Sola

White Paper ver. 1.1

October, 2017

Table Of Contents

Summary

Sola is the next generation decentralized social platform that incentivizes and benefits all involved parties — users, third-party developers and the core team. The name Sola is an acronym for “social layer.”

Sola is an open ecosystem, which means that most of its source code will be made open source and available for audit, improvement and usage by anyone.

This document outlines Sola’s fundamental principles, structure and its economic and usage aspects for involved parties.

Background

The most criticized aspect of centralized social networks is the way they handle user data and privacy. This is unlikely to come as a surprise, given that almost 100 percent revenue of social networks comes from displaying ads to their users based on the user data.

We consider this as a symptom and not the root cause. The root cause it that networks are reluctant to see their largest and most important audience, users, as their full partners. We think that users shall have the right to benefit from the networks, as do advertisers and network owners.

There have been a number of attempts (and they are not ceasing) to build an open sourced or a decentralized social network that pushes the concept and the business model of social media beyond the existing incumbents. It is worth mentioning app.net (paid open source Twitter rip-off) and Diaspora (distributed rudimentary Facebook clone). The most notable contenders today are Akasha (decentralized rudimentary Facebook rip-off) and Steemit (Reddit clone powered by cryptocurrency).

We do not consider these and other decentralized social network attempts as serious contenders in the social space. Despite modern architecture they are falling short on the two most important levels — comparable or superior user experience (ideally, of the new users) and a solid underlying business model.

There are two examples that fit into our defined criteria that a next-generation social media contender should meet — Status and Kin. However, both of them use a messenger form factor, while we at Sola use a modified social network approach.

We think that the social network approach is more likely to succeed than the messenger approach, as public communications are easier to monetize than private communications. Furthermore, it requires a lesser user base in order to become valuable, and the value of a social network grows faster than the value of a messenger.

Ilya and Pavel, Sola's co-founders, have been working together since 2011 when they established a new venture for innovative social products development. The first project of a photo-based social network We Heart Pics lost to Instagram and was shut down despite its 3M users. The next project was Plague, a social experiment that was started to find out if people were ready to communicate and collaborate with strangers in a constructive and respectful way. It has been running for almost 3 years, and now it is ready to come out of its infancy phase with a 650K user base.

Sola is successor to the Plague experiment and a major upgrade enabled by the blockchain capabilities. Sola has inherited Plague's unique approach and proven social mechanics, together with all the data and the user base. We have created Sola in an attempt to succeed in our mission — to democratize access to the audience and to allow all involved parties to benefit from it.

In this White Paper, we intend to outline our approach to a next-generation social network that uses decentralization because this necessary infrastructure element enables new approach implementation rather than "decentralize it while it's hot" approach.

Social Information Network

There are two general types of social media — messengers and social networks.

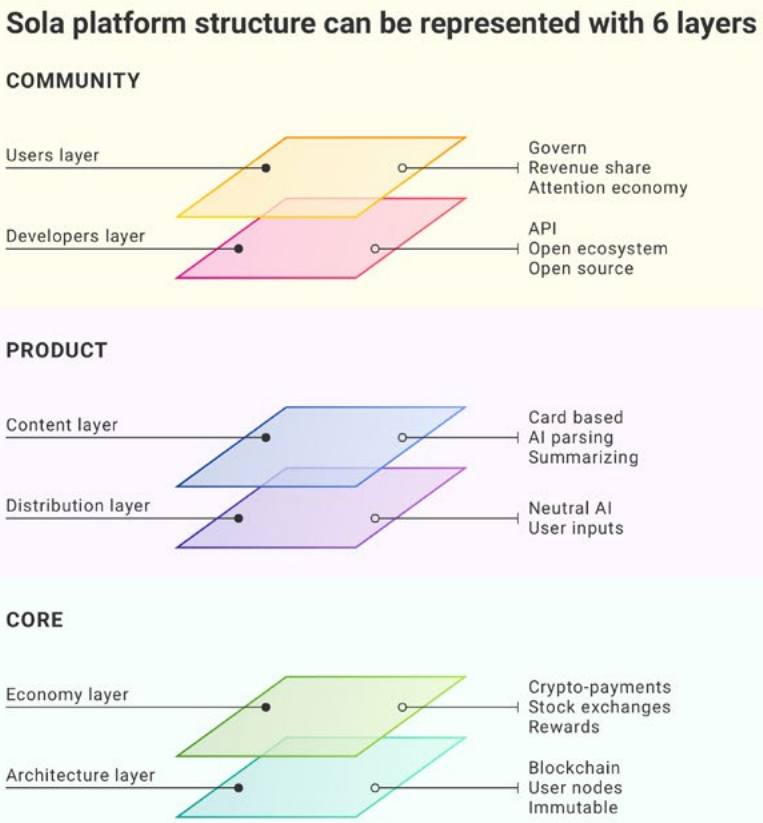
Messengers are private networks as they are mostly used for private communications and their content is private by default. Private communications are not considered in this paper.

Legacy social networks (Facebook, Twitter, etc.) can be categorized as semi-public networks. Despite most of their content being public, you are required to establish connections with other users in order to receive information without which such semi-public networks are useless. By making connections, you define your content. However, instead of choosing information directly, you choose sources of information. You effectively create filter bubbles for yourself. The system is restricted by its own rules, and it cannot show the content that falls out of filters. Moreover, legacy social networks were initially intended for communication among friends, so their feeds are a heavy mix of general and personal content.

Reddit comes closest to our definition of a social information network. Its content is not intended for friends but for the consumption by general audience. It does not require users to establish connections to use the service and it still provides a way to fine-tune the received results. Reddit has one of the most visited resources on the net despite the fact that it has not changed a lot in the last 12 years and was not fully aware of the Mobile First concept, at least in 2011. Thus, there are a lot of possibilities.

Sola is a public social information network with a strong financial incentive for all involved parties to follow the rules of the network and to develop it together. Its content is produced by quality-oriented users for the global audience instead of just the user's friends.

Summarizing the above written statements, it is safe to call social information networks as a hybrid of a social and a media network.



Economy Layer

Attention has its price

The amount of information created daily is growing exponentially. In digital economy, information production and spread cost is close to zero. At the same time, attention is a finite resource and cannot be stretched — you cannot read 100 books or look through 1 000 000 of pictures in just one day. It leads to growth of resource (attention) deficit and subsequently, a continuous increase of its cost.

Most of the real-sector economy is directly connected to the attention economy. It is not enough to create information, produce a good or a service — you need to attract user's attention. The current model of attention distribution totally ignores attention producer/owner (aka user), excluding them from the economy. This will inevitably change in the nearest future.

Sola economy is built on the principle of ethical use of attention. Attention is the new currency.

SOL Token

To empower Sola economy we issue SOL tokens based on the ERC20 standard. Long-term viability of a platform depends on the viability of its economy and it is essential to be able to control it and influence its value with our own growing economy, development and overall progress. Bitcoin and Ethereum are huge economies in themselves and by using these currencies, we will become completely dependent on their state and fluctuations.

SOL is a **pure utility token** and the only currency used for transactions on the Sola platform:

