

This was initially published in April 2020 during the work at Estonia DAO.
March 2023 and some of these ideas will be repurposed for the purpose of Nation3 DAO.
Preserving original for historical accuracy - [saving as PDF and uploading to Internet Archive](#).

E-Estonia Voluntary Tax P2P Personal Tokens UBI Blockchain DAO

Paradigm shift

From: *“taxation is theft”*

To: *“monthly subscription for governance services”*

This is a living document. Your feedback and comments are really appreciated.

Visit EstoniaDAO.org and follow the links to [Discord](#) and [Notion](#)...

Prerequisite: you need to get an idea of [Decentralized autonomous organization](#)


“An organization represented by rules encoded as a computer program that is transparent, controlled by shareholders and not influenced by a central government”

Prerequisite: you need to get an idea of [E-Residency of Estonia](#)

“The program allows non-Estonians access to Estonian services such as company formation, banking, payment processing, and taxation.”

Borderless, voluntary nation, new form of governance - these are some pretty radical concepts...

Here is the summary:

- **Monthly voluntary tax of your personal tokens**
- **Monthly airdrop of EE token used to pay for the E-Estonia services**
- **Monthly airdrop of  coming from personal tokens being sold via DAO pool**
- **Affiliate programme and reputation system**

The principles should be simple:

- Rational game theory incentives
- Easy to explain, easy to understand

E-Estonia has some unique features:

- KYC / sybil attack resistance
- technical target audience (digital nomads)
- some military to enforce the agreements (your law is as good as your ability to enforce it)
- bank infra and being in the EU

Basic income

https://en.wikipedia.org/wiki/Basic_income

https://en.wikipedia.org/wiki/Basic_income_around_the_world

I was wondering where is the money coming from?

Money is coming from:

- voluntary taxation (monthly subscription for governance services)
- personal tokens, each participant donated 1 hour per week, the group has incentive for “marketing support” and find buyer for that hour

Voluntary taxation

https://en.wikipedia.org/wiki/Taxation_as_theft

https://en.wikipedia.org/wiki/Voluntary_taxation

If taxation is obligatory, then I have incentives to avoid it.

If taxation is voluntary, then let's design incentives so it actually pays off to pay tax.

I wrote that in Liberland: <https://t.me/liberlanders/4476>

"Proponents of some studies assert that individuals will give to government, paying voluntary taxes to support specific functions."

I believe that Liberland will benefit from investment in governance-consensus-decision making technologies.

I'm thinking about services Liberland can provide to the citizens?

I think that the most valuable to the economy is the ability to run a business with minimal regulation.

My voluntary tax will support government services.

Voluntary taxation is an interesting incentive problem - incentives need to be both social & economic in order to work effectively as purely economic incentives would need to outweigh the taxation in order to be effective. (meaning taxation is then useless) The further they can lean to the social side the better whilst maintaining the value provision to citizens.

Examples of incentives which could be leveraged to encourage people to pay tax:

- Reputation - build rep by paying tax, lose rep when you don't pay/contribute. (reputation must be made valuable through other, more abstracted incentive structures)
- Governance weight - how much of a say you have in governance can be partly weighted by tax contribution - careful to keep this in check as to not end up with pure plutocracy.
- Economic incentives (%back on certain service payments, discount structures, etc)
- Service-based incentives - granular tax payments for services you require.

TODO: Need a list of services that the Government can provide, how/why these are valuable, how people are incentivized to pay for them:

- Dispute resolution, going to court, enforcing the law
- Construction permit, even though construction is not digital, you can apply for permission in a digital way and there is some work involved by a human to approve / reject / comment
- ...
- ...
- ...
- ...
- ...
- ...
- ...
- Estonia DAO social network / marketplace for gig jobs, bounties, forum for discussion on any topic, etc and the maintenance thereof
- Services (education, FAQ, etc.) for onboarding existing and new e-residents to Estonia DAO
- Use of IslandDAO.org

NOTE: some services are routine, totally for FREE, automated, done by the software. Some services require human labour, analysing, decision making - they should require some EE. I estimate 90-95% of the citizens will have enough EE month-to-month. It's the high maintenance cases and businesses that will have to acquire more.

