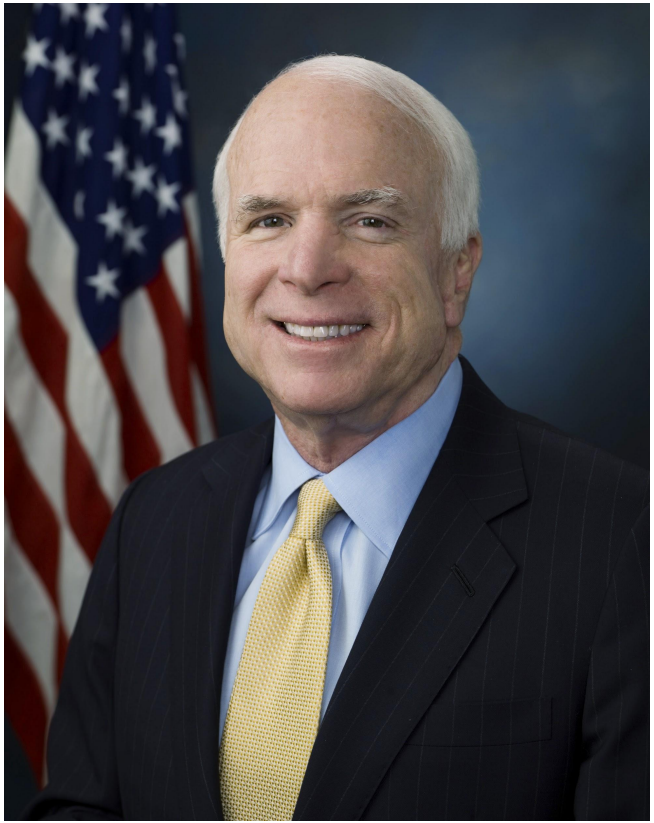
PharmaCoin

The Linkedin for Clinical Trials

8,200,000

1,700,000

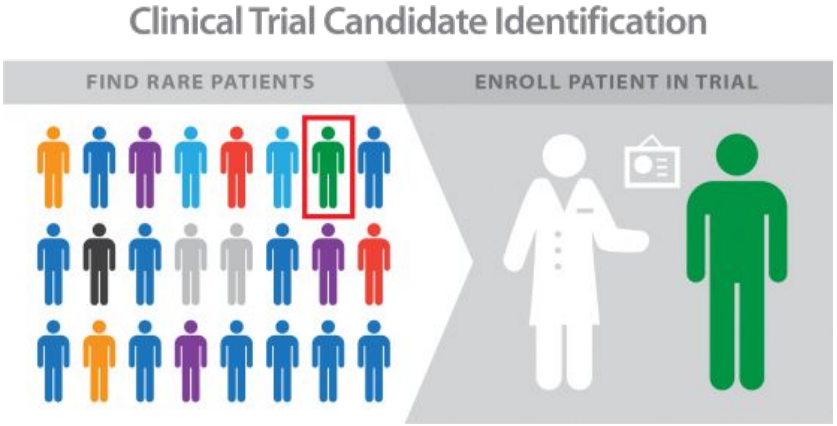
3%

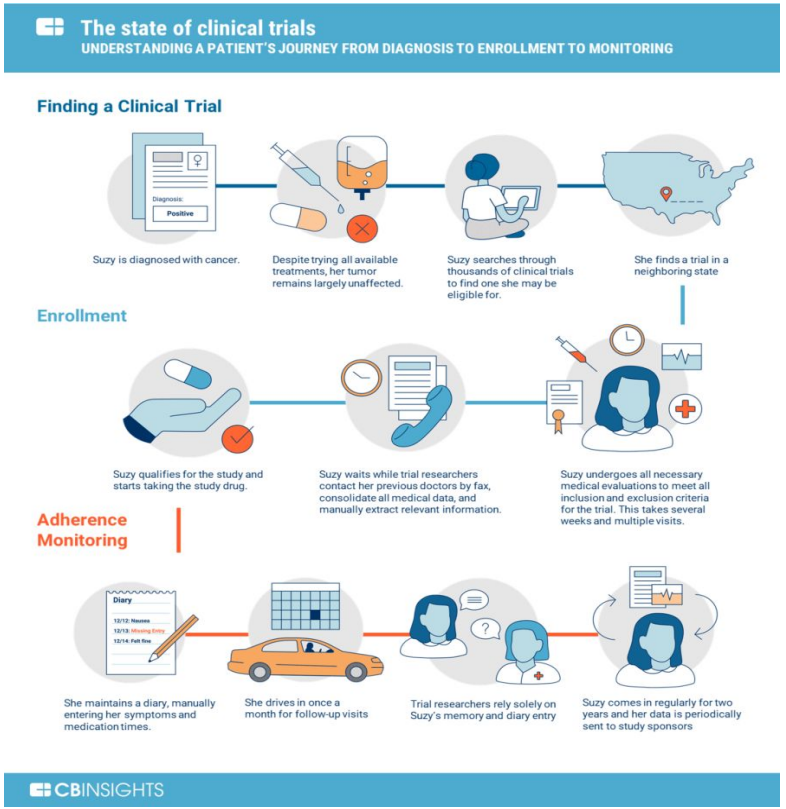


“The leading cause of missed clinical trial deadlines is patient recruitment, taking up to 30 percent of the clinical timeline”

