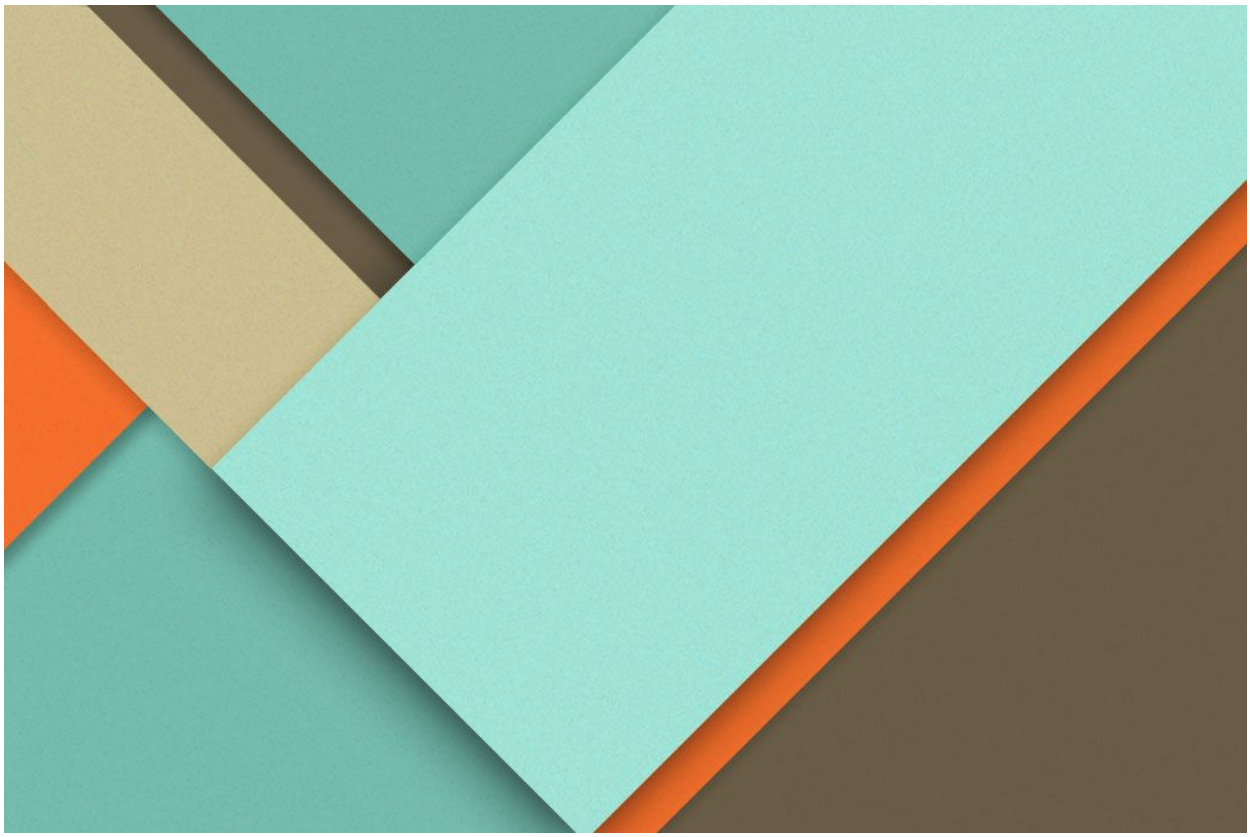
sawtooth



Donor.Me

A blockchain-based Organ Donation & Matching System

09.05.2019

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Overview

The Kerala Government has an initiative (KNOS - Mrithasanjeevani) established in August, 2012 to maintain records of patients waiting for organ transplants, and for citizens to register as potential organ donors. This initiative is targeted to resolve the ethical and legal issues surrounding live and deceased organ transplantation.

The proposed solution (Donor.Me) is a blockchain network, created by the Government of Kerala's Department of Health. Hospitals that are approved for organ transplant are registered in the network by each District's Department of Health, and the hospitals are permitted to register patients who are awaiting transplant, and donors who are willing to donate one or more organs. These hospitals can also update the donor's status and viability of donated organs at the donor's time of death. Patients that are registered are added into organ waitlists, and allocated waitlist numbers based on their blood group and the number of pending organ requests. The Department of Health (District) can check for matching organ donations for the patients with waitlist number 1 in their respective blood groups, and matches the patient details with donor details, removes the patient from the waitlist, and moves the other remaining patients up the waitlist. The Department can view the historical log of all the matches made in the Donor.Me system.

