The world beyond your eyes

SCANETCHAIN

NEM based
Commercialized AR Blockchain 〈 White paper 〉

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Scanetchain is
The First AR Dapp based on NEM platform
Developed for Blockchain Commercialization

<Whitepaper>
v 1.0

Scanetchain.io

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1. Executive Summary

Commercialized AR Blockchain with NEM Technology

Scanetchain is
The First AR Dapp based on NEM platform
Developed for Blockchain Commercialization

“ The world, beyond your eyes. ”

Using AR technology, Scanetchain digitally identifies all products, brands, and images around us both online and offline. By assigning a scannable marker to each object, users can scan items of physical objects with their smartphone camera without additional equipment or requirements and instantly access the paired Blockchain-based online platform.
These features make it easy for users to search, purchase, and advertise with a simple scan, and they are essential to expanding the commercialized blockchain platform.

AR contents are provided to the users using data streaming methods based on the cloud server. It is a technology that offers content streaming from the AR App like YouTube. AR Streaming allows fast processing itself. Also, it utilizes the AR camera module which is developed to work with AR streamed data. This Technology enables quicker and more precise AR scan of markers and allows recognition of 3D objects as well as specific images.

Scanetchain is a Hybrid-blockchain composed of On-chain and Off-chain.
As a blockchain designed for commercialization, It sustains both PROs of the blockchain and existing systems. Moreover, this will lead all commercialized blockchains for the next generation.

Scanetchain provides a compelling yet simple API to connect existing industries into the blockchain based on NEM Foundation blockchain technologies.
Furthermore, we offer the API module of Scan Ledger technology, which links offline environments to the online blockchain network with AR scan to global shopping malls and Advertising platforms for vast expansion.

2. Background

1. The current state of the AR Market

The AR(Augmented Reality) industry has already developed in many businesses. Recently, the growth of ICT technology such as the spread of smartphones, device evolution and the inflation of investments of global IT companies such as Facebook, Google, MS, and Apple has proliferated.
As the growth of the smartphone market stagnated,
expectations for new service revenue generation are also a significant driver of demand.
The world market size of the AR industry is estimated to reach 120 billion US dollars in 2020, and explosive growth will become forward.

Currently, the device sector in the ecosystem of the AR industry leads the entire market, but in the future, platforms and contents are expected to drive extension.
A decentralized platform with practical and immediately applicable system development of blockchain technology will become the competitiveness of the AR industry.
We believe in the potential of business propagating.

2. Entry hurdle to commercialization of blockchain

1) **Limitations of existing blockchain projects**

Most of the blockchain projects were designed to eliminate existing systems rather than solve or enhance existing systems. Moreover, lacked expertise in the limitations of existing social structures and regulations. Even if the technology went ahead, it was the lack of the most significant market application and infrastructure.

Ultimately, for a blockchain to be commercialized, existing industrial systems must take the initiative or use the existing industrial nature.

2) **Checklists for Blockchain Projects**

- It should be a blockchain where cryptocurrency(On-chain asset) is a crucial element
- Ensure the integrity of the assets certified by the blockchain
- Provide systems that meet various types of requirements such as settlement, tracking, and management of assets
- Capacity to integrate or integrate with existing systems
- The smart contract should efficiently apply.

3. Key Features of Scanetchain

All the functions of Scanetchain are made up of existing social structure and factors applicable to the market and provide services that users need and beneficial to users based on blockchain platform. The key features of the Scanetchain are as follows.

1. AR blockchain designed for commercialization services

The beauty of the Scanetchain is that they contain the services they use and need daily in their daily lives. Social networking, shopping, advertising, and content services are all implemented as a blockchain platform and uses cryptocurrency as currency.

“All you need is your Smartphone.”

Not only do companies advertise their advertisements online, but they also use the AR advertising system, where their products and brands, both in and out of the offline world, become ad banners. Users receive rewards with tokens by viewing advertisements displayed online, and tokens are also provided by viewing advertisements played through AR scans of specific brands. Advertising banners are an overwhelming expansion of the advertising space where everything from online to real-world offline brand logos and merchandise becomes advertising banners. It is the world's first on-line interlocking three-dimensional AR advertising system. This AR blockchain advertising system will be proposed and linked to all existing online advertising platforms and will expand swiftly by being offered as an API to partner companies.

Users can immediately purchase all of the prominent merchandise around the locality with an AR scan, and they can shop quickly and conveniently by paying with an encrypted token. It is a revolution of shopping service that does not distinguish the online area. Scanetchain will offer an API form to existing online shopping mall partners who are suitable for each country in the world. AR shopping service will launch and expand in each nation.

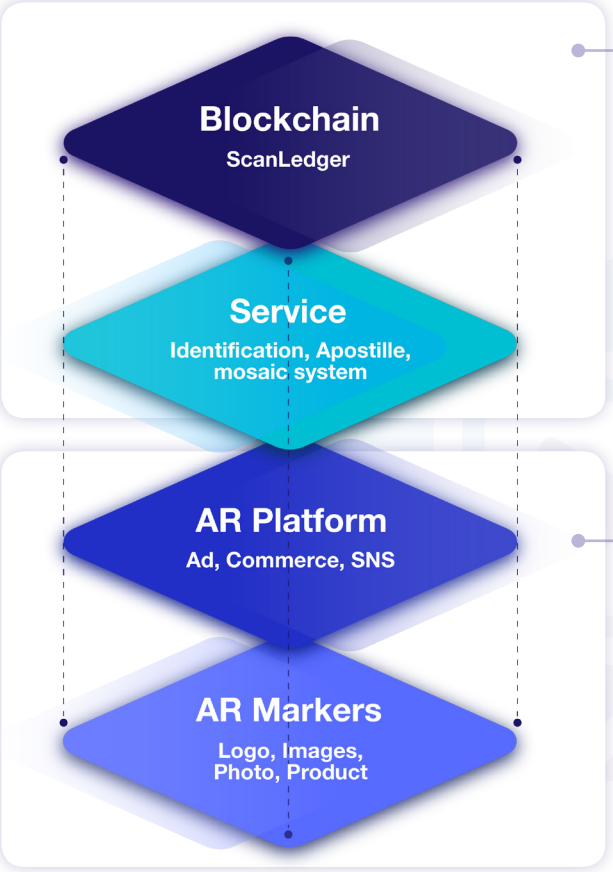
You can view ads and information about specific brands and products with a single AR scan. All of the brand logos and product information in the offline environment are connected to online contents through AR technology and will immediately appear on the smartphone in your hand.

Users can combine their photos and videos in a pair and upload them as markers and matching data. When AR technology is applied, the matching video performs in real-time within an AR scan. Eventually, the marker itself become an AR video frame.
The tokens collected as a reward for watching advertisements will help you to order AR frames.
Scanetchain implemented as a commercialized AR blockchain platform contains all the necessary services for real life.
Marker and matching data setting examples are transcribed in 4.3.1 Augmented Reality (AR) Dapp Scanetchain.
The AR content registered with the user-defined marker image and matching data ensures perfect recognition.
Markers serve as intermediaries between offline objects and online services.

2. Hybrid-blockchain

The Scanetchain is a Hybrid-blockchain model consisting of on/off chains uses both commercial AR social platforms and blockchain networks.

The on-chain section that implements the inherent characteristics of the blockchain, and the off-chain parts that users find inconvenient due to the aspects of the blockchain. It is the only blockchain model that enables users to modify contents of content and delete them and allow fast transactions.



< Four-stage structure of Scanetchain platform >

On-chain

1. Core
- NEM Blockchain
- Scan Ledger

2. Scanetchain Service
- Identification
- Mosaic system
- Apostille (Automated Notarization)
- Name Space

Off-chain

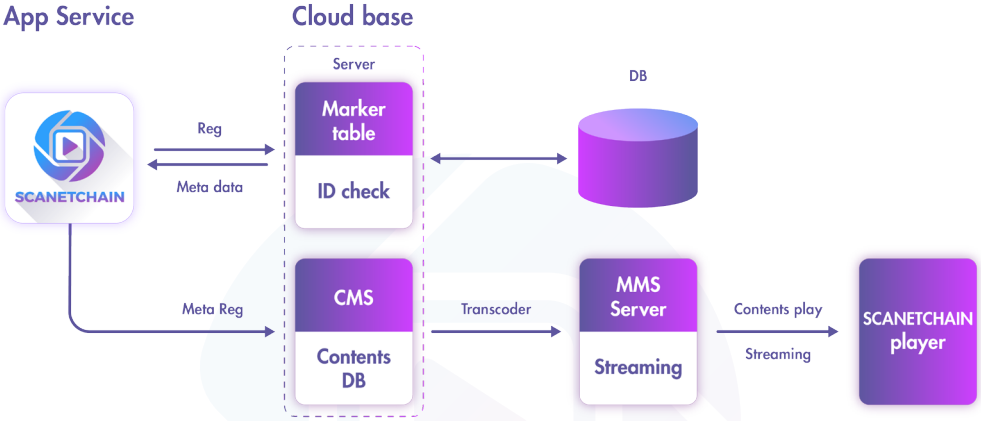
3. AR Commercialized Platform
- AR Social Network Service
- AR Promotion System
- AR Commerce System
- AR Advertisement System
- Content Distribution Cycle

4. AR Markers
- Scanet photo magnet
- Brand logo, Images
- Product

3. Unique AR platform technology

1) Cloud-based AR streaming system

Most of the existing AR businesses have caused content to be downloaded to the user's smartphone, causing data charges and storage space problems.
However, the scanetchain provides AR content to users in a cloud-based, data-streaming method.
It is a technology that provides content streaming from AR App like YouTube. The service itself is fast and light.
It also uses a sophisticated AR camera module that works with streaming data. The AR Camera enables the AR scan to work faster and more accurate, allowing recognition of not only specific images but also 3D objects.
Recognition of objects and surrounding spatial structure is to match the entire real world to another virtual world with AR technology. It is the highest level system that can implement with AR technology.



<Scanetchain's Streaming cloud system>

2) Operation structure when recognizing Marker by AR scan

- How to import MetaData when a Cloud target is recognized

① C++ API Therefore, with the C ++ API, you can use the QCAR_onUpdate () method to get metadata, as in the following code example.

```
virtual void QCAR_OnUpdate(QCAR::State & state)<font></font>
{<font></font>
  QCAR::TrackerManager &tm = QCAR::TrackerManager::getInstance();<font></font>
  QCAR::ImageTracker *tracker = tm.getTracker(QCAR::ImageTracker::getClassType());
  QCAR::TargetFinder *finder = tracker->getTargetFinder();<font></font>
  // Check if there are new results available:<font></font>
  if (finder->updateSearchResults() == QCAR::TargetFinder::UPDATE_RESULTS_AVAILABLE)
  {<font></font>
    // Iterate through the new results:<font></font>
    if (finder->getResultCount() > 0)<font></font>
    {<font></font>
      const QCAR::TargetSearchResult* result = finder->getResult(0);<font></font>
      const char *metadata = result->getMetaData();<font></font>
    }<font></font>
  }<font></font>
}<font></font>
```

② Java API

Similarly, you can use the Java API to get metadata using the onQCARUpdate () method, as in the following example:

```
public void onQCARUpdate(State state)<font></font>
{<font></font>
  // Get the image tracker:<font></font>
  TrackerManager tm = TrackerManager.getInstance();<font></font>
  ImageTracker tracker = (ImageTracker) tm.getTracker(ImageTracker.getClassType());
  TargetFinder finder = tracker.getTargetFinder();<font></font>
  // Check if there are new results available:<font></font>
  final int statusCode = finder.updateSearchResults();<font></font>
  if (statusCode == TargetFinder.UPDATE_RESULTS_AVAILABLE)<font></font>
  {<font></font>
    if (finder.getResultCount() > 0)<font></font>
    {<font></font>
      TargetSearchResult result = finder.getResult(0);<font></font>
      String metadata = result.getMetaData();<font></font>
      ...<font></font>
    }<font></font>
  }<font></font>
  ...<font></font>
}<font></font>
```

③ Unity

```
public void OnNewSearchResult(TargetFinder.TargetSearchResult targetSearchResult)
{<font></font>
string metadata = targetSearchResult.MetaData;<font></font>
  Debug.Log("We got a target metadata: " + metadata);<font></font>
}<font></font>
```

After Cloud Recognition, it connects to the CMS server and retrieves the content ID from the table in the content. Transcoder converts the retrieved contents to terminal resolution and then delivers the video and image contents to the streamer. After that, it is transmitted to the terminal through the MMS server in a streaming manner.

This process enables stream-based streaming AR services in real time.

Metadata is the basis of such communication processes the following data.

