



# YawLife/LifeCoin™

# White Paper

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**Version 2.4**

(v1.0: 11/27/17 - v2.4: 12/10/21)



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**Pre-Sale Terms**

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## I. Abstract

YawLife sets out to solve the problems that plague the digital world. The problems that have had incomplete, or completely-lacking solutions. Digital Rights Management methods are failing in many areas, fake news is all-too omnipresent, and content-creators are constantly ripped off by other people and companies without due recourse. The design of existing social networks is bland. In an era where sharing content that you love with your friends and family is more normal than not, how do we address these concerns with a happy medium to stave the discourse of the past and present, whilst holding true to the freedom of others to view and share great information?

Our proposed solution entails watermarking content on the blockchain, tying it to user identity and tracking when and where the content is shared, every step of the way. Content creators are rewarded with LifeCoin™, and if someone shares their content, the views and LFE tips it gets are given back to the original creator. When this methodology fails to solve plagiarism, the review system steps in. It rewards reporters with LifeCoin™ and reputation (SENSE™) for their efforts in combating both fake news and plagiarism, and, promotes true, quality content in the areas that interest them.

From this process, YawLife aims to not only determine the authenticity of content and improve its Digital Rights Management, but also to improve the quality of what is shown. Additionally, through artificial intelligence being fed accurate data through the economic-incentivization that keeps information true, user-input can then be leveraged like never before to create powerful machine learning algorithms based off of the best that humanity has to offer.

## II. Mission Statement

**At YawLife, we aim to have intelligent content be shown at the forefront**, rather than fade away behind the scenes... As it so often does. **Through peer-reviewed content curation, we strive to improve the quality of content shown to people, to better nurture the minds of everyone**, and instill in mankind a greater intelligence through the conscious act of surfing the internet. For, entertainment and access to information should not have to come at the cost of intellectual capacity.

### III. Summary

#### *Social Networks Today*

Every time we log onto Facebook, Instagram, or Twitter we **choose to share** a photo, a post, an article, or an experience. **We give up a piece of ourselves** in exchange for entertainment. A piece which is packaged, commoditized and sold to advertisement companies trying to pay these social mediums to grab our attention. **However, we do not profit from our attention.** This allows **internet moguls** like Mark Zuckerberg to **generate wealth at the expense of the content creators. It's the price we pay to use the social network.**

Social Networks are one of the most disruptive technological developments in the last decade. In the light of recent events, **these networks are subject to spam, hate speech, fake news, and political manipulations.** Hostile actors can sway content and news to proliferate their agendas.<sup>1</sup> **Toxic news feeds** on social networks such as Facebook and Twitter **have been the cause for massive disruption** in the world, **ranging from stock market crashes to cryptocurrency market crashes.** A prime example would be when Twitter news feeds mentioned Vitalik Buterin, one of the founders of the Ethereum Project, had died,<sup>2</sup> or fake news surrounding the tragic Las Vegas massacre<sup>3</sup> and of course, the COVID-19 pandemic.

The rise of **misinformation is one of the major technological threats of our time.** It could now be considered an intractable problem. The verification of real world events through the use of expensive and better technology is the question technology giants such as Facebook and Google are trying to solve. In the wake of recent events and the failure of convolutional neural networks to verify content, Facebook decided to re-hire 1,000 people to review content. **At YawLife, we believe the solution to misinformation does not simply lay in better technology, but in people, and creating the right incentives to keep information true.**

Identity is also a vulnerability point on social networks; there is no method in place that guarantees the account belongs to an actual person. People can *and will* often make fake profile pictures, as most of these authentication systems are e-mail validated or phone validated, which can have a many-to-one relationship ratio, thus disrupting the integrity of accounts.

## *The Solution*

In this paper, we introduce **YawLife**, a social network application that allows users to **get paid LifeCoin™ (“LFE”) to post or review content, with a unique, living world at the center of their experience..** This works through the utilization of blockchain-based technology paired with the Unreal Engine, and will live on the secure platform of the **Ethereum** world computer.

This network timestamps when the content was posted and by whom it was posted. We call this the **LifeChain™**. The metadata of all content is digitally watermarked, and, when shared across social media, still generates the valued “views” that contribute towards the poster’s overall LFE earnings. **Living non-fungible token [NFT] environmental assets bring real utility to artistic creations. Users will customize their world with these creations and have it seen by others on the platform. Artists can submit their work, and earn LifeCoin™ and recognition. Like a famous painting in your home, digital animals, plants and environments that are NFT’s can act as a unique display of one’s personality, and show support for the creator.** Thus, we feed the starving artist.

**A critical component of our infrastructure is the hybridization between decentralized and centralized systems**, as we cache everything posted to the network and all user actions taken therein, where YawLife acts as its own node on the Ethereum network. This enables a critical backup system of all blockchain data (in case the Ethereum network fails or receives Distributed Denial of Service [DDoS] attacks, which would subsequently cause an increase in gas costs and Ether fees to an untenable, unaffordable rate). Additionally, this component enables a way for users who cannot run a full Ethereum node to still access our service through conventional means (i.e. a web browser, mobile device application, etcetera).

Put simply, each user has a **blockchain identity**, which is created for them when they first register with YawLife. This blockchain technology offers the **potential to be tied** to the user’s **biometrics** in the future (fingerprints, iris(s), heartbeat, vocals, and facial recognition, etc., as technology allows and as the user desires) to allow for secure authentication and data protection to improve upon passwords. Since each piece of posted content is assigned a unique identity that is paired to its creator and stored on the **LifeChain™**, that identity can be used to trace the post back to its original owner. This offers many advantages, the pivotal one being: the **minimizing of stolen content through advanced Digital Rights Management, and gives intellectual-property rights to posters. Put simply, users can own their content, and sell partial or full rights to publishers to gain exposure to a broader community... increasing the likelihood of virality. User’s can earn LifeCoin™ from their posts and by reviewing posts on YawLife.**

As it has become common practice for people to share great content, this usually ends up with the original creator of the content receiving little credit, and as a result, no financial compensation for their efforts, creativity, intellect and vision. **YawLife™** seeks to change this paradigm, via the **LifeChain™, incentivized user reviews** and Google’s deep

learning/convolutional thinking, to search and identify which content belongs to whom. This will help identify fraudulent “sharers” who might seek to take credit and/or receive benefits for the work of others. Through blockchain and deep learning technology, **YawLife™ aims to determine the true owner of the content, even if that content has been modified.**

If false ownership has been flagged (i.e. a repost), we aim to credit the original poster, and give them any LifeCoin™ earnings from tips and revenue received on the repost. Exceptions are when users “sell equity” in their posts earnings to influencers/publishers (e.g. who have a large audience). **For instance, original content creators can “put their content on the market” in a smart contract by assigning a percentage of their post’s LifeCoin™ earnings to those who share what they post. Instead of auctioning off our souls for free as a ticket to a social platform, we should be able to auction off each thing we create in exchange for something of value. More people should be able to earn something from their time spent on social media.** This re-evaluation and iteration of the information economy is a future greatly needed. **This virtually solves the problem of mass dissemination of content without due recourse.**

**The way users are rewarded is highly secure, through a cryptographic token created specifically for the YawLife network, called LifeCoin™ (or “LFE” for short). This cryptographic token is created on top of Ethereum, which offers many advantages (in that Ethereum is well known, established and supported, and also in the technology which powers it). Each user’s device(s) holds its own private key(s) for multisignature access (required for sending/spending/exchanging LifeCoin™), preventing there from being a “treasure trove” server side for hackers with malicious intent to target. And, due to Ethereum being the second largest cryptocurrency, their market cap currently surpasses \$384 Billion USD, and has thousands of nodes securing the distributed network. Users will also hold a multivariate reputation score (called “SENSE™”) which is weighed in content reviews to provide a more accurate consensus. SENSE™ cryptographic tokens will not be sellable. — [See “V. Systems Design”](#)**

## IV. Platform

### I. Vision Overview

**We strived to ask: How can we improve the content seen on the internet, and reward original creators for their efforts?**

#### Initial Observations

We realized that certain sites reward users for their content and attempt to curate it, to varying degrees – however, this is mostly through social reputation [likes], as opposed to actual money, and users do not take a proactive approach in determining content's success, besides clicking “like” or voting up/down (Facebook and Reddit are classic examples of this). Some sites try to reward users with money for their efforts. YouTube and Steemit do this, with varying degrees of success. YouTube often fails to reward creators that well, whilst Steemit does a slightly better job... Yet, **there's still a gap in the user-reward and content-curation systems.**

Regardless the platform, content on the internet is often blatantly ripped off, with people bypassing Digital Rights Management [DRM] systems with simple measures, such as changing video/image resolution, or adding an emoji and/or small snippet of text on top of a video/image shared with others. The users rewarded are not necessarily the user's deserved. On Steemit you can post a link to something and make money, even if you are not the original author.

#### Conclusions:

- People want to see better content, faster, as opposed to having to seek it out
- People would like to get rewards for their creations and permit promoters a share
- Some people are gratified being Reporters and making LifeCoin™ whilst spending their time curating content
- There is merit to social reputation (not just LifeCoin™ reward), but room to evolve how it's used in relation to content and the internet
- If people are posting from an outside source, we must employ a trusted verification process to ensure authenticity of ownership
- People are willing to tip content creators LFE whose content they like, or pay small amounts of LFE to view quality content, so long as it is readily available
- People, companies and organisations would pay LifeCoin™ to reduce/eliminate copyright infringement of their content, to ensure they receive the credit and rewards they deserve

## II. Technical Overview

The intended technical architecture of YawLife utilizes a **combination of local users' hardware**, sponsored content **promoters local hardware** (or server(s)), and **YawLife's Server Hardware** — **to act as a decentralized, peer-to-peer** content delivery network [CDN] on the **Ethereum** blockchain, where the **required ether/gas fees** are **paid through smart contracts that handle** the intake and outtake (**distribution**) of **LifeCoin™/Ether** from **sponsors** and **users**, and the **subsequent allotment** to the **blockchain costs, reporters, publishers, and the YawLife** company. The YawLife Server Hardware is **highly scalable**, as it utilizes Amazon Web Services, which shall **act as a node on Ethereum** to **cache** all aspects of the decentralized network [**on our LifeChain™**] **as a contingency** in case of a downfall in the Ethereum system (and/or complete inaccessibility), or, unaffordable blockchain costs. Additionally, this doubles to **lodge the location of all YawLife/LifeCoin™-related Ethereum smart-contracts** for the **future formation of a separate blockchain** for the YawLife platform (an **iteration of our LifeChain™**).

## III. Peer-Governance

The information economy is currently broken in the sense of who it rewards and who it leaves behind. Creators with rich vision have their work stolen and profited off of mostly by unaffiliated third parties. While not to the same extreme, it is a rough equivalent of digital slavery. YawLife seeks to end this digital slavery by properly rewarding the creators, reporters and viewers of content with LifeCoin™ as appropriate.

## IV. Network Actors

### 1. Viewers

Viewers are the consumers of content on the YawLife platform. They can view free content, as well as pay-to-view content (either created by users, or, publications, such as newspapers, where we'll showcase a preview of the different articles and facilitate a subscription). **The user's pay in LifeCoin™ for any pay-to-view content. Viewers can also tip the content-creators [publishers] in LifeCoin™ as a way to show appreciation for a piece of content** that they enjoy (such as a video). Whenever applicable, viewers can also purchase a license to profit LFE off of the content of someone else (essentially acting as a marketing agent for the publisher — to help the content receive views — benefitting both the original author and the licensee), or, **when also applicable, a viewer can purchase the complete Intellectual Property rights of content created by a publisher** (which requires the approval of the publisher, and **payment through LifeCoin™**).

## 2. Reporters

The roles reporters play in YawLife is to add immense value to the network and bring order to chaos. **Reporters moderate content, to filter out adult content, illegal content, stolen content, spam material, and sift the content into categories to aid in providing an experience catered to each user's' unique set of interests. In doing so, they get paid in LifeCoin™.** The reasoning for filtering out adult content is to give parents the option to have a “safe zone” for their children to browse the internet and the parents to monitor their activity, so that children can still view the rich content the web has to offer without being exposed to unapproved material. Additionally, this adds an extra stream of LFE revenue to the smart contract, which helps pay the reporters LFE for their time, publishers for their content, cover blockchain costs, and keep YawLife operational/profitable. **The reporting process is powered by SENSE™ (a non-sellable reputation token) and LifeCoin™, both of which can be staked and gained/lost in the reporting process (as dictated by consensus — [See “V. Systems Design”](#)).**

## 3. Publishers

Publishers are the lifeblood of the YawLife platform. They are both the average poster, and the users who create content “en masse,” be it through niche categories, or a broader spectrum (in the form of writing, video, audio, or image(s)). Publishers grow and prosper the longer they are a part of the platform, through increased LFE revenue-sharing incentives going towards users who drive higher user-acquisition ratios, and post quality content. This ensures that the users who bring in the most LFE revenue are rewarded as such, and that, akin to high performance and longevity at a specific career, each user is treated with evolving respect as time goes on. This respect is both in the form of LifeCoin™ retribution, as well as SENSE™ (reputation). SENSE™ is multivariate to allow for building a digital skill tree where experts are valued for their specific knowledge. **Publishers can pay LFE for advanced DRM protection on their content, or to highlight their post to their friends (and/or public), similar to how a user of Kijiji/Gumtree can highlight their classified. They can also assign partial rights to their post's earnings so that other publishers/influencers can share what they've created, and help it go viral.**

## 3. Advertisers

Advertisers facilitate the generation of LFE revenue for both YawLife Pty. Ltd. and the content creators + reporters of the YawLife platform. Users have the option to pay a monthly LFE fee to eliminate ads completely, and this is also fed into the same LFE revenue distributor smart contract that distributes LFE revenue to creators and reporters. Advertisers must pay for ad placements in the LifeCoin™ currency. In the future, we aim to

develop a payment gateway with the option of a bank transfer/credit-card processing. However, once any other payment method is available, there may be a discount received when using LifeCoin™ solely (without any other payment methods in-between) to display ads. This is due to the heightened prevention of fraud, lesser fees in between, and the irreversible nature of cryptographic token transactions. \*Advertisements are different from “highlighted content” (posted by content creators). Any attempt to circumvent this system can be met with a swift ban and/or negative reputation (SENSE™ deduction).

