MSc Information Systems

Assignment 2: Blockchain and Smart Contracts

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Lab

- Go through the 'Solidity in Depth' tutorial starting from:
  https://docs.soliditylang.org/en/v0.5.3/solidity-in-depth.html

- All the way to the Cheat Sheet:
  https://docs.soliditylang.org/en/v0.6.7/cheatsheet.html

Assignment

- Use remix.ethereum.org to create a smart contract for the following use case

- Use case: A company's sole managing director wants to allow for the shareholders to make (binary) decisions, which he will propose to the shareholders. (The director is aware of the fact that votes made by shareholders are public since they are stored on the Blockchain.)

- Create an Ethereum smart contract that allows for the following functionality:

Assignment

1. The director will be the one to upload the contract. He should thereafter be recognised as the director because he was the one to upload the contract.

2. The director would like the ability to upload any number of questions (which require a true or false response to). The director will upload each question, one at a time.

Assignment

3. The director would like the ability to add and remove shareholders from being able to vote and being able to see results for approved decisions at any point.

4. Each shareholder may only vote for each decision once.

5. The director should be able to close the voting process for a specific question. The majority result should then be computed and able to be seen by all shareholders.

Deliverable and Grading

- **Deliverable:**
  - A structured report highlighting the design decisions of your smart contract.
  - Supplementary files of the implementation.

- **Grade:**
  - 6 points for implementing the smart contract
  - 4 points for the report (1 point is for clarity)