Marguerite deCourcelle
F473 (FATE) (2021) Manual

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What Components Come With This Purchase

- Three (03) Polygon Network ERC1155 tokens, which grant the ability to initiate a replay of the game that launches upon purchase

- All of the source code and media files that make up the artwork, including the NFT, smart contract, and game.

- As a supplement, if the collector is interested, a tangible painting, also entitled F473 is available with purchase of the game.

What are essential components?
Essential components are the features of the artwork, whether hardware, software, or conceptual, that define the work itself. These components are often irreplaceable or, under the care of the artist or a conservator, must be replaced with an identical component. Otherwise, this compromises the integrity of the work and there is a risk that Marguerite DeCourcelle will no longer recognize this iteration of F473 as her own.

What are dedicated components?
Dedicated components are components required for the operation of an artwork designated for use with only that unique artwork. These can only change at the discretion of the artist. Otherwise, this compromises the integrity of the work and there is a risk that Marguerite DeCourcelle will no longer recognize this iteration of F473 as her own.

What are historical components?
These are components of a work of art that are neither dedicated or essential but represent specific historical iterations of the work.

Hardware

1. There are no dedicated or essential hardware components associated with this purchase

Software

1. Build Contents are available under IPNS CID:
   ipns://k51qzi5uqu5djyk5kj4d5dvad8ev3g2zfyu0ktrusqpwg3qdewd68772mdthhu

2. Preview Images for Character & H34R7 Tokens Created through the Game of F473:
   ipfs://Qma9mkSrYwSTgnYKprYdhKowdM8wBzd5H5NNyatnjGBDKP

3. Still Preview Image for F473:
   ipfs://QmeAdL1zF7Rdwbmx8i7rw5YakA3YXqtEspmbspd1HkBmd7

4. Metadata Files for F473 and the Replay Token:
   ipns://k51qzi5uqu5dhvtw5g70675mx94d6k2levu1vp7nwtj2pwn59u4qyk5n7thwqk

5. Source Code & Source Media Files, within the folder pointed here:
   ipns://k51qzi5uqu5dic7p3v7cbpp9xjmbiurvi28p574jqpuqdlzp8soef6uxvgbpl7

   The folder is zipped. For fully uncompressed file transfer, contact the artist studio or

estate

6. There are additional components, relevant to the crypto puzzle hidden within F473, which may contain spoilers and are not referenced here. For access to these documents, please contact the artist.

   There are no essential or dedicated software containers, codecs or programming languages as long as visual behaviors, color space, content, frame rates, and durations are maintained. All delivered components originating from 2021 are historical.

Proprietary Components and Dependencies

What is a Dependency?

A dependency in this case refers to an inability to run the executable files without additional software, often non-proprietary to the artist. Dependencies are more difficult to control, as they are not created by the artist and their team but require the artwork to be fully activated.

Software Dependencies

- Interaction with the game itself is network dependent and works in all well adopted browsers as of 2021 that are compatible with metamask, namely Google Chrome and Mozilla Firefox. The work primarily uses React.JS and JavaScript, which, as of 2021 remain supported in networked environments

- For the original release of the artwork, the Polygon Network is required to be online and running. The polygon contracts for F473 use the ERC-1155 standard.

- For the original release of the artwork, IPFS (InterPlanetary File System) is required to be online and accessible

- For the software as designed, a compatible web browser such as Chrome or Mozilla Firefox with the ability to read and render JavaScript, CSS 3.0, and HTML 5.0 - all technologies in their state in 2021. PNG, JPEG, GIF, Mp3, WebM (html5 video, Vorbis) files also must be supported by the chosen browser to display all game components.

- For the software as designed, access to an Ethereum & Polygon-enabled wallet such as Metamask is required to interact with the game

Instructions for Use

All documented behaviors in detail are not currently available.

How to interact with F473

WHAT IS THE GAME OF F473?

The Game of F473 is an endless love story woven through space and time. In the Game of F473, characters live their daily lives in solitude, as they pine after one another, and as they find love together.

