THE
Adopt Your Friends GAME

A Decentralized application designed to integrate with existing social media environments
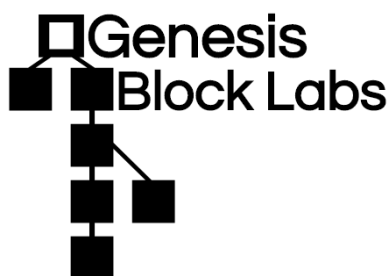(Current compatibility v.1- Facebook Graph API v2.12/2.5)

(US Patent-Pending)

Trade, Collect, Buy or Sell your social media friends with guaranteed scarcity via Smart Contracts on the Ethereum 2.0 Blockchain.

WHITE PAPER

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ABSTRACT

As the popularity for blockchain technologies and cryptocurrencies grow, consumers are becoming increasingly aware of their value and potential they have for disrupting financial, networking, software industries and more. However, average consumers are unaware of the fundamental mechanics of cryptocurrencies, blockchains or, the implications of smart contracts[1] developed on blockchain technology.

A result of this parochial understanding of blockchains, is that many remain unaware of its potential for practical use in developing innovative decentralized applications (ÐApps[2])and the challenges that exit when developing them. Majority of public interests in blockchain technologies have centered around monetizing and exchanging cryptocurrency tokens. This fascination with cryptocurrency assets and the schemes associated with incentives to profit from their exchange has overshadowed the innovative tools provided by platforms like Ethereum 2.0.

Introducing the Adopt Your Friend DApp; a blockchain based gaming application created for use with social media platforms like Facebook. It enables users to purchase their friends or, followers via an adoption[3] function, alter unique attributes (add a nickname/assign a graphic of their custom spirit animal) then share, collect or sell their friends via tokenized smart contracts.

- Utilizes the Ethereum 2.0 blockchain and user permissions to assign smart-contract identifiers to all friends.
- Inclusive to anyone who wants to participate and requires no technological expertise to play.
- There won't be an Initial Coin Offering (ICO), we use a scalable and sustainable revenue-based model.
- We provide a fun way to digitally customize then collect, share, or trade your friends via smart contract, with a transparently secure proof of ownership.
- Users can exchange their friends with other users via an in-app Auction marketplace

    Adopt Your Friend introduces the first blockchain based application to 2.46 billion social media users[4] as the first decentralized application designed to integrate with existing popular social network frameworks.

Table of Contents

Abstract

1. Motivation

In developing the DApp, our primary motivation was to develop a decentralized app that would provide broad exposure and educate social media users through direct interaction of a practical application based on blockchain technology.

Our secondary motivation was to address the challenge of exposing blockchain technology to larger markets and in doing so, we developed a unique method for integrating smart contracts with existing social media platforms.

We we're also inspired with the challenge of avoiding the negative perceptions surrounding ICO's and wanted to develop our project without the use of an initial token distribution or presale.

Lastly, we are fans of novel applications like [cryptokitties](#) and were motivated to solve the three dilemmas postulated in their [whitepaper](#) (pg 5 – sect 1.3 *"Meaningful innovation of blockchain technology via digital scarcity"*) and present the solutions in ours.

1.a - Sustainable revenue model vs ICO fundraising

In contrast to the negative public perception generated by fraudulent Initial Coin Offerings and funding misappropriations, we intend to forgo the ICO and token allocation procedure to maintain a sustainable revenue driven model by integrating our product's digital items with existing social media platforms.

The benefits without the risks:

- Our model mitigates exposure to sudden devaluation or, manipulation in secondary token markets (cryptocurrency exchanges)

- Neither our development company nor our product is subject to varying investment or, repayment schemes in exchange for issued currency tokens.

- We invest time in developing meaningful blockchain applications and avoid unnecessary cryptocurrency-adjacent ventures (ICO's) that could compromise our unique business-consumer model.

- Our product is the first social media integrated DApp as well as the first decentralized application to process merchant payment's in parallel with their blockchain transactions.

- We believe a minimum viable project/proof of concept is necessary to establish trust in a project and it's technology. As such, we showcase our current alpha build prior to seeking initial investments.

1.b - The state of distributed ledgers applications (ÐApps)

The benefits of DApps extend beyond the utilitarian nature of traditional applications in many cases, especially involving payment processing, user-credential security, database overhead/storage, event logging and transparent auditing capabilities. However, because of the social interests in cryptocurrency valuations and coin offerings for nebulous blockchain projects, development for innovative distributed applications has stymied.

Distributed ledgers in conjunction with smart contract protocols have the potential to revolutionize numerous industries and as an emergent technology it could rival the invention of the internet.

Currently the fundamental concepts of blockchain technology remains largely esoteric and unfamiliar to public consumers and many developers alike.

To date, there are currently less than 1500 published decentralized applications compared to the approximately 5 million conventional apps available on Android and Apple marketplaces alone.

We believe the emergent nature of DApp development environments and the vacancy of innovation in this space will be short-lived. These concurrent conditions have presented an advantage to our product in becoming the first of it's kind, as well as being uniquely positioned to target existing social media consumers.

