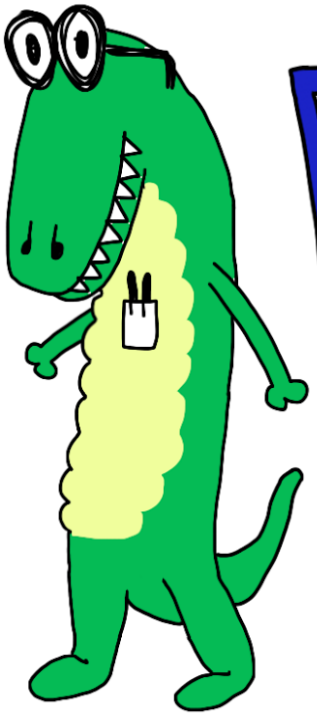
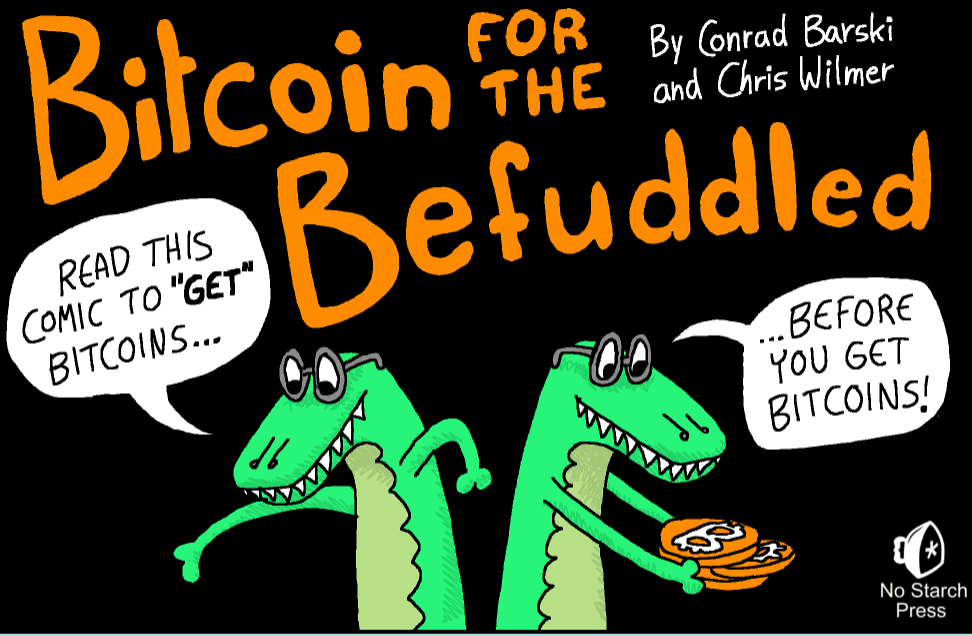


# Bitcoins for Befuddled Beginners


Bitcoin FOR THE Befuddled
By Conrad Barski and Chris Wilmer
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...BEFORE YOU GET BITCOINS!
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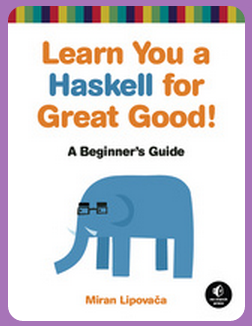


## Learn You a Haskell for Great Good!

**฿0.025** ($22.95)~~($33.95)~~

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1JkaGqFUcbd4ifpCy
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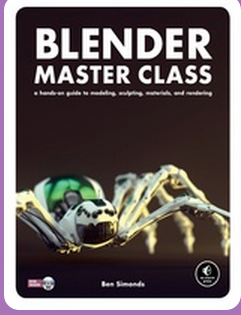
*Learn You a Haskell for Great Good!* is a hilarious, illustrated guide to this complex functional language. Packed with the author's original artwork, pop culture references, and most importantly, useful example code, this book teaches functional fundamentals in a way you never thought possible. Topics include basic syntax, recursion, types and type classes, how to use applicative functors, monads, zippers.

More




## Blender Master Class

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With *Blender Master Class*, you'll learn how to create 3D models as you explore the creative process that author Ben Simonds uses to model three example projects: a muscular bat creature, a futuristic robotic spider, and ancient temple ruins. Along the way, you'll master the Blender interface and learn how to create and refine your own models.