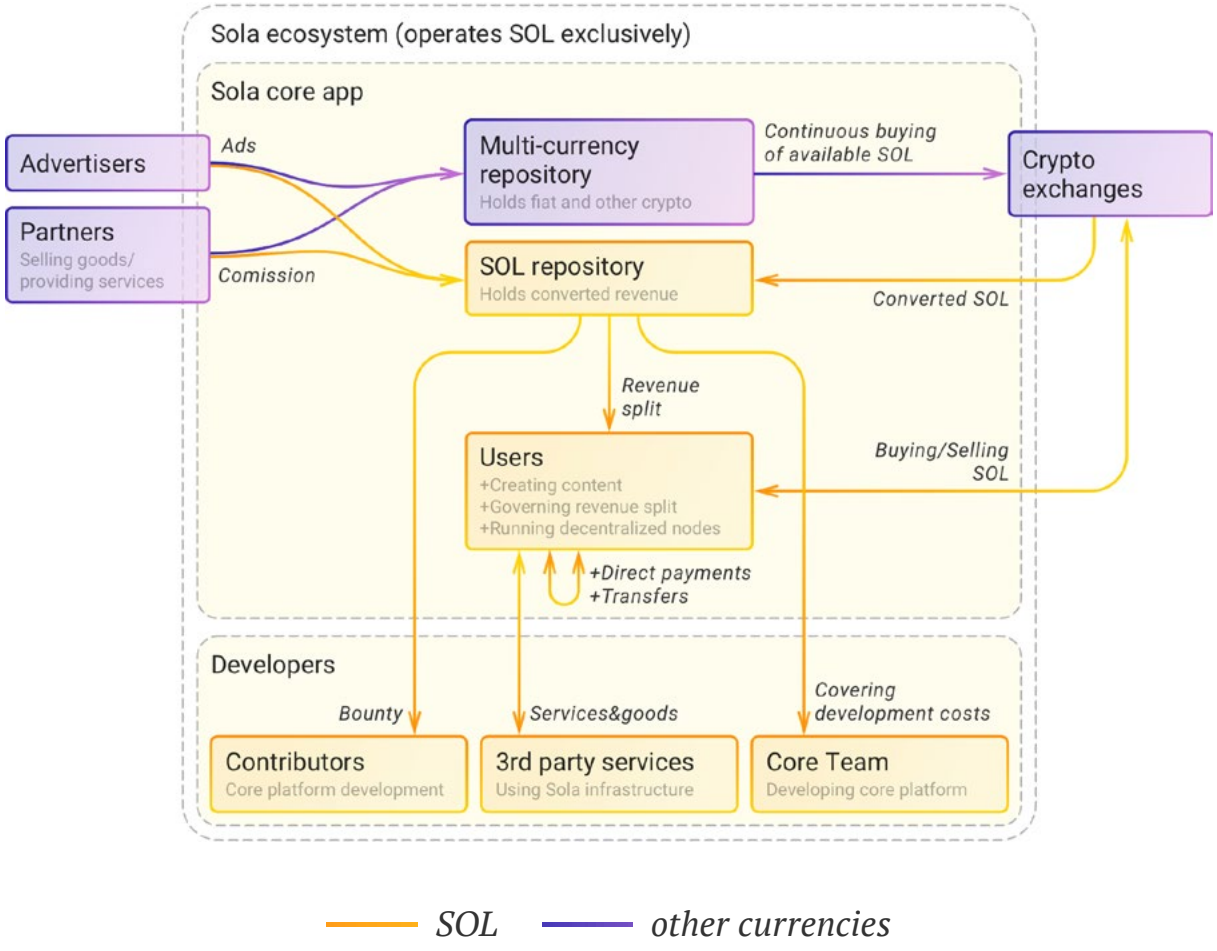
- Possession of a token has no benefits other than monetary;
- Sola ecosystem exclusively uses SOL for transactions;
- Revenue in other currencies is converted into SOL through crypto exchanges;
- Users' and developers' earnings and rewards are provided in SOL;
- Third-party services built on the Sola platform should use SOL;
- Purchasing of additional services on Sola app (cards exposed to more users, action points, ad-free experience).

You can obtain SOL tokens in the following ways:

- Buy during Token Sale;
- Earn tokens by creating quality content endorsed by other users in Sola app;
- Earn tokens as a node owner, providing for the service distribution;
- Earn tokens by taking part in the Bounty Development Program, improving Sola platform and Sola app;
- Procure or trade tokens for different currency on the crypto exchange.

Sola economic system is a hybrid of an internal crypto economy powered by own token and external revenue streams with different monetization methods powered by a variety of currencies.

Our idea is simple: in the current state of the crypto market it is still possible to make money out of thin air for a while using speculative approach to ensure token value, but it cannot serve as a long-term sustainable business model. The bubble will pop someday. To cover our expenses and fulfill our obligations to customers, partners and employees we have to earn money.
In contrast to the critics of centralized social networks, we do not think advertising business model is “broken”. It is unequal to the user and it can be significantly improved with the implementation of a crypto economy, but it is definitely not broken.



We are not trying to find a substitution for the advertising model; we converge it with fair treatment of users.

Revenue streams

Sola has a number of revenue streams:

- Native advertising (third-party networks at the early stage);
- Pay-per-engagement model (connectors for 3rd-party services that want to benefit their users for engagement — games, apps;
- Custom ad-hoc campaigns;
- User purchases for services built on Sola Platform (Action Points, ad-free accounts, additional exposure);
- SOL transactions commission;
- Token sale (limited capacity).

Stack and card format makes Sola app a perfect fit for native advertising. The frequency of ads displayed will be defined by tests. At the moment we consider that user will not see more than 2–3 ad cards per day, which is much less than what other social media can suggest. What makes Sola platform unique is the fact that users will be interested in boosting advertising on the network, as this has an effect on their potential earnings and the value of SOL.

Depending on the commercial stage of the platform functionality and its audience size we forecast the following APRU:

ARPU, USD est.	Stage functionality
0.1–0.2	Third-party advertising network
0.3–0.7	Establishing direct relations with first-tier advertisers; Adding special ad-hoc projects
0.8–1.2	Replacing third-party advertising network with direct advertising self-service platform; Adding new formats of advertising action cards
1.2–2+	Launch of connector platform enables “pay-per-engagement model”

The platform suggests an opportunity to create third-party services using Sola developments, infrastructure and audience. It might as well be existing business integration like an online shop or a brand new service. Partners shall use SOL for the transactions within such services with the platform holding its fee.

Sola app provides a range of paid services including an ad-free version and Action Points purchase.

Users are Partners

It is critical for a social service to create quality content. This is why we consider content creators as partners and we share with them a part of our revenue. Revenue distribution between the content creators is performed based on the “endorsement” given by other users in Sola app.

To give the content creators additional motivation and to accelerate platform’s economic development, 12% of all emitted tokens will be transferred to the content creators using the Sola app endorsement mechanism. Once the token sale is over, these tokens will be evenly distributed (transferred to the users) over the next 365 days.

> **ATTENTION!** SOL token ownership **does not influence** and **is not connected to** the platform revenue distribution, interest in revenue, the rights or the votes regarding any issues, etc. SOL token is the platform’s currency used as a reward for the content creator and nothing else.

Content Layer

Stacks and Cards

Sola uses a **stack** of fullscreen containers for information — "**cards**" instead of legacy social networks traditional feed format. User always sees one item of information at a time. Tinder-like gesture-based mechanism is used to go through stacks. This stack implementation ensures higher user engagement with the content compared to feed concept.

Card format provides an opportunity to unify user experiences regardless of the card content and it is flexible enough to present any type of information.

Cards can consist from one to several "pages" allowing the users to portray large amount of information.

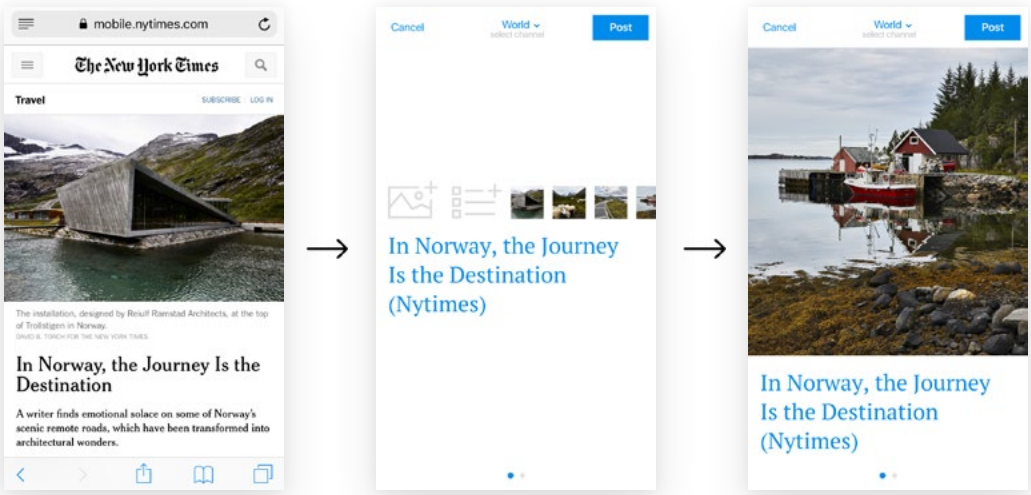
Ubiquitous Cardification

We think that any content can be presented as cards. We were the first to use the unified card format when the project was launched in 2014. We are happy to see that other social services are beginning to grasp its value from the point of user experience as well as good monetization opportunity — Instagram stories for photos, Twitter Moments for short form content, Medium Series for longreads, etc.

Over these three years we have conducted a series of experiments and have gathered a significant amount of data which helped us understand the way the format is used and the way it can be simplified. The latter is critical for consumer services. ML (Machine Learning) and NLP (Natural Language Processing) give us an opportunity to automate raw content to cards conversion in part or in whole. We call this process **cardification**.

