# CROWN PAPER

## 1.0     GOVERNANCE

*The Core Dev Team*
*December, 2016*

> *"I'll end with this observation: as individuals we can accomplish only so much. We are limited in our abilities. Our heads contain only so many neurons and axons.  Collectively, we face no such constraint.  We possess incredible capacity to think differently.  These differences can provide the seeds of innovation, progress and understanding."*
> -     Scott E. Page, *The Difference*

> *"The world had to wait many centuries for the invention of the compass to take hold and be applied to navigation.  But the story of how a technology has to wait repeats itself again and again."*
> -     Amir Aczel, *The Riddle of the Compass*

> *"The ultimate dream is a universal PKI.  A large organization, like the post office, certifies everybody's key. The beauty of this is that every person only needs to get a single key certified, as the same key can be used for every application. Because everyone trusts the post office, or whatever other organization becomes the universal CA, everybody can communicate securely with everybody else, and they all live happily ever after…. In real life things become somewhat more complicated…."*
> -     Ferguson & Schneier, *Practical Cryptography*

FIRST, A KICK IN THE HEAD

In his book Sapiens, Yuval Noah Harari asserts that what made homo sapiens special – differentiated us from our cousins the Neanderthals, Denisovans and others – was **our ability to construct shared fictions, and then behave as though they were real**.

Believing in, and behaving as if a **shared imagination** were real allowed us to coordinate our efforts and yielded the advantage that built our civilization.  Human civilization came from an ability to believe in fictions. That should make us all stop and think.

We refer to legal fictions all the time, but we usually think about the legal and not the fiction part of the phrase. In the United States, the Supreme Court bases decisions on "founder's intent." In other words, the most powerful country in the history of the world interprets law in a way strangely similar to conducting a séance. But the psychic conducting a séance has no power to compel the conduct of a single person, much less the hundreds of millions whose decisions and freedoms SCOTUS defines – on the basis of an imaginary séance. Strange indeed.

This *conceptual* kick in the head should wake you up a little. And it offers us the opportunity to admit that everything which follows is imaginary, while also reminding you that *a shared imagination is the most powerful force we know.*

FROM THE MUD & NOT A LOTUS

Crown started in 2014 as a Bitcoin clone.  Of the original team, Crowncoin_Knight is the only one remaining as an active member of the project.  By the summer of 2016, Defunctec had become interested in the coin and he recruited Stonehedge and Chaositec onto the team. Infernoman started helping with updates of the bitcoin and dash cores, which had become dated.  Stonehedge and Chaositec refined ideas they had been knocking around since working on Dash together years ago.

Each team member is working to prove something.  Crowncoin_Knight has invested years of time in the project and has the pragmatic, but principled perspective of his entrepreneurial business background with start-ups. Stonehedge and Chaositec want to see ideas they have worked on for years brought to life.  Defunctec brought

this team together and brings an agile mind and action-oriented approach which helps keep the team moving. A master tinkerer, Infernoman just keeps teaching himself new things, and brings an invaluable persistence to tackling difficult problems. CalNaughtonJr and TLC also got involved through their past Dash experience, and have helped with the next generation of the Crown wallet and also the Apple & Android Crown Applications. And Urban_Idler just wandered past and started asking questions, and won't leave.

One of the strange attractors which brought this team together was the original Knight's Code, which Crowncoin_Knight stamped into the blockchain. This code was and is a social contract, or set of values which the members of the team share.

*Which brings us to where we are now – a coin which was functionally dead, pulled up from the mud by a group of people who would never have come together outside of the crypto community.*

The next task is to update the existing code base, and then to transform what had started as a simple clone into something else -- a cryptographically secure platform for communication, commerce and computation. From the digital mud, definitely not a lotus – but something infinitely more useful.

WHEN IS A REVOLUTION NOT A REVOLUTION?

Broadly speaking, the Crown Revolution is how the team plans to combine different established cryptographic algorithms and practices. The revolution is in the recombination. We don't plan to introduce risks, but actually to close off attack vectors while also opening up functionality. *Revolutions in technology are often the recombination of familiar or proven elements* – similar to the story Amir Aczel tells of the technologies which came together with the compass to unlock a new age of global trade and exploration.

But, what if it works -- what if this new Crown Application Platform works? How do we manage and govern the platform – or rather, how will the platform manage itself?

Remembering Gödel, **we start with an assumption from outside the system – no complete formal system can be defined without an initial set of assumptions or constraints.** We went back to the set of values which initially attracted many of us to the project, the Knight's Code. The Code focused on the dual importance of individual freedom and community.