F473 is a blockchain game that runs on the Polygon Network, a sidechain to Ethereum. In this game, players collect Character Cards, matchmake Pair Characters together to generate H34R7S (Hearts), and tribute H34R7S on Level 9 to help Characters fight for their love.

To win the game, all players must collectively earn and tribute H34R7S to a Couple on Level 9 and fill the Couple's Love Meter to 100%.

RULES

The Game of F473 plays automatically, on loop endlessly, until the game is over. F473 consists of 9 Levels and an Intermission. Players have actions available to them during all parts of the game, but are limited based on the current Level and Cards available on the screen.

As a player, you can only make one Dedicated Action per Level. Dedicated Actions are the following:

1. Claiming a Character Card - Any of Solo, Pair, or Couple
2. Roll - This action alters the random number used in future levels, and can be used during Intermission

You can also take any of the other following actions at any time the game board is present:

1. Gain H34R7S - Tribute two matching Pair Characters (two of yours, or one of yours and someone else's)

2. Tribute H34R7S - Tribute H34R7S to the Character to fill up the Love Meter (Level 9 Only)

3. Light Up the City - Send a H34R7 to an empty region of the city to light it up in the color of the H34R7

ALLOWLIST

Only players who are on the Allowlist may play. To be added to the allowlist, you must either be added manually, or someone must send you a H34R7.

CHARACTER CARDS IN F473

In this game, players collect Character Cards, of which there are three kinds: Solo, Pair, and Couple.

- Solo Characters live their lives in solitude, either contently or wistfully.
- Pair Characters have a love interest in another Pair Character card in the game.
- Couple Characters have found each other and fight for their love.

To obtain a Character card, each type of Character can only be obtained within certain times and by specific means:

- Solo Characters can be collected at any point during Levels 1 through 9 and cost nothing as tribute.
- Pair Characters can only be collected during Levels 4 through 9, and cost two (2) Solo Cards as a tribute.
- Couple Characters can only be collected during Levels 7 through 9, and cost one (1) of any card as a tribute, however the act of claiming one on Level 9 will speed up the decay of the "Love Meter".

H34R7S (HEARTS) IN F473

H34R7S can only be obtained by matchmaking Pair Characters together, which you can do by tributing your own two Pair Characters, or one of your own and one owned by someone else. If you match two of your own, you receive two (2) H34R7S, and if you match one of your own and one of someone else's, you each receive one (1) H34R7.

H34R7S are required to end the game. During Level 9, enough H34R7S must be tributed to a Couple Character to fill up their "Love Meter" to 100% and free them from the simulation. Once this happens, the game is over.

During Level 9, if a Solo or Pair Character appear, their Love Meter can be filled up to 100% so that they can find love, and a new Character will appear somewhere else on the game board.

H34R7S can also be used to light up the cityscape behind the characters, even after the game is over. Click on any empty region of the game board (without a character) and you can send a H34R7 to light up that part of the city in the same color as the H34R7 tributed. Lighting up the city in a specific pattern will restart the simulation of the Game of F473, but only until the final, hidden puzzle is solved.

WINNING THE GAME OF F473

To win the game, all players must collectively earn and tribute H34R7S to a Couple on Level 9 to fill the Couple's Love Meter to 100%. During Level 9, if a Solo or Pair Character appear, their Love Meter can be filled up to 100%, and a new Character will appear somewhere else on the game board.

When players claim the Character on Level 9, it causes the Love Meter to Decay and lose some of the H34R7S sent to it. The Decay Rate starts at one (1) H34R7 per Character Claim. If a Couple Card is claimed by a player, this Decay increases by one (1) each time a player claims the Character.

AFTER THE GAME OF F473

F473 contains a hidden series of puzzles for players to discover and solve. The puzzle trail requires the solver to uncover a private key that leads to a monetary cryptocurrency prize. There are two puzzle trails. When the first puzzle trail is solved, the Game of F473 ends, and the final ending sequence is played.

If No Longer Supported

F473 can be migrated in all predicted circumstances. Migration is discussed below, and the artwork and associated game can also be accessed and reconstructed from the source materials using a single computer. If Polygon or even smart contracts at large are no longer supported, as long as the codebase can operate on a node, the work should not be retired.

