BMIS2003 Blockchain Application Development

Task Description

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Programme   : RSD3   Group : G5

Instruction: Answer **ALL** the questions.

1. Please briefly describe the module(s)/function(s) you engaged in the assignment.
   Retrieve available durian that added by retailer for the consumer:
   Based on the durian tracking system,it has 2 actors which are retailer and consumer. Retailers are responsible to add harvest information of durian to be sold. Therefore, the information of the durian that needs to be sold will display out for the consumer to view and provide the option to them to track and buy the durian. Based on this function,it will display information of variety,price and the weight of the durian for consumers to choose. If they are interested in tracking and buying,it provides a buy button for them to track and buy.

2. What are the strengths of the modules/functions created by you?
   Detailed information gains for consumers:
   The blockchain technology makes durian information more transparent when it is passed from retailers to consumers. Specifically, consumers can clearly understand the important information of each durian, such as variety, price and weight, so that consumers can better understand the products they buy and choose the durian that best matches their needs. All durian information is recorded through blockchain and can be viewed by consumers in real time, greatly reducing the possibility of being deceived. This not only gives consumers trust but also encourages retailers to sell better products and services.

3. What are the weaknesses of the modules/functions created by you?
   Complexity of blockchain:
   Although blockchain can definitely improve security and transparency, it's still new technology and unskilled consumers are having hard times getting used to it. In the case of unawareness of the consumers with the technology, it would be tough for them to be flexible on this interface. It takes broad tutorials and consumes a lot of time to know the logic of these programs so as to handle it effectively. This may prevent the ease with which blockchain technology can be accepted by consumers.
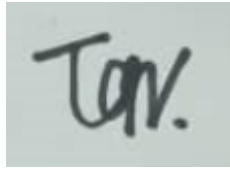
4. What have you learned in doing this assignment?
   The assignment taught me how to connect the blockchain to the frontend by using MetaMask. I learned how this is done in a web application, using libraries like Web3.js or Ethers.js, to manage the interaction with the blockchain on the client side. It shows here how to enable users to interact with smart contracts, manage wallets, and conduct smooth transactions right from within the browser. In addition to this, knowledge of user account management, transaction signing, and data reading from the blockchain gave me important practical skills in the development of decentralized applications.

5. What are the challenges, if any, faced by you while working on this assignment?
   One of the challenges of completing this assignment was learning how to deal with the nuances involved in trying to use libraries like Web3.js and Ethers.js, especially in managing asynchronous operations and handling callbacks correctly. Debugging connections through MetaMask was also quite confusing, especially when it came to the correct network setup and permissions between users.4

Appendix C *[This document needs to be submitted by every member in a team]*

Signature: Date: 22-9-2024

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