

the  
**D**Apact

**D**ecentralised  
**A**utonomous  
microfinance network

**{ v0.3 }**

PRE-ALPHA  
NON-TECHNICAL  
WHITE PAPER

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## ABSTRACT

In this white paper, we introduce a blockchain framework for international development aid operations in low-income countries, aiming to improve funds traceability and efficiency through decentralised origination softwares, and a network of local merchants securing blockchain-to-real world interactions.

An Ethereum-based protocol lets crowdlending platforms, foundations and development banks reach out to their beneficiaries without resorting to their legacy field partners (i.e. local custodial lenders). The DApect maintains (1) a set of softwares and UIs for end-to-end matching of funders and beneficiaries, and (2) a network of non-custodial merchants (underwriters) in target countries to complete KYC validation, principal guarantee, and ETH-to-cash exchange. As a decentralised protocol, The DApect hands over compliance affairs to its underlying network underwriters - they can be registered as a small microfinance, pawnshop, payment agent, etc. following their local regulation. This makes The DApect a compliance-agnostic, seamlessly scalable financial service.

This sectorial framework aims to reduce legacy overhead costs in microloans and aid disbursement process.

## EXECUTIVE SUMMARY



Two decades ago, as the concept of microloans as a poverty reduction tool was gaining traction, there was hope that microfinance would transform economic and social structures. With its focus on reaching the unbanked, microcredit was expected to bring about change at the household level, a market in emerging countries that traditional banking players had failed to reach. [1]

Twenty years down the road, the microfinance industry is estimated at USD 100 billion, with 300 million clients [2], but the results have been mixed. Critics cite the only consistent winners in the microfinance game are the MFIs (microfinance institutions), many of whom charge exorbitant interest rates that sometimes reach up to 200% per annum [3] (as in the case of Banco Compartamos [4]).

### **1.1 Problem overview**

Legacy field partners such as MFIs have been unable to cope with the new techno paradigm and opportunities offered by the new economy (1), hindering international creditors in the achievement of a positive impact through microlending (2).

#### **1.1.1 Microfinance: too expensive**

In most countries, the interest rates on microloans range from 25 percent to 50 percent (even after adjusting for inflation) [5]. MFIs are subject to significantly higher costs than commercial banks, because of lending and administrative costs (such as identifying and screening clients) as well as high portfolio cost of financing.

##### *Cost of capital*

By definition, a poor country is a place where capital is scarce. Poor countries tend to have relatively high growth, which adds a cost of opportunity to scarcity. This combination creates the conditions for extremely high cost of financing for MFIs.

In Cambodia - pilot country for The DA Pact network - the interests paid by MFIs on capital raised to finance their portfolio usually range from 7% (in the case of Prasac, the largest in the country with over 1B USD portfolio) to 15% for smaller lenders [6]. Beside donors, MFIs mostly get fundings from local banks or international microfinance investment vehicles (MIVs - Positive Planet, ResponsAbility, Blue Orchard to name a few). And MIVs themselves source capital from pension funds and other asset management firms [7]. The circuits of microfinance capital are complex and plenty of intermediaries taking their cut in the process.

**High cost of capital means higher break even, and in microfinance the economic poor are the ones left holding the bags.**

### Operating costs

In most MFIs, the payroll accounts for a half of total expenses. It is the very nature of microfinance to bank the unbanked, and spend time and resources identifying and underwriting customers [8]. This means sending credit officers on the field, to check customer's home and business. It also means spending considerable time on a single application to help poorly educated people understand the lending process and the information they are expected to disclose for the underwriting.

Despite the specific challenges faced by MFIs, there are clear mismanagement issues and archaism in the industry. Many MFIs were setup in the early 2000' as NGOs lacking basic business concepts, or by local tycoons relying on unfair market conditions rather than operating efficiency.