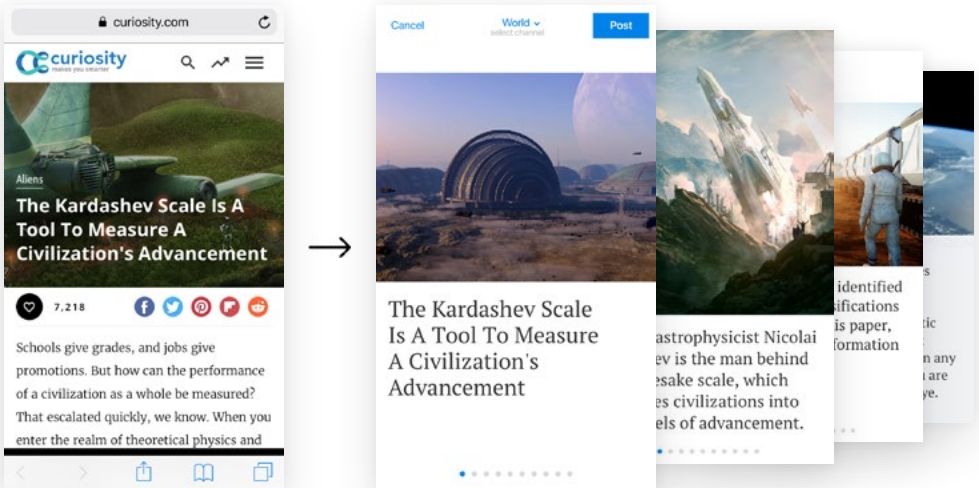
The degree of cardification varies depending on the source content and user needs. With any kind of cardification, user can edit the result and add information.

Basic cardification is used to convert links and standardized data from third party services. When you add a link, a card with the link and the title is created where all relevant source media-elements are stored allowing user to decorate their card. Third party service data is formatted and cleared of all excessive meta-data (YouTube videos, Instagram photos, Facebook posts, tweets etc).



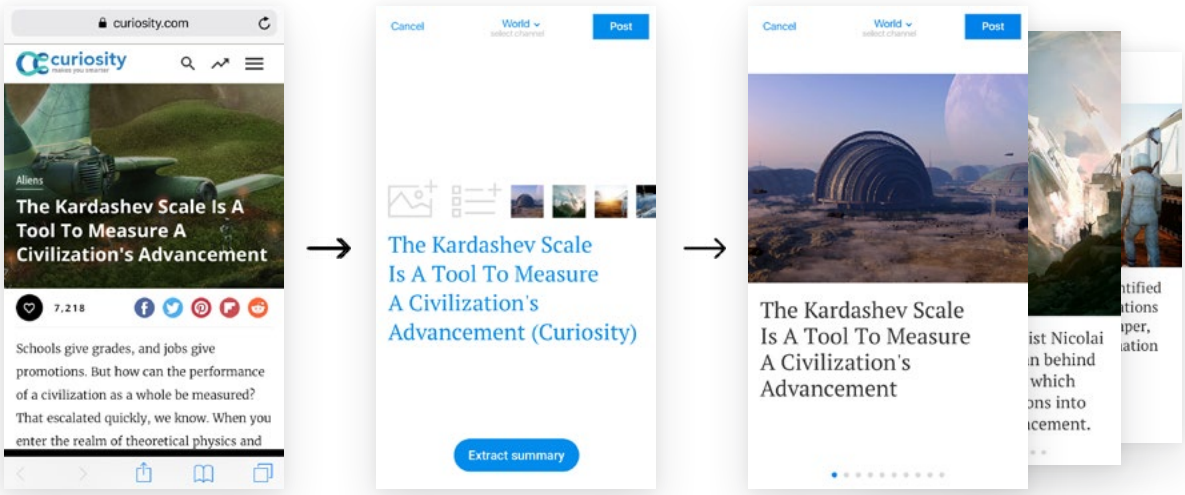
ARTICLE IN BROWSER LINK PASTED TO SOLA LINK WITH CHOSEN PICTURE

Complete cardification is used when the user wants to take advantage of all source content. When such source is added, the algorithms automatically make a decision about the type of basic card templates to use, their number and their arrangement. It is under development now and is not available in the current public version of the app.



ARTICLE IN BROWSER LINK PASTED TO SOLA

Assisted cardification is the result of **AI Summarize** work, an algorithm that we have developed, which is best for medium and large amounts of text data processing (articles, longreads, etc.). Based on the explicit indication from user AI Summarize performs the semantic parsing of the source data and finds the parts which are essential to get the gist of the text. The result of this processing is ten or less cards containing the most important ideas of the source text with the least possible loss of useful information. The algorithm currently supports nine languages: English, French, German, Italian, Spanish, Czech, Dutch, Turkish and Swedish.



ARTICLE IN BROWSER LINK PASTED TO SOLA AI SUMMARIZATION APPLIED

Basic Card Templates

Core platform functionality

The platform supports the following basic data types:

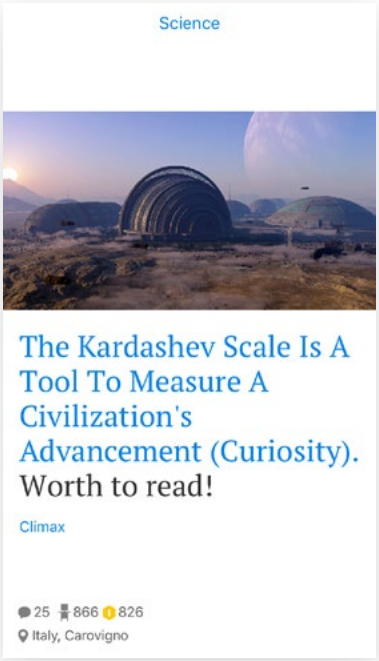
- Text Card (up to 250 characters);
- Link (title with URL);
- Poll (up to 5 options);
- Media (image, video, gif).

These data types can be used in any combination. Card templates are automatically selected as new content is added to achieve the most attractive presentation. For example, the font size is automatically reduced as more text or a media element is added to the card.

A card can consist of several pages containing any data in any combination.

The core team has developed various templates which should cover basic user needs.

TEXT CARDS — THE SIMPLEST FORMAT. UP TO 250 CHARACTERS FOR 1 PAGE OF A CARD.



LINK CARDS — THEY ALLOW EXTERNAL LINK ATTACHMENT TO THE CARD.

MEDIA CARDS WITH EMBEDDED PHOTOS, VIDEOS AND GIFS.

POLL CARD. UP TO 5 OPTIONS.

Custom Card Templates

3rd party developer's custom card types

Access to the content layer is fully open to third party developers (paperwork is under development). This means that the platform allows creation and adjustment of card templates to fit the needs of a particular user and will be automatically available for all users.

Templates are generic and can be used by anyone and are not limited to the author.

