

Beyond Crypto: Blockchain for Urban Development

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September 15, 2022



Blockchain and Distributed Autonomous Community Ecosystems:

Opportunities to Democratize Finance and Delivery of Transport, Housing, Urban Greening and Community Infrastructure

September 15, 2022



The Problem

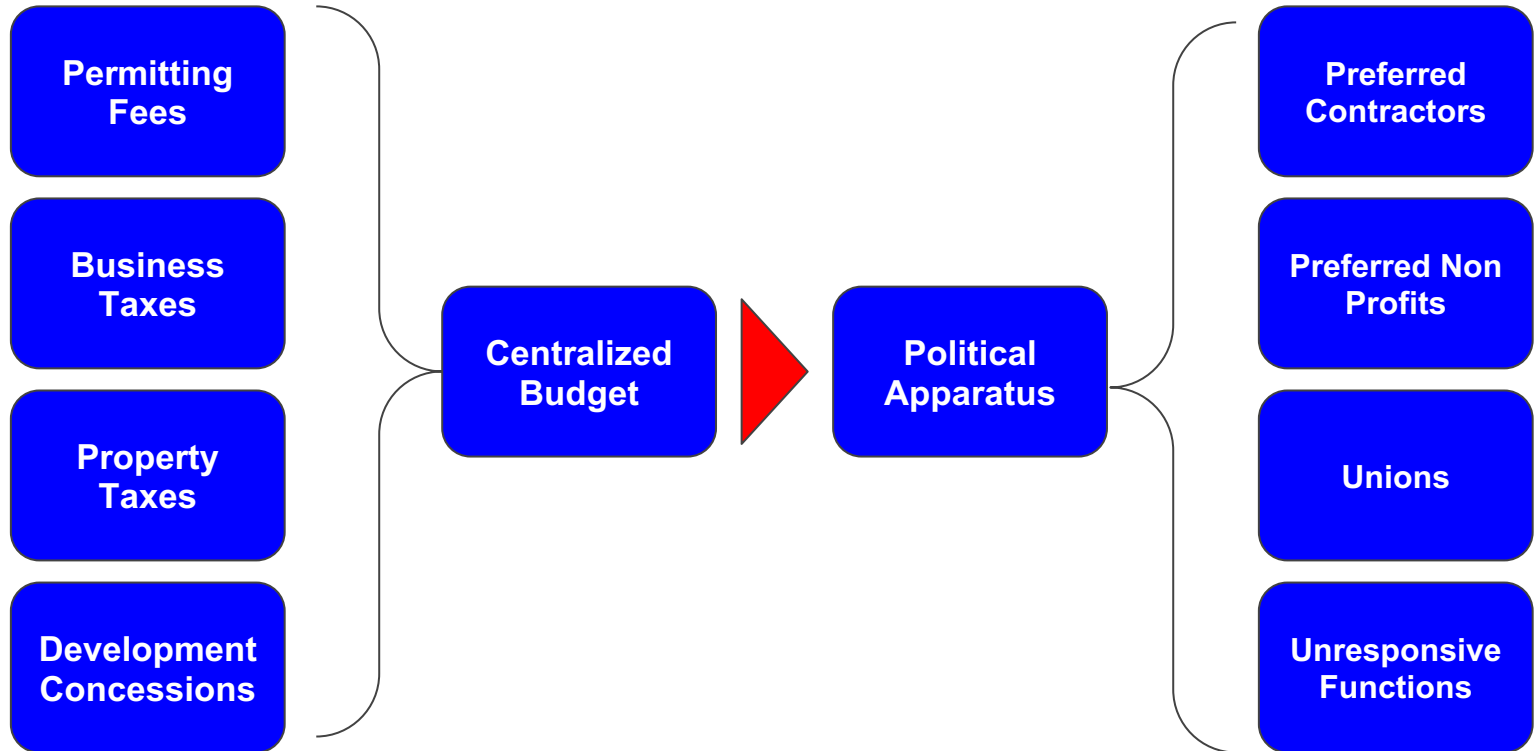


1. Government that doesn't work
2. Government that seems to be unresponsive
3. Government that appears to be incompetent
4. Worse, government that seems to be corrupt or captured by special interests
5. Government that is too centralized with a bloated bureaucracy that can't meet basic needs