Migration

Migration of the game is possible by deploying the smart contracts to a new location. Ideally, the work should not be migrated under any circumstances unless necessary due to obsolescence. If Polygon is still available, the codebase should remain deployed on Polygon. If Polygon is no longer accessible, F473 can be deployed on another blockchain, protocol, or solution if necessary. If blockchain technology is no longer supported or would not support game components, at this point the work can be migrated to a node and accessed in spite of blockchain technology. All instructions are included with the source code for deploying to a new location in the event that there's a desire to deploy to a private network or an alternative network.

In the event that the original network is no longer accessible, it is possible to use the software included with the program to deploy a local running version of the smart contract on a private network. Further, it is possible to deploy the contract to any other Ethereum Virtual

Machine-compatible network. However, the Solidity language and EVM compilers are changing rapidly in the early years of programmable smart contracts, and they may need either an update or access to a transpiler that can migrate the code, or an emulator or an earlier version of the network software to compile and run the bytecode generated for the smart contract.

What it may look like if each component fails

The NFT and artwork will render a default, non-interactive view of the artwork's animated painting as a video, and in the event that the video does not load, the image of the painting. For any technical errors, contact the artist studio.

<u>Long Term File Preservation</u>

The files can be preserved long-term by storing in any external storage medium. As an aggregate, all files can be used to reconstruct the full game and the individual components, or to create variants that build on top of the existing files in the case of obsolescence and in conversation with the studio or estate in which clear iteration and version documentation would be taken. All image and video files are compressed, most of which are lossy. The artist studio will maintain the working files and therefore uncompressed and lossless versions if needed may be requested but are not initially included with purchase.

All files required to reconstruct the NFT and run the software are provided to the buyer upon sale. Further, the live original production of the NFT and game will be persistent on IPFS for a minimum of one (1) year through the artist studio following the sale. The creator and a technical contributor of the project will also hold their own copies of the project as further redundancy: Marguerite DeCourcelle and Richard Benjamin Heidorn.

Upgrades

There are two paths to make sure the artwork will stay visible and usable over time:

1. The software can be updated to work with the changes in newer technology.
   a. Typically software changes are fairly small and trivial to update over time, especially in the first decade or two following software development.

2. Emulation and the ability to revert to earlier software state is keeping pace with all existing technology, such that it's possible to render the original work as initially designed using an emulation of technology developed in 2021.
3. All software dependencies and artifacts used to construct the smart contract and the code will be stored via decentralized networks for long-term storage and preservation.

Thumb Drives

At the time of initial sale in June 2021, a JSON link is included in the Token URI for the associated NFT. The JSON includes an IPFS Qm hash (sometimes called a content identifier or CID) representing the location where the full package of files is stored. This Qm hash includes all files associated with the sale of F473 on The InterPlanetary File System (IPFS).

We encourage that the collector download all files included on IPFS to their local drive, so that they can be uploaded to at least two external hard drives of their choice. These external drives should be kept in separate geographical locations, ideally multiple miles apart.

Files should be checked on annually and moved to new external drives every 3-5 years.

Pinning

As of 2021, unless the files are pinned on IPFS, they are not guaranteed to remain accessible. IPFS regularly deletes files that aren't pinned. To maintain the Qm hash/CID on IPFS, you as the collector will need to "pin" the purchased files if the value of the associated NFT on the Ethereum blockchain is of importance. The studio will guarantee pinning the files for 90 days, from June 3rd through September 3rd, 2021.

The best way to ensure your purchase remains pinned on IPFS is to take the Qm hashes (CID) included in the JSON file and add it to a pinning service account, such as Pinata. Due to the size of the F473 assets, the monthly cost to pin files may be a custom package. You can email team@pinata.cloud to set up your account and payment plan. Make sure all associated CIDs are pinned, which will also include the JSON itself. The JSON CID will be under the NFT Token URI.

Although redundancy of this package is possible through IPFS, collectors are also encouraged to store files through alternative methods, such as the external drive method mentioned above.