Goals

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Specifications

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Milestones

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II. Dolor sit amet

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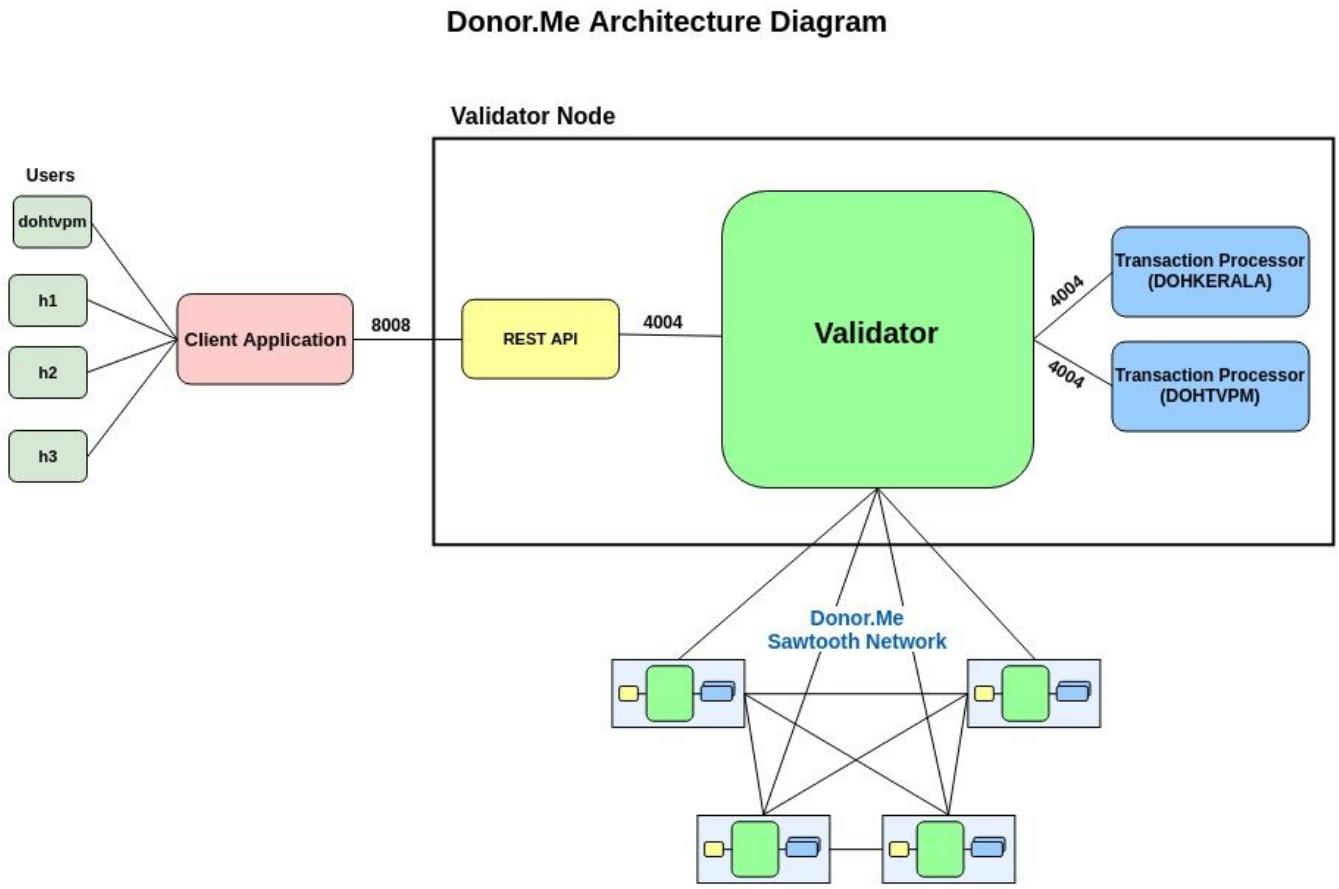
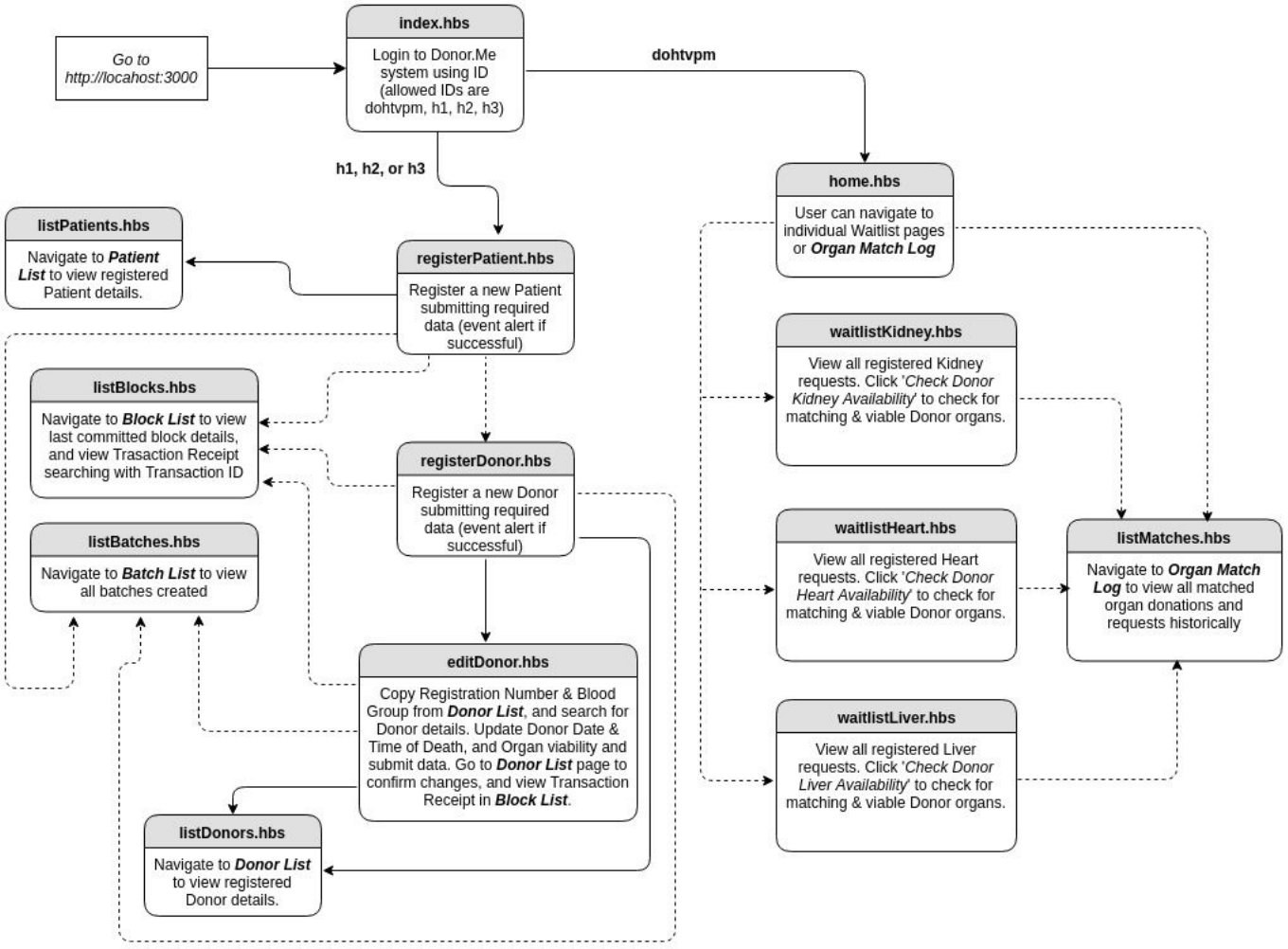
Architecture Diagram