More


## Super Scratch Programming Adventure!

**฿0.014** ($12.95)~~($18.95)~~


## Unofficial LEGO Technic Builder's Guide

**฿0.017** ($15.95)~~($22.95)~~

# Why you should love bitcoin:

- As a *buyer*
- As a *seller*

# How to accept payments

1. Incorporate your business to receive a DUNS number
2. Get a corporate account at your bank
3. Get you account verified by a Merchant Services Provider (Intuit, Paypal, Stripe, Apple, etc.)
4. Set up an account via the provider with your DUNS number to get access keys.
5. Acquire proprietary library software from the provider (You will probably need to update this library regularly to keep your software working.)
6. Redirect your customers to a special provider to authorize payments
7. Write your code.
8. Get your finished app reviewed by the payment provider.

# How to accept payments *without bitcoin*

1. Incorporate your business to receive a DUNS number
2. Get a corporate account at your bank
3. Get you account verified by a Merchant Services Provider (Intuit, MasterCard, Paypal, Stripe, Apple, etc.)
4. Set up an account via the provider with your DUNS number to get access keys.
5. Acquire proprietary library software from the provider (You will probably need to update this library regularly to keep your software working.)
6. Redirect your customers to a special provider to authorize payments
7. Write your code.
8. Get your finished app reviewed by the payment provider.

