Hackathon: Harmony ONE Love - Round 1

Peruse Documentation And Instructions In Docs.Harmony.One/Home/

GitCoin Bounty: https://gitcoin.co/issue/harmony-one/bounties/21/100025515
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Table of Contents

Introduction

This document consolidates finding of user review of docs.harmony.one/home webpage.
The review followed the page-by-page process, starting at the Welcome page and navigated through to the end of the documentation page.

The findings on page 4 are presented in a chronological page order start at the Welcome page.

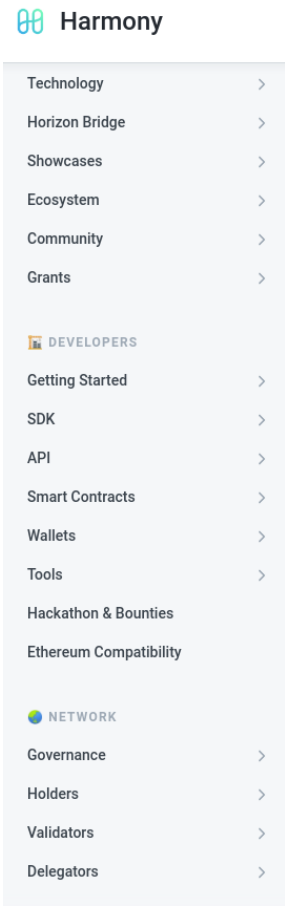


Fig1. Harmony Webpage

Methodology

For all intents and purposes of this review, please accept I am a new and inexperienced user. I have followed all sections and instructions as far as it was practically possible for me. Where I was unable to reach an outcome as instructed in the documentation section, I have raised this in the Findings Review section (page 4).

For the purposes of this review, issue items have been classified as follows,

1. Text – this refers to the structure of the documentation wording (e.g. typo or rewording)
2. Content – this refers to any image or video element (e.g. content visibility)
3. Hyperlink – this refers to hyperlinks embedded within the documentation pages (e.g. broken link)
4. Example – this refers to tutorial / demo elements (e.g. demo content not behaving as expect)

The findings section contains a more detailed description for each of the above items that were found during the course of this review.

Summary

This is a high-level summary of what has been identified during this review.

- Total items found: 57
- Total Text items: 16
- Total Content items: 8
- Total Hyperlink items: 29
- Total Example items: 4

In general, from a user perspective, the content at docs.harmony.one/home/ is presented in an easy to read, user friendly manner. The content is very rich, backed up with comprehensive examples, tutorials, demos and current use case applications. Certainly, for a new user, it has been a very educational and enjoyable experience discovering about HarmonyOne.

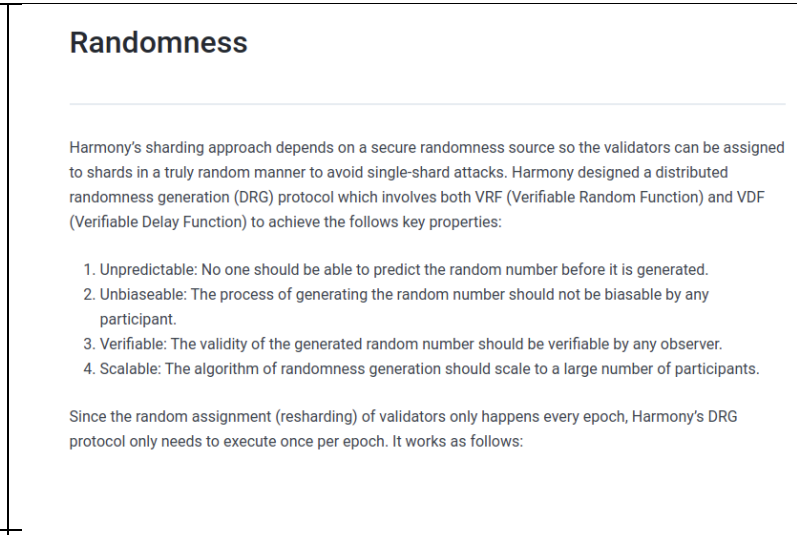
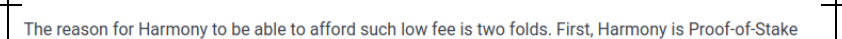
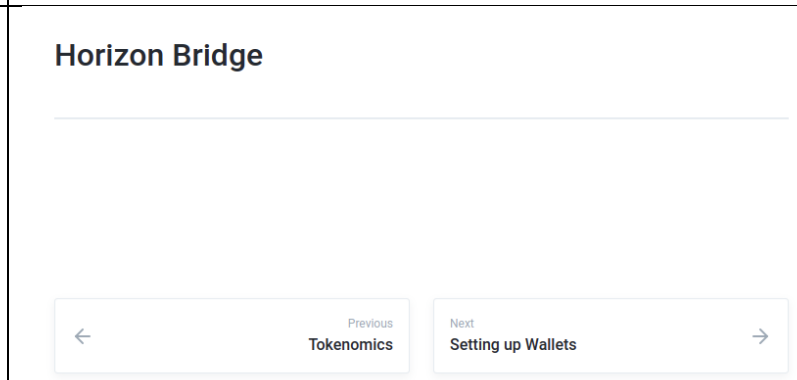
Review Findings