## V. Content Modifiers

Users can post content in the form of writing, audio, video, or image(s). Writing can be in the form of a status update, a quote, or in a larger embodiment of an article/blog post, or book. Audio can be a podcast, or a song. Video can be of any length, from a short video to a feature length film; albeit, feature length films would face increased scrutiny to ensure the poster has the rights to post the film. Image(s) can be a single image or a gallery containing a multitude of images. Any of this content can be subject to a content modifier, listed below.

**There are 4 content modifiers:**

- 1. Pay-to-view Content [viewers]**
- 2. Sponsored Content [advertisers]**
- 3. Highlighted Content [publishers]**
- 4. Paid DRM Protection [publishers]**

### 1. Pay-to-view Content

When content is pay-to-view, there is a preview/description of the content, alongside an option to pay LFE for access to it (price determined by the publisher). Examples of pay-to-view content range from an article by a newspaper, to a video/text tutorial/class, to a Hollywood Feature film available for purchase. Many other possibilities are inherent in this form of content, such as a contest/ballot entry (due to the singular nature of purchase linked to a blockchain identity).

### 2. Sponsored Content

When content is sponsored content, there is a preview/description of the content that the advertiser pays LifeCoin™ in order to display to the user (and corresponding page/link).

Sponsored Content is geared towards companies paying LFE to reach relevant users who might want to buy their products and/or services. Whilst still respecting user privacy, this is done by gathering detailed user analytics to display Sponsored Content based off of a slew of factors — including most read/interested topics and content — all the while striving to never reveal to YawLife or advertisers the personal details of individuals being shown this Sponsored Content. Advertisers have the choice to purchase an ad placement of their Sponsored Content for a period of time, as well as for a number of user-impressions (views). This is purchased with LifeCoin™. In certain circumstances, bidding may be involved to display this content alongside certain Publishers/Influencers (that typically have larger audiences).

### 3. Highlighted Content

When content is highlighted, it is when a user has paid LifeCoin™ to promote to his/her friends (and, if in tandem with their privacy settings, to the public as well).

Highlighted content, like sponsored content, can have a “time/user-impression-based period” purchased. Highlighted content, however, is only intended to be user-generated content which the creator (or sharer) pays LifeCoin™ to help market said content to a wider audience. The goal is to not scare users off from highlighted content (even if they don't like advertisements), because, in addition to being a topic relevant to their interests, highlighted content is intended to help the publishers’ Audio/Writing/Photos/Videos, etc. stand out from the crowd and be supported by the users (more shares, more LifeCoin™ made off of views...).

In certain situations, sponsored content could also be highlighted content. One example is if Red Bull and/or GoPro, for instance, created a unique video of a bunch of extreme sports. Since this would be considered unique content, this could pass off as highlighted content. However, it could still be purchased in ad placements under Sponsored Content. This is because it isn't simply a link to/description of a product/service, but what one would consider entertaining and unique.

### 4. Paid DRM Protection

The User has the option to create a DRM Purse to keep track of their copyrighted material by using LifeCoin™ to create a DRM Purse. This provides reporters with a source of LifeCoin™ to protect content with greater accuracy through preferential treatment (when content has the paid DRM modifier applied to it).

Ultimately, whilst users pay with LifeCoin™ for their individual pieces of content to be protected, there is a singular pool of LifeCoin™ that all paid DRM content contributes towards, ensuring better resource utilisation across the network. The LifeCoin™ funding

from this source ranges in applicability from preventing fake news, to providing linguistic translation/analysis, to rating content's quality, to categorizing content more effectively. All the while, however, this happens without sacrificing the increased prevalence the paid DRM modifier plays in what reporter's viewpoint focuses on.

## VI. Non-Fungible Tokens [NFT's]



**Fig. 4.6A — e.g. Unreal Engine Landscape (prior to plants/animals/meshes population)**

**Users can purchase NFT collectibles for their digital world on YawLife (with LFE). Animals, plants and environmental assets can be submitted/sold by creators and purchased by users. Each user profile is a unique digital world created in the Unreal Engine, containing a living persona of every user. Users will be able to customize their world, with unique environmental scapes, living creatures and plant life. Built on the ERC-721 standard, these unique 2d/3d meshes can differ in their rarity, and be traded amongst users. An artist could sculpt a 3d model, rig and animate it, and submit it to YawLife for listing on the platform, with desired scarcity. Behind the scenes, this would be reflected as a unique NFT in the marketplace, and displayed as a living, placeable asset for their environment on the front-end.**

Some base NFT environments and life+objects would be available for free, with the rest being available from creators at their desired LFE price-points. Ultimately, we see long-term potential for this to aid in the construction of the decentralized metaverse. **When each profile contains unique living NFT creatures, soundscapes, plant life, terrain, and art, we become a digital extension of ourselves in ways yet to be imagined by conventional, single-shaded social media. We transcend new horizons and redefine what it means to be human.** When augmented reality becomes practical en-masse, this environment could live on around us in our daily lives, integrated with our physical reality in a natural, intuitive, evolutionary way.



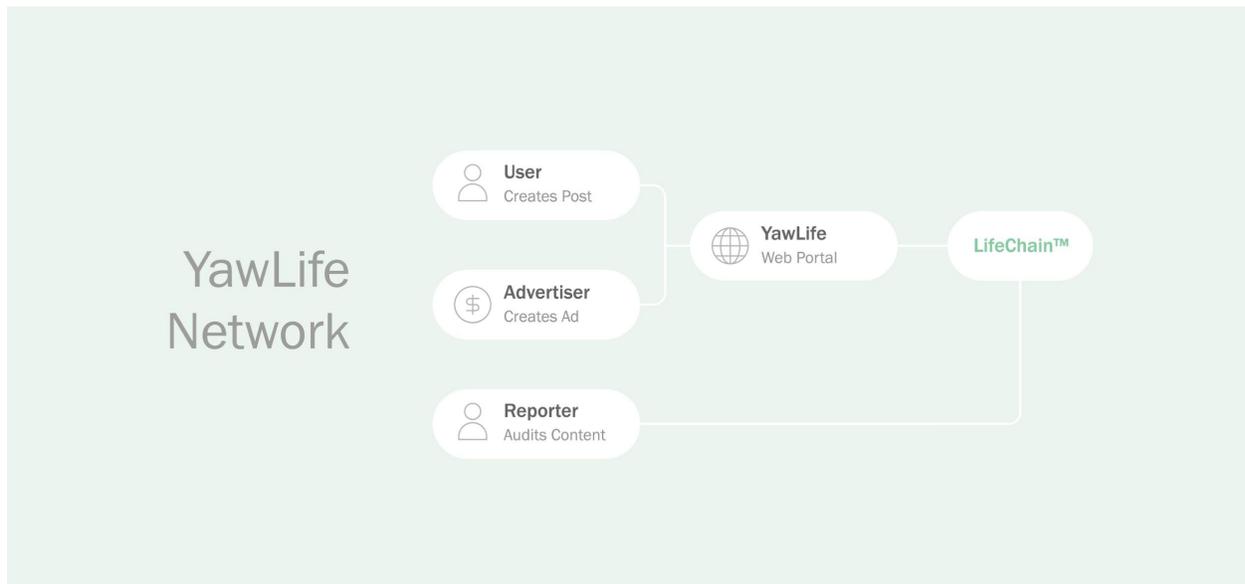
**Figure 4.6B — NFT Market**

The NFT market is simple. Artists can have an unlimited or limited supply of their assets available for purchase by users with LifeCoin™. Users can showcase their favourite environments and collectibles in their customizable living world profile. This profile [if set to public] can be admired by others. This digital real estate could eventually be bought and sold with LifeCoin™. It could be explored and travelled between, just as there are different planets in the universe, and spaceships permit us access to the stars.

As human beings, we are all creative. YawLife hopes to foster that creativity in everyone, rather than showing boring backgrounds and limited customization. Everybody matters. Everybody is different, and we feel everybody deserves the opportunity to properly reflect who they are, and showcase their inner beauty.

## V. System Design

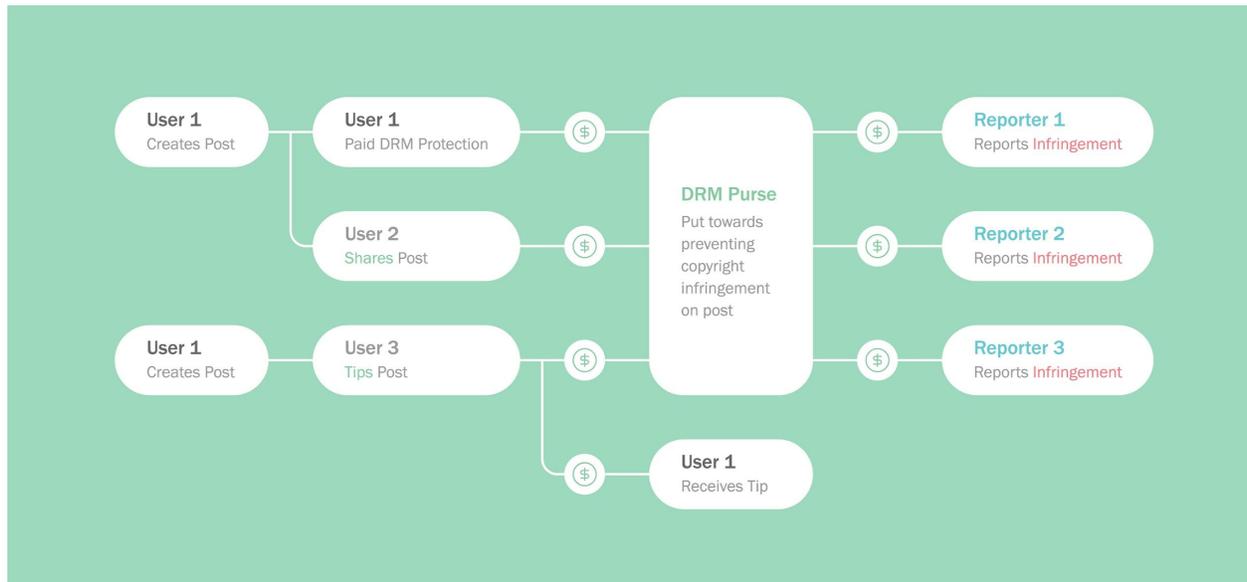
### I. Architecture



**Figure 5.A — High Level Overview of the YawLife Network**

The YawLife Network consists of Users, Advertisers and Reporters. As with the case of any social network, the user creates content that they share with friends or the public. Advertisers have the option to advertise content on the platform by paying the user to use their feed with LifeCoin™. However, YawLife introduces a novel concept of Copyright Protection where the user has the option to create a DRM Purse using LifeChain™ to audit his or her content across multiple feeds, and own their content. This is where the third actor comes about (the Reporter), who will ensure the authenticity of every post.

## II. DRM Purse



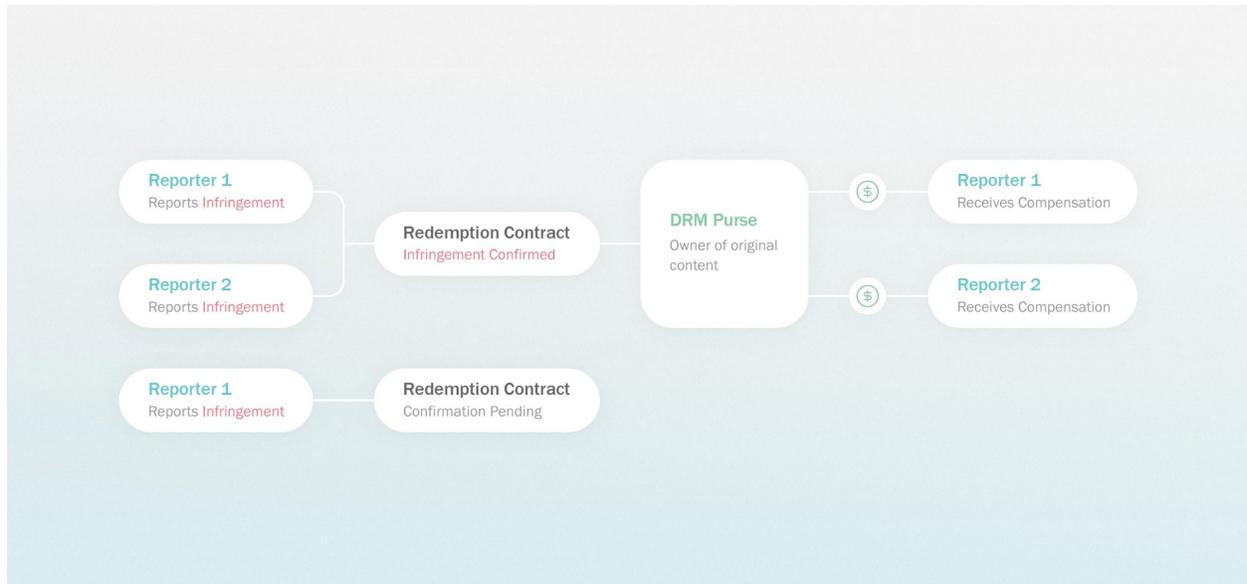
**Figure 5.B – Interaction of a DRM Purse**

When a User creates a post, they can pay LifeCoin™ for Digital Rights Management protection, and have a portion of LFE revenue gained from their post go towards replenishing any LFE funds given away to reporters who are rewarded when they correctly identify a post infringing their copyright. In this case, User 2 shares their post, and User 3 tips them in our currency LifeCoin™. As post shares generate more views, and therefore, more LFE revenue for the creator (including LifeCoin™ tips received), this acts as both a LFE income stream for the creator, as well as users who act as Reporters to safeguard content from infringement.