This is where Harari's thesis from Sapiens comes in – it is our shared imagination that allows us to build communities and coordinate. Many mistake the power of the shared imagination as the power of language – but language is just the use of sounds in an abstract pattern which we agree to assign a shared meaning. Language is the first iteration of a shared imagination.

Reinforcing the importance of Harari's thesis is the work of Scott Page from his book The Difference. Page noted that diversity only added value in specific cases where a group had shared values, goals and language. In the absence of these shared characteristics, one gets cacophony – the tower of babel problem of everyone speaking in different tongues.

**So the first task is to compose a draft of that shared imagination – capturing and codified the set of shared values, goals and language, to anchor the governance structure for Crown.**

A SHARED IMAGINATION: THE KNOWLEDGE & THE LEXICON

Our shared imagination is summarized in The Knowledge and The Lexicon. Each of these is a living document, not a finished work. They will be updated as the project moves forward and are an initial attempt to codify in clear declarative sentences the core of a shared imagination. The Knowledge is attached as an appendix. The Lexicon will be released later in the development process.
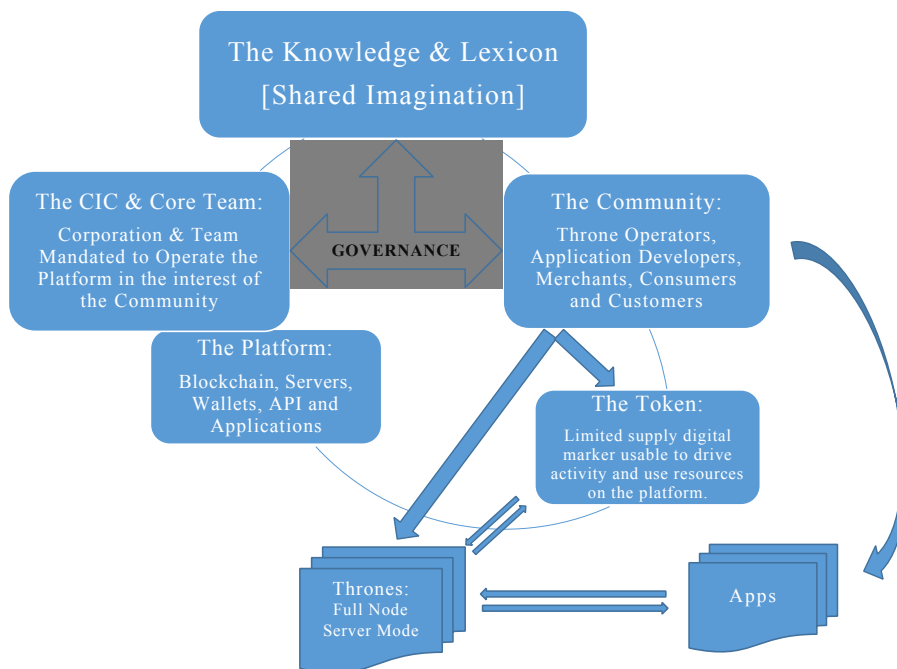
The Knowledge is made up of 16 declarations or principles broken into 4 sections: Organization, Perspective, Governance and Purpose.  These declarations are intended to capture our shared goals and values.  Agreement with those goals and values defines the Crown community.

The Lexicon is a dictionary or wiki, but it is the dictionary defining a shared language and processes for the Crown community.  A definition of the Knowledge is part of the Lexicon.  *Without a shared language or shared definitions for words, we talk past each other.*  We say one thing, but what is heard by the listener is something else. Without shared language there is no meaningful discussion.

We believe that Crown is unique in terms of cryptographic projects in deliberately establishing language and frameworks to manage disagreement in a more refined and layered method than forking.  Managing disagreement begins with creating a structure for discourse and debate, which is one role of the Knowledge and the Lexicon. The other role is to build a world where everyone is free to create.

A PICTURE IS WORTH A THOUSAND WORDS

Below is a sketch illustrating the rough structure of the overall Crown Network. The simple idea it is meant to illustrate is that the role of Governance is to have a structured and transparent process for coordination and communication between the community and the team managing the platform.



The ultimate goal is for the platform itself to be able to play this role, but we are not there yet.

By establishing a document, the Knowledge, which defines the community and its goals and linking that to the logical structure of Crown, we believe we will have made a start at creating a structure which will support future adjustments and iterations without getting stalled.

The Knowledge or other parts of the system may be modified in the future based on a yet to be implemented system of Throne Voting, which leverages existing capabilities inherited from Dash.

