



# Adopting Digital Technology for Sakhi Women Financial Empowerment Group Using an Intelligent Web-Based Management System

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## Abstract

The Sakhi Mahila Bachat Gat Web Application helps record member details, savings, loans, and financial transactions in an organized way. The application supports women in saving money, accessing small loans, and improving their financial stability. It also promotes women empowerment, financial independence, and rural development by making group management simple, transparent, and efficient.

**Keywords-** Sakhi Mahila Bachat Gat, Women Self-Help Groups, Women Financial Independence, Group Finance Management, Digital Record Keeping, Microfinance Support, Web-Based Management System.

## I. Introduction

Women's Self-Help Groups (SHGs) have become an important way to support women in improving their economic and social status. Sakhi Mahila Bachat Gat is a group formed by women who meet regularly to save money and help each other financially. Through these groups, women can collect small savings and provide loans to members when needed for purposes such as small businesses, education, healthcare, or family needs. In many places, the records of savings, loans, and member details are maintained manually in notebooks or registers. This traditional method can be time-consuming and may lead to errors or difficulty in tracking financial information. To solve these issues, a web-based system called the Sakhi Mahila Bachat Gat Web Application is developed. This application helps manage important activities such as member registration, savings collection, loan records, and transaction details in a structured digital format. It allows better organization of data and makes it easier for group members or administrators to access information when required. The main aim of this system is to simplify the management of Self-Help Groups and support women in becoming financially independent. By using digital technology, the application also helps improve transparency, proper record keeping, and overall efficiency in the functioning of Sakhi Mahila Bachat Gat groups.



## II. Literature Review

- Naila Kabeer (2005) studied the impact of women's Self-Help Groups on empowerment and financial independence. The study found that participation in SHGs helps women improve decision-making ability, increase savings habits, and gain better control over household finances.
- Muhammad Yunus (2007) explained the importance of microfinance and group-based financial systems for supporting low-income communities. His research highlighted that small loans and collective savings can help women start small businesses and improve their economic stability.
- National Bank for Agriculture and Rural Development (2018) reported that Self-Help Groups play a major role in rural development in India. The report emphasized that proper financial record management and digital tools can strengthen the efficiency and transparency of SHG operations.
- Ritu Jain and P. K. Sharma (2019) analyzed the challenges faced by SHGs in maintaining financial records. Their study showed that manual bookkeeping often leads to calculation mistakes and delays in tracking savings and loan information.
- S. Gupta (2021) discussed the role of web-based applications in managing community financial groups. The research indicated that digital platforms improve data storage, simplify financial tracking, and reduce paperwork in group management.
- Patil (2022) examined the adoption of digital systems in rural women's organizations. The study concluded that user-friendly web applications can help self-help groups manage member details, loan transactions, and savings records more effectively.

## III. Research Methodology

The research methodology involves studying the existing working process of Sakhi Mahila Bachat Gat Self-Help Groups, where records of members, savings, and loans are maintained manually. Information is collected through observation and discussions with group members. Based on the identified problems and requirements, a web-based system is designed and developed to manage member details, savings, loans, and reports digitally. Finally, the system is tested to ensure it works properly and improves accuracy, transparency, and efficiency in managing SHG activities

## IV. Objectives

### 1. Promote Women Empowerment

To support women's economic development and financial stability through efficient participation in Self-Help Group activities.

### 2. Digital Presence & Visibility

To provide an online platform where the activities, products, success stories, and impact of the member of groups can be shared with a wider audience.

### 2. Connect Buyers with Local Products

To act as a digital marketplace for products made by SHG members, thereby increasing income opportunities through online sales.

### 3. Networking & Collaboration

To enhance the growth and sustainability of SHGs by providing access to support services, funding sources, and collaborative networks.

### 4. Progress Tracking

To monitor and evaluate the achievements, progress, and growth of SHG members, while assessing the overall socio-economic impact of the project on the community.

### 5. Transparency & Accountability

To build trust among stakeholders and beneficiaries through transparent reporting of financial resources, project progress, and achieved outcomes.



## V. Problem Statement

Many Sakhi Mahila Bachat Gat Self-Help Groups still maintain member details, savings, and loan records manually in registers. This method is time-consuming and can lead to errors, data loss, and difficulty in tracking financial transactions. It also reduces transparency and makes report generation difficult. Therefore, a simple and secure web-based system is needed to manage member information, savings, loans, and group activities efficiently and accurately.