In this example, *User 1* deposits LifeCoin™ into a Digital Rights Management [DRM] Purse that will keep the posts that matter the most to *User 1* from getting infringed upon. The DRM Purse in this case contains *User 1*'s address and the total LFE funding from *User 1* or other contributors who like *User 1*'s content (represented by *User 3*). *User 1*'s contribution to the DRM Purse is voluntary – in this case the \$ coin represents the amount of LifeCoin™ input to track a post's authenticity.

The more viewership/admiration a post has factors into the overall LFE revenue generated from advertisements. This, combined with LFE tips, and [if applicable] paywall revenue reflect an overall “percentage of LFE earnings” contributed towards *User 1*'s DRM purse. This consistent influx of LifeCoin™ to replenish that drained from Reporters is visualized in the user interface by a simple slider, similar to that displayed when creators decide what percentage of earnings to give to those who share their content.

### III. Reporters and Arbiters



**Figure 5.C — Reporting and Arbiters Redemption Contract**

Reporters work in a group for heightened accuracy to identify content infringement. This is an example of a redemption contract where 2 reporters deem content to be copyright infringing, with the consensus of all reporters deeming them to be correct. The owner of original content who has paid LifeCoin™ for Digital Rights Management protection uses our LifeChain™ to automatically disburse compensation to the respective reporters (who reported honestly). Using multiple parties to weigh in on a decision helps to ensure its accuracy, and as such, there is a time period where many opinions are weighted before an infringement can either be confirmed or denied.

Displayed in this example are Report and Redemption transactions. Reporter 1 and Reporter 2 are users reporting, and redeeming LifeCoin™ upon acceptance of its report in the redemption contract. The reporter begins by issuing a report to a redemption contract corresponding to the topic that it's reporting. Each Redemption Contract acts like an Arbiter and keeps a reputation [SENSE™] score the longer it exists and produces correct outcomes on copyrighted content. Upon a quorum, the Redemption Contract issues a redemption transaction from the DRM Purse.



**Figure 5.D — Sample Report**

This simple example shows LifeCoin™ owners participating in reporting copyrighted content. Each report entry is initially set to a state of NO AWARD, so that the user will not receive credit for reporting on that event. Since consensus creates truth, and multiple parties partake in the reporting process, there is a social reputation system called SENSE™, which helps to ensure that users who tell the truth are rewarded, whilst those who do not are punished.

The more SENSE™ a user has, the more weight it holds against other users reporting. Each user’s reputation score, dubbed “SENSE™,” is determined by their honesty on past reports. If an individual user’s Reputation is 50 SENSE™ (represented by Reporter 1 in this case), his/her ballot has a weight of 50. Another user who has a Reputation of 100 SENSE™ (represented by Reporter 2 or 3) would also only cast a single ballot (as with Reporter 1), but their opinions would be given 2 times as much weight as the first user’s (Reporter 1). **The overall weight derives the consensus, and rewards or deducts Reputation [SENSE™] and LifeCoin™ from participating reporters accordingly.** A certain number of LifeCoin™ is rewarded at a rate equivalent to a user's reputation, so if 150 LifeCoin™ were given as a reward for this decision, Reporter 1 would receive 50 LifeCoin™, and Reporter 2 would receive 100 LifeCoin™. In this way, users receive more compensation as they build up their reputation, giving additional LifeCoin™ incentive to weed out fake news, present quality content to users, reduce copyright infringement, and correctly translate content with contextual aspects held intact.

## IV. Deriving Ownership From Outside Sources

YawLife will determine the owner of a domain by allowing a user to paste a unique identifier into their page's html index. We will also use a similar methodology when it comes to user profiles to determine that the user is in fact the owner of a specific social media account (such as Twitter). YawLife will ensure that content is in fact verified to be from the respective owner (when posted from an outside source to YawLife), for the purposes of determining originality (the former method for domain owners, and/or the latter method when the outside domain is a social platform/online community). The latter could take the form of a post from the social media handle to determine ownership of the account. The reporting system fills in the gap for any other content-originality questions.

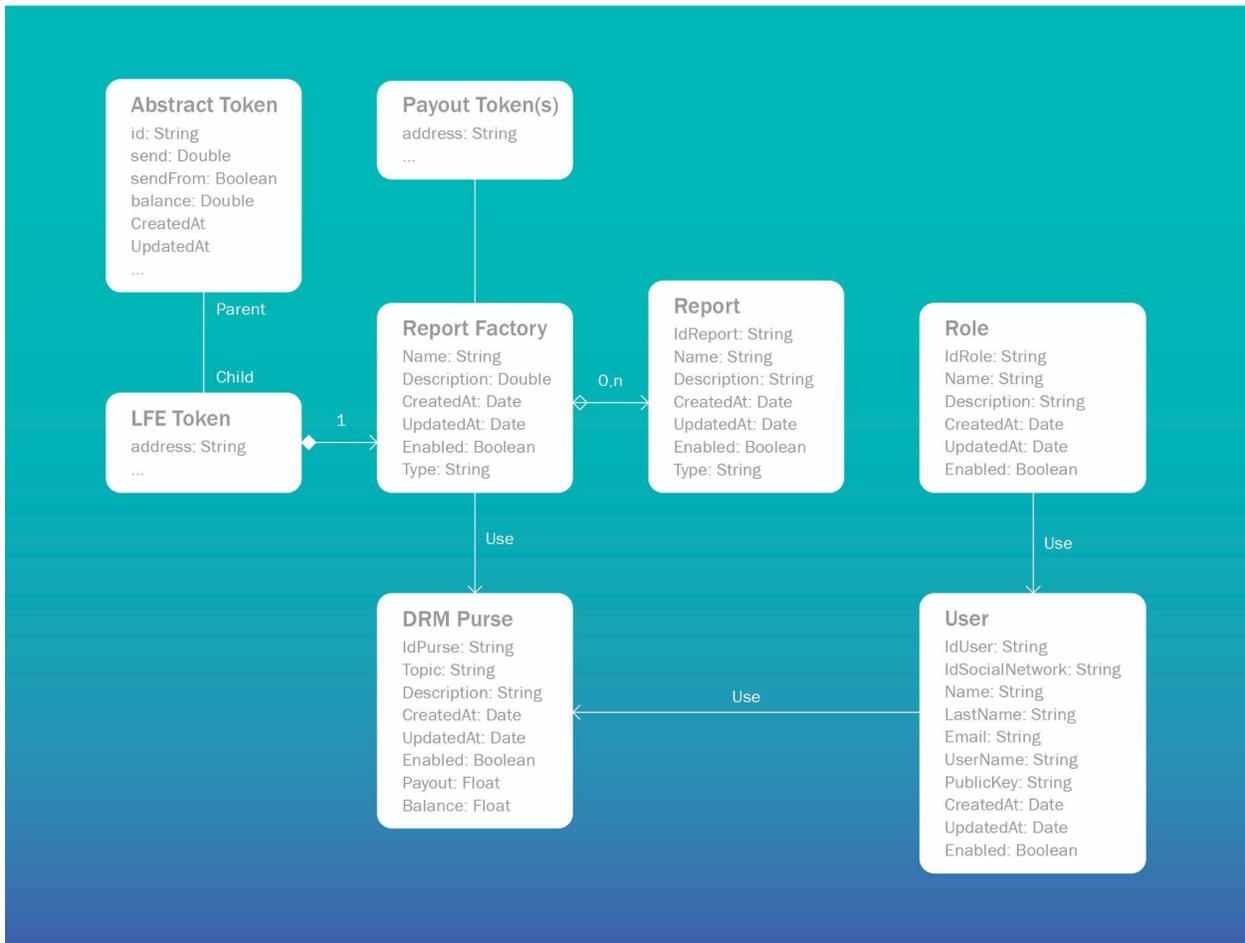
## V. Content Curation Application of DRM Purse Principles

Variations of Figure's 5.B, 5.C, & 5.D will be utilized as part of the content curation algorithms of YawLife, by substituting the "User" for the YawLife Company and Foundation, whereby the Foundation acts as a non-profit organization with the goal of fostering quality content - beneficial to one's health - fed by part of the company's profits. The goal here, is to ensure independent oversight of content geared towards a better daily informational intake focused on more than just profits. We believe that we need to overcome the current state of social media, where users have become trapped in a slot machine of dopamine, fueling the advertisement machine... We believe life can be better than that. Like the DRM Purse, the Company and foundation will fund LFE bounties, with the purpose of identifying and addressing misinformation, highlighting intelligent/educative content, translating/tagging posts, and enforcing content originality.

**In parallel to how taking part in the infringement-reporting process can earn user's LifeCoin™ and reputation [SENSE™], the same holds true for content-curation.** Experts (like Doctors) can have their qualifications respected as it pertains to information relevant to their field. Everyone can participate. Discourse is never discouraged, but consensus is truth. This encourages users to both benefit with LifeCoin™ from their existing knowledge and skills, as well as to "earn LFE to learn" from the worldwide repository of knowledge.

# VI. Smart Contract Architecture

## I. Content, Reporting & Rewards



**Figure 6.A – Contract Architecture**

The smart contract architecture follows a very modular structure, making it easy to upgrade or reuse parts with Solidity. Our implementation consists of over 12 smart contracts ranging from report/review factories to multiple report/review types. Every Report References a DRM Purse which will resolve the report. Users can use the DRM Purse in 2 ways, by creating it, or, reporting content they think was copyrighted. For every report, an ERC20 compatible payout token is created. This is a LifeCoin™ Token that is assigned to a DRM Purse by a Report Factory, in case the report is resolved

successfully and there is a payout. **Similar smart contracts power peer-reviewed tasks in the network (i.e. tagging, translation, etc.), applying the scientific method to content.**

## II. Other Notable Smart Contracts

YawLife will create a number of other various dynamic and static smart contracts (and a combination thereof) in order to facilitate a completely decentralized and trustworthy method of content watermarking and LifeCoin™ revenue distribution for content creators, reporters, and the YawLife company. The following includes many, *but not the entirety* of all smart contracts we may develop.

Content-Watermarking Smart Contract:

1. Permits watermarking content and tying it to a user ID, with mirrors to where the content is posted and the content's hash. Posted content is done so through a smart contract deployed through YawLife's address (to eliminate costs for users), containing the respective UID and other aspects
2. Logs costs to post/watermark content, with base costs per various actions (and any additional, paid by YawLife, with the content held in a smart contract of the owner who has the right to sell a license for/ownership-of said content)

Operating Expenses Smart Contract:

1. Watches/Factors Cost of all executed Content-Watermarking Smart Contracts
2. Watches/Factors in Cost of all Reports, Likes, Comments, and Archived-Content
3. Watches/Factors in all hosting/domain costs from Google Cloud Platform, etc.

LifeCoin™ Revenue Distributor Smart Contract:

1. First pays operating expenses, tied to operating expenses contract
2. Subsequently distributes LifeCoin™ revenue to YawLife, etc.
  - ❖ Pays % to YawLife Pty. Ltd.
  - ❖ Pays % to YawLife Reporters/Reviewers
  - ❖ Pays % to YawLife Content Creators

Reporter Smart Contract:

1. Consensus Mechanism to take into account multi-moderation fairly
2. Reputation Mechanism to favor contributors with best track-records
3. Watches Content-Creation Smart Contract to favor paid DRM protection

LifeChain™ Smart Contract:

- ❖ Rewards for computers able to do more-powerful CPU+GPU computations

- ❖ Rewards mobile devices only able to do less-powerful computations (but nonetheless integral) in the overall combined supercomputer
- ❖ Segregated distribution of mining rewards (smaller for mobiles), making it possible for mobile devices to still receive mining rewards without having to compete with computers that are many magnitudes more powerful, giving incentive to mine regardless which device the user is on.
- ❖ Distributes 700 million LifeCoin™ to miners (contributing their computing power) with a deflationary mechanism built-in to prevent over-inflating the supply and causing market-cap/price devaluation.

#### Oracle Smart Contract(s):

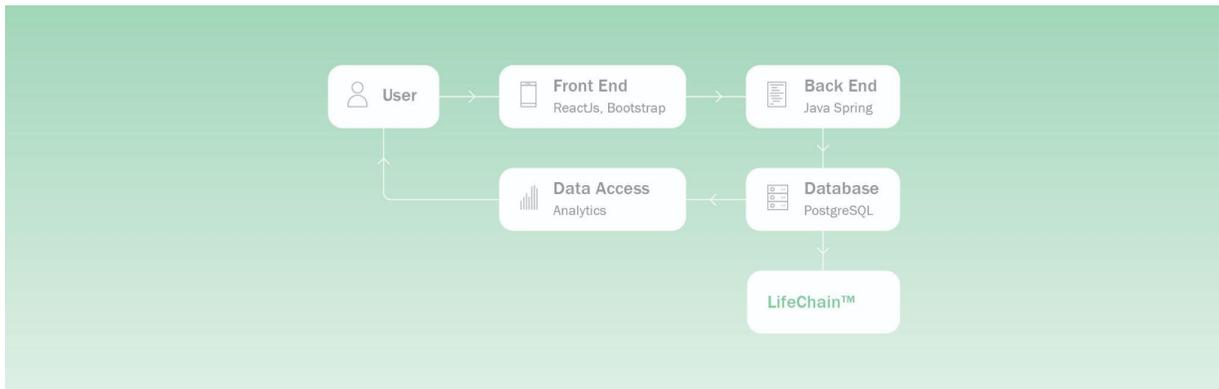
- ❖ Blockchain-based 2 factor authentication for account recovery, payments, login, etc.
- ❖ Analyze user data — protecting privacy whilst still allowing for machine learning algorithms to improve the system and iterate given new data input (i.e. better language translation, DRM protection, and stock/digital currency market analysis for profitable, automated-trading, with profits going back to various parties through the LifeCoin™ Revenue Distributor Smart Contract).