Real life examples of the UK government offering premium services

Employers:

“Sponsors can apply for the premium customer service using the sponsorship management system (SMS) and selecting ‘Apply for or renew Worker Sponsor Premium customer service’.”¹

Cost

The cost of the service is £25,000 per year for large organisations.

Sponsors who qualify as a small, medium or charitable organisation, and have paid the lower license fee, can apply for the SME+ package at a cost of £8,000 per year.

Individuals:

“priority service” and “super priority service”²

To get a decision within 5 working days

If you’re eligible you can choose the ‘priority service’ when you apply. It costs £500 in addition to the application fee.

You’ll get a decision within 5 working days. The time starts from either:

- the day of your appointment, if you prove your identity at a [UK Visa and Citizen Application Services \(UKVCAS\) appointment](#) centre
- the working day after you finished uploading your documents, if you use the [‘UK Immigration: ID Check’ app](#)

You’ll be told whether you can prove your identity at a UKVCAS centre or using the app when you apply.

To get a decision by the end of the next working day

If you’re eligible you can choose the ‘super priority service’ when you apply. It costs £800 in addition to the application fee.

Government services have value

Brand around E-Estonia has value

¹ <https://www.gov.uk/guidance/employer-sponsorship-join-the-premium-customer-service-scheme>

² <https://www.gov.uk/faster-decision-visa-settlement>

Network effect around the E-Estonia has value: https://en.wikipedia.org/wiki/Metcalfe%27s_law

IP and IT have a lot of value, can be then sold to other jurisdictions at a profit.

I am a customer of the government and I would like to receive the best service possible.

If I pay voluntary tax, I receive EE tokens, these tokens allow me to access various services.

“If I'm going to pay tax voluntarily, these "services" need to be at least as valuable to me as the tax I'm paying.”

I can abstain from paying the tax and then purchase EE tokens directly - free as in free market. You don't have to pay tax, but if you want to use our services you need to pay for it.

Some of the services might be available only to those who are subscribed to UBI.

^^This is important - some kind of 'freemium-esque' model where services provide more value to people who act in the way we want them to.

YEAH. That's the whole freakin' point... You want to be one of the cool kids? You'd better behave and play by the rules... It makes sense to make some services to members only. It's a common concept, see example:
<https://www.tate.org.uk/join-support/tate-members>

RELATED: [Page on Notion](#) about different types of tokens.

There could be some clever crypto economy to incentivize paying voluntary tax.

EE token economy

EE utility token that is used to pay for government services.

Monthly airdrop should be enough for the vast majority of the citizens. Not utilised tokens go to the next month at ___% ratio, this is to prevent hoarding.

Definitely some interesting stuff to be built out around this - being careful not to incentivise people to 'overuse' or spend excess tokens unnecessarily so that they don't get slashed at the end of the month - people will find ways to 'bank' token value within services to circumvent the slashing. (is this even a bad thing? Potentially would lead to more value locked up in services?)

IDEA: Some ___% of unused tokens go to next month for you to use. The leftover part allows you to vote: "what services do you want the E-Government to provide. The rationale is that if you are not using the tokens, you should have more to say in what services are needed.

If someone is a heavy user of government services, they can buy more. Those who run a business that is high maintenance and requires constant attention of the government

Is the monthly airdrop equal for all citizens? I would be thinking of having it variable, tied to a weighted combination of:

- Taxes paid
- Value created for the community/government
- Reputation
- Other metrics

I believe it should be equal. A number of reasons:

- Rich will get richer - it is now but is it fair?
- Difficult to get an agreement on exact metrics
- Those who are smart do not need the safety net
- UBI can help poor the most

I think that EE tokens should not be tradeable - a citizen can use them but they cannot sell it for profit.

Agree - however as with the monthly slashing, people will find ways around this (ways to transfer value not strictly via trading the EE token). Again this might not be a bad thing but definitely a consideration.

Humans will always find a way. At the same time, just because I have NHS in the UK, I cannot sell my privilege of accessing healthcare for profit. Access to the government is a privilege of each citizen... Will see, it's a giant experiment anyway!

Even if only a E-Estonia can issue them, the price can be determined by the market (bonding curve comes to mind). Each month E-Estonia might have 10000 EE tokens available for sale to entrepreneurs who need expedited service.