## VI. Existing System

Current system of Sakhi Mahila Bachat Gat is manual. It is as follows

- ❖ Bachat Gat comprises 10 women's from similar socio-economic backgrounds. It forms voluntarily in rural or urban communities.
- ❖ The group operates on democratic principles, with members electing representatives to key leadership positions. The elected roles include
- ❖ President (Adhyaksha) – Provides leadership and superintends group activities.
- ❖ Secretary (Sachiv) – Maintains records, meeting minutes, and administrative documentation.
- ❖ Treasurer (Koshadhyaksha) – Manages financial transactions and maintains accounts.

Members contribute regular savings, which are pooled into a joint bank account managed by the group.

- The SHG promotes a culture of savings and financial discipline among its members.
- The accumulated savings create a common financial fund that serves as a resource for the group.
- Members can access small loans from the group's savings fund to meet personal, social, or income-generating needs.
- ❖ This system enhances financial inclusion, self-reliance, and economic empowerment, particularly among women members.
- ❖ Funds are pooled and maintained in a joint bank account.
- ❖ Encourages a savings habit and builds a common financial resource. Members can take small loans from the group savings.

## VII. Data Collection

Data was collected directly from members of Sakhi Mahila Bachat Gat (Self-Help Groups) through:

1. Interviews: Interaction with SHG members to understand their savings, loan management, and record-keeping problems.
2. Questionnaires: Simple survey forms were used to collect information about financial transactions, group activities, and difficulties faced in manual record keeping.
3. Observation: The current manual process of maintaining registers and financial records in SHGs was observed.

## VIII. Research Design

This research uses an applied research approach with a case study method. The purpose of the study is to examine the current management process of Sakhi Mahila Bachat Gat and to design a web-based system that can improve the efficiency of managing group activities and financial records. The research design is divided into two major phases.

### Part I: Requirement Analysis

During this stage, the existing system used by the Sakhi Mahila Bachat Gat was examined carefully to understand how the group currently performs its daily operations. The main aim of this phase was to identify the difficulties faced by members while maintaining records and managing financial activities.

The study included reviewing the present workflow of the group, such as maintaining member information, recording savings contributions, managing loan transactions, and storing financial details in manual registers.



Discussions were conducted with group leaders and members to understand their roles and responsibilities in managing these records.

In addition, interactions with members helped identify common problems such as calculation mistakes, time-consuming record maintenance, and difficulty in accessing past data. Observations were also made regarding how financial records and transaction details are stored manually in notebooks or registers.

The findings from this phase helped in identifying the major limitations of the current system and provided clear requirements for developing a more organized and digital solution.

## Part II: System Design

In the second phase, the structure of the proposed system was planned based on the requirements identified during the analysis stage. The proposed solution is a web-based application that helps manage important activities of the group, including member registration, savings tracking, loan management, and report generation.

The system is designed using modern web development technologies. The front-end of the application is developed using HTML, CSS, Angular, and Bootstrap, while the back-end is implemented using Spring Boot and Hibernate, with MySQL used for database management.

For hardware requirements, the system can operate on common devices such as desktop computers, laptops, tablets, or smartphones that have internet access. The application is designed to work through standard web browsers.

The overall design focuses on building a simple, reliable, and user-friendly web platform that helps reduce manual work, improve record accuracy, and support better management of the Sakhi Mahila Bachat Gat activities. Web application development was easy to use because it can easily handle the women in gat those have minimum educational literacy.

## IX.SYSTEM DESIGN AND IMPLEMENTATION

The Admin logs into the system to control and manage the web application.

