



CSE 545: Software Security

Secure Hospital System

Group 09 Weekly Report - 05

Person prepared this report: Kiran Shanthappa on 9am 22nd Feb 2022

Person approved this report: Yash Bhokare on 12pm 22nd Feb 2022

Person submitted this report: Yash Bhokare

List of members

1. Yash Bhokare (Group Leader)
2. Kiran Shanthappa (Deputy Leader)
3. Anthony Mac
4. Rajesh Badugula
5. Shashank Baradi
6. Sai Manoja Gadde
7. Karan Naik
8. Bhaskara Atluri
9. Jayanth Gorinta

Meeting Notes

[Feb 18th, 2022 – 04:00 pm] - The agenda of the meeting was to kick start the implementation. Meeting scheduled from 4:00pm to 5:00pm. All members were present except for Shashank. Shashank connected through zoom. Progress of the week was discussed and some of the pain points addressed.

[Feb 18th, 2022 – 04:00 pm] - Discussion on insurance claim and bill payment. Revisiting the design to make sure all scenarios are covered for the web page implementation.

[Feb 18th, 2022 – 04:30 pm] - The dashboard of patients will be duplicated and changes made for the doctor and staff to incorporate role based access control. Create patient info for diagnosis and record, this will be updated by the doctor. Other web pages implementations were discussed in depth.

[Feb 18th, 2022 – 04:45 pm] - Spring Boot for 2 factor-auth to send email. Discussed the approach to host blockchain on the AWS.

Tasks Summary

Task No.	Task Name	Details of Task	Member	Status
1	Hosting DB on AWS	Hosting of the PostgreSQL database on cloud	Anthony and Manoja	Ongoing
2	ML for malicious login	Preparation of dummy data	Anthony and Manoja	Ongoing
3	Login and Registration	Implementing the login and patient registration web page	Rajesh	Ongoing
4	Implement Hyperledger on AWS	Implementation of Hyperledger on AWS. Creating network, peer, ordering service.	Kiran	Ongoing
5	Hyperledger client API	Implement client API to connect and send transactions to the Hyperledger blockchain.	Jayanth and Kiran	Ongoing

6	Role based dashboard	Implementation of patient dashboard with option to edit, view and delete data based on roles such as doctor, patient and staff.	Karan	Ongoing
7	JWT Authentication with roles	Implementation of APIs based on Spring-boot for interaction of JWT authentication with database. Creating new roles for the same.	Bhaskara, Shashank	Ongoing
8	Insurance Web page	Build Insurance web page for claim request and approval	Karan	Yet to start
9	OTP with email	For two-factor authentication build API to send OTP via email.	Bhaskara	Ongoing
10	Database Connection API	Implementation of APIs for interaction of application with database.	Yash	Ongoing
11	Web-profile design	Implementing multiple web pages for the front-end.	Karan	Ongoing

Task Progress

Task Name	Member	Date of Review	Reviewer (s)	Review Conclusion	Recommended Action
Hyperledger on AWS	Kiran	Feb21 st , 2022	Yash	Satisfactory	
ML for malicious login	Shashank	Feb13 th , 2022	Bhaskara	Satisfactory	

Issues

1. Difficulty in creation of integration points for new technologies such as block chain and hosting individual components on AWS.

2. AWS provides managed hyperledger as a service. But this is not free. Hence we have to host EC2 and create the Hyperledger network manually. Establishing a connection on multiple instances could be challenging.
3. Managing project work has become difficult, as mid-term exams are near.
4. Malicious login detection using ML requires a good dataset for achieving accuracy. But with this being a skeleton of SHS, a compromise to achieve this functionality with minimal resources is challenging. This was clarified with the professor during class. We will try with ML with minimalistic data to showcase the ML capabilities.
5. Organization of the work due to interdependencies of different components.

Gantt chart

