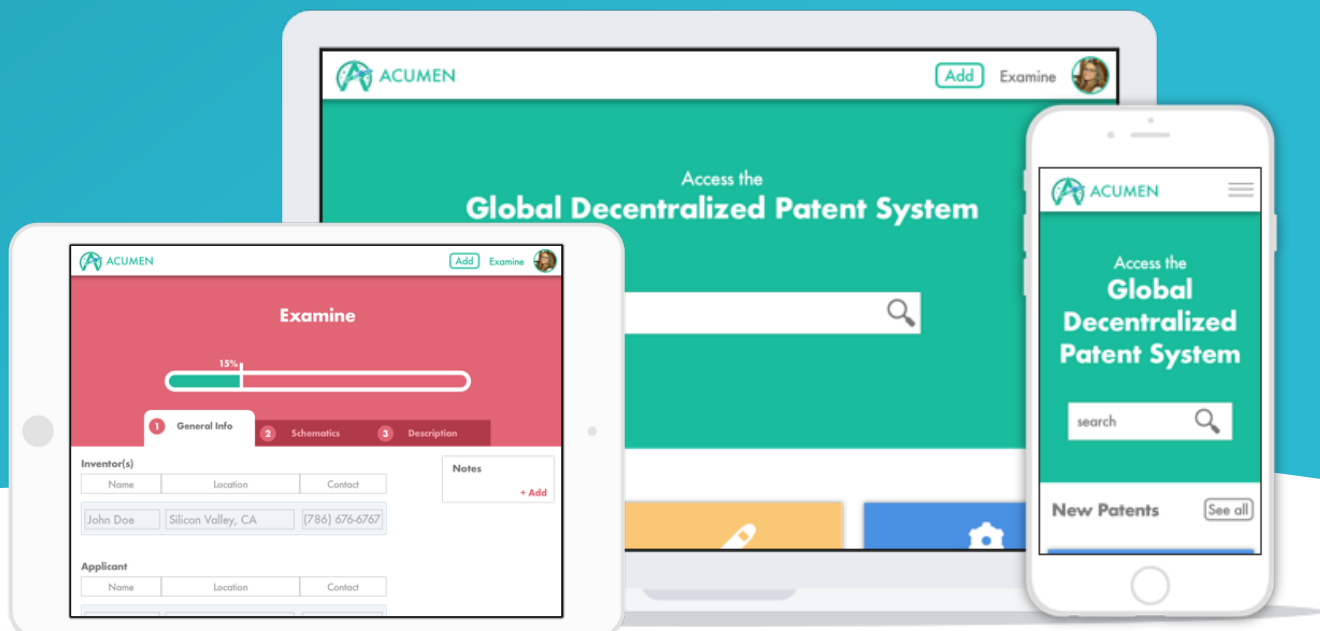




WHITEPAPER



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Abstract

The Acumen Network is the world's first global decentralized patent ecosystem. Our technology simplifies the process of submitting patents and allows for the voice of the community to be heard through a consensus system. Patents will be stored on the blockchain, making them immutable and secure. Licensing patents will be done through smart contracts, ensuring that all parties meet the agreed upon terms.

Furthermore, we will create an ecosystem of freelance patent attorneys and engineers to serve as the approval board with a community vote to ensure there is no corruption.

AMT will be token used to interact with the ecosystem. AMT holders will also receive 20% of the Acumen Network's revenue, to be paid out yearly. This rewards are original supporters for helping us setup the world's global patent system.

Our plan for spreading the Acumen Network is as follows:

- build a strong community on our test net
- license the technology to countries
- reform judicial systems to allow for community consensus in patent trials

Background

Abuse of the System

However times have changed. Nowadays, aspiring inventors need not only creativity but approximately \$20,000 in order to protect their brainchild. Additionally if an incumbent company is threatened by a scrappy new startup, they can sue them for patent infringement. Often the legal costs are too expensive for small businesses and they must either agree to the incumbent's demands or go out of business.

It is estimated that between forty to ninety percent of patents are never utilized or licensed out. In order to fight these "patent trolls," the patent system must be in the hands of the people. Patents should have an expiry date that is reasonable. For example, while it makes sense for pharmaceutical companies to own patents for 20 years as it takes long time for research and development, tech companies do not need protection for that long.

"It is estimated that between forty to ninety percent of patents are never utilized or licensed out."