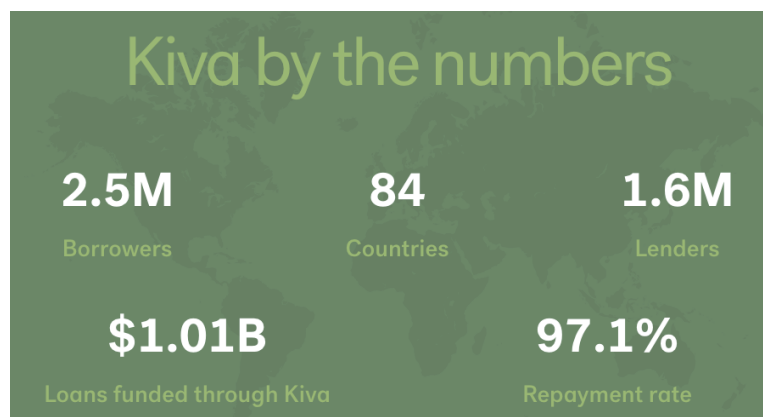
Today's MFIs are extravagant corporations that commonly have a hard time catching up with the new paradigm offered by digitalisation.

Cross-border payments, desintermediation, trust and identity management are some of the main problems tackled by the blockchain technology. Thus, The DApact sees potentially disruptive applications of the blockchain to the microfinance industry.

### 1.1.2 Development Aid: missing the mark

Development aid type of FDI can be either public (stemming from development agencies and bank, or state bilateral agreements) or private (foundations). The DApact protocol addresses both development banks and private entities as a tool to improve aid efficiency. We currently seek to engage microfinance crowdlending platforms as our first partners because they are more tech-savvy and innovation-friendly.

It's been a decade now since the nascent crowdfunding industry started to raise free capital dedicated to the world's poor. These pioneers believed that the microfinance industry's powerful marketing had strong enough hold on westerners to have them selflessly lend money at 0% and even accept the risk of capital losses. 8 years on and some of these entities have managed to create large, resilient communities of lenders.



Alongside Kiva, a dozen microcredit crowdfunding platforms are in existence today. Most of these platforms do manage to raise capital at no cost for the good cause, and are purely supported by grants, loans, and donations from the users, corporations, and national institutions. However, all of them rely on a network of field partners - MFIs - to administer the loans on the ground.

Borrowers on Kiva end up paying 35% interest p.a.. Crowdlending communities eventually fail the final borrowers when it comes to taking advantage of this low cost capital. MFIs are still for profit corporation, dealing with high operating expenses and ROI expectations.

Crowdlending communities miss the mark because they stack up on the traditional circuits, rely on the traditional MFIs to do the donkey work.

In the microfinance narratives, MFIs are needed on the ground to find customers, underwrite them, disburse loans in cash, and enforce these loans repayment. The purpose of an MFI is to move cash from its creditors account to microborrowers' hands, incurring as little losses as possible in the process. Multiple layers of control, heavy admin structures, compliance duties result in complex, sometimes ludicrous corporate machines [8]. Payroll generally contributes to half of the total expenses of an MFI, followed by the branch network maintenance (rent, utilities and branch taxes).

To the root of such heavy administrative structure lies the idea that a central entity must be liable for the funds they lend to micro borrowers. But virtually, these entities are just policy makers, and they rely on salaried employees to select creditworthy customers and handle and disburse cash to them. With salaries topping just a few hundred dollars, these employees are the ones effectively handling the MFI funds, with a risk they put little care in the customer recruitment or worse - embezzle funds. Still, most MFIs display repayment rate over 96% [9] (98.5% in the case of Cambodia [6]).

As a matter of fact, even though employees are marginally interested in the portfolio quality - they don't benefit from it besides occasional bonuses - the promise of a stable, unconditional future revenue is the driver that builds trust between the funds owner - the MFI - and the funds manager - the employee.

Just like MFIs rely on their employees, The DA Pact seeks to build a network of independent agents to carry out the underwriting activity, document collection, payment transfer and contract enforcement. Such agents will be liable for their portfolio (i.e. cover payment defaults), but free from the supervision of a central entity. They will work commission-based, taking a small % fee on every payment they process. To the other end of the chain, The DA Pact will rely on existing crowdlending communities to fund the loans, acting as a trust bond between these communities, the micro borrowers and the agent. A trust bond, that is blockchain.

## **1.2 Mission statement**

Rationals: The core MFI's raison d'être - loan underwriting and disbursement - has become obsolete as blockchain now allows passing electronic value directly onto unbanked populations. Financial intermediaries are bound to mutate into information brokers.