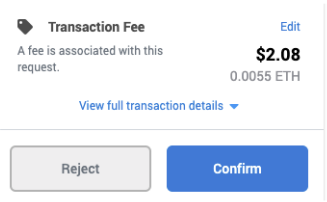
This section lists issues items that could be improved or are given as potential suggestion, to improve the user learning experience at docs.harmony.one/home/.

#	Screenshot from Harmony Webpage	Harmony Webpage Link	Item Type	Comments
1	**Secure Random Sharding** Harmony's sharding process is provably secure against shard attacks because the network validators are randomly assigned and shuffled among shards. The randomness used in the sharding is obtained with a distributed randomness generation algorithm (based on VRF and VDF) which is unpredictable, unbiaseable, verifiable and scalable. Harmony reshards the network in a non-interruptive manner using "Cuckoo Rule" to prevent against slowly adaptive byzantine adversaries.	https://docs.harmony.one/home/general/introduction/what-is-harmony	Text	In the text change "Unbiaseable" to "un-biased"
2	**Efficient and Fast Consensus** Harmony's consensus algorithm is called Fast Byzantine Fault Tolerance or FBFT. FBFT is a highly efficient and speedy consensus algorithm built upon the famous PBFT algorithm which is the cornerstone for distributed systems and consensus research for the past 30 years. Harmony's FBFT is able to confirm blocks within 2 seconds thanks to the adoption of aggregated BLS signature. FBFT is also highly optimized in network message processing and block proposal pipelining so that the consensus can scale to hundreds of validators at the same time.	https://docs.harmony.one/home/general/introduction/what-is-harmony	Text	In the text define the meaning of PBFT i.e. (Practical Byzantine Fault Tolerance) Suggestion. Possibly define BLS signature Boneh–Lynn–Shacham.
3	**Effective Proof-of-Stake** Unlike traditional blockchains which require PoW to reach consensus, Harmony is Proof-of-Stake blockchain which is energy efficient and low-cost for node runners. The process to elect validators is called Effective Proof-of-Stake (EPoS) which is the first sharding-focused PoS mechanism that prevents stake centralization. In EPoS, validators with a large amount of staked tokens are obligated to run more nodes to support the network while validators with less stake run fewer nodes. Besides, EPoS is able to randomly and evenly distribute the stakes among all shards so no shard is less secure than other shards.	https://docs.harmony.one/home/general/introduction/what-is-harmony	Text	In the text. Define PoW I.e. (Proof of Work)

4	Below are the progress of our 2021 milestones. You may learn about our ecosystem growth in 2020. 	https://docs.harmony.one/home/general/introduction/roadmap	Text / Content	Re-word the sentence as follows: "Here is our 2021 milestone progress. Learn more about our 2020 ecosystem growth journey". The Cross-Chain Finance graphic is difficult to read even when zoomed.
5		https://docs.harmony.one/home/general/introduction/strategy-and-architecture	Content	The Strategy and Architecture graphic is difficult to read when zoomed. Suggestion. Consider uploading high resolution image.

6	**Key Features** **Secure, Random State Sharding** Harmony has transcended the blockchain trilemma by bringing the best research to production. Sharding is proven to *scale* blockchains without compromising *security* and *decentralization*. We divide not only our network nodes but also the *blockchain states* into shards, scaling linearly in all three aspects of machines, transactions and storages. To prevent single shard attacks, we must have a sufficiently large number of nodes per shard and cryptographic randomness to re-shard regularly. Each shard has 1/4 of nodes for strong security guarantee against Byzantine behaviors. We use Verifiable Random Function (VDF) for unbiasable and unpredictable shard membership.	https://docs.harmony.one/home/general/technology	Text	In the text change “Unbiaseable” to “un-biased”
7	**Synchronous View Change** Once of the drawback of BFT-based consensus is the potential stallment of the consensus if the leader is malicious. The solution to this in PBFT algorithm is the additional view change protocol on top of the	https://docs.harmony.one/home/general/technology/consensus	Text	Typo at start of paragraph. Change “Once..” to “One..”
8	This improvement makes our view change protocol fully robust and is functional as long as more than 2/3 of the honest validators are online, guaranteeing the liveness of the FBFT consensus. Besides, BLS aggregate signatures are also used in the view change protocol to reduce network communication cost, making it a very efficient process which takes a few seconds to finish.	https://docs.harmony.one/home/general/technology/consensus	Text	Remove "is” in the first sentence to read “... protocol fully robust and functional” to..”