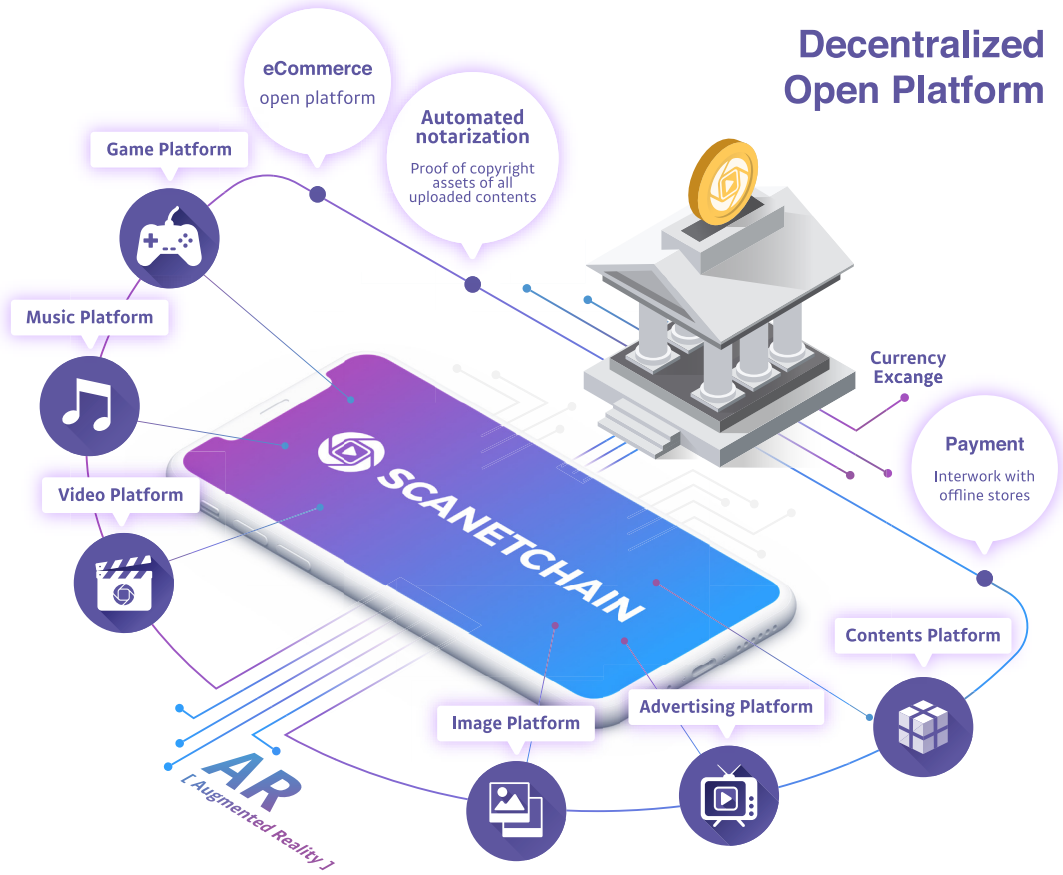
① Video URL (or general URL)

② 3D model

③ Image file

4. Decentralized open market platform designed for users

Users can use block-chain technology only by using social networks without any knowledge of the blockchain system. From creating your account as if you were using an existing social network, all your everyday activities that upload your photos and videos, communicate with other users, view your ads, and buy things are hashed into blocks All transactions are recorded in the blockchain. Also, artificial intelligence (AI) image retrieval technology is used to prevent duplicate image registration when the user registers a marker image.

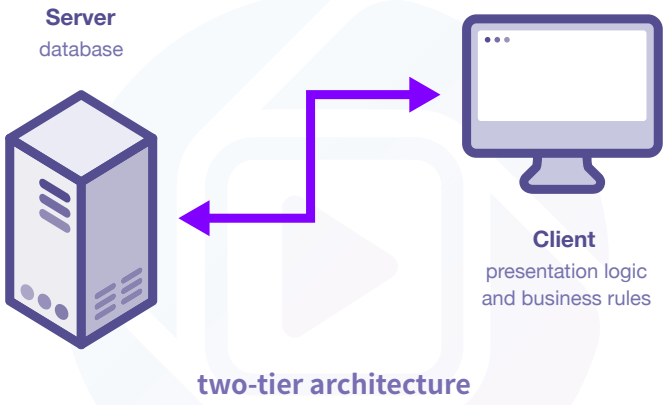


4. Four-stage structure of Scanetchain platform

1. Core - NEM Blockchain Platform

AR blockchain based on NEM Blockchain Network Manage content and billing system efficiently by applying ScanLedger technology, which is the unique distributed ledger of scanetchain.

The NEM blockchain is the most evolved ideal model from the ground up as a newly created block-chain 2.0 platform.
NEM's blockchain platforms offer industry-leading transaction rates regarding size and speed.
Innovative consensus mechanisms and Supernode programs also allow, open blockchains to extend without compromising throughput or reliability.
NEM's architecture is an open-node network based on a two-tier architecture client that uses Eigentrust ++ to provide an incredibly secure and reliable platform.



two-tier architecture

2. Scanetchain Service

The Service layer implements all the functions for managing data and user and content information maintained by Core. Provides data management and input/output functions based on blockchain information and gives them to partners in API and SDK form. Blockchain Efficiently communicate through the REST API provided by Core and maintain platform form.

Functions	Services
e-wallet	All users automatically issue an electronic wallet when creating an account
In-App Currency Exchange	Users can exchange other cryptocurrencies with the in-app system as SWC Tokens
Compensation	POA(Proof-of-Activity)
Automated Notarization	Automatic notarized copyright certificate issued when uploading contents
	Notarized content owner can set prices directly
	Ability to set content disclosure scope
	Automated Settlement of Royalty

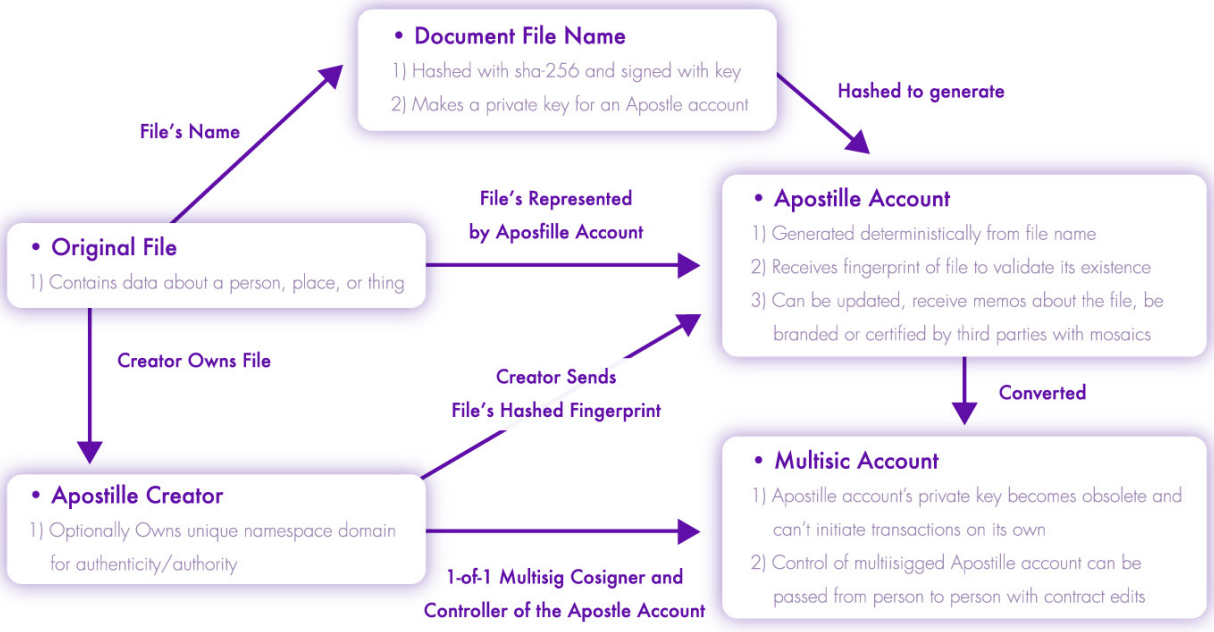
1) Creating an Account

There are three types of accounts in Scanetchain: regular user accounts, advertiser accounts, and Seller accounts. Two user IDs generate when creating an account. One is the ID of the nick-name type in the off-chain, plus an apostille account for NEM. The Apostille account implements automated notarization of content rights and ownership management.

- **The Apostille account**

A hierarchical deterministic (HD) account creates from the filename and then hashed using SHA-256 and then signed with the user's private key. The finally signed hash is reduced in length to hold 64 characters and becomes the private key of the file.
As such, the private key of a file is created from the hashed file name, so it is always unique and can appear as a private key for that file, not just the private key of any account. When you create an HD account with a dedicated private key in the file, the account will appear as "colored," but at the same time, it can show as an Apostille account.
The "color" of a hierarchical deterministic (HD) account is the content ownership right when you create a created content ownership block notarized in the Scanetchain network.

Only the owner of the startup account and the file knows the private key of the file that creates the colored HD account and always creates the same account for the given filename.



< Overview of the Apostille system framework and Apostille account creation>

The formula is as follows : HDprivateKey = truncate(userKeyPair.sign(SHA256(fileName)));

2) Mosaic system available to all accounts

Mosaics in NEM are permanently named assets inherent in the NEM blockchain, and not on a 2nd party layer. They can represent any asset would like to issue. They have customizable names, descriptions, divisibility, quantities as either fixed or mutable, and transferability restrictions if necessary, and can have levies applied to them or believes themselves on other mosaics.
So not only can make notarizations but can attach content assets to the blockchain notarization they might wish.
Sellers might want to make a “Sold Items” or “VIP Customers” mosaic asset. Advertisers might want to make a “good for a redeemable amount of cryptocurrency” or "Promotion events," and content creators might want to make or “share of the royalty” asset and pair it with a notarized contract.

3) Automated Notarization

As one can gather from reading this paper thus far Apostille takes advantage of many different features to make a holistic blockchain notarization system, one in which notarizations are not static one-time timestamps, but instead can now be dynamic, moving, changing, and updatable values on the blockchain. Scanetchain uses and customizes this service to make well-defined application framework conventions of how their Apostille accounts are created and interact with the authority given by namespaces, the value and status represented by digital assets sent to that account, and the information forwarded as memos.

- **Content Hashes - Preparing the Timestamp Fingerprint - Making the Blockchain Notarization**

An Apostille transaction message is the hash of the file data (document fingerprint) prepended with a custom Apostille hash header that begins with 4 byte magic bytes . The Apostille header helps us during an audit to determine the hashing algorithm used and if the hash was signed or not.

Shown as follows:
ApostilleHash = Apostille header + fileContentHash; 0000000000

4) Type of automated notarization of copyright

Scanetchain allows users to choose from two different kinds of
notarizations depending on their business use case and privacy needs.

- Public Sync: Plain hashes are sent to a public synk address. This is useful for cases where a document that has been fingerprinted and stamped is meant to be shared freely.

- Private, Transferable and Updatable: Hashes are signed using the owner’s private key and sent to a colored HD account (Apostille account) created from a file’s dedicated private key. This is useful for cases where the contents of the notarized document should remain more private, or when a person would like to make a blockchain notarization that is updatable, transferable, conjointly owned, or hold extra value.

5) Digital Media Licenses for contents

A digital media blockchain license can have messages sent to it representing how many times a product has been streamed. It can also have messages sent to it detailing the terms of the license and limits put upon it. A namespace and digital asset can originate from the license account (Apostille account for that license) and these assets can be sent to others representing rights in the license.

6) Protecting Trademarks for Goods and Anti-Counterfeiting

Sellers can make a namespace account that only they can control. They can publish this name on their company profile. They can then make a blockchain notarization for each and every item using things like AR markers, serial numbers, high definition scans, chemical makeup,
and so on, to uniquely identify and register each item. Since each item is unique, and each is fingerprinted, and each blockchain notarization comes from a registered and recognized source, any competitor offering counterfeit products without an accompanying blockchain notarization will be easily identified.
It could occasionally be updated with additional information regarding the condition of the product as it is maintained or repaired by registered and licensed professionals.
A luxury good item could have a message sent about a recall to the Apostille account.
And in all these cases, any third party wanting to purchase the used item(along with the colored Apostille account), can trace back the items authenticity and history.

7) Namespaces for all accounts related to sales

Namespaces on the NEM system is a domain naming system, but one both like and unlike that of the internet. There are unique root-level domains and non-unique subdomains, typically used to classify fully qualified unique assets or naming systems. This allows one person with one unique root domain to create many different subdomains for their various projects or outside business accounts. It also helps to build and maintain a reputation system for services built on registered names. One such example is the blockchain supported NEM digital asset feature, named Mosaics, but others could be any third-party distributed naming systems an app builder would like to make. This is useful in the Scanetchain system because it creates a system of authority and power and now a user can trust a blockchain notarization made from a legitimate and registered accounts. NEM's namespaces enable, for instance, one to own the namespace "official seller" and now no other person can claim that root domain. Blockchain notarizations published from that namespace can be trusted to have come from the real "official seller". This is useful, for example, with sellers making certificates of authenticity on the blockchain for items. Now, the certificate can be trusted because the manufacturer of the certificate can be clearly known from things like publishing their namespace on their timeline or products and packaging information in offline venues. It is also useful for things like Scanetchain user account identification on the blockchain. If those registrations are approved of by the official and unique namespace domain of that country, one can think of it as an officially endorsed blockchain ID.