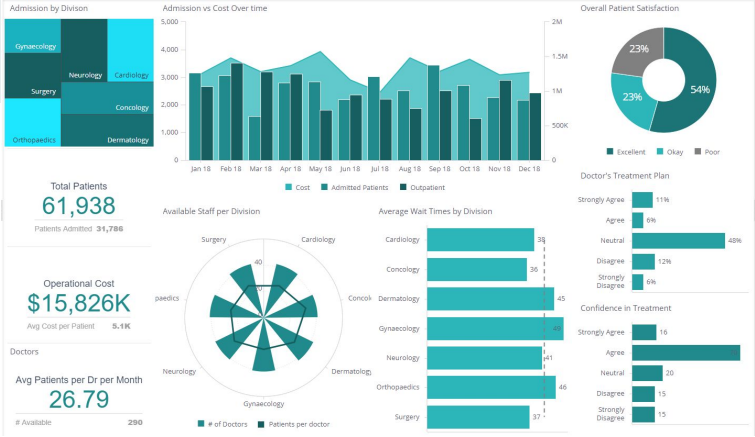
Problem with Clinical Trials Today

- **Inefficient:** Take up 30% of the clinical timeline
- **Expensive:** $288/patient -> (1-15% of total budget)
- **Outreach:** 50% trials under enroll or have zero



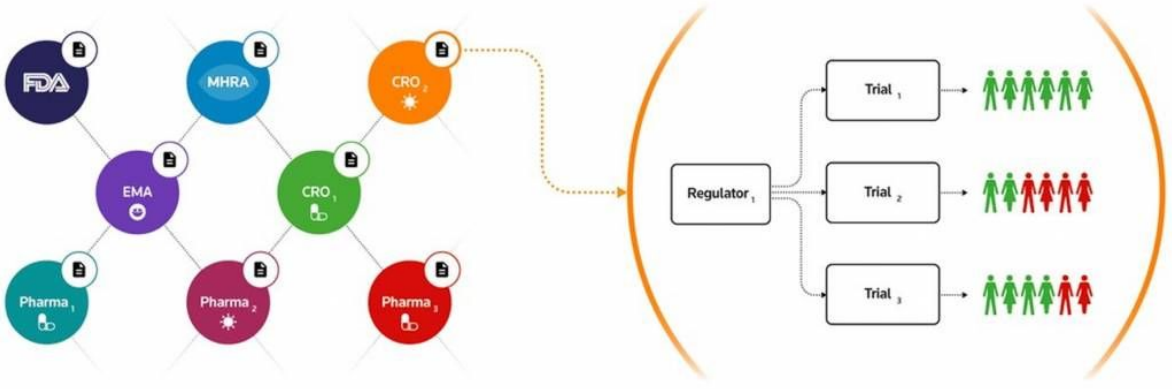


Our Solution:



Decentralized Application:

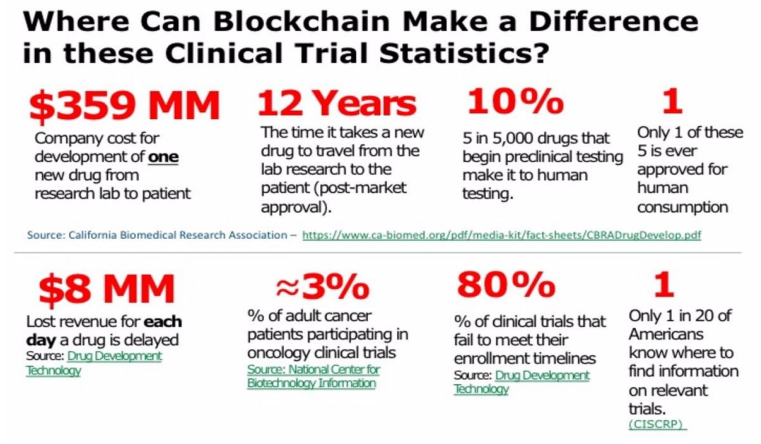
- Anonymously matches patients to “best-fit trials”
- Provide tokens to trial participants
- **Enterprise:** Pharmaceuticals subscribe to our platform to access our services
- **Consumer:** Creates and maintains profile on our platform
    - Consumer creates profile -> Applies for trials -> AI/ML match -> Connect patients with trials



Value Proposition:

- **PharmaCoin-** “LinkedIn For Clinical Trials”
- **Mission Statement-** “Bringing patients closer to a cure, one vet at a time”
- **Motto/Tagline-** “Get vetted, Get Cured

Pharmacoin seeks to disrupt the clinical trial space by using AI/ML to optimize the vetting process for patients in order to ultimately expedite the development of cures and save pharmaceuticals millions



Customer Archetype / User Persona:

- **Persona**
  - Male/Female
  - Ages 18-65
  - Students/Employed/Unemployed/Deployed
  - Would like to contribute to expediting the drug-development process
  - Seeking paid or unpaid opportunities

The Uninformed

Matt Jones

age: 22
residence: Berkeley, CA
education: Bachelors Degree (BS)
occupation: Student
marital status: Single

"I don't know much about clinical trials, but money is money"

The Unaware- Matt is an undergraduate college student who is knees deep in college debt and will seize any opportunity to make money. He isn't well-informed on the monumental potential of clinical trials and is a prime opportunity for pharmaceuticals to capitalize on and educate about trials

The Dreamer

Adeline Kane

age: 28
residence: San Francisco, CA
education: Bachelors Degree (BA)
occupation: Spokesperson
marital status: Single

"I want to help researchers, so no family experiences what mine did "

The Dreamer- Adeline deeply cares about the expedition of trials because of her personal connection to this. One of her relatives passed away due to the lack of a quality treatment and cure so she is determined to help spearhead awareness and participation in trials

The Patient

Henry Carter

age: 60
residence: Charlotte, NC
education: Masters Degree (MS)
occupation: Retired
marital status: Married | 2 Children | 3 Grandchildren

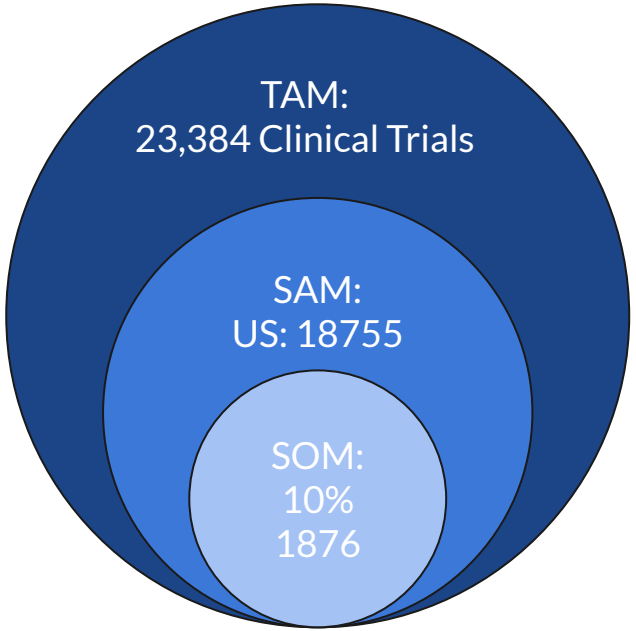
"Anything to get cured quickly and live out the rest of my life with family"

