

**PAYMENT GATEWAY INTEGRATION**  
**Mini Project Report**

**Submitted to**

**Sant Gadge Baba Amravati University**

In partial fulfillment of the Requirement for the Mini Project  
(III Year) of  
Degree of

**Bachelor of Engineering**  
By

Ms. Gayatri Satish Bhamburkar

Ms. Anishka Prasanna Gaikwad

Ms. Tanvi Dilip Tawale

Mr. Ayush Nitin Kale

**Under guidance of**  
**Prof. K.K. Sukhadan**



**Department of Computer Science and Engineering**  
**P. R. Pote Patil Education & Welfare Trust's Group of**  
**Institutions, College of Engineering & Management.**

**Amravati – 444602 (M. S.)**

**2022-2023**

**Department of Computer Science and Engineering**  
**P. R. Pote Patil Education & Welfare Trust's Group of Institutions,**  
**College of Engineering & Management.**

**Amravati – 444602 (M. S.)**  
**2022-2023.**



## **CERTIFICATE**

This is to certify that the Mini Project report entitled

### **PAYMENT GATEWAY INTEGRATION**

Submitted by

Ms. Gayatri Satish Bhamburkar

Ms. Anishka Prasanna Gaikwad

Ms. Tanvi Dilip Tawale

Mr. Ayush Nitin Kale

In partial fulfillment of the requirements for the Mini Project (III Year) of Degree of Bachelor of Engineering in Computer Science and Engineering by Sant Gadge Baba Amravati University & is a bonafied work carried out during the session 2022-2023.

**Prof. K. K. Sukhadan**  
Guide

**Dr. V. B. Kute**  
Head of Department

## **DECLARATION**

We hereby declare that we have completed the mini project work (III Year) towards the Bachelor of Engineering Degree of Sant Gadge Baba Amravati University, Amravati, in Computer Science and Engineering discipline on the topic entitled Distance Measuring Wheel under supervision of **Prof. K.K. Sukhadan** of Department of Computer Science and Engineering, P.R. Pote Patil Education & Welfare Trust's Group of Institutions College of Engg. & Management, Amravati.

This report embodies the original work done by us in fulfilment of the requirement of the Bachelor of Engineering Degree of Sant Gadge Baba Amravati University, Amravati, in Computer Science and Engineering discipline.

**Amravati**

**Date:**

Name of Students:

1. Ms. Gayatri Satish Bhamburkar
2. Ms. Anishka Prasanna Gaikwad
3. Ms. Tanvi Dilip Tawale
4. Mr. Ayush Nitinrao Kale

## **ACKNOWLEDGEMENT**

It is our supreme duty and desire to express acknowledgement to the various torchbearers, who have rendered valuable guidance during the preparation of our Mini Project. First of all, we extend our deepest gratitude to our revered Principal **Dr. D.T.Ingole** without whose support, our Mini Project could not have been transformed into present form.

We are grateful to **Dr. V. B. Kute** HOD, Computer Science and Engineering Department; and guide **Prof. K. K. Sukhadan** for providing immense support and guidance. We are beholden for guiding us at every step in the Mini Project. He has most honestly guided me throughout; never leaving me unanswered for any of our doubts. It was his constant persuasion, encouragement, inspiration and able guidance that helped us in completing our Mini Project successfully.

Name of Students:

Ms. Gayatri Satish Bhamburkar

Ms. Anishka Prasanna Gaikwad

Ms. Tanvi Dilip Tawale

Mr. Ayush Nitinrao Kale

Third Year, **CSE**

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## **Chapter 1**

### **INTRODUCTION**

Payment Gateway Integration is the process of connecting a website, mobile app, or other online platform with a payment gateway, which is a technology that enables online payment to be securely processed. Payment gateways acts as intermediaries between the merchant (seller) and the customer (buyer) to facilitate online transactions by securely transmitting payment data and verifying the transaction's authenticity.