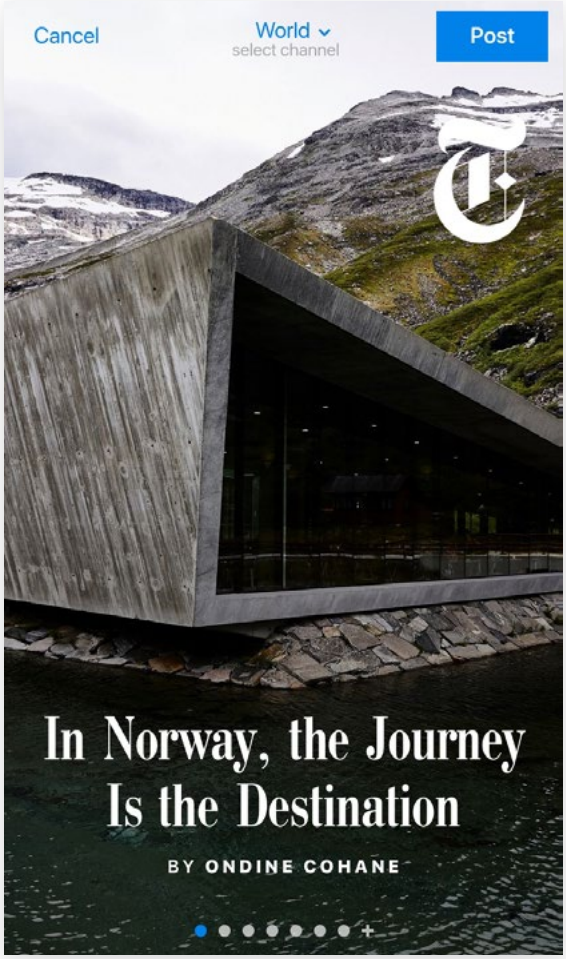
EXAMPLE 1:
AMAZON'S PRODUCT PAGE

DEFAULT TEMPLATE

CUSTOM TEMPLATE

EXAMPLE 2:
NEW YORK TIMES ARTICLE

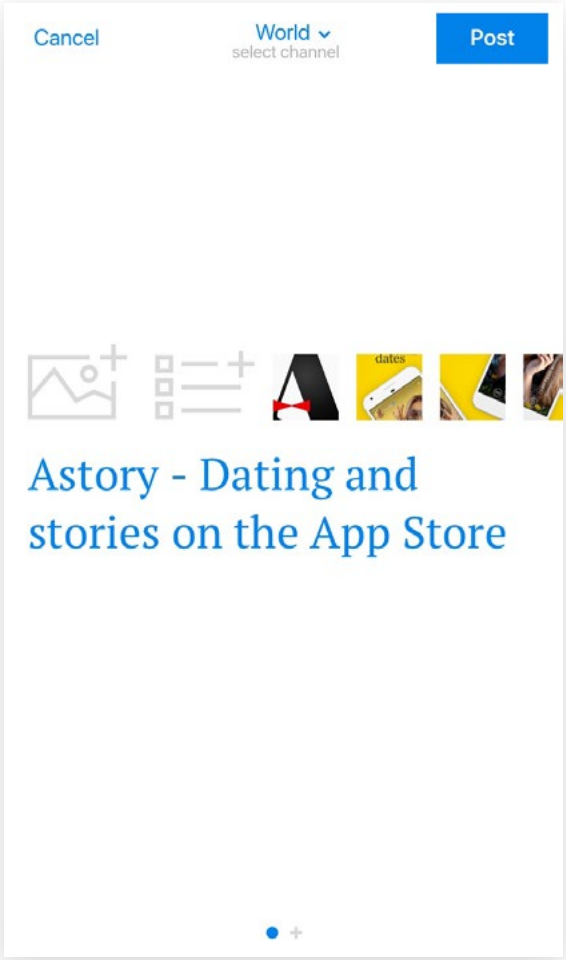
DEFAULT TEMPLATE



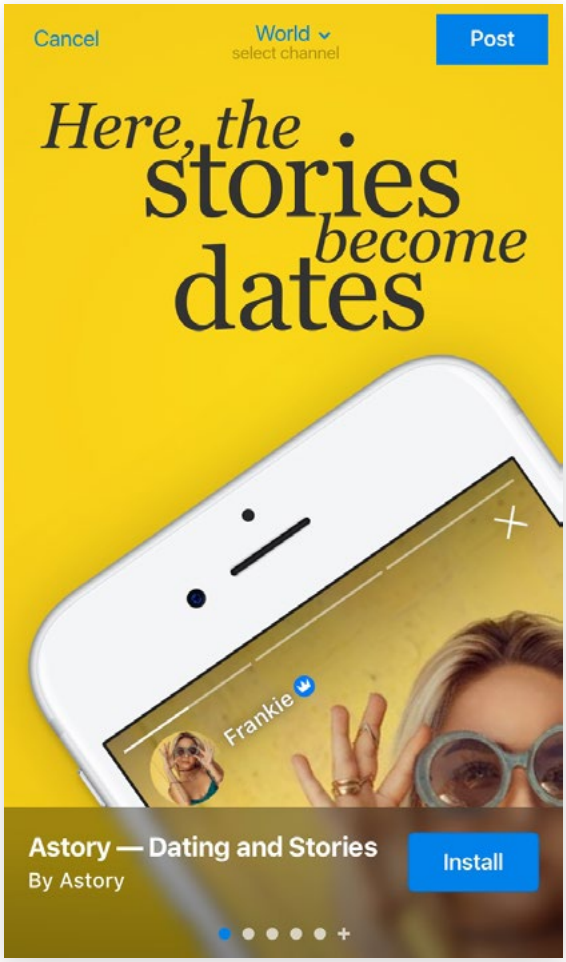
CUSTOM TEMPLATE

Now the reader can skim-read the essential points of the chosen article using the cards and there is no need to read through the whole text. If the reader finds the content of the cards particularly interesting then they can follow the link to the source article and read it more carefully.

EXAMPLE 3:
APP PAGE IN APP STORE



DEFAULT TEMPLATE



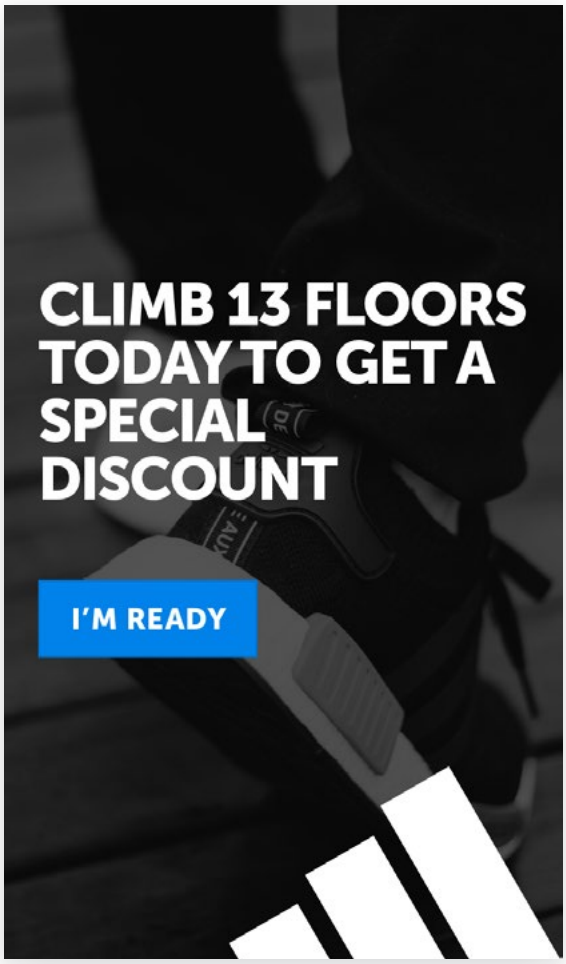
CUSTOM TEMPLATE

Advanced Card Templates

Core platform functionality + 3rd party development

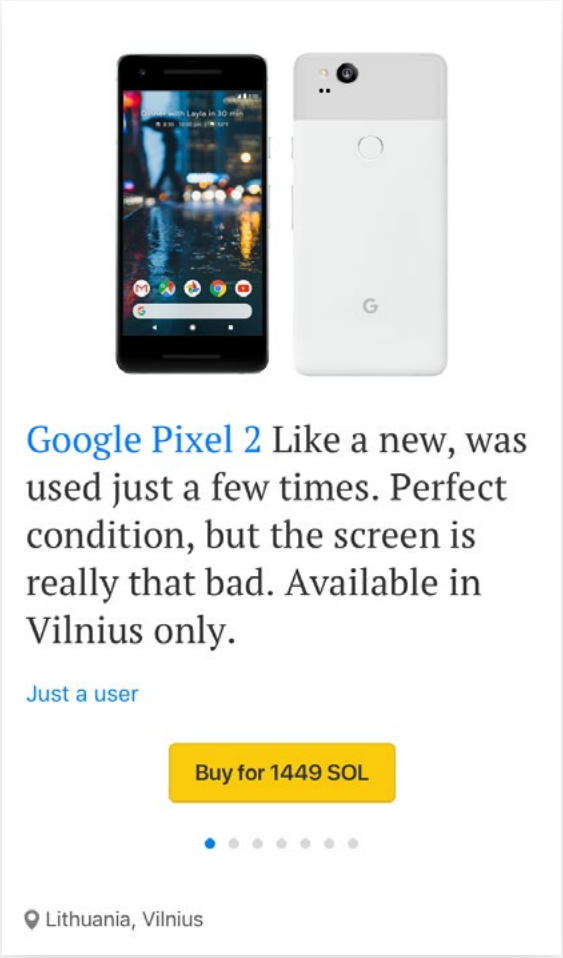
Our Roadmap includes complex interactive cards development and implementation phase. These cards will use smartphone sensors and external data like user location and smartphone movements, time of day, weather, etc. First of all, such opportunities are aimed at enhancing user engagement in the card content and then as commercial benefit for the ad providers and platform partners.