#### Viewer Smart Contract:

- ❖ Shows Highlighted Content first, as well as that which is deemed preferable to the user based off of selected interests, liked content & bookmarks
- ❖ Updates Likes/Views/Comments/Shares on any given Publisher Smart Contract (based upon viewer interaction with content)
- ❖ Saves bookmarks to an updating list for subsequent further viewing
- ❖ Factors in subscription to Ad-Free viewing when displaying content
- ❖ Grants access to pay-to-view content (when applicable), as well as permits tipping a publisher in LifeCoin™ for their content as a show of appreciation
- ❖ Allows a viewer to request a partial license (to repost and share in a portion of the profits), which, when agreed upon by both publisher and viewer, creates a smart contract that distributes LFE revenue accordingly, based off of ad/tip/paywall LifeCoin™ revenue made through the sharing process.
- ❖ Allows for inquiry into purchasing of the full intellectual property rights to a piece of content (which, if accepted by the publisher, all ownership of that content's smart contract is transferred over to the buyers UID)

## VII. Web Service Architecture

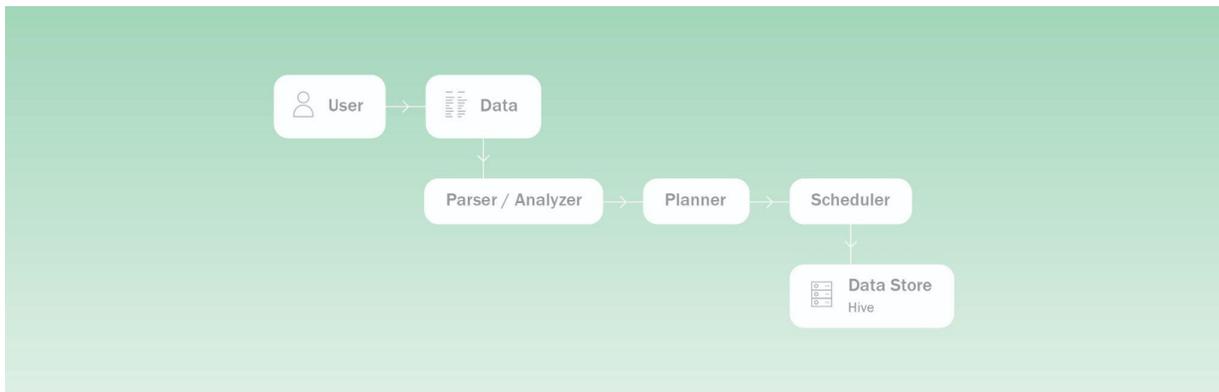
### I. Overview



**Figure 7.A — Web Service Architecture**

The above diagram shows a simplified flow of how our web service would work. The client would invoke a series of web service calls via requests to a server through a Reactjs front-end which would make Restful calls to the backend, which would create ACID transactions to read/write/update from a Postgresql database and a LifeChain™ smart contract. As part of our data analytics initiative we will do analytics on the data, which we will then use to update content on the front-end to the client.

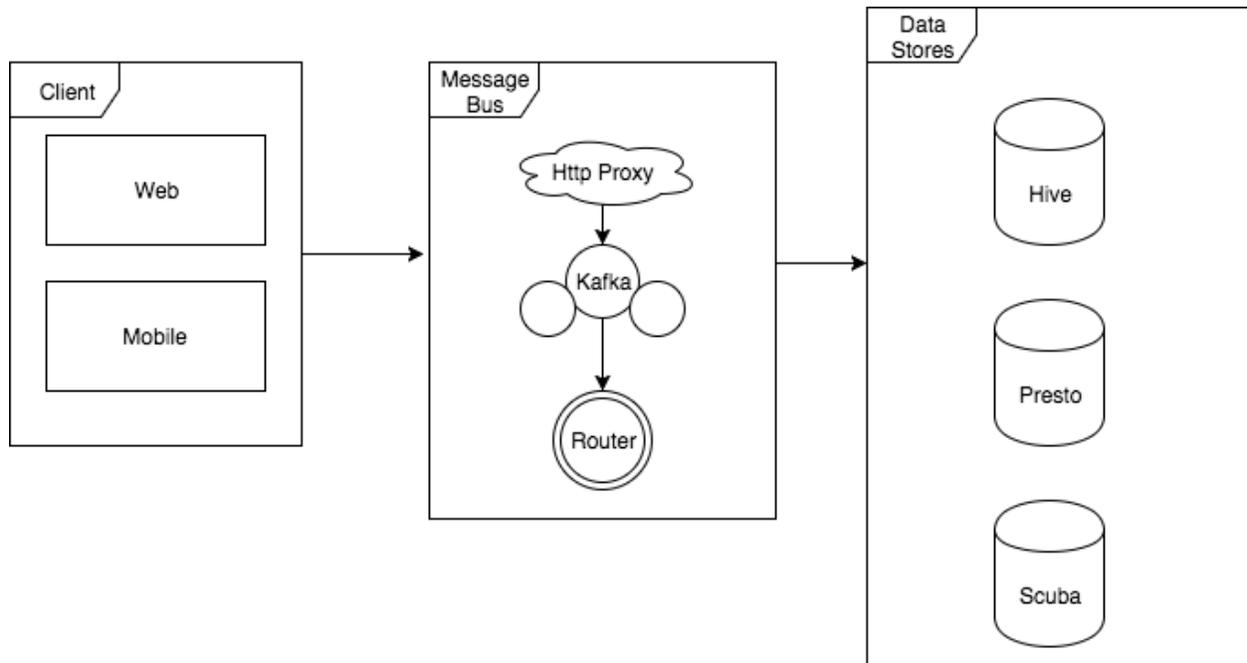
## II. Data Analytics Architecture



**Figure 7.B — Data Analytics Architecture**

Being a social network and news conglomerate, we expect to capture a large amount of data. In order to best assure reliability, we will design our data analytics stack to scale and capture petabytes of events from the start. We plan to use this data for graph processing in order to study user relations, machine learning and real-time interactive analytics for promoted content, which we plan to retrieve from the Hive datastore we hold.

### III. Data Pipeline

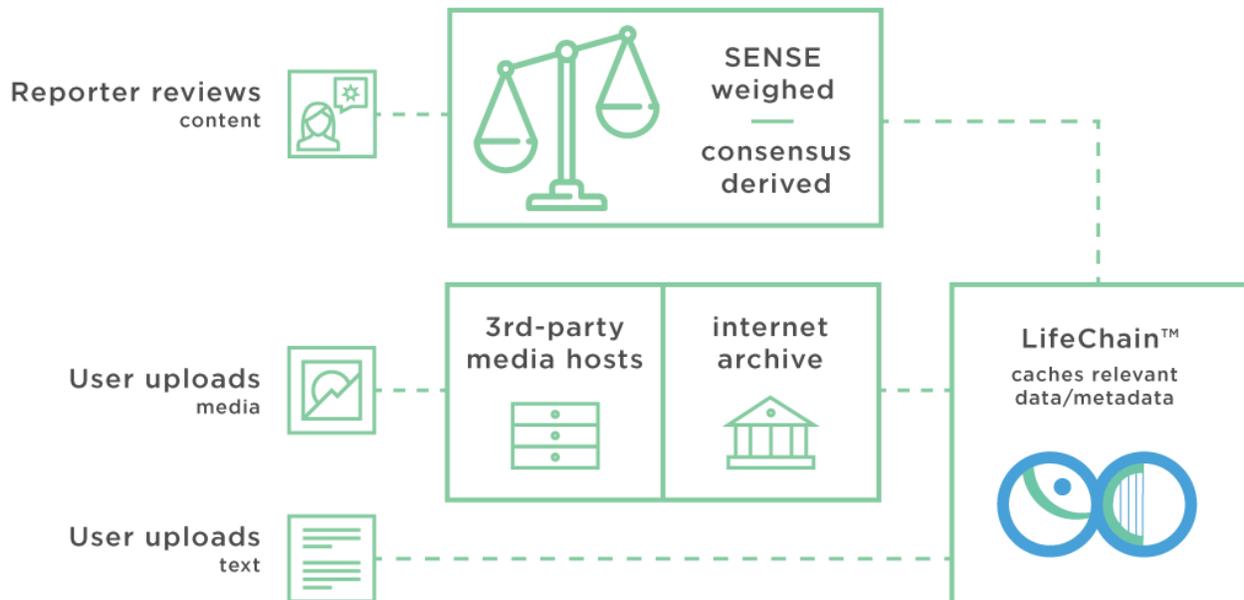


**Figure 7.C — Data Pipeline**

In the above diagram, we use multiple data stores for analytics which we capture from web and mobile applications. Our architecture will be designed to capture billions of transactions per day. As displayed through the above diagram, we use a Kafka message queue distributed system as an effort to collect geographic data per user. In order to query data at scale and meet a smart contract's latency needs, we also plan to use Facebook's presto for ad-hoc analysis.

## VIII. LifeChain™ Design

### I. Initial Architecture



**Figure 8.A — Initial LifeChain™ Architecture**

In this simple diagram, it is evident that the LifeChain™’s initial architecture is as lightweight as possible — storing only the relevant data and metadata to permit Reporter reviews — where SENSE™ is their variable reputation, which, when weighed alongside other reviews, derives the consensus.

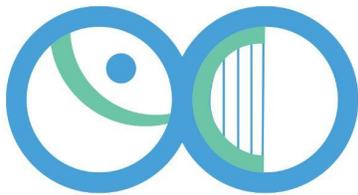
User uploaded media is stored on multiple 3rd party media hosts, in addition to archive.org (subject to approval), otherwise referred to as “The Internet Archive”. In the case of text posts, this content is stored entirely on the LifeChain™, due to its limited file size. The advantageous aspect here is storing only the necessary components with which blockchain technology is currently able to do feasibly in an efficient manner, rather than using the blockchain for all aspects of storage from the get go. This frees up development resources, whilst still cataloguing multiple mirrors of the same content and its relevant metadata, for subsequent integration with the Interplanetary File System. The initial architecture of the LifeChain™ is represented by a series of Ethereum smart contracts. In the future, we aim for it to eventually become its own separate blockchain. *\*See the next section (“II. Future Architecture”) for more on this aspect. Storage on the*

*“Internet Archive” is subject to formal agreement by them (not currently guaranteed — nor necessary for functionality — but aspirational on our part and beneficial if obtained).\**

## II. Future Architecture

### LifeChain™

Homomorphic-encrypted data is sharded into many pieces and distributed across the LifeChain™ with Shards and the Nucleus acting as either the input or output layer, dependant upon whether data is written to, or queried from, the LifeChain™. The Index contains a map to assemble the Shards, accessible only to the Oracle and those with proper authorization (with different data and function(s) available (dependant upon their respective security clearance)).



Shards  
Input layer



Index  
Hidden layer



Neurons  
Consensus



Nucleus  
Output layer



**Figure 8.B — Data Sharding for Heightened Privacy/Security & Artificial Intelligence**

Following the initial architecture (a series of interactive Ethereum smart contracts), we plan for the LifeChain™ to evolve to become its own separate blockchain. In some ways, the LifeChain™ will utilize a similar architecture to a platform called Numerai, a crowdsourced machine learning hedge fund for Artificial Intelligence experts, that works by selecting successful financial models submitted by its members. Each expert that competes with one another is given a dataset. **In a homomorphic environment, no information is leaked about the submitted model and experts can do operations on data to create prediction models and share them without the risk of intellectual property loss. You hide the techniques you used to build it. You hide the methods you used to improve your data. And most importantly, you hide the data.**

In this case, **the financial incentive for secrecy is strong.** We consider **homomorphic encryption on LifeChain™, to create advertisement machine learning models for our promoters, facilitating individual advertisement relevance without privacy leakage.**

The same will hold true to guard individual users' reputation [SENSE™] score from the public/potential-hackers, so that instead of being accessible by looking up the public address of a given user on block explorers, it will be hidden. To determine a user's overall alignment with the reporter consensus, we'll perform computation on the ciphertext (in this case, using the current value of their reputation [SENSE™] to determine their weight against others, and using the outcome of the consensus to modify the amount of SENSE™ a user receives or loses, based on the result) without revealing the data (how much SENSE™ a user has, or the total SENSE™ weighed in upon a reporter decision). SENSE™ acts as the currency of truth, which itself cannot be sold. However, the total SENSE™ which weighs in on a given time period is used in determining an equal distribution of a percentage of YawLife's LFE earnings through the LFE revenue distributor smart contract. Thus, the more honest/correct a reporter is, the more LifeCoin™ they receive as a reward over time.

