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Credit Society System- A System for Human Welfare Credit

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ABSTRACT: Credit-society system is a private domain web portal, which is being developed for a private organization. The portal provides a service to the employees. The employees can invest some amount of money in the society and also apply for loans in time of needs. This application is built to help different groups existing in the organization. Credit society system reduces the latency that is found in manual process. This system maintains personal and financial information related to employees. The administrators handle all the transactions that take place while the system is functioning. The sole purpose in designing the system is to speed up the organizational process. The management can have the expected information at any instance. This makes report generation much faster as the operational requirements become much easier and information is available at the hand. The application is fairly security oriented and provides a hierarchy for accessibility. The employee can directly use the portal to know any such information that is of importance and access referential information related to the normal structure of their cumulative deposit, loans. The portal also provides its employees a privilege of accessing the monthly and yearly statistics.

KEYWORDS: Credit-society; cumulative deposits; accessibility.

I. INTRODUCTION

The Credit society system is a private domain web application which is being developed for the employees of Godrej Industries. It is a platform through which the employees can invest money and apply for loans. The credit society system will help the employees in getting loans at lower rates than actual banks. As clustering of employees is done by using k-means algorithm, it will be easier as well as faster to perform the analysis process and report generation. These societies relatively account for a small share in the bank dominated Indian financial system; however, they hold a key position in the system in their given geographic and demographic outreach,. Geographically, co-operatives have been instrumental in extending formal financial services to rural areas and the small towns all over India. Credit Society systems have enabled access to financial services mainly to the low and middle income groups in the rural as well as urban areas. For the benefit of employees in the organization, we have tried to inculcate the idea of credit society, providing easy access to make investments and also apply for loans at a veryreasonable rate of interest. Hence, by developing this application, we try to bridge the gap between different economic groups as well as the modern and traditional credit societies.

II. RELATED WORK

An automation or automatic control is the process of utilizing computer procedures and other machinery to supersede manual operations. Objective of implementing Automation is to enhance efficiency, reduce delays, increase manufacturing flexibility, reduce prizes, eliminate human error, mitigate labour shortage, high degree of precision. Credit societies are small-sized units which operate both in urban and non-urban regions [1]. Banks like UCB (Urban cooperative banks), play a vital role in meeting all the growing credit needs of urban as well as semi-urban areas of the country [2]. Credit society systems are extending formal financial services to villages and small towns in India.

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These societies are providing many financial services to low as well as middle income groups in both rural and urban areas [3]. By increasing banking access in areas or markets where other banks are less present, credit societies reduce banking exclusion and foster the economic ability of millions of people [4].A detailed study was carried out on the performance of all the banks in all its fields of activities and the rural credit system of Chhattisgarh as well as suggestive measures for improvement in the credit system were analysed [5]. A significant part of the yearly profit, benefits or surplus is usually allocated to constitute reserves [6]. Cooperative credit societies are not serious about security threats arise in their units and their impacts on information system. They have to develop standard security practice for security of information system and design a standard security policy [7].

Automation provides various advantageous features like data privacy and confidentiality. An Access Control mechanism is an effective security policy that guarantees the protection of information from unauthorized access. We found that Role Based Access Control Model (RBAC) is suitable for proposed system.

From above analysis we come to know that we need a system to understand the number of users, their functions and hierarchy present and the access control rights associated with each user. It needs to focus on roles performed by users in the organization which makes the system faster. .

III. PROPOSED ALGORITHM

Credit Society System is a Web Application which aims to provide a platform for the employees of Godrej InfoTech Ltd. to make investments and apply for different types of loans. Each user on registration will be asked to select a unique user ID and password which will then be its login credentials. User can invest money and apply for loans. Admin will be given rights to access user details as well as the account and loan details. An admin can analyze the monthly and yearly profit of the credit society.

Features:

- User friendly and flexible.
- Accessible over the internet.
- Data mismanagement is prevented while the project development is under process.
- Relationship between the administrator, owner and developer can be maintained very easily
- Provides high level of security using different protocols like https etc.

Proposed Methodology

The Credit Society System include following modules:

Customer Information Module: This module consists of the following:Login, Registration.
The registration involves employee details such as name, address, dob, bank account details, PAN, etc.
The Web application will be developed using PHP and for the database server, MYSQL server will be used.
The database will be secured using SHA-1 algorithm:
SHA-1 algorithm is an encryption algorithm. It is used for storing and retrieving of data securely . SHA-1 (Secure Hash Algorithm 1) is a cryptographic hash function. In SHA-1, a message digest of 160 bits is produced.