The governance of these systems will be super important - maintaining a fair & representative governance model for fund allocation/service pricing is essentially the backbone of ensuring that it all doesn't come crashing down.

Experiments. We will try various parameters.

For example - now we have recession - but there will be another cycle. A lot of property developers will need a planning permission. If someone has loads of money and little time, they can buy loads of EE to be in the front of the line.

Some places call it expedite (same day VISA in the embassy), I can totally think of spending more EE to get a faster decision. I think it is legit. Time is money. Someone wants to buy a premium timeslot, free as in free market. As a user I'm happy that I receive UBI...

This is an interesting concept, however it must be kept in check to ensure that those who don't have as much money/resources are still able to 'compete' and have their needs met by the government.

YEAH. I'm worried that currently it is done by illegal bribes. Now everything is transparent on the blockchain. Some paid \$10k DAI to get a planning permission done in a week, skipping the line, getting priority access to the decision makers - all the residents receive surplus money. The exact pricing and "skip the line" parameters to be determined by experiments.

Personal tokens

I was thinking about personal tokens, tokenized time.

OpenZeppelin and ERC20 makes it standardised and easy to deploy.

Each citizen might have a personal token, similar to \$PEW or \$MAGIC

https://twitter.com/pet3rpan_/status/1216437140315262976

Four-hour workweek. I think 2 hours per week is a sensible voluntary taxation.

I'm comfortable offering 2 hours per week of my time

Personal tokens introduce complexity as we'd potentially need a mechanism for price/value discovery of each citizen's personal token, as well as protection from gamification of these so that people can't artificially inflate the value of their own personal token and unfairly extract value from the government.

How to maintain a fair system of providing value to the government if one person's time is worth more than another. (does each citizen just contribute 'x' hours of work to the DAO? And the difference in value is made up across other areas or just written off?)

THAT IS SUPER IMPORTANT POINT. I believe that free market will decide what is the price of my time. I can imagine a situation where there is two \$MARS in the DAO

treasury and someone makes offer for 100 DAI. DAO can decide whether to accept this offer. I can totally imagine more guys bidding for my time...

You can buy \$MARS directly from me or you can use the government pool.

When buying from the government, you get some bonus (most likely in EE tokens) .

I have the incentive to do a great job so that you will hire me again, this time around no taxation, financial privacy, freedom of transaction.

How would the incentives to buy/not buy through the government work? On a simplistic level it would be: the value received through EE token bonus by transacting through government vs the amount of tax saved by transacting directly?

When buying from DAO pool, the DAO accepts or rejects the offer. When dealing directly with me, it's a freedom of transaction between two sovereign individuals.

There should be some incentive when buying from the government. Maybe bonus EE token, maybe bonus KUDOS (see [governance on Notion](#)) or THANKYOU for supporting government services. Each year, the TOP 20 THANKYOU holders go to a weekend retreat and have fun together.

What makes \$MARS valuable?

What makes USD valuable? List of military bases:

https://en.wikipedia.org/wiki/List_of_United_States_military_bases

My personal ability to deliver work makes \$MARS valuable.

Shameless shill. You can visit [my website](#) and [buy some tokens directly](#).

Affiliate and reputation

We could also design an affiliate programme so that DAO members have incentive to recommend me.

That leads to building a reputation system. Because every member has done KYC, one of the most difficult problems is solved by default.

It opens loads of opportunities....

Reputation will be one of the key aspects of the entire system. SourceCred or similar?

We already have SourceCred in place in EstoniaDAO Discord (measuring emoji reactions) and Github.

Preventing freeloaders & eliminating bad actors

On a slightly different note, if everything is so awesome, how do you prevent bad agents?

Traditional countries - you receive nationality because you need to have at least 1, being stateless with no documents kind of sucks

See the movie Terminal: https://en.wikipedia.org/wiki/The_Terminal

Joining E-Estonia is voluntary and to be eligible to UBI right from the start is a potential for fraud.

I'd surely register my entire family and several homeless guys. I'm not a fraud, I'm just a guy who thinks: "If there is big enough pile of free money, someone will pick it up"

That's why suggesting some requirements to be eligible:

- 2 vouches from existing members
- 2 years delay
- Minimum €10k of total income over that period of time

Those opportunistic guys like me would say "MEH, too much work, too long wait".