This ensures a more objective point of view as it pertains to decisions on content infringement, correct translations/tags, and overall content quality (be it truthful, intelligent or entertaining). This reduces the general public from having access to data that factors into an individual user's LFE earnings from the platform (and their LFE earnings/wallet balance itself), as this would be a gross breach of privacy. It also prevents hackers from having the capacity to access/modify the workings of the reputation [SENSE™] mechanism, to falsely alter the amount of SENSE™ user(s) hold. This is crucial, as it's a core derivative in the consensus and reward mechanisms, and prevents targeted strikes on individual/multiple accounts with the aim of seizing control over the ones holding the greatest weight behind them in consensus. In this way, we promote a private and fair system of consensus. However, the efficiency, and thus the speed of such operations is still a work in progress. **We consider PCA, random projections, feature expansions, bayesian learning, hashing, or the last hidden layer activation, and a combination of these techniques or ensembles of these approaches that are a one-way-operation-approach, and thus, should be more efficient.**

### III. Third Party Plugin for CMS & Beyond

Once established, we see potential to create a **plugin for various Content Management Systems [CMS], such as WordPress**. Just as reCAPTCHA has an API to identify humans over computers for registration and verification processes, we intend to have our own set of API's and a subscription model for identification of content ownership and quality. **This will feed into the LifeChain™ and use LifeCoin™ as the medium of reward, and SENSE™ as the online standard for reputation.**

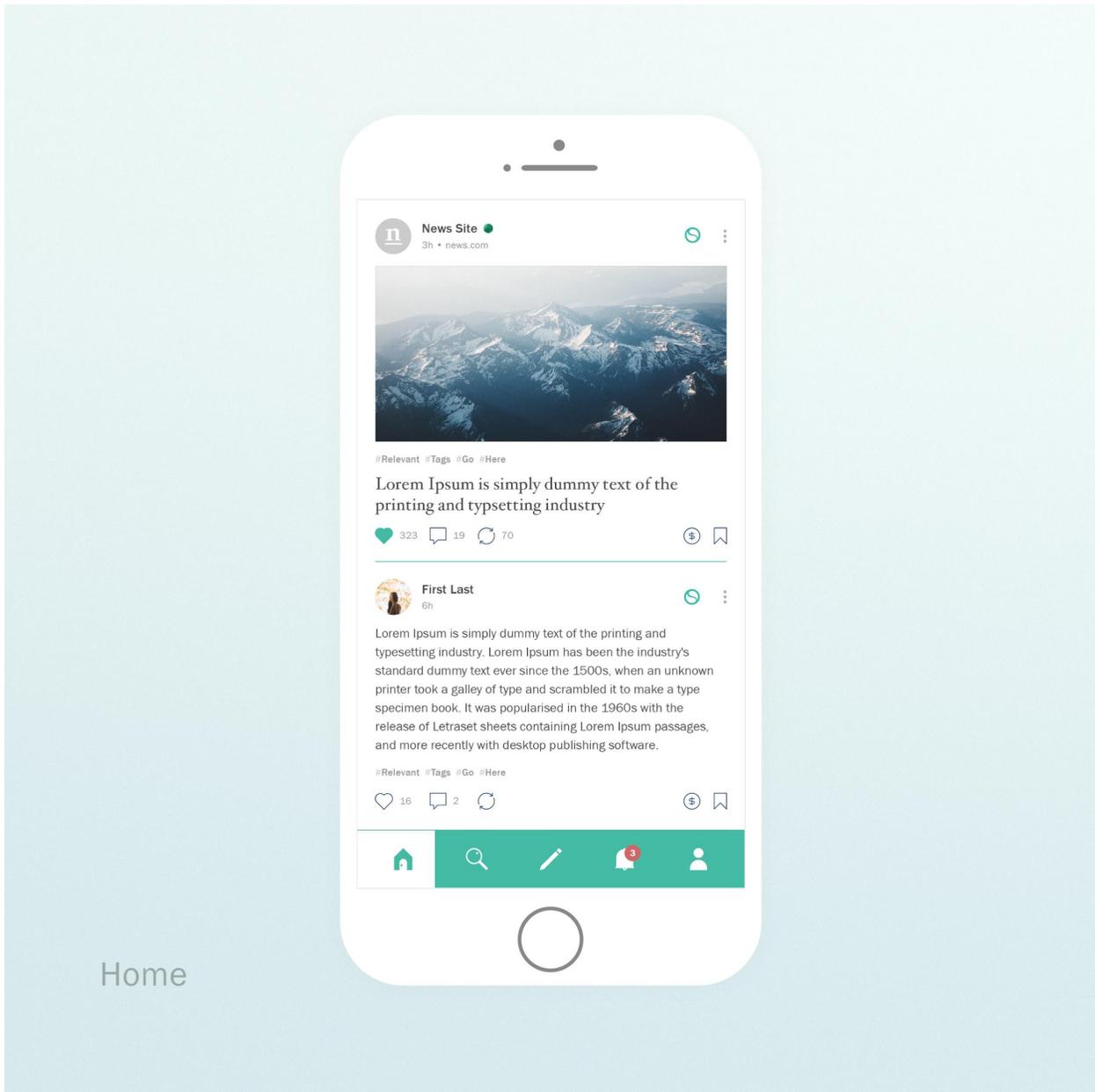
The goal here is to create a social network and news conglomerate that solves the widespread problem of fake news, plagiarism, incorrectly labelled information, and translative failure, through LifeCoin™ incentive across the board (both through YawLife, and the utilization of outside sources that make use of potential future API's/plugins). With many CMS's taking advantage of our plugin/API's, they would not only improve the quality and reduce infringement of content on their service, but contribute towards the improvement of content on the internet as a whole. Just as taking part in the reCAPTCHA process helps to digitize books, CMS's that integrate YawLife's plugin/API's for the LifeChain™ and LifeCoin™ will help to improve a distributed database of copyright ownership and machine learning algorithms which interact with this content.

### IV. Theoretical Subsequent Architecture Development

Resource-willing, alongside homomorphic encryption, we could theoretically take LifeChain™ Development in a similar direction as the PIVX,<sup>4</sup> ZCASH,<sup>5</sup> DASH,<sup>6</sup> & Monero<sup>7</sup> protocols for the construction of privacy-centric:

- A. User-analytics, so that there is a nonhuman, unbiased intermediary between user-information and the algorithms that access them to facilitate relevant suggestions.
- B. User-reputation, as a preventative measure against those who would seek to exploit the identity of high-reputation accounts in the reporting and review process.
- C. Worldwide, distributed supercomputer, whereby each node can “Forage for LFE” by contributing their power towards this “Life Computer” and be rewarded for supporting volunteer computing projects like SETI@Home (analyzing radio telescope data), or renting computing power (based off of the Gollum protocol<sup>8</sup>).

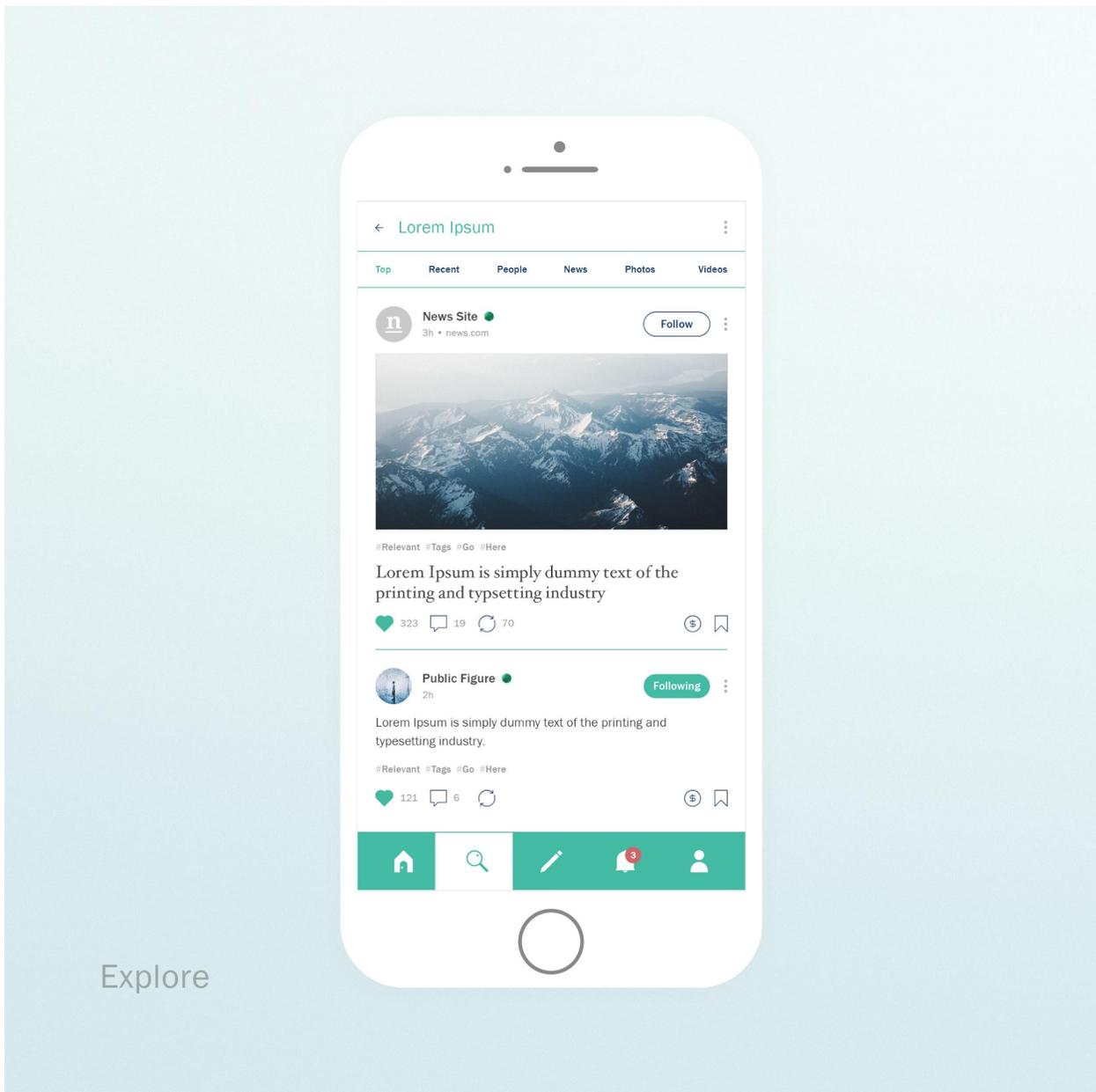
## IX. User Interface



Home

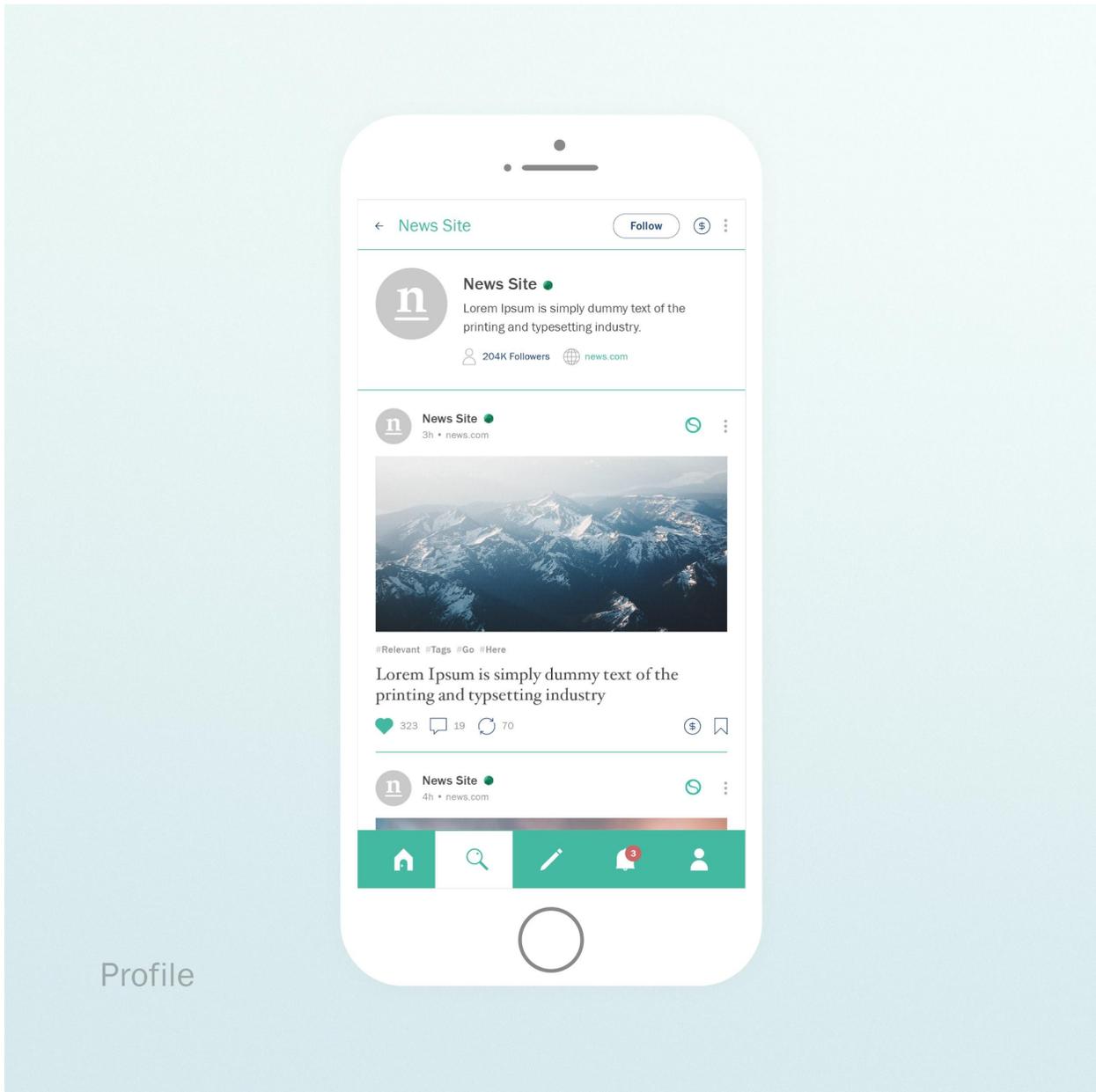
**Figure 9.A — Home**

Above is the Home tab of YawLife, as seen from the app. It is essentially a news feed of content catered to each user's interests, as well as posts from their friend group (on both YawLife, and other platforms which integrate the LifeChain™ plugin). Next to “News Site” is an example of the overall reputation of a publisher's posts — green is good, red is bad. This helps identify a given publisher's propensity for either fake news, or quality content.