Patents should serve as a way of protecting inventors from being taken advantage of until their product hits the market. After that the patent should expire so that the competition of the market is allowed to flourish.

Transparency

Currently the patent system is so complex that the actual workings of the bureaucracy are obfuscated from the view of the public. A component that is a

essential to innovation as intellectual property should not rest in the hands of a select few. Instead knowledgeable members of the community should be allowed to voice their opinion. Currently patents protect ideas that are far too broad. Many are angry about patents such as Apple's broad patent of rectangular tablets with rounded edges or Twitter's patent of the pull-to-refresh mechanism in iOS which they promise to only use "defensively." Patents should only be issued to ideas that are both practical and specific in order to fully encourage innovation.

Background

Inefficiency

The USPTO is currently backlogged by hundreds of thousands of patent applications with only a few thousand examiners reviewing them. Therefore according to the USPTO, it takes roughly two years for the Office Action on an utility patent to be completed. After that, the inventor must then respond to the action which takes about another year. Even though the status of patent-pending carries legal weight, it is still frustrating for entrepreneurs to have to wait so long. Fortunately there are many IP lawyers, engineers, and entrepreneurs who would gladly donate their time to reviewing patent applications in exchange for compensation. Currently there are roughly 40,000 patent attorneys in the US alone, several times the amount of patent examiners. Compound

that with the number of engineers and entrepreneurs looking for freelance work, and there are so many possible examiners in the private sector that the efficiency and transparency of the process would be greatly increased. The time could then be cut down as now patent applicants would be charged a fair market price set by the community of IP lawyers, engineers, and entrepreneurs and would be completed much faster than having the application sit idly in the clogged system of bureaucracy.

The screenshot shows a web application titled 'ACUMEN' with a 'Examine' button and a user profile icon. The main heading is 'Examine'. Below it is a progress bar at 15%. There are three tabs: '1 General Info', '2 Schematics', and '3 Description'. The 'General Info' tab is active and contains two sections: 'Inventor(s)' and 'Applicant'. Each section has a table with columns for Name, Location, and Contact. The 'Inventor(s)' table has one row with 'John Doe', 'Silicon Valley, CA', and '(786) 676-6767'. The 'Applicant' table is empty. There is also a 'Notes' section with a '+ Add' button.

