Generating Fakenews dataset with Blockchain

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Fake news

- Huge volume
- Easy to create
- Serious consequence to large group of people

83%

Get news from **Online (incl. social media)** in Singapore

Detection methods

Fact-checking by Experts

International Fact-checking network (IFCN)

GOOD

- Yield high accuracy

BAD

- Expensive
- Limited manpower as compare to Fake news scale

Crowdsource

Amazon Mechanical Turk

GOOD

- Decent result (if instruction given)
- Affordable
- Bigger scale

BAD

- Unreliable
- Human factors (bias, distracted)
- Spammers

Artificial Intelligence

Arguably the best Fake news detection method

GOOD

- Fast,
- Consistent
- Diversity of background

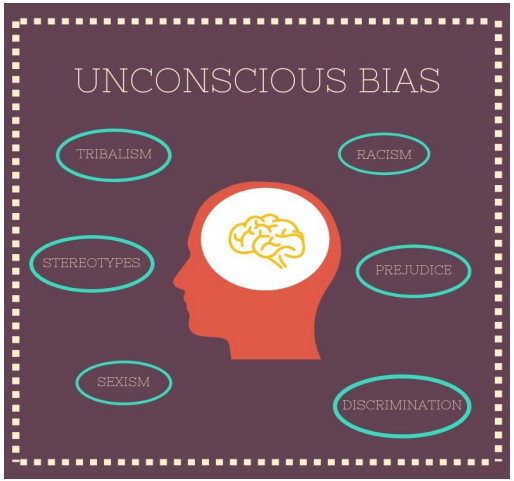
BAD

- Lack of labeled dataset
- Require money and time to train

Issues of NLP dataset

Difficult to annotate

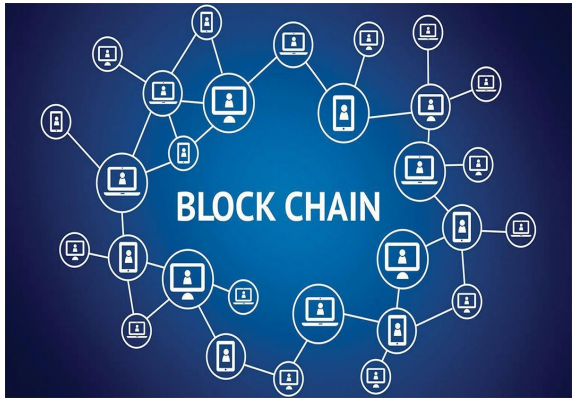
Diversity of topics



Biases

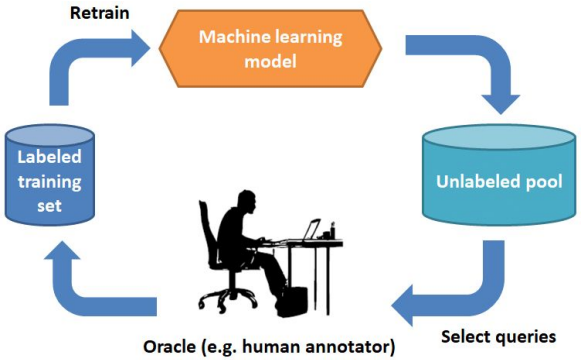
Solution

Solution aims to



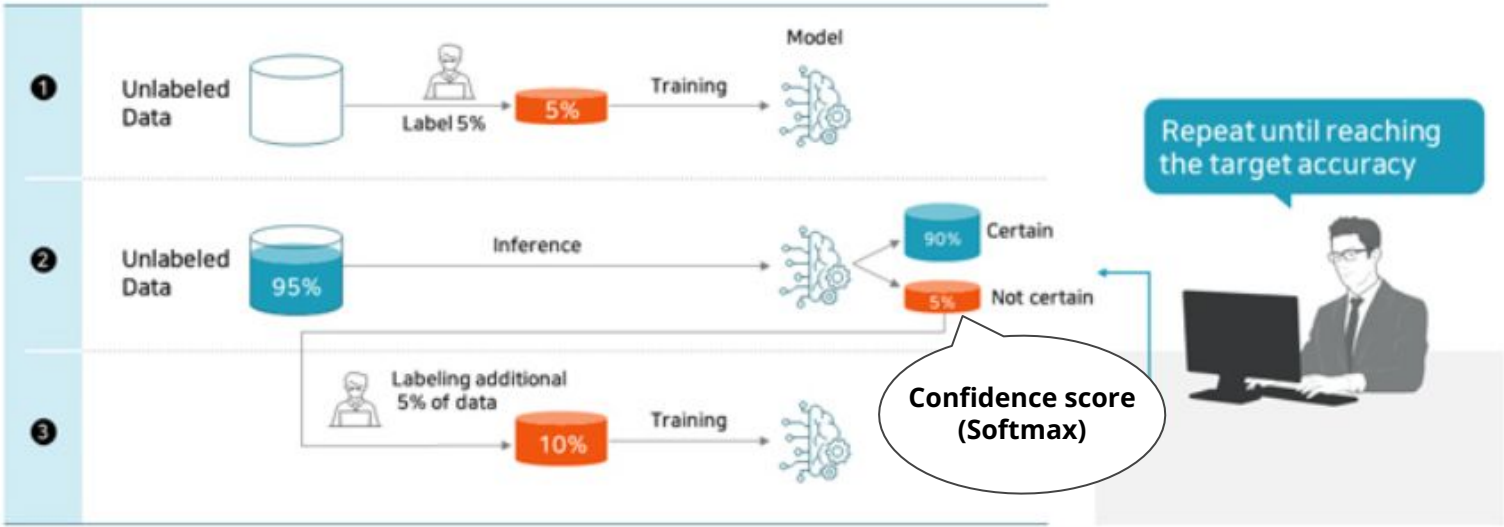
Better payment system

Incentivise annotators
&
prevent spammers



Select data for
annotation smartly

Active learning



Ethereum Blockchain enables crowdsourcing

NO middleman issue

- Peer to Peer

NO working day

- Automate by smart contract

Low transaction fee

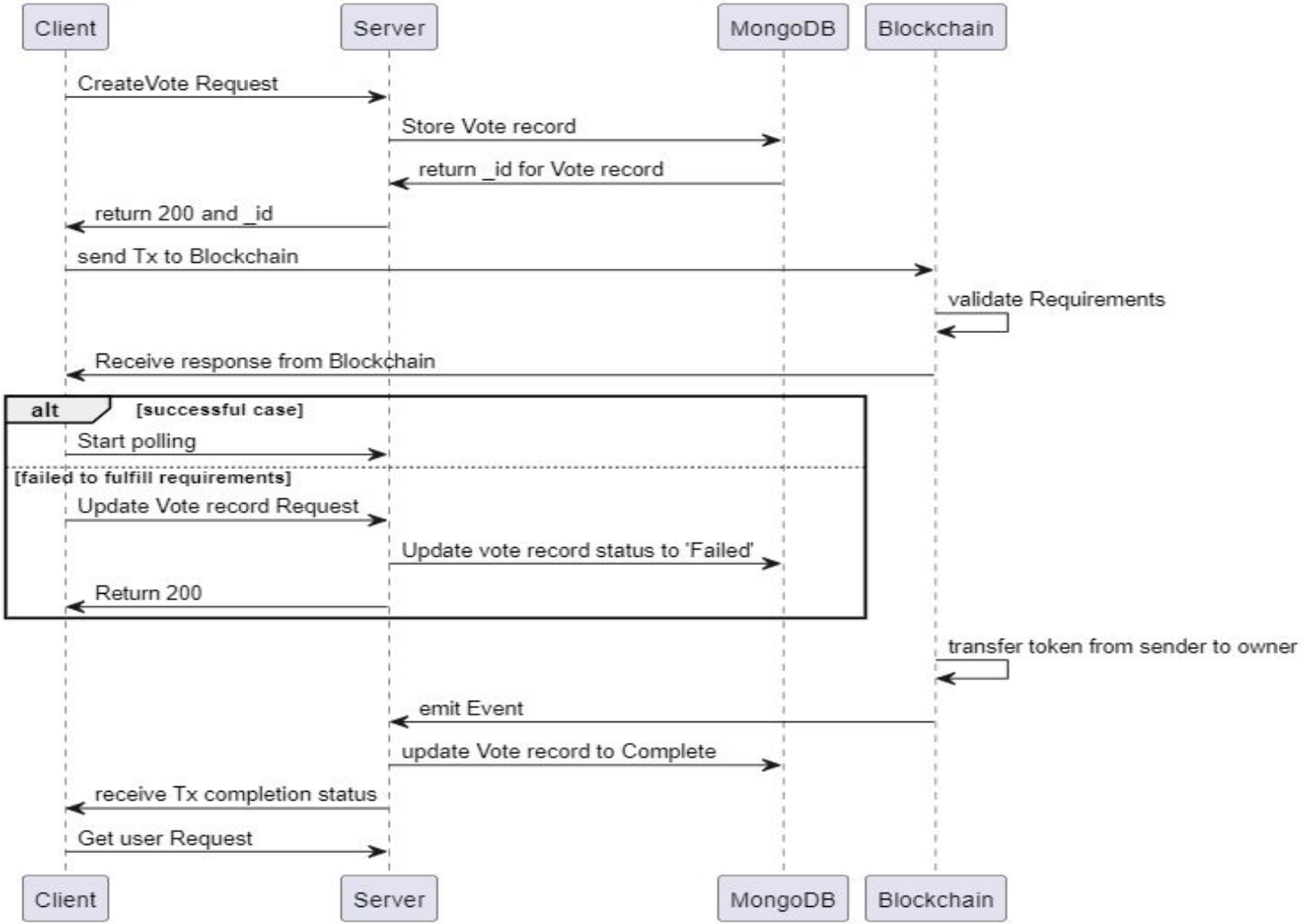
- Paypal (4.4% per transaction)
- Ethereum ($0.7637)

