


Taking the Mystery Out of CryptoCurrencies



Chris G. Williams

What We'll Cover In This Talk

- 
- A background image showing a dense pile of Bitcoin coins. The coins are dark in color, likely due to lighting or the image's aesthetic, and feature the Bitcoin logo (a stylized 'B' with two vertical lines) and the word 'BITCOIN' on their faces. The coins are stacked and scattered, creating a textured, metallic appearance.
- **What are CryptoCurrencies?**
 - **How do you acquire them?**
 - **How do you use them?**
 - **Common Mythconceptions...**
 - **I (try to) answer your questions!**

Taking the Mystery Out of CryptoCurrencies

What are CryptoCurrencies?

- **BitCoin**
- **AltCoins**



Taking the Mystery Out of CryptoCurrencies

What are CryptoCurrencies?

- **BitCoin**

- Decentralized peer-to-peer payment system
- No central authority or middlemen
- Independent of any government or bank
- Digital money, like “cash for the internet”
- Uses a shared public ledger called the “block chain”

- **AltCoins**

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Wait... Block Chain?

- **Block Chain**

- Contains every confirmed BitCoin transaction ever.
- Each transaction is protected by a digital signature corresponding to the sending address.
- Transactions are processed and confirmed by the network.
- Each block contains a record of recent transactions and a reference to the block that came immediately before it.
- <http://blockchain.info>

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- “Coins” are stored in your digital wallet

- **AltCoins**

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What's a Digital Wallet?

- **Digital Wallet**
 - Software that allows you to receive, store, and spend your BitCoins or AltCoins.
 - Three types:
 - Desktop
 - Mobile
 - Web/Online Wallet
 - There are a variety of wallets available, with different features, so do some research. (I use Bitcoin-Qt.)
 - If using a desktop wallet, ALWAYS keep a backup.

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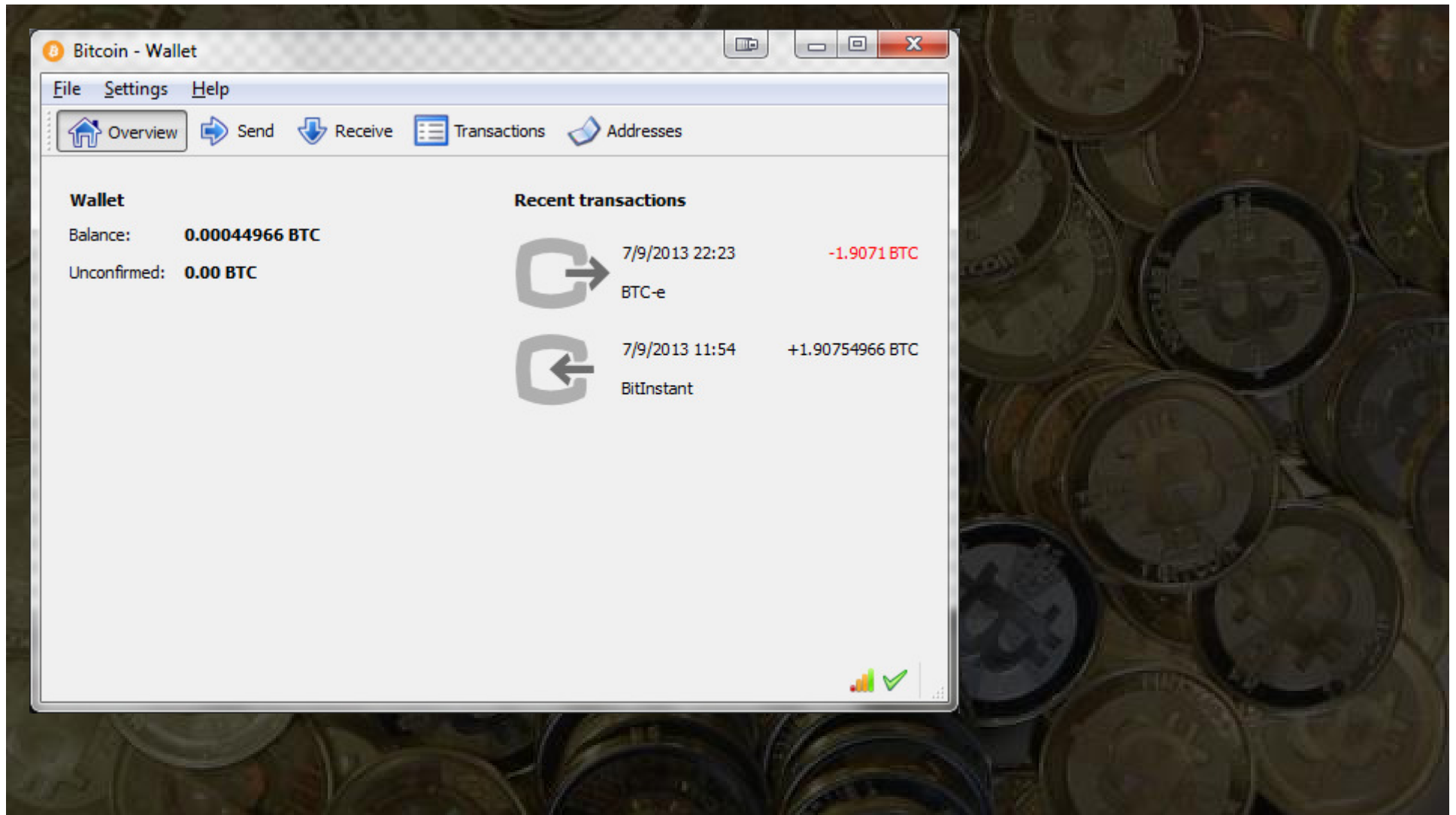
Why Keep a Backup?