ARTIST SPECIFICATIONS

 Name of Artist:
Marguerite deCourcelle aka @coin_artist
F473: Traditional Artist, Concept, Game Design, Puzzle Design, Story
Bio: Artist, Creative Technologist and Game Designer who has created many firsts within the blockchain creator economy since 2014. She is internationally recognized for cultivating crypto art by BBC, MIT, NASA, and Bloomberg. She is credited for inventing cryptopuzzles and is currently the CEO of one of the earliest NFT game companies, Blockade Games since 2018. Her most renowned artwork is known as Torched H34R7S

Ben Heidorn aka @cybourgeoisie
F473: Blockchain Engineer & Lead Developer
Bio: CTO for Blockade Games, where he leads development and research. Ben led development for the first free-to-play NFT games on Ethereum sidechains, and developed the first Ethereum game to leverage Bitcoin Lightning Network to purchase NFTs. Ben has been writing code for 20 years, with a primary focus on blockchain applications since 2016, and left his CS PhD program in 2018 to co-found Blockade Games.

Kyle Chivers
F473: Art Director & Project Manager
Bio: A British entrepreneur and prior recipient of the prestigious Prince's Trust Natwest Enterprise Award. He is currently working with Blockade Games on their flagship video game title: Neon District.

Diego Rodriguez
F473: Digital Artist
Bio: One of the earliest known bitcoin artists, Diego has been producing Bitcoin art since 2012. He produced the first covers of Bitcoin Magazine. He is currently Lead Artist for Blockade Games focusing on the genre of cyberpunk. He has produced art for JWP, Evil Hat, and Atlas Games.

Diego Martinez
F473: Technical Artist & VFX
Bio: A Video Game Artist with more than 20 years of experience. He has contributed with his art to a very long list of titles in which we can count Nintendo and PS4 games and world-wide known I.P. 's. He's a 3D Artist, a 2D Artist, a VFX creator, Shader Crafter and StoryTeller. Creator of NoseBound the game and currently working on Neon District at Blockade Games.

Lee Sparks aka Motive
F473: Puzzle Designer
Bio: Previously a lead Game Producer at a AAA game studio, Motive now works on something top secret at Apple. He is an award winning puzzle designer and solver.

Antonio Roberts
F473: Digital Artist
Bio: An artist and curator based in Birmingham, UK, working primarily with video, code, and sound. He is critically engaged with the themes surrounding network culture and in his practice explores how technology continues to shape ideas of creation, ownership, and authorship.

Adam Gibbons
F473: Game & Site Engineer
Bio: A full stack developer for Blockade Games and lead front-end developer for Neon District.

TÉMA

F473: Sound Design & Musical Composition
Bio: A new anon project focused on audio-visual architecture within the emerging NFT economy. TÉMA boasts a decade of scoring music internationally and primarily uses Ableton software for production.

Rhea Myers
F473: Advisor
Bio: An artist, hacker and writer from the UK now based in Canada. She has been coding up crypto art since 2014 and works for a leading blockchain company in Vancouver, BC.

Simon Fremaux
F473: Advisor
Bio: A web3/solidity developer, founder of BeyondNFT an interactive NFT platform.

Address:
Upon Request from the artist studio

Email:
coin_artist@neondistrict.io

Phone number for Point of Contact:
Upon Request from the artist studio

Nationality of Artist(s):
American

Date of birth(s):
09/05/1985

Title of Work:
F473 (FATE)

Dates for Work:
April - May 2021

Duration:
- Final Video with the Couple Exiting: 00 minutes 29 seconds
- Final Video, Atmospheric loop: 00 minutes 29 seconds
- Game: No predetermined time, indefinite until completed (Generative)

Medium:

Born-digital game with generative elements using HTML, CSS, React.JS, Javascript, dedicated web page with GIFs, JPEGs, PNGs, WebM (html5 video, Vorbis), Mp3, and polygon smart contract

Number of editions of the artwork, including proofs:
Unique

Edition Number for Acquisition:
1/1

Date of Edition:
05/31/2021

Provenance for this Edition:
The artist studio as of 2021

Known Editions in other collections and its owners:
This is a unique work

1. **Please provide a brief description of the artwork contents:**
   a. Videos of the Painting and Animated video effects, music, and digital paintings
   b. Image of the Painting
   c. All code related to running the artwork
   d. Music for the piece
   e. Images of all Digital Painting pieces

2. **Please discuss the work's title:**
   F473 (FATE), the title, was chosen because it encompasses the signature letters for a coin_artist crypto puzzle as well as the theme of a time coming to a decisive end but driven by the means and interactions of the participants.