**“Slashing the cost of microcredit in the developing world by creating a decentralised self-spawning microfinance network”**

With no heavy bank structure to support, interest payment goes in full to these decentralised, independent agents - the network “underwriters”.

Thanks to a proper incentivisation of all users - low cost capital for borrowers but bank-like net portfolio returns for the underwriters - the network is set to spawn new users as time goes.

The DA Pact just provides a tool to a community of people willing to lend, borrow or enforce the terms of a microfinance agreement. The DA Pact is not an intermediary and does not add its own markup on network usage. Instead, it is the sole token issuer in an economy whereby users (i.e. token holders) all take advantage of the network growth.

## **1.3 Core objectives**

### **1.3.1 Build the world's most effective microfinance business model**

Decentralised underwriting combined with blockchain enables a whole new level of cost effectiveness in microfinance. Independent local Underwriters have a territorial rooting and much better knowledge of their customers than large institutions, while having low overhead cost thanks to their relatively small size. The DApact network can operate much more efficiently than any existing MFI.

### **1.3.2 Be the fastest growing microloan provider in every served market**

The DApact's smart contracts design allow for auto scaling of the network once the first few Underwriters are trained. Using co-liability and sponsorship rewards scheme, the network draws an exponential scaling curve. Like wheat on a chessboard, The DApact network can move from a single city to countrywide coverage in under 36 months.

### **1.3.3 Become a reference emerging markets port-of-entry for impact investors**

The DApact wires together financiers, entrepreneurs, and grows along with independent oracle agents ("*Underwriters*"). The DApact network users go through a KYC process and the continuity of the contact is secured through a set of apps. Crowdlending communities, social impact funds, development agencies, NGOs can leverage this direct access by using the network.

## USAGE



The DApact is a network driven by its users: (1) lenders, (2) agents (“Underwriters”) and (3) borrowers. Users can interact with one another through a loan management system that is, the synapses of the network. These synapses have three main functions:

- Exchanging value between users
- IDing new users
- Recording and rendering users interactions

### **2.1 What is the network - Exchanging value between users**

People may not have bank accounts, but in many countries where financial exclusion is high, mobile phone penetration is massive. By 2020, there will be 9.2 billion mobile phone subscriptions [10]. That’s more than one for every person on Earth.

With the inception of mPesa in Kenya, mobile money has become a huge deal for least advanced countries. In our pilot country, Cambodia, we see 8 players competing for the remittance market, some of them having developed networks of thousands of merchants all over the country. Studies show that over 50% of Cambodians have used one of these services (Wing, True Money are the main players) at least once, for electricity bills payment, or sending money to their family or paying off loans [11].

Building the underlying payment systems traditionally requires huge investment in IT development, security and maintenance. A banking licence (or partnering bank) is also required to legally serve the customer and process international payment (where SWIFT / BIC enter the game).

A blockchain-based system can be launched and maintained for a fraction of the cost of legacy systems. Blockchain allow users to move value securely in between them in the form of tokens. Some of the blockchain participant have an access to cash-in and/or cash-out solution to transform these token into fiat money for their everyday use.

Moving tokens through blockchain can be done at extremely low cost, regardless the amount or the country of destination. Blockchain transactions are essentially secured and immutable, with no possibility to corrupt the transaction record.