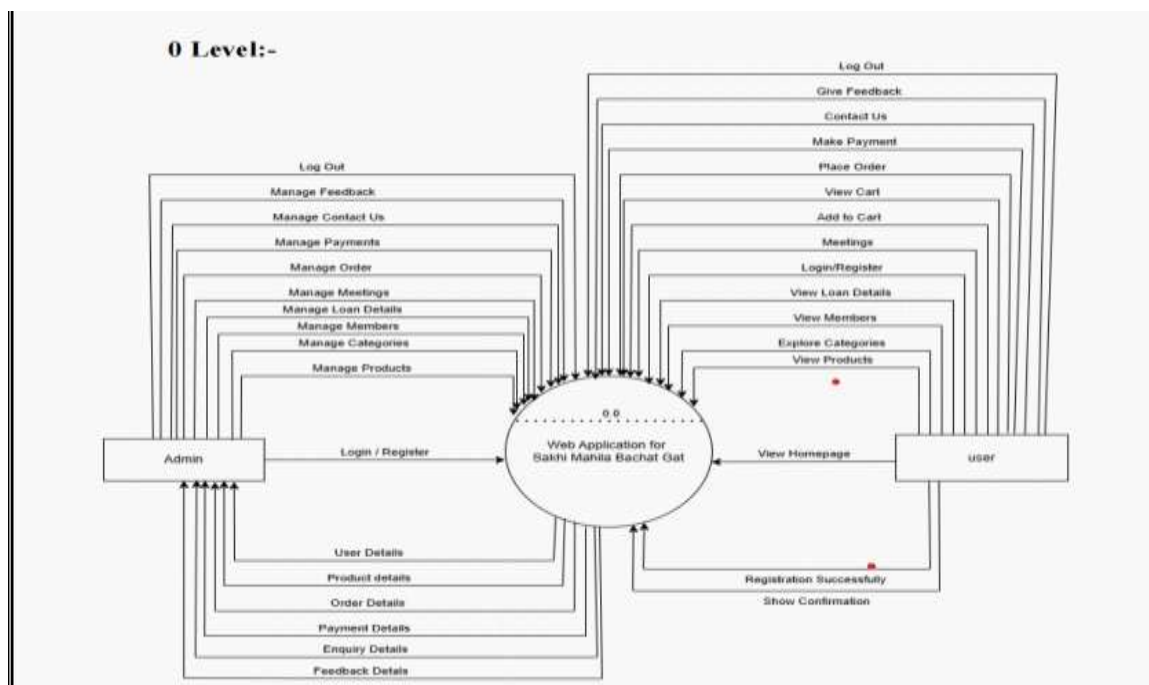


Fig1.DFD



The Admin- the Admin logs into the system to control and manage the web application. Admin is responsible for handling products, categories, members, loan information, meetings, orders, payments, contact messages, and feedback. The admin can also view and update different records to ensure the system works properly.

### Home Page:



Fig. 2

### Lending Details Form:



Fig. 3

This image shows the homepage of the Sakhi Mahila Bachat Gat web application. It highlights the main activities of the women's self-help group such as saving money (Bachat), loans (Kari), business (Vyavsay), employment (Rojgar), and product sales (Utpad). The system aims to support women by promoting financial savings, small businesses, and income opportunities through a digital platform.

The image shows the Loan Entry Page of the Sakhi Mahila Bachat Gat web application. This web page allows users to easily record and manage loan information for group members. Those are users can enter details such as the member's name, loan duration, installment amount to be paid, remaining balance, purpose of the loan, and the total loan amount. A navigation menu on the left side of the screen provides quick access to other sections of the system, making it easier for users to manage savings, loans, members, and other group activities. The page is designed to simplify loan management and maintain accurate financial records within the Self-Help Group.



## Meeting Details Form

## Loan Details Form

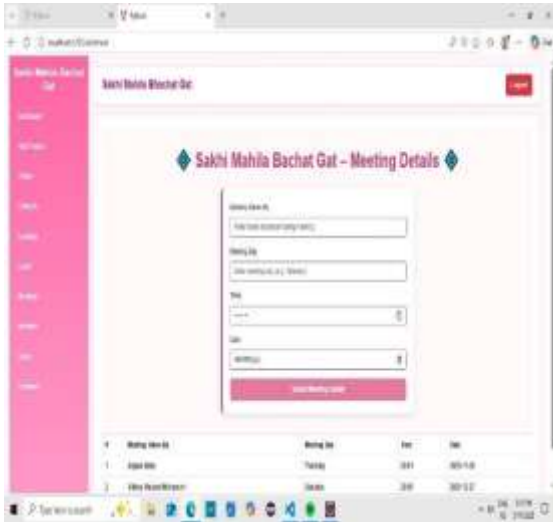


Fig. 4



Fig. 5

This image displays the Loan Details page of the Sakhi Mahila Bachat Gat web application. The form allows users to enter loan information such as member name, email ID, EMI amount, and total loan amount. A sidebar menu on the left provides navigation to other sections like dashboard, lending, loans, meetings, and members. The page is used to record and manage loan information for group members.

The image shows the Meeting Details page of the Sakhi Mahila Bachat Gat web application. It includes a form where users can enter information such as the person who conducted the meeting, meeting day, time, and date. This page helps the group record and manages details of their meetings, and a sidebar menu allows navigation to other sections of the system.

