GTÜ CSE 495&496
Blockchain Based
Secure Messaging Application

CSE 496
First Representation

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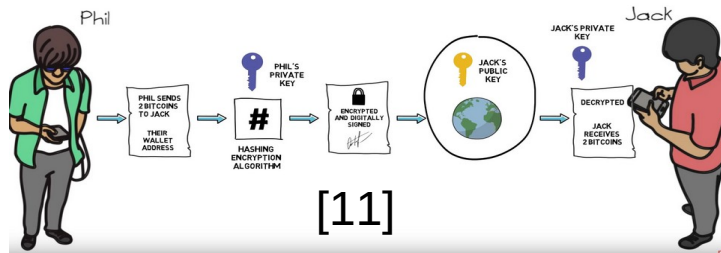**Project Consultant: Prof. Dr. İbrahim SOĞUKPINAR**
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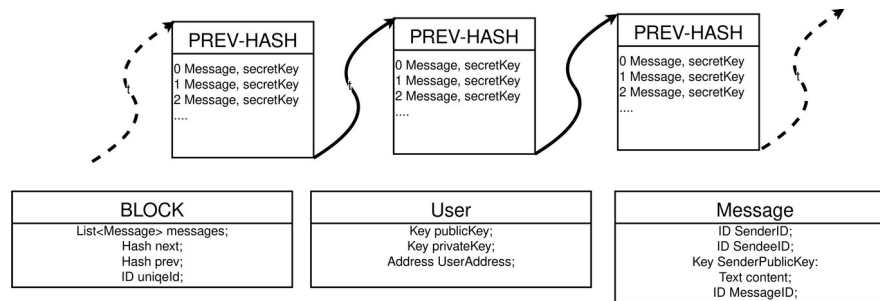
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Project Design Plan

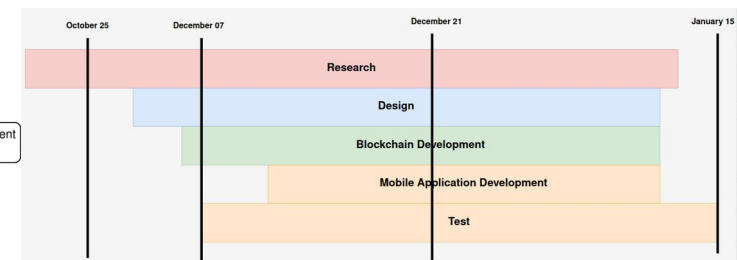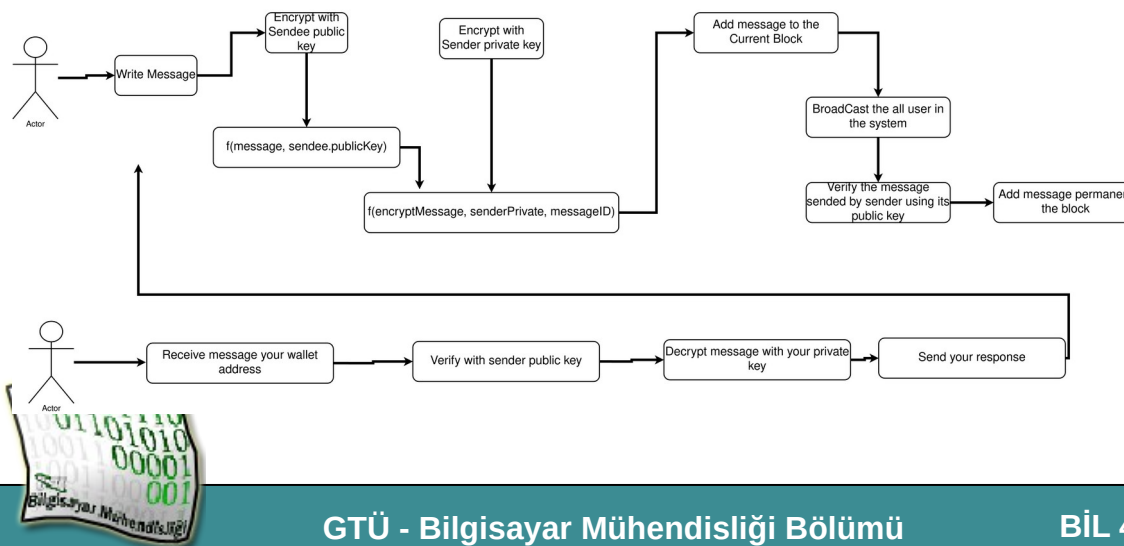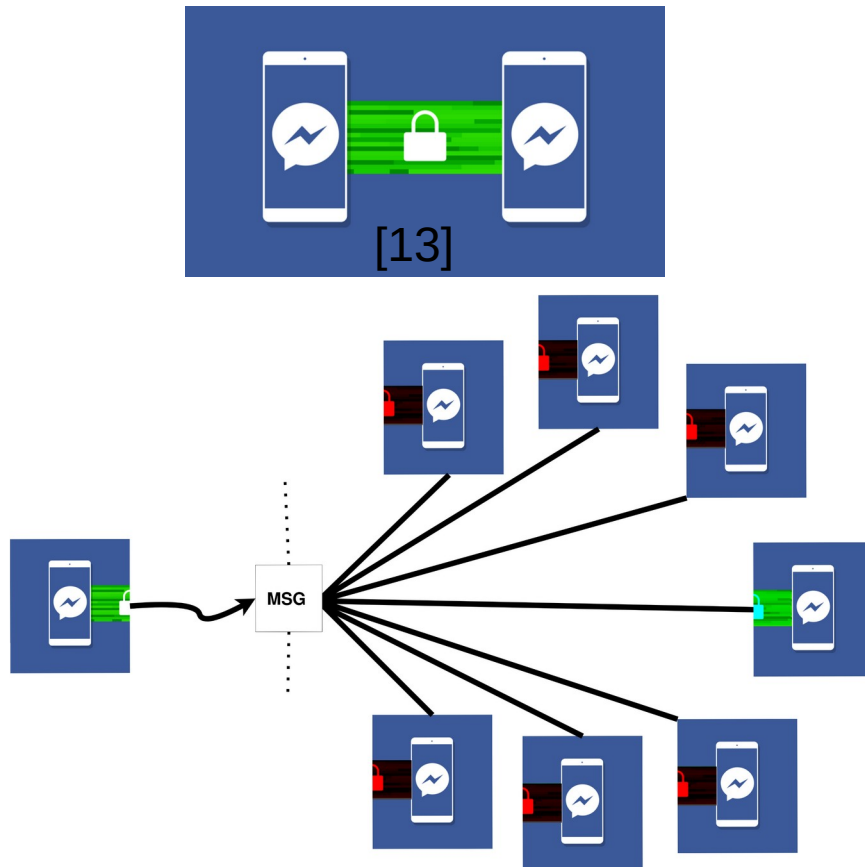[11]