3. **Is this work a representative example of your work in this medium and during this period? Please explain.**

   Yes, this is a signature piece designed by coin_artist and her selected team which captures their industry knowledge they've acquired since early creative cryptocurrency experimentation beginning in 2014. This work combines the elements of incorporating encoded messages and functionality into both digital and physical art assets binding them to their status as blockchain assets both literally as well as figuratively.

4. **Is there a native aspect ratio to any of the components?**
    The majority of elements conform to a native 1:1 (Square) aspect ratio.

    The dimensions and applicable aspect ratios of individual elements is explored in full detail within the project's Technical Art Specifications, which can be sent upon request from the artist studio

5. **Explain how the artwork is interactive either with its environment or the collector?**
    a. The metadata for the NFT, which presents the artwork, also points to a web link where people may participate in the game of F473, which is a game stored on IPFS and interacted with over the Polygon Network via smart contracts.

        This game is ephemeral and can be restarted a limited number of times by the players or by the holder of an 1155 NFT that is granted to the purchaser of the F473 NFT at the conclusion of the auction. As players interact with the game, they affect the state and appearance of the in-game display and the artwork of the NFT.

        Instructions can be referenced above as well as the opening of the game itself.

6. **Does the artwork require network connection with the internet, another computer, or server? Explain.**
    a. The artwork is dynamic and changing, and is rendered in real-time with the current state of all players' interactions with the game on the Polygon (Matic) Network, which requires an Internet connection.

    b. Without an Internet connection, a default state of the artwork will be shown to the viewer.

    c. The tangible painting does not require an Internet connection.

7. **What operating system(s) (and version, if applicable) is required to run the artwork?**
    a. All operating systems with a graphical user interface and access to a modern web browser as of 2021 will be able to render the artwork.

8. **Does the artwork require the selection of any settings within the operating system(s) for the artwork to run properly?**
    a. Not that we are aware of, default OS settings should suffice as of 2021

9. **Does the artwork interact with any additional applications? If yes, describe them.**
    a. Yes, the state of the artwork is rendered according to the state of the associated game on the Polygon Network, which is a decentralized blockchain network

similar to Ethereum. The live view is stored and saved on the decentralized file storage network called InterPlanetary File System, or IPFS.

10. **Does the artwork reference any external databases or libraries not contained in the package?**
    a. Only the external decentralized networks: IPFS and Polygon Network.

11. **If the artwork requires access to the internet, please specify if any specific websites or APIs are accessed or used by the artwork.**
    a. Access to the decentralized network Polygon Network, which can be accessed via any compatible RPC endpoint or by running your own Polygon Network node. And access to IPFS, which is accessible by a number of distributed gateways.

12. **Is there any content that was sourced from found or pre-existing audio/visual materials? Describe.**
    a. Imagery
        i. Static imagery elements for this project have been created using Procreate®: https://procreate.art/
        ii. These compositions have been created using the brushes available in the Procreate® brush library: https://procreate.art/handbook/procreate/brushes/brush-library/
    b. Audio
        i. Audio elements for the project has been composed in proprietary software Ableton® Live 10 for which the adequate licenses have been attained by the relevant co-artist: https://www.ableton.com/en/live/
        ii. The co-artist has also used a number of licensed VST and sound libraries in the production of the audio component of the experience.
            1. Serum by Xfer Records
            2. Komplete 12 by Native Instruments
            3. Maschine 2 Essential Applications for M32 by Native Instruments
            4. Komplete Start - Supercharger by Native Instruments
            5. Komplete Start - TRK-01 Bass by Native Instruments
            6. Maschine 2 Factory Selection by Native Instruments
            7. Komplete Kontrol M32 Collection by Native Instruments
            8. Massive X Expansion - Our House by Native Instruments
            9. Yangqin by Native Instruments
            10. Isotope Elements
            11. Fabfilter
            12. Essential Instrument Collection by Ableton®
            13. Beat Tools Free NFR by Ableton®
    c. Software

