**BloodBridge: Connecting Donors & Recipients Instantly**

**Introduction**

The **BloodBridge: Connecting Donors & Recipients Instantly** is a web-based application developed using **Flask** and **SQLite**. This platform serves as a bridge between blood donors and recipients, providing a seamless and efficient way to manage blood donation requests, donor registrations, and inventory tracking.

**Objective**

* To facilitate **blood donation** by connecting **donors and recipients** efficiently.
* To provide a **secure** and **user-friendly** system for managing blood requests and donations.
* To maintain an **organized database** of donors and recipients for easy access.
* To provide an **administrative dashboard** for monitoring blood availability.

**Features**

🔹 **User Registration & Authentication**

* New users (donors) can register by providing **personal details** like name, blood group, address, and contact information.
* Secure login/logout functionality with **session management**.

🔹 **Blood Donor & Recipient Management**

* Users can **search** for donors based on **blood group or name**.
* Donors can be contacted for **blood donation requests**.

🔹 **Blood Inventory & Dashboard**

* **Admin Dashboard** displays total blood availability categorized by blood type (A+, A-, B+, B-, O+, O-, AB+, AB-).
* **Blood donation entries** are updated dynamically as donations are added.

🔹 **Notifications & Requests**

* Registered users can **send blood requests** to donors.
* Donors receive notifications of pending blood donation requests.

🔹 **Data Management & Admin Controls**

* **Admins can delete** users, blood donation entries, and requests.
* **Users can update** their profile details.
* **Session-based access control** prevents unauthorized access.

**Technology Stack**

* **Backend:** Flask (Python)
* **Database:** SQLite
* **Frontend:** HTML, CSS, JavaScript (Jinja2 templating)
* **Security:** Flask-WTF for form validation, Session-based authentication

**Conclusion**

The **BloodBridge: Connecting Donors & Recipients Instantly** is a **community-driven initiative** designed to make blood donation more accessible, efficient, and well-managed. By leveraging technology, the system ensures that **patients in need** can quickly find **matching donors**, thereby **saving lives**.