EXAMPLE 1: CARD WITH INTERACTIVITY PROVIDED BY PHONE SENSORS

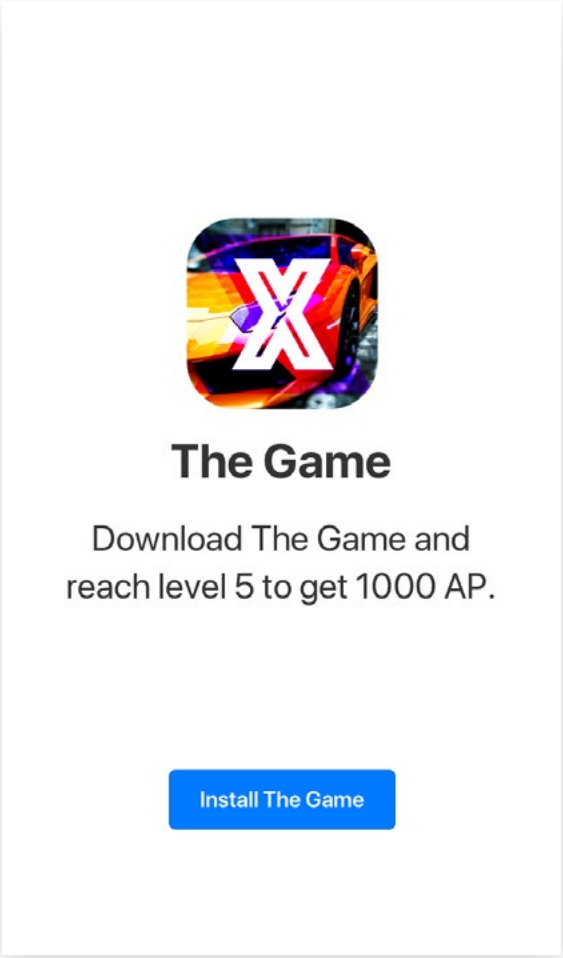


EXAMPLE 2: PAID CONTENT WITH A SUBSCRIPTION OR PAY-PER-CARD MODEL

EXAMPLE 3: SHOPPING CARD WITH ABILITY TO PAY IN SOL



EXAMPLE 4: PAID APP INSTALLS AND PAY-PER-ENGAGEMENT MODEL



Third party developers will take part in this phase. They will obtain a part of revenue from these formats commercial use. A number of opportunities will be open to use within basic and custom templates once support at the platform level is on.

Distribution Layer

Incoherence Principle

Unlike traditional social networks, Sola does not require user interconnection. Content distribution is controlled by the algorithms that uses user overt actions as correctors and amplifiers. The necessity to perform actions is embedded into the service as its basic mechanics (user needs to make decision on the current card to move to the next card). This allows gathering larger amount of data per user compared to other social networks.

This approach gives the platform a huge advantage regarding user engagement and retention of the new users who can get a quality experience from the beginning.

Our current proprietary spread algorithm began as simple information spread for N nearby users and was under improvement based on real data for the last 3 years. Now it takes into account many parameters such as text content basic analysis, user relationships, geographical location, UTC, language, etc. One of the key elements of this algorithm is the infection index of the card creator within the system and of those users who supported in spreading the card.

At the time of writing, users are testing the algorithm while fine-tuning with priority filters that are aimed at certain users.

Neutral AI

Some time ago we started working on the new spread algorithm which uses neural networks based on deep learning. The end result we are planning to achieve is called **Neutral AI**. Its task is to select knowledge domains in the whole amount of data, understand the structure of the certain knowledge domain and either reject useless information or suggest the widest possible range of opinions in this domain depending on the certain knowledge domain and the set rules.

EXAMPLE 1: INFORMATION REJECTION

Within the “Tech” knowledge domain, we select the “iPhone” and “Android” topics. We start to consider them and suggest the user the cards selected from each topic. Based on the user’s reaction we understand whether that user is interested in the information about Android or not. In this case Neutral AI (according to the set rules) knows that for these topics there is no need to suggest a range of opinions and strives to protect the user from unnecessary information.

EXAMPLE 2: A RANGE OF OPINIONS

Within the “Politics” knowledge domain, we select topics from “USA Politics” sub-domain, the “Democrats” and the “Republicans”. An event occurs which is identified as related to the “USA Politics” sub-domain. In this case, while taking into account the essence of Neutral AI, we consider that we cannot restrict the range of opinions and thus strive to suggest the user all cards from the topics related to both the “Democrats” and the “Republicans”, providing full information and keeping the user out of the filter bubble.

Neutral AI logic and code will be documented. It will be open for review and suggestions for everyone, so that any prejudice and concern about the algorithm neutrality can be eliminated.

Collective Machine Learning

Key problem in Machine learning is lack of marked datasets. Our solution is the category tree that reflects user's main interest domains.

Classification algorithms allow us to set up a correspondence to the category tree for most of the analyzed information and to verify this correspondence with the help of the users.

The users taking part in the Neutral AI learning program will receive a certain percentage of all operations within the involved knowledge domain, corresponding to their contribution to the learning process. We expect that this will allow us to engage a significant part of the platform audience into the learning program.

Such category tree compilation requires a significant amount of work and expertise in each topic and domain. We expect to engage professional institutions in this process using the above mentioned reward scheme for each knowledge domain that they can help develop and improve.

Neutral AI can work in parallel or over the existing spread algorithm, allowing us to perform the learning and implementation by modules, focusing on those knowledge domains where the platform possesses more content and in development in which it takes greater interest.

Architecture Layer

Launched in 2014 the service involved logical decentralization. This means that the users independently processed the available amount of information. An outburst of interest for blockchain technology and its drastic development has led us to a point where blockchain implementation into the mass user service is both feasible and justified. This is why we have made a decision to decentralize the service at the architecture level.

Why decentralize?

All social services that we use are centralized and controlled by a small group of people which makes them consequently and potentially impartial. At the same time democratic principles make it inevitable that sooner or later an independent social service will be created. Moreover, such attempts are regularly taken (see more detailed info).

From a functional point of view, decentralization has the following main advantages:

- A decentralized service is better in fighting blocking attempts and both self and external censorship;
- It can significantly lower platform service charges if wisely implemented;
- It allows restriction of service creators influence, subsequently becoming better fitting for end users and third party developers engagement into its development;
- Using cryptocurrencies is much more flexible and less costly than operating fiat currencies at the payment layer.

We are carrying out transfer from the current centralized model to the decentralized and distributed architecture step by step.

Stage 1 — token issue: which leads to creation and start of the economic development;
Stage 2 — operations decentralization on blockchain;
Stage 3 — media-data handling decentralization;
Stage 4 — providing distributed operations via nodes.

Decentralized Media Storage

Media data (pictures, video, other card data) can be preliminarily stored via IPFS, which will allow content to be available anywhere.

IPFS is a good solution for fail-safe systems. The key risk is a relatively low access speed which will significantly affect user experience and can appear not to be enough for the highload consumer service.

For quick access to post media and data content available via IPFS, the CDN server can be used. This could cut data receipt time dramatically.

main node *country nodes*

Distributed Immutable Service (Nodes)

Country nodes shall be used to build a distributed service. Any user after the installation of the special software will be able to become a node for the platform and use excessive power of their PC to provide for its performance, servicing users located nearest in their country. As a reward, such user will get a certain percentage of all transactions with SOL within their node.

Nodes give two huge advantages to the platform:

- Platform maintenance becomes significantly cheaper, which means that costs can be reduced and the freed resources can be used for user payments and other purposes;
- Fail safe operation in case a node goes offline (including the main node) and in case of the country node isolation (i.e. service operation will remain intact when the Great Firewall of China is on).

Moderation and Censorship

Our more than 10 years of experience in the social services domain has shown us that there is no way they can exist without moderation. An importance of centralized moderation is best shown by the examples of Facebook and Twitter. Moderation is one of the forms of censorship and claims of some services that they have no censorship are either evidence of a populist statement, or of complete ignorance about the basic principles of social media.

Moderation allows us to ensure safe and non-toxic environment which is extremely important for a social service that only has public content. To avoid abuse of power or becoming the blind tool of censorship, moderation shall be carried out as per publically stated rules.

In case of Sola the two-level moderation model is used:

- Centralized moderation provided by the team's own forces;
- Decentralized pseudo-moderation at user level, where users can prohibit publishing the content which they think is improper. This tool can effectively reduce the audience for improper content like nudity and violence. Unfortunately, it can be pretty useless when dealing with racism, bullying and other such content which is often highly supported.

Our view is that ensuring comfortable and safe environment for public communication should be one of the priorities for the social service even if it involves certain unpopular decisions.

Joint Development

Open for a Purpose

Social services market is one of the most competitive ones. The latest major players, Instagram (2010) and Snapchat (2011), were founded more than 6 years ago, making use of mass user migration from PCs to smartphones — a window of opportunities missed by the largest market players.

We think that the drastic growth of decentralized services is comparable to this window potential. The very nature of a decentralized service suggests that it ideally fits to attract and develop users and other involved parties own services.

It is hard to fight for users and talents with the existing services that have many users and resources. It is not enough to produce a free product equal in quality and user experience.

One can attract allies by providing them with two kinds of motivation — financial and ideological, and they go together.