## Order Details Page:

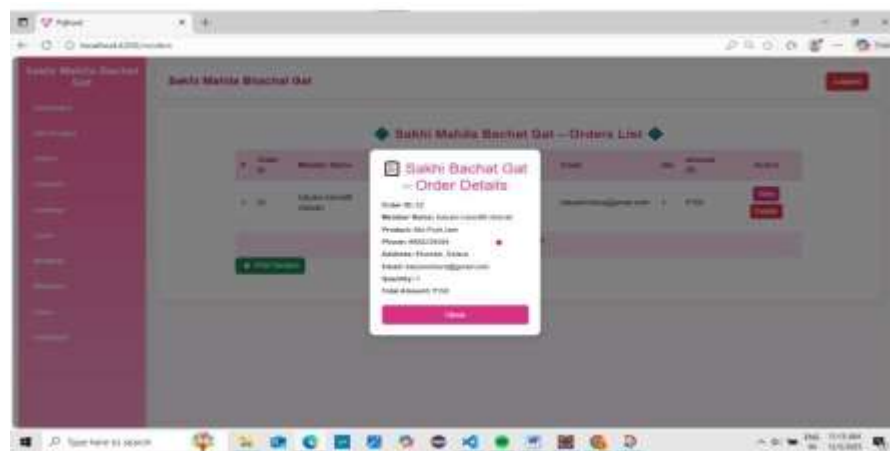


Fig. 6

The image shows the Orders List page of the Sakhi Mahila Bachat Gat web application. It displays order records with details like order ID, member name, email, quantity, and amount. A pop-up window shows complete order information, including product name, phone number, address, and total amount. This page helps manage and view orders placed by members.



**A. Research Gap**

Many women’s Self-Help Groups still depend on manual registers to manage member information, savings, loans, and meeting records. This method makes data management slow and sometimes inaccurate, and it becomes difficult to maintain transparency and track financial activities over time. Some digital systems are available, but they are often complicated, costly, or not suitable for small community-based groups. There is a need for a simple, affordable, and easy-to-use web-based system that can help SHG members manage their activities digitally. The proposed Sakhi Mahila Bachat Gat Web Application addresses this gap by offering a basic and user-friendly platform for managing group records, financial transactions, and reports in an organized manner.

**B. Advantages**

This Sakhi Mahila Bachat Gat Web Application makes it easier to manage member information, savings, and loan records in a digital format. By replacing traditional paper-based record keeping, it helps reduce mistakes and ensures that financial data is stored accurately and securely. The system improves transparency by allowing members and administrators to easily track transactions and view updated records whenever needed. It also time reducing, simplifies daily operations, and provides quick access to important information. Overall, the application supports better financial planning, efficient management, and smoother functioning of the Self-Help Group, contributing to the financial empowerment of its members.

**C. Future Scope**

The Sakhi Mahila Bachat Gat Web Application has the potential for further enhancement in the future. New features such as a mobile application can make the system more accessible, allowing members to manage their savings and loan information anytime and anywhere. Integration with online payment services can simplify financial transactions and reduce manual work. Automatic notifications and reminders for savings deposits, loan repayments, and important group activities can help members stay informed and avoid missed payments. Additionally, the system can be linked with banking services and government welfare schemes, enabling members to access financial assistance, subsidies, and other benefits more easily. These improvements would make the platform more efficient, user-friendly, and beneficial for Self-Help Group members, further supporting their financial inclusion and economic empowerment.