# How to accept payments with bitcoin

1. Incorporate your business to receive a DUNS number
2. Get a corporate account at your bank
3. Get you account verified by a Merchant Services Provider (Intuit, Paypal, Stripe, Apple, etc.)
4. Set up an account via the provider with your DUNS number to get access keys.
5. Acquire proprietary library software from the provider (You will probably need to update this library regularly to keep your software working.)
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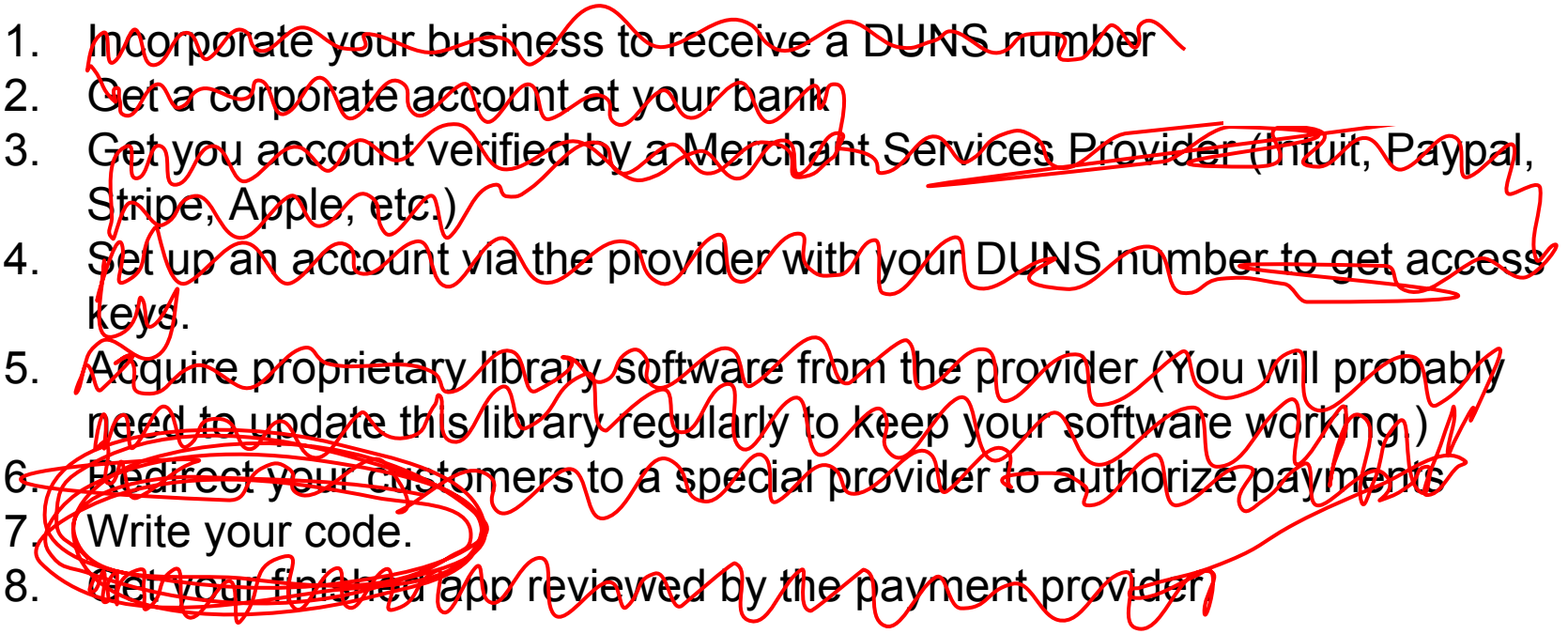
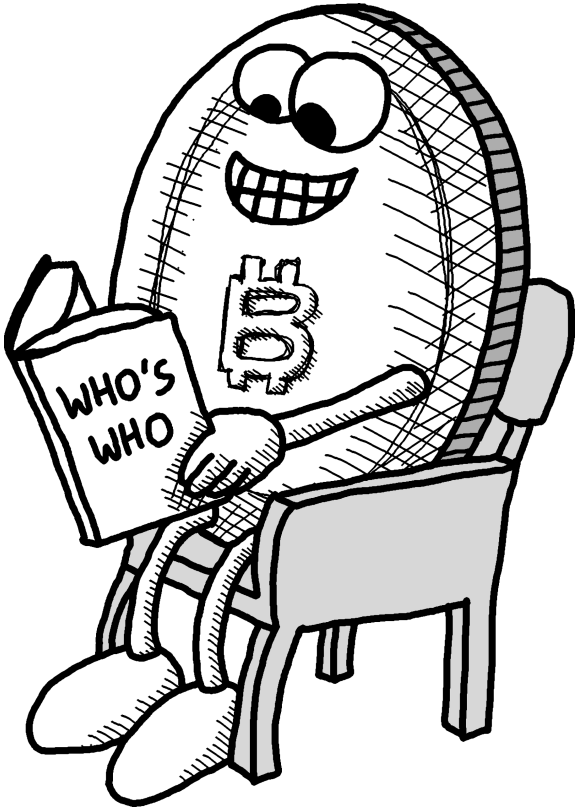
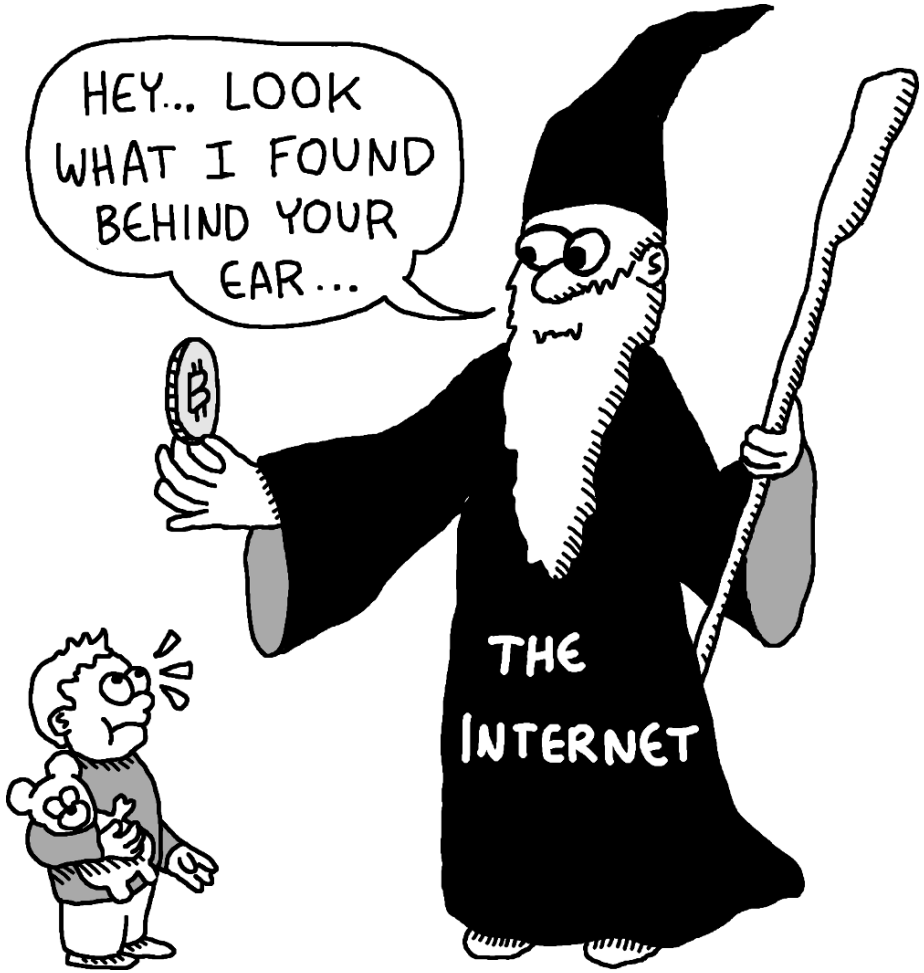