3. Commercialized AR Decentralized Application

Scanetchain is an AR Application, which constitutes the off-chain section of the scanet chain, consists of an application equipped with an AR scan function and an offline marker which can be recognized by the AR camera and connected to online.

1) AR DApp Scanetchain

Augmented Reality (AR) technology provides users with fast, realistic and intuitive information by showing virtual content over real space and real objects.
Scanetchain (Scanned Chain) is a two-way interactive application that not only provides AR information in one direction but also connects offline and blockchain based online platforms.

If an offline object is designated as a marker and the function to be connected is registered as matching data, the smartphone camera recognizes the designated marker and show the paired matching data in real-time. Markers uploaded online by users reflect on the server and services provided by AR Dapp immediately. Matching services to markers can be modified as needed.
We also use artificial intelligence (AI) image retrieval technology to prevent duplicate markers.

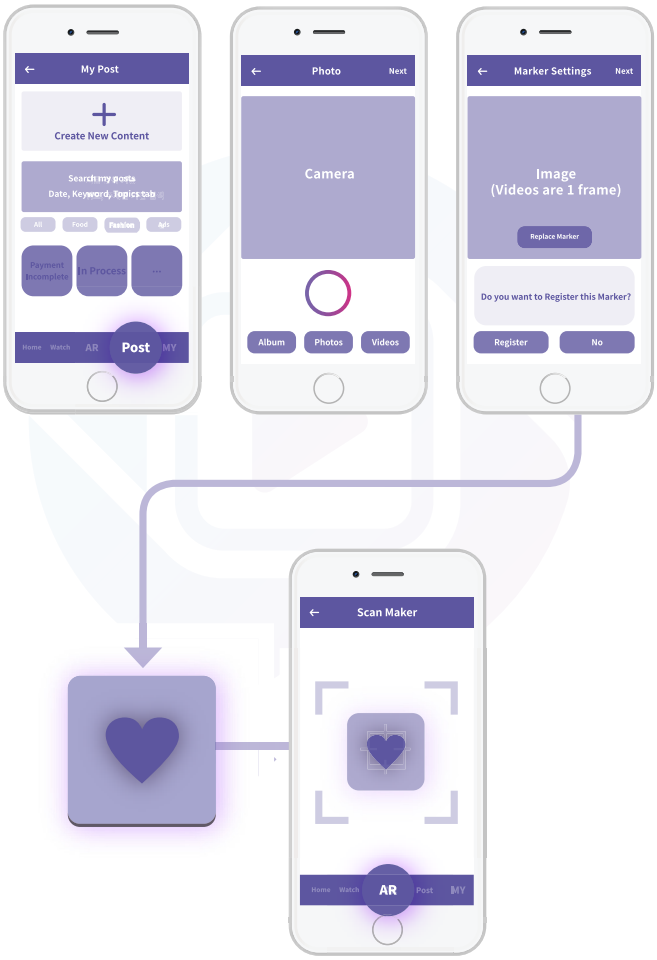
Service	Functions
AR Service	Designating Marker
	Register Marker
	Specifying Matching Data
	Matching data registration
	Replace Matching Data
	Augmented reality scan

- **Supported OS : iOS, Android**
- **Supported File Formats : All kind**
  - **Marker**
  - **2D Objects (Images, Photos, Brand Logos)**
  - **3D Objects (Physical shaped objects)**
- **Matching Data**
  - **Multi-media Data**
  - **Cryptocurrency Payment**
  - **URL**
  - **Additional Information**
  - **All format of files (by Apostille method)**
- **Provides Data by; AR Streaming**
- **Prevents Duplicated Markers by; AI Image search technology**

Volume capacity and method of Data output

• More than 1 million markers available. Server expansion possible when the number of user increases
• More than 100,000 views per day
• Can integrate or integrate with existing content management systems
• When the marker stored in the cloud is recognized, the result of the image recognition query is received. At this time, the ID list of the image target returns
• App RTSP Player analyzes MetaData and opens the communication channel with CMS server side again and requests related contents

Example of matching markers and matching data



1. Select a marker image from social network timeline.
2. Select a video as a matching data to pair with the selected marker.
3. Pair them and upload them.
4. If users upload them in Photo magnets, the Marker image delivered to user printed out in the Photo Magnet.
5. AR Scan the Photo Magnet
6. The Matching Data appears above the Photo Magnet through your smartphone.

2) Online Social Network Services and Features

The Scanetchain provides users with a variety of services on the social network interface.
The service has four main areas equipped with augmented reality (AR) camera function.

Service	Features
Social Network	Upload, edit, delete posts
	Like Post
	Write Comments
	Share Posts
	Order Photo Magnets
	Buy content from other users
	Sale of copyrighted auto-notarized content
	Watch ads
	Purchase Products
Advertising System	Register Brand Logo
	Register Ad category
	Exposure Ad timeline
	Register Augmented Reality (AR) Advertising
	Order Augmented Reality(AR) Advertising Photo Magnets
Commerce System	Brand logo registration
	Register product category
	Product Custom Recommendation on the Timeline
	Sale of goods
	Register Augmented Reality (AR) selling content URL
	Order Augmented Reality (AR) Photo Magnet for Sales
Content Distribution	Sell copyright auto-notarized content
	Order Photo magnet for Offline content sale
AR Camera	Augmented Reality (AR) Search
	Augmented Reality (AR) scan
	Augmented Reality (AR) ad viewing
	Augmented Reality (AR) commodity settlement

4. Scanetchain Off-line AR Markers

Unlike other blockchain models, Scanetchain contains offline features.
Users can scan and access and interact with Augmented Reality(AR) cameras in an offline environment with markers that set all online content and services as matching data.

Examples of offline AR markers that can be an intermediary for an offline environment and an online platform include:

- Scanetchain Photo Magnet
- Brand logo
- All types of Images
- Product
- Publication

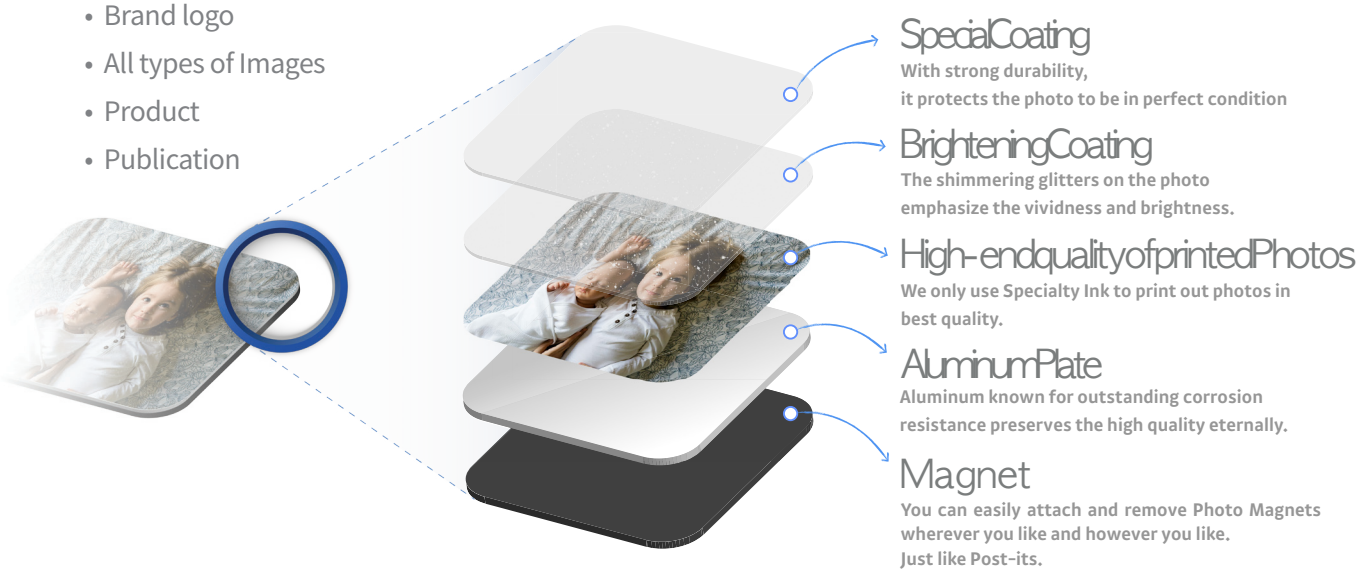
1) Scanetchain Photo Magnet

Unlike other blockchain services, Scanetchain has a product called Photo Magnet as a real product. Photo Magnet is a product an image printed on a piece of aluminum with the magnet attached behind so that the user can rearrange and place the ordered product like post-its.

You can order all content in your account or timeline with Photo Magnet and store it offline as an AR frame. When another user purchases the auto-notarized content of your own as a photo magnet, the royalty automatically transfers to your wallet.

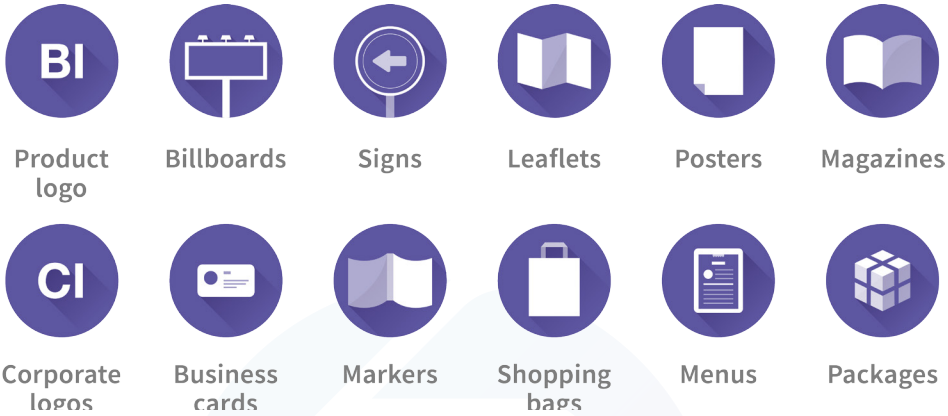
All users can order Augmented Reality (AR) markers as photo-magnets and use them as a medium to connect to various online platforms in the offline environment. For example, users can order photos of their memorable events and videos taken at that time by using PhotoMagnet to place them online and offline, and create photo-magnets from advertiser accounts and merchant accounts and distribute them offline. Borderless services can leverage in advertising and commerce systems.

- Brand logo
- All types of Images
- Product
- Publication

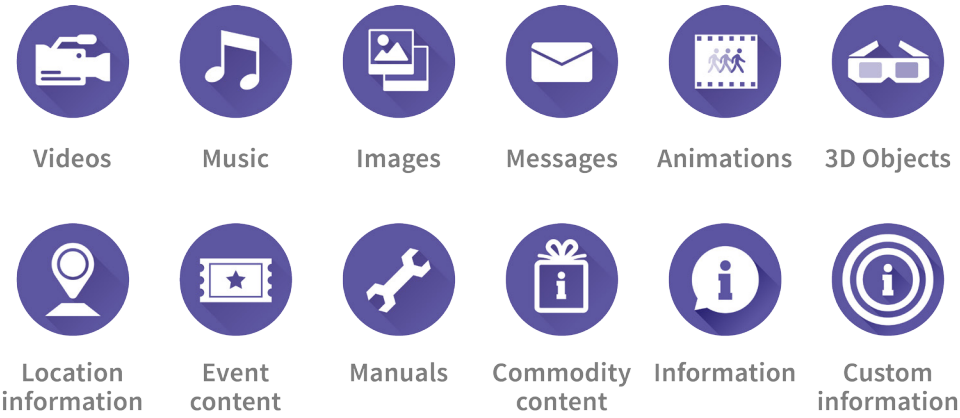


2) Use cases in Advertising Systems

There are no limits to the images that can be markers, which makes all objects visible can be the medium to connect online. You can do various promotions based on your needs and situation using existing offline media without any installation. In an offline environment, when viewing an AR with an augmented reality (AR) camera, users who watch the advertisement are rewarded with the contribution that vitalized the advertisement system, thereby creating an environment that satisfies both the user and the advertiser in the advertisement system.



Advertisers can utilize the AR contents for advertisements or products that can not be shown in the offline environment or the limitations of the fragmentary image immediately as contents on the internet and utilize them as marketing and promoting means in various fields of advertisements and products. There are also no restrictions on the format to be a Matching Data that can be linked. Therefore, it is possible to process marketing without limits of time and space by connecting the online content whose own copyright under its namespace to the markers in the offline environment.