Inventor(s)		
Name	Location	Contact
John Doe	Silicon Valley, CA	(786) 676-6767

Applicant		
Name	Location	Contact

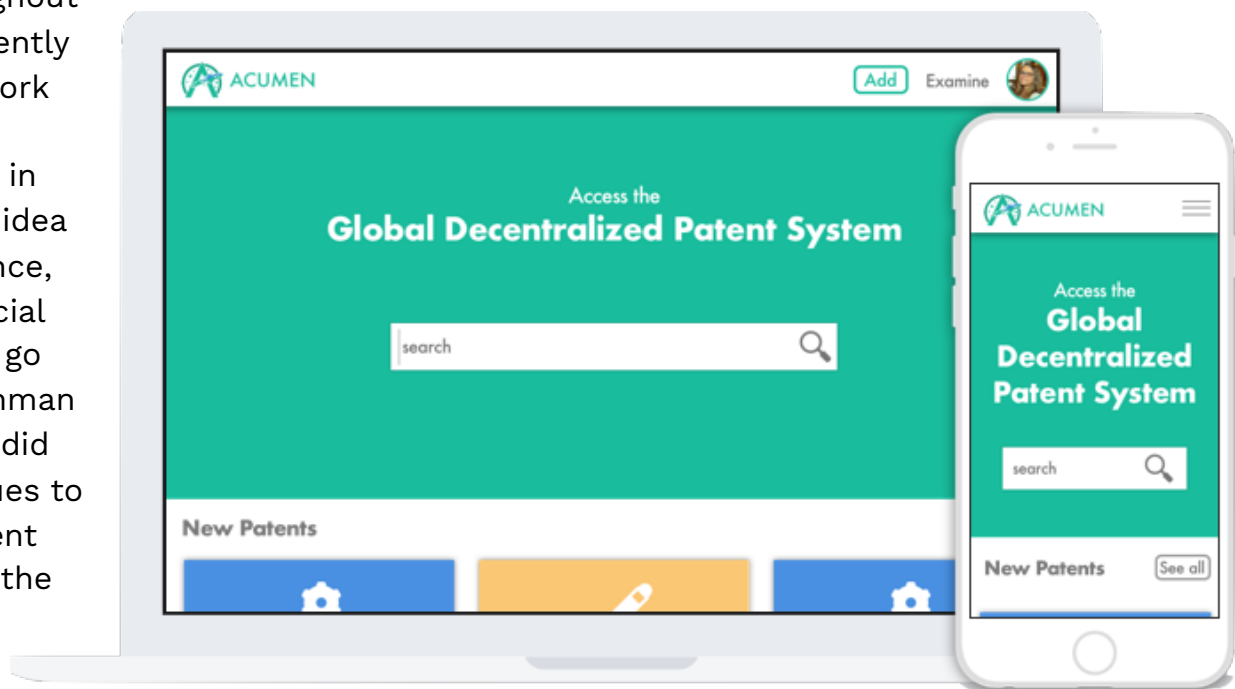
Background

Global Standard

This whole ecosystem of applicants and freelance workers would be decentralized so that no one entity has control over the patent process. The world's economy is now global and products are sold in multiple countries. Currently there is no "world repository of patents" that is globally recognized. Therefore inventors must register separately in each country he/she wishes to be protected in.

In this ideal world, one would only have to file an application once and then be enforced throughout the world. Currently this does not work as if someone patents an idea in the US and the idea is stolen in France, the French judicial system will not go after the Frenchman as the inventor did not pay their dues to the French patent office and thus the French judicial

system will ignore the claim. There are pushes however to creating an unified patent system. The European Patent Office allows applicants to file their patent in all of the participating countries as long as they pay the application fees separately saving them hassle of having to apply multiple times. The issue with this however is if somehow each of the world's countries agreed on this common Patent Court, the applicant would have to pay the application fees for all 195 countries in order to sustain the costs of their departments.



Background

While the US may be glad to reduce government spending and bureaucracy and move this responsibility into the hands of the people, not all countries think like this. Therefore there would be a coalition of countries who support this idea of “decentralizing” the patent system and would enforce these patents in any of the participating countries.

Blockchain

Ethereum

Much like Bitcoin, Ethereum is a quickly growing distributed public blockchain network, however, Ethereum focuses on running the code of any decentralized application. This feature will fundamentally change the internet and the services that we depend on will need to adapt.

The blockchain is fueled by Ether, a cryptocurrency that is rewarded to miners for confirming transactions. Furthermore, Ether is used by numerous application developers on the blockchain to pay for services. Recently Ether received a substantial amount of media attention leading to a surge in its adaptation. This support and prominence makes it the perfect blockchain to launch Acumen on.

Unfortunately, Ethereum recently ran into several scaling issues that the community is working to fix. Several Initial Coin Offerings have DDoSed the network, however we believe that once the Proof of Stake system is implemented, these problems will disappear and Ethereum will be the

perfect blockchain to host Acumen. The Proof of Stake system will end the inefficient and wasteful use of computing power to solve complex problems, instead relying on the number of coins a user owns.

Ethereum has the backing and the prominence to revolutionize the internet and the early adopters will be the first ones ready. For this reason we believe Ethereum is the right choice for Acumen.



Blockchain

Smart Contracts

The Ethereum blockchain is the most prominent platform with smart contract support. These contracts are essentially computer code that facilitates the exchange of

sharing of patents on the network. Without this level of security and trust, intellectual property can not be shared confidently.

The contracts are all on the public ledger, written in code, allowing both

of a patent while still maintaining the privacy of the users.

```
/* Send Acumen Token */  
function sendAcumenToken(address _to, uint256 _value) {  
    if (balanceOf[msg.sender] < _value) throw;  
    if (balanceOf[_to] + _value < balanceOf[_to]) throw;  
    balanceOf[msg.sender] -= _value;  
    balanceOf[_to] += _value;  
}
```

money, goods, services, shares, content, or anything of value. These contracts are run on the decentralized blockchain, so they are not subject to fraud, downtime, and third party interference. This feature is a fundamental part of Acumen as it allows for the secure licensing and

anonymous users to validate the deal. Once a triggering event is hit, the contract executes itself, no third party interference required, and in our case, the contract would share the patent. As the contracts are all on the public ledger, this allows regulators or the court system to view the history

Blockchain

DApps

A decentralized application is one that runs on the Ethereum peer-to-peer public blockchain network. Unlike traditional applications, which are on centralized servers and are subject to third party influence and significant security concerns.