- **Digital Wallet**

- If you lose your wallet without a backup, just like cash, you lose your money, but why?
 1. Your wallet generates unique receive addresses.
 2. Without your address, you have no reference in the blockchain, therefore no money.
 3. If you could just re-add your address, so could anyone else... and steal your balance.
 4. Keeping a backup restores your receive address, which allows your wallet to re-process the Block Chain.

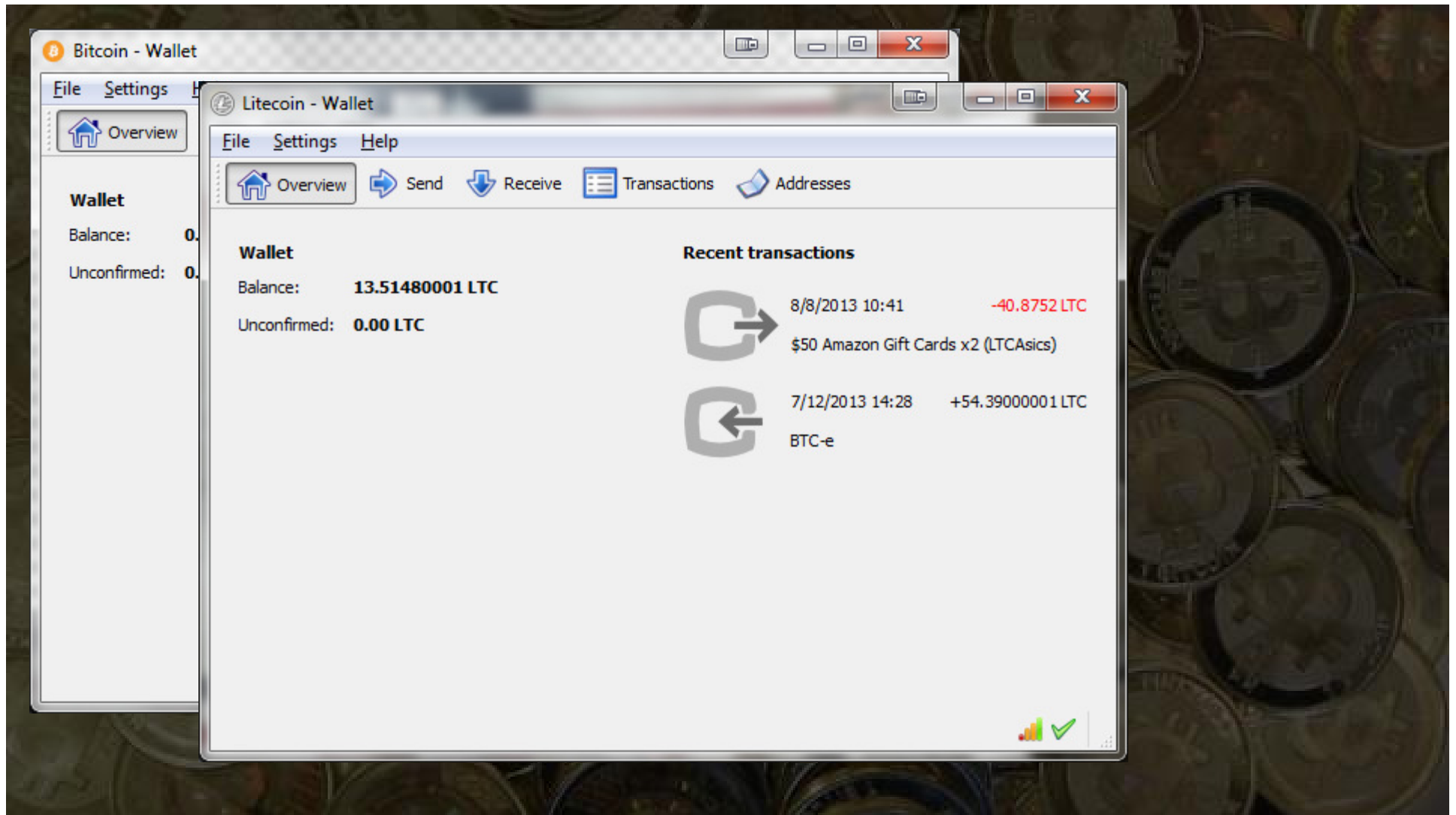
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Sample Wallets



