Idea Originated from Amber Alert:

Amber alert works through **Cell Broadcast**. Which conveys messages through all cells in that area by delivering "messages to all phones within range of designated cell towers". "Amber alerts are" also "distributed via commercial and public radio stations, Internet radio, satellite radio, television stations, text messages, and cable TV by the Emergency **Alert** System and NOAA Weather Radio". Though not all abduction cases result in an amber alert.

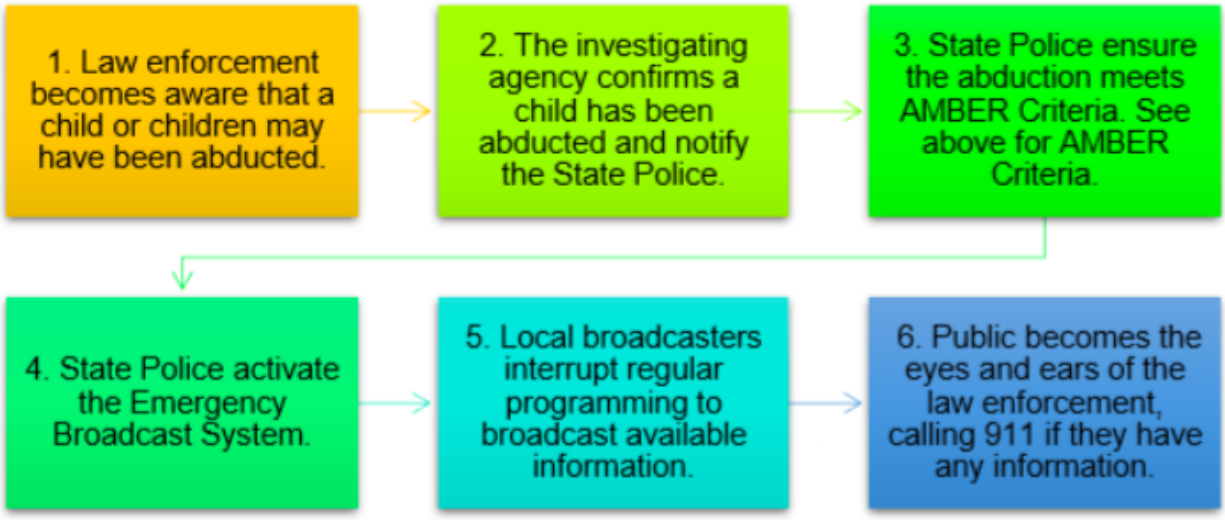
There are strict regulations when it comes to issuing an Amber Alert. Only if these criteria are met can the Alert be issued. These are:

1. A child, 17 years of age or younger, has been abducted
2. The child is in danger of serious bodily harm, injury, or death
3. There is enough descriptive information to believe that an AMBER Alert may help locate the child

The Massachusetts State Police partners with many agencies and organizations to spread word of recent AMBER Alerts. These agencies and organizations include:

- Massachusetts Chiefs of Police
- Massachusetts Department of Transportation (DOT)
- Massachusetts Emergency Management Agency (MEMA)
- The Lottery Commission
- MBTA Transit Police
- National Center of Missing and Exploited Children (NCMEC)
- Local Media and Broadcasters

Process:



Source: [4]

What I Want To Do:

I would like to create an app that would help mothers going through labor. About 36% of mothers go through postpartum deaths immediately or a week after giving birth even in America. Though this may occur due to many causes, one of the most important being severe bleeding.

Hospitals that do not have access to Blood Banks or are unable to find donors are unable to provide the patient with blood immediately. The delay to acquire the blood or the unavailability of a donor results in the death of the patient/mother.

The App:

This app is especially designed for mothers undergoing labor, who do not have the access to blood. With the control of a doctor or someone who has the app downloaded, a message will be sent immediately to areas nearby as well as existing Blood Banks with a request for blood supply.