Similar Project:
- Dust
- Status
- E-Chat
- BeeChat
- OpenChat
- BChat

Message Path

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What Is Project?
Why We Need It?

➢ To create a reliable and unchangeable communication channel between users using blockchain and cryptography technology.

➢ In this way, users can be absolutely sure that their data cannot be accessed by third parties or malicious people and from the recipient side.

➢ Decreased confidence in the dissemination of message content to large companies

➢ They will be able to send the message as an encrypted message to the users' unique IDs rather than having the message stored and transmitted through some 3rd party.

Project Requirements - 1

What I need to do?

➢ I have to encode Messages asymmetrically according to the algorithm to be selected.

➢ I have to create the necessary blocks for new messages

➢ I need to research algorithms for unique number values to be used in the system.

➢ I need to create a list of smart contracts required for the blockchain chain

➢ I should research the languages that I can use for the mobile application.

➢ I should decrase the size of the data so that it is appropriate for the users

➢ I need to increase the message sending speed above a certain threshold.

➢ I must create the necessary uniqe data for each user locally so that others cannot access it.

Project Requirements - 2

What Do I need to do these have requiremets?

- I need mobile Cross platform library
- Go / Rust, JS, NodeJs
- Solidity
- 2 phone for test
- Cryptographic hash algorithms
- Algorithms that generate 256-bit unique numbers
- Metmask
- Ethereum mobile boilerplate
- Truffle Framework
- Libp2p, web3.js, Parity

Success Criteria

- If 2 people can talk to each other without worrying about the protection of their data.

- It is used as evidence in official business due to the immutability of the blockchain structure.

- People use it to store their personal data

- Keeping the message sending speed at or below the human psychological limit

- If I can communicate with my environment through this application

Resources

1. https://www.researchgate.net/publication/318131748_An_Overview_of_Blockchain_Technology_Architecture_Consensus_and_Future_Trends

2. https://www.irjet.net/archives/V7/i5/IRJET-V7I5531.pdf

3. https://github.com/machinomy/awesome-non-financial-blockchain#readme

4. https://scholarworks.calstate.edu/concern/theses/qj72pb04f?locale=en

5. https://bitcoin.org/bitcoin.pdf

6. https://github.com/TristanBilot/blockchain-chat-app

7. https://www.youtube.com/watch?v=hYip_Vuv8J0&t=261s

8. https://www.youtube.com/watch?v=bBC-nXj3Ng4&t=1065s

9. https://www.youtube.com/watch?v=ZEApLtE8KkE&list=PLxz5ldaTYSOUmhECFNN-WfGeJrzlnXn_a

10. https://www.blockchain.com/tr/explorer

11. https://www.youtube.com/watch?v=yubzJw0uiE4&t=261s

12. https://medium.com/adamant-im/how-decentralized-blockchain-messenger-works-b9932834a639

13. https://medium.com/@BeFastTV/top-blockchain-messaging-apps-crypto-messengers-28893e5f908f

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