# What is bitcoin?

# What is bitcoin?

A decentralized digital currency

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THE INTERNET


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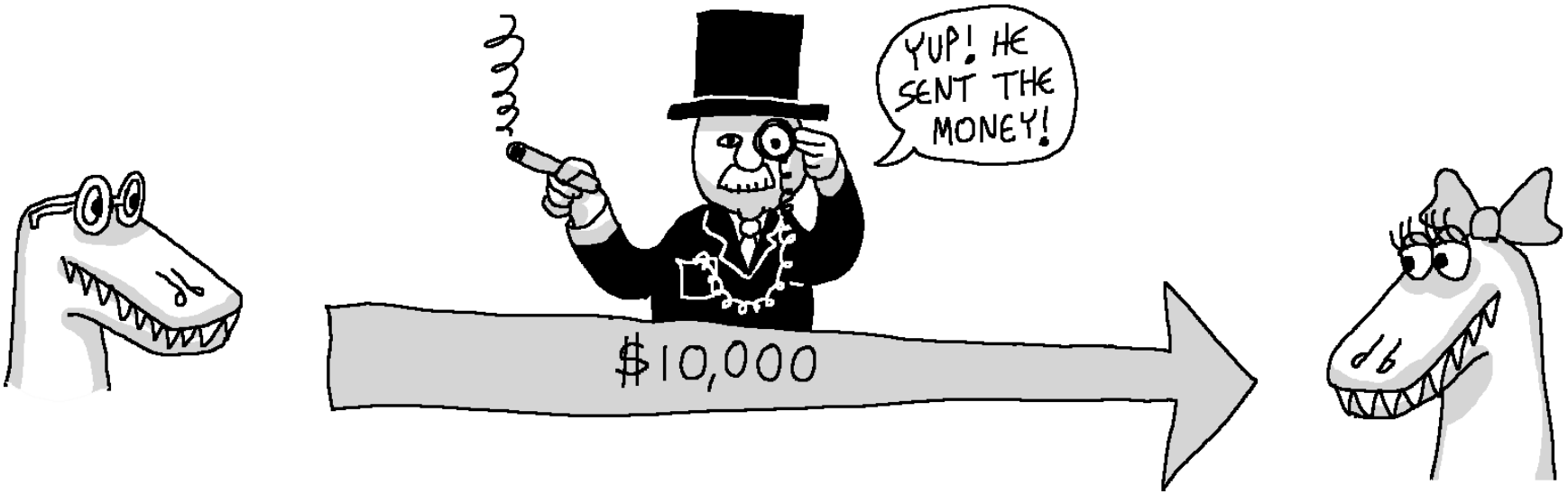
¥EN