Stats:

1. "50-98% of maternal deaths are caused by direct obstetric causes (hemorrhage, infection, and hypertensive disorders, ruptured uterus, hepatitis, and anemia)"
   Source: [1]

2. "The total deaths have reducen in India from 130 to 113 from 2016-2018".
   Source: [2]

3. "In Asia, anaemia (irrespective of the severity) is the second leading cause of maternal death accounting 12.8% independent of deaths due to postpartum haemorrhage.4 Literature search further adds that about 20% of maternal deaths are caused by anaemia and with this anaemia is additional risk factor in contribution of 50% of all maternal deaths.7,8 There are three main reasons for death due to anaemia First, anaemia results from excessive blood loss during or after delivery resulting in low haematological reserves".
   Source: [3]

Intro:

After reading the article on postpartum deaths, I was shocked by the percentage of women that experience it. It is caused by one of the main reasons: anemia. Though it seems simple to fix, hospitals lack the speed, facilities, and communication to obtain blood. By helping improve the communication, it can decrease the amount of women that die during labor due to blood loss. This app will simply send out notifications to neighboring blood banks and people in the area with a request for blood along with the reason and the location of the hospital. The message can be activated mainly by a medical/hospital staff, making it similar to the Amber Alert.

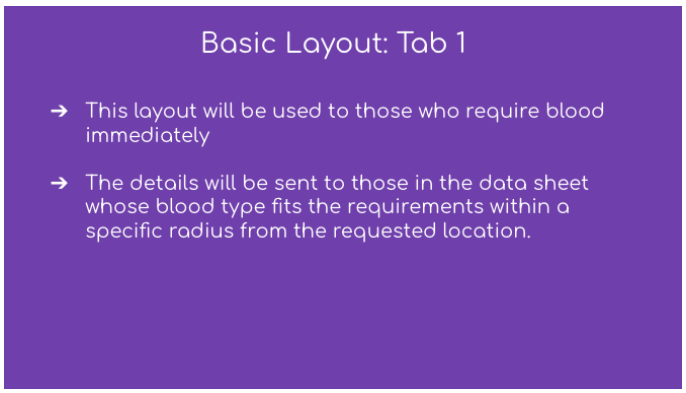
Data Needed:

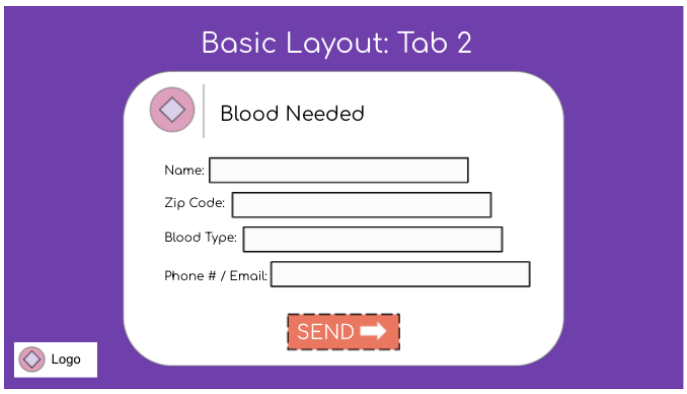
1. Last Name, First Name
2. Blood Group Type
3. Phone Number / Email Address
4. Area Code
5. Hospital Name

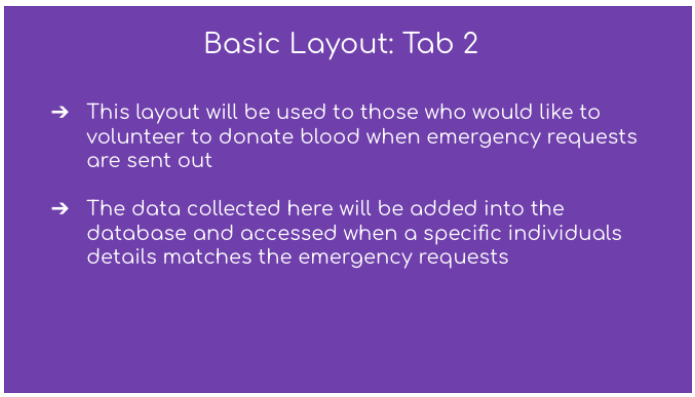
Blood Types:

1. A's - used for A and AB
    a. A+
    b. A-
2. B's - used for B and AB
    a. B+
    b. B-
3. O's - used for O, A, B, and AB
    a. O+
    b. O-
4. AB's - used for AB
    a. AB+
    b. AB-