**Result**

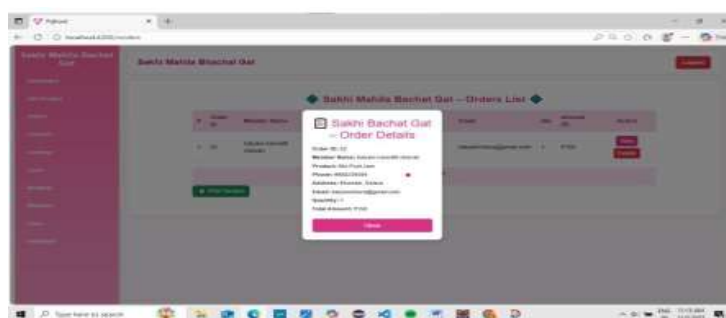


Fig. 1

**Member Details Report**

**Lenders Details Report**

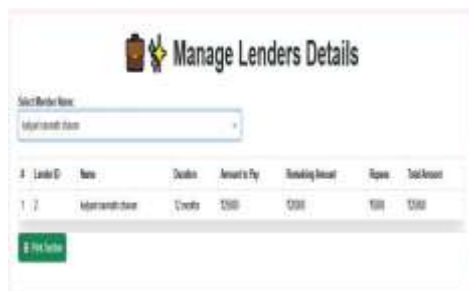


Fig. 2

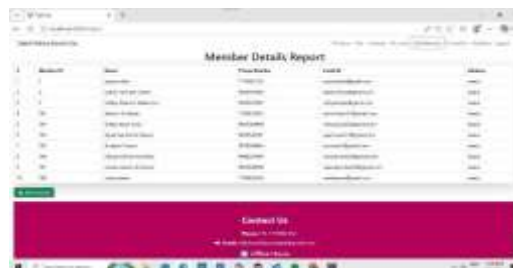


Fig.3



The image shows the Manage Lenders Details section of a system. It allows users to select a member name and view lending information such as lender ID, duration, and amount to pay, remaining amount, rupees paid, and total amount. The page also includes a print option to generate a record of the lending details.

The image depicts a web-based management portal for "Sakhi Mahila Bachat Gat," specifically showcasing a "Member Details Report" page. The interface features a structured table listing ten members with their respective IDs, names, phone numbers, email addresses, and locations, all of which are listed as "Satara". Navigation links at the top allow users to toggle between sections like "Lendings" and "My Loans," Add to Cart ReportPayment Report

Fig. 4

#	Name	Category	Price	Qty	Image	Actions
1	afmasala	Chutney Powders	₹100	1		<a href="#">Edit</a> <a href="#">Delete</a>
2	Papad	Papad	₹450	50		<a href="#">Edit</a> <a href="#">Delete</a>

Fig 4 shows the image illustrates a digital checkout screen for "Sakhi Mahila Bachat Gat," powered by the Razorpay payment gateway. The interface is divided into a sidebar that displays a "Price Summary" total of ₹650 and the user's mobile number, and a main "Payment Options" window. This primary section offers various transaction methods, including UPI, Cards, EMI, Net banking, Wallet, and Pay Later. Currently, the UPI QR option is highlighted, featuring a scannable code and a countdown timer to facilitate a quick, secure mobile payment.

The image presents a "Manage Products" administrative interface designed for



Fig. 5

Inventory oversight. It features a structured table that tracks essential item details, including names like "masala" and "Papad," their respective categories, pricing in Rupees, and current stock quantities. Each product entry is accompanied by a small thumbnail image for easy identification and a set of action buttons that allow a user to either edit existing details or delete the item from the system.

#### D. Conclusion

The Sakhi Mahila Bachat Gat Web Application offers a simple, user-friendly, and effective digital platform for managing the day-to-day activities of women's Self-Help Groups. It enables the group to maintain accurate records of members, savings, loans, and financial transactions in an organized manner. By automating these processes, the system reduces paperwork, minimizes errors, and improves transparency in financial management.



This application also reduces time and makes information easily accessible whenever required. With better record keeping and streamlined operations, it helps strengthen the overall functioning of the Self-Help Group. Most important, this system supports women's financial empowerment by promoting responsible savings, efficient loan management, and greater financial independence, contributing to the sustainable growth and success of the group.

## References

1. R. Kothari & Gaurav Garg (2019). *Research Methodology: Methods and Techniques*. New Age International Publishers.
2. National Bank for Agriculture and Rural Development (NABARD). (2021). *Status of Microfinance in India Report*. NABARD Publications.
3. Ministry of Rural Development, Government of India. (2022). *Self Help Group (SHG) Guidelines under Deendayal Antyodaya Yojana – NRLM*.
4. World Bank (2020). *Digital Financial Services and Women Empowerment in Self Help Groups*.
5. Web Engineering: A Practitioner's Approach by Roger S. Pressman & David Lowe. McGraw-Hill Education.
6. Database System Concepts by Abraham Silberschatz, Henry F. Korth, and S. Sudarshan. McGraw-Hill.
7. W3Schools. (2024). *HTML, CSS, Bootstrap and Angular Tutorials*. Retrieved from <https://www.w3schools.com>
8. Oracle. (2023). *MySQL Database Documentation*. <https://dev.mysql.com>
9. Spring. (2023). *Spring Boot and Hibernate Documentation*. <https://spring.io>