^^these are a great starting point - heaps of opportunity here to build more complex structures to prevent bad acting.

"More complex"... Hahaha :) I'm in the camp of simplicity. I was thinking about simple and understandable entry criteria.

2 vouches are totally manageable, there are already 60k+ people. Or if you are not into socialising, then you can simply pay 1000 DAI to avoid social interactions.

More thought needed around the 'pay instead of being vouched for' mechanics - needs to be more than the potential value gained by joining the system otherwise it'll still be worthwhile to pay the 'entry fee' in order to draw value from the system.

Don't want to over complicate... Maybe everyone has to pay? Currently it is €100 + €20 delivery fee for the card. Maybe if I pay voluntary tax I receive some free vouches?

I was concerned that someone can be a total nerd, social distancing, now very well travelled... Haven't met any e-residents in real-life. Just buy the thing... This is a free market, everything is voluntary. You can spend some time and hustle or you can just pay for it?

TODO: This requires more thought, how to eliminate bad actors?

Designing the incentives so that “we are all friends, we support each other, everyone wins, positive sum game”.

If someone is a bad actor that undermines the trust in the system and violates the “common sense” rules, then the three strikes and out principle applies.

No specific definition of “common sense”, not trying to solve the problem that hasn't occurred yet.

Summary (TLDR)

Monthly voluntary tax of your personal tokens

Monthly airdrop of EE token used for using the E-Estonia services

Monthly airdrop of  coming from personal tokens being sold via DAO pool

Affiliate programme and reputation system

Is it possible?

Think about it and offer some feedback.

Chances are we will run a giant universal basic income experiment combined with tokenised services and voluntary taxation of personal tokens.

I'm not sure how achievable it is within the E-Estonia Aragon DAO, I applied for my e-residency a few days ago and there might be not enough time to develop a solution.

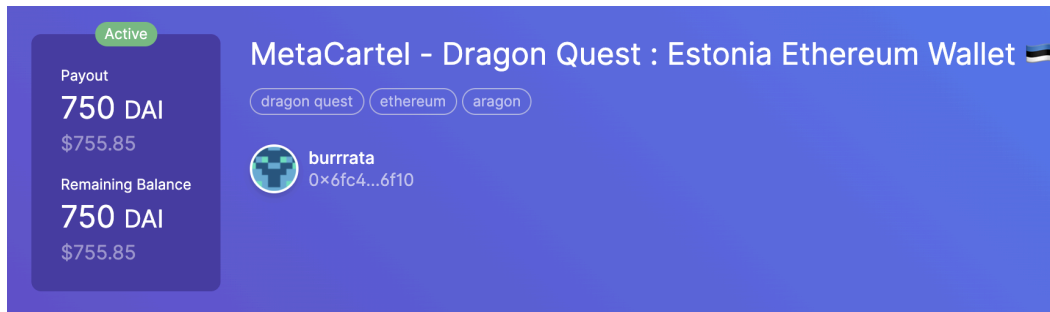
Technical design v0.1 (read further down for updated version)

0. On-boarding and wallet creation

There is a 750 DAI bounty for that LIVE ⚡⚡⚡

<https://explorer.bounties.network/bounty/3930>

I cannot imagine a better stepping stone into crypto, than to earn it that way!



1. Voluntary signup to UBI
2. Each month personal Tokens generated and a few hours go to DAO
3. We are airdropped some EE tokens that are exchanged for government services

Basic stuff (logging to your bank) does not require tokens. More complicated stuff, such as human who has to visit construction site and verify permit - you spend EE.

For those who are not participating in UBI, can purchase EE directly from the government.

Unused EE go to next month, up to 20%

Unused personal tokens, up to 20%

Max capacity 5 months worth of tokens.

Interesting stuff here^^ Need to be careful not to put a hard cap on value accrual as this disincentivises people from trying to build wealth & prosperity. Also introduces potential for workarounds (think shell companies, 'ratholes' etc) Definitely a good concept but would need to be more complex in order to maintain some level of capitalism while also preventing powerful/rich people from gaining too much control.

The reason for putting 5 months cap - I have some private work. Now out of the sudden, government comes "here is 100 hours of work". That would be problematic (not enough hours) but probably there would be previous demand and market pricing.