3) Use cases in Commerce Systems

Sellers can set their product's logo image and purchase page as Marker and Matching Data. Users scan the product's logo with an AR scan and immediately go online to purchase directly. The AR shopping system not only sells products online but also serves as a medium where all the logos of the products that exist in the real world to the online purchase page. AR technology and smartphones to expand the scope of the displays of sales. It is the world's first on-line interlocking three-dimensional AR shopping system. This AR blockchain shopping system will be proposed and linked to all existing online shopping malls and will expand by providing APIs to partners.
Promotions can also be made to distribute product logo markers to the users of the platform using photo-magnets. It can be used conveniently for the sale of everyday necessities or groceries needed on a daily basis. Users will be able to purchase all of their prominent merchandise around the world at once with an AR scan, and they can shop quickly and conveniently by paying with SWC tokens.
It is a revolution of shopping service that there is no distinction between the online area and there is no limit of time and place.

4) Use cases in content distribution

All offline publications and printed contents can be provided with contents beyond the limitation due to Augmented Reality (AR). All multimedia contents or entertainment contents such as sound source, video, and game on the online platform can be displayed in visualized form This enables offline distribution. Combined with cloud streaming technology, you can distribute any content as well as products.

Content creators who produce content should only create namespace accounts that can be controlled by their content owners to display their namespaces in their profiles, and any content produced using serial numbers, high-resolution photo images, or DNA, Make a notarized block for each identified chain.

Scanetchain allows the user to distribute contents to online and offline assets at the price of owned copyright without distributors and can check the process of distribution transparently; thereby users can prevent forging or plagiarizing. Copyright fees can also be settled automatically and received as a wallet in the creator's account.

5. Ecosystem of Scanetchain

Users are allowed to receive additional compensation (based on the payment algorithm) under which they can receive from the social networks, commercial systems, content distribution systems, and augmented reality (AR) technology.

1. Compensation Policy and Token Usage

The rewards and uses of tokens within its ecosystem have continuous liquidity due to the activities, responses, and transactions between user accounts, advertiser accounts, and merchant accounts.

1) User Compensation Policy and Token Usage

Service	Sort	Feature		
Social Network	Basic Features	Upload, edit, delete		
		Like		
		Write Comments		
		Share		
	Compensation and use	**Feature**	**Recieve**	**Use**
		Order Photo MAgnet		○
		Other Account Order My Photo Magnet	○	
		Other Account Like my Comment	○	
		Other Account Share my Post	○	
		Buy Other Account Contents	○	
		Sell Auto-Notarized Content		○
		Reporting Illegal and Harmful markers	○	
		Watch Ads	○	
		Buy Products		○
AR Camera	Basic Features	AR Search		
		AR Scan		
	Compensation and use	**Feature**	**Recieve**	**Use**
		Watch AR Advertisement	○	
		AR Shopping		○

By default, users in a Scanetchain get their tokens by watching the ads.
The user will purchase goods and contents with the collected tokens.
Sellers will place ads with tokens received from sales.
The Compensation system leads the token circulation structure where users who watch advertisements to receive more tokens.

2) Compensation Policy and Token Usage of Advertising and Seller Account

Service	Feature	Receive	Use
Advertising	Register Logo	Basic Feature	
	Upload Advertisement on Advertising Account		○
	Upload Advertisement on Advertisement Category		○
	Expose Ads on Timeline		○
	Expose Ads by AR		○
	Order AR Ad Photo Magnet		○
	Other Account Like my Advertisement	○	
	Other Account Like my Comment	○	
	Other Account shares my Advertisement	○	
	Other Account Order my AR Ad Photo Magnet	○	
Commerce	Register Brand Marker	Basic Feature	
	Upload Product on Commerce Category	Basic Feature	
	Expose Product on Timeline		○
	Sell Product	○	
	Product review of actual buyers only	Basic Feature	
	AR Product Registration (Payment, Ad Features)		○
	Order AR Product Photo Magnet		○
	Other Account Like my Product	○	
	Other Account Like my Comment	○	
	Other Account shares my Product	○	
	Other Account Order my AR Product Photo Magnet	○	

By default, users in a Scanetchain get their tokens by watching the ads.
The user will purchase goods and contents with the collected tokens.
Sellers will place ads with tokens received from sales.
The Compensation system leads the token circulation structure where users who watch advertisements to receive more tokens.

2. Algorithm of POA(Proof-of-Activity)

Scanetchain defines its Proof of Activity (POA) algorithm, which is an additional compensation scheme based on the amount of activity that has contributed to the activation of the ecosystem across social networks, advertising, commerce, and content distribution.

<POA Transaction Graph>

Applied NEM's Algorithm of Importance

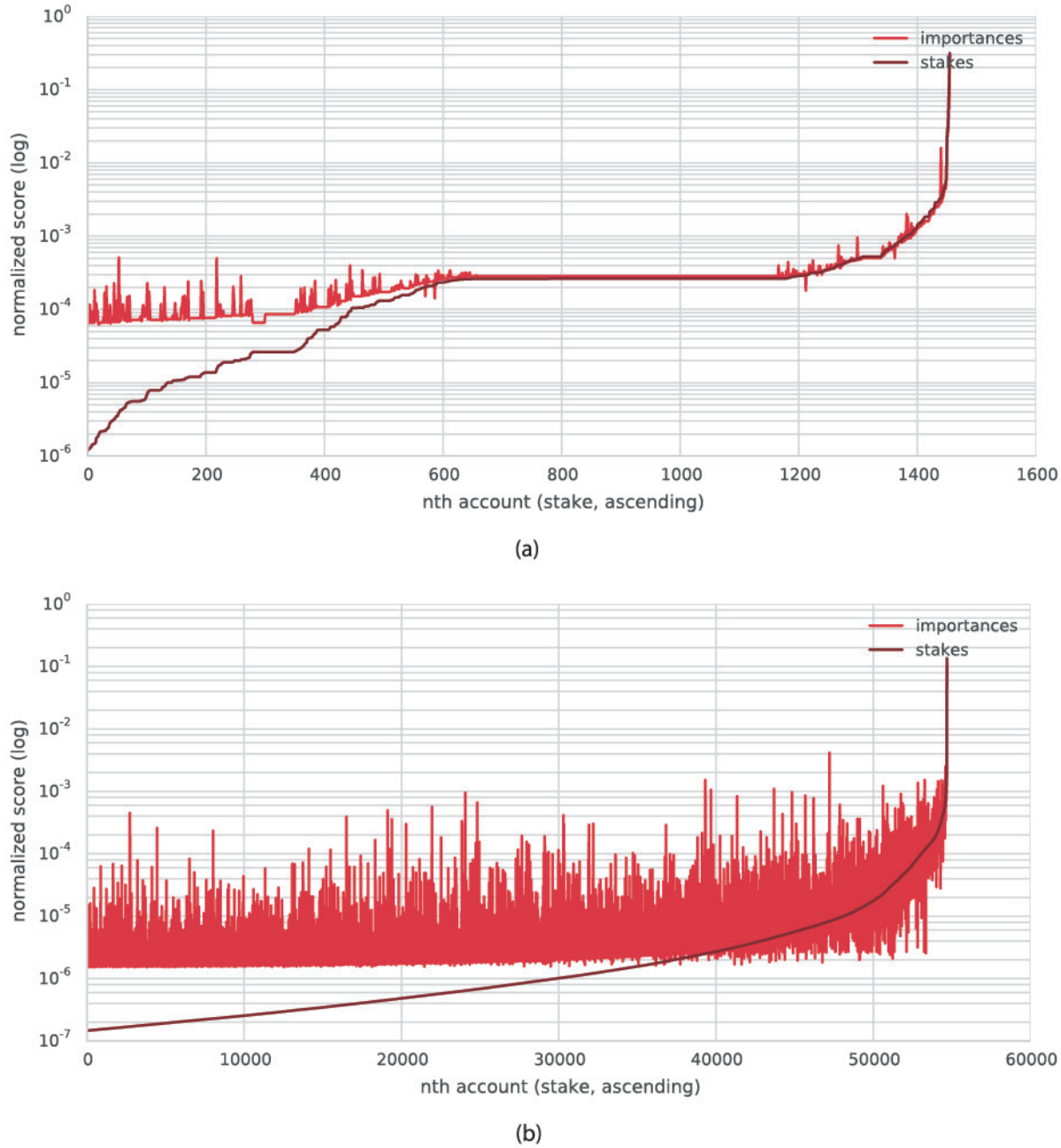


Figure 11: Importance scores and vested balances for accounts in the harvesting-eligible subset of the (a) NEM and (b) Bitcoin transaction graphs are plotted. Importance scores and vested balances were normalized to sum to unity (1.0), with accounts sorted in ascend- ing order. Graphs are plotted on the y-axis with a log scale, allowing a clear comparison between stake and importance scores, and accounts are on the x-axis.

<Nem techRef 참고>

6. Features and Technology

1. Advantages of NEM Blockchain

■ **1. Full Transparency**

See the entire supply chain - know every provider who sold (or re-sold) your ads, products or contents with full visibility.

■ **2. Auditability**

Review all of your campaign data using blockchain's comprehensive and immutable ledger

■ **3. Verified Impressions**

Minimize fraud knowing you're only purchasing NEM id-certified impressions.

■ **4. Universal Data**

Unlock blockchain's single-source-of-truth to manage campaigns & partners holistically

■ **5. Cryptographically Secure Event Processing**

Execute massive transaction volume while maintaining full integrity and security

■ **6. Data Protection**

Protect and control your pricing and audience data in a cryptographically secure environment

■ **7. Impenetrable Identity**

100% confidence knowing your identity cannot be replicated or spoofed

2) ScanLedger (AR Blockchain Decentralized Ledger)

Scan Ledger is a distributed Ledger using the latest encryption technology as a blockchain network of Scanetchain. It provides an API (Application Programming Interface) that can connect to existing block platform network ideally, and it is an API type that contains all building blocks to connect easily to other platforms. Partners in the Scanetchain need only to assemble the building block APIs that they provide for their services.

The extension module API will be open to all users as well as partners.

7. Scanetchain's Token

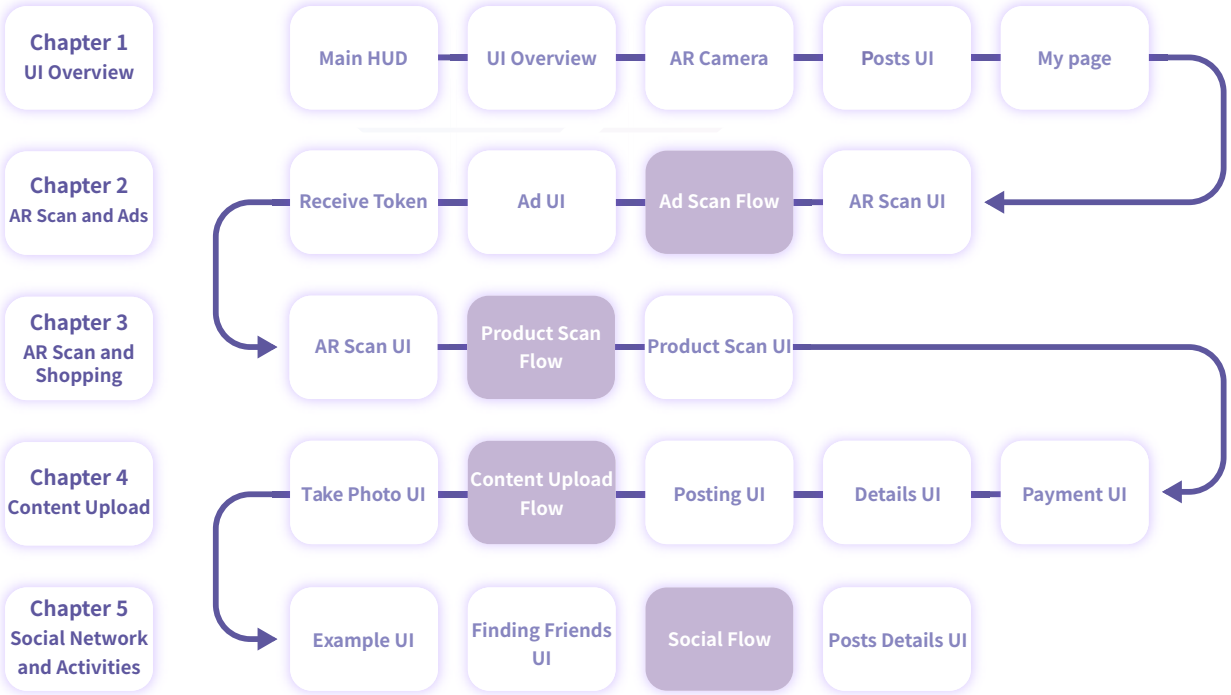
1. SWC Token

- **Unit :** Scanet World Coin(SWC)
- **Token Platform :** ETHEREUM (ERC-20)
- **Total Token :** 1 billion SWC

'Scanetchain' issues its own ETHEREUM (ERC-20) SWC token.
The SWC token is a cryptographic currency, a medium in the internal ecosystem of Scanetchain.
In the open market platform that users, consumers, suppliers, sellers, and advertisers can use in a comprehensive and organically usable way. Under the POA(Proof of Activity) Algorithm, SWC tokens have liquidity in the entire ecosystem that continues to circulate due to the voluntary participation of all accounts. It is possible to exchange other cryptocurrencies into SWC token through its exchange counter inside the platform.