Code Flow

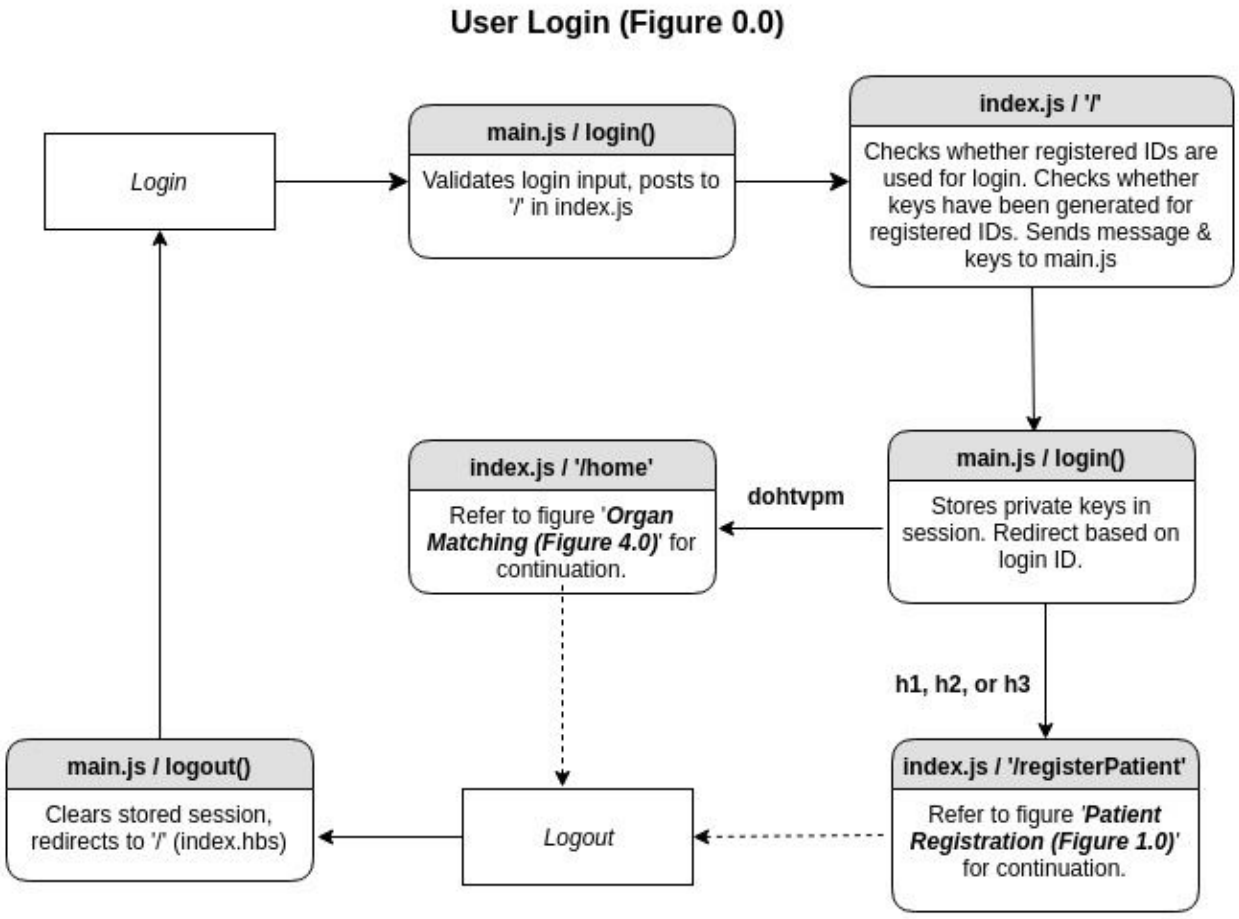
I. User Interface

The below figure describes the code flow in the User Interface and the interactions between different components.



II. User Login

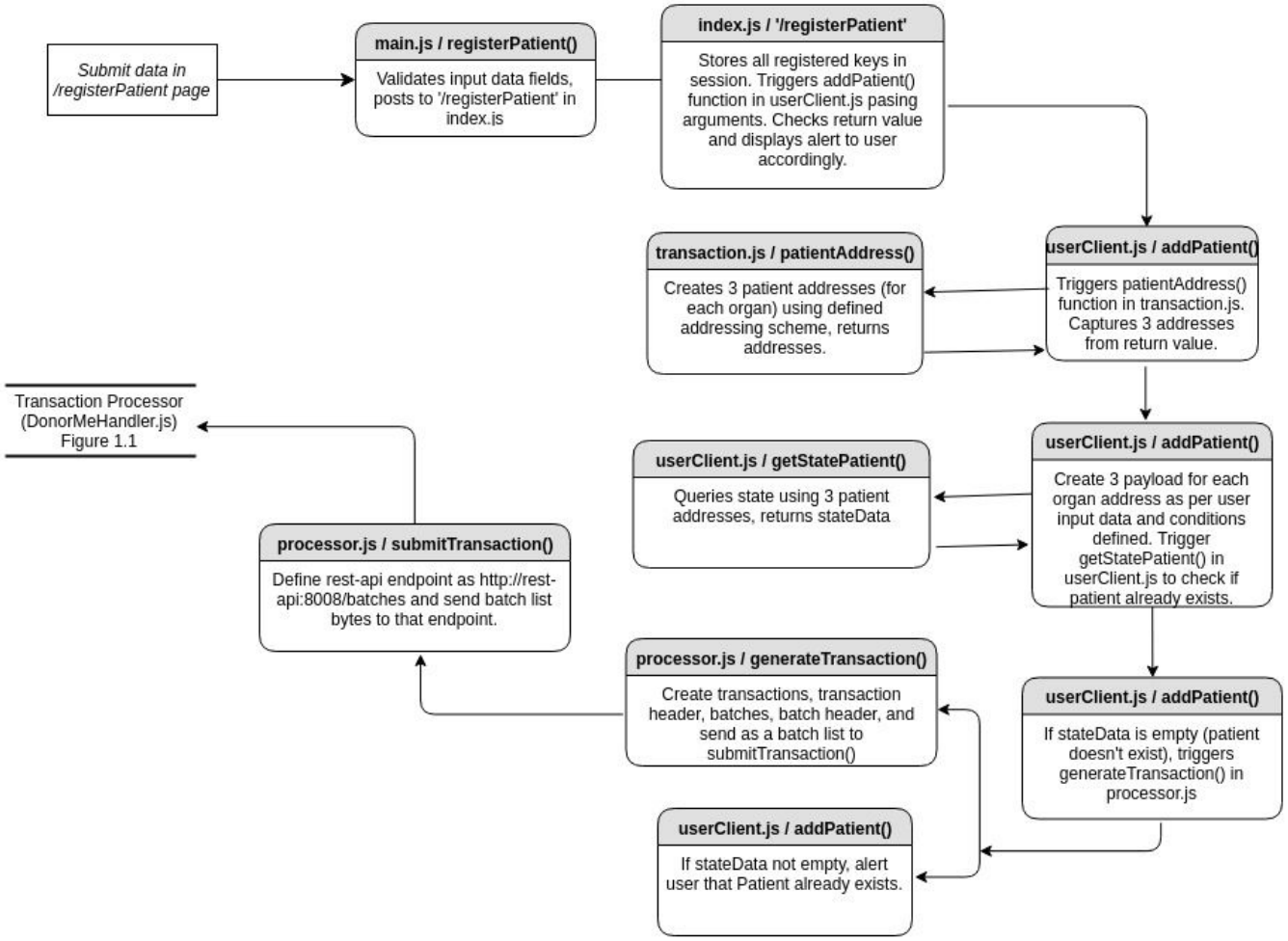
The below figure (Figure 0.0) describes the code flow and actions involved when a user logs into the Donor.Me system.