Current Solution



Current Perception

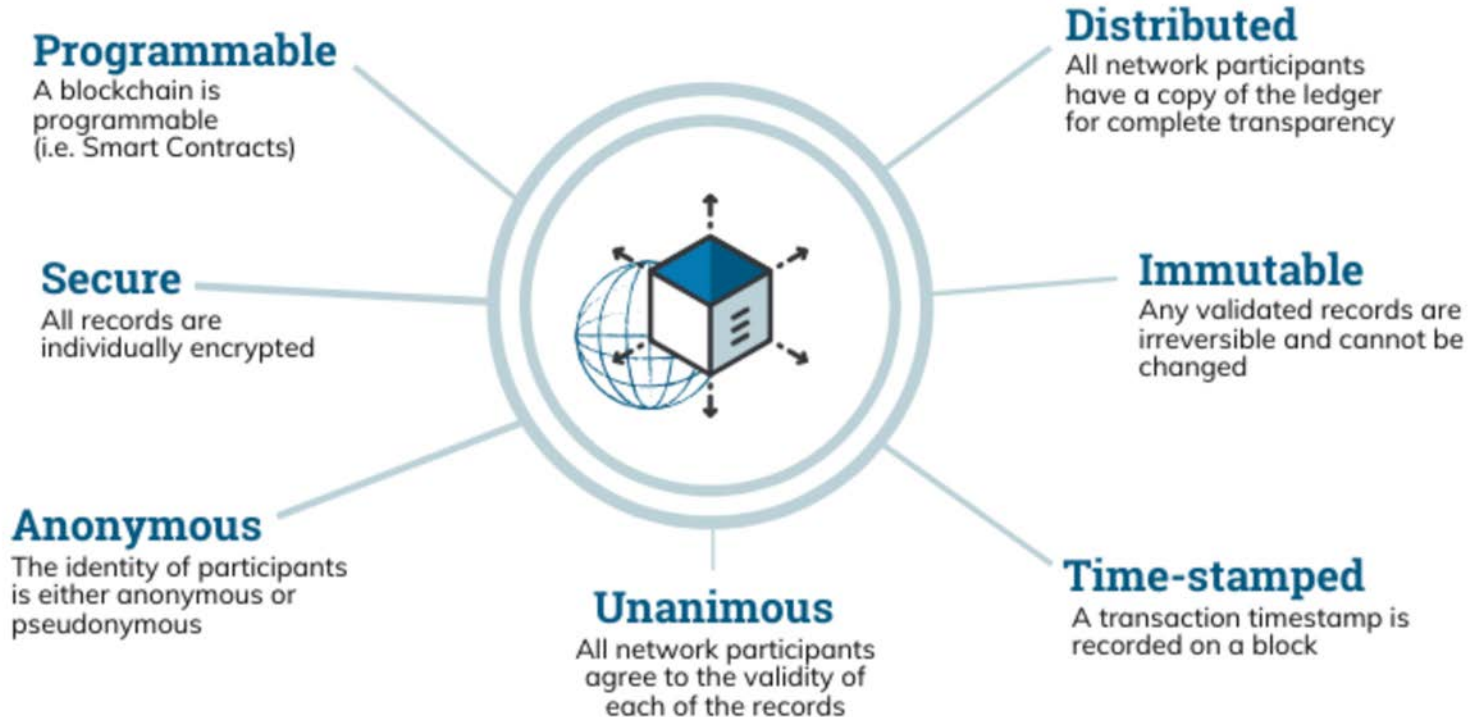




Current Result



Alternative Approach

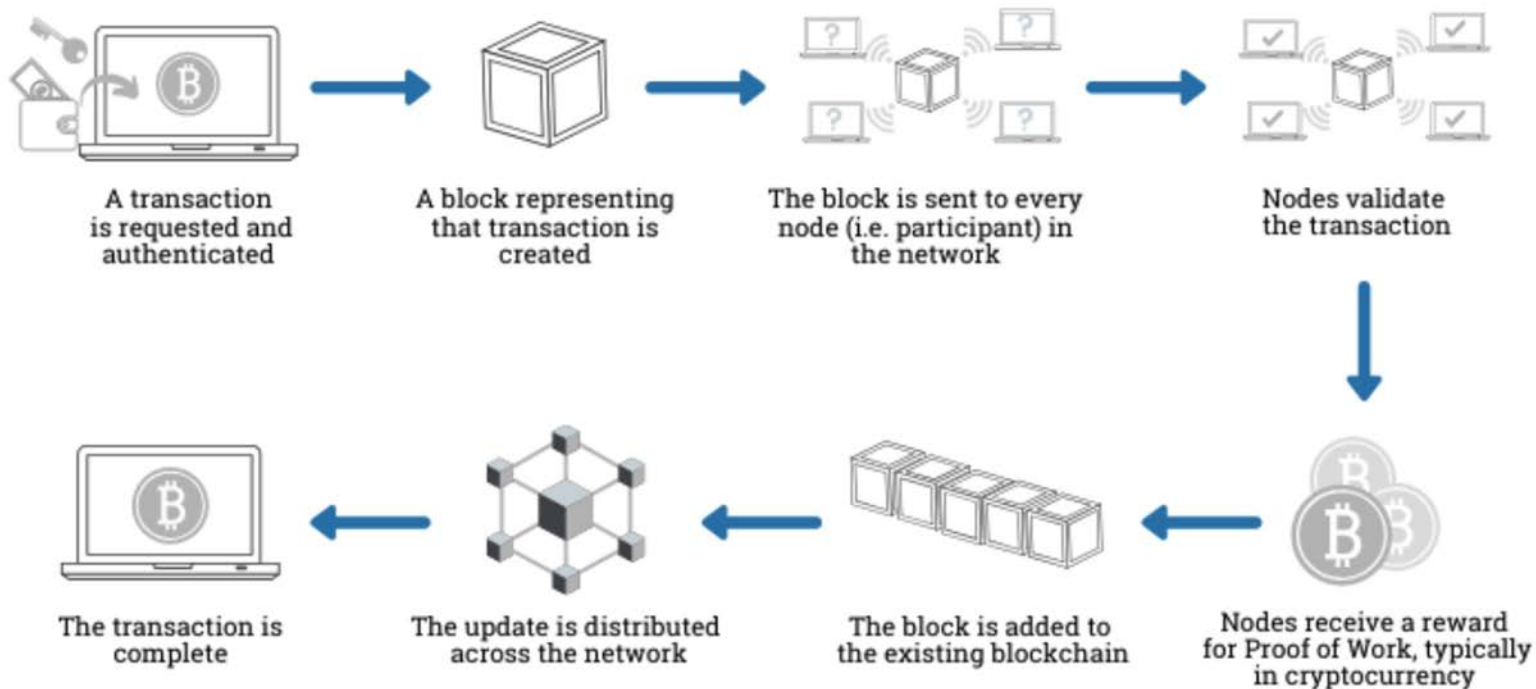


Why Blockchain?

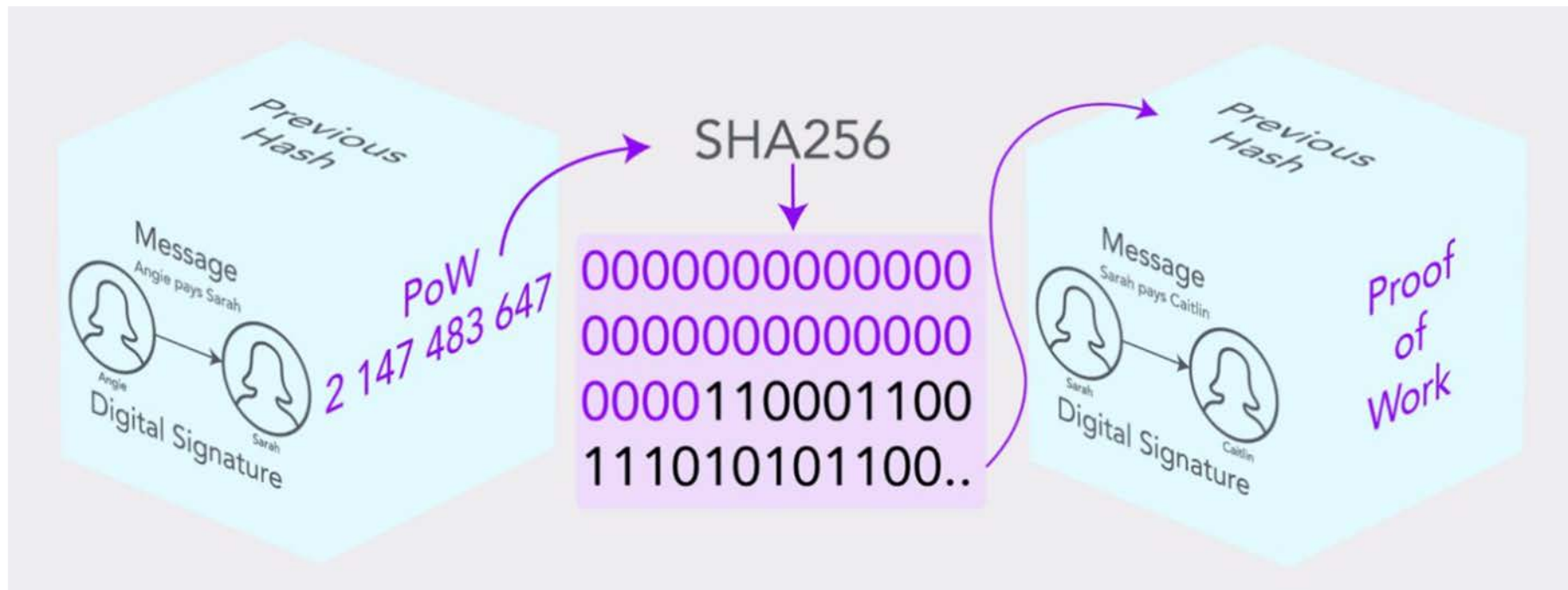


1. Building trust with citizens
2. Assigning disaggregated rights and creating transparency in assignation of those rights
3. Enabling micro-contracts, micro-relationships, and micro-solutions
4. Reducing costs and removing inefficiencies
5. Protecting sensitive data while providing validation

Turning a Cryptocurrency Concept into IRL



Cryptocurrency Proof of Work



The General Process Flow for the Blockchain Architecture Involves:

- 1) Creation of blocks (transactions);
- 2) Sending these blocks to nodes (users) on the network for an action (mining) and then validation that that action has taken place;
- 3) Then adding the block to the blockchain.

It also involves the potential for creating new economic value through proof of work which can be issued through a token (possibly a graphic Non-fungible Token), certificate or possible financial reward.

