CORE Research Allocation

Executive Summary

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Background

The Center for Organ Recovery and Education (CORE) is a non-profit organ procurement organization (OPO) which acts as the connection between donors, healthcare providers, and recipients of transplantation. Their mission is to "save and heal lives through donation." CORE operates throughout much of Pennsylvania and West Virginia as well as in a county in New York. They are responsible for covering over 150 hospitals in these regions consisting of over 5 million people.

Project Description

Project Opportunity

Despite many technological advances in other parts of the organization, at CORE, the allocation of organ and tissue donations is a very manual process. There is no standardized format as to how researchers and organs should be entered into their applications. Furthermore, the communication between donor referral coordinators (DRCs) and researchers varies from person to person leaving a streamlined communication system to be desired.

Project Vision

Our vision is to build on top of one of CORE's existing internal technological solutions called the Placement Sheets application which is used to connect organ donations to recipients. Our solution will help automate the manual process in a much more structured and streamlined fashion to handle the interactions between donor referral coordinators and researchers. This will ultimately lead to a faster and more efficient process for allocating organs for research reducing the number of errors in placements and therefore minimizing the number of wasted organs while increasing the number of opportunities for organ research so that more lives can be saved.

Project Outcomes

The most important people, process, and technology outcomes are highlighted below:

- The Placement Sheets application improvements standardizes the way in which research specialists and donor referral coordinators interact with data to facilitate a faster process to create an organ placement. This was accomplished by adding new pages to the application for researchers and organ management.

- The new organization of researcher data displayed in the Placement Sheets application allows for a clear and simple way to prioritize research offerings to specific researchers based on the recency of the last organ received as well as based on the locality of that researcher. This was accomplished through creating new database tables and additional logging on CORE's SQL Server environment.
- The training of internal CORE users on the Placement Sheets application equips them to use the updated application.
- Technology capacity is created as the Placement Sheets email automation/external automation documentation enables CORE's IT department or future teams to automate the communication between donor referral coordinators and external researchers with ease.

Project Deliverables

Our project deliverables include a zip file of the updated Placement Sheets application that is built in Radzen Studio, SQL scripts used to modify the CORE's SQL Server database, technical documentation on how to automate communication between donor referral coordinators and researchers, user and tech docs for the updated Placement Sheets application, user testing guidelines and acceptance criteria, and a final report documenting the entire project.

Recommendations

The main recommendations we provide include:

- Expand the updates to the Placement Sheets application so that more features can take advantage of the standardized format of data.
- Implement the email automation/external application project as described in the documentation in order to streamline the communication between donor referral coordinators and external researchers to reduce overhead on both sides.
- Integrate the email automation/external application functionality within the Placement Sheets application so that the Placement Sheets application is the go-to one stop shop for all organ placement activities.

Student Consulting Team

Anthony Jiang worked as the project risk manager, head of design, and lead of our documentation efforts. He is a senior studying Information Systems with a minor in Computer Science at Carnegie Mellon University.

Noor Mostafa worked as the head of database development and managed our community partner relationship. He is a junior studying Information Systems pursuing an additional major in Computer Science at Carnegie Mellon.

Nicholas Wernink worked as the project lead and head of application development. He is a senior studying Information Systems with a minor in business analytics at Carnegie Mellon University.