The Patient- Henry is recently retired and diagnosed with a specific medical condition that has not yet lended itself to a viable cure. He is keen on seeking out and participating in these trials to expedite the process in finding a cure so he can live out the rest of his life in peace with his family

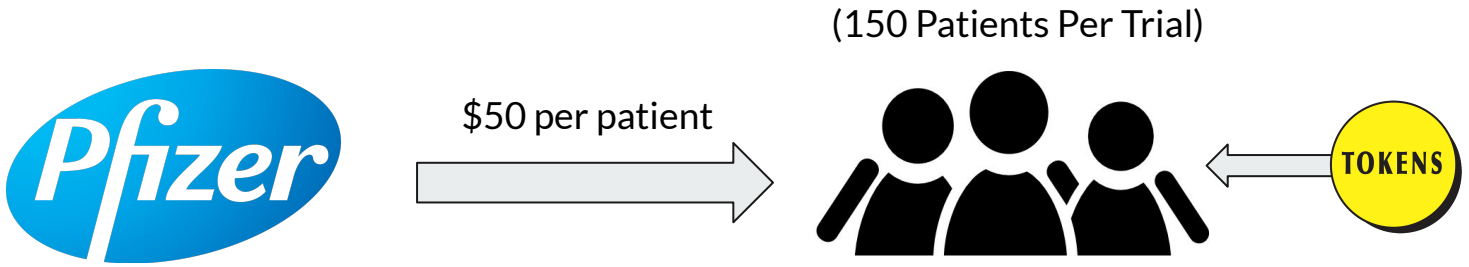
Competitive Analysis and Market Opportunity

	PharmaCoin	MENDEL	DEEP 6 AI
Core Technology:	Blockchain + AI Algorithms	AI - Algorithms	AI - Algorithms, NLP and Parsing
Revenue Model:	Charge Pharma company $50 per patient	Charges Patient subscription ($99 first 3 months)	Partnership with Healthcare Institutions
Patient Benefits:	Offer tokens for completed trial	None	None
Privacy	Patient choice for matching (Linkedin)	Medical EHRs, Clinical Database	Medical EHRs, Clinical Database

Despite variation, average clinical trial size is 150 patients
Patient Recruitment: $19B Industry