      i.   Smart Contracts were built atop boilerplate OpenZeppelin smart contract code and use Hardhat and Ethers.js tooling to build and deploy the smart contracts on Polygon Network

      ii.   Web code is written using a basis of React.JS, Semantic UI, and the Lux theme for Semantic UI, all of which are MIT or OpenBSD 3-Clause licensed

VST (Virtual Studio Technologies): https://en.wikipedia.org/wiki/Virtual_Studio_Technology

Audio Licenses:
https://drive.google.com/drive/folders/1rw5ofp0-jjX8LJzGO98xm_rKr35hEN7h?usp=sharing

1. **Collector will receive the following Exhibition Format (please list the codec, container, resolution, and framerate:**
   a. THE_PAINTING_END_LOOP_Final_4320
      i. Video
         1. Codec: mp4 (h.264)
         2. Length: 0:29
         3. Frame Width: 4320px
         4. Frame Height 4320px
         5. Data rate 39727 kbps
         6. Total bitrate: 40041 kbps
         7. Frame Rate 30 fps
      ii. Audio
         1. Bit rate: 314kbps
         2. Channels: 2 (stereo)
         3. Audio Sample 48.00 kHz

   b. THE_PAINTING_END_LOOP_Final_2160
      i. Video
         1. Codec: mp4 (h.264)
         2. Length: 0:29
         3. Frame Width: 2160px
         4. Frame Height 2160px
         5. Data rate 21173 kbps
         6. Total bitrate: 21488 kbps
         7. Frame Rate 30 fps
      ii. Audio
         1. Bit rate: 314kbps
         2. Channels: 2 (stereo)

3. Audio Sample 48.00 kHz

2. **The Collector will receive the following codebase, if any:**
   a. All smart contracts for the associated game of F473.
   b. All web code for interacting with the associated game of F473.

3. **Please describe the application(s) and version(s) of software used to edit the native master:**
   a. Any text editor may edit the code.
   b. All individual software needed to run and modify is specified with the code and can be retrieved using an install process.
   c. To run the install process, it is necessary to install node.js and node package manager (NPM). Versions used to create the application are:
      i. Node.JS: v10.23.0
      ii. NPM: 6.14.8

4. **If the artwork were to be transferred to a new computer for an exhibition, does it require the use of an installer, or does it run automatically if it is copied onto the new computer from a storage device such as a flash drive?**
   a. The artwork can run directly from a web browser by going to the URL provided for the artwork.
   b. The artwork can also be run locally by running the code and displayed in a web browser. Instructions provided with the code.

5. **Please describe the computer(s) used to create the software that runs the artwork. Please include make and model of the computer, if purchased "off-the-shelf". If the computer is custom-modified, please describe the hardware (CPU, memory, graphics card, etc.) for the computer.**
   a. The computers used to create the software are:
      i. Macbook Pro 13" 2020:
         1. 2 GHz Quad-Core Intel Core i5
         2. 16 GB 3733 MHz LPDDR4X
         3. Intel Iris Plus Graphics 1536 MB
      ii. Custom Linux Desktop
         1. 12 Core - 24 Thread AMD Ryzen 9 3900XT
         2. 32GB 2133Mhz
         3. RX 580

6. **What is the operating system and version of the computer used to create the artwork?**
   a. Any modern operating system should suffice to edit, view, or interact with the artwork, but for completeness:
      i. MacOS Catalina 10.15.7
      ii. Linux Mint Ulyana (20)

7. **What software was used to write the code? Please include the software name and version, if known.**
   a. Sublime Text 3, which is a text editor and nothing more - any other text editor would suffice

8. **Were any version control systems such as Git used in the creation or editing of the source code?**
   a. Source code was all maintained and stored in Github as Git repositories

9. **Were there any specific algorithms used in the development of the artwork?**
   a. There were possibly unique algorithms created in order to design the game to run on a blockchain, but there were no proprietary algorithms used in creating this artwork.

