CSE 545: Software Security

Secure Hospital System

Group 09 Weekly Report - 07

Person prepared this report: Kiran Shanthappa on 11am 08th Mar 2022

Person approved this report: Yash Bhokare on 2pm 08th Mar 2022

Person submitted this report: Kiran Shanthappa

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

[Mar 04th, 2022 – 04:00 pm] - The agenda of the meeting was to get a status update on implementation progress and challenges faced. As team members dispersed due spring break meeting was scheduled from 4:00pm to 5:00pm over zoom. Progress of the week was discussed and some of the pain points addressed. Update from backend team: Shashank testing the API's integration with database. Bhaskara looking into hosting apache web server on aws. Bhaskara is trying to implement such a way that the

application locks the person from logging in when the same IP fails 3 times. A 15 min cool -off and then if it fails again a 1 day cool-off.

[Mar 04th, 2022 – 04:30 pm] - Update from the database team: Configured a database in EC2 instance. We have to test the insert-delete-update and review the created schema on the database. Also creating other users with no create-delete-update permissions. Update from front-end team: Karan finished integrating all the pages UI web pages.

[Mar 04th, 2022 – 04:45 pm] - Update on hyperledger: Kiran created peer nodes in the EC2 instance. Update on integration team: Yash completed the login page with authentication services at the front end. Working on integration with the backend team.

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	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
7	Insurance Web page	Build Insurance web page for claim request and approval	Karan	Ongoing
8	OTP with email	For two-factor authentication build API to send OTP via email.	Bhaskara	Ongoing
9	Database Connection API	Implementation of APIs for interaction of application with database.	Yash	Ongoing
10	Web-profile design	Implementing multiple web pages for the front-end.	Karan	Ongoing
11	Hosting application on AWS	Hosting the backend code on cloud as well for integrating and testing with the front-end. Host sample database on cloud and tested the API's.	Shashank	Ongoing
12	Login Authentication	Login page with authentication services at the front end.	Yash	Ongoing
13	Malicious Login	Develop ML based malicious login	Bhaskara	Ongoing

Task Progress

Task Name	Member	Date of Review	Reviewer (s)	Review Conclusion	Recommended Action

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. Organization of the work due to interdependencies of different components.

Gantt chart

CSE545 Secure Hospital System

Task	Duration	Dates
Team Introduction		Jan 19
Project Start		Jan 21
Design Document Completion		Feb 13
Requirement Analysis	2 days	Jan 22 - Jan 25
Design schema for data storage	7 days	Jan 27 - Feb 4
Application + Security Desgin	7 days	Jan 27 - Feb 4
Explore Hyperledger blockchain solution	10 days	Jan 27 - Feb 9
Design frontend and API Integration Design	7 days	Jan 27 - Feb 4
ML based login and chatbot design	10 days	Jan 27 - Feb 9
Design Documentation	10 days	Jan 30 - Feb 12
Create database and tables	23 days	Feb 8 - Mar 10
Application functionality development	20 days	Feb 13 - Mar 11
Hyperledger Implementation	21 days	Feb 15 - Mar 15
SHS Website development	27 days	Feb 7 - Mar 15
Integration API Development	17 days	Feb 21 - Mar 15
AWS Hosting	16 days	Mar 1 - Mar 22

Week 7 Progress