The DApp is the bridge between the apps front end, such as the client website, and the back end, the contracts running on the Ethereum decentralized blockchain. These backends are run on the Ethereum Virtual Machine (EVM), essentially a distributed global computer for all the smart contracts.

These DApps will be the basis of 'Web 3,' Ethereum's decentralized web, and we believe that as early adopters we will be perfectly poised to revolutionize the patent industry.

“Dapps are just now gaining media coverage but will, I believe, someday become more widely used than the world's most popular web apps. They are more flexible, transparent, distributed, resilient, and have a better incentivized structure than current software models.”

-Siraj Raval, Decentralized Applications: Harnessing Bitcoin's Blockchain Technology

Product Overview

ACUMEN NETWORK FEATURES



Global. Finally there will be a global patent database to protect everyone's ideas.



Power to the People. The community will have a say in the patent approval process.



Turnaround. The freelance examiner network will result in much faster approval times for patents.



More Jobs. Lawyers and engineers can work to examine or consult patent applications.



Mobile friendly. Monitor, search, or examine patents anywhere at anytime due to our mobile friendly design.



Secure and Trustworthy. The blockchain due to its splicing and decentralized nature is the safest way to store patents.

Product Overview

Acumen's Migration Period

There are currently 2.1 million active patents on the USPTO. We believe that the best way for the Acumen network to be adopted on a global scale is by making it as easy as possible for patent owners to switch systems. By migrating all of the previously issued patents, we would create a seamless transition patent holders.

This migration period will include the patent databases of all the countries on the globe. We will task the Acumen decentralized network with this task, rewarding all who contribute to the migration process with a small amount of Acumen. The easy to use app will be accessible from our

website, allowing everyone who is interested to participate.

No user interaction will be required, just start the process and allow it to run. The app will allow you to select your desired country's patent database and then will migrate that data to the Acumen network.

While the migration process may seem very daunting, we believe that with the power of the Acumen network and dedicated users we will be able to migrate the databases quickly.

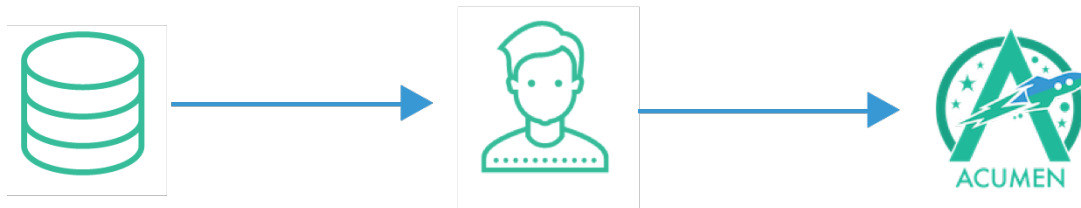
The reward for the migrators will come from our licensing deals. A certain portion of the Acumen tokens will be reserved for this process.

Acumen's Planned Patent Ecosystem

We realized that there is a large amount of untapped potential in the current patent ecosystem. There are thousands of IP lawyers and engineers in the USA alone that are willing to examine patent submissions, however there is currently no system for them to do so. Our ecosystem will incorporate this highly qualified individuals in the patent approval process by allowing them spend some of their free time reviewing submissions in exchange for a substantial amount of compensation in Acumen.

Product Overview

Migration Process



Migrators will use Acumen's Migration tool to download data from the USPTO and transfer the data into the Acumen Network. The Acumen Migration tool uses the USPTO PatentsView API to cycle through all the patents in the USPTO(roughly 9.5 million) and parse the data into the Acumen Network's format.

To incentivize users to assist with the migration process, the Acumen Network will provide a bounty in exchange for each patent that is migrated over. Our hope is that the bounty will make the migration process as efficient as possible while spreading the work of the Acumen Network as a place to exchange user's resources for compensation.

