

# Visualisation of Blockchain : Creation and Mining

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## Project Outline

- The main objective of the project is to create a GUI for visualising the creation and mining of Blockchain.
- Initially we are planning to visualise the process on a private blockchain network without live transactions and later the project could be extended to live bitcoin transactions.

## The GUI for mining a block

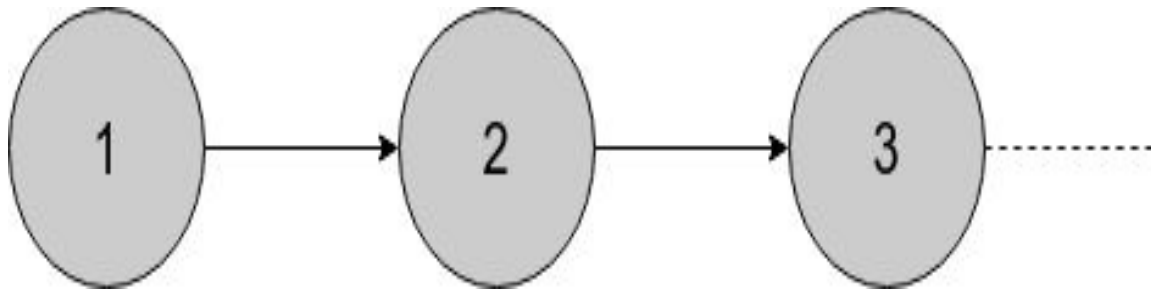
Block Number	
Timestamp	2019-09-16 16:50:40
Difficulty	2
Bits	1000
Nonce	418708967
Block Reward	50 BTC

Start Mining!

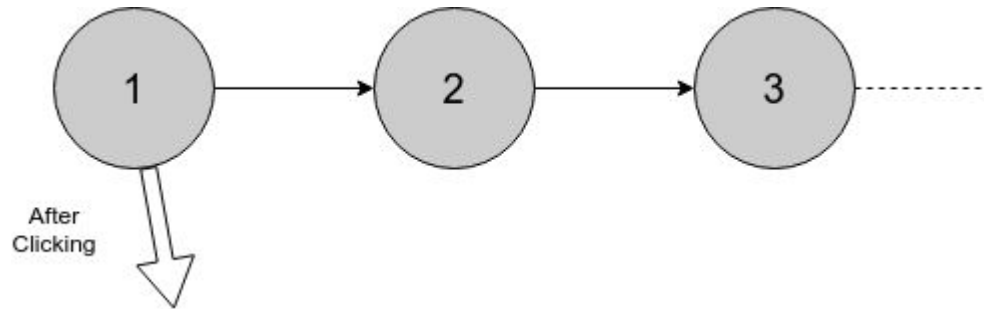
## Displaying the hash after successful mining of the block

Block Hash	0012vgthyryhj4531577e8a1e280405b84a3d4b2fe7b55928b8acaf850e8eb
Previous Block	0012vgth545454531577e8a1e280405b84a3d4b2fe7b55928b8acaf5346878
Merkle Root	ebda2d55f4ad5404dd3892d17bac303b3c0167ebe77d48f91058fa455e3eb10e

