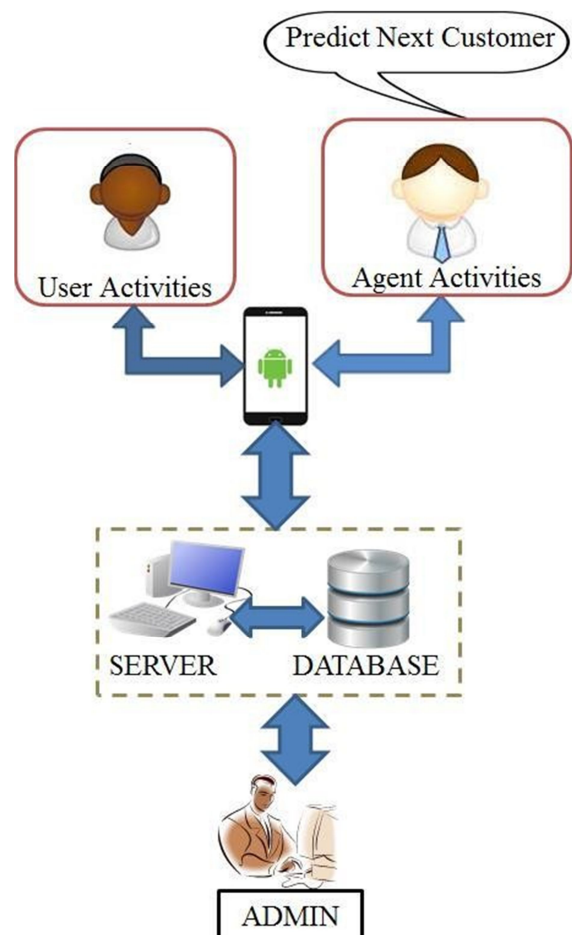
- Generate PDF- Daily collection report generated in PDF format.

##### C. Admin Module.

- Cash deposit- Admin can deposit cash into the customer account.
- Cash Withdrawal- Admin perform withdraw activity of customer.
- Cheque through withdrawal: Admin also perform cheque withdrawal activity.
- Cheque deposit- Customer cheque deposited by admin in credit cooperative society.
- Loan management- All types of loan application form like education loan, gold loan, home loan handled by admin.
- Daily Report- Admin can see daily and monthly report of all transection done by customer and agent.

#### VII. IMPLEMENTATION DETAILS

##### • System Architecture:



**Fig 1. System Architecture of proposed system.**

In Proposed system have three fundamental modules i.e. admin module, agent module, customer module. When agents visit to customer, they collect cash & then update that information into given android application. While collecting cash from current customer android application suggest next customer details. Agent can upload all collected information on server.

Admin visit to dedicated server to see all transactional information such as daily collection report, monthly collection report. Admin can also perform several activities like appointment list sorting, loan & registration application management etc.

User can see all updated transactional details like existing amount information, last withdraw and deposit details through android application.

• **Mathematical Model:**

Let the system M is represented as:

$$M = \{C, A, I, O\}$$

- **Input set: 'I' is a set of input.**

$$I = \{USER\_INFO, LOG\_IN\_INFO\}$$

- **Procedure phase:**

$$M = (\sum_{i=1}^n C_i + \sum_{j=1}^m A_j) \in O$$

Where,

- C=set of customer activity.

i.e. C={TRANSACTION, PDF, NOTIFICATION, PLANS}

- A=set of agent activity.

i.e. A={ADD\_CUSTOMER, CREDIT\_AMOUNT,

PREDICT\_NEXT, PDF\_REPORT}

- O= {V, I, M}

-n=no. of customers; m=no. of

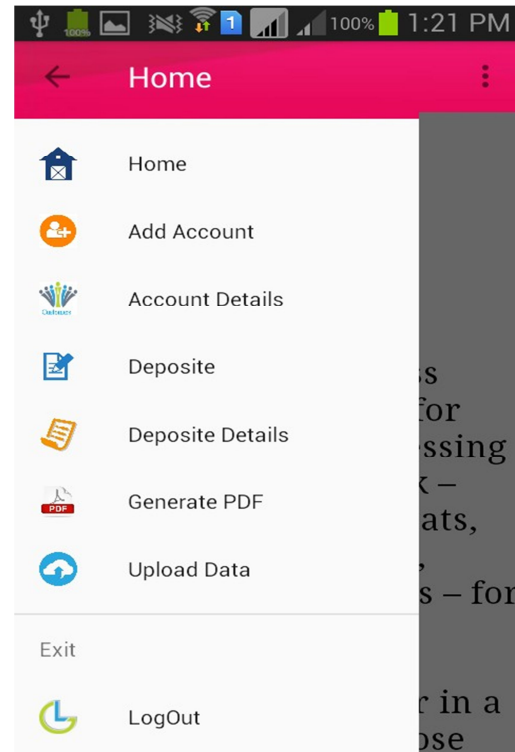
agents

- **Output phase: 'O' is a set output**

O= {Valid (V), Invalid (I), Mutable (M)}

### VIII. EXPERIMENTAL DETAILS

As per previous discussion we add following some figures of our project module.