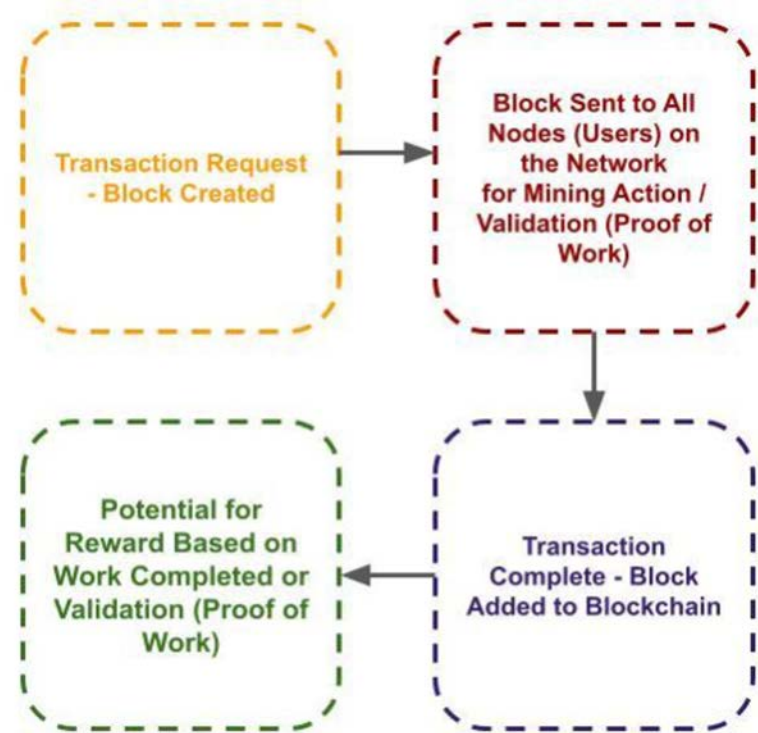


Figure 2: A General Blockchain Process

Proof of Work - IRL



What Blockchain Can Unlock

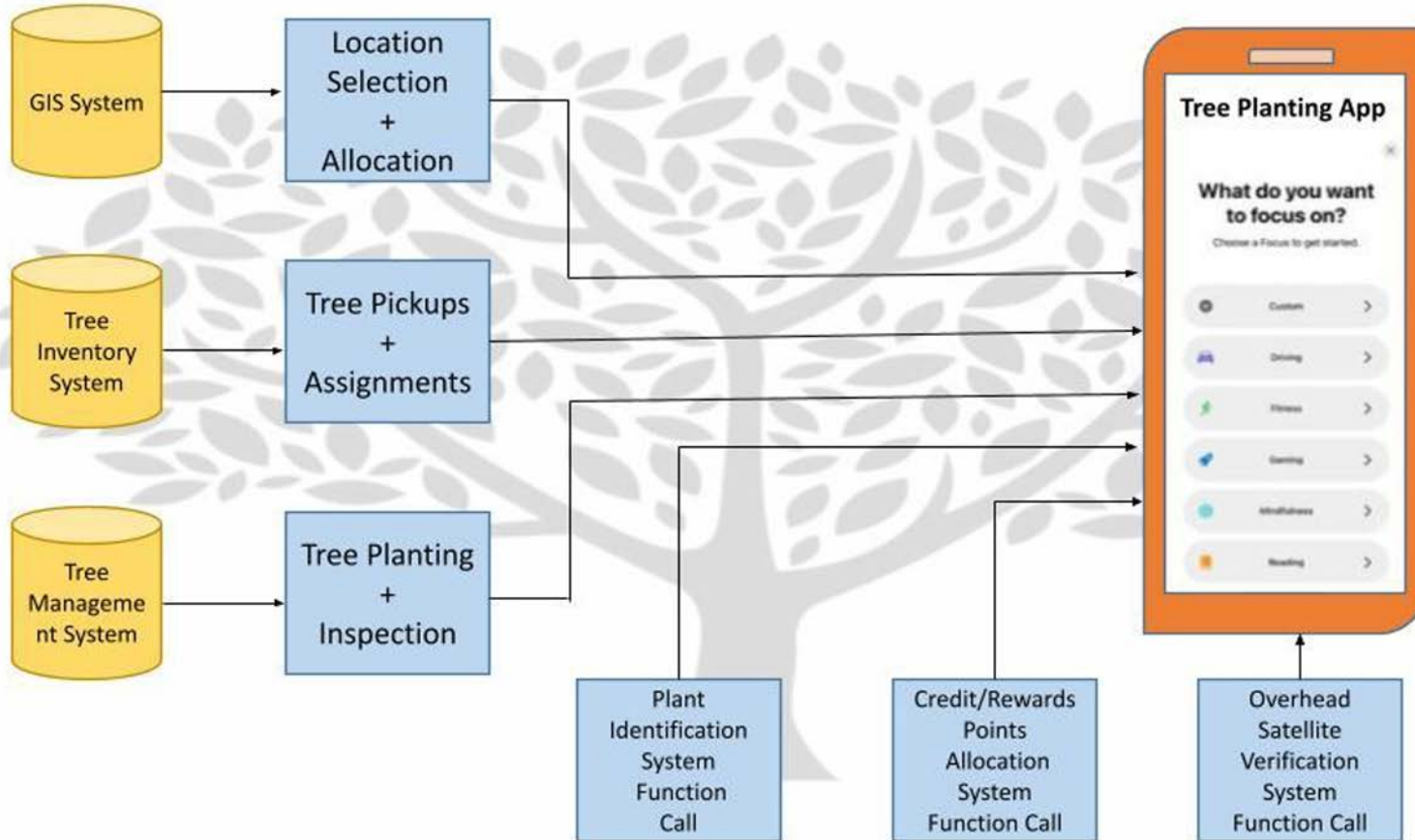


1. Trapped assets
2. Untapped human talent, energy, and capacity
3. Untapped funding sources and goodwill

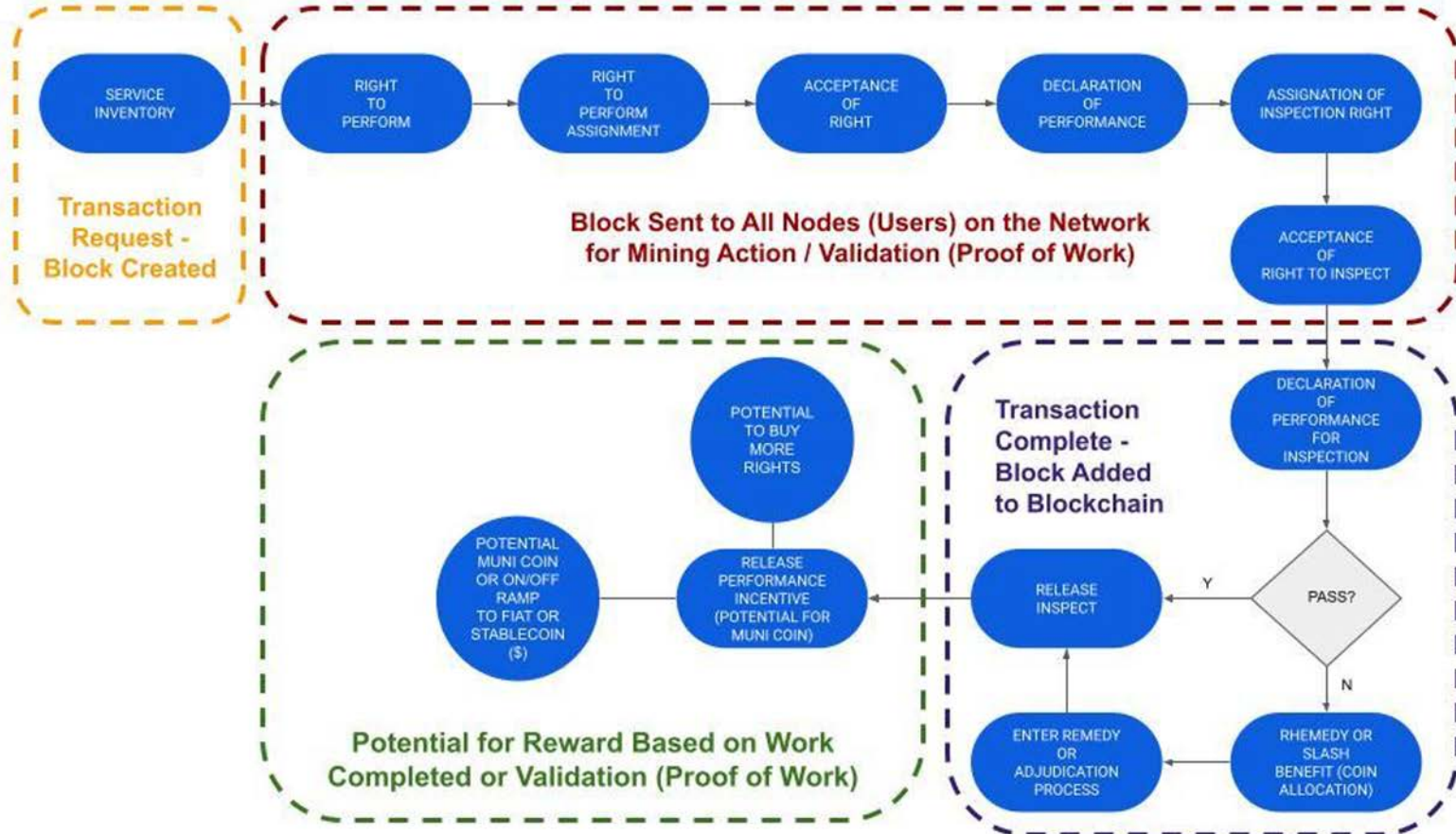


Figure 16

What Can This Look Like Practically



What Does this Look Like Conceptually



Enables Transformation



Enables Transformation





Street Tree Planting Standards

Please read this document and complete the [Street Tree Planting Permit](#) form on the following page. All standards must be followed for the tree planting permit to be valid.