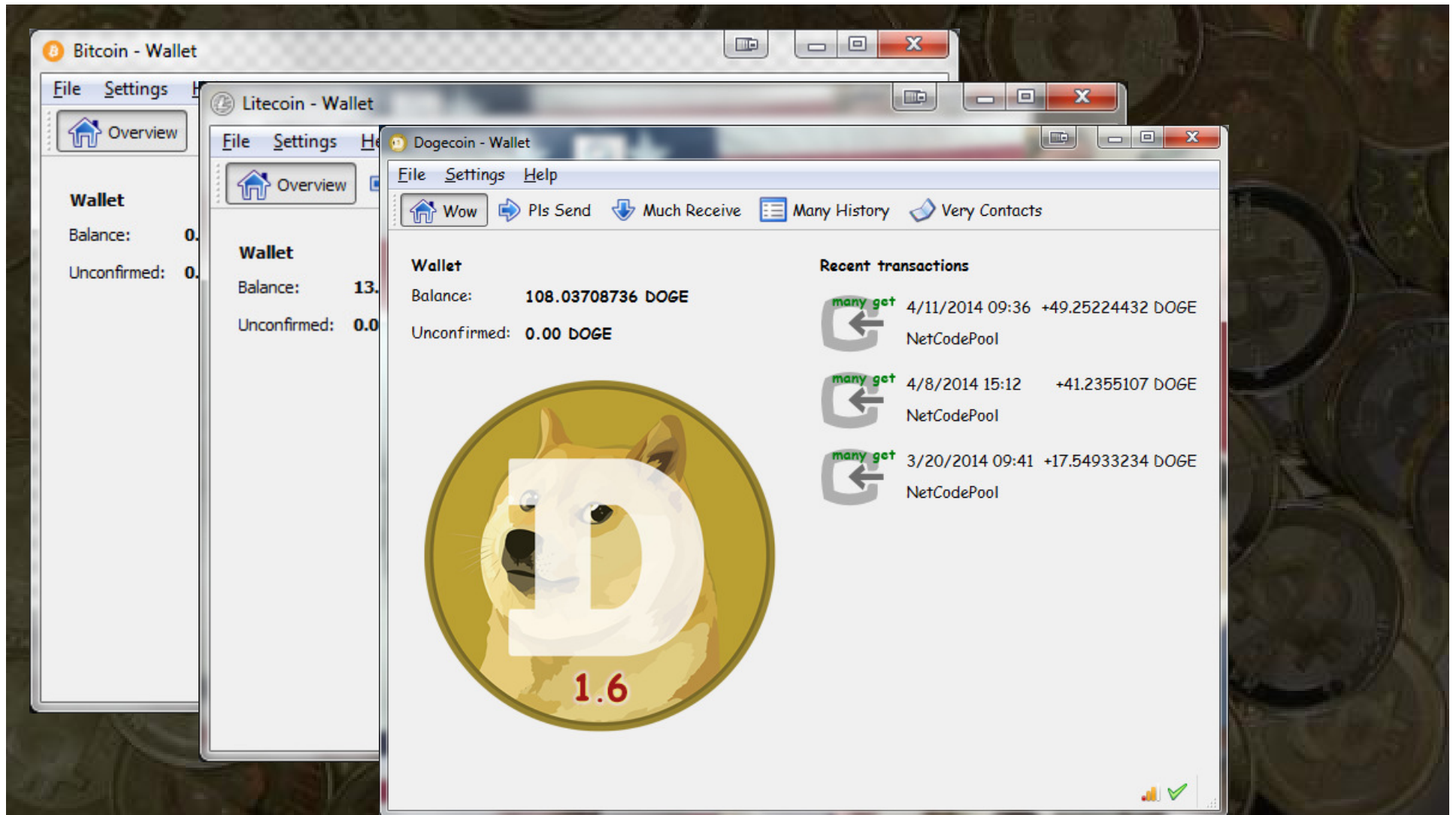
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Sample Wallets



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Sample Wallets



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- Uses a shared public ledger called the “block chain”
- “Coins” are stored in your digital wallet
- BitCoin transactions are **NON-REVERSABLE**

- **AltCoins**

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Dude, Where's My Coin?

