HarperDB Hackathon

PROJECT NAME - BLOOD CONNECT

TEAM NAME - IGNEEL

About The Idea

- This application lets multiple users request for blood donations.
- Centralizes the blood donation requests.
- All this data collected is stored in HarperDB and is later used to perform simple statistics.
- Keeps both, the donor and request anonymous.
- No direct connection of the involved parties.

Why This Idea?

▶ Developed nations already have some sort of basic or advanced blood donation centralized camps.

▶ These camps make it easier for people to get access to the blood.

▶ But, under-developer or developing nations do not have this kind of setup and the requester may have to wait for any donor.

▶ People even spread messages on social media for requesting donations, which is not ideal and makes the process lengthy.

▶ People in the near area might not even know about anyone in the need. So, they cannot help, even if they want to.

How The Model Will Work?

- Blood donation Camps will be the centralized environment.
- People request for the donation and their request is stored in the database and is updated everywhere.
- Blood donation camps get the notification about this, and if they have the blood to supply, they can contact the requester and help them carry the process.
- All the users also get the request for the same. If the donor is near them and they want to help, they can contact the Blood donation camp for the same.
- Blood donation camps act as mediator and help both the parties in the process of blood donation.
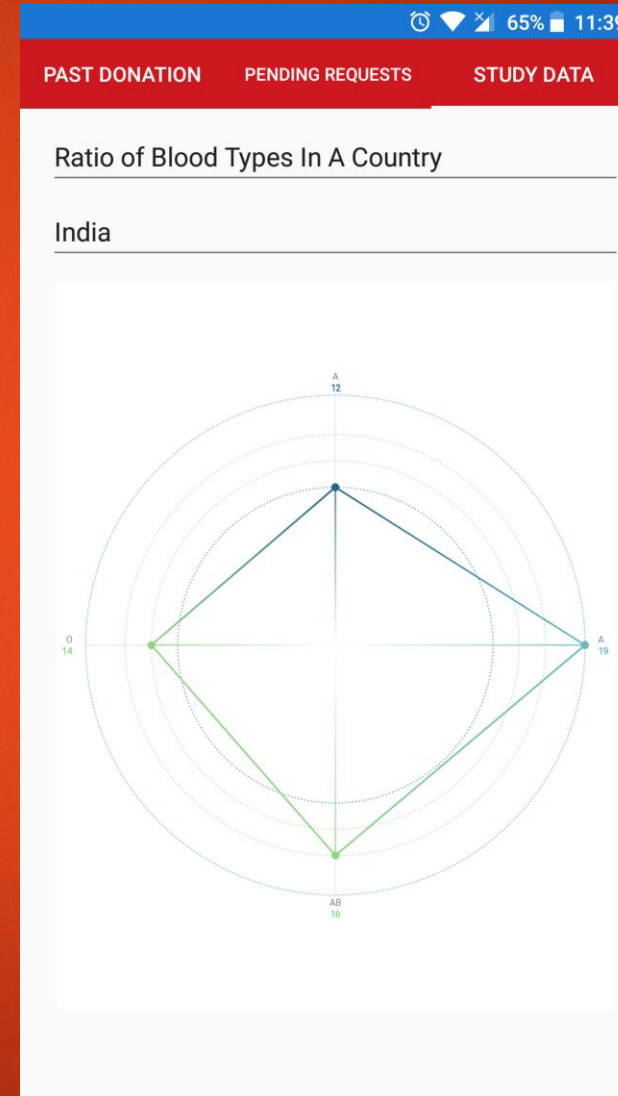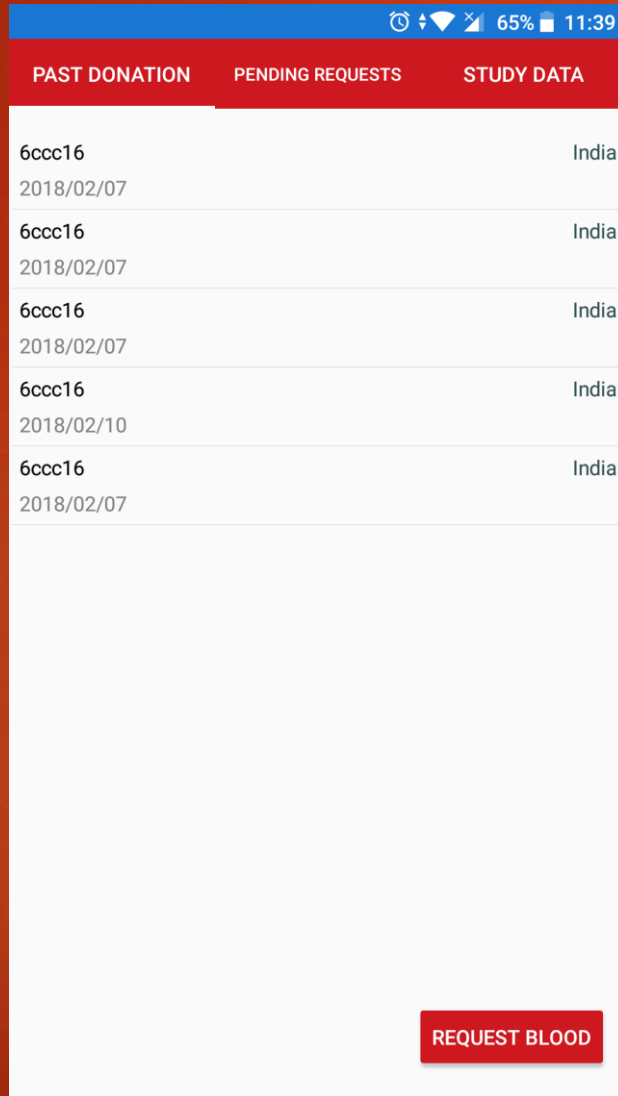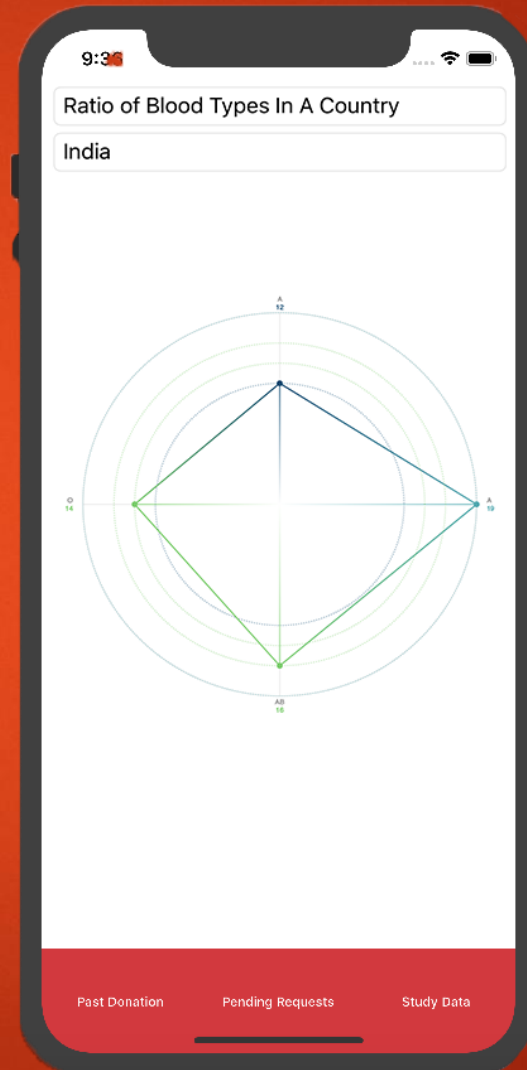
Working Of Model
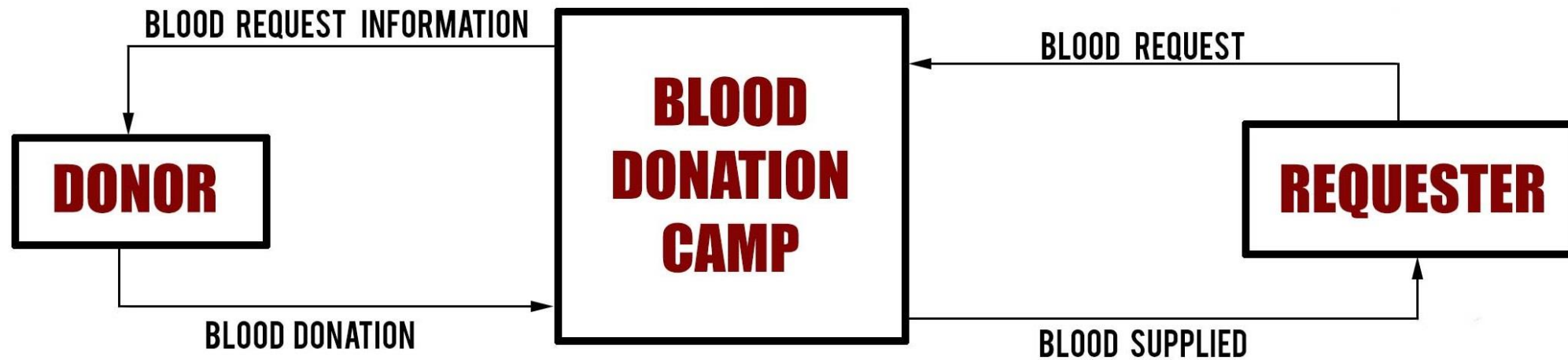
Architecture Model
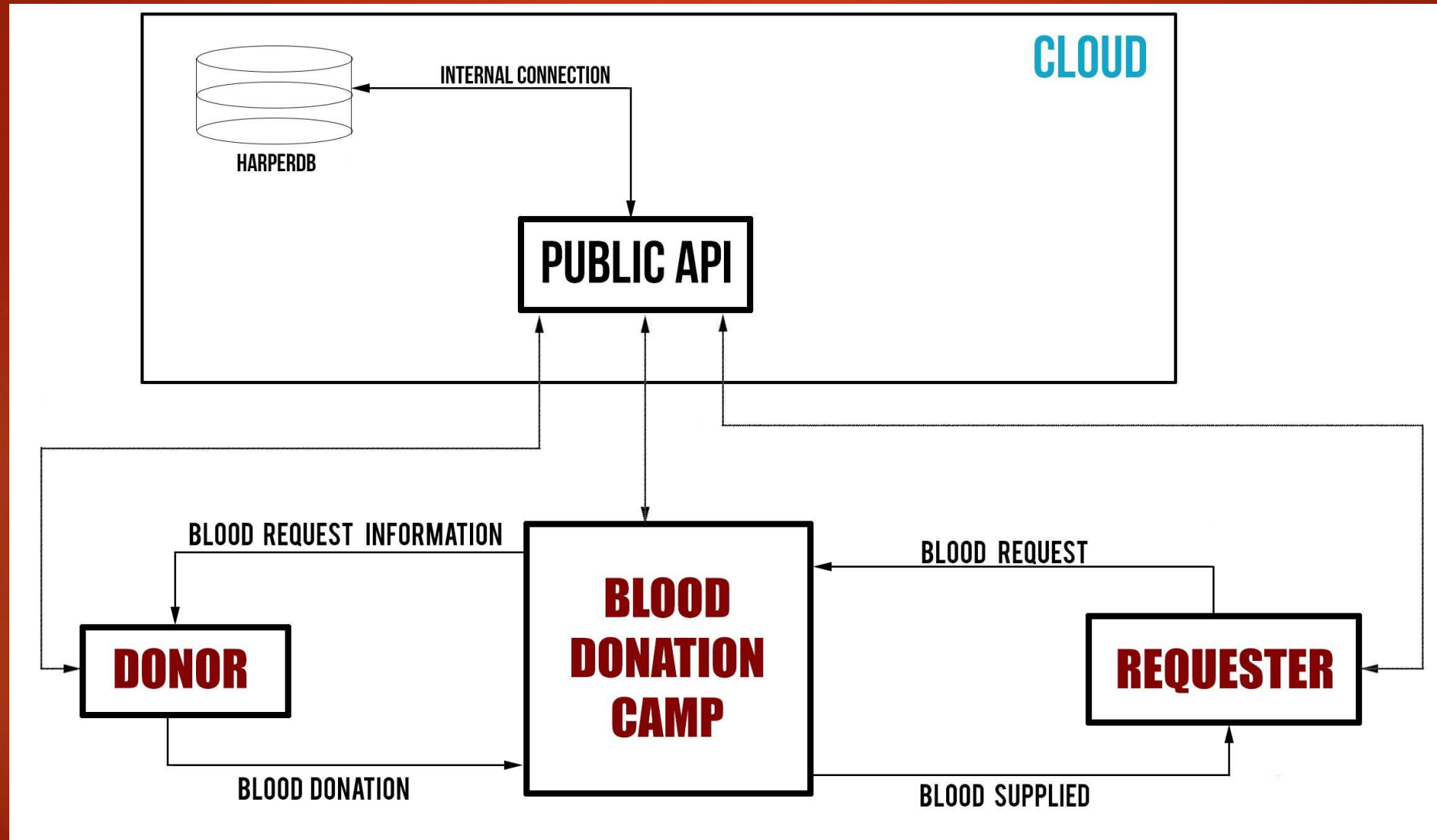
Tech Stack
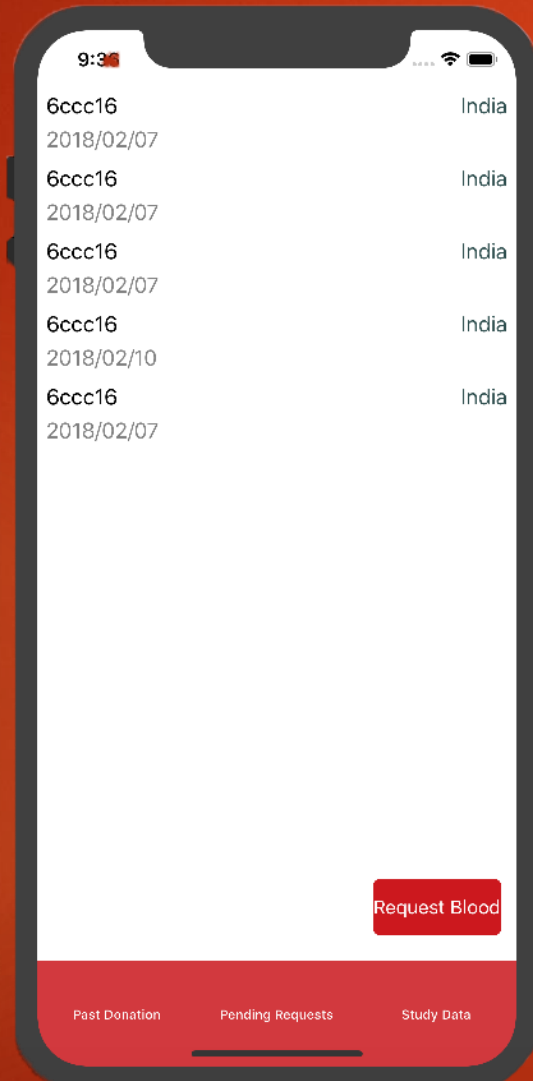
- Server : AWS – Ubuntu
- Database : HarperDB
- Scripting Language : PHP
- Programming Language : C#
- Framework : Xamarin.Forms
- IDEs : Visual Studio, PHPStorm