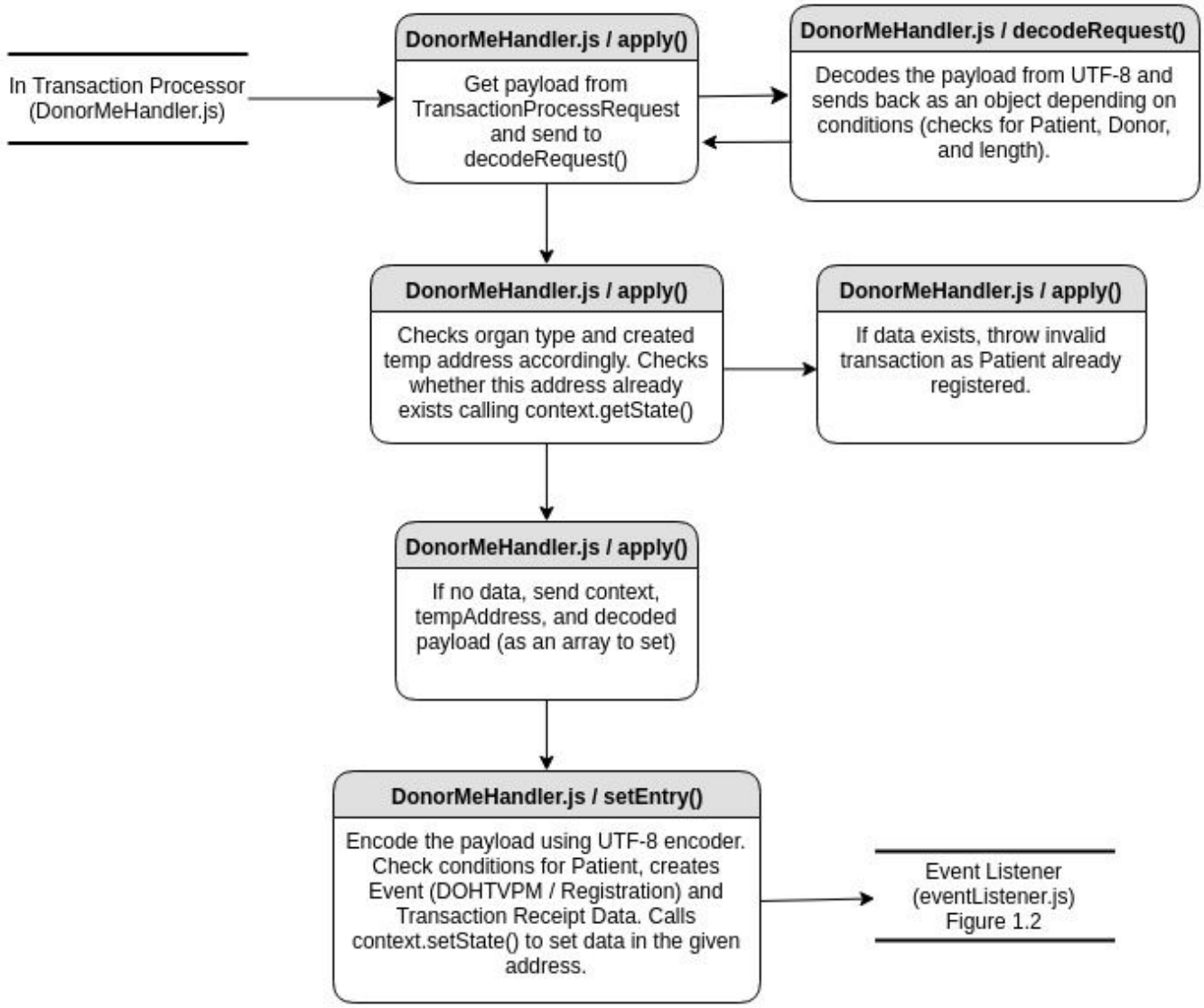
III. Patient Registration

The below figures (Figure 1.0 to 1.3) describes the code flow and actions involved when a Patient is being registered by a hospital into the Donor.Me system.

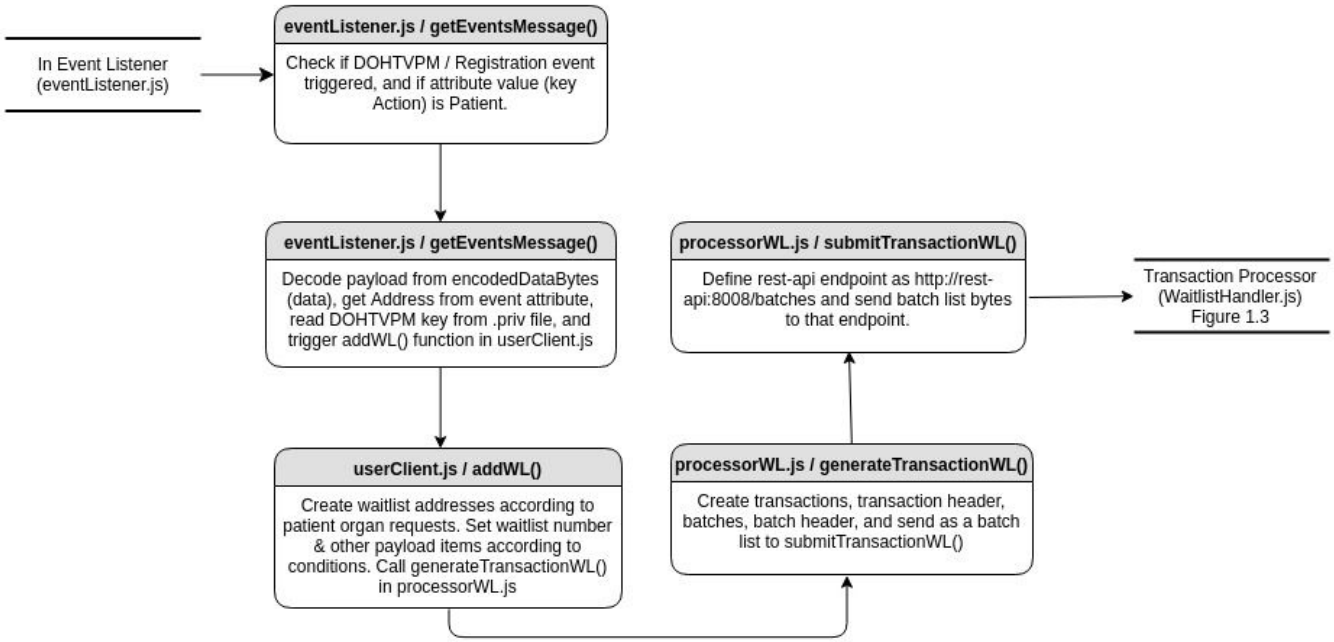
Patient Registration (Figure 1.0)



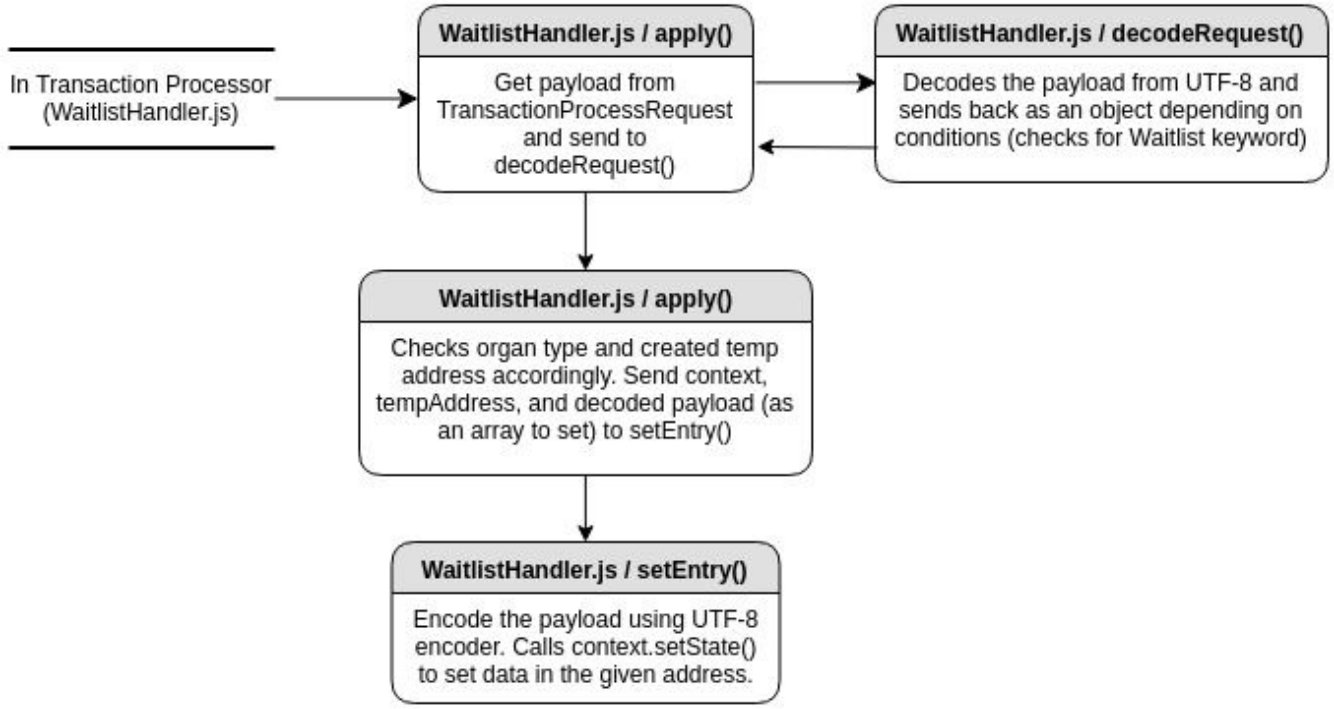
Patient Registration (Figure 1.1)