- **BitCoin**

- There is no coin.
- There is no paper.
- Seriously, all digital. So **BACK UP YOUR WALLET!!**
- If you lose them, like cash, they are gone forever.

- **AltCoins**

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What are CryptoCurrencies?

- **BitCoin**

- Algorithm: SHA256d
- Blocks: every 10 minutes
- Supply: 21 Million Coins
- Reward: 50 coins per block

- **AltCoins**

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What are CryptoCurrencies?

- **BitCoin**

BTC/USD

Market	Latest trade	Volume
Bitstamp	496.68000 USD	8,369 BTC 4,197,463 USD
Bitfinex	496.01000 USD	8,136 BTC 4,067,964 USD
BTC-e	481.50000 USD	5,814 BTC 2,849,835 USD
Kraken	496.41682 USD	17 BTC 8,587 USD
Bitkonan	500.00000 USD	4 BTC 1,907 USD

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What are CryptoCurrencies?

- **BitCoin**
- **AltCoins**
 - **LiteCoin (LTC)**
 - Algorithm: Scrypt
 - Blocks: every 2.5 minutes
 - Supply: 84 Million
 - Reward: 50 coins per block
 - **NameCoin (NMC)**
 - **PPCoin (PPC)**

LTC/USD

Market	Latest trade	Volume
BTC-e	12.300000 USD	136,198 LTC 1,688,689 USD
Bitfinex	12.530000 USD	8,139 LTC 104,248 USD
Crypto-Trade	12.380000 USD	15 LTC 192 USD
Cryptonit	12.785000 USD	7 LTC 86 USD

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What are CryptoCurrencies?

- **BitCoin**
- **AltCoins**
 - **LiteCoin (LTC)**
 - **NameCoin (NMC)**
 - **Algorithm: SHA256d**
 - **Blocks: every 10 minutes**
 - **Supply: 21 Million**
 - **Reward: 50 coins per block**
 - **PPCoin (PPC)**

NMC/USD

Market	Latest trade	Volume
BTC-e	2.5400000 USD	71,353 NMC 186,606 USD
Crypto-Trade	3.0072300 USD	0 NMC 0 USD
C-Cex	3.4500000 USD	
Kraken	3.0428300 USD	

Taking the Mystery Out of CryptoCurrencies

What are CryptoCurrencies?

- **BitCoin**
- **AltCoins**
 - **LiteCoin (LTC)**
 - **NameCoin (NMC)**
 - **PPCoin (PPC)**
 - **Algorithm: SHA-256**
 - **Blocks: every 10 minutes**
 - **Supply: non-deterministic**
 - **Reward: variable by difficulty**

PPC/USD

Market	Latest trade	Volume
BTC-e	2.5620000 USD	38,750 PPC 101,579 USD
Prelude	0.0033000 USD	
C-Cex	7.0000000 USD	
Crypto-Trade	2.5513610 USD	

Taking the Mystery Out of CryptoCurrencies

What are CryptoCurrencies?

- BitCoin
- AltCoins
 - DogeCoin (Doge)
 - Algorithm: Scrypt
 - Blocks: every 1 minute
 - Supply: 99 Billion
 - Reward: ?Random?

DOGE/USD

That's \$0.00068 USD




Market	Latest trade	Volume
Prelude	0.6800000 mUSD	2,914,728 DOGE 2,005 USD
C-Cex	0.5800000 mUSD	9,006 DOGE 5 USD
Kraken	0.6659900 mUSD	



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- A background image showing a dense pile of Bitcoin coins. The coins are metallic and feature the Bitcoin logo. The image is slightly blurred and has a dark, muted color palette.
- What are CryptoCurrencies?
 - **How do you acquire them?**
 - How do you use them?
 - Common Mythconceptions...
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How do you acquire BitCoins?