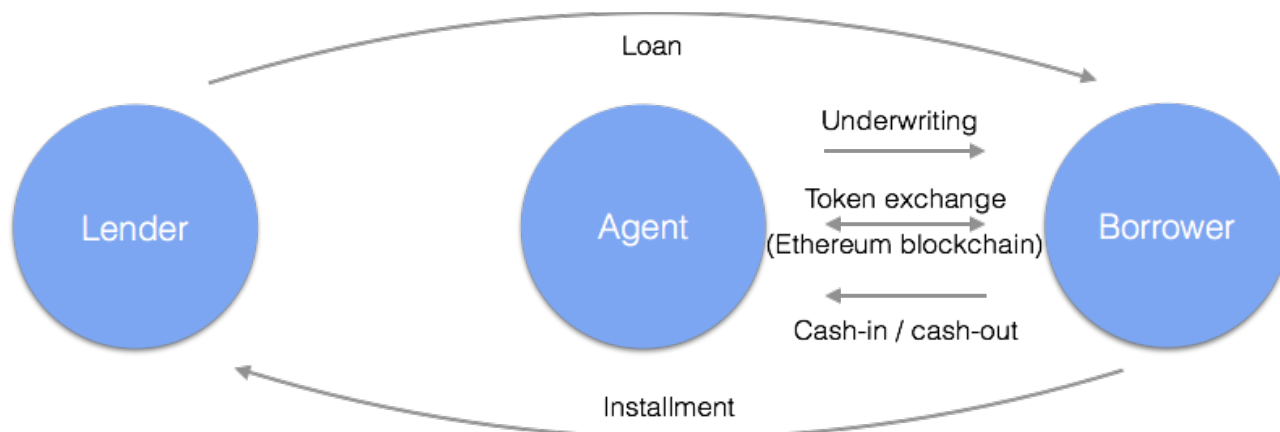
When users of a blockchain agree that a token is exchangeable for fiat currencies (or any corresponding real world or digital asset), transfer of value becomes decentralised. Lenders in the USA could transfer a loan to borrowers in Cambodia without a bank being involved, as long as the latter have access to a broker willing to exchange the tokens for fiat.

[The DApact sets the environment for network’s users to process token transfers and cash-out these tokens for fiat against a local Underwriter.](#)



The local Underwriter acts like an ATM to these users, except that he never really holds the funds. Thus, he is mostly securing the transactions and wiring lenders and borrowers together.

Beyond processing payments, the Underwriter manages the entire relationship with the borrower, from final application approval to documents management, and enforcement of the payment collection when needed.



For providing these services, he is entitled to a large 5% commission to be paid by the borrower on each transfer. Given this commission is the only single fee paid by the borrower, this makes the cost of borrowing extremely low (under 10% APR, more than 3 times as low as interest rates practiced by legit MFI). For the Underwriter on the other hand, this is a good hourly rate. As long as the Underwriter has time to manage additional customers, he can grow his portfolio without being constrained by capital availability: lenders finance the loans, he just validates the underwriting and process payments.

[The DApect's wallets and smart contracts will be built atop the Ethereum blockchain and use Ether tokens.](#) The Ethereum blockchain uses Gas as the internal pricing for running a transaction or contract in Ethereum. At the time of writing before the launch of *sharding*, it is fixed to 10 Szabo, which is about 1/100,000 of an Ether.

## **2.2 Who is in the network - IDing new users**

There are three types of users in The DApect network

- Lenders
- Borrowers
- Underwriters

The DApect's system is a bond between all the network users. New users identification and recruitment occur through the system over the internet, and no presence on the ground is ever needed. The DApect is not intended to establish a sustainable operational or legal presence in any country beyond the company's country of establishment (Switzerland or Singapur).

### Lenders

There are strong microfinance crowdlending communities on the web.

The DApect shares with existing crowdlending communities the common vision of promoting financial inclusion and reducing microcredit cost. Among the numerous existing platforms, the top players are charities and social business that have built their identity on a pro-poor social mission.

Kiva and Babyloan, respectively the US and European leaders, both struggle to make this vision resonate with the facts: loans funded through their platforms are eventually marked up with a 35% interest charge by the intermediary MFI. The DApect has a lot to offer to these organisations in terms of mission fulfilment, product offer and communication.

## Some existing microfinance crowdlending communities and their HQ



Indonesia



Japan



Malaysia



China

B A B Y L O A N

France

zidisha

USA



USA

FUNDKO

Philippines

On the other hand, The DApact can benefit from the dedication of their communities to provide capital at very low cost. Microfinance crowdlending has proven itself as one of the best performing form of crowdlending, with some communities counting over a million users. This will ensure a flow of new lenders at will for the network.

The DApact will not dedicate resources to reach out directly to lenders in developed countries, and prefers to work with established non-profits. However, The DApact will concurrently maintain its own, simple web display platform featuring borrowers profile and a wallet address to transfer funds through the Ethereum blockchain.

