CMPSC 302
WEB DEVELOPMENT

On Web3, we wear masks

Logo for Metamask, a crypto “wallet”

Head to metamask.io to download and add to your browser (preferably Chrome/Firefox; something that can handle plugins)

And we live on different "nets"

- We'll set our active "network" (i.e. universe) to the Rinkelby TestNet
- Here, I'll be able to give you the crypto equivalent of fake Ethereum (a currency)
- Once you've completed this, head to the spreadsheet in the Discord channel to record your wallet number

Drips and drabs

- I'll send you .004 (or so) of a single token
  - That's way more that we'll need to play our game
- We'll have a look at how this resolves together
- In the meantime, have a look at our assignment repository
  - It's in the Discord now

The Social Contract

- Web3 is decentralized and it needs to be governed by "contracts"
- These contracts live in the cloud, and (for this activity), ours is simple:
  - We can:
    - Get the latest status
    - Set the latest status

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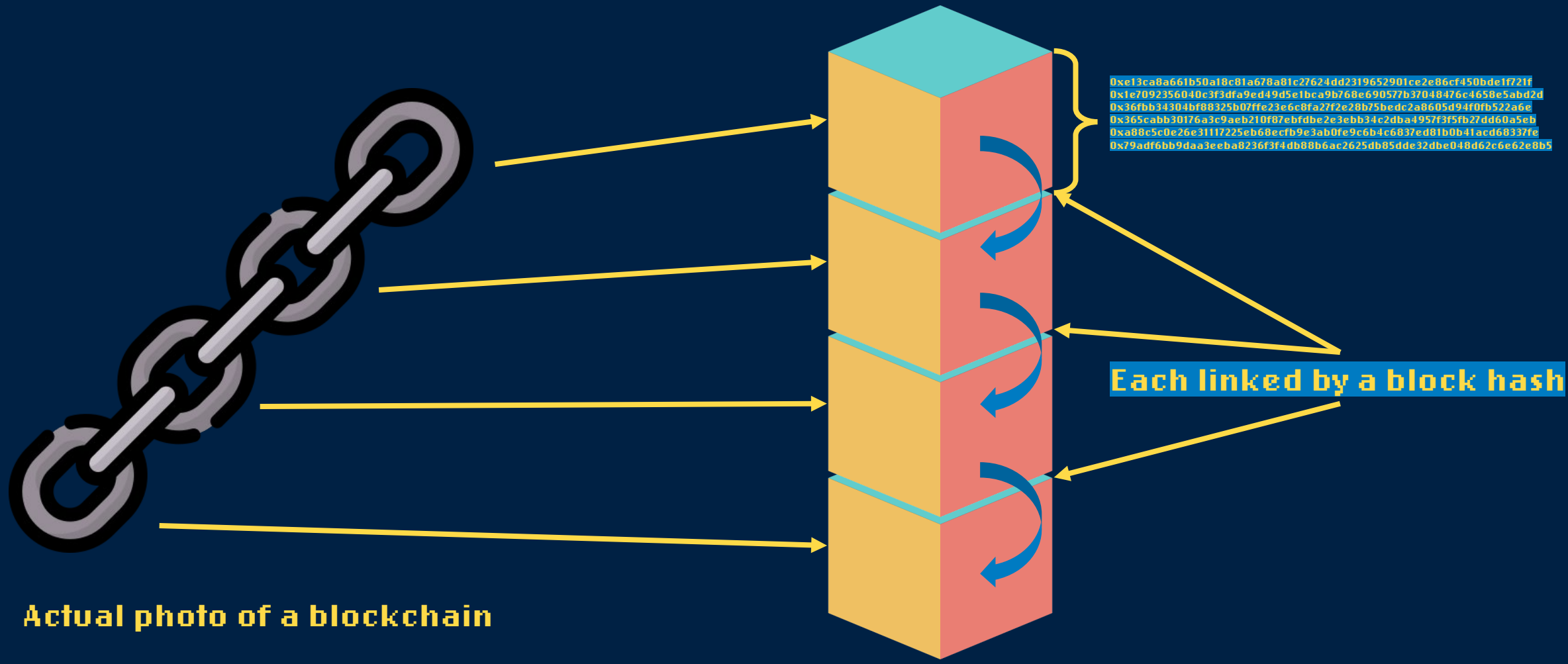
wtf is blockchain