TECHNOLOGY PREVIEW: THE MISSING LINK & THE LOGIC OF REWARDS

*"In this paper, we propose a solution to the double-spending problem using a peer-to-peer distributed timestamp server to generate computational proof of the chronological order of transactions."*

-       Satoshi Nakamoto, Bitcoin: A Peer-to-Peer Electronic Cash System

Satoshi described Bitcoin as a timestamp server, but relied on CPU power for the block linking rather than the topology of the network of other methods to provide proof against double spending attacks.  Originally, the use of CPU power – or mining, provided a mechanism for spreading the coins.  Mining functioned as a coin faucet or sprinkler.  Mining was intended to solve both the security and adoption problems, but while it continues to solve the security problem – mining is not helping expand adoption.

To broaden the adoption of coins, we need to both expand the uses and as we do that the allocations of the block rewards may be modified.  The logic of the block reward is to incent behavior on the network.  Security and transaction confirmation will always be core elements of the network and will always be the largest allocation from the block rewards – but as the Crown Network develops, there will be other behaviors to incent like providing capacity to the network with nodes running in server mode or other services.

This is probably as good a time as any to *introduce the first new word from the Lexicon: The Chronicle*.   Instead of a blockchain or any __chain or __stream, we take Satoshi's definition of the system to heart.  We refer to the series of timestamped transactions on the Crown network as ***The Chronicle***. The Chronicle is the permanent record of events and transactions and when they happened.  It's a timestamping system.

But we aren't there yet.  Before the "revolution" is complete, we need to be able to build more capacity in the network.  And just as Satoshi looked to the block rewards to help incent the behavior needed to launch his network, we plan to utilize the block reward as an incentive system as well.  For the next stage of the Crown network, we will need to incent community members to set up more nodes, or Thrones.  The Thrones are the compute resource of the network, on which applications will run.  The more thrones, with more resources, the more applications will be able to run on the network.  The capabilities of the server nodes themselves will also evolve over time, such that they may become more like intelligent agents themselves over time – or ***Trons*** instead of Thrones.   The server as an intelligent agent or **Tron** both providing compute resource and algorithmic intelligence within the network is the second term from the Lexicon we are introducing.

Once again, this isn't a new idea – just a new combination of old ideas.  We don't think that any of these individual ideas alone are really new and unique.   ***What we hope will ultimately be new and unique won't ever be anything in a paper – but will be in the community which might be built around an imagination we share.***

## CLOSING

*If we shadows have offended,*
*Think but this, and all is mended,*
*That you have but slumber'd here*
*While these visions did appear.*
- *Shakespeare, Midsummer Night's Dream*


On December 5th the Crown Development Team met in a non-descript conference room across the Thames from the Globe Theater to discuss a dream.  The Crown Platform developed from the imagination of Crowncoin_Knight, Defunctec, Stonehedge and Chaositec.  The meeting was important to make sure that each member of the team understood, conceptually if not quite technically, what that dream might become.

*We appreciate your interest in this imaginary friend of ours, this platform we hope to build.*

If this vision is something you share, we are smart enough to know that we aren't smart enough to get it built on our own and can use some help.  The point of building a platform and a community of shared imagination isn't to keep it to ourselves.

# APPENDIX

## 1.0    THE KNOWLEDGE

*The Core Dev Team*
*December, 2016*

Below is a list of declarations, or beliefs, that define the Crown community.  As a member of the community, which you become by using the platform and software – you agree to be governed by, and fight to protect, these declarations.

ORGANIZATION

1.   We embrace all diversity except goal diversity.

2.   The goals of Crown will evolve as Crown evolves, based on dialogs within the community.

3.   Communication is impossible without a shared language and shared definitions.

4.   Work is best done in small groups with common goals and shared language.

5.   Core team membership is earned and maintained through service to the community.

PERSPECTIVE

6.   Global solutions develop from local problems.

7.   Human progress comes from human action.

8.   We can only imagine our future if we have learned from our past.

9.   The greatest acts are selfless.

GOVERNANCE

10.  Commerce is sometimes private and sometimes public – neither is absolute.

11.  Freedom of commerce is a fundamental right similar to freedom of speech.

12.  Some commerce should be limited, but the bar should be a high one.

13.  Limitations to human agency can only be justified if they expand human agency.

PURPOSE

14.  Where rule of law exists, we respect it – and where it does not, we help create it.

15.  Crown's purpose is to enrich, empower and ennoble individual lives.

16.  The value of Crown will come from its utility, but its legitimacy will come from the pursuit of, and adherence to these declarations.