Liberty
Reserve

# How a bank wire works

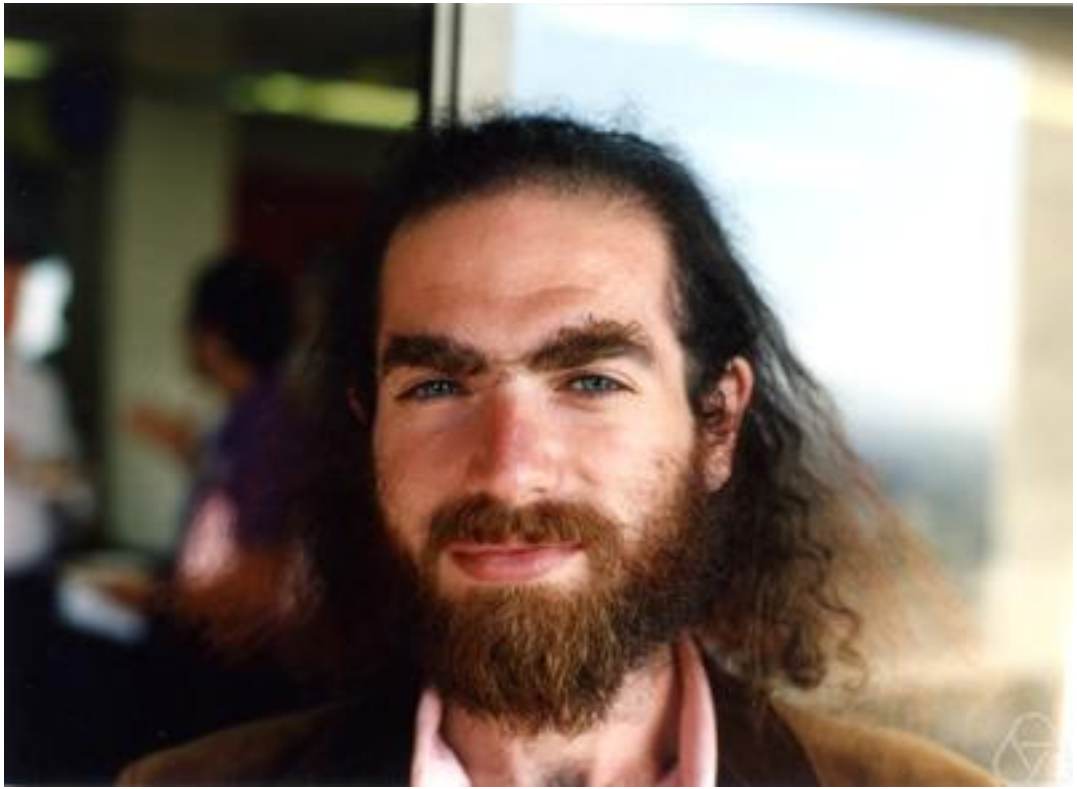


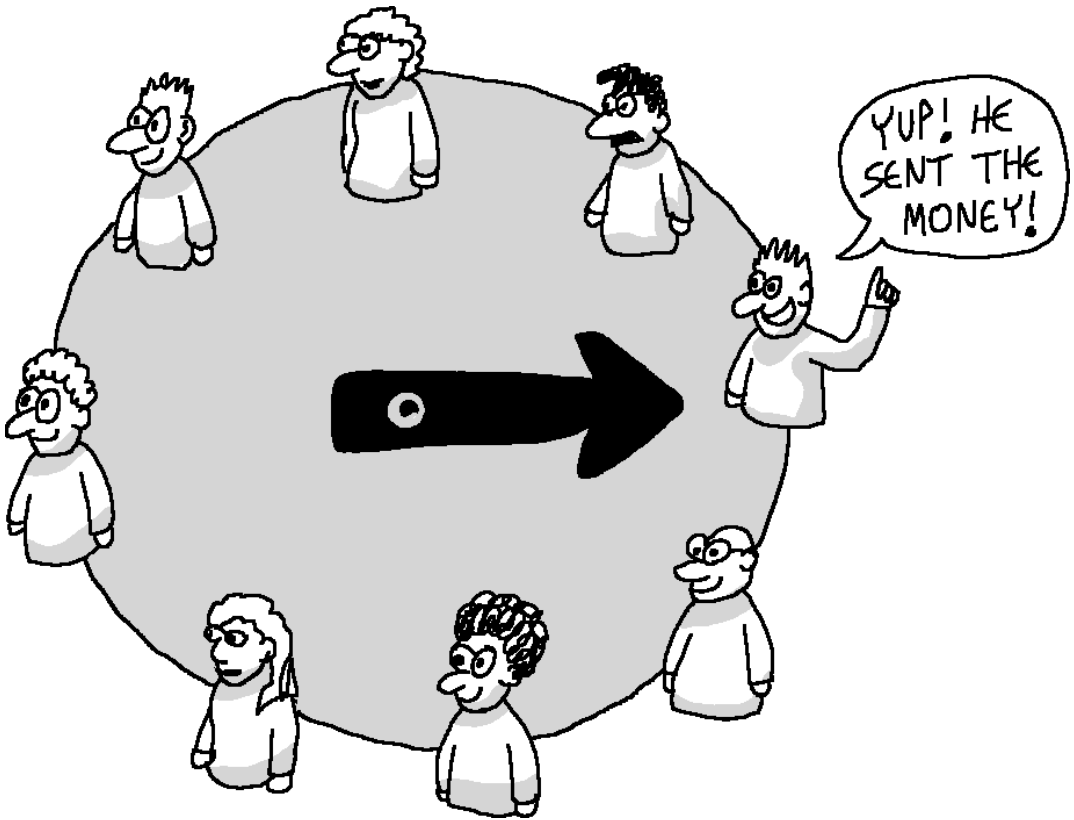
# 2009: Bitcoin is Released

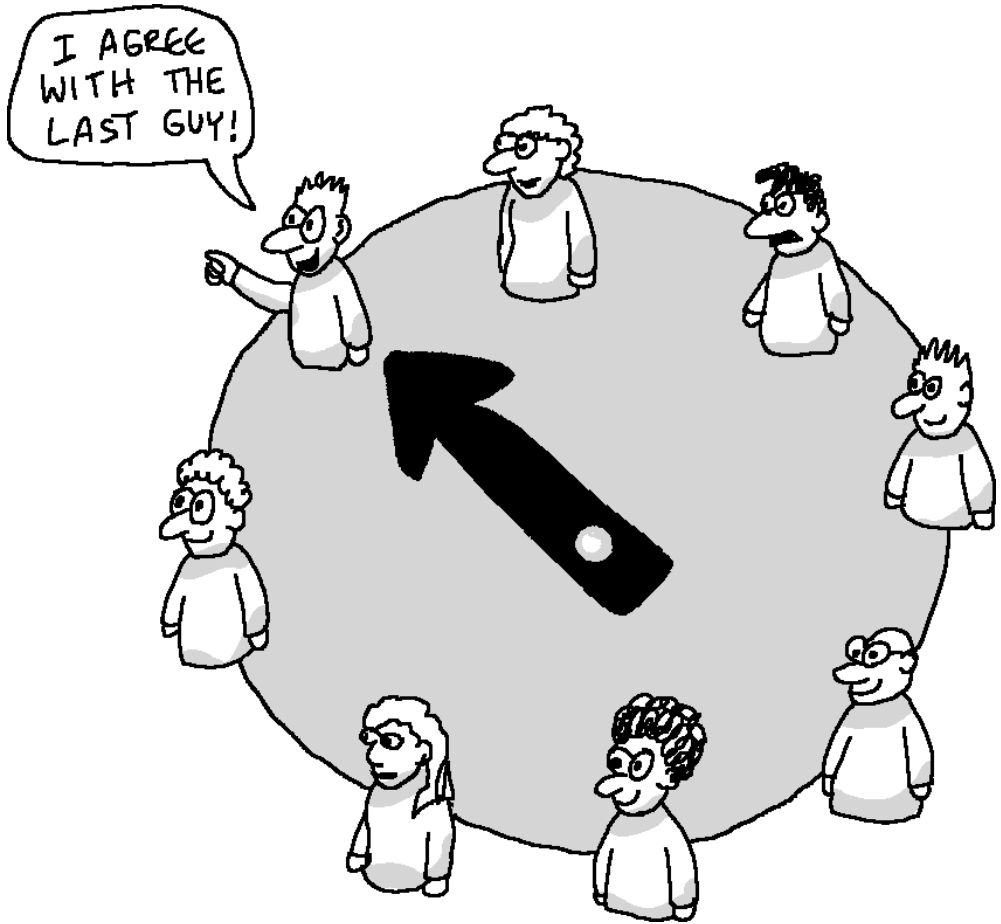
“Satoshi Nakamoto” releases v1 of bitcoin (described the concept in a 2008 whitepaper)

Early users include Hal Finney, Gavin Andressen, Nick Szabo, Jeff Garzik, Martti Malmi.

# Grigori Perelman




YUP! HE SENT THE MONEY!


I AGREE WITH THE LAST GUY!

# Cryptography 101

Two key concepts:

- Hashing
- Asymmetric Ciphers

