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COMP2 SUBJECT:- BT ASSIGNMENT No:- 05

Q1) Outline the variety of possible solutions for problems you identified in your case study.

Ans I] Database Index Size:

- Bitcoin blockchain size including block headers and transactions without database indexes as of August 2019 has grown to over 220 GB.
- Ethereum introduced a concept called "pruning" to counter attack ever growing size, which required downloading only a certain number of blocks with fast sync mode in client app to become full node.

II] Transaction Speed:

- Due to the amount of network activity and transaction fees variations individual transaction verification times vary on Bitcoin and Ethereum making them difficult to use as stable mechanism.
- Bitcoin developer community has come up with two solutions - Segregated Witness and Lightning Network, allowing more transactions to be processed per block.

III] Control of decentralized blockchain networks:-

- "51% attack" is such an issue on proof-of-work-based blockchains, which displays possibility to confirm blocks with incorrect transactions.
- Since it requires vast amount of computational power on a much established network, the feasibility of such attack is nearly impossible.

Q2) What are the challenges in applying block-chain to