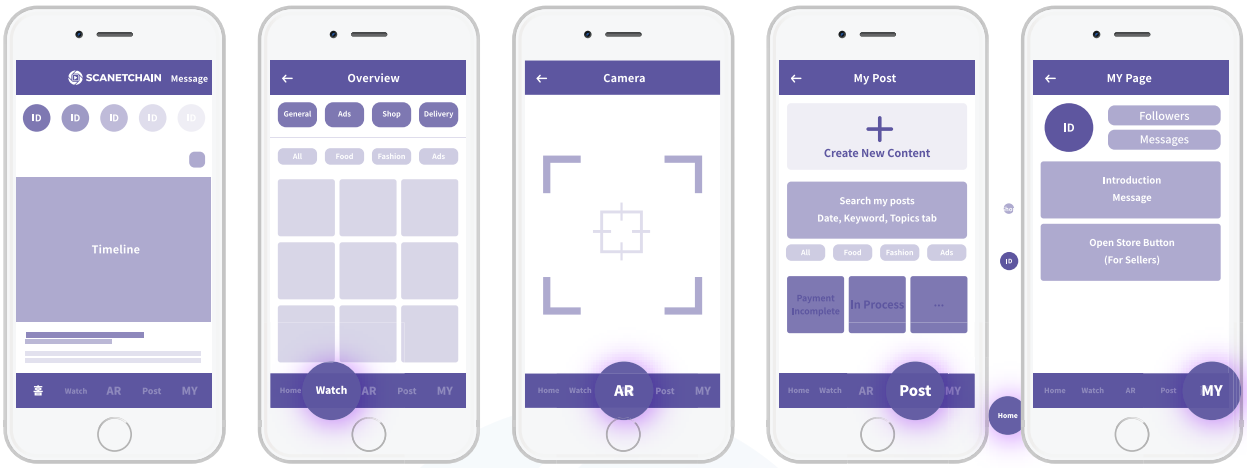
8. Scanetchain Service Description

1. Application Flow



2. User UI

Scanetchain consists of five functions: timeline, ad and shopping and general postings, AR scans, editing my posts and profiles. The goal is to design and design UX and UI so that various functions and services are convenient in a user-friendly interface. Users can allow or block exposed ads and product posts.



1) Account Types and Regulations

1) User account

- Social network user account listing photos, videos, postings, and contents. (Free registration)
- Auto-notarization for created contents and compensation policy system
- Sign up using email address information (using email authentication method)

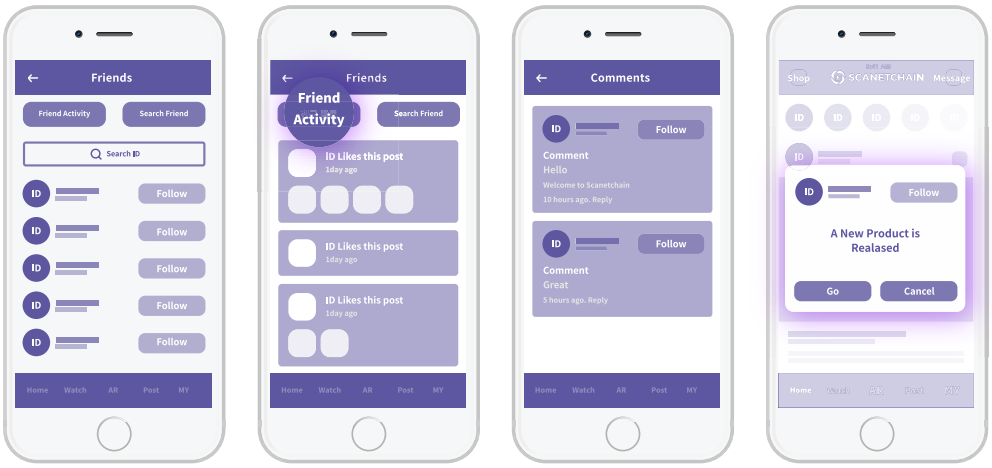
2) Seller's account

- An account that provides a payment or purchase process to display and sell the product.
- A business account for the seller of products (Free registration)
- Registration of products is free. Product logo image AR marker registration is available after payment.
- Registration number and necessary information required for signing - up

3) Advertisers account

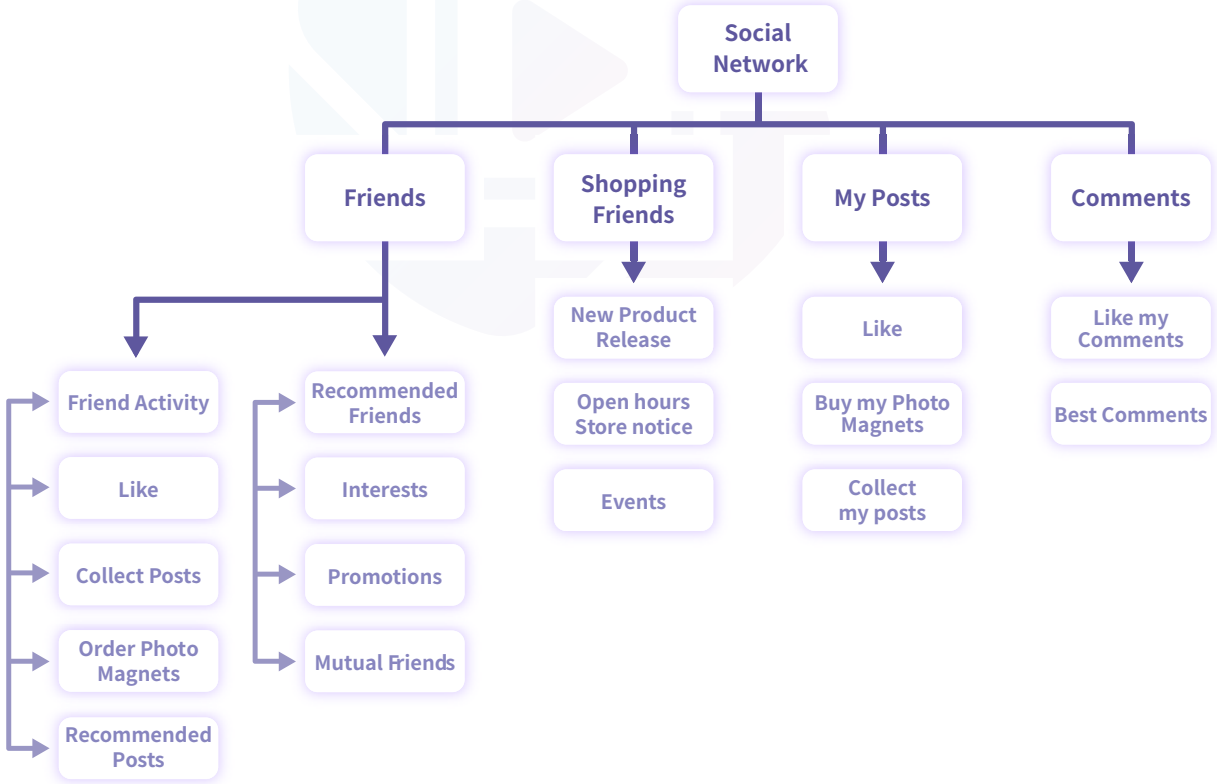
- Account capable of registering ad contents such as advertising videos
- Advertising contents are also defined as contents and get auto-notarization and compensation policy system.
- Registration number and necessary information required for signing up
- Ad registration is available after payment. Ad content AR marker (Marker) registration is available after payment.

2) Social Network Service UI



You can share information in detail, including friend search or friend activity information, as well as comment activity. You can also receive information about the brand advertiser that you follow or merchant's new product anytime, anywhere.

3) Social networking service user relationship flows



4) Terms of Using posts and registration of markers

Scanetchain defines rules for post usage and marker registration that are processed in the off-chain section to provide a pleasant social network environment for users, which can be improved by users' opinions.

Terms of Use

- All postings must be registered [Cover image].
- All posts can be uploaded without markers.
- When registering an inappropriate [Cover image], it will not only delete the content but also block the activity of posting on the Scanetchain of the ID.
- Depending on the type of content, might require additional payment during registration.
- For AR content that has been uploaded for three months maximum, it will be deleted if no additional payment required.
- Introduce a notification system for illegal and harmful postings, and provide compensation to the legitimate reporter.

Marker registration regulations

- Duplicated Markers can't be registered.
- At least 2 days of audit period required for registering the markers, and if they get rejected, they can be re-registered using other images.
- If inappropriate markers are used, it will not only delete content but also prevent posting activities on the Scanetchain of the ID.
- You can use the [Cover image] used in the posting as a marker. The procedure is the same as the marker registration.
- Depending on the purpose of use of the marker, an extra amount might be required when the registration is completed.
- For markers whose registration period has expired, they will be kept for a maximum of 3 months and will be deleted if there is no additional payment.
- Operate a notification system for illegal markers and pay compensation to a legitimate reporter.

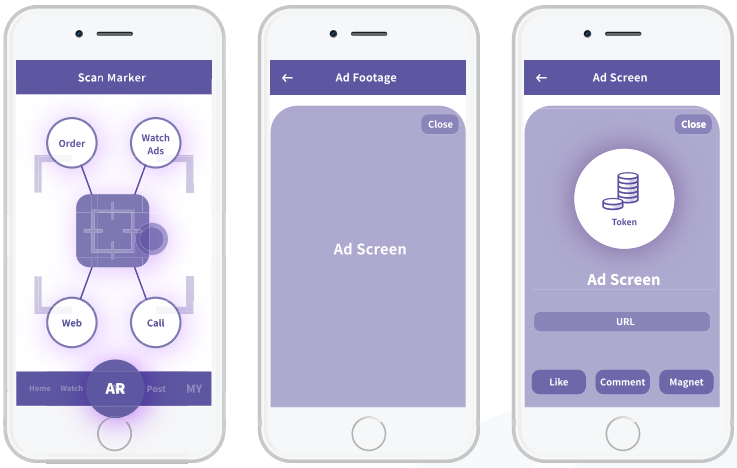
3. AR Advertising System

Advertisers who have signed up for an advertiser account can use the following services, and according to the content reward system, advertisements also receive rewards as an auto-notarized content. Scanetchain D App has a separate category for advertising images, so users can earn tokens as a reward for watching the advertisement.

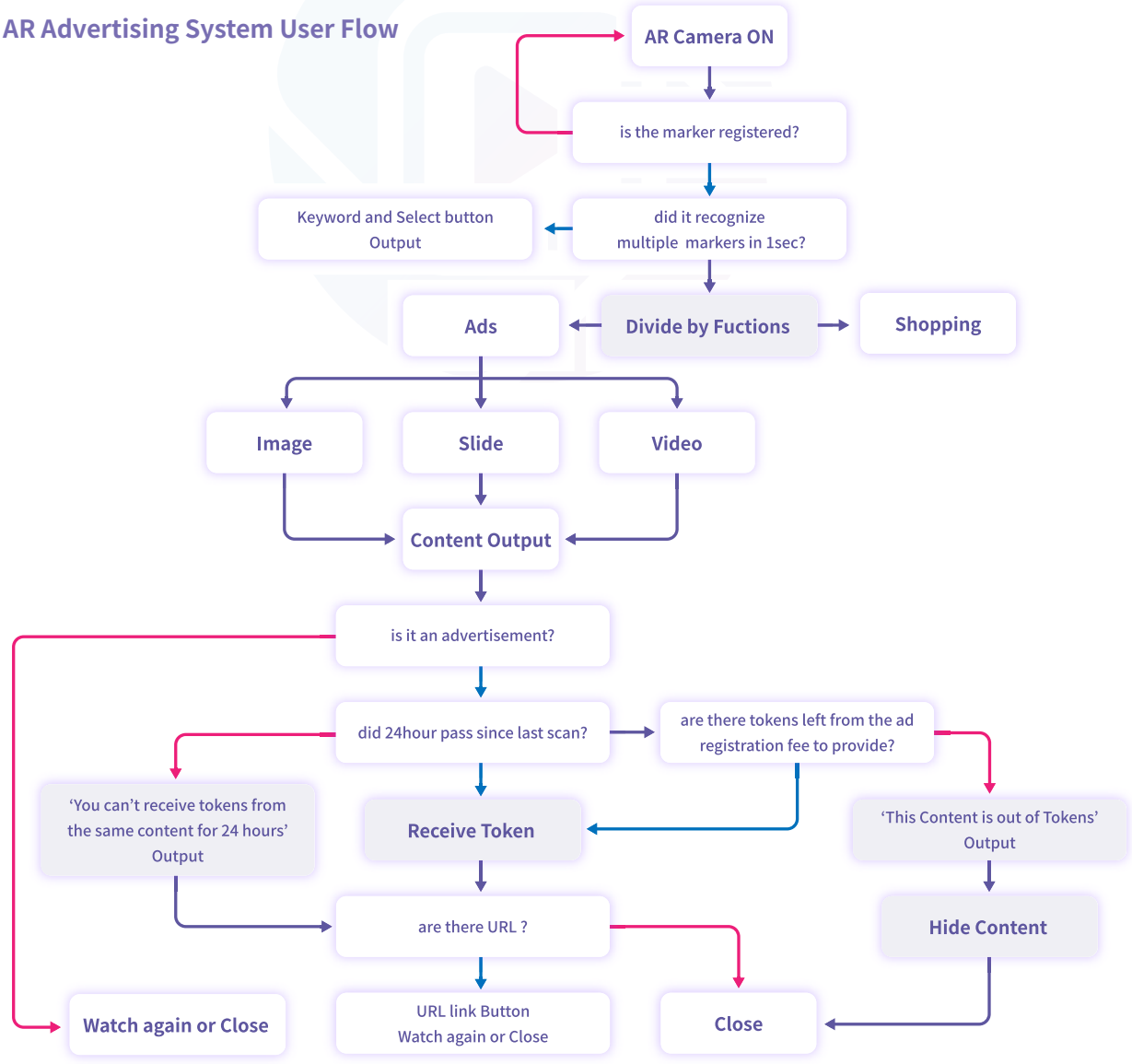
Service	Feature	Receive	Use
Advertising	Register Logo	Basic Feature	
	Upload Advertisement on Advertising Account		○
	Upload Advertisement on Advertisement Category		○
	Expose Ads on Timeline		○
	Expose Ads by AR		○
	Order AR Ad Photo Magnet		○
	Other Account Like my Advertisement	○	
	Other Account Like my Comment	○	
	Other Account shares my Advertisement	○	
	Other Account Order my AR Ad Photo Magnet	○	