From an ideological point of view, we have created a social layer — an integrated social space which is defined and controlled by the actions of all, being owned by none. We are intentionally striving for restricting the core development team's influence, keeping all current developments as open sourced as possible. Our task is to build the system in such a manner that it could be self-regulated with no external intrusion or as little as possible.

From a financial point of view, we consider it as pure necessity to acknowledge all involved parties (users, third party developers, and the core development team) as equal partners and grant every participant an opportunity to make profit from their contribution to the network development.

User Layer

Users are provided with following three main profit-making scenarios:

- Receiving endorsement for user-created content (cards, comments) by other users (see more in Sola application);
- Using own resources to ensure distributed immutable service (see more in Distributed immutable service (Nodes));
- Contributing to Neutral AI learning and data separation (see more in Collective Machine Learning).

Developer Layer

API documented in detail is the the first major milestone after the launch of the service. Gradually, most of the existing code will be documented and open sourced.

Third party developers are also provided with the following three main profit-making scenarios:

- Content Layer (see more in Custom card templates and Advanced card templates) and Distribution Layer (see more in Neutral AI) development;
- Core platform and Core App improvement via Bounty Development Program;
- Own services development based on Sola capabilities and infrastructure (see more in the next section).

During the first quarter of 2018 we are planning to launch the Bounty Development Program which will enable the Core Dev Team to act as a customer and outsource some of the tasks to the experts that are unavailable or impractical to be hired as permanent team members.

Besides, the program will allow the engaged users to build teams enabling them to make joint requests for development supported by financial obligations.

EXAMPLE 1: CORE TEAM SPONSORED DEVELOPMENT

Core team wants to make the process of setting up and running a decentralized node as smooth as possible, but the design unit is overloaded. Thus, a bounty for an improved interface is declared for node installer and client. This decision is made after taking a vote of existing node holders.

EXAMPLE 2: USER SPONSORED DEVELOPMENT

Some users think that the service has to have an Instagram-like pinch zoom function. Core development team does not consider this request as their first priority and it goes to the Bounty Development Program where the users who want this function to be included fund SOL to the request deposit for its implementation. While the amount of reward is growing some third party developer solves this task and once the code is approved, it is implemented into the platform and the reward is released to the developer's account.

Sola as Social Layer

Being the Core Dev Team, we are focused entirely on platform development opportunities and the increase of its audience. However, we are completely aware of the fact that both users and advertisers are interested in communication as well as making profit.

Open Social Layer concept intends that we grant third parties free and unrestricted access to the users (the right to address the users, not the right to deal with their personal data) and the platform infrastructure to create

own services. The key points here are platform reputation and trust and we are able to provide all necessary elements to build quality relationships:

- Open source code;
- Public API;
- Universal payment layer based on cryptocurrency.

Our own Sola app is the first service built on the platform and its purpose is to demonstrate platform abilities, attract interest and audience to the platform.

The only condition to use the platform is an obligation to utilize SOL tokens as a means of payment. It does not mean that the platform is unable to work with other crypto and fiat currencies. However, it means that once received, they are to be converted to SOL. When a withdrawal for SOL is made, it can be converted into any other currency at the discretion of the service.

EXAMPLE 1: THIRD-PARTY SERVICE BUILT IN SOLA APP

Sola's content spread logic is fits perfectly for the early influencers detection. Third-party service allows investing in influencers for the share in their future profits. Relations are regulated by smart contracts. Investing interface can be placed in user's profile providing visibility for both, the user and the service developer. Anyone who can see the widget can add it to their own profile which results in widget adoption in a viral way.

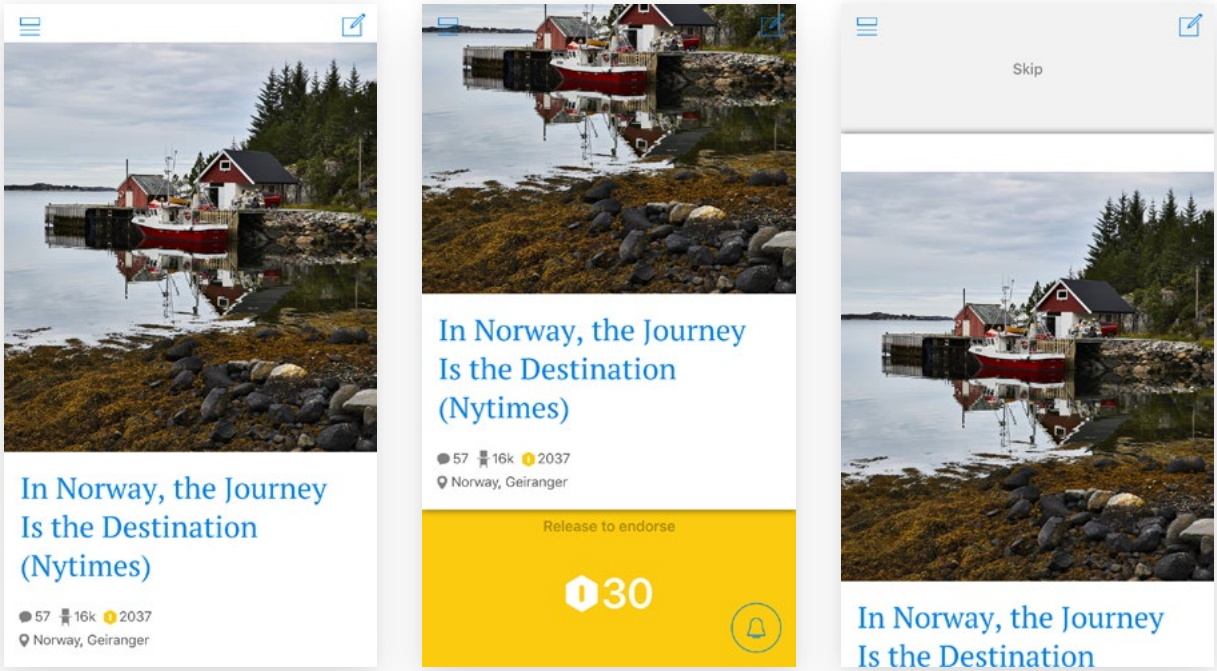
EXAMPLE 2: EXTERNAL THIRD-PARTY SERVICE USING SOLA PLATFORM BUT NOT SOLA APP

Someone decides to make a truly user-friendly and social movie recommendation app. Users swipe through the movie database cards and user-generated cards like "5 best sci-fi movies of all time" one by one making "like" or "don't like" decisions. Users can take part in discussions and receive better tailored recommendations after a while.

Sola App

At the end of 2014 we launched Plague — a decentralized social and information network where information spread among users as per epidemic propagation model.

Sola app is an evolution of this service and has inherited its data, audience, interface and logic which are expanded and upgraded with the Sola platform resources.



The app is quite simple and crystal clear from the user experience point of view. Instead of traditional feeds, Sola uses a stack of cards. So, the user always sees only one card on the screen and is able to switch to the next only after making their decision on the current card. Gesture-based Tinder-like interface is used to switch between cards. Every card can either be ignored or "endorsed" which helps it spread across the network.

The Distribution layer is responsible for cards "assignment" to the users as it combines its own algorithms with the users' "endorsement" signals and their personal settings.

Every user receives their daily allowance of internal virtual currency — Action Points (basic + variable amount depending on user's positive activities). Action points can be spent on user's own created content (comments, cards) as well as other users' content endorsement. When Action Points are **transferred** to another user, they are converted into the universal cryptocurrency — SOL.

In other words, Action Points have no value before they are transferred to another user as endorsement of created content. To gain the benefit from the service it is necessary to produce content (cards and comments). Action Points naturally restrict user's opportunities and rationalize their behavior.

The app demonstrates an extremely high level of engagement, as everyday users create thousands of new posts and comments. On average, users daily spend 10 minutes using the app and look through 87 cards.

656 735	2 117 651	9 702 806	548 720 426
USERS REGISTERED	CARDS CREATED	COMMENTS CREATED	VOTES FOR CARDS

United States, Germany, Japan, France, Russian Federation

TOP 5 COUNTRIES

** As of September, 1, 2017.*

Mobile apps are available for download on App Store and Google Play.

Web version of the app is being updated to Sola and will become available in November, 2017.

User Acquisition

Content Creators and their Audience

Content creators are both the key asset of a social network and one of the drivers of its development. Sola allows content creators to get direct financial benefit — money reward, which stimulates acquisition of quality content creators.