Session Module: This module consists of the applying and granting of loans.Different Loans are of 4 types:
Short loan
Triangular loan
Normal loan
Bank tie up
Loans can be granted in three ways:
ECS

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NEFT
Cheque
Guarantor (who should be a member of the society) has to be mentioned while applying for the loan.

Notification Module
We will be creating a separate notification program in our proposed system. Using GUI admin can either send SMS or Email or both as per the requirement to the targeted user or group of people or entire company (Employee and administrator).

Analysis Module
This module consists of:
Monthly analysis
Quarterly analysis
Yearly analysis
Query Module
This module consists of:
Eligibility criteria
Share certificate
Change Rate of Interest

Settlement module
The loan can be settled in following ways:
Normal
Early settlement
Abscond

Software Interfaces
Front End : PHP

PHP is a general purpose programming and scripting language. It is mainlyimplemented on the server side for web development.PHP code can be used with HTML or HTML5 code. When a PHP code is written it is interpreted by PHP interpreter.

Back End :MS Sql server 2005

MySQL is a freely available open source Relational Database Management System (RDBMS) that uses Structured Query Language (SQL). SQL is the most popular language for adding, accessing and managing content in a database. It is most noted for its quick processing, proven reliability, ease and flexibility of use.

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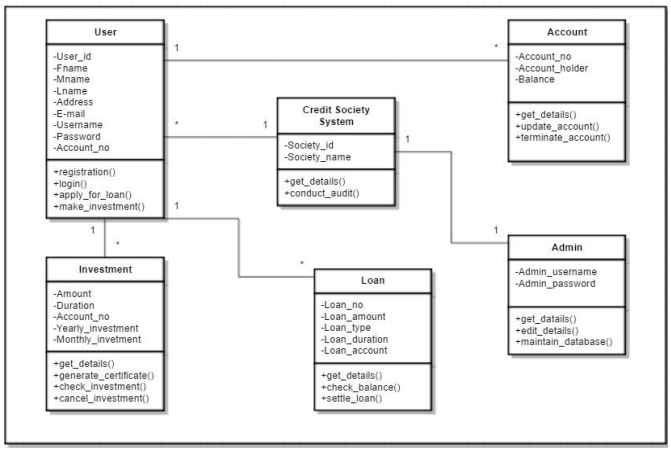
OVERALL SYSTEM BLOCK DIAGRAM



The user interacts with the GUI for all the activities. The front end is connected to the back end i.e. MYSQL database. Security is provided for maintaining the integrity of data.
For displaying the analysis, we will be using Google charts and Crystal Reports. The data mining algorithm to be used is Clustering algorithm – Partition method.

Partitioning Method
Consider a database of 'n' objects and 'k' clusters/partitions are to be created such that k ≤ n. It means that it will classify the data into k groups, which satisfy the following requirements −
Each partition contains at least one object.
Each object must belong to exactly one group.
For k partitions there will be initial partitioning.
Iterative relocation technique is used tofurther group different objects into different partitions.

K-means algorithm:
For solving clustering problems many supervised and unsupervised algorithms are used. K-means is the easiest learning algorithm used for clustering. It classifies a given data set into k clusters which are initialised in the beginning. The main idea is to define k centres, one for each cluster. Every centre should have a different cluster for different location providing different results. Hence they should be placed far from each other . Then take each point belonging to a given data set and associate it to the nearest centre. When no point is pending, the first step is completed and initial grouping is done. We then need to re-calculate 'k' new centroids ascentre of the clusters resulting from the previous step. After we have these k new centroids, a new grouping has to be done between the same data set points and the nearest new centre. This process is run in a loop. As a result of this loop we may notice that the k centres change their location step by step until no more changes are done. Finally, this algorithm aims at minimizing an objective function know as squared error function given by:

$$J(V) = \sum_{i=1}^{c} \sum_{j=1}^{ci} (||xi - vi||)^2$$

Where
$||x_i - v_j||$' is the Euclidean distance between x_i and v_j.
'c_i' is the number of data points in i^{th} cluster.
'c' is the number of cluster centres.

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Algorithmic steps for k-means clustering

Let X = {x_1,x_2,x_3,……..,x_n} be the set of data points and V = {v_1,v_2,…….,v_c} be the set of centres.
Randomly select '*c*' cluster centres.
Calculate the distance between each data point and cluster centres.
Assign the data point to the cluster centre whose distance from the cluster centre is minimum of all the cluster centres..
Recalculate the new cluster centre using:

$$Vi = \left(1/_{ci}\right) \sum_{j=1}^{ci} x_i$$

where, 'c_i' represents the number of data points in i^{th} cluster.
Recalculate the distance between each data point and new obtained cluster centres.If no data point was reassigned then stop, otherwise repeat from step 3).