Patient Registration (Figure 1.2)

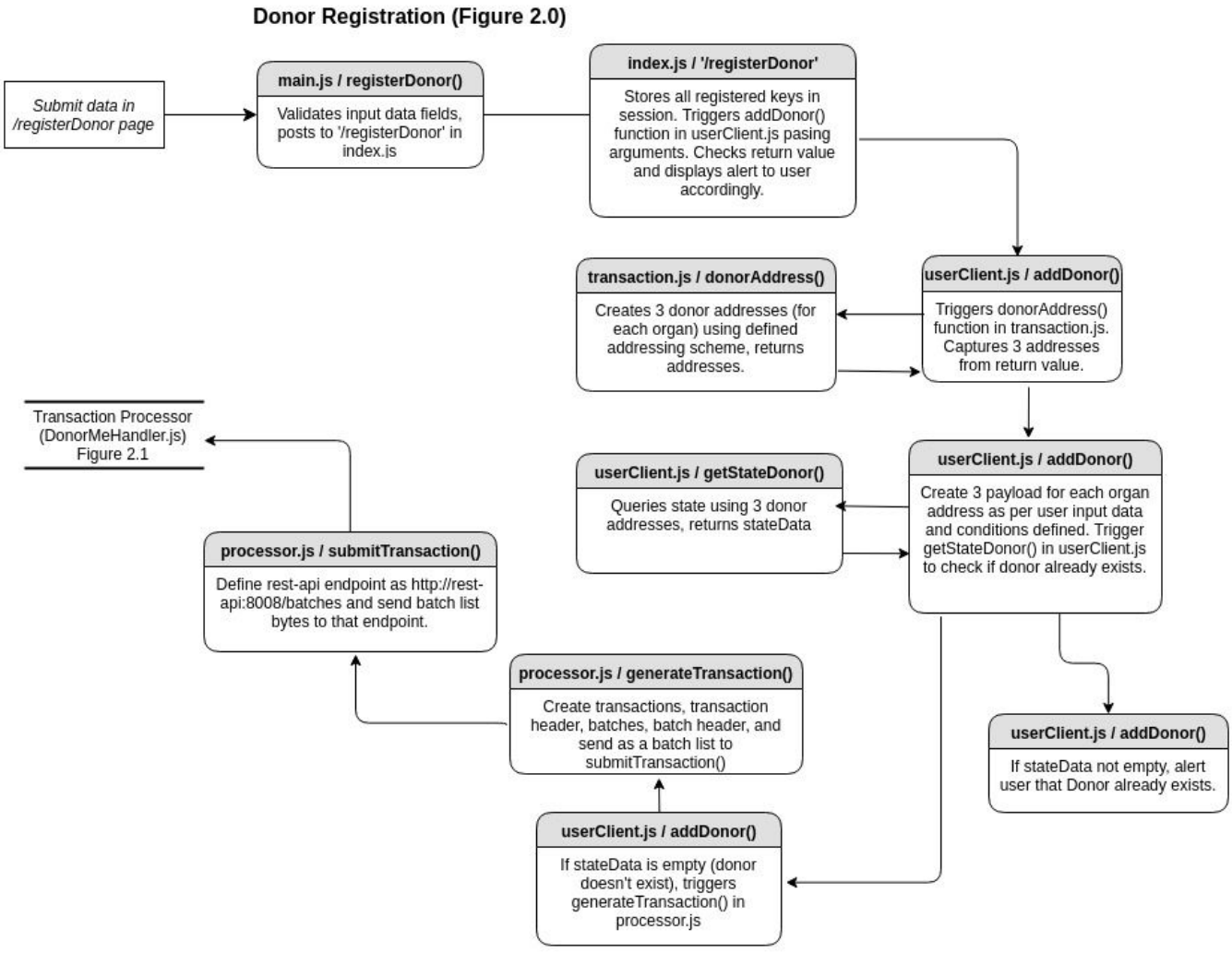


Patient Registration (Figure 1.3)

