

# Title:

**UPI QR Code Generator**

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## Team Members:

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  - Daksh Dhillon (Tester & Feature Planner)
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## Abstract:

Digital payments have become an integral part of everyday transactions.

Our project, **Smart UPI QR Code Payment System**, provides a simple and efficient solution for businesses to accept payments by generating UPI QR codes with a fixed amount.

The application also records transaction history and calculates the total income, providing a basic overview of business earnings.

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## Problem Statement:

Businesses face challenges like:

- Manual entry of payment amounts
- Difficulty maintaining transaction records
- Lack of a simple, cost-free QR code solution for each transaction

Our goal was to build a lightweight web-based tool that can solve these issues efficiently.

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## Objectives:

- Generate UPI QR codes with a specified fixed amount.
  - Record customer names, app names (optional), and transaction amounts.
  - Calculate and display the total income.
  - Maintain a basic transaction history log.
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## Tools & Technologies Used:

- **Frontend:** HTML5, TailwindCSS
  - **Backend:** Python 3, Flask Framework
  - **Libraries:**
    - **qrcode** (for generating QR codes)
    - **base64** (for embedding images into HTML)
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## System Architecture:

1. **Frontend:** User fills form (name, UPI ID, amount).
  2. **Backend:** Flask receives the form data, constructs the UPI payment URL.
  3. **QR Code Generation:** A QR code is generated and shown to the user.
  4. **Transaction Management:** Data is stored temporarily in memory for session-based tracking.
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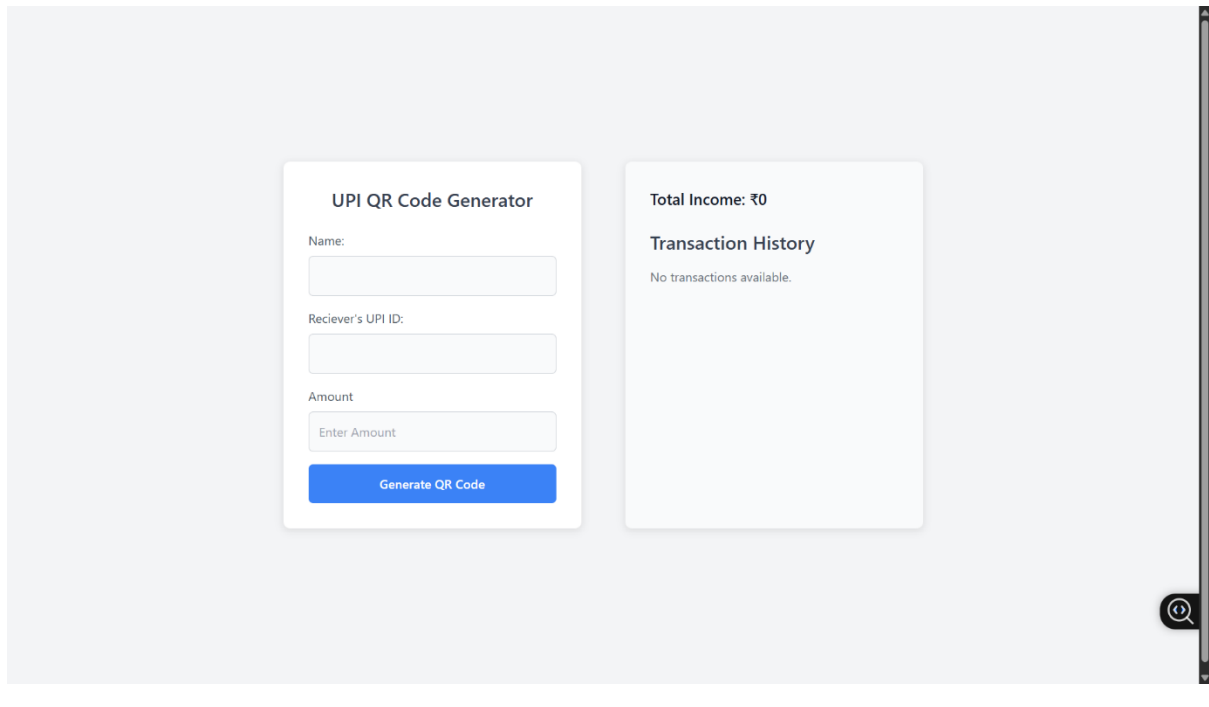
## Working Model:

- The user enters their details and payment amount.
  - A UPI payment link is created and converted into a QR code.
  - The QR code is displayed for easy scanning.
  - Each payment is recorded along with the transaction amount.
  - A live tracker shows total income and previous transactions.
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## Features:

- Fast and reliable UPI QR code generation.
  - Amount-fixed QR codes for direct payment.
  - Transaction history with name, app, and amount.
  - Total income calculation.
  - Responsive user interface with dark mode support.
  - QR code clearing option for repeated use.
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## Screenshots:



## Advantages:

- **Eliminates manual billing errors.**
- **Speeds up** the payment process for businesses.
- **Does not require third-party apps** for QR generation.
- **No subscription fees** or hidden costs — open and free.

## Future Enhancements:

- **Menu Management System:** Allow businesses to add and update their item menus dynamically.
- **Automated Bill Generator:** Customers select items, and the app automatically calculates the total bill.
- **QR Code Billing:** Generate QR codes for the total bill amount based on customer orders.
- **Login and Authentication:** Secure user login to manage menu and transaction history.
- **Database Integration:** Store transaction and menu data permanently (using SQLite, Firebase, etc.).
- **Invoice Generation:** Create PDF receipts/invoices for every customer.

- **Sales Analytics Dashboard:** Visual graphs for daily, weekly, and monthly earnings.
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## Conclusion:

The **Smart UPI QR Code Payment System** offers a fast, easy-to-use solution for small businesses to accept digital payments and maintain a basic transaction log.

With planned future enhancements, it has the potential to evolve into a full-fledged smart billing and management platform.