The chain of blocks created so far,



## Viewing a particular block's information



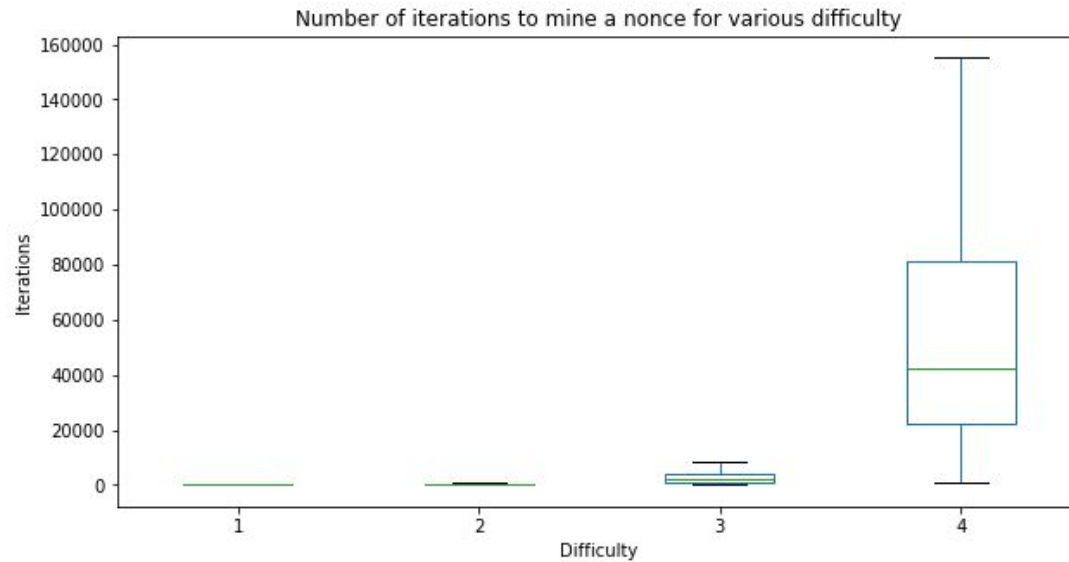
Block Number	
Timestamp	2019-09-16 16:50:40
Difficulty	2
Bits	1000
Nonce	418708967
Block Reward	50 BTC

Block Hash	<a href="#">0012vgthryhj4531577e8a1e280405b84a3d4b2fe7b55928b8acaf850e8eb</a>
Previous Block	<a href="#">0012vgth545454531577e8a1e280405b84a3d4b2fe7b55928b8acaf5346878</a>
Merkle Root	ebda2d55f4ad5404dd3892d17bac303b3c0167ebe77d48f91058fa455e3eb10e

**Post Midsem**



## Number of iterations required for mining vs Difficulty:



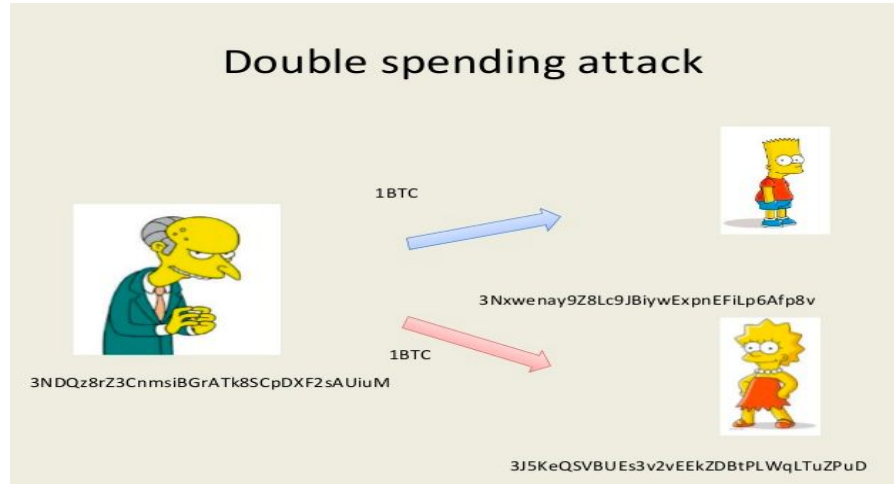


## Workflow:

- » Miners log into the GUI
- » Blockchain user generates a Public key - Private key pair
- » Makes a transaction and broadcasts it to a miner
- » Miner receives the transaction, and checks for its validity and adds the transaction in the next block.
- » With the GUI, we can see the blocks in the blockchain with the specific information like nonce, timestamp, set of transactions and block number.

## Workflow:

# Prevent Double Spending



## Workflow:

- » In our GUI, we always accept the longest valid blockchain copy available, to resolve the inconsistency in the blockchain copies maintained among various nodes.

THANKS!

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**Any questions?**