

Detailed Operational Workflow

This plan breaks down the entire process into three distinct phases, explaining the actions and the underlying technology at each stage.

Phase 1: The Patient Interaction (The Frontend)

This phase covers everything the patient sees and does. The goal is to be fast, simple, and intuitive.

1. The Trigger (QR Code Scan):

- A patient arrives and scans a printed QR code at the reception desk.
- **Behind the scenes:** This QR code contains a single piece of information: the URL to the registration webpage (e.g., <https://your-username.github.io/clinic-form>). Their phone's camera app reads this URL and asks to open it in a web browser.

2. The Interface (Registration Form):

- A clean, simple webpage loads instantly on the patient's phone. It contains a form with three fields: **Full Name**, **Phone Number**, and **Age**.
- **Behind the scenes:** This is a static HTML page hosted on **GitHub Pages**. It uses Tailwind CSS to ensure it looks good on any screen size, from small phones to tablets. There is no complex server or database connection at this stage.

3. The Action (Data Submission):

- The patient fills in their details and taps the "Get Token" button.
- **Behind the scenes:** The moment the button is tapped, a JavaScript program embedded in the webpage runs. It performs two key actions:
 - It bundles the patient's data into a tiny, efficient data package called a **JSON object**. For example: `{"name": "Siddhesh", "phone": "9876543210", "age": 25}`.
 - It sends this JSON package securely over the internet to a unique, secret URL. This URL is the address of our "digital mailbox"—the Google Apps Script.

Phase 2: The Automated Logic (The Backend)

This is the core of the system where the "magic" happens. This phase is completely invisible to the patient and runs on Google's servers in about 1-2 seconds.

1. The "Mailbox" (Receiving the Data):

- The **Google Apps Script**, which is linked to our clinic's Google Sheet, receives the incoming JSON data package from the patient's phone.

2. The "Smart Assistant" (Processing the Data):

- The script immediately gets to work, performing a series of logical steps:

- **Step A: Is this a returning patient?** The script opens the Google Sheet and scans the "Phone" column to see if the patient's phone number already exists.
 - If **YES**, it finds the existing **Patient ID** (e.g., P_142) associated with that number. This ensures a returning patient always keeps the same ID.
 - If **NO**, it generates a brand new, unique **Patient ID** for this new patient.
- **Step B: What is today's token number?** The script looks at the "Date" column and counts how many patients have already registered *today*. If 15 people have registered, it knows this new patient's **Token Number** is 16. This logic automatically resets the queue every day.

3. The "Scribe" (Writing to the Database):

- Now that the script has all the necessary information (Patient ID, Token Number, Name, etc.), it writes a complete, new row of data into the **Google Sheet**.

4. The "Confirmation" (Sending the Response):

- After successfully saving the data, the script sends a small confirmation message back to the patient's phone. This message contains the two crucial pieces of information: their unique **Patient ID** and their **Token Number** for the day.

Phase 3: The Clinic's View (The Dashboard)

This phase covers what the clinic staff sees and how they use the system.

1. The "Live Dashboard" (Google Sheet):

- The clinic staff has the Google Sheet open on a reception computer or a tablet.
- **Behind the scenes:** Google Sheets is a live, collaborative tool. The new row of patient data added by the script in Phase 2 appears on the staff's screen **in real-time**. There is no need to refresh the page.

2. The "Queue Management" (Using the Data):

- The staff can now see the full, ordered list of waiting patients. They can see the token numbers, names, and the order in which they registered.
- They can manage the flow by calling patients based on the TokenNumber column, ensuring a fair, first-come, first-served process. They can also add their own notes in new columns (e.g., "Payment Done," "Consulted").

This entire workflow creates a seamless, automated loop that requires no manual data entry from the staff, reduces wait times, and provides a professional experience for the patient.