IV. SIMULATION RESULTS

Below are some of the screenshots of the application which we have developed:

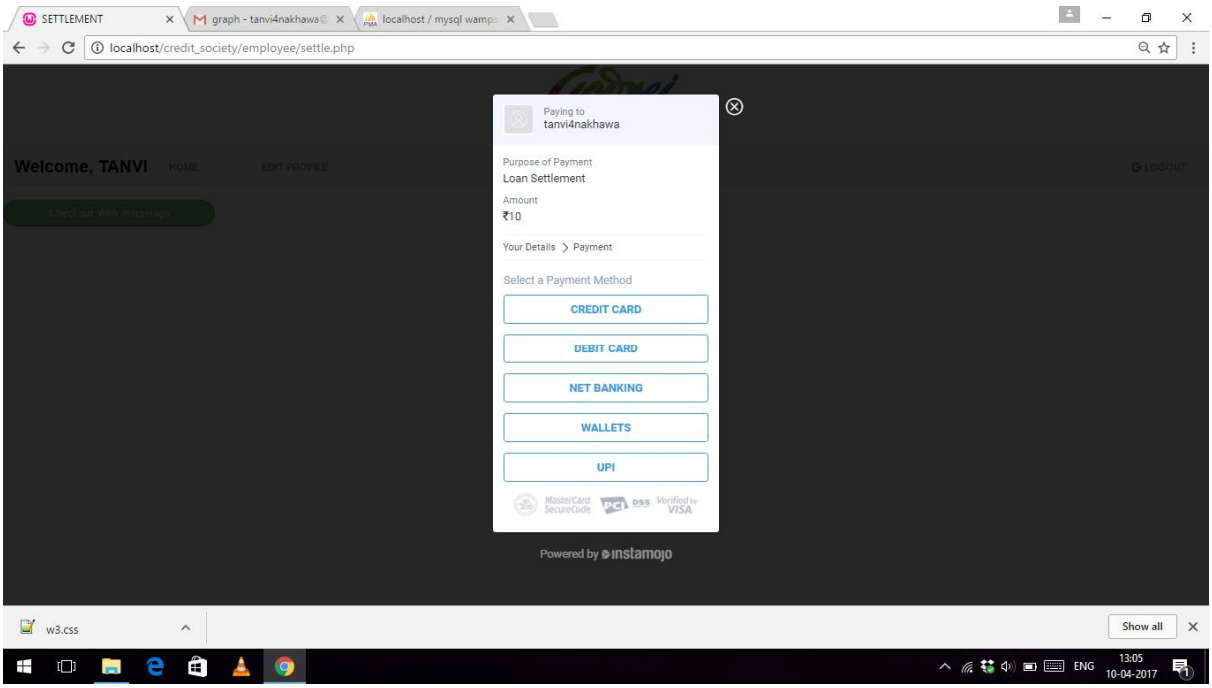

Figure 1: Select mode of payment

This window lets the user select the mode of payment according to his choice. The various options available are Credit Card, Debit Card, Net banking, Wallets and UPI.