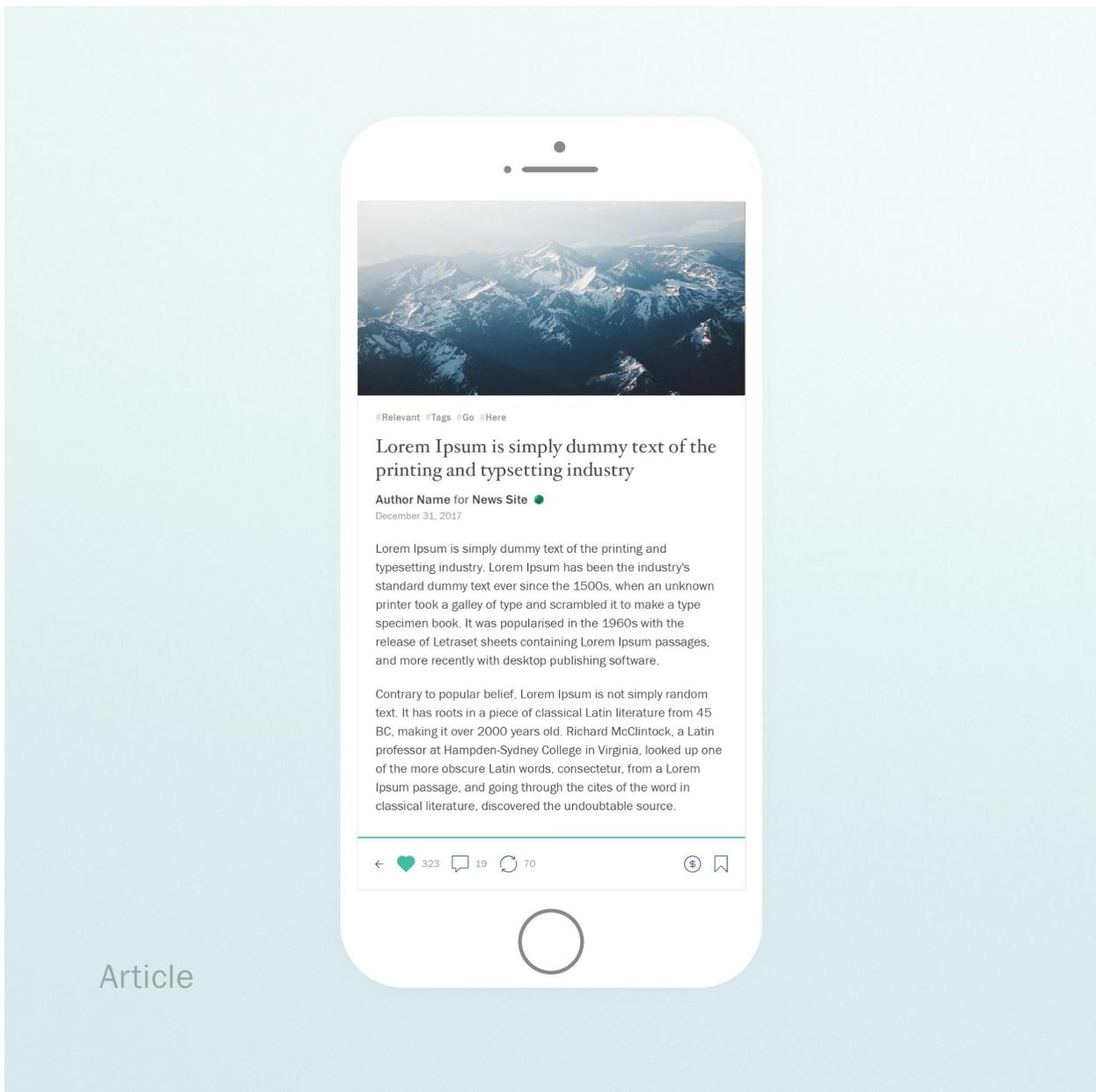
**Figure 9.B — Explore**

The above explore tab screenshot displays how a user can surf content in broad/niche categories, and follow news sites and public figures. Users can also search for specific topics, or browse through their bookmarked content. While the above screenshot is an example of an active user of YawLife, the first impression of the explore tab will be met with an offering of different interests the user can subscribe to, to cater their experience with the type of content they are more prevalent to see. As with all content on YawLife, a user can interact with a post to like, comment, share, tip, bookmark, and act as a reporter.



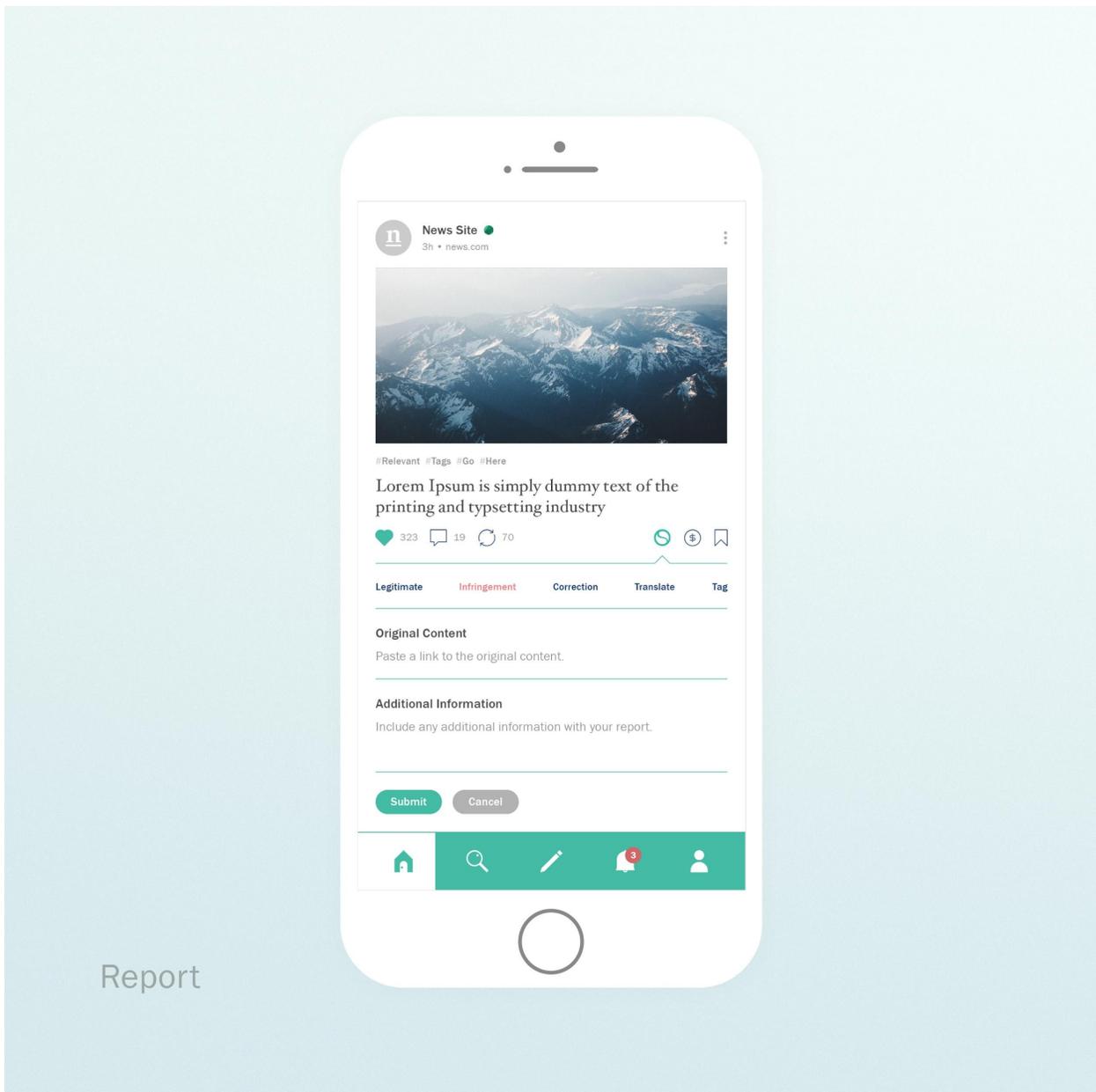
**Figure 9.C — Profile**

As with content, a user profile (in this example, a news site), can be tipped LifeCoin™ by users who appreciate their content as a whole. It also allows users to follow the profile for updates on any new content/updates from that user. When viewing a profile, one also sees the follower-count of that user and their website (if applicable), alongside a feed of their most recent posts.



**Figure 9.D — Article**

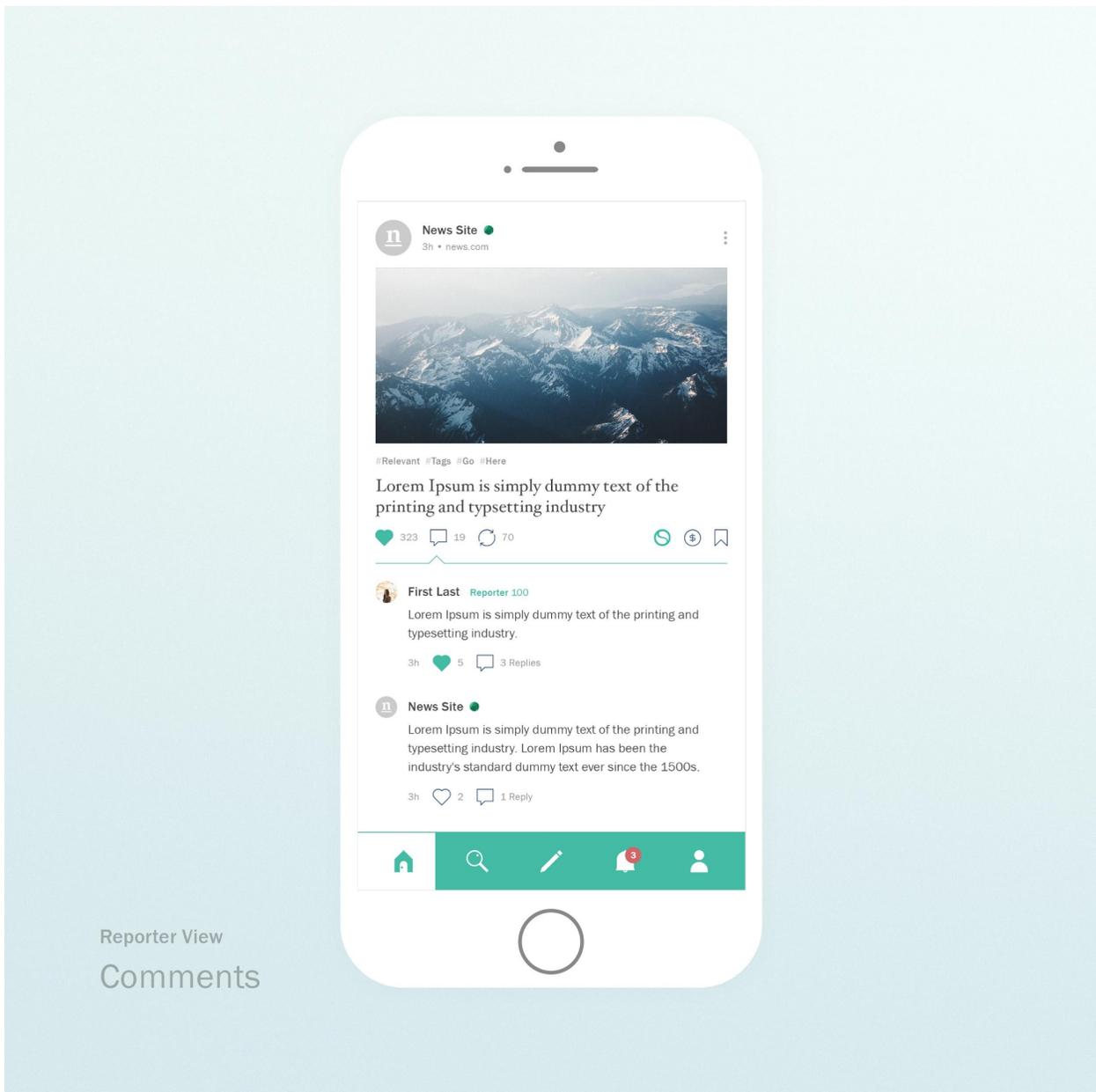
Articles on YawLife allow for rich text editing and display (whether that has text in bold, underline, italics, or different fonts...). Articles are also allowed to contain visuals, such as images and videos, in addition to audio or other attachments when desired. This allows for a user experience tailored to the production of more custom content than that of simply text. Our goal here is to empower writers to have the most flexibility possible in the types of content they can produce, spanning whatever topic they are discussing. Articles are showcased in a full screen view for a more immersive experience of the contents within, and attachments to articles are subject to citation and reporter reviews.



Report

### Figure 9.E — Report

When the reporter button is selected (the green icon which looks similar to a Yin-Yang symbol), a user has the ability fill out a report, which will reward the user with SENSE™ reputation for being right (or, conversely, deduct it for being wrong), as well as disburse LifeCoin™ to correct reporters once the consensus has been reached. Users have 5 different report types. They can claim content is legitimate/infringing, correct grammatical errors and point out incorrect claims (e.g. fake news), as well as translate content into other language(s) (or improve upon existing translation), and add tags to explain what is contained in a given piece of content. After submissions, users are notified of consensus.



**Figure 9.F — Reporter View: Comments**

When in Reporter view, a user can see comments from both users, and other reporters who have reported on a piece of content. In this example, reporters stand out from other commentators for the reason of allowing reporters to see peer feedback on content. This might start with a single reporter who has an inkling of infringement, and posts other source(s) of the same post, but can't quite recall where the contents' singular origin is being infringed from. Other reporters can then participate to find the location of the first instance of a given post, be it a repost from outside YawLife, or within YawLife (not a simple share, but a modification that still infringes copyright, such as text on a video).