Key requirements:

When planting, call Underground Service Alert (USA) at 811 or online at [811online.org](#) to identify the location of underground utilities. Do not dig until the inspection is complete and your location meets the tree placement standards listed below.

Tree standards:

- Only species on the current [Official Street Tree Species List](#) at the time of planting are allowed.
- The species must be appropriate for the planting site location: consider water needs, size of mature tree, and maintenance needs when making your decision.
- Minimum container size for all new trees is 18 gallons.
- Street tree planted must comply with the [Adoptive Standard for Street Tree](#) (COPC 22000.02).

Tree placement standards:

- Minimum of five feet (5') from below ground utility lines, including but not limited to water, gas, and sewer.
- Minimum of five feet (5') from above ground street fixtures, including but not limited to fire hydrants, utility poles or cabinets, street tracks, and parking meters.
- Minimum of five feet (5') from residential driveway curb cut or ten feet (10') from commercial driveway curb cut (per COPC 22000.02).
- Minimum of five feet (5') from parking curbs, traffic signals, pedestrian, or other aforementioned traffic signs.
- Minimum of twenty feet (20') from overhanging traffic signals, or regulatory traffic signs (including but not limited to "stop" and "yield" signs).
- Minimum of five feet (5') from trees.
- Subordinate street for a minimum of four-foot inches (40") to comply with the maximum tree height.
- Planting location cannot be within a four-foot zone at a disabled parking zone.
- Overhead high voltage power lines: Trees must be planted in "clear" minimum 20' or more from the high-voltage on the Official Street Tree List are allowable under high voltage power lines.

Warning:

Water trees 20 gallons per week for the first three years after planting.

Recommendations:

Consult with and/or be an advisor certified by the International Society of Arboriculture (ISA) to choose the appropriate tree species for your specific location. Visit [isa.org/consulting](#) to find an ISA certified arborist.



Street Tree Planting Permit

Please fill out this form and submit to Tree Services.

- Email: tree.services@oaklandca.gov
- Fax: (415) 433-1663
- Mail/Hand Delivery: Oakland Public Works, Tree Services, First Emergency Street, Building A, Oakland, CA 94612
- Or, fill out the form online: onlinetreepermit.org

Trees to be planted:

Quantity	Species

Site Information:

Site address: _____ Zip Code: _____

Tree placement in under high voltage power lines: ☐ Yes ☐ No

- Size of tree base:
- ☐ Small: minimum 18" (18")
 - ☐ Medium: minimum 24" (24")
 - ☐ Large: minimum 36" (36")

Property Owner Information:

Property owner name: _____

(Property owner is address (or address from address))

Street: _____ City: _____ State: _____ Zip Code: _____

Phone: _____ Email: _____

I agree to hold harmless the City of Oakland (City), its agents, officers and employees from any damage or injury whatsoever caused by or in any way related to the planting, placement, maintenance, or removal of the plant or plants. The owner is owner of the respective property that he/she holds for any damages.

I agree as the property owner to be responsible for obtaining the tree in accordance with the Tree Planting Standards and all tree removal from the sidewalk and street area, keeping the planting with five feet of curb, street, etc., and for providing ongoing maintenance to maintain the tree well in a grade with the sidewalk.

I certify that I have followed all the Tree Planting Standards and the above information is correct. I understand that falsification of any information provided on this permit application will disqualify the tree from becoming an official City street tree.

Property Owner Signature: _____ Date: _____

Preliminary Permit (Intent to Plant)

Better Neighborhoods Same Neighbors Tree Tagger

As a part of the BNSN we're trying to make planting trees more efficient in the City of Oakland. Tell us where you plan to put your tree and let us know how you're making our neighborhood better. Please complete the standard request below to make sure you follow city standards. A copy of your responses will be emailed to you for your records. Prior to planting, call Underground Service Alert (USA) at 811 or online to identify the location of underground utilities. You should not dig until you hear from them and you are able to fully complete this form request. For checklist and advice on how to plant check out [City of Oakland documentation](#) or [consult with a certified arborist](#). Note: trees should be watered 20 gallons per week for the first three years after planting.

Kind of Tree*

What kind of tree do you want to plant? Only species on the current [Official Street Tree Species List](#) at the time of planting are allowed.

Please select:

Tree Attributes*

Please confirm that the tree you want to plant meets the following standards:

Validation of Planting

Better Neighborhoods Same Neighbors Tree Tagger

Thanks for helping us plant trees in the city of Oakland! You should have gotten notice that your site works for planting. Now tell us where you put your tree, and remember to water! Trees should be watered 20 gallons per week for the first three years after planting.

What kind of tree did you plant?*

Remind us what kind of tree you planted:

Please select:

Where did you plant?*

Provide the approximate location for where you planted:

Tip: This question will try to use your location. Please be consistent.

Yes, I used a location (address, street name, etc.) No, I used a location (address, street name, etc.)

