



Monopoly

Technical Whitepaper

Monopoly Team

Version 1.0

1.Introduction

Investing in real estate is known for having a high-level entry point. Whilst investing in cryptocurrencies can give investors the necessary means to increase their portfolio by starting at a low entry point, there is seemingly no way to currently bridge the gap between the two, and find a middle ground to make it easily accessible for the masses.

Monopoly addresses this problem and attempts to solve it via an HRC20 token utilized and minted from the Harmony Protocol.

Our mission is to make Real Estate investing accessible for cryptocurrency investors via a dedicated platform (to be released). The platform will perform the signing of smart contracts to purchase and sell Real Estate properties, cutting out the middleman and unnecessary estate agency fees, whilst letting the seller keep 100% of the profits in a truly decentralized manner and speeding up the process considerably. [Section 4].

There will be two main protocols in Monopoly within the first phase (VRS) [section 3.1] & (CP) [section 3.2].

With these protocols, Monopoly makes the procedure of entering the Real Estate market accessible for a Monopoly (MPLY) holder, and to gain access to the property ladder, along with having the option to opt-in to true, residual passive income on a fixed-term basis (VRS) via our dedicated platform.

Buying into Real Estate is becoming increasingly more difficult every year due to inflation as shown in a recent example by the UK.gov housing price index.

The UK house prices increased by 10.2% in the year of March 2021, up from 9.2% in February 2021. On a non-seasonally adjusted basis, average house prices in the UK increased by 1.8% between February and March 2021, compared with an increase of 0.9% during the same period a year earlier (February and March 2020.) [Reference 1.]The data provided is a clear indication that it is becoming harder for investors to start building their portfolio due to inflation.

Monopoly Protocol aims to bridge the gap between cryptocurrency and Real Estate by creating its own HRC20 token utilized off of the Harmony Protocol and minted via ript.io [section 5]. This will be made possible due to Harmony Protocol having 2 second instant finality.

[Reference: 1.1]

Why Harmony?

Harmony is an open blockchain for decentralized applications.

Harmony was built from the ground up to solve the Blockchain Trilemma.

The Blockchain Trilemma addresses the challenges developers face in creating a blockchain that is scalable, decentralized and secure – without compromising on any facet.

Blockchains are often forced to make trade-offs that prevent them from achieving all 3 aspects:

Decentralized: creating a blockchain system that does not rely on a central point of control.

Scalable: the ability for a blockchain system to handle an ever increasing number of transactions.

Secure: the ability of the blockchain system to operate as expected, defend itself from attacks, bugs, and other unforeseen issues.

The Blockchain Trilemma is also addressed in the Monopoly Protocol not just by utilizing the Harmony Protocol but by our dedicated platform with a process that confines all aspects.

2.Ript.io - HRC20 Token

The Monopoly Token (MPLY) was minted via <https://ript.io/> which is the first Harmony dApp warehouse. It is truly decentralized as they do not utilize a database and all information is client-side to external API's.

We chose <https://ript.io/> to mint our token because of this very reason. For a small fee HRC20 tokens can be created seamlessly and fast due to Harmony's 2 second instant finality. With a combination of these, the Monopoly (MPLY) HRC20 token was created.

3.Monopoly Protocols:

3.1 - (VRS) Virtual Real Estate:

Our current state VRS uses a capped percentage protocol for properties that can be listed on our dedicated platform via the VRS contracts.

How it works:

The protocol is the process where an MPLY holder can have the ability to opt-in to a VRS contract, where, just like NFT's (non-fungible tokens) you own the "rights" to a percentage of the property. With this, you can earn true, residual passive income on a fixed-term basis where your tokens are locked in for a 3 monthly term each time (if the holder decides to opt-out). This results in a stable return based on the percentage you opted in for.

VRS contract:

The use-case behind VRS is that Monopoly can sell a property on our dedicated platform using the CP protocol. If the property has the VRS contract applied to it, then that specific property can be sold in partitions, at a capped maximum of 30% per MPLY holder, so a MPLY holder can only buy in 30% of the VRS contract from one contract address. Which in result encourages the pool to be accessed by holders who may not have a large sum of MPLY.

A VRS contract address is designated and assigned to the property up for sale. Monopoly holds this address for security. The address works as a pool where MPLY holders can buy into the VRS contract at a percentage maximum capped at 30% per address. Once the pool has reached 100% capacity the property is then “sold” and the MPLY holders who opted into the VRS will then earn the rights to sustain a 3-monthly fixed income. This is implemented by putting the sold property up for rental. The property's rental price is where you can calculate the return on investment.

EXAMPLE:

A £100,000 property is sold via the VRS protocol. This property is then rented to tenants for a fixed yearly contract at £4000 a month.

As an MPLY VRS investor who purchased 5% of the property (5% of total property value) the MPLY VRS investor will then receive 5% of the £4000 a month, residual passive income each month.

In this example 5% of £4000 (£200) will be sent to the VRS investor via MPLY each month. So the VRS investor will receive £200 worth of MPLY (5%) to their chosen address.

The Formula to calculate this is:

Amount invested - %

Monthly rent - MR

Total income earned - TI

X - variable

Firstly you will need to find % amount invested To do this you take the initial investment of MPLY which equates to your (£X) investment. Then divide that by the amount of monthly rent assigned to the property (MR). Once you have the initial percentage (%) invested, you can then apply % to the formula below to calculate your monthly return.

$\% / MR = TI$.

This works similarly to staking rewards on the Harmony network, [reference: 1.2] where there are many validators out there offering double-digit % APY.

The problem with staking is that it can fall victim to deflation and their overall percentage on APY can fall over time. This is where we introduced EPY (Earnings per year).

EPY- Earnings per year:

MPLY offers an alternative for investors who want to benefit from the Harmony platform which provides low gas fees & 2 second transactions, but want a passive income based on real-world economics, resulting in stable returns without surprises.

3.2 - CP:

CP protocol (Crypto property) -

Crypto property protocol is where an MPLY holder can buy a property via our dedicated platform. This can be achieved by simply signing a smart contract that will be unequally designated to the asset. Monopoly will deal with assigning the keys over to the new property owner along with everything involved. Once the smart contract has been completed the property is then legally yours to own. We use the smart contract as a means of confirming the agreement.

CP protocol will also cover the selling of properties so buying a property can be done with a simple click of a button. We will assign a property seller a time period, where their pool can be filled to 100% capacity if they choose the VRS option, but in the main use-case a seller will make an agreement to sell their property on our dedicated platform in which they will then put up for listing with images and details about the property. When an investor wants to purchase a property the seller receives 100% of the profits once an MPLY holder signs the full amount assigned to the smart contract.

4.Monopoly Platform

The dApp Monopoly platform will be a decentralized web application for the buying and selling of retail properties, along with VRS EPY returns.

The way our dApp works is by utilizing the signing of smart contracts to confirm the purchase of the asset via the harmony explorer.

5.Future phases

Monopoly Protocol is currently in phase 1. Phase one is the implementation of bridging the gap between Real Estate and Cryptocurrency investors making it easily accessible on a global scale. Phase one also includes the first roadmap, which will be shown via our website.

Phase 2 is an implementation of the ability to buy and purchase vehicles via our dedicated platform along with our own NFT dApp. This is to be released in the future as our current focus is on VRS & CP protocols.

References:

[1.]

<https://www.gov.uk/government/statistics/uk-house-price-index-summary-march-2021/uk-house-price-index-summary-march-2021>

[1.1]

<https://github.com/harmony-one/harmony/issues/3722>

[1.2]

<https://docs.harmony.one/home/network/delegator/staking/staking-faq>