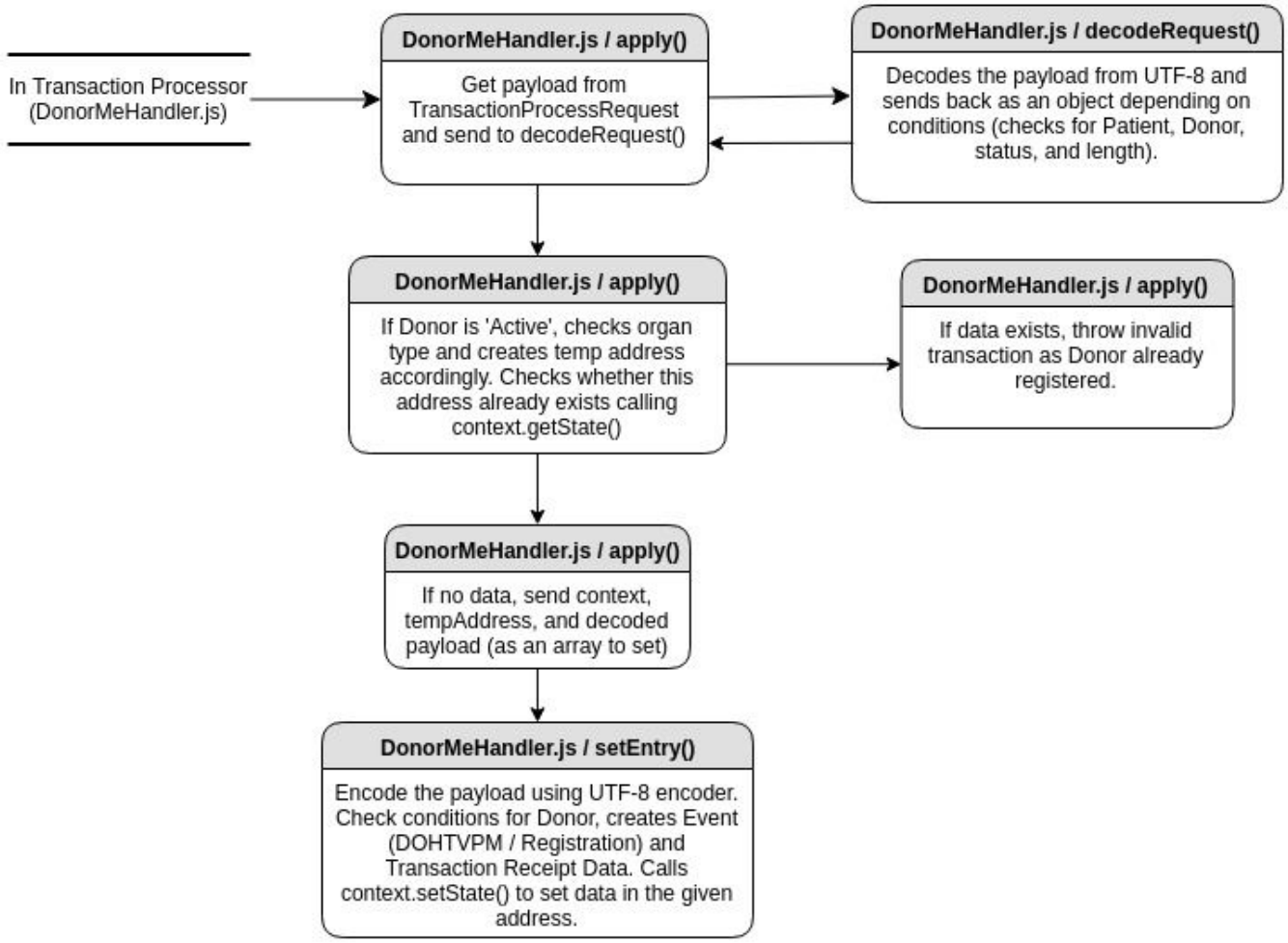


IV. Donor Registration

The below figures (Figure 2.0 & 2.1) describes the code flow and actions involved when a Donor is being registered by a hospital into the Donor.Me system.

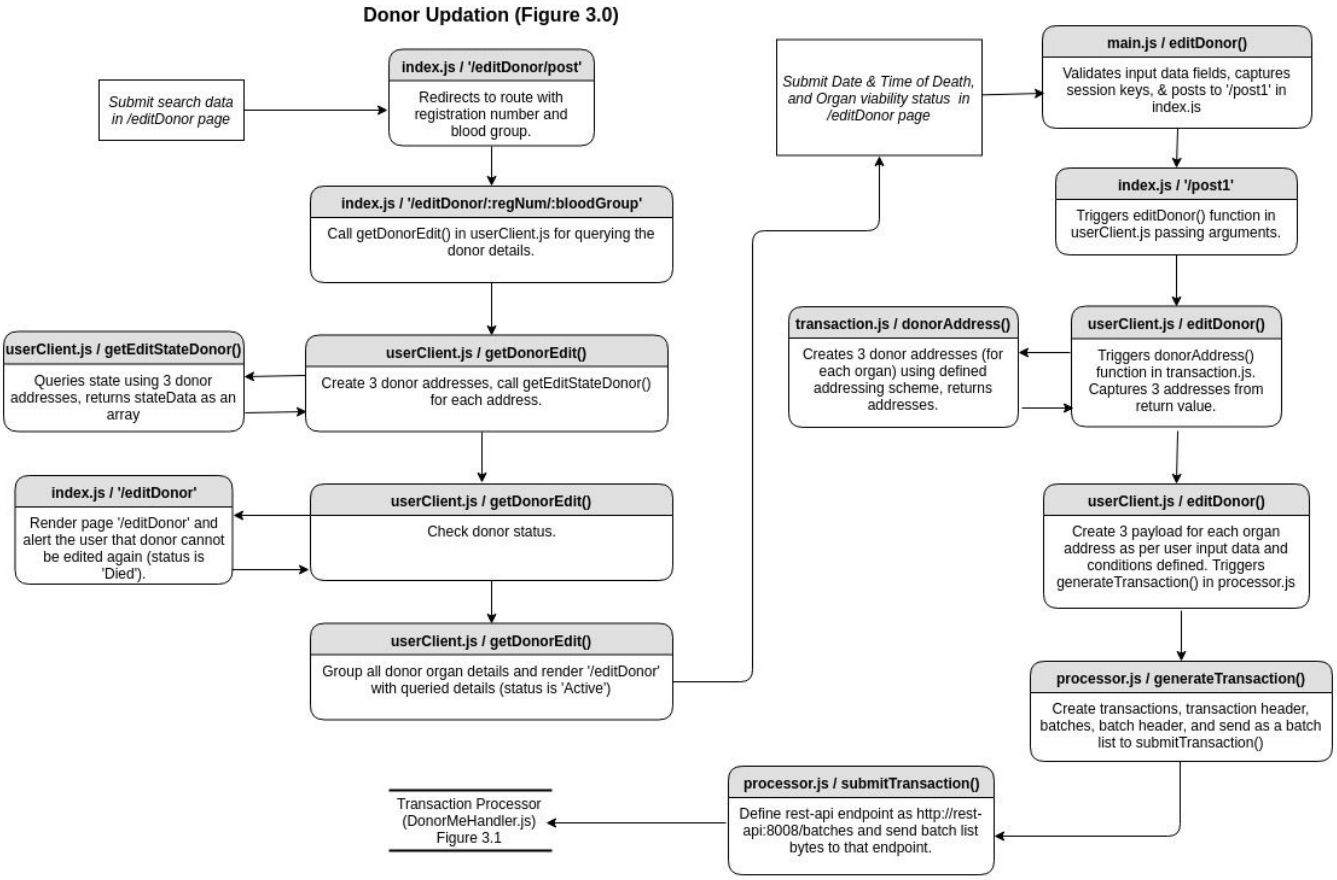


Donor Registration (Figure 2.1)