Business Model

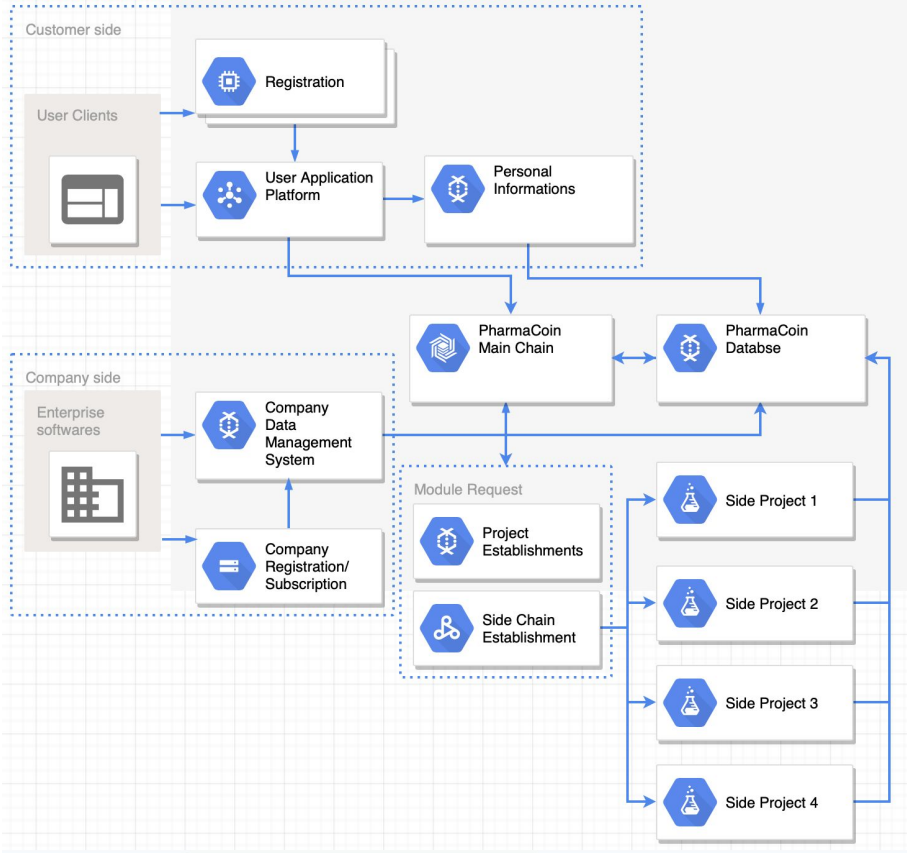


Revenue Model: Pharmaceutical Companies Pay $50 per patient, who receive monetary token for inputting data

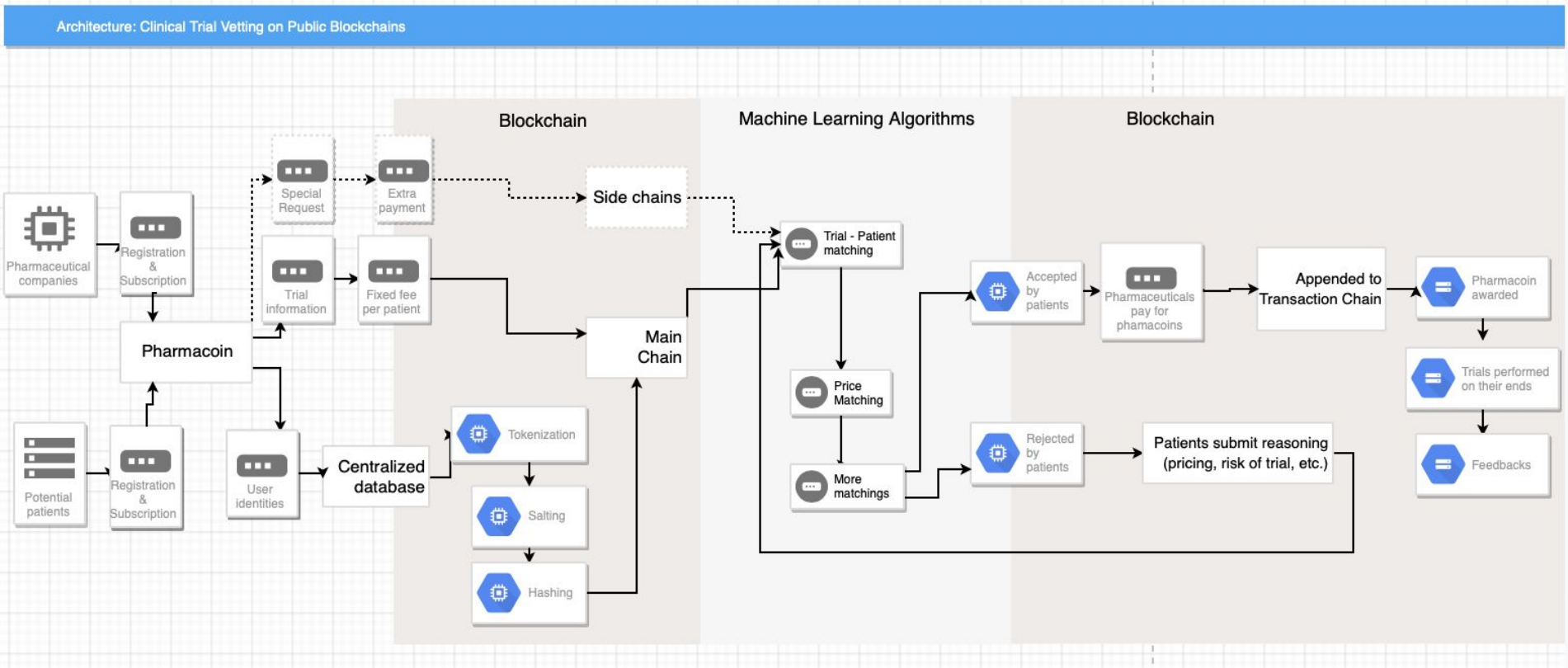
Cost Structure:

- **Fixed:** Website, Engineering, Infrastructure, IP, Outreach = **$915000**
- **COGS:** Engineering, Marketing, Tokens, Salaries = **$197000**

Demonstration



System Architecture



Blockchain Use and Technology

Blockchain:

- Main chain
- Side chains
- Transaction chain
- Tokens (Pharmacoins)

More technology:

- Machine learning / AI
- Centralized database

Benefits:

- Transparency
- Privacy

Go To Market Strategy and Timeline:

2 Mo: Users: Develop UX and build loyalty, advocacy. Build credit, including security and useability

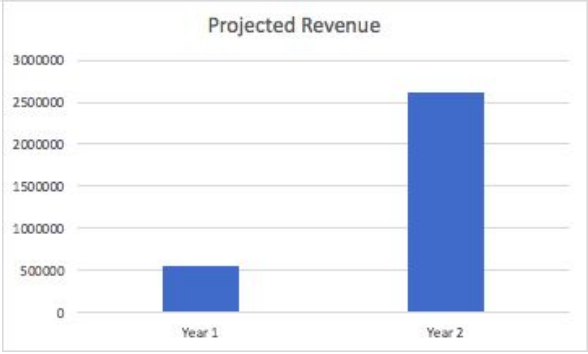
4 Mo: Companies: System for demonstration and competitive pricing, define vision

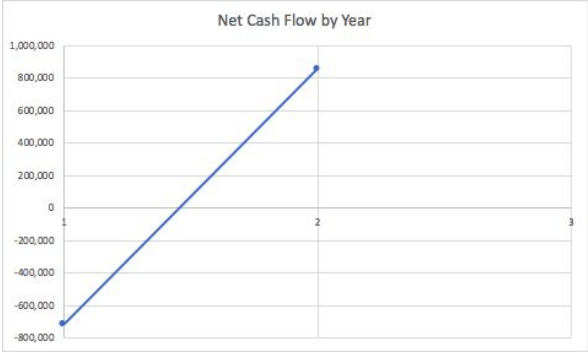
Fall 2019: Deploy testnet for blockchain, and finalize details

Winter 2020: Review design, receive feedback and official launch of PharmaCoin

Financial Projections: (Y1- Y2) **

A	B	C	D	E	F
	Year 1	**Year 2**			
Price:	50	50			
Number of Users	11250	52500		Revenue = Price * Number Sold	
Revenue	562500	2625000		Gross Profit = Revenue - Expenses	
				Expenses = Fixed + COGS	
Cost Analysis:				Equity:	
Engineers	75000	75000		Debt:	
IP Protection	5000	5000			
Marketing	10000	10000		Number of Users = % x Service Addresable Market	
Consumer Incentives	56250	262500		Year 1:	0.50%
Salaries	100,000	100,000		Year 2:	2.50%
Cost of Goods Sold:	246250	452500		Consumer Incentives = Number of Users x $5	
Fixed Costs:	915000	0			
Total Costs:	1161250	452500			**Fixed Costs:**
				Website	50000
EBITDA	($598,750)	2172500		Transaction Infrastructure	3800
Interest:	5%	5%		Tokenization/Smart Cont	1200
Tax:	21%	21%		IP/Algorithms:	10000
Convertible Note:	500000	1000000		Engineering	750000
Tax + Interest:	143125	601250		Outreach	100000
Gross Earnings:	($741,875)	1571250			915000
Net Cash Flow:	-714,875	856,375			





Our Team:

Mentor:

Virendra Parikh- Founded MobileChamps in 2009. Provides blockchain advisory services from business model innovation, strategy development, ecosystem development, use case development, implementation strategy..etc

Shivam Dave **(CIO)**: CS ‘20

Studying Computer Science. Passionate about technology and entrepreneurship. Primarily focused on ML, Data Science, and Computer Graphics. Leading the customer and mentor interactions.

