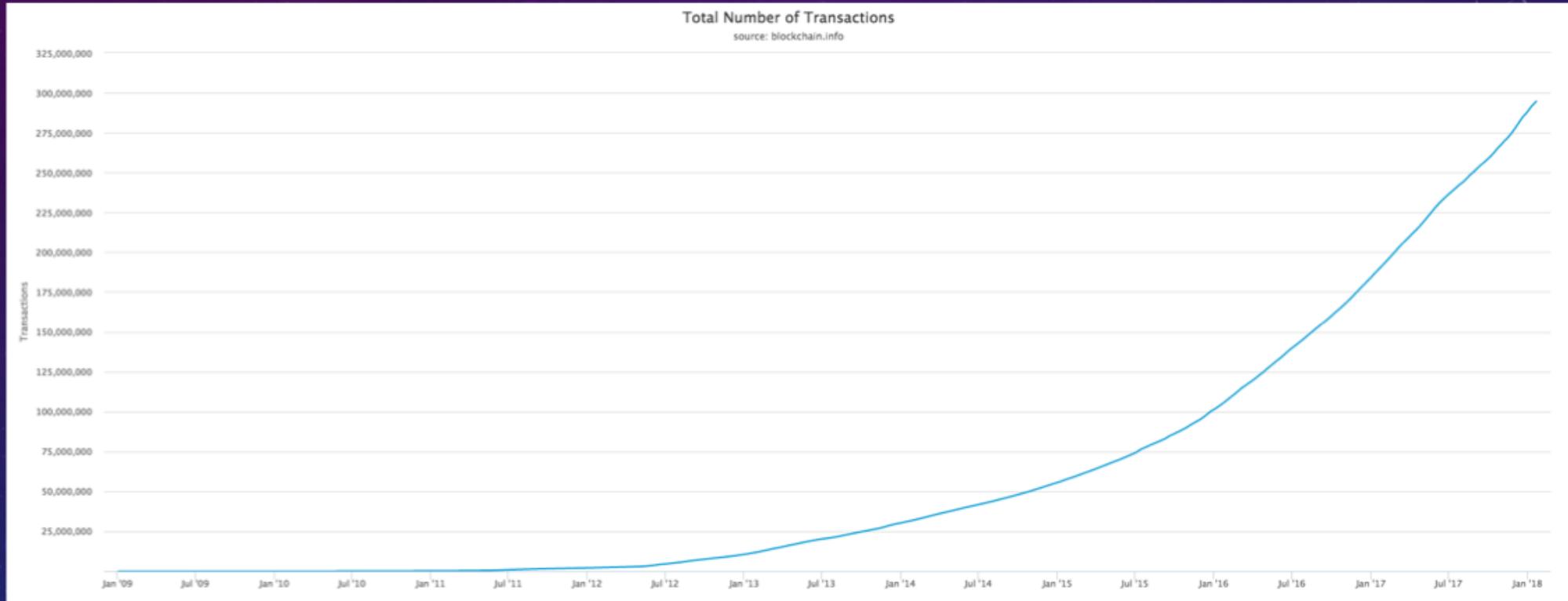


The background features a complex, abstract design composed of several concentric circles and arcs. These are primarily white or light gray against a dark blue background. Some arcs have small black arrows pointing along their curves. Numerical values such as 140, 150, 160, 170, 180, 190, 200, 210, 220, 230, 240, 250, and 260 are displayed at various points around the circles, suggesting a coordinate system or a specific type of data visualization.

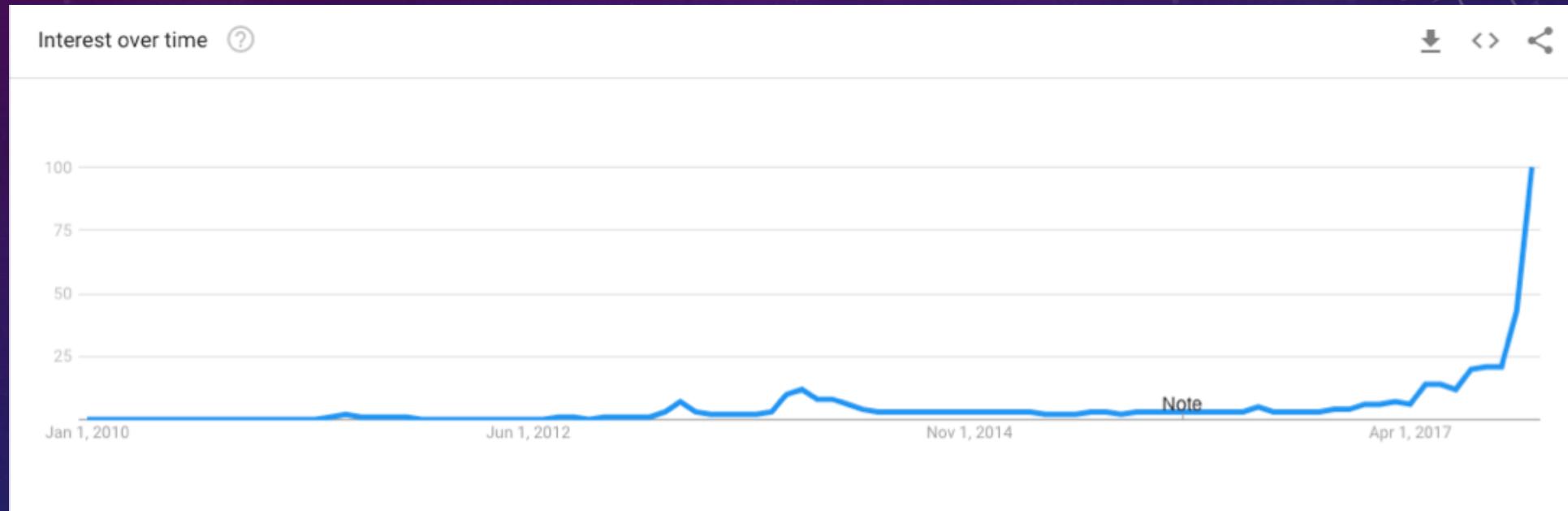
ATLAS

SENIOR PROJECT – PHILIP GLAZMAN

OF TRANSACTIONS IN BITCOIN ('09-'18)