1) AR Advertising System User UI

The marker plays the ad video directly on the user's smartphone, and they receive rewards only when you watch the ad to the end. The compensation after watching the commercial content of the advertiser's brand markers by AR scanning is a unique reward system on Scanetchain. To maximize the pleasure of satisfaction when earning tokens, it utilizes the technique of presentation used in games effects.



2) AR Advertising System User Flow



3) Comparison with Other Social Network Services on Advertising

Instagram	1. Only business profile users can upload advertisements.
	2. They use Facebook Marketing Manager for uploading advertisements.
	3. They expose their advertisements to applied targets via location, age, interest, gender.
Steemit	They do not provide advertisement services officially.
Scanetchain	1. Advertising Account users can upload Paid Contents such as brand logos, products, and advertisements Paid Contents cannot be exposed to other user's before the payment.
	2. There is a category only for advertisements and they can expose their ads on that category after payment.
	3. They can designate an Advertisement Marker image and matching data to proceed AR Advertisements. They can use existing logos, posters, brand identities placed on offline venues.

4. AR Commerce System

With the AR commerce system available in your merchant account, you can register your items for free in categories that only collect items.

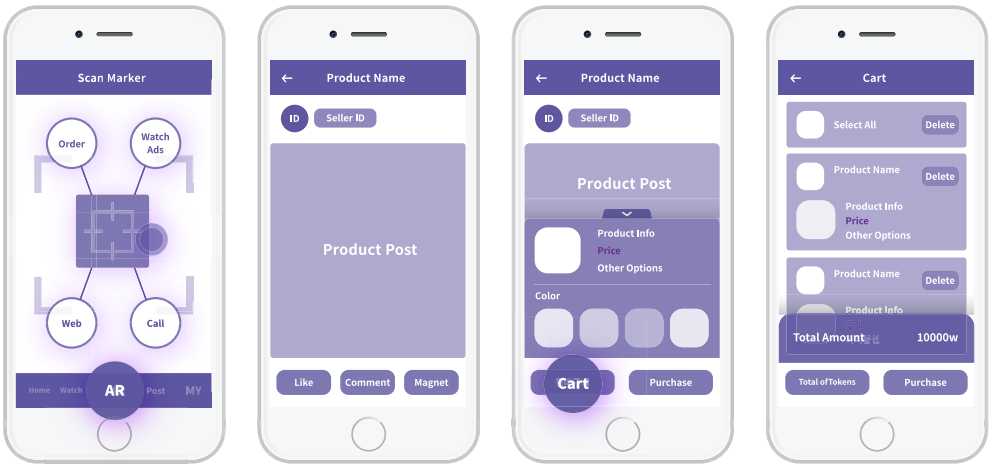
Also, due to the review function that only the actual buyer can write about the product sold and the user's response to the product, the seller is also designed with a unique structure to receive compensation.

You can distribute the photo magnet with automatic payment by matching data to the designated product when delivering the product, and you can spread the product even in the offline environment.

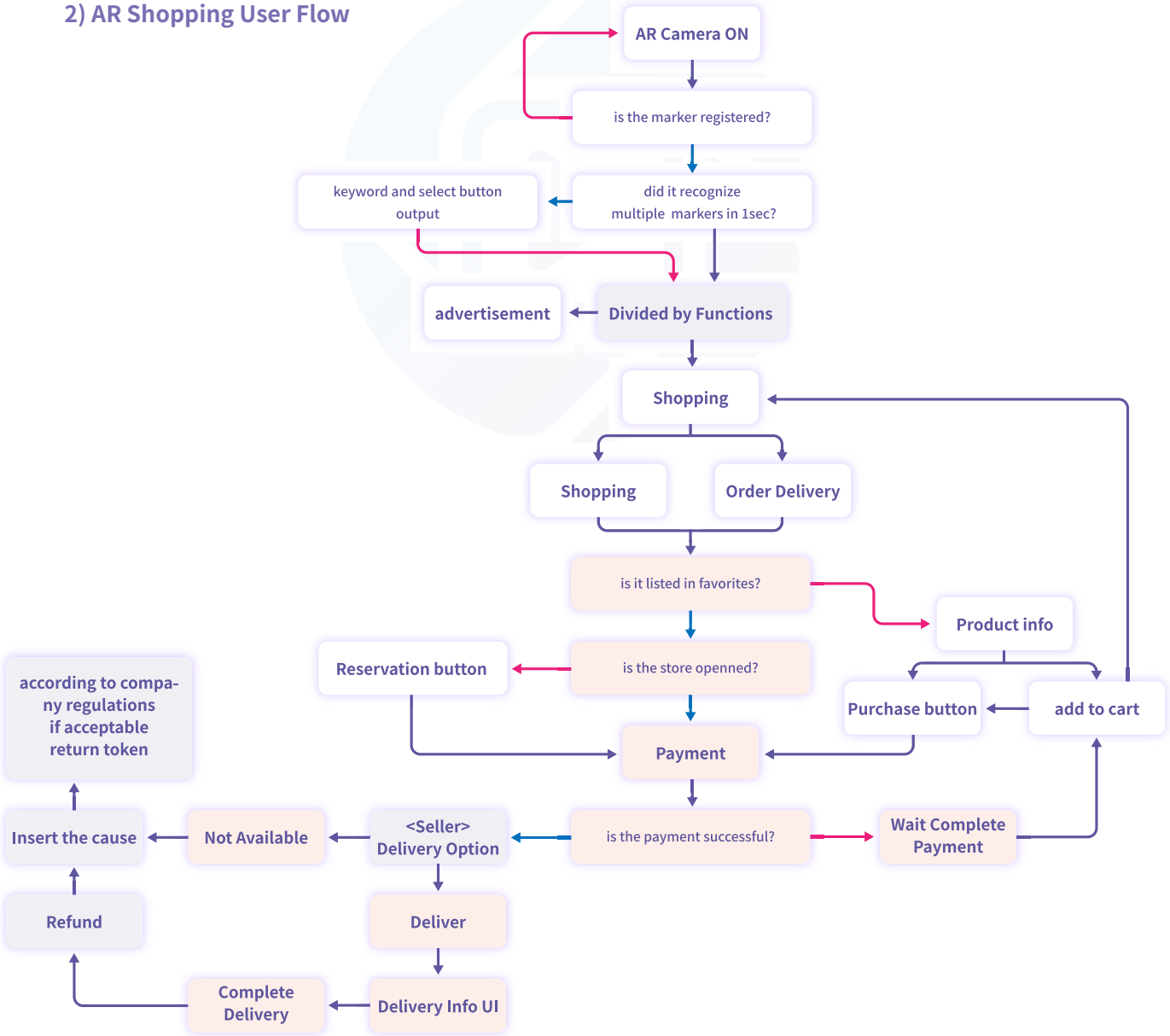
Service	Feature	Receive	Use
Commerce	Register Brand Marker	Basic Feature	
	Upload Product on Commerce Category	Basic Feature	
	Expose Product on Timeline		○
	Sell Product	○	
	Product review of actual buyers only	Basic Feature	
	AR Product Registration (Payment, Ad Features)		○
	Order AR Product Photo Magnet		○
	Other Account Like my Product	○	
	Other Account Like my Comment	○	
	Other Account shares my Product	○	
	Other Account Order my AR Product Photo Magnet	○	

1) AR Shopping User UI

Marker scanning allows you to shop for goods & deliver orders, as well as to buy things on mobile, easy to understand. Moreover, we structured easily understandable icons and images rather than texts.



2) AR Shopping User Flow



3) Comparison with Other Social Network Services on Commerce

Instagram	1. Business users can sell and promote their products by payment.
	2. Users can see the price and product information through the shopping tag in the picture or video.
	3. They can move to the online shopping mall website after selecting 'Shop now' on the product detail page.
Steemit	They do not provide Commerce services officially.
Scanetchain	1. Sellers and consumers can transact directly on the open market platform Scanetchain with the Seller account. There is no Product registration fee. They only pay the commission of the sold product.
	2. Users can purchase and pay for all the products on the seller's account. If the users select a product on the timeline or a product in the shopping category, they can access the product page of the seller's account to view the details and also complete payment.
	3. Writing Product Reviews are only allowed for the actual consumers.
	4. They can designate a Marker image of their product and matching data to proceed AR Scan purchase. They can use existing products, brands and logo offline also.

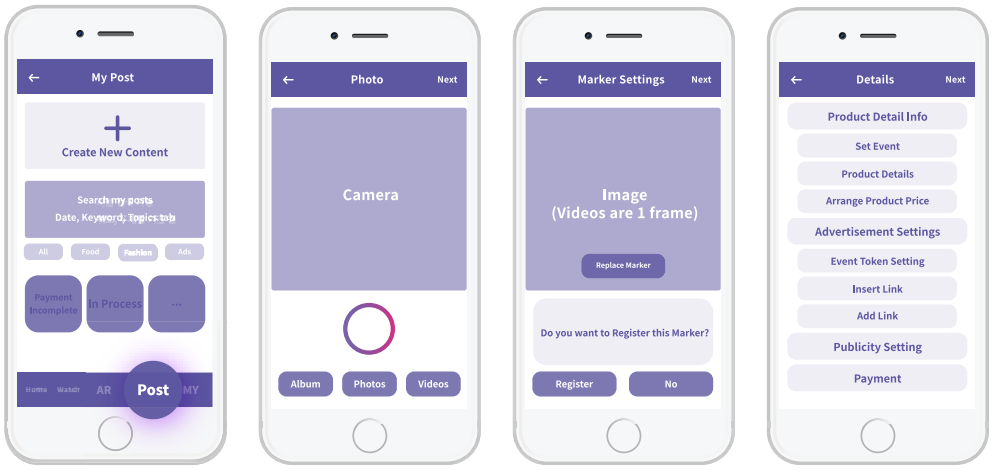
5. Scanetchain Content Distribution

Scanetchain provides users an automated notarization system based on the blockchain network to allow content creators to distribute contents directly to their accounts and timelines. As a result, general users are legitimately notarized as content owners, can directly price their content, and receive compensation according to the response of other users to their content. As a result, copyright holders such as writers, artists, developers and various content creators build an environment where one-person content creators can actively participate in the open content market where profits transact directly.
Also, you can order photo magnets with SWCs that match your online content as matching data and sell them offline, or you can order and store your content on the social network timeline with other users' photo magnets.
In the offline environment, you can access content with augmented reality (AR) scans without complicated search process, so you can conveniently enjoy contents with markers in offline venues.