The cryptocurrency community is still relatively confidential, and embarking non-crypto users in a token economy is hard. For that reason The DApact will not dedicate much resources into building its own crowdlending platform but rather rely on established crowdlending communities.

### Borrowers

#### Proof of concept

The DApact will drive a proof-of-concept period over the first 9-12 operational months, building up a 100K USD loan portfolio with its own funds. This testing period will aim at accommodating Underwriters with near-instant loan funding after their final approval and refining the lending process.

This pilot will create the necessary portfolio performance track records to engage large lenders.

CAMBODIA  
PILOT BOX

The DApact will take positive action in promoting blockchain-based loans to its target markets, despite having no operational presence on the ground after the network is kicked off.

Borrowers will interact with the loan management system through Facebook Messenger exclusively, i.e. sending loan applications, being notified of application outcome or payment due dates, and receiving QR codes for payments will all occur in Messenger.

Borrowers interact with the loan management system using a Messenger chatbot (no human interaction is needed). As such, new applicants embarkment occurs through the chatbot exclusively (Underwriters cannot source applicants directly). The chatbot carries out basic KYC to create an applicant file for underwriter's review, and comply with AML regulations, that is, identity

and address check, key documents digital collection. It also performs a collateral valuation (the collateral is the applicant's motorcycle, whose value is estimated using the number plate number against the national registry). Any further payments (loan disbursement and installments) will be processed through QR codes sent on due dates through Messenger.

Loan applicants' embarkment occurring online, it makes entire sense to promote blockchain-based loans (i.e. the Messenger chatbot) exclusively online. Facebook has become an important part of daily life in developing countries. In Cambodia, 48% of total population aged 15-65 years old claim to be active users of the social network in a study by USAID / The Asia Foundation in 2016 [12], equivalent to that of the EU (48%) but below the US (66%).

Blockchain-based loans in The DApact network are extremely cheap and it is expected that Underwriters will actively promote them in their circles, while word-of-mouth enters play too.

### Underwriters

The DApact does not incur the overhead and payroll expenses a legacy MFI does. It also does not need to make profit out of the service (see "Token mechanism" below). It can thus redirect 100% of the profits generated by loans onto the Underwriters. With Underwriters retaining a 5% commission on each payment, loans will still be under the 10% interest mark while providing a very attractive margin to the Underwriters.

CAMBODIA  
PILOT BOX

Underwriters will be pawnshops

There are a number of reasons why pawnshops are ideal Underwriters

- They are legally entitled to provide microloans under their license
- They have the know-how to provide loans and underwrite applicants
- They lack funds to expand their business
- They can cope with some working capital requirements
- They are used to booking collaterals
- They have their own network to make the collateral liquid if needed

Given a 5% commission on a 1,000 USD loan over a 12 months period, the income generated by the Underwriter would be 50 USD. Over the loan lifespan, he would dedicate 2 to 3 hours to validate the application and generate a new borrower, then a few minutes each month to process installment payments. The hourly rate is understandably quite high for a country which GDP per capita barely exceeds 1,200 USD.

### Underwriter's gross income per portfolio volume

Considering 1,000 USD / loan, with a 12 months tenure		
	<b>NPL scenario (average high)</b>	<b>Underwriter monthly gross income</b>
<b>100 loans portfolio</b>	2%	\$245
<b>200 loans portfolio</b>	2%	\$490
<b>500 loans portfolio</b>	2%	\$1225
<b>1,000 loans portfolio (cap limit*)</b>	2%	\$2450

\*1,000 loans is the largest manageable portfolio in a family business ( ~33 payments + 2.5 credit analysis per day)

**Underwriters are liable for the loan repayment**, while not being the owners of the loan principal. This means that the only way to cover default will be to retain the overdue capital from the Underwriters' commissions. Thus, the commission shall be high enough to cover a reasonable default rate as well as to ensure Underwriters have a financial incentive to remain part of the network.