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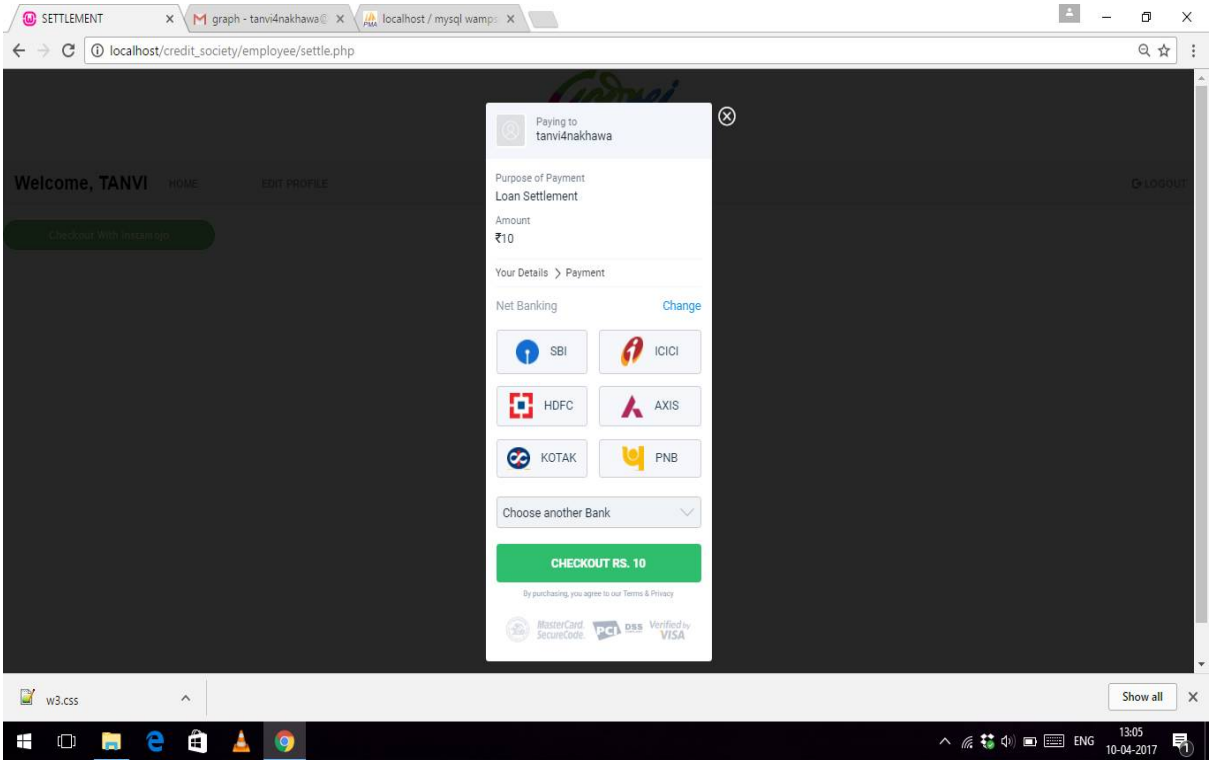

Figure 2: Select bank name

This window lets the user select the bank name after the option 'Net Banking' is selected in the previous window. The options available here are SBI, ICICI, HDFC, AXIS, KOTAK and PNB.

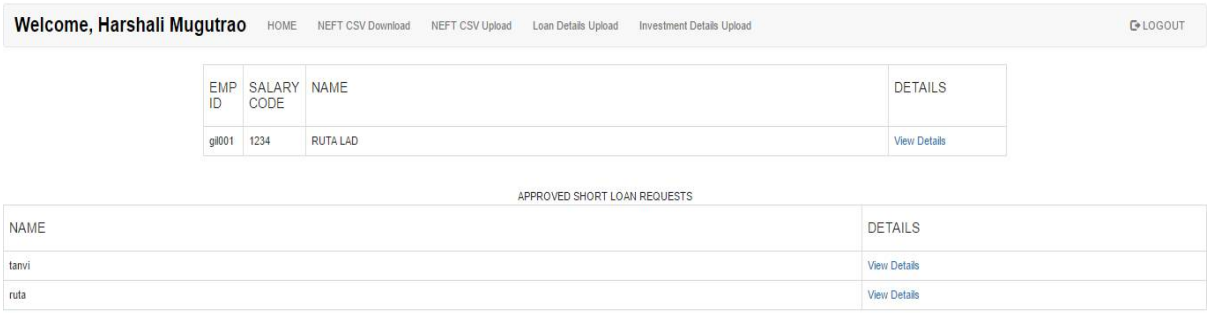

Figure 3: Loan approval page

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This page shows the list of approved loan requests. Only after this approval will the user receive the loan amount. This approval is done only by the admin.

Figure 4: Track loan status

This window displays the status of the loan application of the user in the form of a pie chart. The user comes to know how much part of the loan has been paid and how much is yet to be paid.