Serena Wu **(COO)**: CS ‘ 20

Double major in Computer Science and Data Science with concentration in Business & Industrial Analytics. Passionate about integrating technology with business. Leading innovation and creativity on team.

Rishi Modi **(CEO)**: Econ ‘22

Studying business and enjoy the intersection of tech and the consumer world. Leading the Business Strategy and Development on team.

Collin Cao **(CTO)**: CS ‘20

Focused on AI/ML stuff, also interested in Blockchain technologies. Looking forward to integrate and develop our ideas into a good project. Leading tech development.

Thank You!

We are seeking a $500k Convertible Note with $2 Million Cap

Appendix

The Business Model Canvas

Key Partners

Ethereum
Blockchain
Community
IOS + Android
Developers +
BlockStack (dAPPs)
Advisors
Healthcare
Institutions / NIH

Key Activities

Data Compilation
R&D
Software
Development
AI - Integration
Operations/Testing

Key Resources

Ethereum Platform
BlockStack Platform
Collective Intelligence
Crowdfunding
Campaigns
Language for Smart
Contracts

Value Propositions

Linkedin for clinical trials: Essentially, enable pharmaceutical companies to efficiently vet high quality and quantity of patients, where we improve participation in trials, and improve processing alongside recruitment

Customer Relationship

Democratize
healthcare industry,
Transparency
Community
Control of Data

Channels

Website,
Social Network
API
Medical Database
Healthcare Record

Customer Segments

IT Community
Developers
Cryptocurrency
community
Enterprise software
companies
Permissioned Ledgers
Working with end
patients and
connecting via
healthcare startups

Cost Structure

Research and Development, Time, Software Development and Maintenance, Cost of customer acquisition, as well as developing partnerships with institutions, marketing/brand awareness, Compensating patients for data

Revenue Streams

Medical Institutions, Clinics, Pharmaceutical companies pay for access and automation of user data -> streamlined
-> Pay $50 per patient (Avg was $288/patient)
-> Return fixed amount to consumer for inputting data

Code Snippet **

Here is a very simple code snippet for a simple block in our blockchain. In the demonstrated code, each block contain the data, which could be the transactions, user registration, and non-confidential or encrypted data.

The proof of work is the sha256 hash for the block which always start with four zeros (This is quite simple and we will make it much harder for next version). To find a hash starting with four zeros, the machine have to try append many random 32 bits to the end of the string to satisfy it. And storing this information to the block. Anyone can validate the block by recomputing the hash using the information of the block. The longest chain would be the valid chain.

```
class Block:
    def __init__(self, index, timestamp, data, prev_hash):
        self.index = index
        self.timestamp = timestamp
        self.data = data
        self.prev_hash = prev_hash
        self.hash = self.hash_block()
        print("Block #%s generated!" % index)
        print("Date: %s" % timestamp)
        print("Block Data: %s" % data)
        print("Block Salt: %s" % self.salt)
        print("Block Hash: %s\n" % self.hash)

    def hash_block(self):
        temp = ""
        while temp[:4] != "0000":
            salt = random.getrandbits(32)
            text = "".join(map(str, [self.index, self.timestamp, self.data, self.prev_hash, salt]))
            text = text.encode("utf-8")
            sha = hashlib.sha256()
            sha.update(text)
            temp = sha.hexdigest()
        self.salt = salt
        return temp

def next_block(prev_block, data):
    index = prev_block.index + 1
    timestamp = datetime.datetime.now()
    prev_hash = prev_block.hash
    return Block(index, timestamp, data, prev_hash)

first = Block(0, datetime.datetime.now(), "Block #0", "0")
block = first
for i in range(10):
    block = next_block(block, "Block #%s" % i)
```