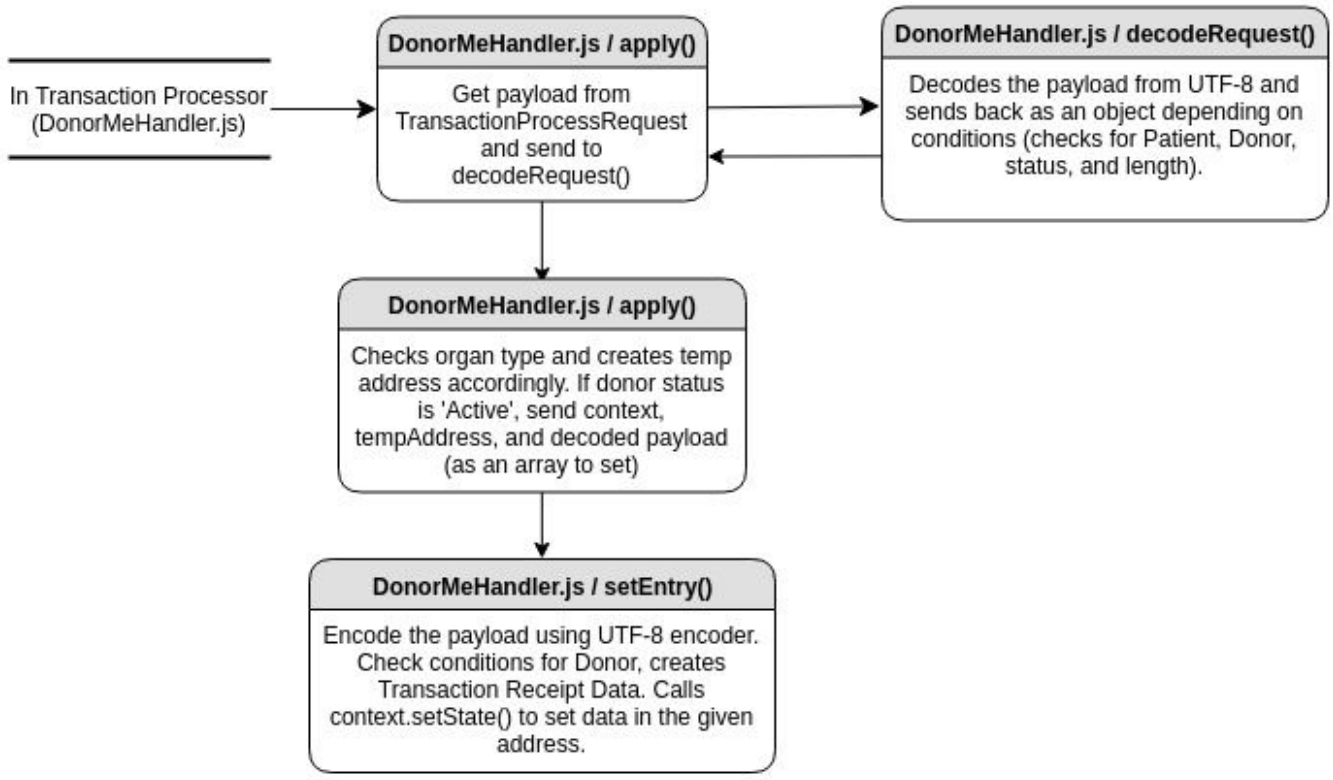


V. Donor Updation

The below figures (Figure 3.0 & 3.1) describes the code flow and actions involved when a Donor is being updated by a hospital in the Donor.Me system.



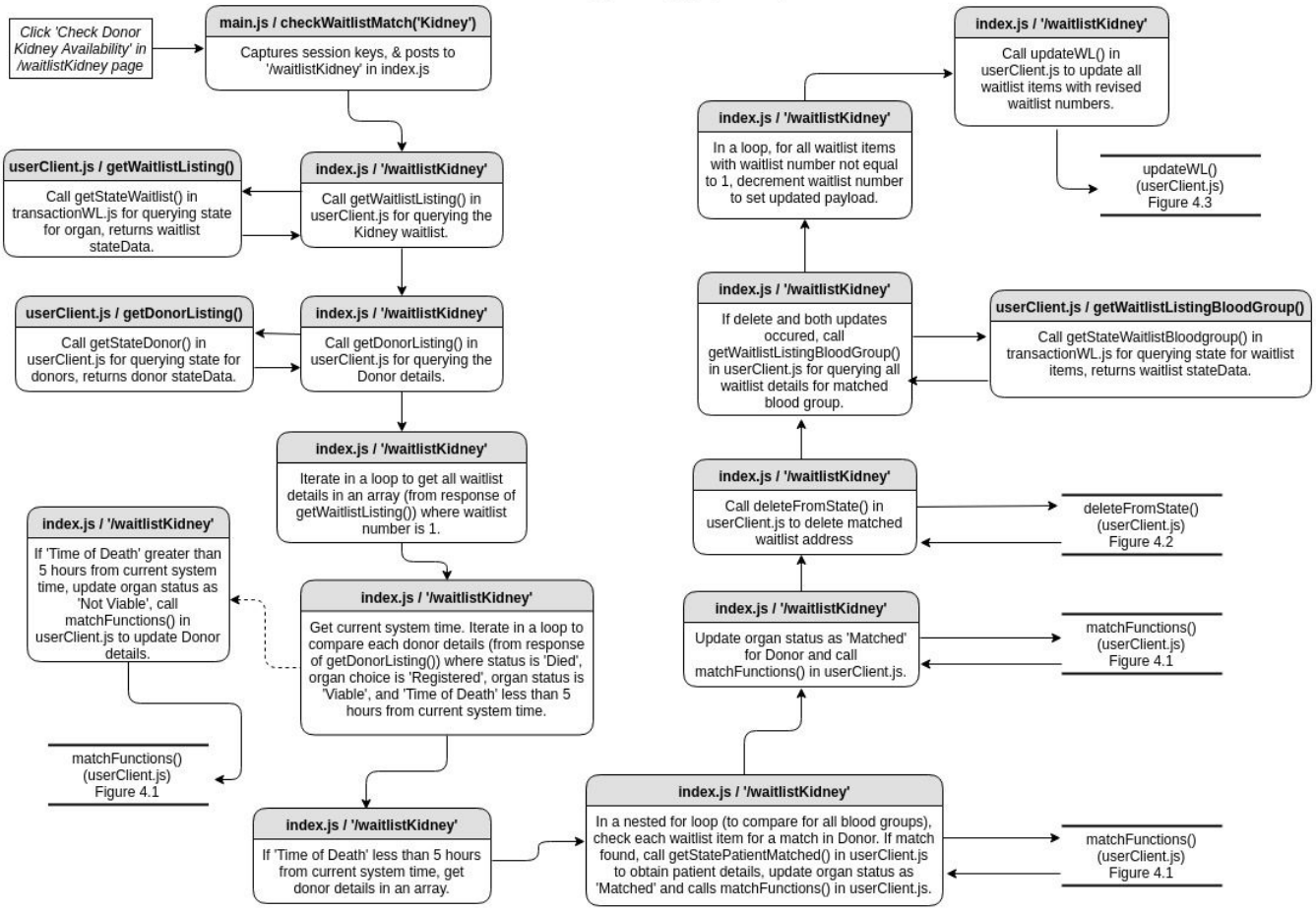
Donor Updation (Figure 3.1)