Because government has limit, I think it is fair to have limit on my end as well. Exact parameters TBD. I think these are nitty-gritty details of how much ___% is carried over from month to months. Such parameters can be adjusted as we go along. Long live free market!

Other members of the DAO have incentive to find a work for me. If they sell my time, the UBI pool (denominated in real money) will become larger.

Potential clients have incentive to hire me through DAO first - they receive EE cashback.

Then, once they use all the \$MARS tokens pooled in the DAO, they can hire me directly and avoid the tax (all taxes should be voluntary)

If someone wants to redeem \$MARS from the DAO pool and I'm busy, then I can buyback the tokens myself, the end result for DAO participants will be similar - more real money in the pool.

.....

This incentive design is “good enough to try on the testnet”

Check the Google Doc, among other things it covers the value of the government, network effect, IP, IT... Years of know-how in designing, building, maintaining critical infrastructure



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Technical design v0.2

We can do this daily, weekly, monthly... Whatever is practical. In the case of human actors, 1 day feels short, 1 week feels long, maybe in the middle: 3 days turn time.

The goal of the game is to obtain HAPPINESS points. (*just like in real life*)

Participants receive problems that are bothering them

The government can solve the issues in exchange for the EE tokens

Solving problems generate HAPPINESS

Having problems carried over to the next week reduces HAPPINESS

After 10 weeks problems automatically solve themselves.

Each participant has a choice whether to pay a voluntary tax or skip it.

Voluntary tax version:

Participant gives 1 personal token to the DAO pool.

Participant receives 5 EE tokens to pay for government services

Additional incentives for voluntary tax members:

- Some services prioritised for EE voluntary tax members









- You earn APR% on your EE

How much is personal token voluntary tax? Initially I was thinking 1 hour per week contribution. If we do 3 days turn time, then the contribution is 30 minutes.

No tax version:

No token to the pool, no EE airdrop from the government but you but you get airdropped issues to solve and your HAPPINESS will be affected

I'm using Fibonacci sequence to estimate the cost and probability (in reverse)

| | | | | | | | | |
|-------------|---|---|---|---|---|---|---|---|
| cost | 1 | 1 | 2 | 3 | 5 | 8 | 13 | 21 |
| name |  |  |  |  |  |  |  |  |
| probability | 21/54 | 13/54 | 8/54 | 5/54 | 3/54 | 2/54 | 1/54 | 1/54 |

Each issue is solved by a different department. It may happen that the bacteria department is at full capacity despite the low cost. It may happen that the whale department is empty and you can simply go "all in" - you'll be served by the government.

Or maybe government workers are versatile, not many different departments but a single line. If you are in the line but not being served due to limited capacity, then HAPPINESS is reduced at 50% rate. This is because you have partially peace of mind, knowing that your case is progressing.

You can pay extra EE to be put in front of the line, expedited service, free market baby, that's how government has money for the UBI

You can spend DAI to obtain more EE.

But what would you spend DAI in some silly game? If there is a reward at the end and spending 5 DAI will get you 10 DAI it's a sensible choice.

Government has an upper limit of how much \$MARS can hold, I have a limit of how much EE I can hold. The carry over from month to month is gradually decreasing, this is to incentivize spending rather than hoarding.

You can invite your friends to the game: you receive EE.

However in order to do this, you need to have some EE first. That could be a good outlet for surplus EE.

Adding new participants to the game increases the capacity of the government

Incentive for buying \$MARS from DAO pool as opposed to directly? The buyer and seller both receive some EE incentive from the government. If someone buys \$MARS and I don't deliver, they have a recourse and I'll be slashed from EE next month.

Maybe: Should you be able to sell EE for DAI profit? Not sure, TBD, I was thinking that only government can sell EE and if I have surplus I can use it to invite others.

Maybe: Should we allow switching between voluntary tax and no tax on a turn-by-turn basis? If someone accumulated EE from voluntary tax and now decides to stop paying - the EE awarded from tax go to zero, but the EE purchased for DAI should remain. (just like unused credits on Audible when you cancel)

Keen to run this simulation with real DAI or maybe testnet DAI that you buy for real DAI? (so that there is no infinite supply). Testnet first but maybe 1:10 ratio so that there is a tiny bit of competitiveness.