Product Overview

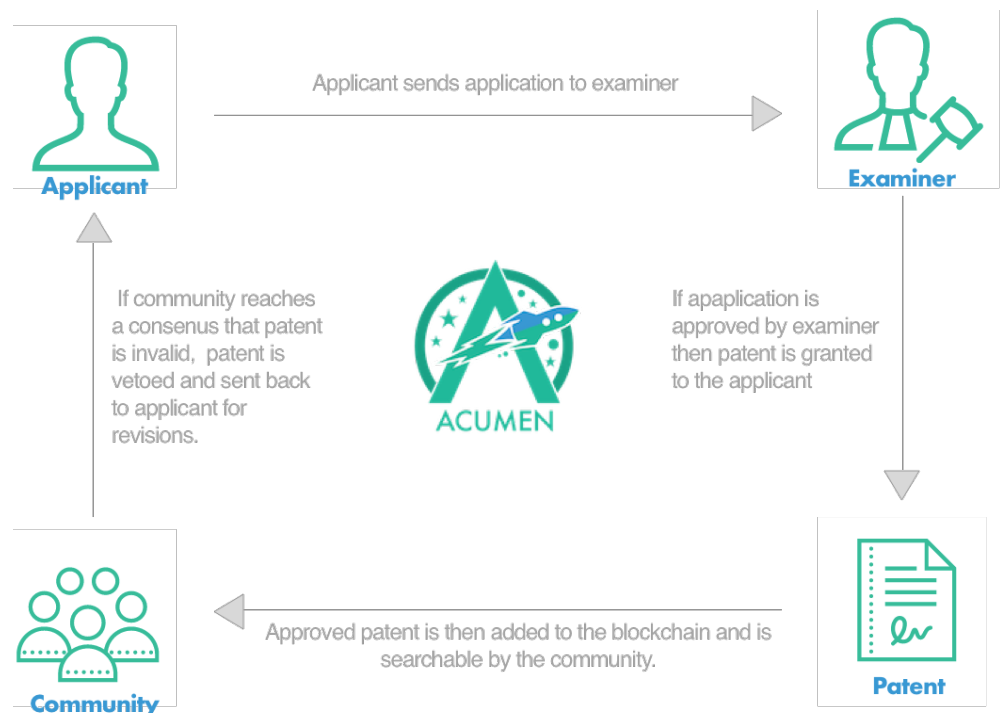
Logistics of Patent Submission

Our goal is to create a submission process that is as simple as possible so that inventors and companies can easily submit their patents. In order to submit a patent application, one must submit the same documents needed for a normal US patent application. In general, for utility patents this includes:

- names of the inventors
- company they work for
- date the application was filed
- other patents and papers referenced by new patent
- images and schematics of the patent with description
- what this patent claims

- background of the invention
- summary of the invention
- detailed description of the invention

application. Freelance members will each have user profiles with their education history, work history and certifications. Once the examiners have



Once the application is submitted, the freelance members of the community will be assigned to examine an

been assigned to the applicant, the applicant will be notified of their examiners and the examiners will contact the applicant letting them

Product Overview

know that the examination has started. This allows the applicants to monitor the progress of their application. Our goal is to make sure that it is as easy as possible to register a patent while still providing all the necessary data.

Ecosystem Token(AMT)

Acumen will issue Acumen Tokens as the means for payment. Acumen Tokens will be used in order for applicants to pay the examiners. Licensing will also be supported in Acumen as it can be expressed elegantly in Smart Contracts.

Acumen Tokens holders will also be entitled to **20% of the company's revenue**, to be paid out yearly.