- 
- **Mining BitCoin**
 - **Buying via a BitCoin Exchange**
 - **Accepting BitCoin as payment**
 - **Hitting up your friends**

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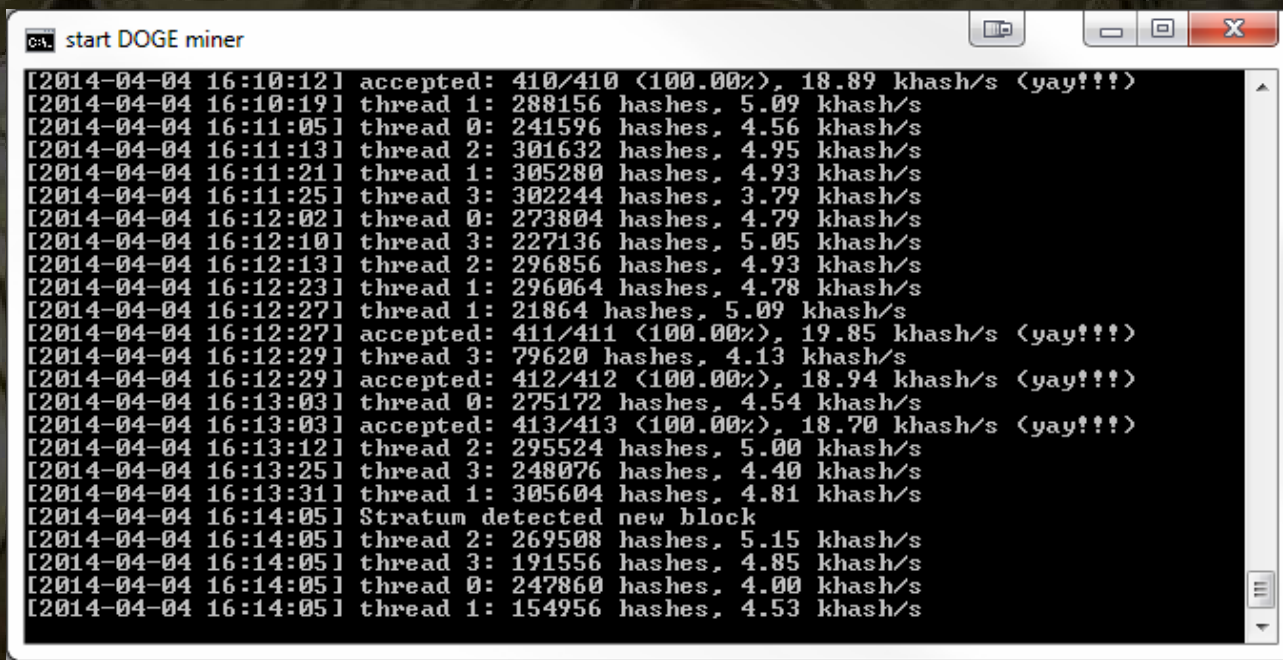
Yes! Tell Me About Mining...

- 
- **Mining BitCoin**
 - Mining is...
 - Processing Transactions For a Fee
 - Resource Intensive
 - bitcoin.org/en/faq#how-does-bitcoin-mining-work
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Yes! Tell Me About Mining...

- Mining BitCoin
- Mining is...



```
start DOGE miner
[2014-04-04 16:10:12] accepted: 410/410 (100.00%), 18.89 khash/s (yay!!!)
[2014-04-04 16:10:19] thread 1: 288156 hashes, 5.09 khash/s
[2014-04-04 16:11:05] thread 0: 241596 hashes, 4.56 khash/s
[2014-04-04 16:11:13] thread 2: 301632 hashes, 4.95 khash/s
[2014-04-04 16:11:21] thread 1: 305280 hashes, 4.93 khash/s
[2014-04-04 16:11:25] thread 3: 302244 hashes, 3.79 khash/s
[2014-04-04 16:12:02] thread 0: 273804 hashes, 4.79 khash/s
[2014-04-04 16:12:10] thread 3: 227136 hashes, 5.05 khash/s
[2014-04-04 16:12:13] thread 2: 296856 hashes, 4.93 khash/s
[2014-04-04 16:12:23] thread 1: 296064 hashes, 4.78 khash/s
[2014-04-04 16:12:27] thread 1: 21864 hashes, 5.09 khash/s
[2014-04-04 16:12:27] accepted: 411/411 (100.00%), 19.85 khash/s (yay!!!)
[2014-04-04 16:12:29] thread 3: 79620 hashes, 4.13 khash/s
[2014-04-04 16:12:29] accepted: 412/412 (100.00%), 18.94 khash/s (yay!!!)
[2014-04-04 16:13:03] thread 0: 275172 hashes, 4.54 khash/s
[2014-04-04 16:13:03] accepted: 413/413 (100.00%), 18.70 khash/s (yay!!!)
[2014-04-04 16:13:12] thread 2: 295524 hashes, 5.00 khash/s
[2014-04-04 16:13:25] thread 3: 248076 hashes, 4.40 khash/s
[2014-04-04 16:13:31] thread 1: 305604 hashes, 4.81 khash/s
[2014-04-04 16:14:05] Stratum detected new block
[2014-04-04 16:14:05] thread 2: 269508 hashes, 5.15 khash/s
[2014-04-04 16:14:05] thread 3: 191556 hashes, 4.85 khash/s
[2014-04-04 16:14:05] thread 0: 247860 hashes, 4.00 khash/s
[2014-04-04 16:14:05] thread 1: 154956 hashes, 4.53 khash/s
```

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How do you acquire BitCoins?