Does anyone how to program AI to run infinite number of experiments?

All the parameters yet to be designed. Ideally AI simulation, otherwise when using human flesh we can only do one experiment at a time. I say "AI" but maybe a simple bot *"if enough EE, then spend, if not enough then buy"*

What should happen if two agents decide to make the same action at the same time, for example both agents choose to solve the 🦋 problem. Do agents know the problems that other agents have? (I don't think so) But if we implement it on the blockchain, then commit-reveal is adding an extra layer of complexity. So I'm OK for agents to know problems other agents have.

Worried it can create a situation: I'd like to choose 🦋 but I know that other guy also has 🦋. In that case I might want to solve other issue, and now them knowing what I might do.... It's a nitty-gritty edge case, on that basis I think it might better to submit all the moves simultaneously and commit-reveal ultimately? It also depends on the programming language of our choice, see below

Programming language choices:

1. Solidity. Ethereum. Blockchain? **Longer term, that's for sure.** What about the ease of AI bot simulation and buying from the community?
2. JavaScript. Use of a centralized server? Definitely easier to tweak code in production...

Change log

1. Initial release
2. [Callum Gladstone from axialabs.org](#) in their version of Google Doc
3. [2020-04-02 Mars Robertson](#) with some comments and clarifications
4. 2020-04-06 Mars Robertson design for the game, various parameters, **including turn-based, do the agents know about other agent's actions?**

Nobel Prize in Economics

That lady won the Nobel Prize in 2009: https://en.wikipedia.org/wiki/Elinor_Ostrom

That was the year when Bitcoin blockchain was launched.

We are yet to see the very first Nobel Prize in Economics based on the blockchain:
https://en.wikipedia.org/wiki/List_of_Nobel_Memorial_Prize_laureates_in_Economics

(I see no blockchain on the list yet)

<https://medium.com/commonsstack/automating-ostrom-for-effective-dao-management-cfe7a7aea138>

→ <https://www.onthecommons.org/magazine/elinor-ostroms-8-principles-managing-commons>

8 Principles for Managing a Commons:

1. Define clear group boundaries.
2. Match rules governing use of common goods to local needs and conditions.
3. Ensure that those affected by the rules can participate in modifying the rules.
4. Make sure the rule-making rights of community members are respected by outside authorities.
5. Develop a system, carried out by community members, for monitoring members' behavior.
6. Use graduated sanctions for rule violators.
7. Provide accessible, low-cost means for dispute resolution.
8. Build responsibility for governing the common resource in nested tiers from the lowest level up to the entire interconnected system.

Tangent interesting read (*economy and incentives*)

<https://twitter.com/lopp/status/1245682065565253633>

 **Jameson Lopp**  @lopp · Apr 2

Did you know "price gouging" is not actually a term used in economic theory? Did you know that many anti-gouging laws only define the gouging threshold as "gross disparity?" It's a purely emotional kneejerk reaction to market volatility. [en.wikipedia.org/wiki/Price_gou...](https://en.wikipedia.org/wiki/Price_gouging)

 17  43  229  

https://en.wikipedia.org/wiki/Price_gouging#Opposition_to_laws_against_price_gouging

Aragon App mining programme

<https://github.com/aragon/AGPs/blob/master/AGPs/AGP-104.md>

We are using Aragon. Feels like a natural expansion. After losing my job for the 10th time in my life, I'm realising it's not them, it was me having a wrong attitude to work.

Harberger Tax?

<https://medium.com/@simondlr/what-is-harberger-tax-where-does-the-blockchain-fit-in-1329046922c6>

<https://blog.coinbase.com/the-playful-paradigm-shift-4bf35d9d1d11>

 **Kyle**  
@KylePlantEmoji

Being a millennial in 2018 means getting a bad Uber ride and still giving the guy 5 stars because you understand that this is likely his livelihood and you don't want to jeopardize that

 247K 11:06 PM - Jul 13, 2018 

 40.8K people are talking about this 

OLD NOTES: 2020-04-13 some financial modelling:

https://docs.google.com/spreadsheets/d/1KEZdYgfc16KN8TIwl_oZalwAEkBWassNjaRXPhyVMkk/edit?usp=sharing