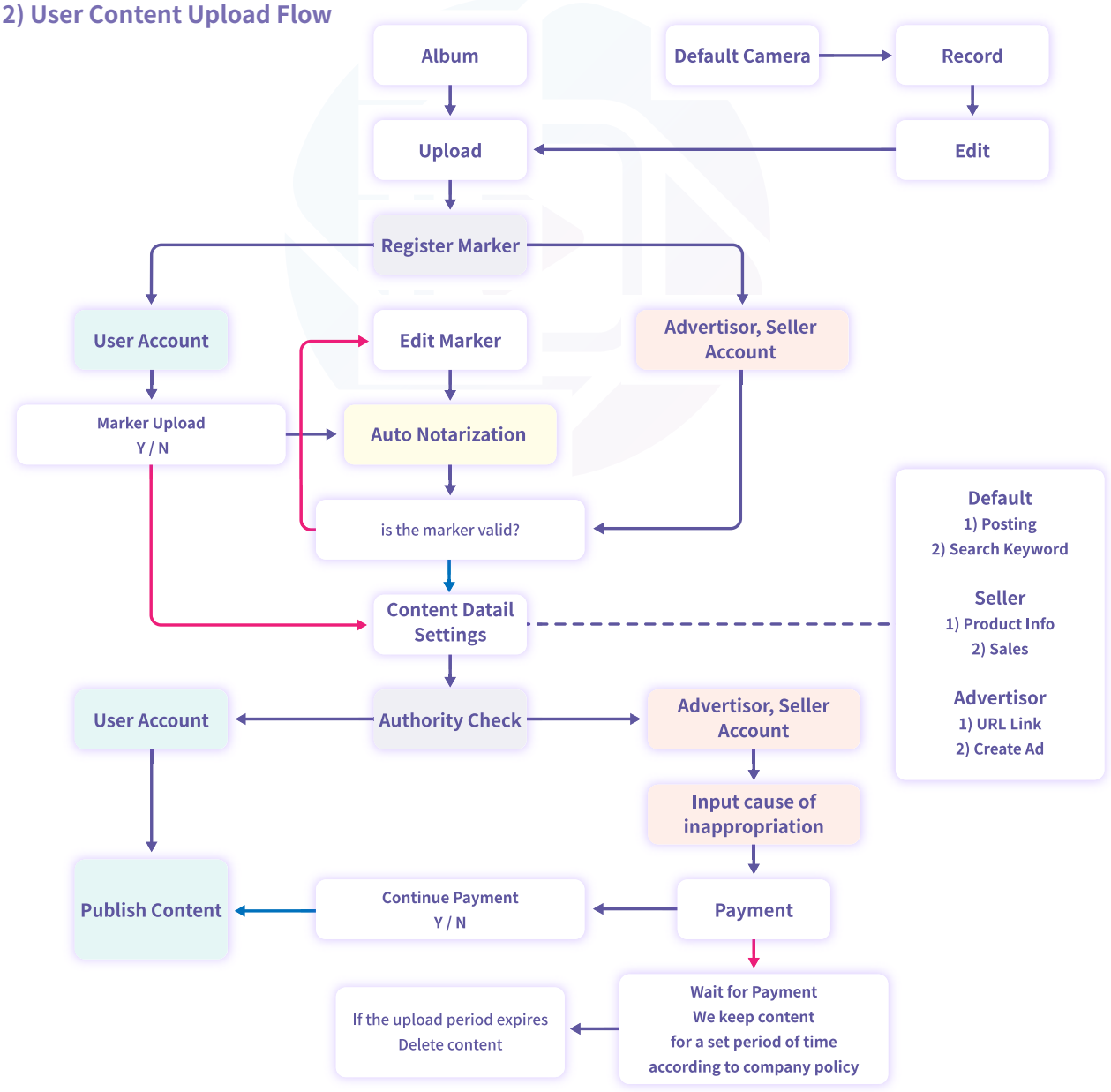
Service	Feature	Recieve	Use
Content Distribution	Order Photo Magnet		○
	Other Account Order My Photo Magnet	○	
	Other Account Like my Comment	○	
	Other Account Share my Post	○	
	Buy Other Account Contents		○
	Sell Auto-Notarized Content	○	

1) Content Upload UI

All users can easily register content registration details through smartphones with a simple UI.



2) User Content Upload Flow



9. Strategy

1. Providing APIs

Scanetchain provides a compelling, simple API to connect traditional industries into blockchains based on NEM Foundation blockchain technologies. In particular, the Open API module offers Scan-Ledger technology, which combines offline with AR scan to online blockchain world, so the global shopping malls and advertising platforms can connect to the blockchain promptly.

2. Launch Scanetchain's Branch Globally

Scanetchain is an AR blockchain with no distinction between online and offline domains and is a platform that can revolutionize advertising and shopping services.
It will offer an API to existing online shopping mall partners or advertising platforms in countries around the world that are suitable, and it is the platform model that maximizes expansion through linking and attaching existing platforms.
It is a blockchain network in which all platforms become one.
All ecosystems on the Scanetchain use SWC as currency.
Scanetchain is an actual blockchain platform and the first business model to be commercialized.
We will launch branch offices in major countries for fluent global services of Scanetchain.

10. Members & Advisors

David Ham
CEO

Samsung SDS
Head of Global Blockchain Business Development
- Global expansion of Nexledger Blockchain
- Establish key partnerships with global cloud infrastructure providers - Microsoft, Amazon AWS
- Member of Hyperledger, Enterprise Ethereum Alliance (EEA)
- Build key reference accounts with global financial institutions - Barclays, Post Finance, DNB Bank, JP Morgan
- Head of Business Development EMEA
- business development and sales of SDS Enterprise Mobile Solutions at EMEA

SK Planet – 11ST : Manager / Global Partnerships / Alliances
- 11ST Global Planning Group
- Global Partnership with - Nordstrom, Overstock.com, Revolve, Urban Outfitters
- Global Business Development, Location Based Services
- Global B2B partnerships for SK Planet's Real Time Traffic - Information and TMap Open Platform API
- Co-founder of Kointek - Crypto Currency ATM, Wallet, Liquidity Services

Rogers Communications Inc.
- Commercial Account Manager – Wireless Business Solutions

Bell Canada (BCE)
- Solutions Consultant
- Manage API and SDK exchange
- Business Development Manager - Ford, GM, BMW

Voxaura Technologies Inc.
- Cooperate Wireless Carrier Relationships - Telus, Bell Canada, Rogers, FIDO, Sprint, Verizon, T-Mobile

Victor Yang
Founder

- Samsung Multicampus Linux Specialist
- Hackerslab Hacker Academy 'Security Administrator Course'
- Nintendo Exclusive Distributor of Korea Official Development Agency of Nintendo Platform Korea
- Operation and Development of SKT M-Commerce 'GAME4263'
- Blockchain Media Token Post Advisor
- Blockchain Media EconoTimes Advisor

James K Jeong
Co-Founder

- Samina Global, Vice President
- GV Residence President
- Dodo point, Advisor
- Korea Economic Daily Newspaper, Advisor
- MBC Life Magazine, Columnist

Sonny Kwon
Chief Media Officer

- EconoTimes.com (Foreign economic news media)
- TokenPost.kr (BlockChainRelatedTechnologyandInformationMedia)
- kchain.kr (BlockchainintegratedSIspecialist)
- Giving Ledger (Block Chain P2P Support Platform)
- International Business Times (Newsweek Media Group) NewYork - Head of Business Development
- IBINVESTOR (Incubator/Futures Introducing Broker) NewYork : COO : IBTRADE (NFA ID: 0421482) Foreign exchange futures investors

SangIl Kim
CFO/CPA/CTA

- Samil PricewaterhouseCoopers S.M - Audit & Taxation
- Dehyun Accounting Corporation - Audit & Taxation
- Serin Accounting Corporation - Audit & Taxation
- Taesung Accounting Corporation - Audit & Taxation

Jason H. Jang
CIO

- Global Blockchain Foundation - Ambassador
- PAYX Foundation -Chief Information Officer
- KCX - Chief Information Officer
- KBM Block - Chief Information Officer
- ENGDIA PLUS - Chief Executive Officer

ByungKi Hong
CTO

- Nexon | Server Development
- SK Networks | Development of 'Skopi' Mobile
- KTF | Securities Development
- Olleh KT Develop security services infrastructure of DBDM
- Korea Institute of Industrial Technology
  Develop Control Board of Honeywell HG1700AG

DongHyon Lee
APP Development

- NHNEntertainment | Unity Development Director of MORPG 'Karim Expedition'
- JoyMax | Mobile Contents Director of MORPG 'KOS (Knight of Silkroad)'
- ActozSoft | Contents Director of MMORPG 'Wild Planet'
- Gravity | Contents Director of MMORPG 'Rose Online'

JiWoong Park
Commercial server development

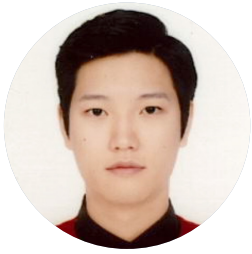
- Specialist for Commercialized Server
- Development of KBS advertising separation system
- KT olleh seamless interlocking development
- KBS New Media Integrated CMS 2nd stage development
- Development of SKT Multimedia Mobile JUNE Service
- Development of financial information media service based on DMC
- Development of KDDI BCMCS in Japan
- Developed APBW mobile portal in Taiwan

ChulHo Jung
Development of Realtime Streaming Server

- Multimedia Communication Streaming Expert
- 24 Years of Core Development
- Developed Streamer of SKT
- Developed Streamer of KTF
- Development of KT Olleh Stock Service
- Development of SKT Lifemate Service

Aaron Kang
App Development

- Polaris Office Mac OS, IOS version development / DIOTEK
  - OCR(Optical Character Recognition)
    Engine Research Development
  - Video Processing Research/Development
  - Android, JNI Development
  - Windows OCR Engine Data Analysis Tool Development



Pureum Kim
App Development

- Aiara Development Team Manager
- Pagoda App / Server
- E-mart AR App / Back-end
- Hyundai Card AR App / Server
- Everland AR App / Server
- Aiara Gorilla AR App / Server
- Aiara CrayonPang AR App / Server

Cynthia Lee
Planning Manager

- PIXEF Production Planner
- Textory App Planner
- Textory UI/UX

Alex Lee
Planning Manager

- Korea Aerotech Co., Ltd. / Planning Dpt.
- Project planning & development
- Ace Engineering Co., Ltd. / Overseas Business Dpt.
- Project Planning & Management
  - Myanmar, Uganda, Sri Lanka, Iran

Vincent Lee
Designer / Art Director

- PIXEF Production Designer
- Genting Group Resort World Sentosa Brochure Designer
- TextoryUI/UX, Designer
- Ciel Animation AD Movie Art Director

John J.S
Business Development Team

- Media Planner & Fundraiser - MBC,Foreign Affairs Departments
- Media Coordinator of KOCCA, AMI Asia Project
- International Project Manager in Europe
- VR Contents/Performance Producer of Samsung VR,VerumVisum
- Universal Cross Media Concept Designing Producer
- Author of The Seasaw Game

Helene Ravn Petterson
Business Development Team

- Analyst of Copy-dan Node Department
- Embassy of the Republic of Korea to Denmark
- Analyst at The Technical University of Denmark
- Hanyang University, MA
- University of Copenhagen, BA

11. Advisors

ChanSik Ahn
Lawyer

- New York Cornell Law School (LL.M.)
- Leader of Technology and Communication Department at 'Cheung Jeong' Law firm
- Blockchain, Augmented Reality, Virtual Money, Specialist Big Data, PinTech, etc.
- ICON ICO, Metaps+ ICO, Aston ICO Legal advisor

Andy Tian
Advisor

- Group CEO - Asia Innovations Group
- Zynga - General Manager, Zynga China
- President and Co-Founder of XPD Media
- Google - Strategic Partnership Development Manager
- BCG - Consultant
- Head of Gifto Project

Will O'Brien
Advisor

- Crypto Expert, High Growth Tech Executive, Angel Investor
- Limited Partner and Senior Strategic Advisor of Blockchain Capital
- COO of Keen IO
- CEO & Co-Founder of BitGo
- Senior Vice President and General Manager of Big Fish Games (acquired by Churchill Downs, NASDAQ: CHDN)
- General Manager, Social Games of TrialPay (acquired by Visa, NSYE:V)
- Entrepreneur in Residence of Highland Capital Partners
- Senior Consultant of Random Walk Computing, Inc. (acquired by Accenture, NASDAQ:ACN
- Massachusetts Institute of Technology - Sloan School of Management MBA Entrepreurship & Innovation
- Harvard University BA, Cum Laude Computer Science)

Alex Lightmen
Advisor

- CEO of Token Communities and chairman of NextHash and Smart Green Cities Ltd.
- Advisor to 20+ companies on coin and token offerings
- VR/AR Producer and pioneer
- Author of 4G wireless: Brave New Unwired World, Reconciliation, and Augmented: Life In The Smart Lane
- Graduated at MIT and Havard.