1.c. – Blockchain gaming applications

The notion of developing games on blockchains is fairly new and entirely non-existent on social media platforms. Decentralized gaming applications like www.cryptokitties.co are exploring new frontiers of digital scarcity[5], digital

collectability[6], non-fungible token environments[7] and nuanced methods of monetizing digital goods via smart contracts.

DApps like CryptoKitties or Cryptocelebrities utilize collectable, digital items built on the Ethereum Blockchain. Both applications generate unique digital items that interact exclusively with their respective platforms and marketplaces via smart contracts and can be bought and sold using Ether or Bitcoin. They both exist as practical use cases that employ aspects of digital scarcity to value their items and are independently unique in their methods for further monetizing each product.

However, both DApps rely exclusively on cryptocurrencies (ether) as their primary methods of payment and require a third-party client like Metamask to interact with the Ethereum network to perform transactions. Neither application is interoperable with social networking platforms or their application programming interfaces (API).

2. Our Product

The Adopt Your Friend DApp utilizes aspects of digital scarcity, collectability and monetization of digital items relating to the principles of digital scarcity, collectability and monetization then apply it to existing social network platforms. The digital items in this case are the smart contracts associated with each user's social network friend and assigned tokenized contract.
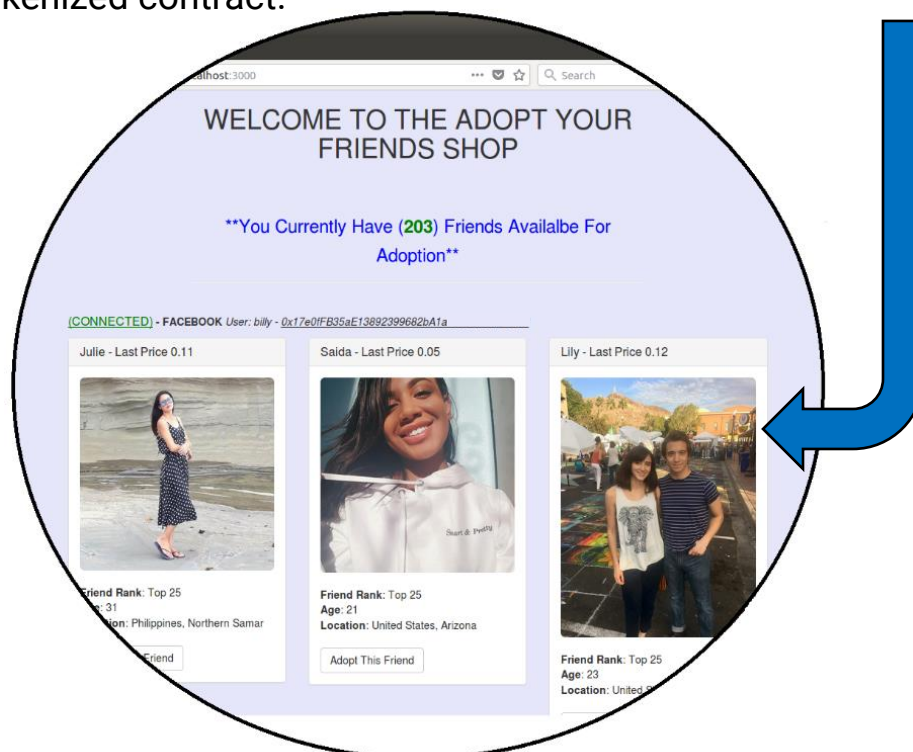
During initial registration, users are assigned a unique public/private key corresponding to their wallet address (unless one is designated by the user). Each user may be uniquely identified by their corresponding numeric ID/individual URL; public key, user assigned spirit animal and nickname.

Adoptions placed on a social network platform that are paid via merchant payment processer, (USD) dynamically transfers a non-fungible token associated with that users smart contract and reflects a parity transaction in Ether on the Ethereum blockchain.

As mentioned prior, upon the user's permission acquired during registration, our DApp utilizes platform rights to view and assign unique ERC721 tokens to each friend/follower. Each token is allocated via functional data and methods from each user's associated smart sub-contracts. To handle virtual function calls, all user sub-contracts are subject to it's parent-contract's inheritance.

An example of sub-contract inheritance, adhering to a parent contract is displayed below:

```
contract AccessControl

contract Base is AccessControl

contract Ownership is Base, ERC721

contract Auction is Friends-only Market

contract Minting is Public Auction

contract Core is Minting
```

Adopt Your Friends is unique in it's ability to expose advanced blockchain technology to existing social media platforms, like Facebook, Instagram, [RenRen](#) or, [Spaces.ru](#).

Our DApp is also positioned to be the first of its kind to market and the first app able to execute merchant transactions in parallel with its blockchain counterpart.

2.a. − Analyzing digital scarcity

Concurrent unique users maintain collectable value relative to the deflationary economic principles of digital scarcity and fair market value.