# Hashing

# secretmessage

```
19   5  3  18  5 20  13  5 19  19   1  7  5    (position in alphabet)
 1   2  3   4  5  6   7  8  9  10  11 12 13    (just counting from 1)
20   7  6  22 10 26  20 13 28  29  12 19 18    (sum)
```

```
XORed together = 20^7^6^22^10^26^20^13^28^29^12^19^18
               = 6
```

# Asymmetric Cipher

# Asymmetric Cipher

For a large number:

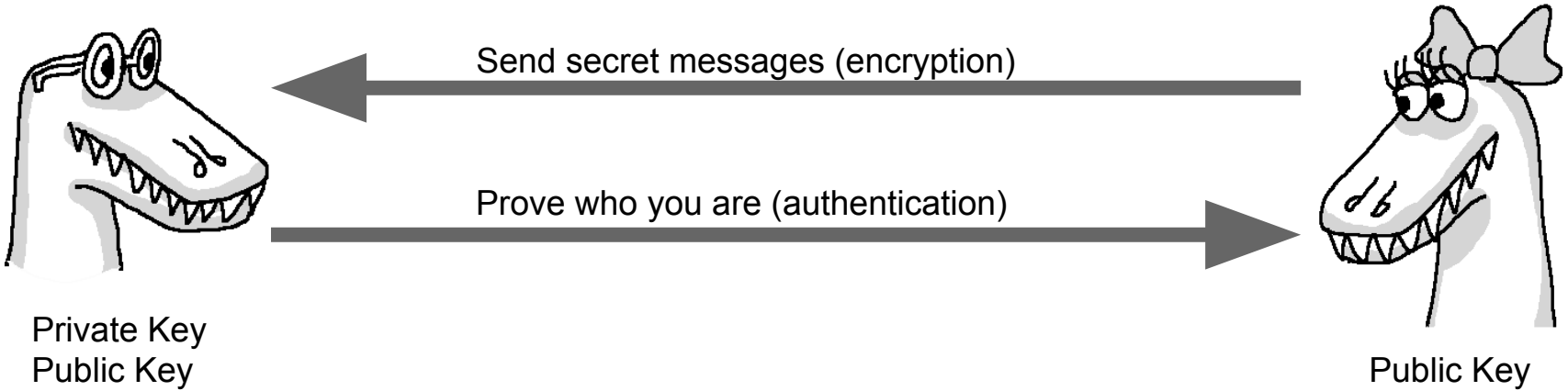
- It’s easy to figure out if it has factors
- It’s hard to figure out what the factors *are*