Economics of a Global Patent System

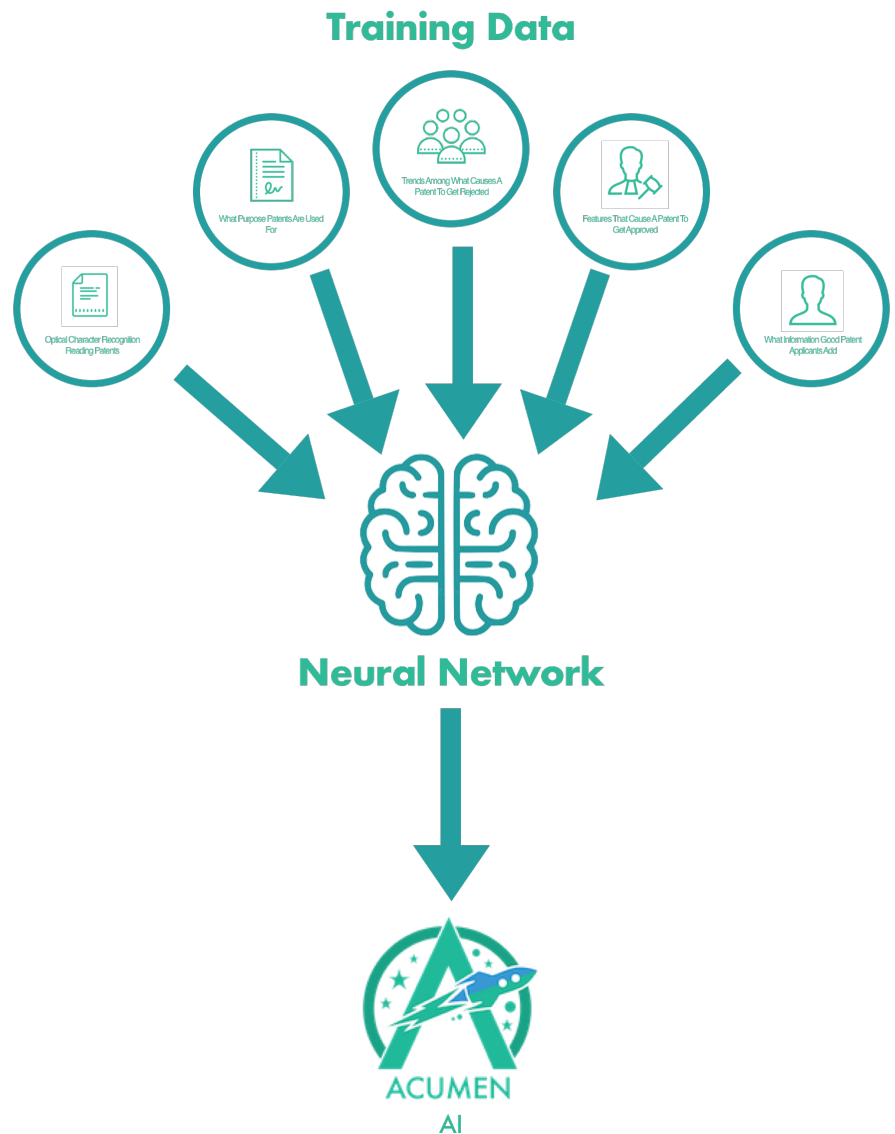
The freelance system of professionals spending their free time examining applications for monetary compensation is superior to the current system of bureaucracy in patent offices. Due to the larger supply of professionals, both the

price of an application as well as the time it takes to process the application goes decreases. An argument against this free market system is the lack of trust that the public has that these professionals know what they are doing. After all, they are not the highly trained workers of the government's patent office. This is where the transparency of the blockchain is valuable. Patents are open for all to see, so if the community disagrees with how a patent is filed, they can report the issue and the examiner and the applicant can make the necessary changes. As previously discussed, the transparency of the blockchain, combined with the fact that the system is controlled by the people, makes it only logical that the patent system should utilize the blockchain.