**Fig 2. Agent collection home page**

This is the home page of android application for agent, which displays several option through which agent can perform his/her activities.

| Name      | Place   | Cash  | Acc No |
|-----------|---------|-------|--------|
| a         | Manchar | 1000  | 1026   |
| a         | Manchar | 1000  | 1026   |
| a         | Manchar | 1000  | 1026   |
| Raj Patil | Manchar | 10001 | 1001   |
| Raj Patil | Manchar | 1234  | 1001   |

**Fig 3. Daily collection report.**

This will display the collection report date wise.

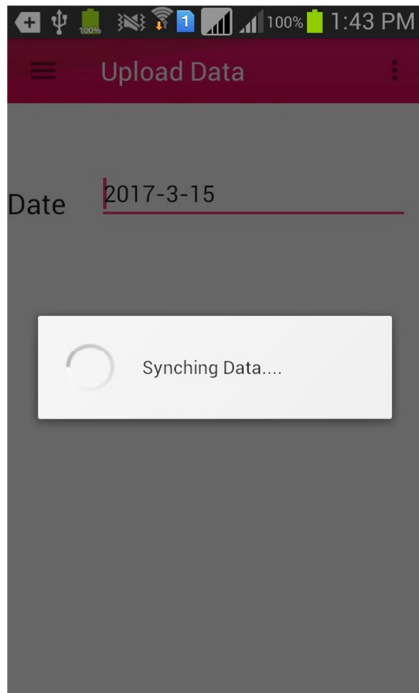


Fig 4. Upload data.

When agent uploads data at that time this window get open until data not synchronized with database.

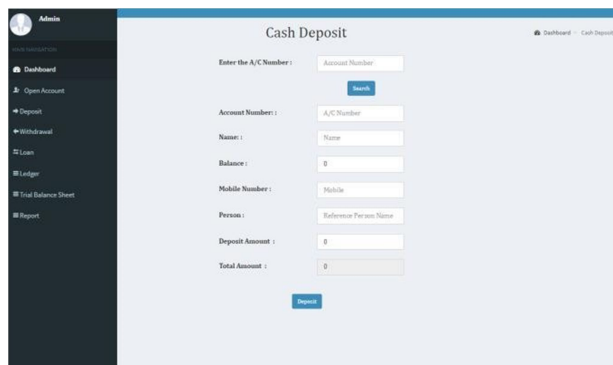


Fig 5. Admin module for cash deposit.

Admin can perform cash deposit operation on admin panel.

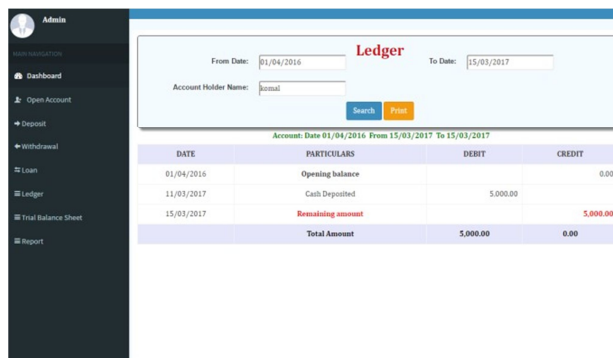


Fig 6. Transaction ledger.

Admin can see all transaction report information through this panel.

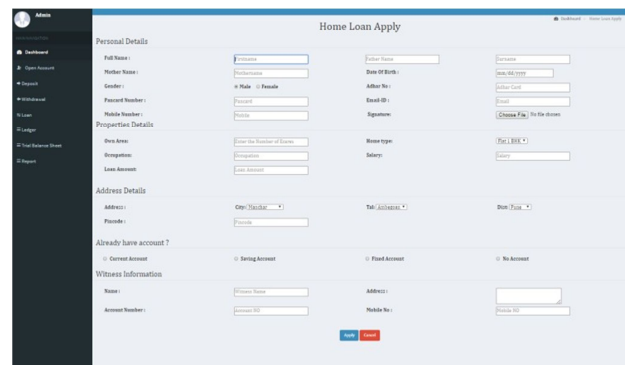


Fig 6. Loan application management form.

Loan application like home loan, education loan etc. can manage by admin.

## IX. FUTURE SCOPE

In proposed system we providing prediction based daily collection using android application for agent. This prediction based facility will also map with geo-location system i.e. using geo-location agent can predict the next customer. As there are several branches of credit co-operative society present so, our system can also be made generic i.e. this system only for one branch, we will made system available for all branches also. This may leads to centralized data storage; data management. User will also perform its all transaction activities through android application also.

## ACKNOWLEDGMENT

The authors want thank the researchers as well as publishers for making their resources available for us. We are also thankful to the college authorities for providing the desired infrastructure and help.

## CONCLUSION

This system is used to reduce agents and admin efforts and represents credit cooperative society system with android application. Using this system we make daily collection paperless.

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