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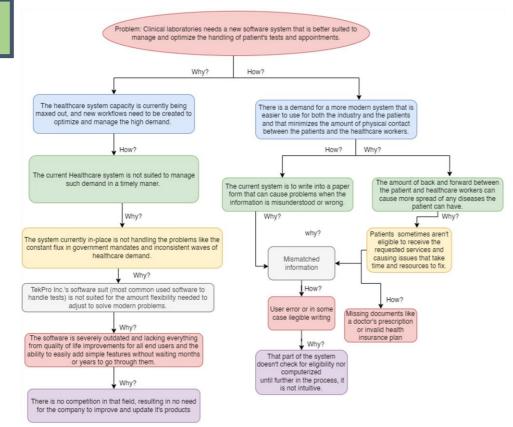
Problem

- A record high number of Coronavirus cases are being tested positive, overloading the healthcare capacity. As a result, new measures are being engineered better optimize the flow of patients in all areas of medicine.
- Due to the high number of tests being done, a scarcity of Coronavirus tests followed. A
 way to counteract this scarcity, a doctor's prescription must be officially acquired to get
 the more accurate tests (such as the PCR tests). Most modern clinical laboratories in
 Puerto Rico are adequately suited in the software department to handle these types of
 demands and government mandates.
- The most common software used to manage and organize appointments in clinical laboratories, made by TekPro Inc., is severely barebones compared to software in other fields.

Target

The project's goal is to create an online platform that will allow clinical laboratory patients to create appointments and enter vital information (such as doctor's prescription, healthcare plans, personal information) in order to connect to the HIPAA complaint system/database. This platform should be able to log all of the patients details and what type of tests the patient needs while also verifying their eligibility for the tests. After the tests are done, the result will be sent in the patient's preferred way (secure/encrypted email, through the same platform, text message, other). This will help further flatten the demand curve for the healthcare system capacity by significantly optimizing how that part of the medical industry operates.

Cause



Countermeasures

- 1. Create a front-end/web app system where a patient can easily register and create an appointment where they submit all necessary information that will allow them to be eligible for the desired tests.
- 2. Make a system that will quickly verify a flexible set of conditions (if there is a doctor's prescription, is the healthcare plan valid or that it covers the tests, etc.)
- 3. Allow that same web app to display the status and results of the tests.
- 4. Allow the app to connect to the healthcare database system efficiently.
- 5. Let the clinical laboratory automatically start the valid procedures.
- 6. Allow the lab to set which tests requires which set of conditions.
- 7. Easily log all the information into the lab's server, which will allow a returning patient to easily skip all of the process of submitting all necessary information, further optimizing the process of attending patients.

Check/Evaluate

- The project's success will be determined by the amount of time reduced to attend, process, and verify everything about a patient.
- The project's failure will be denoted by no significant amount of improvement to the workflow of the clinical laboratory or inability for the patients to adapt to a more technologically advance approach.
- Due to most of the time a patient spends on a clinical laboratory is mostly filling out information and evaluating the patient's eligibility, this appointment handler can at least optimize that process significantly.

Act and/or Standardize

- Further success will be followed by improving the user experience for all end users, flexibility, and capabilities.
- The process can be further developed to further incorporate different systems of the clinical laboratory and further modernize different aspects of the workflow by developing better software better suited for the task.
- One of the benefits of this projects is that it will have taught the team more about modern practical problems and knowledge of the healthcare field. In addition, during the development of the project, the team will be forced to learn different skills and programming languages.
- Furthermore, we can apply what we learn into other areas of the healthcare system that are also ill-suited to handle this type of demand.