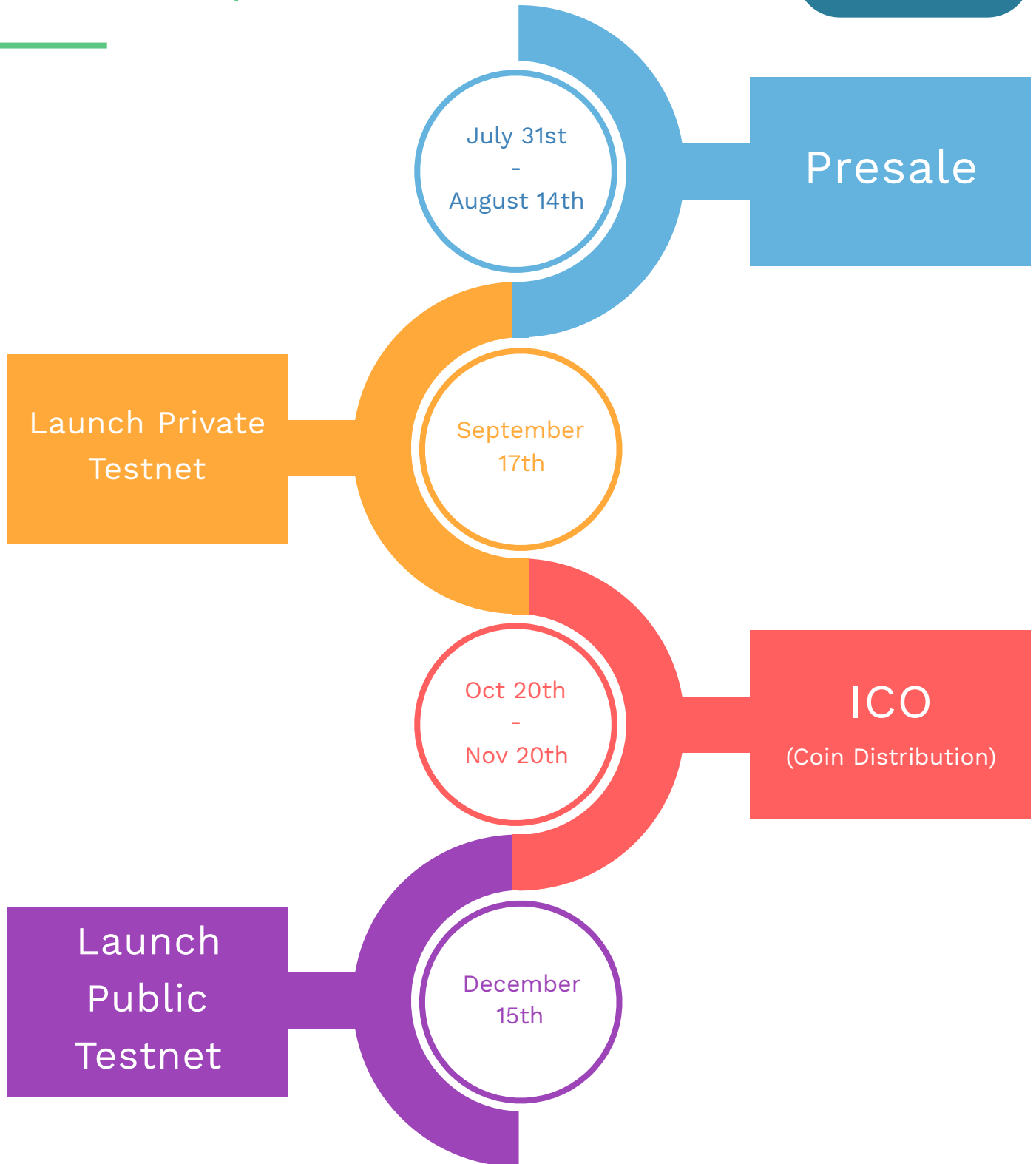
Product Overview

Deep Learning

One of the future goals of the Acumen Network is to incorporate Artificial Intelligence into the network. Using deep learning, the network can look for which features and circumstances lead to a patent being more readily approved. The network can also become a more fair jury as it can observe how the Acumen users vote in patent infringement cases. The most important factor in developing intelligent AI is the quality of the data. If the Acumen Network reaches a critical mass of users, then the volume of patent applications and cases will be high enough that the deep learning algorithm will have a large chunk of training data to properly train its neural network.



Roadmap



Roadmap

Stage 1: Establish community and credibility

In the beginning our main goal is to prove that our testnet works. We will incentivize members of community to act as mock patent examiners, engineers, judges, and members of the community. Participants will receive Acumen Token as a reward for supporting the testing the network. Participants will sign up to conduct scenarios. An example of this is some members will act as a patent troll corporation who file a bad patent and is then approved by a corrupt patent examiner. The community then vetoes that patent and sends it back thus simulating how the Acumen Network would work in a perfect world.

These scenarios will continue until the network is production ready. This stage will end once the legal community recognizes Acumen Network as not just a cool piece of technology, but a professional network running production level software.

Stage 2: License Acumen Network to Government's Patent Offices

It is unrealistic to believe that governments will immediately change their whole legislation to replace their patent offices with the Acumen Network. Therefore our second stage revolves around gradually having countries warm up to the idea. Just like how many corporations like Visa and Microsoft are developing

blockchain applications due to the transparency and immutability of the protocol, the blockchain serves several advantages to governments. The main advantage here is the simplicity when auditing as everything on the blockchain is saved forever as well as increased security. During this stage we will market as well as use the community to convince their government to begin the change by switching to a blockchain database. Many countries such as Estonia, South Korea, and Denmark have favorable attitudes towards blockchain technology so we will begin with them.