12. Strategic Investors

HwaYoung Kim
A private investor

- CEO of Corp. K Cube Holdings

Jeff McDonald
Investor

- Vice President of NEM foundation
- Manage and oversee operations of the NEM Foundation
- Oversee wallet production for iOS, Android, Windows, Mac, and Linux platforms
- CTO of LUXTAG
- Developing and applying patents related to Blockchain certificates

Sonny Kwon
Investor

- International Business Times (Newsweek Media Group) NewYork
  - Head of Business Development
- IBINVESTOR (Incubator/Futures Introducing Broker) NewYork : COO
  : IBTRADE (NFA ID: 0421482) Foreign exchange futures investors

13. Partners


KCHAIN

nem

BitClave

GIFTO

TRICUBICS

REITIUM

Cozystay

FIA
(주)피아 미디어그룹

OVERNODES

TOKENPOST

ECONOTIMES

alphapulse (India)

willson
INTELLIGENCE

MANDTMEDIA

HMP LAW | 법무법인 충정

신한금융그룹

ryptono
EXCHANGE

KED RERI
한경부동산연구소
KED Real Estate Research Institute

Real Estate
Blockchain
Institute

HOSHO

Penta SECURITY
enterprise · iot · blockchain

SIRIN LABS

MT 머니투데이

HEX
Health Evolution on X.blockchain

COUPON CHAIN

amazon
web services

ShuShu Kids
Simply Pure & Stylish

Jaxx

IDAX

ifashion
group

blockCommerce

nupay

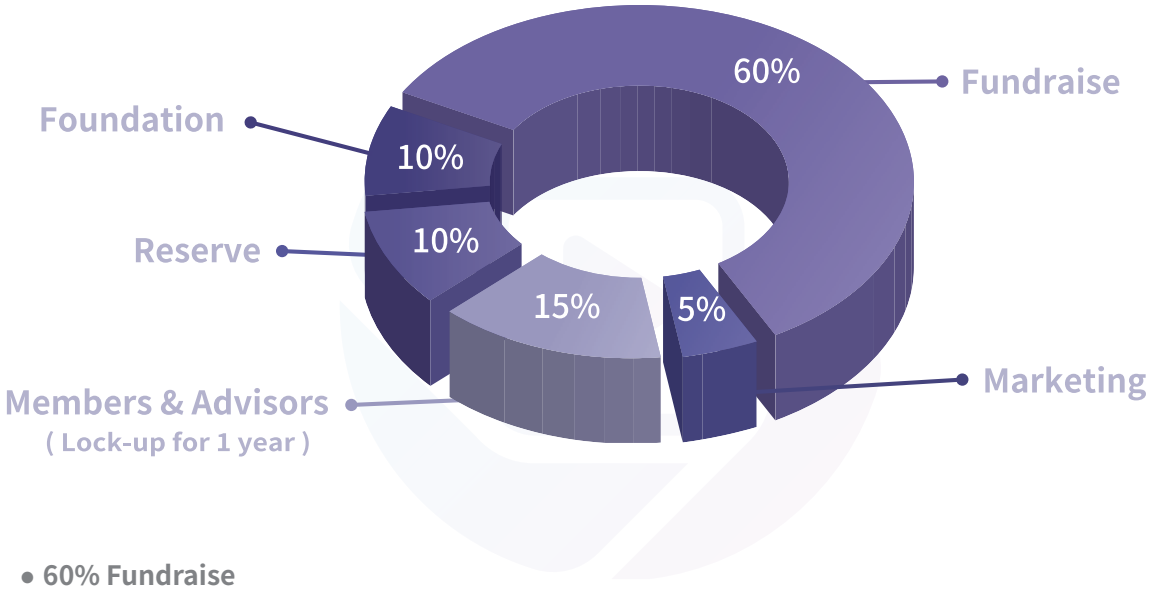
vodix

14. Scanetchain Token(SWC) Release

1. Scanetchain Token

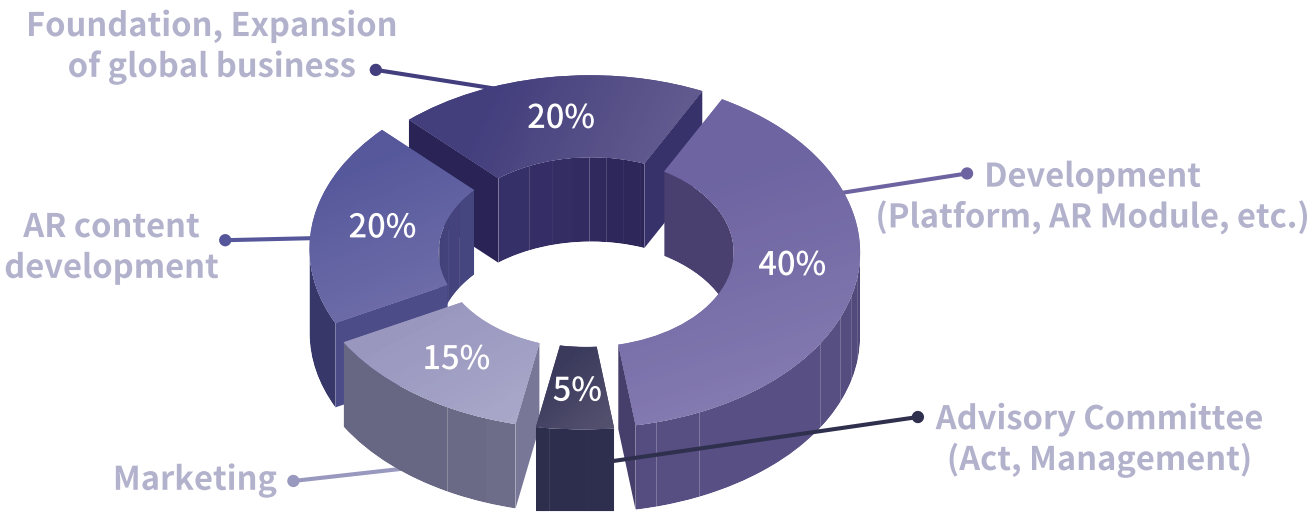
- Symbol : Scanet World Coin (SWC)
- Hard Cap : 600,000,000 SWC
- Total Issuance : 1,000,000,000 SWC
- Soft Cap : 40,000,000 SWC
- Token Sales : 600,000,000 SWC (60% of Total Issuance)

2. Token Allocation



- **60% Fundraise**
  : Public Token Sale
- **10% Foundation**
  : Business costs (infrastructure, labor, software, accounting, legal)
  : Market research, operating expenses, employee training
- **5% Marketing**
  : Production of commercial, Marketing Contents, operation of homepage and social network, press media promotion, Advertisements
- **15% Members & Advisors(Lock-up for 1year)**
  : Developers, managers, staff, advisory committees, incentives, etc.
  ->Lock-up for 1 year
- **10% Reserve**
  : Retention for the ecosystem

3. Funds Allocation



- **Foundation, Expansion of global business 20%**
  : Advertising and social networking services are available without borders, The commerce shopping division will collaborate with local top shopping mall partners in each country. Therefore, branch offices will be established from major countries. After the establishment of branch offices, we will start advertisement business and social network local marketing business in each country.
- **AR content development 20%**
  : As an AR blockchain, we will release advertising and shopping services that sync online and offline based on user social network. We will develop AR contents to meet the needs of users and achieve broad user base. A platform that owns self-developed content can expand and scale more broadly
- **Marketing 15%**
  : Marketing is important to continuously expand the platform by attracting users. Advertisers and sellers also need to have more users to get more needs into the platform Continuous press media marketing is essential for linking with other platforms and boosting brand experience.
- **Development (Platform, AR Module, etc.) 40%**
  : Instead of downloading like existing AR businesses, we will develop a streaming server that serves streaming like YouTube. With the development of advanced AR camera module, to service 2D image marking as well as 3D object and surface recognition consistent development is required. Research and development of custom APIs for the expansion of hybrid blockchain to create a platform that enables seamless scaling
- **Advisory Committee (Act, Management) 5%**
  : Advisory committees on law and operations to ensure a safe and fluent global platform operation.

4. Token Sale Roadmap

Stage 1 (Private Sale)

Duration : 2018/04/09 ~ 2018/05/13

Currency Accepted : ETH

SWC Price : 1 ETH = 7,941 SWC

Stage 2 (Pre-Sale)

Duration : 2018/05/14 ~ 2018/08/09

Currencies Accepted : ETH, BTC, XEM

SWC Price : 2018/05/14 ~ 2018/05/18 : 1 ETH = 6,109 SWC / 1 BTC = 110,107 SWC / 1 XEM = 3 SWC

2018/05/19 ~ 2018/05/23 : 1 ETH = 5,672 SWC / 1 BTC = 102,242 SWC / 1 XEM = 3 SWC

2018/05/24 ~ 2018/08/09 : 1 ETH = 5,294 SWC / 1 BTC = 95,426 SWC / 1 XEM = 3 SWC

Stage 3 (Crowdsale)

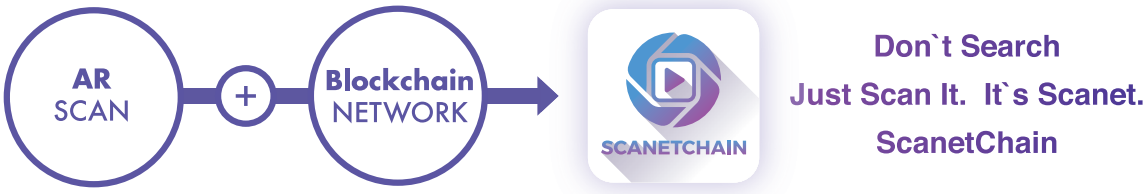
Duration : 2018/08/10 ~ 2018/09/10

Currencies Accepted : ETH, BTC, XEM

SWC Price : 1 ETH = 4,963 SWC / 1 BTC = 89,462 SWC / 1 XEM = 1.7 SWC

*Unsold Tokens Lock-up for 2 years for future ecosystem circulation

15. Brand



The world's first Commercialized AR Dapp based on blockchain interworking Online and Offline platforms in Real-time.

16. Roadmap

- **2017** Market Research Completed
  - Organize Team
  - Start Development of AR Commercial App
  - Start Development of AR Global Platform based on NEM Blockchain
- **Mar 2018** Whitepaper Published
- **Apr 2018** Private Sale
- **May 2018** Private Sale & Pre-Sale
- **Jun 2018** Pre Sale, Complete Development of AR Commercial App
- **Jul 2018** Pre Sale, AR Complete Development of Commercial App Cloud Streaming Server
- **Aug 2018** Public Sale, Expand Partnership for Global AR Advertising System
- **Sep 2018** Start Business of AR Commercial Platform in Singapore
  - Expand Partnership of AR Commercial Platform in The U.S.
  - Expand Partnership of AR Commercial Platform in Korea
- **Oct 2018** Expand Partnership of AR Commercial Platform in Europe
  - Expand Partnership of AR Commercial Platform in Japan
- **Dec 2018** Expand Partnership of AR Commercial Platform in South-East Asia
  - Expand Partnership of AR Commercial Platform in Mid-East Asia
- **Feb 2019** Complete Development of Scanetchain AR Social Global Platform based on Blockchain
  - First Test Period
- **Apr 2019** Second Test Period After Modification
- **Jun 2019** Scanetchain Platform Global Service Grand OPEN
  - Expand Globally though Business Alliance
- **2020** Establish Global Branch Successively

17. Limitation of Company's Liability

A. Scanetchain Corporation Co.,Ltd.("Company") shall in no event nor for any reason whatsoever be liable, even if the Company has been advised of the possibility of such damages, losses or expenses, for any damages, loss or expense, including direct, indirect, special, or consequential damage, or economic loss, arising from or in connection with: (i) SWC Tokens("Token"), the Token sale conducted by the Company and/or the Scanetchain Ecosystem; (ii) any system, server or connection failure, error, omission, interruption, delay in transmission, computer virus or other malicious, destructive or corrupting code, agent program or macros; or (iii) any images, services, products, information, data or other material made available by the Company.

B. Without prejudice to the generality of the foregoing, you will not hold the Company or its related corporations and their officers, employees or agents responsible or liable, in contract, tort (including negligence or breach of statutory duty), equity or otherwise, for any damages, losses, expenses or costs (whether direct or indirect, or whether foreseeable or not) suffered or incurred by you arising out of or in connection with: (i) the purchase or the use of the Token, by you or other third party; or (ii) the Scanetchain Ecosystem or your use thereof or any third-party uses of the Scanetchain Ecosystem.

C. By purchasing, holding and using the Token, purchasers, holders or users of the Token ("they") expressly acknowledge and assume the risks set out belolw. If any of these risks, or other additional risks presently regarded to be immaterial actually materialize, the commercial viability of the Scanetchain project and/or the Scanetchain Ecosystem may be materially and adversely affected, and could result in the failure of the Token Sale, the destruction of the Token and/or the termination of the development or operation of the Scanetchain project and/or the Scanetchain Ecosystem. Company is not liable to the risks that they take by purchasing, holding or using the Token. Details of each risk are explained in Terms & Conditions of the Token.

1. Risk associated with the development and operation of the Scanetchain project and/or the Scanetchain Ecosystem
2. Risks arising from no governance rights
3. Risk of failure, abandonment or delay of the Scanetchain project
4. Risk associated with the NEM blockchain
5. Regulatory risks
6. Risks associated with other applications
7. Risk of Loss of private key
8. Risk of hacking and security weaknesses
9. Risks associated with taxation
10. Risks associated with volatility of ETH, BTC or XEM
11. Technology risks

D. Any other liability, risks or warranty are stated in Terms & Conditions.