## X. Roadmap

### *Competitive Analysis*

Fully-fledged Dapp's [Decentralized Applications] tend to be highly technical and expensive to produce, and thus result in bloated development timeframes that are often riddled with bugs. One can never be too careful in the development and testing phases. As such, we begin with a hybrid approach that marries decentralized and centralized technologies until such a time that it becomes practical and cost-effective to be fully decentralized. We use smart contracts for their strengths and security for watermarking, reputation, intellectual property rights, fungible and non-fungible tokens as digital assets. We utilize conventional hosts when practical to do so, minimizing costs (as large-scale blockchain storage requires significant resources).

### *Finances*

We aim to raise \$10 Million (AUD) denominated in Ether in our token launch. Funds will be managed by YawLife Pty. Ltd. and allocated towards the development of the platform and application, as well as company operations, marketing and legal costs.



**Figure 10.A — Fund Allocation**

## *Platform Development*

Development will include building upon and auditing core smart contracts, additional frameworks (such as a comprehensive oracle peer review market), web, iOS/Android interfaces, and a secure integration with future Ethereum infrastructure. Development will focus on a “mobile-first” approach (iOS/Android release), with a desktop application and web to follow. Our first priority is a minimum viable product (despite aspirational features) – it’s better to start with an operating platform than to never launch.

## *Business Development*

Business development efforts will be focused on identifying and forming relationships with new projects and existing partnerships which can be built on LifeChain™. Marketing will be focused on targeting various customer segments for the YawLife social network, such as college fraternities/sororities, promoters, and corporate advertisers. Additional efforts will be spent on increasing awareness and knowledge of the YawLife social platform, the experiences to be had, and what can be built with it.

## *Product Rollout*

YawLife intends to tackle the bloated Dapp-development cost/time problem with a more conservative approach upon the initial MVP rollout phase — beginning with a hybrid centralized-decentralized service focused on a quality user interface and experience before developing a fully decentralized version. Sustainable development is at the forefront of these endeavors.

The advantages to this methodology intend to reduce the high barrier-to-entry associated with creating Dapps, whilst still taking advantage of a plethora of benefits blockchain technology provides. This involves the creation, incentivization and use of a digital token in the everyday internet economy. Content creators, their viewers and reporters all take part in an end-to-end system that facilitates and enforces content originality and quality.

After acquiring a sustainable user base and achieving modest profit generation through iterative UI/UX development built on a foundation of sustainable development, YawLife will shift its focus towards development of the downloadable YawLife application, a fully-decentralised version of the platform with built-in end-to-end encryption to facilitate secure messaging between users, as well as a more robust network powered by miners of many forms (smartphones, tablets, laptops/desktops, and other IOT devices).

## XI. Pre-Sale

### I. LifeCoin™ Distribution



**Figure 11.A — LifeCoin™ Total Currency Supply/Distribution**

Pre-sale participants receive the overwhelming majority of the LifeCoin™ supply, for good reason. YawLife retains 1.4 billion in reserve for the future sales to fund future business obligations and expenses.

**There is a limit to how many LifeCoin™ YawLife can sell from the reserve to prevent overinflation of the currency.** We are actively seeking a happy medium between economists, the community and, most importantly: **historical market analysis of other organisations’ reserve sales, studying the subsequent effect upon a token’s per-unit value.** From this, we will be able to determine the timeframe of the post-crowdsale embargo (**before allowing the first sale from our reserve**), **in addition to** concluding a **maximum amount of LifeCoin™ sold per interval of time**, by limiting the value to a fairly-deemed-percentage of the current market cap. Ripple is one such use case in our study, as the majority of its supply was owned by Ripple themselves, and a vast amount of tokens introduced into the supply (however, unlike Ripple, whose founders/associated foundations held over 60% of the currency supply,<sup>9</sup> we feel that 14% is more fair).

700 million LifeCoin™ will be given out to miners, with a deflationary mechanism built in to prevent the over-inflation of LifeCoin™. 100 million LifeCoin™ will be given to nonprofits and charitable initiatives, to be utilized to promote their causes on YawLife. This will include the alleviation of poverty, mental health awareness and support, and the advancement of science. When the company is profitable, the founder plans to buy and

give LifeCoin™ to nonprofit and charitable organizations through a separate YawLife Foundation dedicated to helping humanity and the world (this is the driving factor upon which the company lays: to profit for global good, rather than mere personal gain).

## II. LifeCoin™ Storage

LifeCoin™ will be safeguarded by multisignature access for sending/spending the currency. At least one private key will be stored on user's device(s), not simply server-side. Any LifeCoin™ accessible through our web service will remain [mostly] in cold storage unless multisignature approval has been given to send/spend a respective amount of LifeCoin™. LifeCoin™ held by YawLife for the purpose of future sales to fund operations will be split into smaller denominations and spread across many accounts (and utilize secure hardware wallets), with the public addresses transparently listed for the public to audit the influx or deduction of the currency, for the following purposes:

- To mitigate risk of loss/theft
- Show that any LFE revenue gained from the revenue distributor smart contract is being distributed according to the percentage which we promise to end users
- Prove that we are in line with self-imposed, transparent limitations on the maximum fiat-value of LifeCoin™ we can sell within a given time period to prevent over inflation

## XII. YawLife Foundation

**The foundation exists to better the world and to better humanity. When the company prospers, so will Earth.** Initially this will take the form of smart contracts which disburse LifeCoin™ and SENSE™ to users who identify and address misinformation, tag/translate posts to add better context, and highlight intelligent/educative content. Aside from this, if adequate resources exist, the foundation hopes to save and improve lives across the world.

**This includes providing fresh water, sanitation, food, shelter and necessities to those in need.** It involves providing access to technology to those in developing nations, in hopes that we can reduce inequalities. It means advocating for human rights. It means funding solutions to the problems facing humanity and the world, to ensure we have a planet to survive on, and a healthy ecosystem from both an environmental, and societal standpoint. It's about having a bright future for all.

**At least 20% of all future company profits (from the founders' own stake) will be attributed to this foundation in support of its causes,** once the company is in a financial position to do so (mainly once we can support the livelihood of needed staff, and fund

future operations). *This attribution will not include the voting rights of the shares (for, the reason Steve Jobs was kicked out of his own company was due to not having enough voting power... The goal of the company is to maximise profits ethically, and ensuring this remains the case is of utmost importance).* Pre-sale funds support the YawLife Pty. Ltd. company, not this foundation\*

## XIII. Machine Learning — Statistical Learning and Privacy

### I. Netflix Competition and Privacy

Recommender Ensemble systems are designed to help customers locate products and content. Modern ensembles are based on collaborative filtering: they use patterns learned from users' behavior to make recommendations, usually in the form of related-items lists. The scale and complexity of these systems, along with the fact that their outputs reveal only relationships between items (as opposed to information about users), may suggest that they pose no meaningful privacy risk. The Netflix Prize is a prime example of collaborative filtering where the winning team won a million dollars, but despite of its efficacy at detecting user's preferences it had to be reviewed because of privacy concerns.<sup>10, 11</sup>

### II. Collaborative Filtering on the Blockchain

Homomorphic Encryption techniques allow for simple operations to be conducted while preserving privacy. It is in our roadmap to explore the build-out of collaborative recommender systems that allow for the exchange of data without revealing the identity of the users and without the loss of information. Homomorphic encryption schemes allow for performing statistical analysis on encrypted data. While its use has been kept for small datasets, we intend to explore large scale operations that allow for multivariate analysis with linear regressions, and clustering schemes.<sup>12</sup>

## XIV. Machine Learning — Linguistic Translation/Analysis

### *The Problem With Conventional Systems*

The current state of machine learning algorithms can lead to flaws that are contextually inaccurate at best, and life debilitating at worst. An extreme example of this occurred when Facebook translated a Palestinian's man's post, which contained the words "good morning" into "attack them," in Hebrew, and "hurt them" in English, leading to his arrest.<sup>13</sup> While it is of no question that interconvertible translation algorithms are imperfect when done without human intervention, it raises the question of how such a system can be improved.

While the Facebook mishap is not inherently a problem confined to Facebook themselves (Bing, Google, and others offer similar solutions), it is in-arguable that their past and present efforts, while impressive in many areas, fail to truly address the magnitude of the problem. Forums and online communities have followed an unfortunate, yet often necessary segregation between themselves and the outside world for the purposes of quality communication in their respective language(s). As such, much of the most inspiring, captivating and important online information and communication can simply get lost in translation.

While there are some online platforms that allow for humans to translate large pieces of content (i.e. text, audio...) at a price, these are typically tailored to specialised corporate needs. The only aspect offered by the major social networks, search engines and browsing platforms is the ability to offer a better translation, with no benefit in return to the end user.

### *The YawLife Solution*

If each bilingual/multilingual user who was a part of the platform were to offer better translative services, the machine learning algorithms [which already do the translation] would vastly improve at an unprecedented rate.

*The following should be taken as theoretical and not entirely technical in description, but it adequately depicts the vision we aim to usher forth into future reality.* The way YawLife intends to solve translative problems is organically, through the YawLife economy. Reporters, who are human beings, compliment the machines, to become the perfect team. [It will be said that humanity's greatest creation is an artificial superintelligence that dwarfs our abilities in many aspects, yet is complemented by them to further each other in synchronicity (as we are fundamentally different, yet necessary to each other from both a qualitative and a quantitative standpoint (in both our mental capacity, *and* operation))].

Being functionally different from biological beings, an artificial intelligence can only truly improve upon its shortcomings when a human or sensor steps in to offer a perspective

otherwise nondeductible from its existing data set and machine cognition. This takes the form of enhancing how it learns by providing better inputs for its formation of thoughts and its evolving understanding of the world. One of YawLife's ways to better this process would naturally be to improve the current input problem.

Where other social networks, browsers, translation and search engines fail is that they lack oversight of this input. They are fed information, with a few people telling them which information is accurate. It would be akin to differentiating between totalitarianism and democracy, when it comes to decision making. On a fundamental level, logic is not derived from a singular source. Rather, it is multiple (and more accurate) sources that allow for enhanced logic. The more (and better) the sources, the more the knowledge. The greater this knowledge, the greater one can be at making decisions - whether this is a machine, or a human.

And, since machine intelligence often uses human input as a basis for evolving its machine learning algorithms, it is only sensical that we plug the cognitive power of as many humans into training this machine intelligence as possible. It is a cornerstone of our new economy. However, while the information economy is already established, it is still in its infancy. **We aim to bring economic reward to translating content for users who have the capacity to do so. We ensure accuracy through consensus, SENSE™ reputation and LifeCoin™ incentive. We use this accuracy to improve machine learning algorithms to be fluent in all major languages, including their interoperability with one another, without translative failure.** To us, failure includes context. So **when context is lost, it is reviewed; reporters fill in the blanks, revise what is false, and redefine human communication.** In doing so, they provide clear-cut translation, so that no matter what language others speak or post content in, you are shown it in your native language. The goal here is to bridge the cultural divide amongst humanity, to end the online segregation caused by shoddy translation, and to allow for the world to better connect on an intellectual, personal and societal level.

With language interoperability solved, we could then engulf all the information the web has to offer into an artificial intelligence that is smarter by nature, that can advance and help humanity by solving our greatest problems and inventing our wildest dreams... Beginning by solving this current input problem. Through LifeCoin™ & SENSE™ incentivization for this process, we help train our machine learning algorithms to further connect this world like never before, expediting our progression towards the singularity.

## XV. Machine Learning — Content Tagging & Curation

Computers often have a hard time determining what everyday objects are, such as when analysing a photograph or video and trying to ordain the contents/events. They are, however, good at pattern recognition, such as finding certain types of cancers more accurately than Doctors when given a large input of body scans. While there are vast improvements in machine learning and automation occurring at an accelerating rate, the most immense improvements are confined to certain areas, such as self-driving cars, identifying faces, and cats.

Computers are getting better at forming sentences of what it believes to be seeing when analysing photographs and videos, and conversing more concisely with humans through digital assistants, but it is still in its infancy when compared to a human mind at recognizing average things visually. The potential is nearly limitless when we, as humanity, can advance machine learning and artificial intelligence to the point where computers can see and understand life better. One such example would be to compliment the impressive advances Boston Dynamics has made in recent years with their bipedal robots, which are already able to walk, jump, do backflips and carry objects. More accurate understanding of visual data can lead to robotic assistants that help us with everyday activities, from within the workplace, to the public, or at home.