GOOGLE TREND: “BITCOIN”



PROBLEM

- 82% of transactions are P2PKH
 - Essentially one-way transactions without much complexity. (Alice paying Whole Foods for groceries.)
- The remaining % are payment scripts with limited functionality.
 - Mostly Multi-sig transactions. (Alice and Bob sharing funds to an account)
- Smart contracts can be written on chain, but no mainstream wallet offers an easy way for its users to write smart contracts and more complex transactions.
 - We are entering a period in bitcoin where there is going to a Cambrian explosion of smart contracts because transactions are going to get cheaper.
- For the user to gain the most out of bitcoin, they not only need control of their money – but also the ability to spend it creatively.
 - Money is free speech. It's about creative expression.

EXISTING WALLETS



ArcBit



Armory



Bitcoin
Core



Bitcoin
Knots



Bither



Electrum



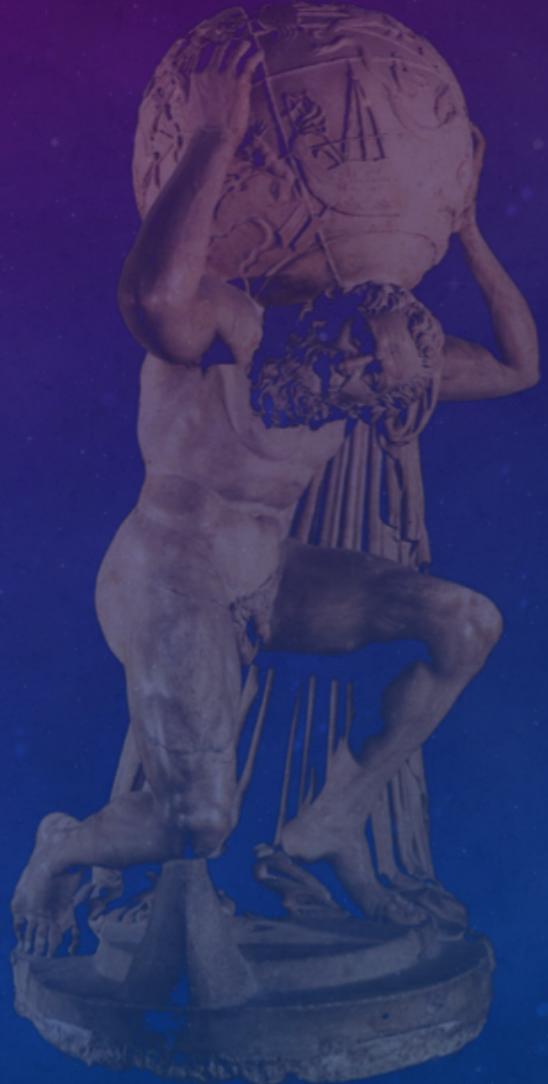
Green
Address



mSIGNA

INTRODUCING ATLAS

- Atlas is my attempt to make bitcoin transactions more fun by giving more control to the end-user.
- It's a bitcoin wallet, with improved user experience.



CORE FEATURES

- Custom way for user to experiment with writing their own bitcoin scripts and smart contracts.
 - Debugger and editor for bitcoin scripts.
- Analytics dashboard for fee estimation and payments.
- Standard wallet features using latest security standards.
 - Import existing wallet or configure new one.
 - Create new addresses.
 - See existing bitcoin balance.

HOW IT WORKS

- Launch Atlas
- Configure your passphrase or import an existing wallet.
 - If you've used bitcoin before, it's the 12-24 word mnemonic phrases.
- Begin peer discovery using networking.
 - Atlas will communicate with other libbitcoin servers. Libbitcoin is a decentralized set of full nodes.
- Scan the bitcoin blockchain for relevant transactions.
 - Bloom filter will be implemented for privacy.
- Wallet has three tabs:
 - Pay and Receive (standard feature)
 - Analytics Dashboard
 - Smart Contract Dashboard

ANALYTICS DASHBOARD

- Fee estimation
 - Save x% by sending the transaction in y minutes.
 - Get high, median, and low fee on the market.
- See where you spent your bitcoin
 - Spent x% of bitcoin on y goods/services

BITCOIN SMART CONTRACTS

- Smart contract is a piece of code executed on the blockchain.
- Bitcoin script is a stack-based language.
 - Atlas will allow the user to use the bitcoin script to configure custom complex transactions.
- Examples:
 - Split the check at a restaurant by pooling transactions.
 - Pay Alice after 30 minutes have passed.
 - Pay Alice after she paid Bob.
 - Deposit money into a contract as a form of trust. (Escrow)
 - Make a payment channel between you and your friend at a bar.

BEHIND THE CURTAINS

- C++ backend
 - Libbitcoin bitcoin development library
 - Boost library
- Qt C++ GUI
- SQL
- Bitcoin Script (OP Code / Stack-based language)
- Most likely will feature embedded python scripts for analytics dashboard.

WISH LIST FEATURES

- Lightening Network (LN) implementation.
 - LN is a p2p network built on top of bitcoin that does fast micropayments.
- Make it cross-platform