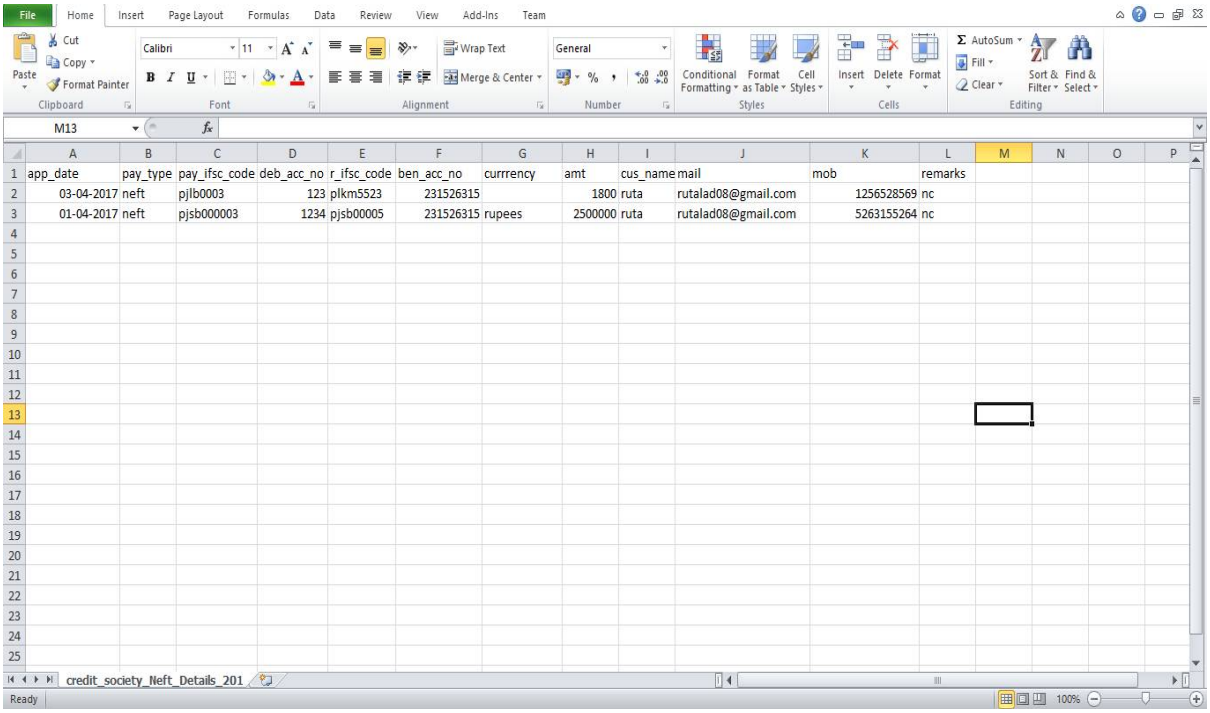

Figure 5: NEFT details file

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The NEFT details file includes all the details of the NEFT transactions to be made. This file is forwarded to the respective banks of the users wherein the transactions are carried out. The employee in the bank sends back this file with remarks 'CLEAR' and 'NOT CLEAR', from which the admin knows which employees have paid the monthly instalment.

V. CONCLUSION AND FUTURE WORK

By studying other credit society systems and gathering knowledge from literature survey we have successfully created a Credit Society System, an online portal which provides users the facility of investing money and applying for loans. The primary advantage of the system is it decreases the latency that arises while manual process is being conducted. The system will adjust and arrange the operational standards in the maintenance of information that is related to the employees and their financial details. The administrators will handle all the transactional informationthat may arise in complementing the application procedures that take place while the system is functioning. Further the system can be modified to provide access to employee through biometric or card swipes and it can also be implemented as an android application.

REFERENCES

[1] Sambit Kumar Mishra, "An Analytical study of Rural Credit System in Chhattishgarh state: A Tool for Development".
[2] Sudarsan Nayak, 'Challenges Before the Co-operatives', Orissa Review, December 2004.
[3] Dr. Ashish Pathak, Prof. Manish Soni, Prof. Sonal Bhati, "A Comparative Study of Co-operative Banks and Nationalized Banks On Various Service Parameters", Altius Shodh Journal of Management & Commerce.
[4] Prof. G. G. Parkhe and Dr. J. P. Bhosale, "Challenges before non-agricultural co-operative sectors".
[5] Dr. R. Renuka, C. Elamathi, "Development of co-operative banking in India", International Journal of Applied Research, vol.3, issue 8, August 2013.
[6] Jyoti Gupta, Suman Jain, "A study on Cooperative Banks in India with special reference to Lending Practices", International Journal of Scientific and Research Publications, Vol..2, Issue 10, October 2012.
[7] Dr. B. S. Chandrashekar, "Growth and Financial Performance of Urban Cooperative Banks in India", vol.4, issue 2, February 2015.
[8] Manish G. Patil and Dr. R. D. Kumbhar, "International Journal of Advance Research in Computer Science and Management Studies", Volume 4, Issue 1, January 2016
[9] www.bankers.com
[10] www.indiancoperative.com
[11] www.co-operativebank.com
[12] www.wikipedia.com