Our aim is to create the most favorable conditions for the largest possible content creator audience, so that content creators are motivated to create quality content on our platform which are:

- There is no entrance threshold. You can make money from the start. The cryptocurrency payment layer allows us to implement both automated and financially effective logic for paying any amount of reward;
- There is no need to make new connections first, as there is no such notion — our spread algorithm will take care of that while assisting the user to utilize the existing audience;
- There is no need to become a “pro” creator to monetize your content. Any comment or card allow users to make profit.

Many people have large audiences on those services where they are registered and which they use to spread their content — social networks, blogs, etc. A lot of these users have thousands and thousands of followers, but they lack direct monetization tools with the exception of contextual advertising or direct relationships with advertisers. However, there are no other direct monetization tools for small and medium “pro” creators, not to mention regular users.

Amongst other things, the above mentioned creators can also be highly, financially motivated to use Sola and to attract their followers onto the platform explicitly or implicitly, benefiting both from the content they create as well as referral programs.

Automated Referral Program

Mobile phone verification and SOL cryptocurrency allows us to set referral programs for acquisition of new users, ensuring transparency and effectively stimulating program members.

As part of this program Sola's current users are rewarded for attracting new users who follow their links to the content and the service itself.

A member who is attracts new users receives Action Points for each visit made by these new users. More Action Points are awarded if the new users register on the platform. In addition to this, the member of the program receives a certain percentage of SOL earned by the new user for some time period.

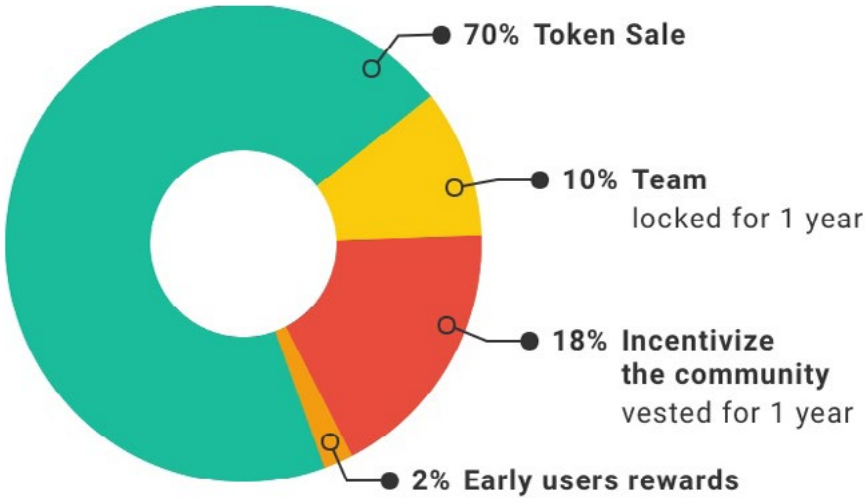
A big advantage of our approach to referral program's implementation is that there is no need of special referral codes or any explicit participation in the program in general. Any user, spreading information beyond the network automatically becomes the member of the program and gets a detailed view of all granted rewards.

Token Sale

SOL tokens are issued and put into circulation for Sola's platform launch and functioning. SOL tokens are the only currency which is used for mutual payments among platform users. Part of these tokens will be sold to the current and future users during Token Sale. The received funds will be used for the platform development.

Token sale will last from November, 27 to December, 22 2017. The bonus scheme will be announced on https://sola.foundation later.

The total amount of SOL token created will be 150 000 000. Token sale hard cap is 5 000 000 USD. Token price is 0.1 USD.



Because of the hard cap, not all tokens will be sold. The rest of the tokens will be kept in an Sola Fund address and be vested for 36 months with a 6 months cliff.

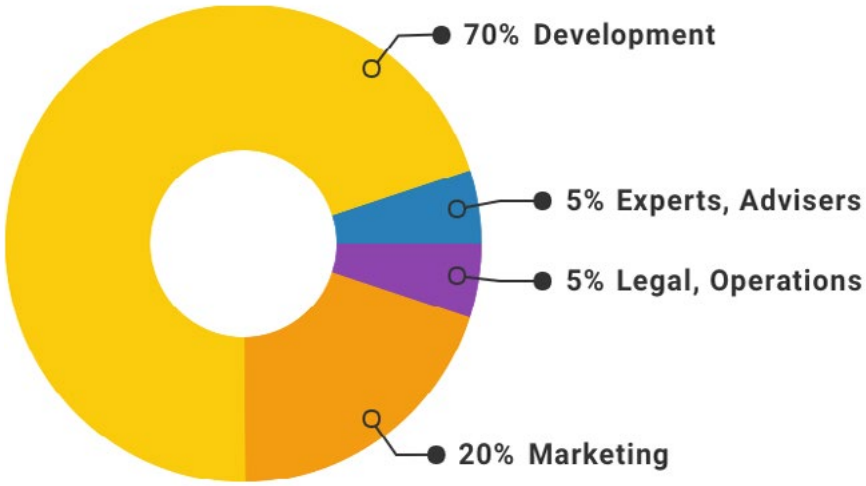
Hard cap	$5 000 000 collected sum equivalent
Currency accepted	ETH, BTC or other cryptocurrencies through ShapeShift, wire transfer in fiat currencies
Token price	0.1 USD

During the first 365 days after the end of the token sale. 18% of the issued tokens will be evenly transferred to the user allocation fund to be used for rewards for the created content and as a means of financial support on platform at the stage of ad and other revenue streams development.

10% of the issued tokens will be reserved for the core dev team with a 1-year lock, they are to be used for the incentive plan aimed at bringing and keeping highly qualified experts.

2% will be transferred to the user allocation fund for rewards already accrued to the Sola App users from App's launch till the end of Token Sale.

All funds raised during the token sale will be used for platform development as per the following ratio:

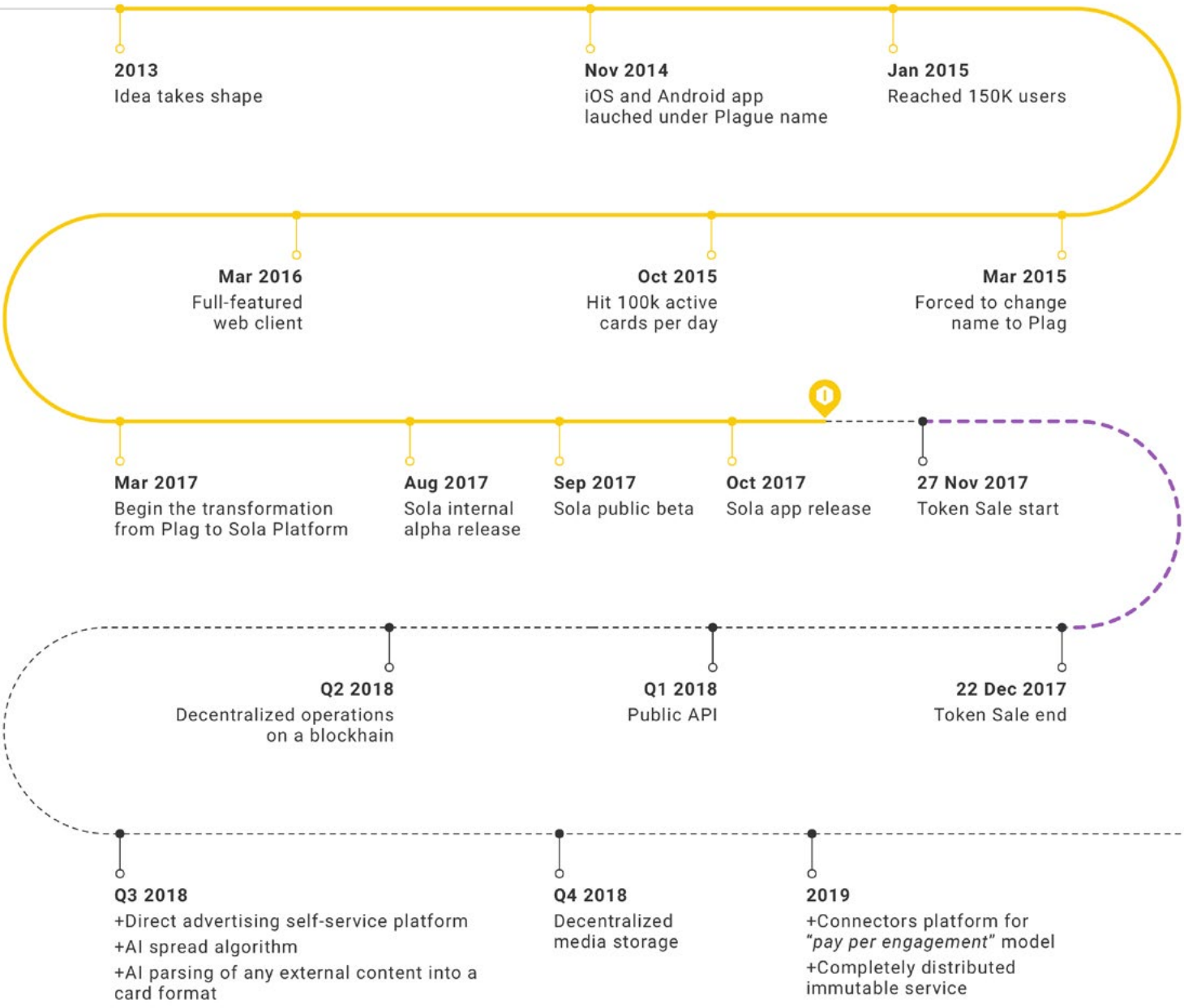


Since 2014, the project has been under development using proprietary funds and funds raised from venture capital investments. As of now, we have a run rate of about $1M per year. Additional funding will enable us to accelerate the product development. Besides this, it will give a spur to the development of the ecosystem and growth of the user base.