10. **If any of the code was compiled, please list the compiler and version.**
    Solidity 0.8.0, Hardhat compiler version 2.2.1

11. **Does the software utilize any external libraries, databases, or APIs? Are any of these accessed using a network or internet connection? Are these artist-created, or did they originate from another source? Please describe**
    a. Polygon Network and InterPlanetary File System, both of which are decentralized networks running across the Internet
    b. React.JS code library and Semantic UI theme was utilized to create the game website, both are included with the packaged code

2. **Are there multiple versions of the software? Would you be able to provide the versioning history, including explanations as to why new versions came about?**
   a. There are no other versions, however there are earlier states of the code during its creation stored on Github.

3. **Does the artwork run at a specific speed or with specific timing? If so, is the speed controlled by the hardware or the software?**
   a. The speed is controlled by the web browser for the rendering of animations. Browsers have a native refresh rate for rendering web pages and animated features.

1. **Please list the minimum (or maximum, if applicable) requirements for the hardware used to run the software-based artwork: CPU/processor type and speed Memory (RAM) Graphics card Hard drive storage and speed Ports or external data buses (e.g. VGA, HDMI, USB3.0, IEEE 1394, etc.) Networking (e.g. Wi-Fi, Ethernet, Bluetooth) Optical drives Other min req :**
   a. 2 cores or greater CPU

b. Integrated graphics card or dedicated graphics card
c. Broadband or better Internet access

2. **Please provide a brief technical description explaining how the software-based artwork is intended to run.**
   a. The artwork is displayed based on the current state of the game, which is retrieved from the game smart contracts on the Polygon Network. If no state is pulled, a fallback view of the artwork is provided. If the game is over, a conclusive view is provided.

3. **What language(s) was the software written in?**
   a. JavaScript
   b. Solidity

4. **Are any modes of installation unacceptable?**
   a. Not identified at time of creation.

1. **Were there any post-production steps, such as color correction or subtitles? What programs were utilized?**
   a. Motion
      i. Video elements for the project has been composed using application packages from the Adobe CC suite including Adobe After Effects® as well as Adobe Premiere Pro®:
      https://www.adobe.com/uk/products/premiere.html ,
      https://www.adobe.com/uk/products/aftereffects.html
      ii. Video elements using Adobe After Effects® uses base Effects and Simulation Effects as outlined in the Adobe After Effects® Documentation below:
      https://helpx.adobe.com/after-effects/user-guide.html/after-effects/using/effect-list.ug.html ,
      https://helpx.adobe.com/after-effects/user-guide.html/after-effects/using/simulation-effects.ug.html
         1. CC Particle World
         2. Directional Blur
         3. Glow
         4. Ripple
         5. Curves
         6. CC Radial Blur
         7. Optical Compensation
         8. Magnify
         9. Add Grain
         10. VR Digital Glitch

11. Brightness & Contrast
12. Color Balance (HLS)
13. Transform
14. Twirl
15. Exposure

2. **Are there any distortions or artifacts in the image or sound that are intentional? (scratches, graininess, color modification, etc.)**
   a. Imagery
      i. All character figure imagery include hand drawn distortion within a stepped animation sequence:
         1. Solo
         2. Paired Solo
         3. Couples
      ii. The doorway imagery includes a number of frames that depict a crude animate-in effect.
   b. Audio
      i. FINAL 30 SECOND DEPARTURE - includes ethereal swishes, delays, flangers and a TV-pop at the end of the composition
      ii. FINAL 30 SECOND BIG CITY- includes ambient sounds composed on top of a score
      iii. FINAL TIME TRAVEL - includes ethereal swishes, drones and diegetic power-up, tuner FX
      iv. FINAL THE DEPARTURE - includes the same elements as FINAL 30 SECOND DEPARTURE
      v. FINAL SOLO - includes ambient sounds as well as chimes and irregular bass FX
      vi. FINAL PAIR - includes ethereal swishes, and drones
      vii. FINAL LOVE - includes phaser and drone FX
      viii.
   c. Motion
      i. GIF animations included may include light artifacting due to compression applied to allow for better performance within the interactive experience and on a broader range of devices.
      ii. THE_PAINTING_LOOP has grain applied and a liquify-esque effect simulating puddles on the ground plain
      iii. THE_PAINTING_END_LOOP includes a number of distortions and artifacts:
         1. Radial Blur seen on the doorway
         2. Twirl and Vortex used on the whole composition
         3. VR Digital Glitch added as the doorway transitions from view

