



CSE 545: Software Security

Secure Hospital System

Group 09 Weekly Report - 03

Person prepared this report: Kiran Shanthappa on 12pm 8th Feb 2022

Person approved this report: Yash Bhokare on 2pm 8th 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 4th, 2022 – 04:00 pm]

Shashank joined the meeting through zoom, as he was under quarantine protocol. Rest of the team attended the meeting in-person. The agenda of the meeting was to understand the high-level architecture and design. Meeting scheduled from 4:00pm to 6:00pm.

[Feb 4th, 2022 – 04:30 pm]

As per the task distribution from week 2, each team member continues to do research on the assigned tasks. Each team member highlighted their progress and analysis of assigned tasks. Highlighted sub-tasks from the requirements that need future research and analysis. To continue the research and analysis this week and assemble each component to construct system architecture design.

[Feb 4th, 2022 – 05:00 pm]

Understanding blockchain functionality and its integration into the solution. Discussion on all the required web pages and functionality integration to the application tier. Segregation of the functionality into the web, app and data tier.

[Feb 4th, 2022 – 05:45 pm]

Discussion on SHS architecture and system design are scheduled for an upcoming design document preparation on Feb 12th, 2022. Expectation set to document each solution design and point of integration, leading up to preparation of the completion of design document.

Tasks Summary

Task No.	Task Name	Details of Task	Member	Status
1	Sensitive data encryption	Researching database encryption at rest. Plan to use pgcrypto in the sql queries.	Anthony	Completed
2	Database hosting on AWS	Understanding compatibility, and advantages of hosting (various) databases on cloud.	Manoja	Completed
3	Database Design	Compiling the inputs from team members for table creation, fields and relationships.	Anthony and Manoja	Completed

4	Research on blockchain	Going through the Hyperledger Fabric tutorial. Understanding blockchain for storing various transactions.	Kiran and Jayanth	Ongoing
5	Hyperledger Fabric Integration method	Setup hyperledger fabric instance in local machine to understand the integration method.	Kiran	Completed
6	ML for malicious login	Researching - prevention of malicious logins using ML. Working on dumping json files onto AWS to get familiarized with API calls	Shashank	Ongoing
7	Patient web-profile design	Preparing web pages design of patient's login and their profile info.	Rajesh and Karan	Ongoing
8	Secure Database on AWS	Understanding to host the whole project on AWS server and the possible ways of how we could secure the database.	Jayanth	Ongoing
9	Wireframes for web pages	Designing the wireframes for all web pages.	Yash	Ongoing
10	Login auth token	Designing login page auth token.	Yash	Ongoing
11	AWS Account Setup	Setting up an AWS account and sharing its details with the team.	Bhaskara	Completed
12	Insurance claim design	Research and design of insurance policies and claims.	Bhaskara	Ongoing
13	Database ER Diagram	Prepare the ER diagram in relation to the database and tables requirement.	Anthony and Manoja	Ongoing

13	Database scripts	Prepare SQL scripts to create the database and tables.	Manoja and Anthony	Ongoing
14	Database Connection API	Implementation of APIs for interaction of application with database.	Bhaskara, Shashank	Ongoing
15	Two Factor Authentication design	Designing the two-factor authentication flow between the web and app tier, with the possibility to store the OTP in the database.	Yash	Ongoing
16	Hyperledger on AWS	Research on hosting the Hyperledger block chain on AWS.	Kiran	Yet to start
17	Design Document	Preparation of design document. Each member prepares a system design diagram and details for the components under their responsibility.	Team effort	Ongoing

Task Progress

Task Name	Member	Date of Review	Reviewer(s)	Review Conclusion	Recommended Action
Sensitive data encryption	Anthony	Feb 4 th , 2022	Manoja	Satisfactory	
Database hosting on AWS	Manoja	Feb 4 th , 2022	Anthony	Satisfactory	
Database Design	Anthony and Manoja	Feb 4 th , 2022	Group Review	Need Work	Follow through with existing design, modifications as necessary.
Hyperledger Fabric Integration method	Kiran	Feb 4 th , 2022	Group Review	Satisfactory	
AWS Account Setup	Bhaskara	Feb 4 th , 2022	Yash	Satisfactory	

Insurance claim design	Bhaskara	Feb 4 th , 2022	Jayanth	Need Work	Create documentation of the insurance claim design.
Secure Database on AWS	Jayanth	Feb 7 th , 2022	Kiran	Need Work	Require more elaboration on secure techniques.

Issues

1. Difficulty in creation of integration points for new technologies such as block chain and hosting individual components on AWS.
2. Covid quarantines continue to prevent some of the team members from attending the meeting in-person.
3. Consolidation of the design requires additional team meeting hours to interact and communicate with team members.

Gantt chart