### **PROBLEM STATEMENT**

Some of the common problem statements about payment gateway integration include:

1. **Payment gateway compatibility:** Payment gateway providers may have different APIs and technical requirements, and business need to ensure that the payment gateway they choose is compatible with their online platforms programming language, framework, and database.
2. **Integration complexity:** Payment gateway integration requires technical expertise and may involves complex coding, testing, and debugging, which can be time-consuming and challenging for business without the necessary skills and resources.
3. **Security and compliance:** payment gateway integration integration requires adherence to various security standards, such as HTTP implementation, and data encryption, which can be challenging to implement and maintain.
4. **Payment method support:** Payment gateway providers may support different payments methods, and business need to ensure that the payment gateway they choose supports the payment methods their customers prefers.
5. **Transactions fees:** Payment gateway providers charge transaction fees for each payment processed, and bussinees need to consider the fees charged by different payment gateway providers and how they will affect their bottom line.
6. **Technical support:** Payment gateway providers may have different levels of technical supports, and business need to ensure that they have aces to adequate support in case of technical issues or problems.

## **OBJECTIVES**

The primary objective of payment gateway integration is to enable online business to securely and seamlessly accept online payments from customers. Payment gateway integration aims to provide a reliable, efficient and secure method for processing online transaction, while ensuring the privacy and security of customers payment data.

The specific objectives of payment integration include:

- Enabling payment acceptance
- Ensuring transaction security
- Enhancing user experience.
- Streamlining payment processing
- Ensuring reliability and availability
- Managing transaction data
- Meeting compliance, requirement

## **Chapter 2**

### **LITERATURE REVIEW**

A literature survey in payment gateway integration involves a through review and analysis of existing literature, research articles, publication, and other relevant sources related to the topic of payment gateway integration.

It aims to identify and summarise the key concepts, theories, findings and trends in the field of payment gateway integration. A literature survey can help in gaining insights into the current state of knowledge, identifying research gaps, and understanding best practices and challenges associated with gateway integration.

Here are the key steps involved in conducting a literature survey in payment gateway integration:

- Identify relevant sources
- Review and analyze literature
- Evaluate the quality of literature
- Identify research gaps
- Summarised the present finding
- Summarise conclusions
- Provide recommendations
- List reference.



## **Chapter 3**

### **Project Planning Implementation**

#### **PROPOSED METHODOLOGY**

In this project, the main platform used is a java programming language. We used different method to implement the software.

This contains many forms with multiple fields lsuch as Login: username and password, also registration form.

We will processed the response and save payment information in the database with the exact payment method, and confirmation number.

In case if we want to retriev any information in the future, we use the confirmation number or the one time password which helps to retrieve the required information.

To secure user privacy we will have to use the Bcrypt method to encrypt the password which cannot be retrived by anyone.

In the front-end development HTML, CSS, JavaScript is being used to provide a better design for the software

## Chapter 4

### **ADVANTAGES AND DISADVANTAGES**

#### ➤ **Advantages:-**

Payment gateway integration offers several advantages for online business and merchants, including:

**Secure Payment Processing:** Payment gateways provide robust security measure, such as encryption, tokenization, and fraud detection, to protect sensitive payment information and ensure secure transaction.

**Multiple Payment Options:** Payment gateway supports a wide range of payment methods, including credit cards, debit cards, digital wallets, bank transefers, and other alternative payments methods.

**Global Payment Acceptance:** Payment gateways enables business to accept payments from customers around the world, supporting multiple currencies and international payment methods.

**Reporting and Analytics:** payment gateway often provide reporting and analytics tool that allow business to track and analyze transaction data, sales trends, and other metrics.

**Easy integration:** Payment gateways typically offer pre-built libraries or SDKs that make integration with online business websites, application, or other platforms relatively straight forward.

**Scalability and Flexibility:** Payment gateways are designed to handle high transaction volumes, making them suitablefor business of all sizes, from small startups to large enterprise

**Customer support:** Payment gateway providers typically offer customer support service, including technical assistance, dispute resolution, and chargeback managements.

### ➤ **Disadvantages:-**

There are several disadvantages of payment gateway integration that businesses should be aware of before implementing this technology:

**Fees:** Payment gateway providers usually charge transaction fees, which can add over time and impact a business's profit margins.

**Technical issues:** Payment gateway integration can be complex and may require technical expertise. If there are any issues with the integration, it can result in lost sales and frustrated customers.

**Security concerns:** Payment gateways deal with sensitive customer information, such as credit card details, and are therefore a prime target for hackers. Businesses need to ensure that they choose a reputable payment gateway provider with robust security measures in place.