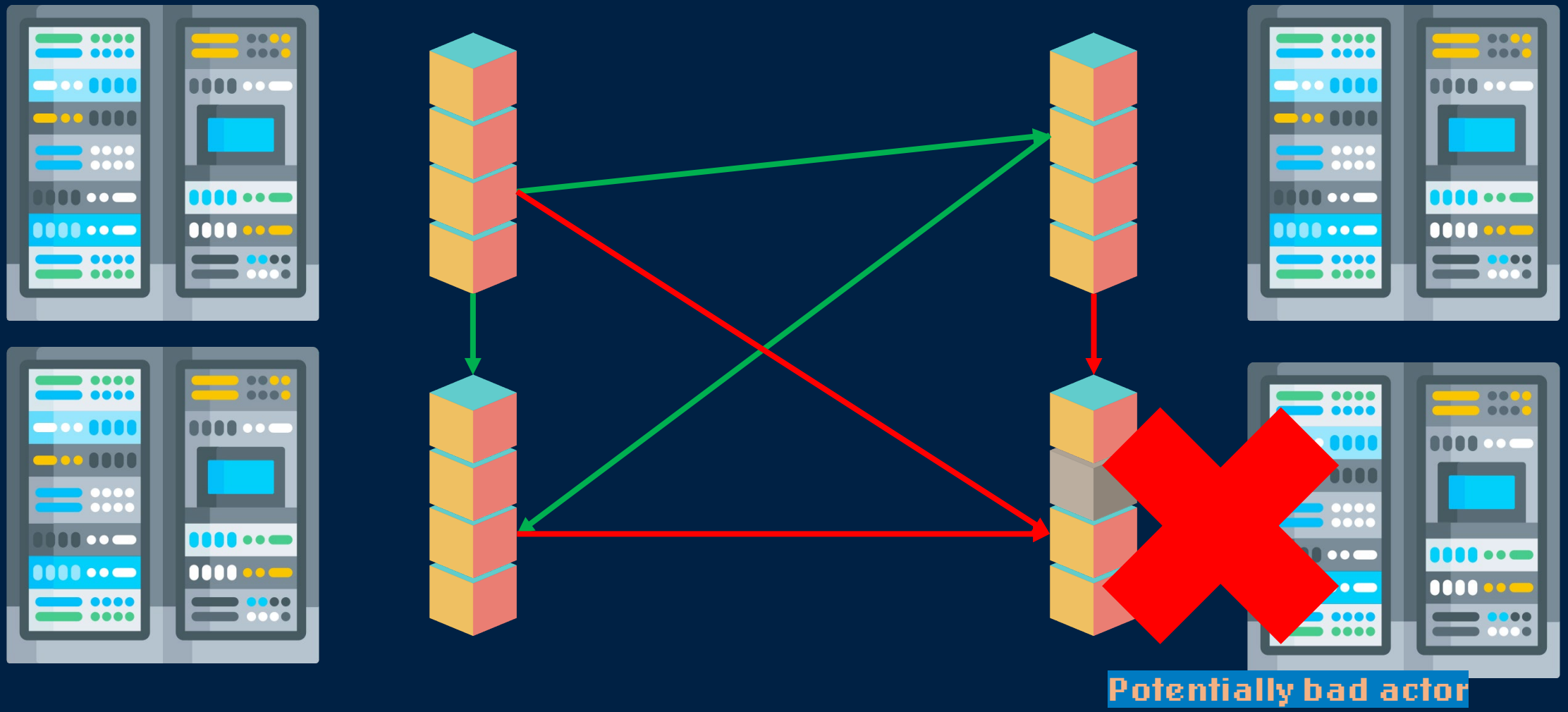


Actual photo of a blockchain

You've got your blockchain... I've got my hash right

- Hashes == mathematical summations of a block's contents
- V. hard to forge because they are calculated/linked to every preceding block
  - Are also v. long and impossible to "read"
- This is what differentiates a "correct" chain from an invalid one
- The central "truth" of a chain is referred to as a "ledger"

don't be fooled by the blocks that I got



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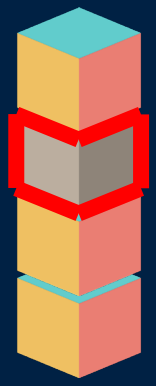
Everyone else says