- 
- Mining BitCoin
 - **Buying via a BitCoin Exchange**
 - Coinbase.com
 - ~~MTGOX.com~~
 - Kraken.com
 - BTC-e.com
 - Accepting BitCoin as payment
 - Hitting up your friends


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Let's Look At Some Code!



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Lies, More Lies, And Statistics...

- BitCoins are...
- worthless / aren't backed by anything.


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Lies, More Lies, And Statistics...

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- **BitCoins are...**
 - **worthless / aren't backed by anything.**
 - **illegal, & possibly domestic terrorism.**

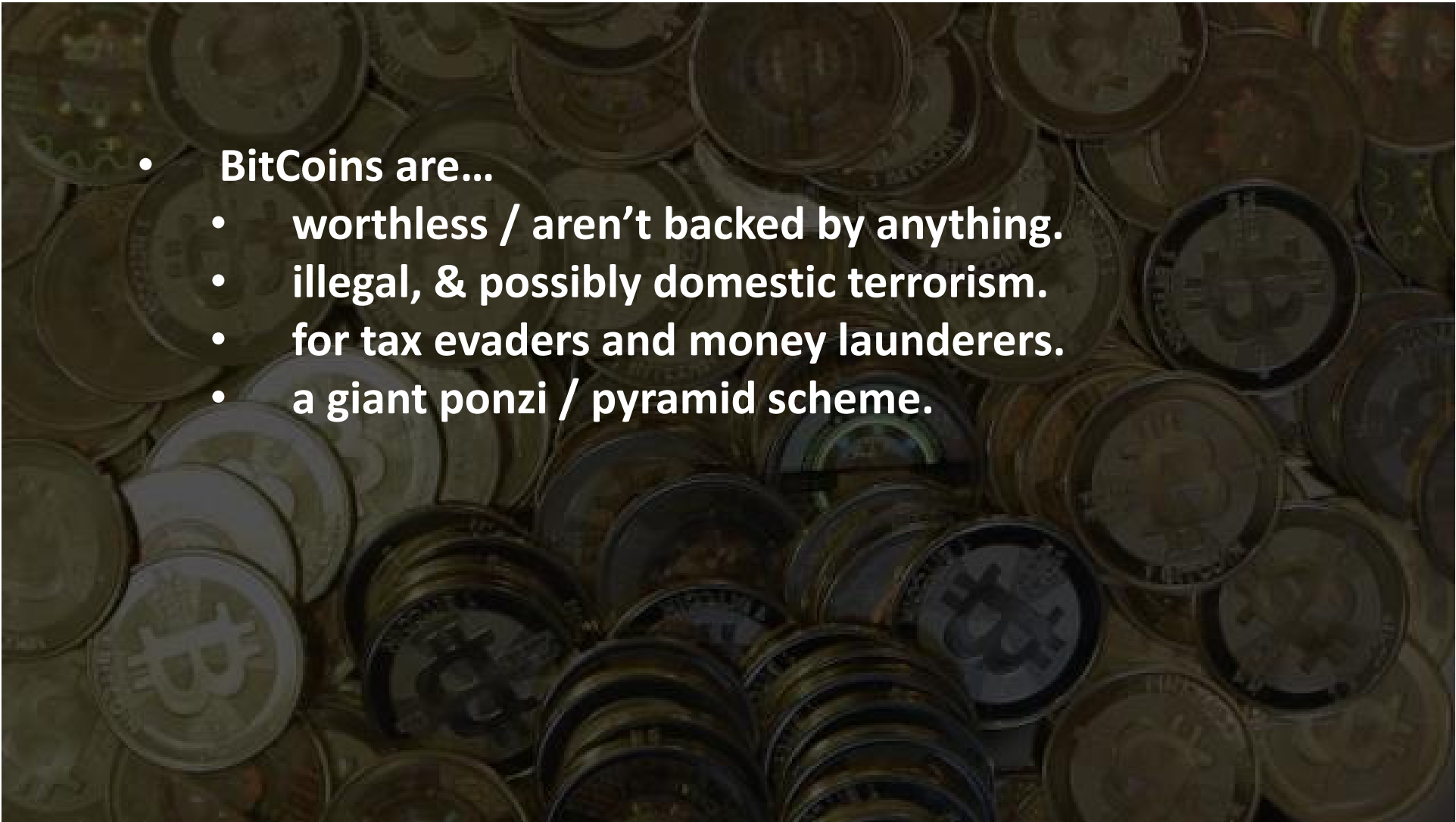
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 - **for tax evaders and money launderers.**