Can you provide a photo?*

Please provide a photo of your tree in the ground:

Take a photo:

Distributed Ledger for Trees Planted By Citizens

Permit Activities

Activities Logged

Inspections

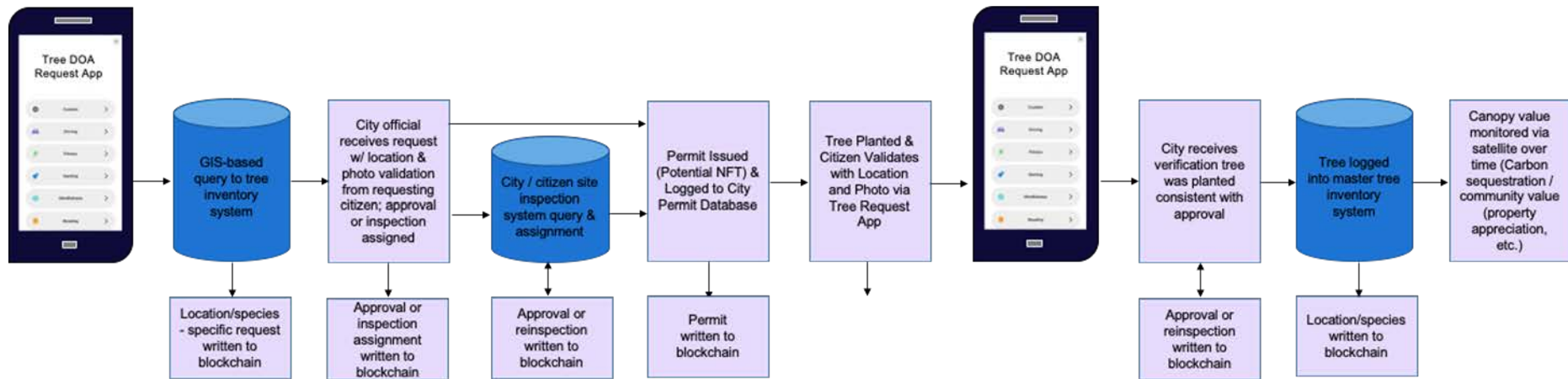
Activities Logged

Tree Attributes

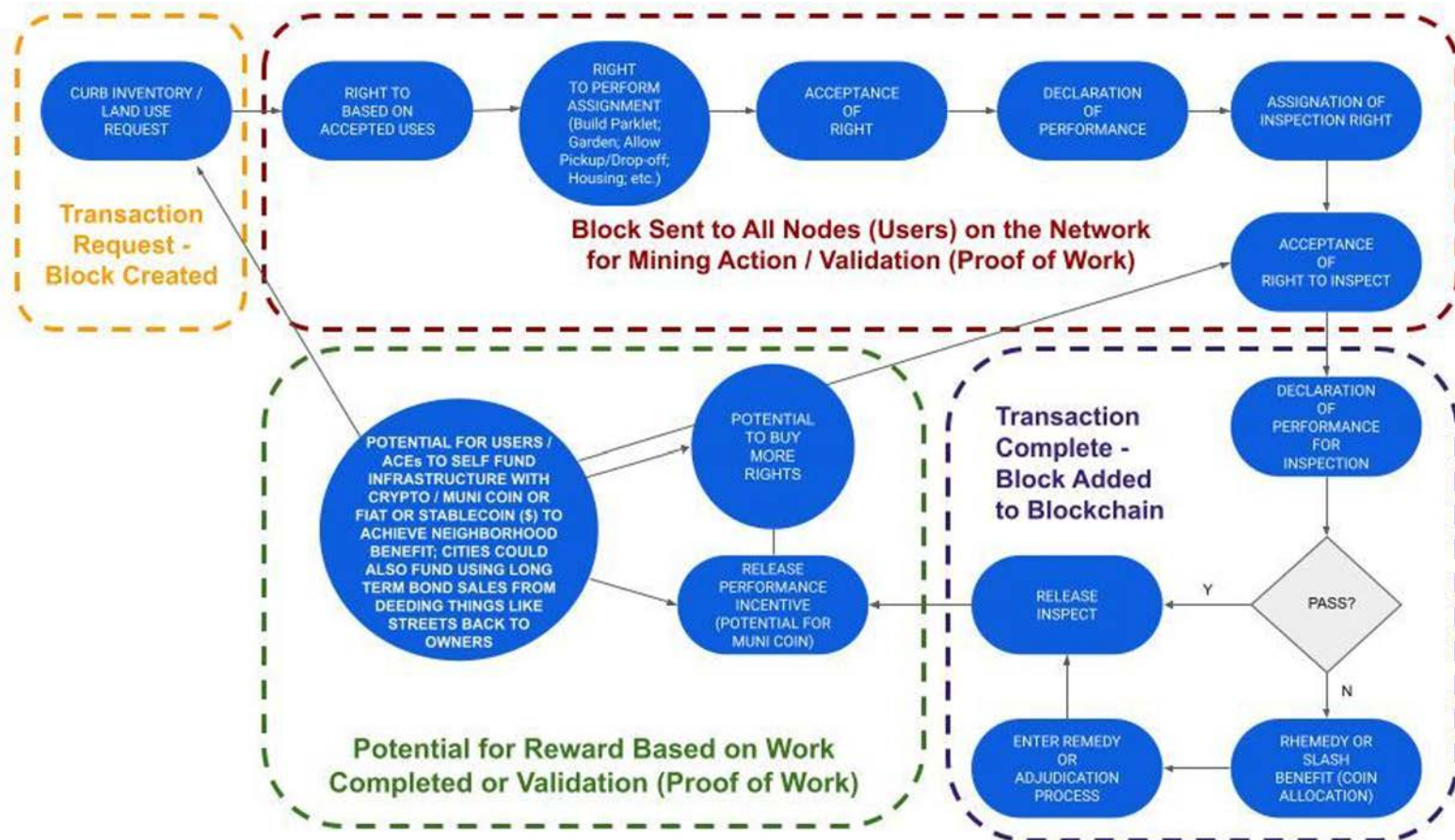
Location, Species, etc.