# Asymmetric Cipher

Private Key: 4093082899 2860486313

Public Key:  11708207610563861387

# Asymmetric Cipher



# Hashing: Proof of Work

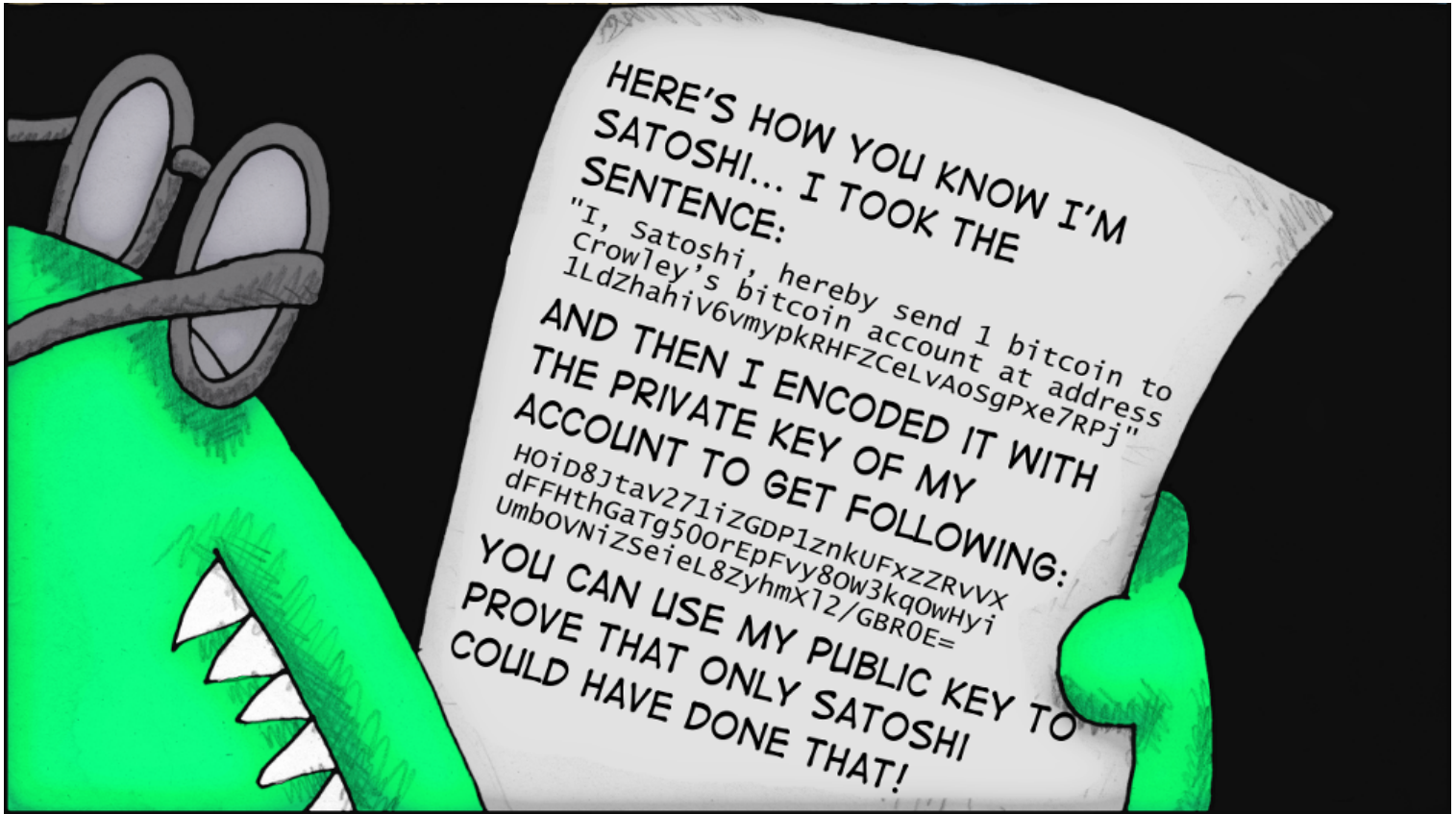

Hash("___secretmessage")=100

???=

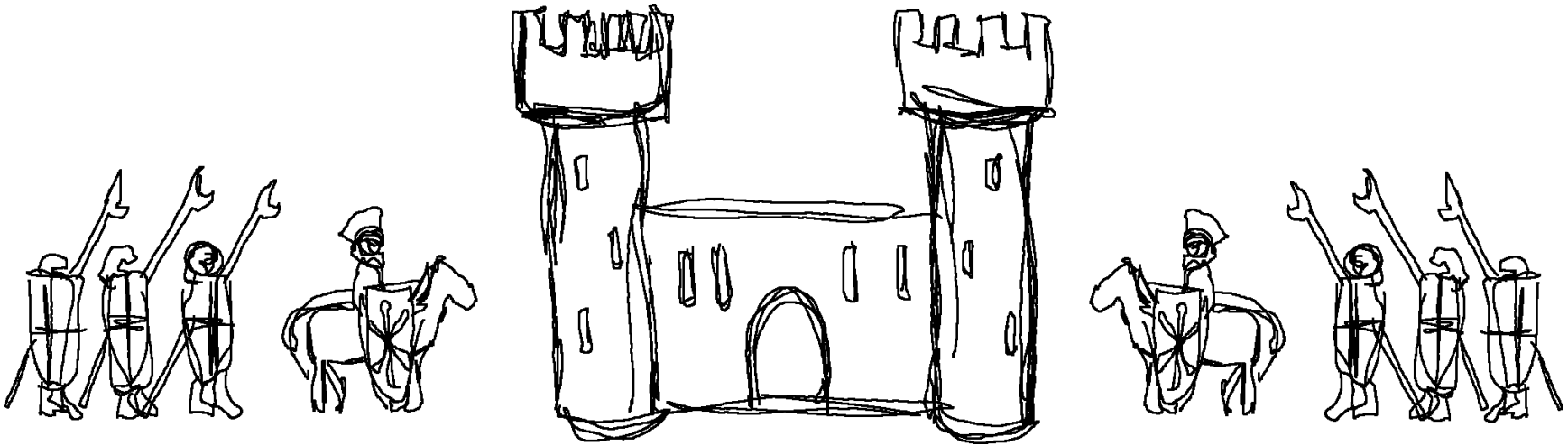
# Two Problems Every Digital Currency has to Solve

1. Identity Theft
2. Double Spending

# Identity Theft



# Double Spending



# How do you get Bitcoins?

# Let’s try some wallet apps!

# Economics

How can bitcoins have a value?

# Economics

What stops another person from taking the code for bitoin and making their own copycat currency?

# Economics

New currencies require:

- Unique branding
- Technical differentiation

# Economics

Brands of Toothpaste

- Aim
- Aquafresh
- Arm & Hammer
- Colgate
- Crest
- Sensodyne

# Economics

Limitations of Bitcoin

- Volatility
- Anonymity
- Automatic Execution of Contracts
- Transaction Cost

# Economics

What's with the deflation?

- Positive vs. Normative

# Economics

What's with the deflation?

- Positive vs. Normative
- Strict definition of deflation

# Economics

What's with the deflation?

- Positive vs. Normative
- Strict definition of deflation
- Popular definition of deflation

# Economics

What's with the deflation?

- Positive vs. Normative
- Strict definition of deflation
- Popular definition of deflation
- Wealth vs Spending

# Programming Example

```