Android UI
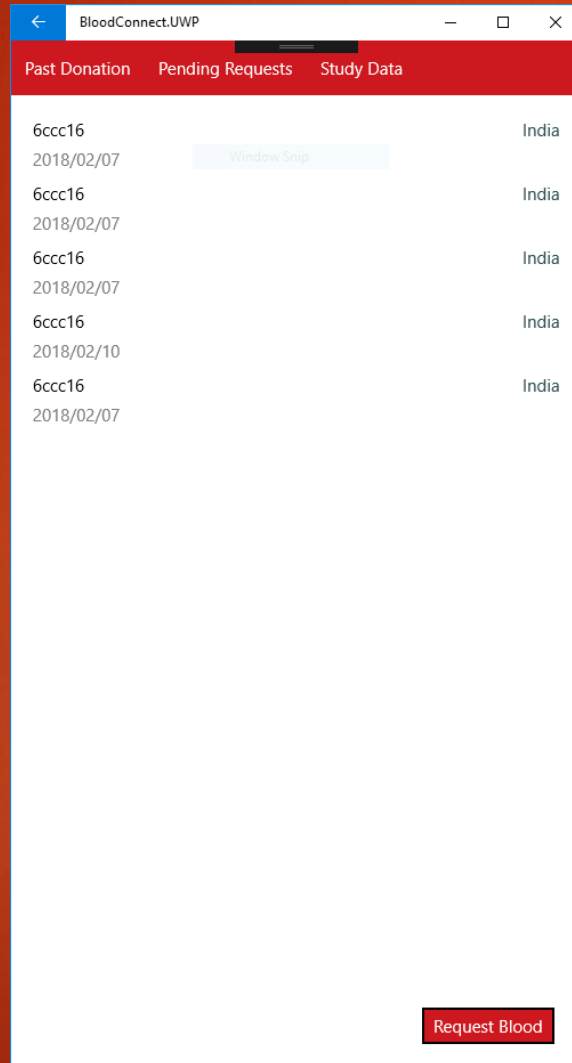
iOS UI

Windows UI (UWP)

But, Why The HarperDB?

- HarperDB provides support for both, NoSQL and SQL.
- No worries about defining the schema.
- NoSQL support ensures that Scalability and Flexibility to add new data mode is maintained.
- SQL queries on NoSQL data, a personal dream and preference.
- REST API Support – More possibilities to work with multiple tech stack without technical problems or limitations.

What are Insights & How Are They Useful?

► To generalize what types of blood group requests are more frequent in which particular area.

► To predict which area might run out of most requested blood type.

► To know how fast or slow the requesters are getting the donations.

► This will enable the authorities to keep the ample supply of those blood groups in their inventory.

► Regulate the blood banks around the area/country to keep a balance of the requests.