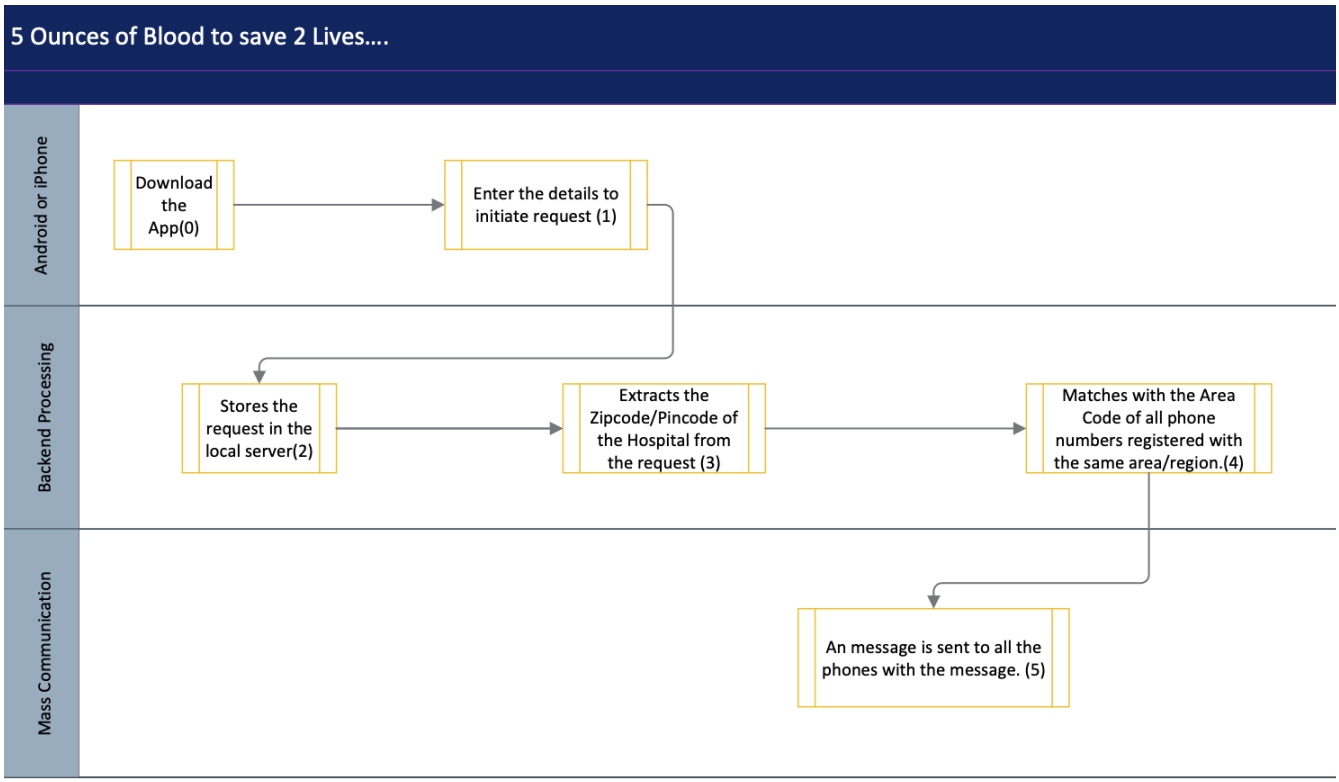
Basic Design:







Process Flow:



(0) Download the app in an Android or iPhone
(1) The app has a pre-generated Form that the User (a hospital staff, nurse, ER frontline worker, or a family/friend can initiate a request by entering their name, phone #, hospital name, zip code or Pin code of the hospital, and type of blood needed
(2) Stores the request in the local server to aid with analytics; this data will be used to send alerts within the specific geography.
(3) The hospital Zip Code/Pincode in the request is extracted
(4) And matched against the master database of all phone numbers registered in the same area/region.
(5) A message to be sent to all the phones within the area/region with a request that a specific blood type is needed and donors can contact the hospital to donate the blood.

What I have completed till now:

- Design and layout
- Identified the technology that will be used to develop the app
- Completed the front end graphic interface