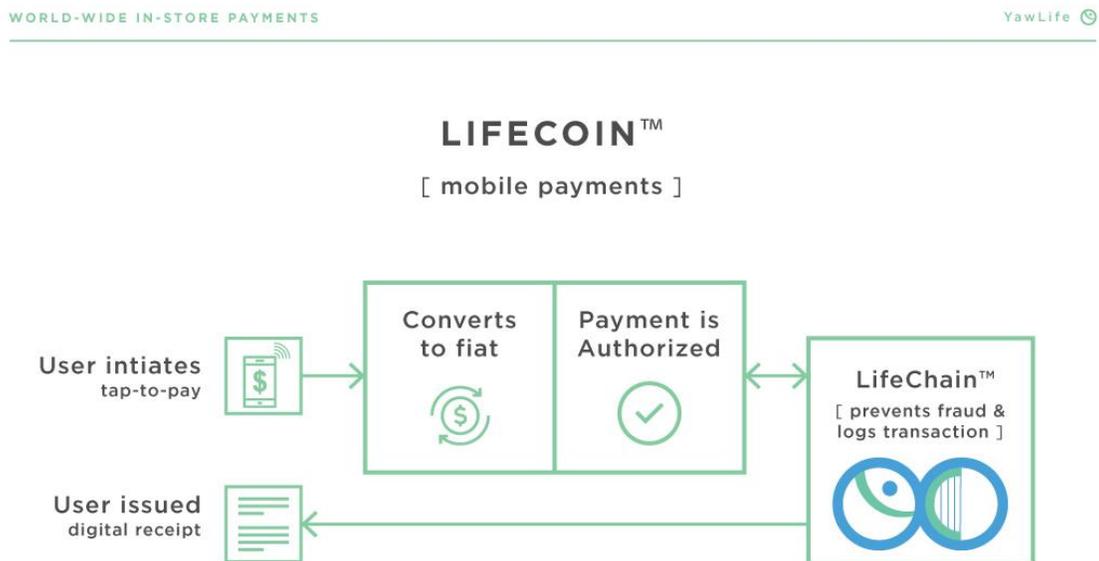
At YawLife, we hope to complement these advancements by rewarding reporters who add tags to content (with LFE and SENSE™). While this can apply to written and audio content, it can be especially valuable when applied to visual content (in the form of images and videos), for the reasons mentioned heretofore. Similar to reCAPTCHA, which might display a set of images and ask which ones contain cars, and which don't, YawLife intends to use LifeCoin™ to incentivize reporters to provide more detail on what is contained in visuals, such as objects and emotions (a use for such a system could help robots of the future to better identify human feelings and adjust their reactions accordingly). The benefits of improving these machine learning algorithms can also apply to content curation, by showing more relevant content based off a set of interests, with real world relevance and applications.

## XVI. Future Work

### I. Mobile Payments

In addition to the functions and processes described above, there are a number of additional features and functions which may be developed to enhance the YawLife social network and LifeCoin™ in the long-term. No timeline has been determined for the development of these features and functions and there can be no assurances that they will be developed.

Once LifeCoin™ has been established, alongside the YawLife social network, we aim to create an app specifically for the process of mobile payments with LifeCoin™. If successfully implemented, this will enforce the use of a hedged currency, dubbed LifeCash™, to act as a 1:1 tether to fiat currency, solving the problem of volatility affecting one's ability to spend in-store/online (as a balance being worth significantly more/less on a daily/hourly basis, dependent upon market forces, tends to be inconvenient for everyday use). Users will have the option to have their LifeCoin™ hedged/spent as LifeCash™, stored/spent as LifeCoin™, or a combination of the two, with one acting as a stable currency (LifeCash™), and the other as an asset (LifeCoin™).



**Figure 18.A – Mobile Payment Processing**

Subject to any applicable regulatory approval. we aim to make the payment process as seamless as possible, whilst solving the problems that currently lack a widespread solution. For example, with receipts being physical and degrading over time, it can be hard to keep track of payments. And, conventional banks are ambiguous in the descriptions of what you purchased and where. A digital receipt detailing these aspects also opens up the door for better customer relations and spending habits, such as offering frequent-customers discounts and increased insight into your types of purchases, allowing you to auto-budget and save.

## XVII. Grand Vision/Conclusion

Much of the following is meant to be construed as a piece of creative writing and hopeful vision for the future and is in no way meant to confer a guarantee of development problems.

We each have a part to play in the future. We all have expectations, but the very enemy of expectation is the false realization of progress. In order to advance, we must aim for the actual circumstance of the impossible... preparing for its arrival, rather than pretending that it will not come to pass. It is only then that it can truly come about, when people believe, and they make their visions a reality out of sheer will. A new type of economy is here, to power an entirely new world. A world richer with opportunity for all. Where the disadvantaged walk on an even playing field. Where the global economy is met with a tide of new consumers, powered by technology that enriches their lives, fulfills their futures, and feeds the hungry. The ultimate goal of YawLife is to empower everyone, and increase wealth. Because we believe that You're Always Wealthy™. And, that no matter where you're born, you should have equal opportunity to succeed in an ever-connected world.

From here on out, a change of mass proportions is impending. An upending force that propels humanity onwards and upwards... Into a future where automation rules our daily lives, where space travel becomes a routine prevalence, and where artificial intelligence *works alongside mankind* to invent new and profound technology that ignites the spark of our self-imposed evolution... Emergent from the newfangled understanding of science and our place in the universe. Humanity is the most beautiful mutation to come from nature, until its evolutionary successor sweeps away the rug of infancy.

Technology is our legacy. Our very advancement is deterministic in its essence — based on what we choose to nurture and what we choose to leave behind. Wouldn't we rather nurture a better world, as opposed to one full of regrets? Wouldn't we rather put everything we have into making it a better place for future generations... And ourselves? This possibility is inherent in each and every one of our subconscious dreams... An outlier from the rest of them. Imagine the greatest things that could befall this Earth, this solar system, star cluster, galaxy, and beyond what we dare to dream... And imagine them coming to life before our very eyes. That is what we aspire to. At YawLife, we believe in the power of the people to better this world. But, we also believe in the necessity for a platform to incentivize this process, and pave the path for us to all do what we can.

In terms of our grand vision at YawLife, we're trying to assemble a piece of software that utilizes the latest in blockchain and decentralized technologies to create a virtual machine unlike any other. A new type of internet which combines many proven concepts into one. These include distributed storage of data, distributed computation for a worldwide decentralized supercomputer, and a decentralized network for connecting with people, sharing ideas and content, and ultimately facilitating a more robust, more secure and faster internet.

Our vision of the future is one where each device in unison powers otherwise impossible applications and games through a decentralized operating system and computer capable of serving many functions, including an artificial intelligence to better mankind in a plethora of ways. Machine learning through neural networks is the future, and this future belongs on a new type of computer, a new type of internet, and a new world, a world where there is a semblance of order to the chaos. **Our order to the chaos is the exponential increase in combined, distributed-computational-power through every phone, tablet, computer, and piece of networked technology, working to advance mankind while you sleep and while you're awake, all without effort on behalf of the end user. Many devices, all connected; some near, some in far-off places; all a-part of one LifeChain™.**

For a long time, we were content with an internet that refused to grow up, doomed to a seemingly-endless, infantile-state. But, in recent years, the technology has come about that makes a change of the largest proportions possible... A change that upends the very fabric of the internet, by turning a few stitches into an entire blanket, akin to how the stars may dwindle and flicker across vast distances, yet remain interconnected afar and in a dance with one another, where stars form clusters, and clusters form galaxies, and galaxies move in tune with the great attractor. Each star holds a piece of the puzzle of life, and each life is a part of the universe, **a grand chain of existence that is cosmic in origin — and in replication** — of how this grand change in computing and human life (as well as artificial) — is coming into existence. Artificial Intelligence on a grand scale, an indestructible internet, a supercomputer the likes of which the world has never seen... Communication with one another in new and profound ways that opens up borders and connects cultures, rather than splits them apart. We are merely trying to conduct the tune of this grand orchestra, for each instrument could play on its own merit, but the sound would be horrendous... See... It is in perfect synchronicity that they all come together — all specialized parts waiting their assemblage.

It is through our social network YawLife, our currency LifeCoin™ and any products or services we build or are built by others with our technology that we aim to ensure the mass adoption of our grand vision. And together, we can all keep taking steps closer to creating a better world, and ushering in a universal basic income for all. If there's one thing worth striving for in life with endless dedication — that turns visions into reality — it's the motivation that comes from the desire to improve the world in which we all live.

## XVIII. Disclaimer

### **This is a draft document and subject to change.**

To note: the Math Description was removed (pending major changes). The foundation name is not solidified (Eth raised in the pre-sale will fund the company, but the foundation (tentatively named “YawLife Foundation”) is a separate entity whose sole purpose is to use a portion of company profits to make the world a better place, [as described in XII.](#)) The user interface (and more) is subject to change.

### **Discussion of individuals & organisations is for academic and comparative purposes.**

Using the names of well-known individuals and organisations in this paper are of an academic, comparative and reference nature only and are in no way meant to defame or offend the individual(s) or organisation(s) thereof and do not reflect any endorsements by these individual(s) or organisation(s) of YawLife, LifeCoin™, or its related products and services. YawLife Pty. Ltd. believes that in this paper, it has mentioned these individuals and organisations with no malicious intent, however, upon written request, we will remove any reference to these individuals and organisations in this paper, *if we deem it upon reasonable grounds.*

YawLife believes that it helps explain our concepts better when using examples of the current market, and that many of the individuals and organisations mentioned are of such stature that, to pretend they do not exist, would be akin to pretending a country does not exist. Their presence is inarguable. If any organisations or individuals mentioned have any problems with their use in this paper, we ask that they have a heart, not sue us, and see that we are but a mere fledgling company, hoping to make the world a better place... And that if this ethos is lost upon you due to a competitive nature, we ask that you support us, so that we all benefit.

### **Small writing contained in sections [XVI.](#), [XVII.](#), [XX.](#) requires “zoom-in” in pdf to read.**

We feel it takes away from the “flow” of the paper / its interest, but still necessary to say.

**Attaining the visions set out in this paper are resource-dependent, and app mockups, prototypes, architecture and more are constantly-evolving.**

**\*This Disclaimer is not meant to convey terms. Purchase of LifeCoin™ (LFE) is subject to the Terms and Conditions of the Pre-Sale, available at <https://yaw.life/presale-terms.pdf>**

## XIX. References

This White Paper contains information and references from third-party sources and publicly available information. We believe that such information relied upon is accurate and any assumptions that information is based on are reasonable, but there can be no assurance as to the accuracy or completeness of this information. Although we believe it to be reliable, we have not independently verified any of the data from third-party sources referred to in this White Paper.

- [1] <http://foreignpolicy.com/2017/10/13/russia-has-invented-social-media-blitzkrieg/>
- [2] <https://www.coindesk.com/proof-life-vitalik-buterin-uses-ethereum-blockchain-disprove-death-hoax/>
- [3] <https://www.theatlantic.com/business/archive/2017/10/facebook-google-fake-news-hoax/542406/>
- [4] <https://pivx.org/wp-content/uploads/2017/03/PIVX-purple-paper-Technincal-Notes.pdf>
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- [6] <https://github.com/dashpay/dash/wiki/Whitepaper>
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- [13] <https://www.theguardian.com/technology/2017/oct/24/facebook-palestine-israel-translates-good-morning-attack-them-arrest>
- [14] <https://engineering.mit.edu/engage/ask-an-engineer/can-a-computer-generate-a-truly-random-number/>
- [15] As mentioned by CloudFlare CEO on stage at AccelerateAB Conference (attended by YawLife CEO)

### Miscellaneous:

- <http://www.truthcoin.info/papers/truthcoin-whitepaper.pdf>
- [https://www.tezos.com/static/papers/position\\_paper.pdf](https://www.tezos.com/static/papers/position_paper.pdf)
- [https://gnosis.pm/resources/default/pdf/gnosis\\_whitepaper.pdf](https://gnosis.pm/resources/default/pdf/gnosis_whitepaper.pdf)
- <https://ethereum.org/en/whitepaper/>
- <https://bitcoin.org/bitcoin.pdf>

## XX. Appendices

### I. Basic Algorithmic Enhancements

YawLife aims to strike a balance in the user feed. Conventional algorithms are weighted too heavily towards users and content already interacted with, with not enough randomness shown. It confines users in echo chambers. Even music streaming services seem inept, as the shuffle function is broken, it does not purely play random songs correctly... I have personally experienced the same song play multiple times within a few minute interval, when playing “random” music from a library containing thousands of songs. How such basic foresight could not go into the design of such core systems is beyond me. A basic shuffle parameter to exclude songs played in  $\leq 24$  hours, combined with true randomness would suffice.

**For, typical “random” algorithms by their nature are not actually random** (“because the machine is following the same algorithm to generate them... it starts with a common ‘seed’ number and then follows a pattern. The results may be sufficiently complex to make the pattern difficult to identify, but because it is ruled by a carefully defined and consistently repeated algorithm, the numbers it produces are not truly random. “They are what we call ‘pseudo-random’ numbers”<sup>14</sup>). **YawLife intends to employ a method of deriving true randomness with dynamic input from the physical world, inspired by how CloudFlare uses a camera pointed at a wall of lava lamps.<sup>15</sup> We will seed the algorithm with a constantly evolving input, and use it, in part, to provide a feed that is less biased, less constrained.**

\* \* \*

At the end of the day, we want to make something beautiful *that we want to use too*, because the existing alternatives *just aren’t that great*. [Let’s help Earth & better lives!](#) Aidons la Terre et une vie meilleure! ¡Ayudemos a la Tierra y mejoremos vidas! Поможем Земле и улучшим жизнь! Kom ons help die aarde en beter lewens! 让我们帮助地球和更美好的生活！地球とより良い生活を助けましょう！ आइए पृथ्वी और बेहतर जीवन की मदद करें! Iuva Terram & meliorem vitam! دعونا نساعد الأرض و حياة أفضل! Vamos ajudar a Terra e uma vida melhor! Aiutiamo la Terra e una vita migliore! Mari bantu Bumi & kehidupan yang lebih baik! Lasst uns der Erde und einem besseren Leben helfen! A ligan ar cabhrú Domhan agus saol níos fearr! באו לעזור לכדור הארץ ו יותר טובים יותר! Låt oss hjälpa jorden och bättre liv! Segítsünk a Földnek és a jobb életnek! 지구와 더 나은 삶을 돕자! La oss hjelpe Jorden og bedre liv! Tulungan natin ang Daigdig at mas mabuting buhay! Pomózmy Ziemi i lepszemu zyciu! Pomozme Zemi a lepšimu životu! Hăy giúp Trái đất và cuộc sống tốt đẹp hơn! Să ajutați Pământul și vieți mai bune! *Please note: A lack of inclusion of a language in the preceding statement is not meant to convey disregard/disrespect for any culture. Everybody matters. Except terrorists.* Translation from English may not be perfect.