**Compliance requirements:** Payment gateways may be subject to regulatory requirements, such as PCI DSS compliance. Businesses need to ensure that they meet these requirements to avoid penalties and legal consequences.

**Limited payment options:** Some payment gateway providers may not support all payment methods or currencies, which can limit a business's ability to sell to customers in different countries or with different payment preferences.

## Chapter 5

### **CONCLUSION AND FUTURE SCOPE**

#### ➤ **Conclusions:**

In conclusion, payment gateway integration is a critical components of online business, enabling them to securely accept and process payments from customers.

By integrating a payment gateway into their online platform, business can provide a seamless and convenient payment experience to their customers, build trust and confidence, increase conversion rates, expand their customers base, and gain insights into their payment processing performance. It also helps business comply with industry regulations and protect customer payment data, reducing the risk of data breaches and other payment-related issues.

In conclusion, the future of payment gateway integration is expected to witness advancements in security, integration with emerging payment methods, omni-channel payment solutions, AI and ML integration, cross-border payment, seamless checkout experience, customization and flexibility, enhanced reporting and analytics, integration with IoT devices, and the focus on user experience.

Business and payment gateway providers should stay updates with the latest trends and technologies to leverage the future scope of payment integration and enhance the payment experience for customers.

## ➤ **Future Scope:**

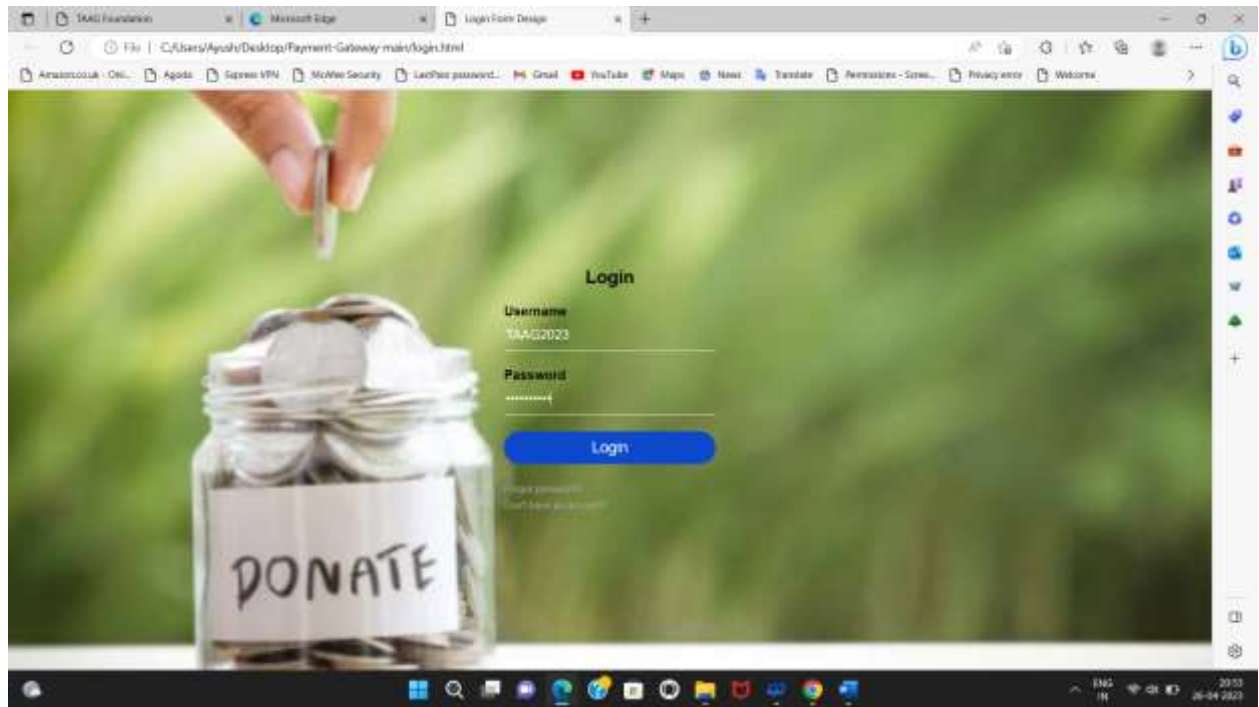
The future scope of payment gateway integration is promising and is expected to witness continuous advancement and innovations. Some potential future developments in payment gateway integration could include:

1. **Build on database:** It is one of the important aspect to add the database in this project. Likely we add back end technology. In future my aim to add python in it is widely used technology in all over the world.
2. **Enhanced security measures:** As technology evolves, payment gateways are likely to adopt even more robust security measure to protect against emerging threats , such as advanced encryption, biometric authentication, and machine learning-base fraud detection algorithms.
3. **Integration with emerging payment method:** With the increasing popularity of alternative payment methods, such as Online payment systems, cryptocurrencies, digital wallets, and payments gateways as expected to integrate with these emerging payment methods to meet evolving customers preference and demands.
4. **Cross-border payment:** With the increasing globalization of business, payment gateways are likely to focus on improving cross-border payment capabilities including multi-currency support, localized payment methods, and compliances with the international regulations.
5. **Customisation and flexibility:** Payment gateways may offers more customization options to business, allowing them to tailor the payment process to their specific needs, branding and user experience. This could include custom payment forms, branding options, and flexible payment workflows.

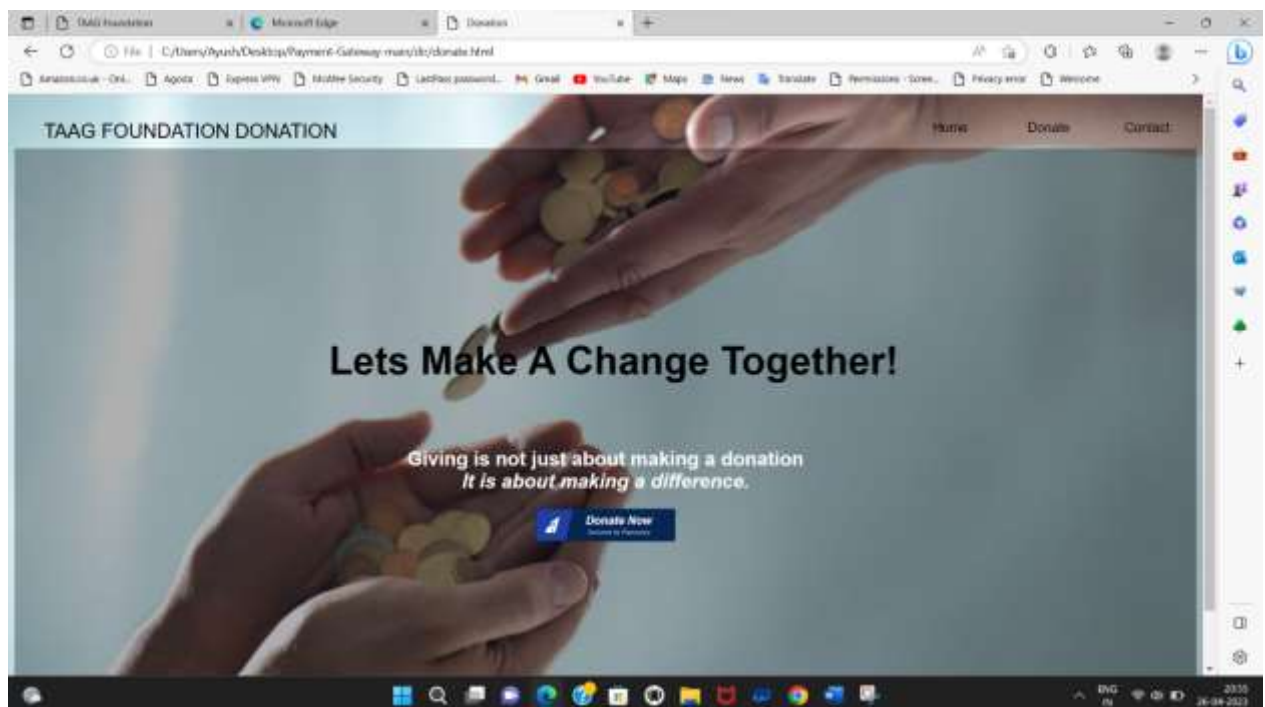
## Chapter 6

### TESTING AND OUTPUTS

#### 1-Login page:



#### 2-Interface of donating system:



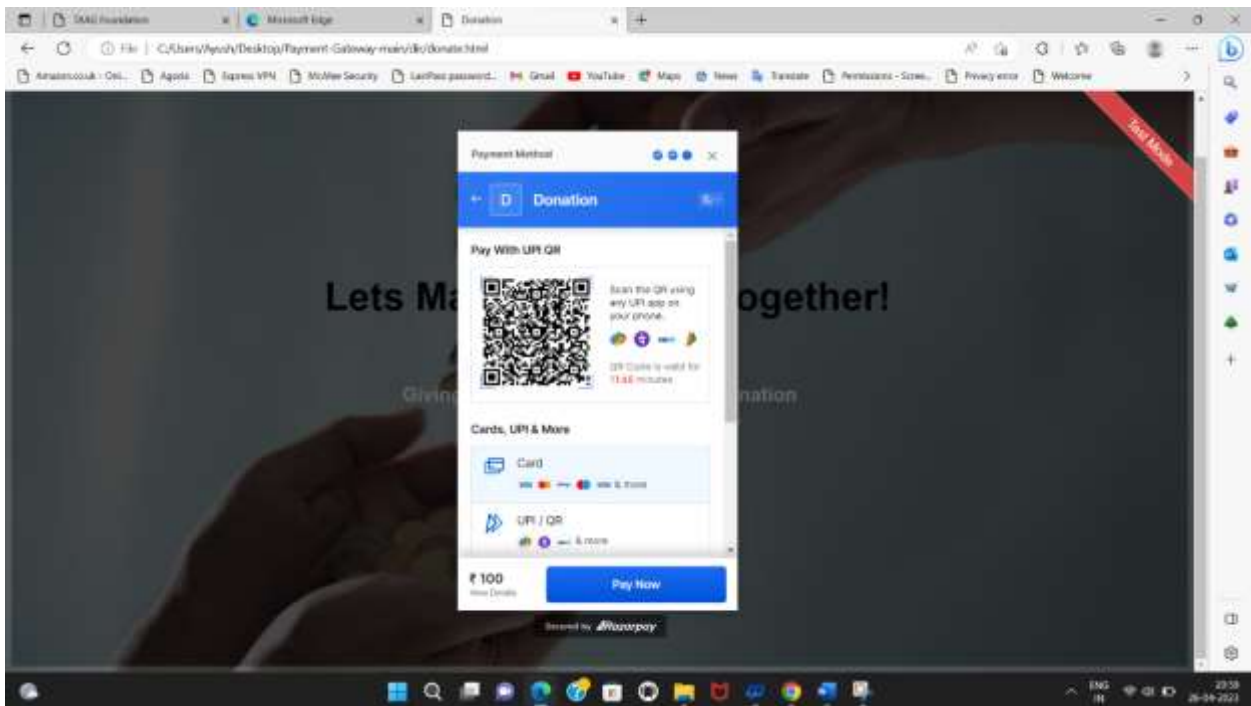
### 3-Entering the amount that you wants to donate:

The screenshot shows a web browser window with a donation page. A modal titled "Donation Amount" is open, displaying a "Donation" section. Below the title, it says "Donate an Amount of your Choice \*". A text input field contains the value "₹ 100". At the bottom of the modal, the amount "₹ 100.00" is displayed next to a blue "Next" button. The background of the page features a large image of hands holding a coin, with the text "Lets Make a Difference Together!" and "Giving" visible. A red banner in the top right corner says "Save Money". The browser's address bar shows the file path "C:\Users\Ajay\Desktop\Payment-Gateway-main\src\donate.html". The taskbar at the bottom shows various application icons and the system clock indicating 23:18 on 26-04-2021.