The table below outlines the development progress for each layer.

	Stage I	Stage II	Stage III
Engineering			
Architecture layer	Decentralized operations (move to on-chain)	Decentralized media storage (IPFS). Moderately lowered infrastructure costs.	Distributed via user-hosted nodes. Significantly lowered infrastructure costs. Highly immutable.
Distribution layer	Advanced criteria- and behavior-based spread algorithm.	Neural network based AI able to detect topics, expertise level, and the correlation between topics (knowledge domains).	AI is able to detect knowledge domains and topics with a variety of views (e.g. Politics) and provide a range of opinions.
Content layer	Long-form content capabilities. Advanced media content with interactivity	Auto-parsing of any kind of external content into a card format.	AI-based summarizing of a long form content with a natural language and converting it to card format.
Ecosystem	Public API	Regular workshops	Sola developers support Fund
Economy layer			
Revenue streams	Third-party advertising network + ads free premium accounts. Ad hoc special projects	Direct advertising self-service platform	Connector platform enables “pay per engagement model”
Projected APRU, $	0.3–0.7	0.8–1.2	1.2–2+
Business development	Approaching first-tier advertisers for test implementations.	Revenue share partnerships with top-tier publishers. Injection of professional content in card format.	Distribution of Sola advertising the platform to the third-parties. Revenue share in exchange for traffic in both ways.

Timeline


2013
Idea takes shape
Nov 2014
iOS and Android app lauched under Plague name
Jan 2015
Reached 150K users
Mar 2016
Full-featured web client
Oct 2015
Hit 100k active cards per day
Mar 2015
Forced to change name to Plag
Mar 2017
Begin the transformation from Plag to Sola Platform
Aug 2017
Sola internal alpha release
Sep 2017
Sola public beta
Oct 2017
Sola app release
27 Nov 2017
Token Sale start
Q2 2018
Decentralized operations on a blockhain
Q1 2018
Public API
22 Dec 2017
Token Sale end
Q3 2018
+Direct advertising self-service platform
+AI spread algorithm
+AI parsing of any external content into a card format
Q4 2018
Decentralized media storage
2019
+Connectors platform for "pay per engagement" model
+Completely distributed immutable service

Team

Our core team has ten people. Seven of these are highly qualified engineers (as of 1st September, 2017). Most of our team has been working together since 2011, when the company was founded to work with innovative social services. Our headquarters is in Vilnius, Lithuania. We are annually audited by KPMG.

ILYA ZUDIN

CEO, co-founder

More than 10 years of experience in the social services area, including 2 years of experience in the area of social games. Since 2011 he has been working on his own social services. Ilya's area of expertise is artificial decision-making systems.
LinkedIn Twitter

PAVEL PANOV

CTO, co-founder

More than 10 years of experience in development and senior management. Since 2011, Pavel has been working on his own social project in collaboration with Ilya Zudin.
LinkedIn GitHub

MAXIM BELOV

CFO

Media companies financial management expert, Maxim has been a part of the Sola team for last two years. Before Sola, he had worked for 5 years as Operational Finance Director for CTC Media (the largest media holding in Russia, NASDAQ public corporation).
LinkedIn

VASILY ZUBAREV

Architect

Degree in Natural Language Processing. 8 years experience in backend development. Machine Learning and Neural Networks expert.

GitHub

OLEG MYKHAILENKO

Full-stack Engineer

10 years of experience in developing web, mobile and desktop applications. Blockchain enthusiast.

GitHub

SERGEI VASILENKO

Software Engineer

Solid knowledge of Java and Android development. Machine Learning expert.

GitHub

ALEXANDER SHIBELEV

Software Engineer

Extensive experience in Java development. Master's Degree (Distribution) in computer science.

GitHub

SERGEY DEVYATKIN

Software Engineer

Certified SCRUM practitioner, iOS adept and a tech lover. Participated in more than 12 successful B2B and B2C projects.

GitHub

DMITRY LYAPUSTIN

Product Designer

10+ years of graphic UI/UX design experience. In recent years Dmitry has been focused on Interaction design.

LinkedIn

ELENA ARKHIPOVA

Marketing Manager

Marketing communication, community support, media and PR activities.

LinkedIn

Advisors and Partners

IGOR MATSANYUK

Early investor

Serial entrepreneur turned investor. Invested in 40+ companies. Founder of IMI.VC and Chairman of Game Insight, one of the largest mobile games company.
LinkedIn

GREGORY FINGER

Early investor

President and Founding Partner of DST Global, where he has participated in numerous high-profile investments in leading internet companies. Chairman of IMI.VC.

RONNY BOESING

Advisor

Founder and CEO of OpenLedger ApS, the world's first blockchain powered conglomerate. With BTS founder, Dan Larimer, Ronny is constantly developing the Graphene/ BitShares ecosystem.
LinkedIn

OPENLEDGER

Partner

World's First Decentralized Exchange. The OpenLedger ecosystem includes advertising, trading, blockchain talent, and ICO marketing subsidiaries.

LAW&TRUST INTERNATIONAL

Partner

Law&Trust International company works in all areas of law and offers a wide range of services.

Disclaimer

All materials, such as SOLA White Paper, Business Plan, Development Road Map, etc., published on the Website or elsewhere, are not binding and do not — unless explicitly referred to herein — form a part of Terms, and are of descriptive nature only.

Information presented in this White Paper can be incomplete and does not contain any part of a contractual agreement. This White Paper does not contain any investment, legal, tax, regulatory, financial, accounting or any other type of recommendations, and this White Paper is not to be used as the only accurate basis for transaction assessment when procuring SOL tokens.

Before SOL token procurement, the potential buyer shall consult their legal, investment, tax, accounting and other advisors to define potential benefits, barriers and other consequences of such transactions. Nothing in this White Paper can be considered as request for investment, or proposal to procure any securities under any jurisdiction.

This document is not written in accordance with the laws or rules of any jurisdiction, and it does not fall under any jurisdiction which prohibits or in any way restricts cryptocurrency transactions. Some statements, assessments and financial information in this White Paper contain predictions, not facts. Such statements and information are subject to unknown risks and uncertainties. Should these risks or uncertainties materialize, the actual events or results may vary significantly from assessments contained in this document.

SOL tokens are neither proposed nor distributed, and they cannot be resold or in any other way disposed of by their owners to the citizens, physical and legal entities located or registered (i) in the United States of America (all states and Columbia district included), Puerto Rico, United States Virgin Islands, or any other territories of the United States of America, or

(ii) in a country or a territory where transactions with cryptocurrencies are prohibited or in any way restricted. In case such if an entity has procured SOL tokens, its actions will be regarded as illegal, unauthorized and fraudulent, which will entail adverse effect.

The Company neither proposes nor distributes SOL tokens, nor has any business within regulated operations in Singapore or other countries and territories where transactions with or related to digital tokens are subject to prohibitive measures and require from the Company to be registered and licensed in all necessary governmental bodies. We remind every SOL token potential buyer that this White Paper is presented on grounds that the reader is the entity to which attention this document can be legally brought as per the jurisdiction the abovementioned entity is subject to.

Each SOL token potential buyer's responsibility is to define if the buyer can legally procure SOL tokens under their own jurisdiction, and if the buyer can trade SOL tokens to the other buyer falling under another jurisdiction. This technical document written in the English language is the only official information source about the SOL project. Information contained here might be translated into other languages from time to time. In the course of such translation parts of the information presented here might be lost, damaged or misrepresented. The accuracy of such alternative information cannot be guaranteed. In case of any conflicts or differences between this document and such translations, preference is assigned to the English version of the official document.

This White Paper does not constitute a public offer.