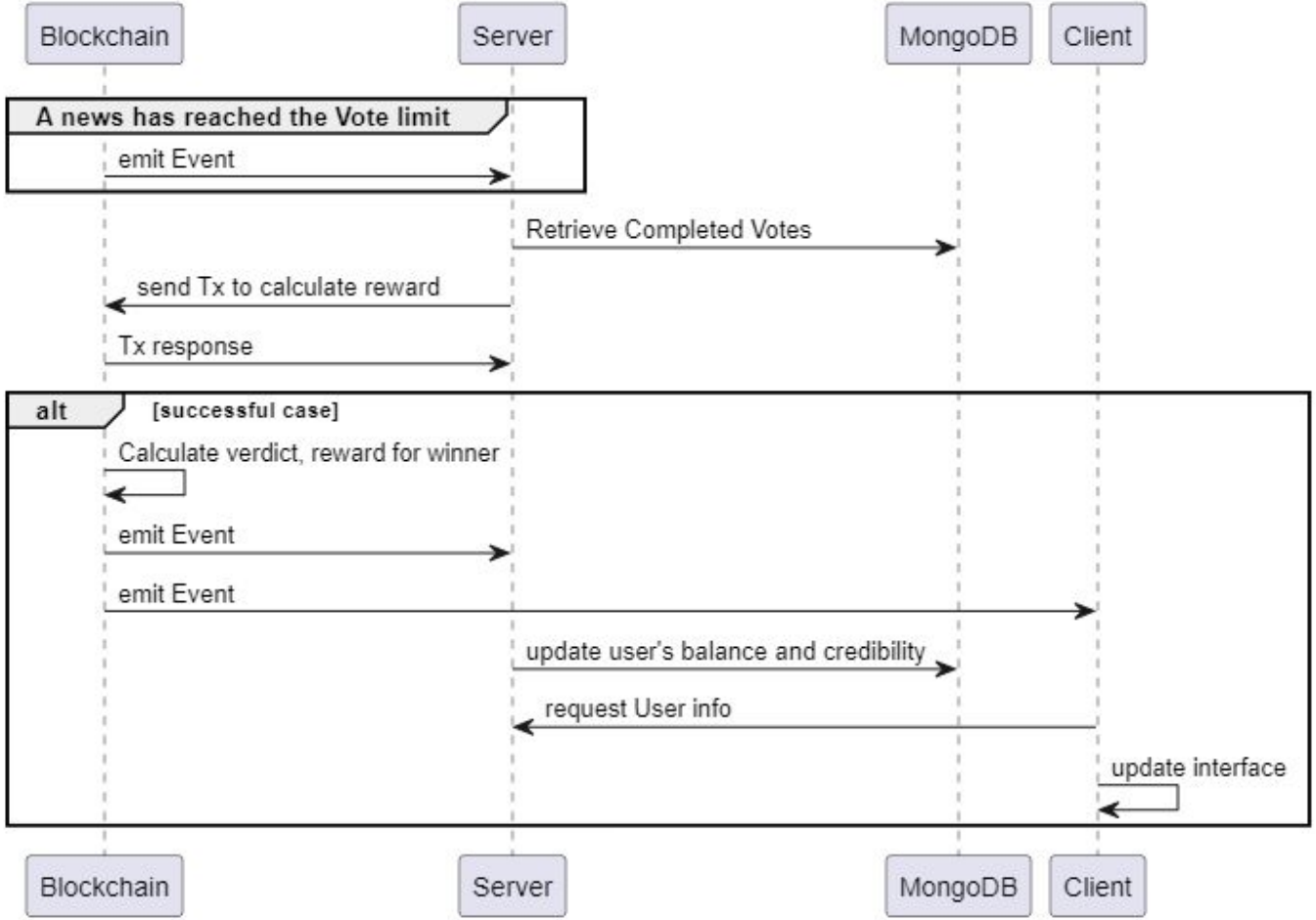
Spammer

Bots or humans randomly or semi-randomly completing tasks

	Credibility Correction	Tokens Correction
Winner calculation	y = x +n	y = x + n
Loser calculation (Exponential Decrement)	y = int (a/(3*n))	y = x – n
y	Result of the credibility score	Result of the total number of tokens
x	Current number of tokens	Current number of tokens
n	Number of tokens staked. This number determines the number of tokens to be awarded or destroyed.	Number of tokens staked. This number determines the number of tokens to be awarded or destroyed.
a	Current credibility score	NIL
b	Decay factor (Default value: 0.5)	NIL

Flow of executions (Vote, Reward)


Client
Server
MongoDB
Blockchain
CreateVote Request
Store Vote record
return _id for Vote record
return 200 and _id
send Tx to Blockchain
validate Requirements
Receive response from Blockchain
alt
[successful case]
Start polling
[failed to fulfill requirements]
Update Vote record Request
Update vote record status to 'Failed'
Return 200
transfer token from sender to owner
emit Event
update Vote record to Complete
receive Tx completion status
Get user Request
Client
Server
MongoDB
Blockchain


Blockchain
Server
MongoDB
Client
A news has reached the Vote limit
emit Event
Retrieve Completed Votes
send Tx to calculate reward
Tx response
alt
[successful case]
Calculate verdict, reward for winner
emit Event
emit Event
update user's balance and credibility
request User info
update interface
Blockchain
Server
MongoDB
Client

Demo