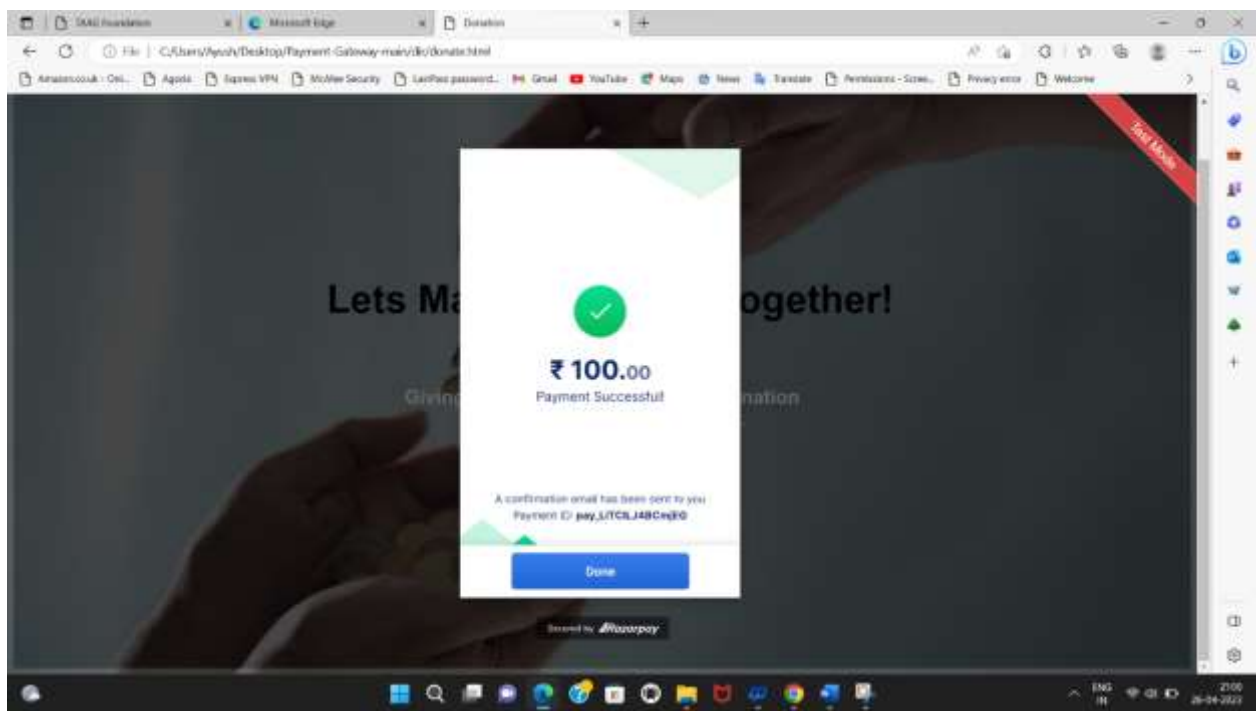
### 4-Required Donar's details:

The screenshot shows the same donation page as before, but with a modal titled "Donor Details" open. The modal contains a "Donation" section at the top, followed by a back arrow icon. Below this, there are several input fields: "Email \*" with the value "XXXXXXX@gmail.com", "Phone \*" with the value "1234567891", "Name \*" with the value "TANU", "Address \*" with the value "AMT", and "City \*" with the value "AMT". At the bottom of the modal, the amount "₹ 100.00" is displayed next to a blue "Proceed to Pay" button. The background of the page is the same as in the previous screenshot. The browser's address bar and the taskbar at the bottom are also visible, showing the same file path and system clock.

## 5- Different Payment Method:



## 6-Final Successful Output:





## Chapter 7

### REFERENCES

- [https://en.wikipedia.org/wiki/Payment\\_gateway](https://en.wikipedia.org/wiki/Payment_gateway)
- <https://www.oberlo.com/ecommerce-wiki/payment-gateway>
- <https://www.geeksforgeeks.org/html/>
- [https://www.w3schools.com/html/html\\_scripts.asp](https://www.w3schools.com/html/html_scripts.asp)
- - *"CSS developer guide". Mozilla Developer Network. Archived from the original on 2015-09-25. Retrieved 2015-09-24.*
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## **Chapter 8**

### **APPENDIX**

The appendix section in a payment gateway integration report can be used to include additional information that supports the main content of the report. Some examples of content that can be included in the appendix section for payment gateway integration report are:

1. Code snippets.
2. API documentation.
3. Configuration details.
4. Test results.
5. Diagrams or flowcharts.
6. Glossary

Including relevant and supplementary information in the appendix section can help readers gain a deeper understanding of the payment gateway integration process and the technical details involved. However, it's important to keep the main body of the report concise and focused, and only include essential information in the appendix section.