### Non-performing loan coverage by underwriter's commissions

Considering a portfolio of 200 loans, 1,000 USD / loan, with a 12 months tenure						
	NPL scenario*	Total payment	Underwriter monthly gross income	Default to cover each month	# commissions needed to cover overdue	Underwriter monthly profit
High performance	0%	\$17500	\$834	\$0	0	\$834
Higher-middle performance	1%	\$17325	\$825	\$175	42	\$650
Lower-middle performance	2%	\$17150	\$817	\$350	83	\$467
Low performance	4%	\$16800	\$800	\$700	168	\$100

\*based on the average non-performing loan in Cambodian MFIs is 1.3% in 2016

**Underwriter never hold the principal of the loan.** Loan principal is directly transferred to the borrower's smart wallet. The borrower's wallet is called "smart" as it is managed by a smart contract which creates multi signature conditions to unlock its balance. As per the smart contract, the loan principal is locked into the borrower's wallet until he produces his transaction QR code to the Underwriter. The Underwriter must then disburse the corresponding amount in cash, and only then the smart contracts orders the Ether token transfer from the borrower's to the underwriter's. Underwriter cannot run away with the loan principal.

The only possible way an Underwriter could cheat the system is by deliberately producing wrong underwriting information on an accomplice (loan applicant) and share the profit with him. The DAfact has set a number of mechanism to prevent such risk:

- Applicants must go through The DAfact's online KYC process (including producing ID and address documents, and specific documents such as family book)
- Application are made available to all Underwriters, so a Underwriter cannot make sure he will underwrite a specific applicant
- Underwriters' ID will be verified and their sponsor will be partially liable for their portfolio performance
- Underwriters have a high financial incentive to stay in the network and grow their portfolio
- Underwriters must hold a token deposit in a smart wallet to be part of the network. In the unlikely instance of a scam, this deposit would partially cover losses

Once early Underwriters are trained - The DAfact will maintain a temporary presence in every new market to train the first Underwriters - they will be incentivised to recruit and sponsor new Underwriters by themselves. Through sponsorship, they will become temporarily and partway responsible for the new underwriter's portfolio performance, but will also get a fraction of every commission generated by the new Underwriter.

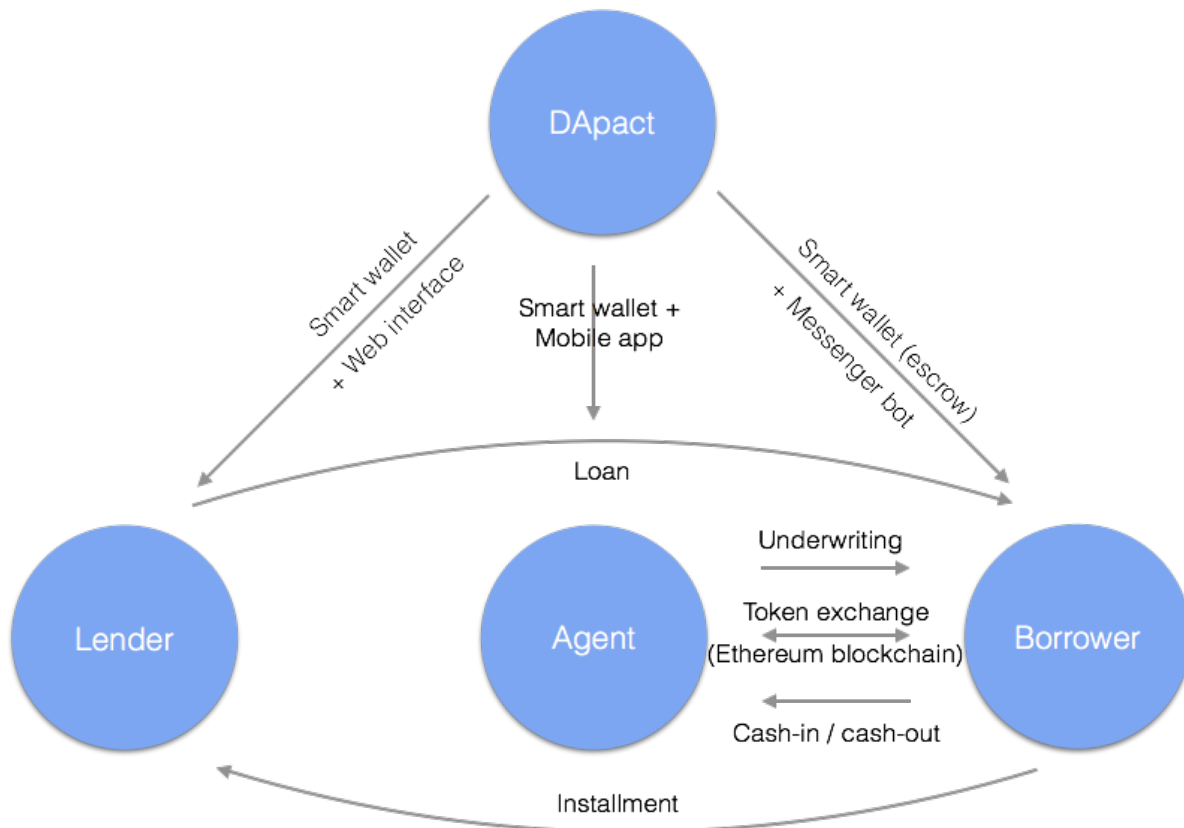
While The DAfact reserves the right to determine the Underwriters' eligibility requirements, it is expected that the underlying economy scheme will allow the network to grow autonomously within existing markets.