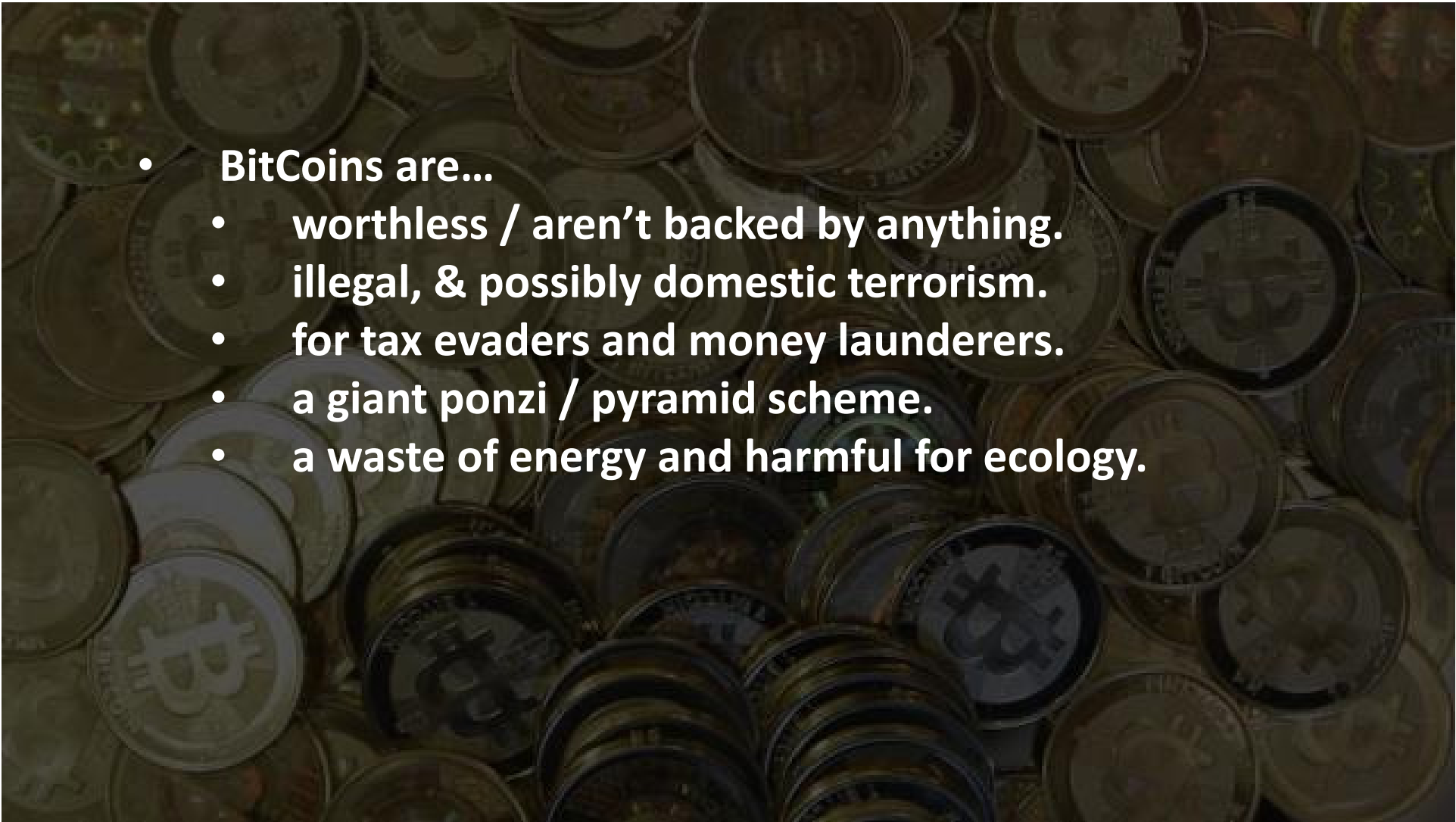
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 - **a giant ponzi / pyramid scheme.**

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Lies, More Lies, And Statistics...