Validations

Activities Logged



Enables More Complex Actions



And Applications are Far Reaching



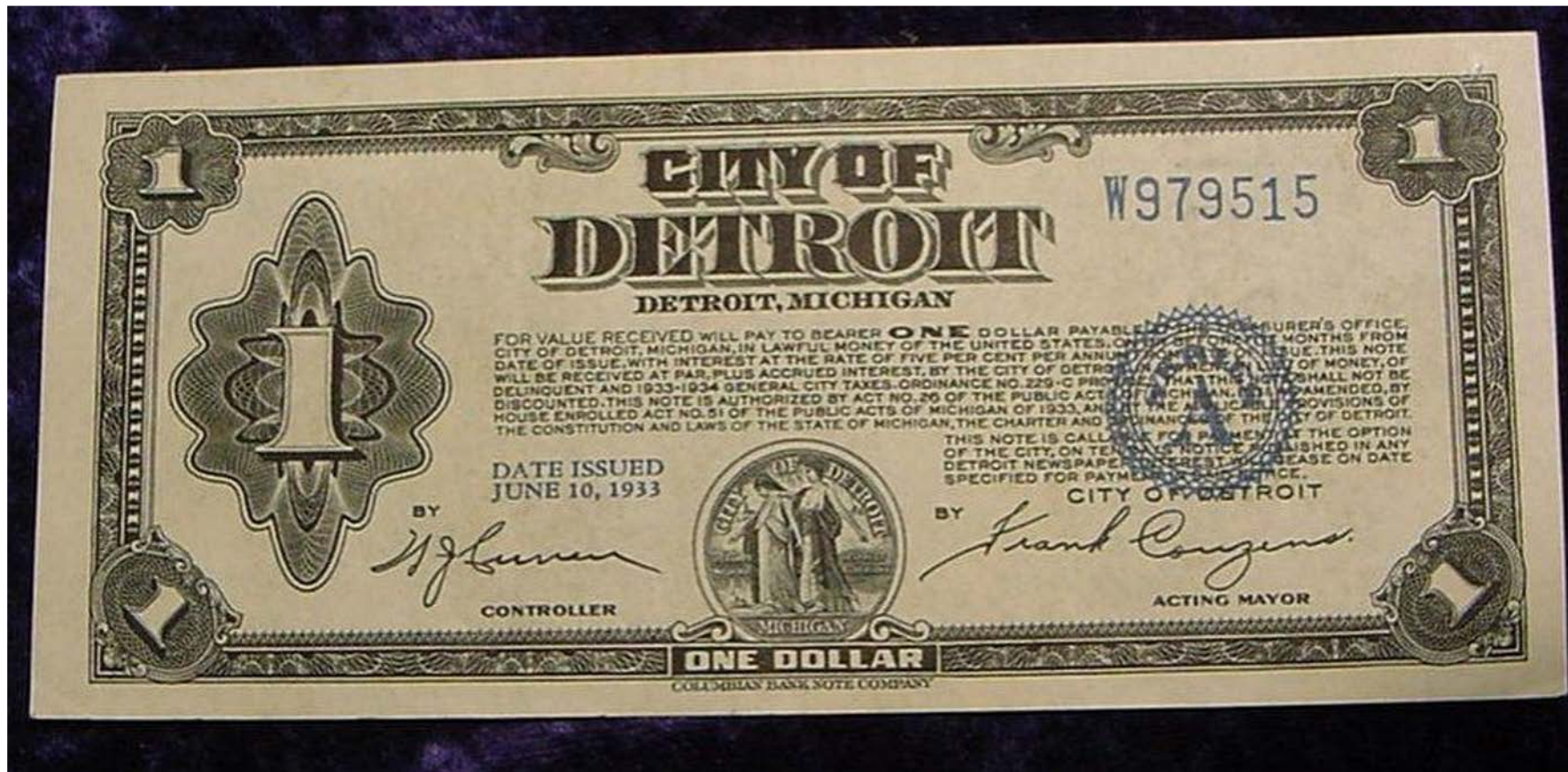
And Applications are Far Reaching



And Applications are Far Reaching



And Go Even Further



Thank you for joining us for:

Beyond Crypto: Blockchain for Urban Development

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