However, The DAfact's intervention will be needed every time the network expands to a new country.

### 2.3 What is The DApect's function in the network - Clogging and rendering users' interactions on the blockchain

The DApect's motto is to allow its user to exchange information and interact securely. The core service provided to the network is an access to the Ethereum blockchain and a mean to exchange value through Ether tokens, and store this value on dedicated wallets. Note that loans on The DApect network will be denominated in fiat currencies.

Besides, The DApect provides a loan management interface to all the users in the network. This interface is unique for each role.



Every loan in The DApect network is represented by an individual smart contract. A reference implementation for The DApect loan standard with HMQ can be found here <https://www.notion.so/API-documentation-d0b77d55b69b4279b802fe969297f6fd>

#### Lenders' interface

A lender interface will be needed to connect to lenders.

Lenders will post borrowers funding and power token transfers to borrowers' smart contract through a web interface that shall integrate smoothly with their own systems. Given that The DApect may cooperate with several platforms, it will develop an agnostic system in order to seamlessly integrate wallets and applicants' profile into crowdlending systems.

#### Borrowers' interface

Every interactions with borrowers will occur through a chatbot. The bot has been designed to interact with users with low digital literacy and low writing skills. Users are not ever prompted to type-in any information, but rather to choose from available options (push button, send pictures, locations, etc.).

The chatbot is available for testing on Facebook messenger at this address.  
<https://github.com/TheDApact/borrower-UI>

Users may need picture of Cambodian plate numbers, id cards, and geocoding coordinates in Cambodia so as to successfully test the features. A testing package can be downloaded from the following repository:  
<https://github.com/TheDApact/Bot-testing-material>

The chatbot is live at this address  
<https://m.me/impactchat/>

Open-source computer vision technologies (OpenCV, OpenALPR) are used to qualify and fetch information from pictures (identity, vehicle number plate, utility bills addresses, etc.). Besides fulfilling KYC requirements, the chatbot will be used to remind borrowers of their installments due dates, and send them a QR code to process payment with the Underwriters. There should not be any education to the product for borrowers. Beyond these QR codes, borrowers will not be interacting at all with a token wallet, and every transaction will be denominated in fiat currency from their perspective. The Underwriters will help borrowers understand the QR code payment process, while the chatbot can keep in touch with the customer to make sure his Underwriter abides by the network rules (i.e. not charging undue fees).

### *Underwriters' interface*

The Underwriters' interface is (in the making) a React progressive web app which main functionalities are:

- **Applicants sourcing:** For every new applicant nearby, Underwriters are notified and given the option to process the underwriting. The first Underwriter to accept the applicant's request will receive it. This functionality will feature applicant profile and localisation map.
- **Portfolio management:** Underwriter can follow-up his portfolio through the app (PAR, schedule, receivables, profit, etc.)
- **Token wallet:** Underwriters have access to the Ether they collect and will be able to trade their Ether for fiat currency through the app (probably in a p2p way, matching local merchants)



## BUSINESS MODEL

The DApact is a novel, experimental blockchain framework for microfinance operations. While its compliance-agnostic model virtually allows for hyperscaling, primary objective now is to unit test the elements of the frameworks, to assess:

1. Relevance of the protocol for field partners (i.e. MFIs, local money lenders, pawnshops, etc.)
2. Relevance of the protocol for international creditors (ie. development agencies, crowdlending platforms, foundations, etc.)
3. UIs relevance to final borrowers
4. Relevance and compliance of the protocol to central banks in developing countries
5. Ethereum Smart Contract auditing

Following an AGILE course, The DApact is experiencing various elements of the protocol through a pilot-testing methodology.