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 - **worthless / aren't backed by anything.**
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 - **for tax evaders and money launderers.**
 - **a giant ponzi / pyramid scheme.**
 - **a waste of energy and harmful for ecology.**

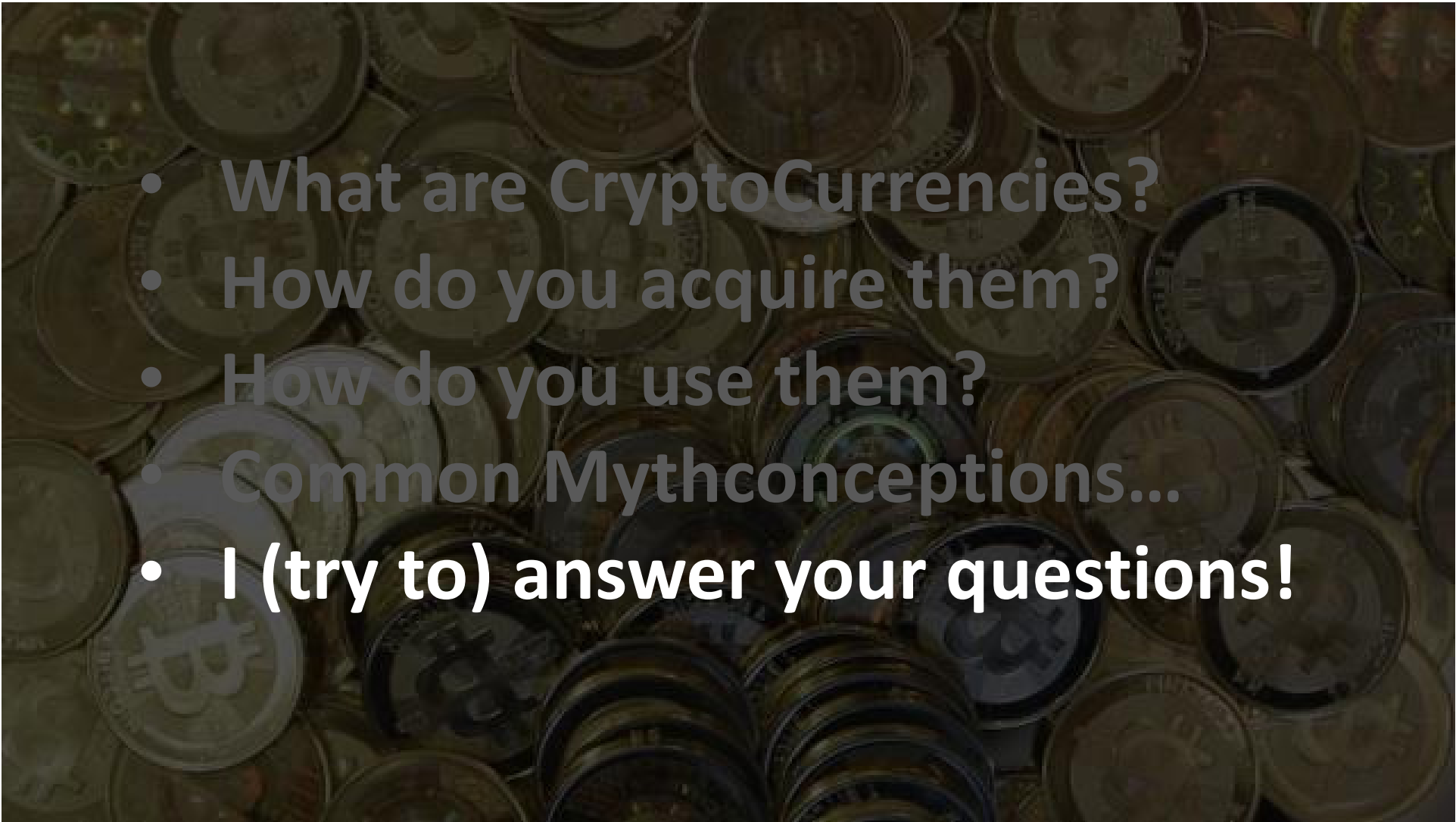
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Lies, More Lies, And Statistics...

- **BitCoins are...**
 - **worthless / aren't backed by anything.**
 - **illegal, & possibly domestic terrorism.**
 - **for tax evaders and money launderers.**
 - **a giant ponzi / pyramid scheme.**
 - **a waste of energy and harmful for ecology.**
- **and my personal favorite:**
 - **making self-sufficient artificial intelligence possible, which will in turn become self-aware and decide to exterminate humanity.**

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Thanks For Coming!

For additional questions:

ChrisGWilliams@gmail.com

Coinbase .NET Wrapper:

github.com/chrisgwilliams/Coinbase.NET

Blog: www.geekswithblogs.net/cwilliams

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