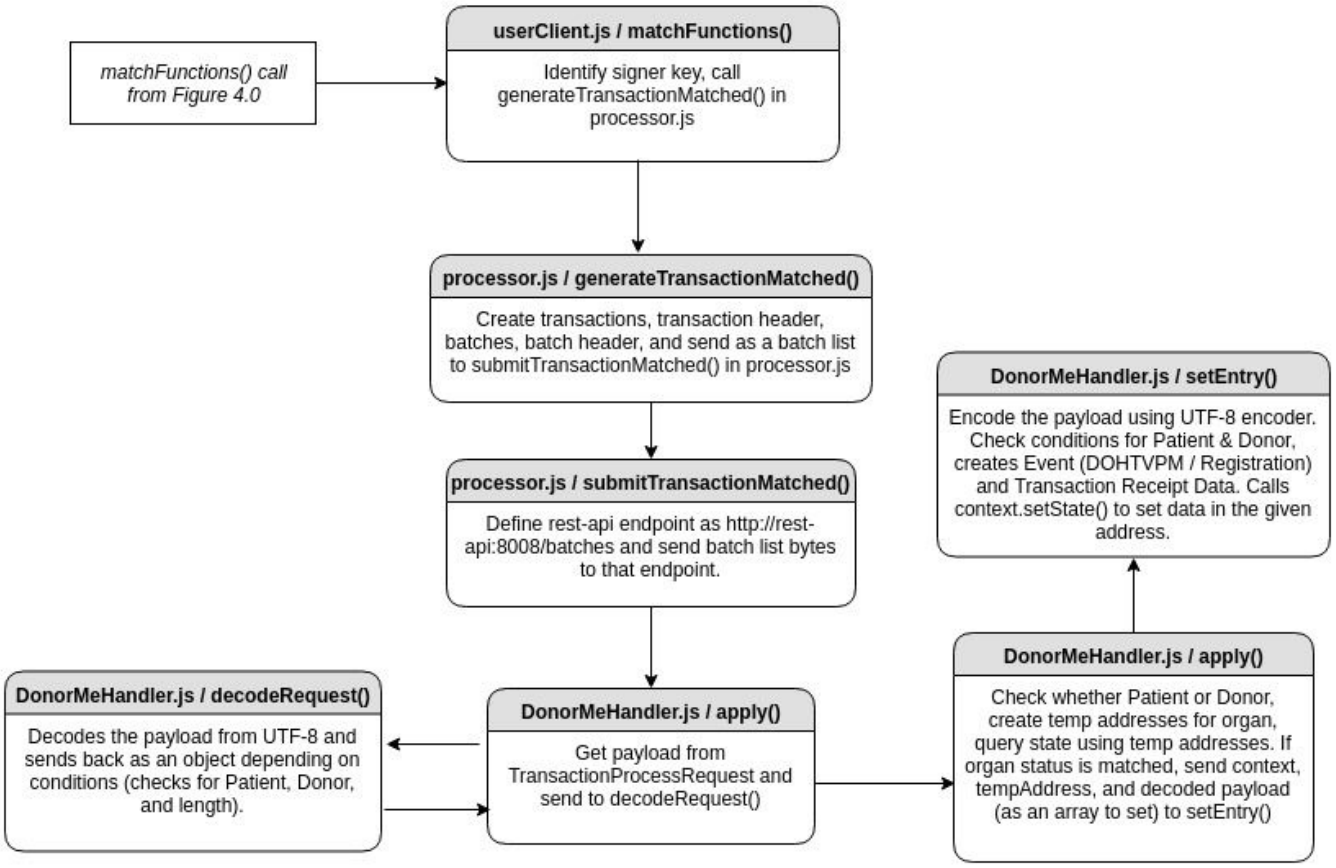
VI. Organ Matching

The below figures (Figure 4.0 to 4.3) describes the code flow and actions involved when a registered Donor organ & Patient organ request is being matched by the Department of Health in the Donor.Me system. The figures given are for Kidney matching, the process for Heart and Liver matching are the same, with the difference being the respective function names and page names.

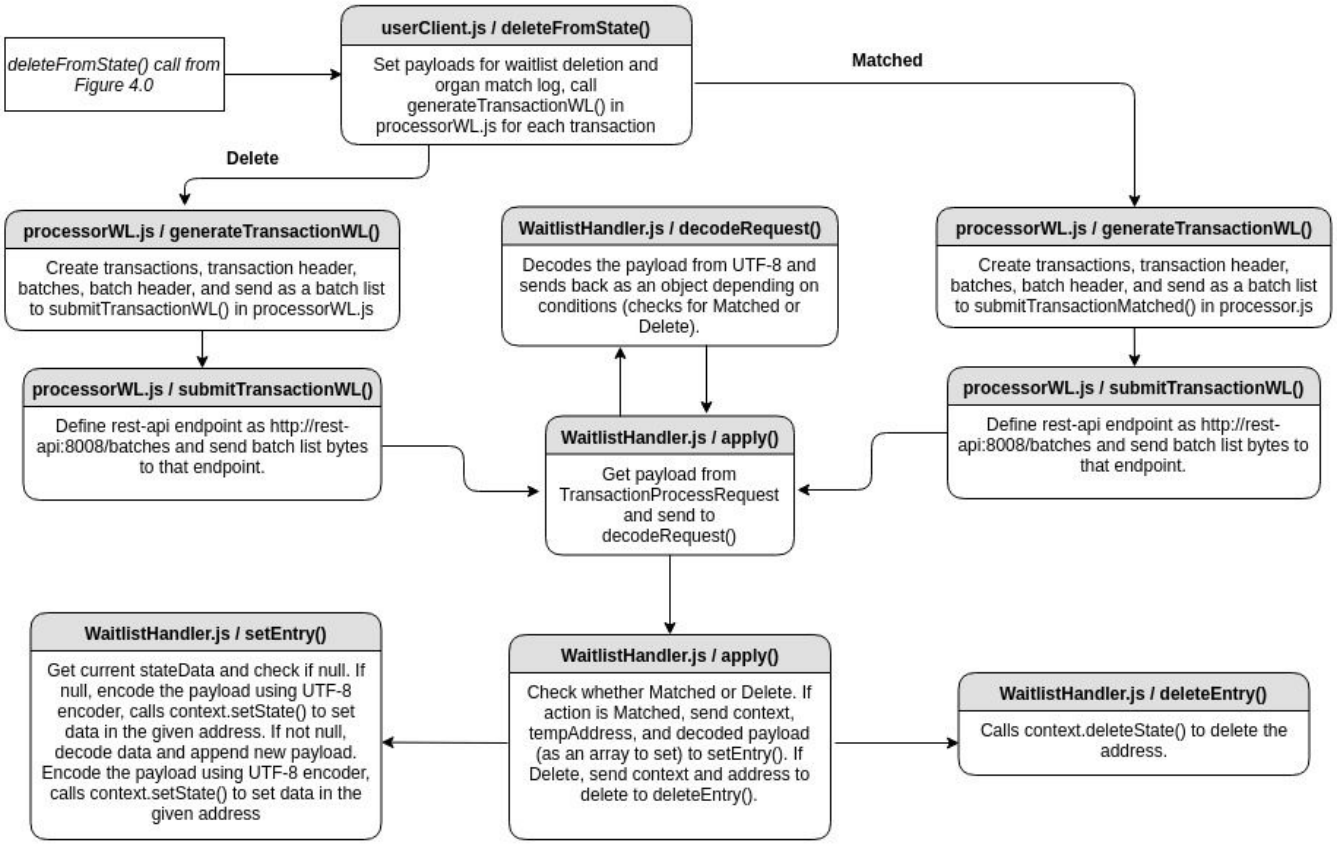
Organ Matching (Kidney) (FIgure 4.0)



Organ Matching (Kidney) (Figure 4.1)



Organ Matching (Kidney) (Figure 4.2)



Organ Matching (Kidney) (Figure 4.3)