### **Pilot #1**

Status: Completed

Start Date: October 2017

Location: Cambodia

Assessment: Pawnshop network, borrowers UI (chatbot)

Portfolio value: 10,000 USD

Financing: Self-funded

Feedback: <https://www.youtube.com/watch?v=Z8VXIDc-Kro>

### **Pilot #2**

Status: Current

Start Date: June 2018

Location: Cambodia

Assessment: Pawnshop network, underwriter UI, lending partner (signed partner: Good Return)

Portfolio value: 20,000 USD

Financing: Good Return, an AusAid-backed Australian crowdlending platform

### **Pilot #3**

Status: Pending

Start Date: Q3 2018

Location: Ivory Coast

Assessment: MFI network, borrowers & underwriter & lender UI, lending partner (Banque Africaine de Développement)

Portfolio value: ?

Financing: ?

Pilots are conducted for framework-testing purpose only with no profit generation.

As a fundamentally new economical & sociological paradigm, blockchain sees few existing working applications and projects are vastly experiencing its potentialities. Business models in the blockchain space are widely speculative and The DPact is no exception to the rule.

As of yet, we have identified five revenue-generation levers:

- (1) **Transaction fee model** - where every transaction going through our Smart Contract is levied by a small amount
- (2) **App purchase model** - where a one-time fee applies to lenders willing to use the network
- (3) **Franchisee model** - where underwriter are levied a portion of their gross revenue as they use the protocol
- (4) **Token exchange marketplace model** - where the app would allow underwriters and lenders to exchange Ether tokens for fiat currency within the app, for a fee
- (5) **Consulting model** - where tailor-made integration of the protocol within organisation would be paid for



## LEGAL CONSIDERATIONS



### **Is the use of the Ethereum blockchain subject to any regulation?**

While some countries have regulated or even ban (in the case of China) the trading of cryptocurrencies, experimentations of blockchain technology is generally seen as positive y governments. The DApect does not involve trading of cryptocurrencies by non-finance professionals as all Underwriters will hold some sort of financial service license (lending, payment processing, currency exchange, etc.).

### **Is The DApect subject to cryptocurrency-specific regulation?**

Cryptocurrencies being in their infancy, the legal climate is uncertain in most parts of the world. While some countries have begun to regulate cryptos (USA, China, Russia), many others are still holding off.

As of yet, Switzerland, Singapore and France, among others, have deliberately chosen to take a laissez-faire approach. They are both considered ideal hubs for crypto companies, with tax incentives, a large pool of available talents and a stable regulatory environment.

Being a plug-and-play protocol with no legal bound to its users, The DApect will have no legal presence in the countries where borrowers are provided loans.

### **Are Underwriters subject to the local microfinance regulation?**

Underwriters, whilst cashing out the loans in favor of the borrowers, do not hold the loan principal at any time. Instead, they just validate (“sign”) a blockchain transaction that releases the loan principal on the borrowers’ wallets. The actual lenders are not in Cambodia, and it is arguable that Underwriters are just processing payments.

Eventually, this question will be answered country by country. In the case of Cambodia and for the pilot project, we chose to select Underwriters among pawnshop license owners as they have the right to carry out microfinance operations (under the supervision of the Ministry of Finance). Working with pawnshops brings more guarantee to avoid compliance issues.

### **Are crowdlending platform allowed to send funds directly to foreign individuals?**

Major platforms can legally send funds to foreign individuals provided they comply with AML regulations. Kiva recently introduced “direct loans” through Paypal for US citizens, and they “*continue to learn the best way to expand this offering*”.

The DApect will KYC all microloan applicants in the network through the chatbot, so as to meet AML requirements.

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