As applied economically, deflation is caused by a reduction in the velocity of potential friends and /or the amount of friends available per user. The velocity and base amount of users share an inverse correlation and can be expressed as friends base (F_B), velocity of potential base users (V_B) User Price (P) and real output (Y) that are related by definition as:

$$(F_B\, V_B = PY)$$

Platforms like Facebook, allow users to acquire ≥5,000 friends and maintain a capacity to store upwards of [300 PB of Hive Data](#). This scenario creates a very high threshold for concurrent user capacity and assists in addressing three dilemmas presented in material like the Cryptokitties [whitepaper](#):

Central Issuing Authority

"When digital collectibles are created and issued, and the most rare or popular collectibles are identified, there is nothing stopping the creator from simply creating more. When this happens, it diminishes the value of the original collectibles, potentially making them worthless." (cryptokitties whitepaper [8])

The utilization of a social media platform with a large user base provides many benefits, including the devaluation of items produced indefinitely by a central authority. We solve this issue by establishing a digital item limit that tethers goods to a finite amount relative to each platform's ability to scale its client-user data capacity. We also

mitigate fears associated with provider dependency by integrating with *trusted* large user-based platforms.

Provider Dependency

"The existence of a digital collectible is dependent upon the existence of the issuing authority. If a digital collectible is created and said creator ceases to exist, your digital collectibles also cease to exist."

The issuing authority is the DApp which is comprised of public, immutable smart contracts that inherit all data and methods from supplementary sub-contracts. With the exception of select executive management functions for error resolution, all contracts are transparently dictated and would exist in perpetuity through the life of the hosting blockchain.

Lack of Function

"Physical collectibles are popular because of their intended purpose. Art is a great example: people collect it, it can be worth a lot of money, and it serves a purpose by hanging on the wall as a thing of beauty. Current digital collectibles don't serve a purpose and don't have a function. This is evidenced by the initial interest shown in digital collectibles such as Cryptopunks, but that interest waned quickly. We believe this was, in part, due to their lack of functionality."

The lack of function implies a lack of intrinsic value for intangible goods. However, the argument incorrectly juxtaposes art with instrument value and can be resolved using it's own example. Art is subjective and impossible to value intrinsically, because it maintains no fundamental function. It relies solely on demand derived from it's fair market value to be considered worthy of collection. The tangibility, or function of an item is irrelevant in respect to the presence of fair market demand. For example, niche items like Troll [9] or, Furby [10] dolls were produced and sold with great public reception. In the absence of a fundamental function, both products relied solely on the subjective nature of fair market value for their success.

2.b. − Ethereum and Smart Contracts

As described by the Ethereum Foundation: "*Smart contracts are account holding objects on the Ethereum blockchain. They contain code functions and can interact with other contracts,*

make decisions, store data, and send ether to others. Contracts are defined by their creators, but their execution, and by extension the services they offer, is provided by the Ethereum network itself. They will exist and be executable as long as the whole network exists, and will only disappear if they were programmed to self-destruct."[11]

A visualization of how contracts interact with the Ethereum stack is detailed below:

One of the major reasons we chose to develop our application for Ethereum 2.0 was the benefit of ensuring fast reliability and decentralized security.

We needed a blockchain environment able to provide consistently reliable transactions and scalability to handle user growth efficiently.

3.c. – Revenue Model

Platforms like Facebook provide developers with powerful tools like SDKs (software development kits) and APIs to integrate our products using common language coding. The additional use of webhooks and social plugins allow us to fully implement our blockchain's features.

A benefit of using blockchain technology is that it is impossible to create counterfeit items/transactions. This ensures that each item/user exists with guaranteed scarcity. Our app on blockchain technology allows us to tether a user's unique social media identity to a digital item that they could invest in or, trade with.

At launch each user is assigned a default value in Ether (example: 0.01ETH / $3.98USD) which is reflected as it's parity value in dollar (USD) on platforms like

Facebook to facilitate merchant settlements. The developers contract is credited 100% of the revenue from initial purchases.

All transactions following the initial purchase, incur a small transaction fee and a 6.00% fee credited to the developers contract as recurrent revenue.

Upon completing an adoption, the contract executes a function to increase the gas supply `value` to reflect a 1.00-2.00% increase in the overall item value, based on the higher transaction threshold. We created this function as a mechanism for item appreciation to establish collectability incentive.

Once a friend is adopted, their token is transferred and becomes owned by the purchasing friend at an appreciated premium. The token becomes un-transferable for 24 hours, after which the users token becomes eligible for trade or sale via descending clock auction.

In some scenarios it may be effective to apply an intrinsic interest (%) incentive to users, in the form of a dividend. This would typically apply to platforms with large enough user bases where a surplus of non-unique user identities exists on the platforms side.

The proposed dividend would be introduced in the form of an air drop in ether (ETH). The dividend would be applied as an incentive to users who meet a threshold of transactions and maintain a minimum friend balance within a period of time. The specific interest rate formula would be calculated prior to its introduction, if determined to be necessary.

Conclusion

We believe there are numerous ways to create innovative applications with blockchain and this is our attempt at integrating one into massive social media markets. Our company envisions a world where distributed computing is a staple of our global network infrastructure.

We envision a future where development and tools to build open consensus-based applications can reach the hands anybody interested in learning.

We also like creating interesting and fun applications and believe The Adopt Your Friends DApp can realize all these goals and more.

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