The the outlier says



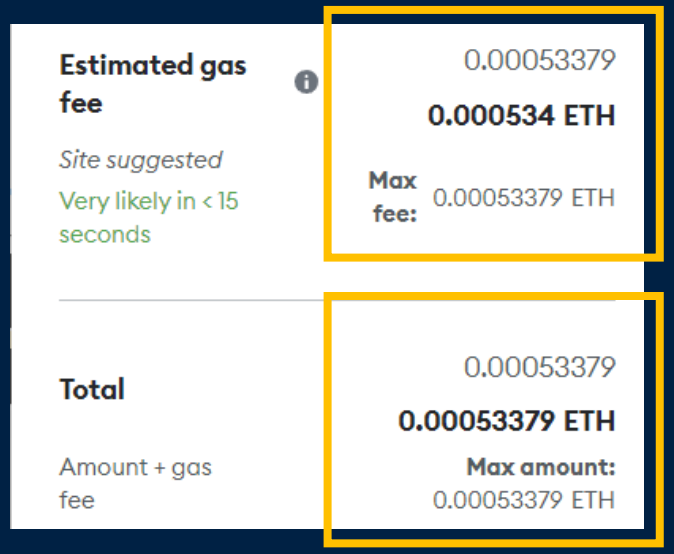
Bad actors get "punished" in a chain a few ways:

- Decreased authority
- Exile from the authority pool
- Forfeit "staked" tokens
- ...

block n' roll

- Blocks have incentives for authorities/processor to pay attention
- In the Ethereum world, this is represented by a "gas" cost attached to transactions
  - In contemporary versions of the platform, it's a fee per transaction
- Larger transactions (i.e. more data) cost more in "gas" to power
  - Re: Ethereum, this is accompanied by gwei
  - This is the cost for paying for "gas"

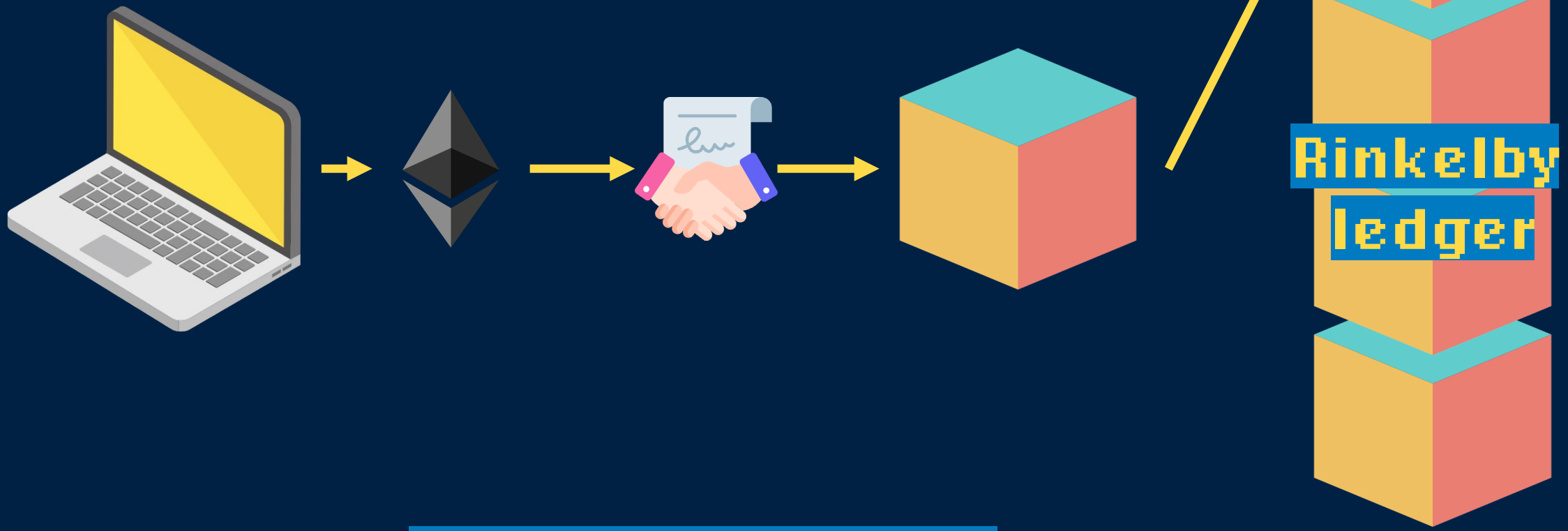
getting gassed up



i'm in ur chainz posting yer dataz

- Typically, there's also an amount you pay to a service/contract for doing something
  - For our game, you get a free ride
  - All you have to pay is gas
- This number varies based on:
  - The amount of data transmitted
  - The cost of gas (gwei)
  - The "busy-ness" of the network

my block



Sending a transaction to the chain

my block

Reading a transaction from the chain