► Ensures that the requesters in immediate need of blood will not have to wait to transport and acquire the blood in emergencies.
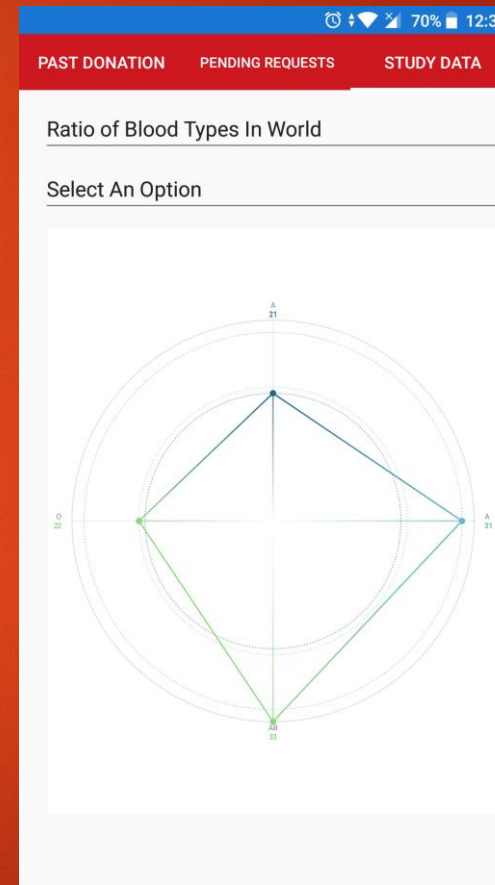
Insights/Analytics From The Collected Data
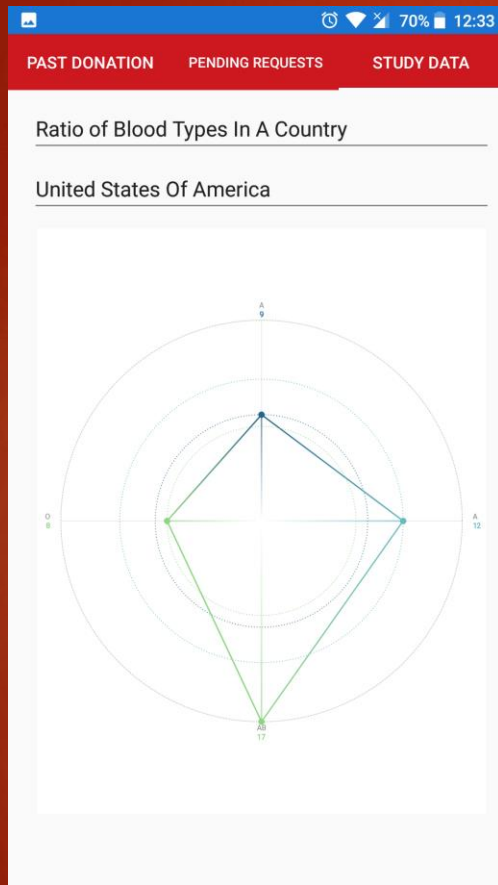
Density of Blood Groups In A Country
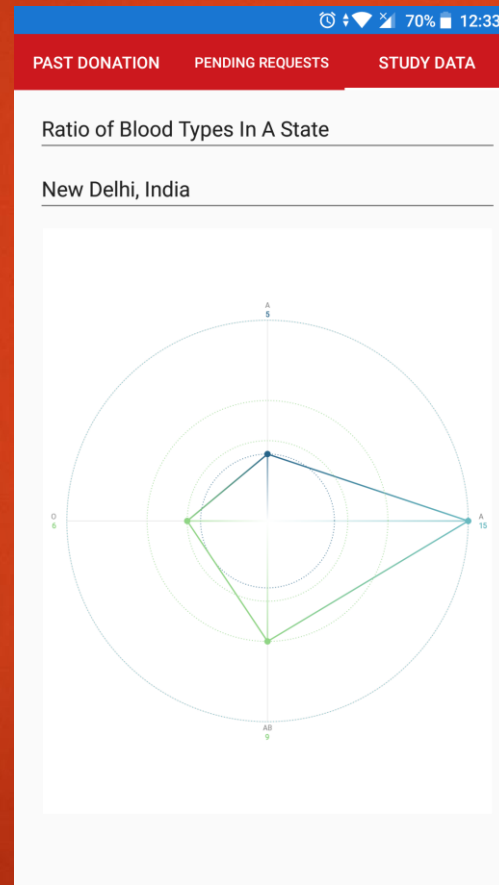
Density of Blood Groups In A State

Density of Blood Groups In World

Future Scope/ To Do…

- Rebuilding the user interface, for better, faster & smoother user experience.

- Incorporating the Blood Banks in the loop for the blood transfer process.

- Predicting the future, i.e., which area might run out of a particular blood type in how much time.

- Predicting which area would need a particular blood's request next and when.

- Applying ML along with the HarperDB and improving and providing more detailed Insights.

Team

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Thank You!