Roadmap

Stage 3: Reform
judicial system to
include community
consensus

Once countries begin to use Acumen, then we will begin to continue to democratize the system. This is a heftier goal as it includes many more changes. We plan to change how the judicial system examines patent infringement cases to ensure that patent trolls are eradicated and small companies prosper. This will require essentially using the traditional court system only for appeals and using community consensus to hear patent infringement cases. This community consensus will essentially be a large-scale and remote jury for civil patent cases. Currently criminal cases have juries so that people

can be sentenced by their peers, however this doesn't work for patents since they are too complicated for regular people to understand. Under the Acumen Network, the jury will consist of a network of accredited lawyers and engineers that have the knowledge required to hear these cases.

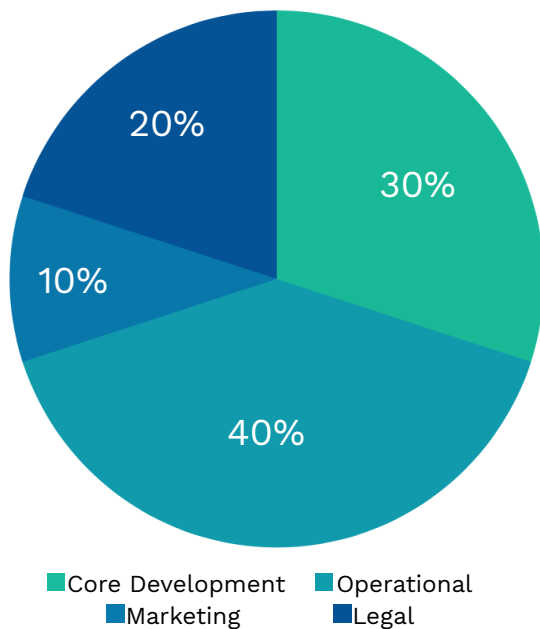
Financials

Budget

The funds collected during the contribution period will be distributed as follows:

- Core Development - **30%**
- Operational - **40%**
- Marketing and Sales - **10%**
- Legal and Compliance - **20%**

Acumen Network Budget

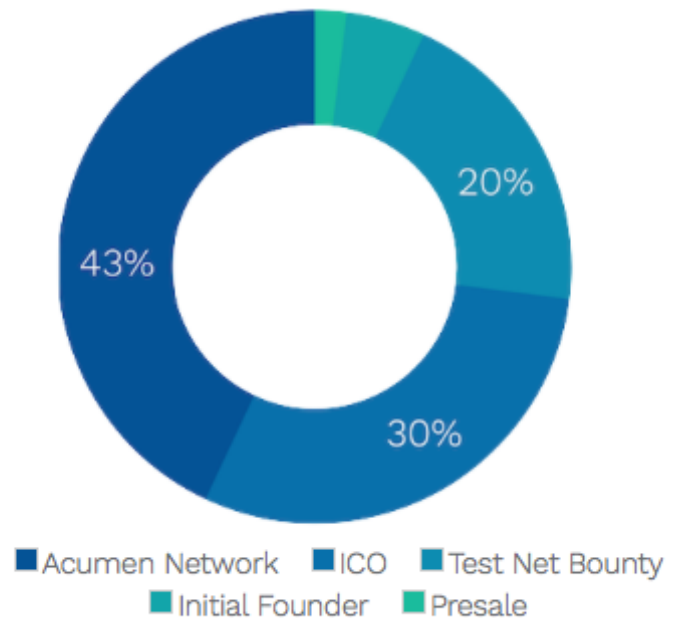


Token Allocation

There will be one billion AMT in existence. The allocation is as follows:

- **43%** retained by Acumen Network
- **30%** sold in the ICO
- **20%** allocated for test net bounties
- **5%** allocated for distribution to initial founders
- **2%** sold in the presale

1 Billion Tokens Issued



Financials

Licensing Deals

Acumen Network will be licensing our software to countries across the globe. This will allow for countries to continue to use their existing agencies for patent filing, but reap the benefits of the our technology.

Licensing Fees

Acumen Network will receive 0.5% to 2% of the application cost for every patent.

Final Notes

Acumen has the potential to completely change the patent industry. Through the use of transparency, global adoption, and a community driven network Acumen will be poised to take the world by storm. To explore our public roadmap visit:

<https://trello.com/b/q9to7SkS>

Citations

"Time to Fix Patents." The Economist. The Economist Newspaper, 08 Aug. 2015. Web. 27 June 2017.

Walker, Jay. "Our System Is So Broken, Almost No Patented Discoveries Ever Get Used." Wired. Conde Nast, 03 June 2017. Web. 27 June 2017.