public class App
{
    public static void main( String[] args ) throws BlockStoreException
    {
        NetworkParameters params = NetworkParameters.prodNet();
        Wallet wallet = new Wallet(params);
        ECKey key = new ECKey();
        wallet.addKey(key);
        System.out.println("Public address: "+key.toAddress(params).toString());
        System.out.println("Private address: "+key.getPrivateKeyEncoded(params).toString());
        File file = new File("my-blockchain");
        BlockChain chain=null;
        chain = new BlockChain(params, wallet, new SPVBlockStore(params, file));
        PeerGroup peerGroup = new PeerGroup(params,chain);
        peerGroup.addPeerDiscovery(new DnsDiscovery(params));
        peerGroup.addWallet(wallet);
        wallet.addEventListener(new AbstractWalletEventListener()
```

```
        peerGroup.addPeerDiscovery(new DnsDiscovery(params));
        peerGroup.addWallet(wallet);
        wallet.addEventListener(new AbstractWalletEventListener()
            {
                public void onCoinsReceived(Wallet wallet,Transaction tx,java.math.BigInteger
prevBalance,java.math.BigInteger newBalance)
                {
                    System.out.println( "Hello Money! Balance: "+newBalance);
                }
            });
        peerGroup.start();
        peerGroup.downloadBlockChain();
        while(true){}
    }
}
```