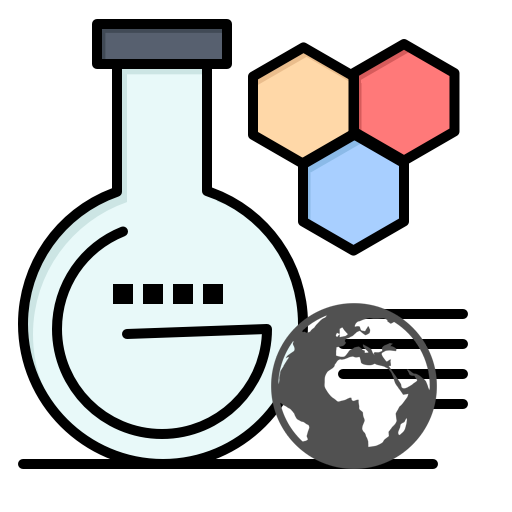
2/17/2020

Group Member

Saiful Islam [171-35-1970]

Abdullah Al Saimun [171-35-1921]

Shaon Roy Joy [171-35-1895]



Blockchain Based Diagnostic Lab Reporting System

[Software Engineering Web Project-2]: Proposal

1. **Problem Scenario**

Getting medical lab report manually require 1 / 2 business days. Although some hospital provides online lab report but it is only for that specific hospital. Many times, patients forced to do same reports in different diagnostics centers and cost lots of money. Normally hospital provide reports using papers. After visiting doctor with these reports’ patients throw these. But when patients go to doctor again, he or she needs same lab test reports in near time. Due to lost their reports they need to do the same lab test again and cost huge amount of money. Patients lab test information is so sensitive. There are many systems that they can provide lab test reports, but they don’t provide enough privacy to patients. Then patients don’t use their system. Patient privacy is our top priority. We ensure it by using blockchain methods. So, we want to build a web application where every hospital can register and upload their lab report through the system.

1. **Problem Statement**

**Get lab report manually:**

Getting lab report manually need 1 /2 days so patient have to wait for the report and can’t meet doctor without the report. So, if we build a system where lab assistant upload patient lab report through online then patient can get their report within a short time. Patients also upload his/her reports in this system because many hospitals don’t provide reports to our system. Using our system patients can use these reports in future purpose and doctor can easily identifies problems of patients. All reports will be converted in one format and saved in encrypted. When patients given access to the doctor and generate a unique id then verified doctor can view these reports with specific id. Doctors can also view specific patient report. Our system will encrypted by blockchain that only authorized user can get the patients sensitive information.

**Not using online lab reporting system:**

Not every hospital used online lab reporting system. So, there should be a system where every hospital registered and upload their report.

1. **Proposed Solution**

* Login / Registration must require for Patient/ Doctor/ Lab assistant.
* Lab assistant upload lab report.
* Patients also can upload his/her reports.
* To prevent manipulation there will be used blockchain to ensure security.
* All patients information save in the system will be encrypted.
* Patient will get lab report and there will be a visible option if patient visible the report to specific doctor then doctor can view the report. (Patient privacy)
* Patient can also download the report as pdf file.
* Every hospital may have their own report format so report will show as that.
* Appointment date and serial number will be patient unique number. So only specific can see his/her information.

1. **Existing Solution**

Apollo Hospital Dhaka uses online lab reporting system

1. **Comparison between proposed solution and existing solution**
2. **Technology Stack**

**Frontend:** HTML, CSS, Bootstrap4.3

Learning Angular Framework

**Backend:** Python Django Framework

Django REST Framework  
 Blockchain technology implementation using Python. (For data integrity)

Database: SQLite / PostgreSQL

1. **Release Plan**

Expected time need:

20 Feb 2020 – 10 Apr 2020

Deployment:

12 Apr 2020