4. Add Grain added to the composition

1. **Can the artwork be displayed in the same exhibition space as other artworks?**
   a. Yes

2. **Was the interface created with a certain browser in mind?**
   a. Google Chrome version 90.0 was used in development
   b. Metamask was installed for use in connecting to local networks for use in testing and building

3. **Are you open to file migration to an adopted file type that can most accurately display your intended work?**
   a. Yes, we are open to migration and able to assist with migration.

4. **In case of technical failure or equipment obsolescence, The collector may find it necessary to replace original software with newer components. Is this acceptable to the artist, or are there any components which may not be replaced?**
   a. Yes, migration is acceptable. Smart contracts and blockchain technology are rapidly changing, so updates may be needed to aid with a full stable migration.

5. **Please provide any additional information that you consider relevant to the understanding of this work.**

Supplemental Materials

Game Mechanics

The Game
Game is auto-played with 9 Levels broken up into 3 Phases. When Phase 3, Level 9 is beaten, then the game enters Phase 4, which is a separate puzzle entirely (a crypto-puzzle embedded into the painting).
The Goal
The goal of all players is to beat Level 9, which requires sending a sufficient number of HEARTS to a COUPLE character card. If this criteria is met, the collector's game ends.
At the start of the game, the game starts at phase 1, level 1, and all 9 squares are filled with a character.
Card types
There are 3 types of character cards:
SOLO - A single,

lonely character

PAIRED SOLO - A
single character who
clearly pairs with
another PAIRED
SOLO character card

COUPLE - A couple in
an embrace

Autoplay, Drawing Cards
Phase 1
Level 1 9 layers, pulls from any of the SOLO characters
Level 2 8 layers, pulls from any of the SOLO characters
Level 3 7 layers, pulls from any of the SOLO characters
Phase 2
Level 4 6 layers, pulls from any of the SOLO, PAIRED SOLO characters
Level 5 5 layers, pulls from any of the SOLO, PAIRED SOLO characters

Game Mechanics 2

Level 6 4 layers, pulls from any of the SOLO, PAIRED SOLO characters
Phase 3
Level 7 3 layers, pulls from any of the SOLO, PAIRED SOLO, COUPLE
characters
Level 8 2 layers, pulls from any of the SOLO, PAIRED SOLO, COUPLE
characters
Level 9 1 layers, pulls from any of the SOLO, PAIRED SOLO, COUPLE
characters
Interlude
If the players do not complete the game, then the game enters the interlude to
return to the starting position of the game.
Phase 4 - Crypto-puzzle
Part 1
The nearly final painting includes the crypto puzzle. Couple approaching the
locked door. Someone must solve the crypto-puzzle and empty the wallet in
order to end this Part.
Part 2
Final painting. The couple has left, the door is open, puzzle is solved.
Player Actions
All Phases, All Levels

Only once per level, a player can choose a SOLO character, which mints an 1155 to their wallet of that character
Phases 2 & 3, Any level
A player can send TWO SOLO characters to a PAIRED SOLO character to mint that character in a trade
All Phases, All Levels

Game Mechanics 3

A player can send two matching PAIRED SOLO characters to receive HEARTS from the game
Phase 3, Level 9
A player can send HEARTS to a SOLO or PAIRED SOLOR character in order to max out the love meter and switch out the card
A player can send HEARTS to a COUPLE character - players are collectively trying to max out the love meter for this couple during level 9 in order to end the game.
A player can send a SOLO or PAIRED SOLO card to a COUPLE character in order to mint that COUPLE character