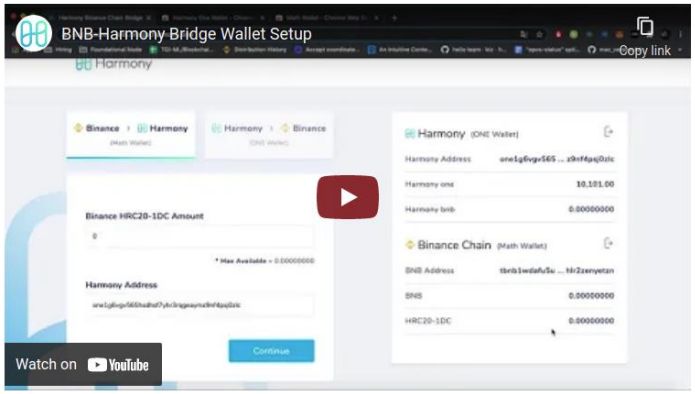
9		https://docs.harmony.one/home/general/technology/randomness	Text	In the text change "Unbiaseable" to "un-biased"
10		https://docs.harmony.one/home/general/technology/finality	Text	Typo. "two folds" change to "twofold"
11		https://docs.harmony.one/home/general/horizon-bridge	Content	It would be more user friendly to have the chapter sections displayed and linked here. Also a short introduction would help user to know what to expect here.

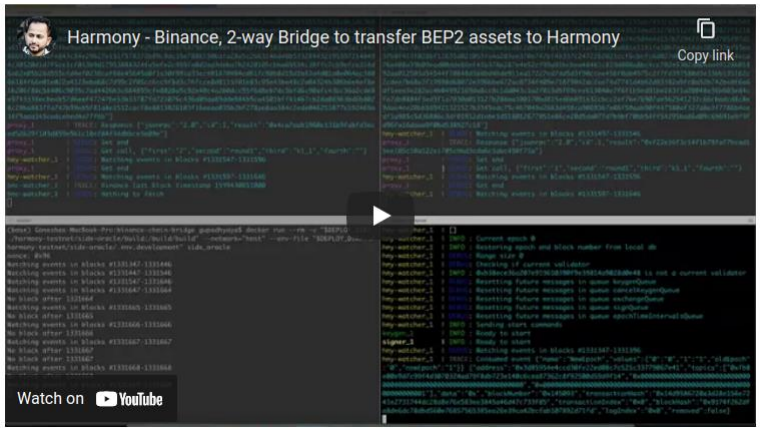
12	Now, in Metamask Wallet you will be prompted two transactions for you to confirm, similar to the ones one the images below: 	https://docs.harmony.one/home/general/horizon-bridge/bridging-eth-one	Text	Reword the sentence to: “Now, in Metamask Wallet you will be prompted to confirm two transactions, similar to ones shown below.”
13	**New Features** This page describes the features released in the first Horizon feature release. Horizon bridge currently supporting bridging BUSD, LINK, and any ERC20 token from Ethereum to Harmony and back. In this feature release we have added the following three major features: 1. ETH bridging ◦ Allows bridging native ETH from Ethereum to receive 1ETH on Harmony 2. ERC721 (NFT) bridging ◦ Allows single or in batch bridging of ERC721 (or NFTs) to Harmony to receive HRC721 3. ONE & HRC20 bridging ◦ Allows bridging Harmony's native ONE token and any HRC20 issued on Harmony to Ethereum for utilizing Ethereum ecosystem and DApps Demo video: Bridging NFTs from Ethereum to Harmony	https://docs.harmony.one/home/general/horizon-bridge/new-features	Content	The Demo Video. https://youtu.be/0GWrckW-baw From approx. 3:50min to around 6:13min the user waits for minting to complete. Suggestion. Personal suggestion is that this is removed and tutorial duration is reduced. On first watch it seems very long to wait.
14	**Bridge API** This page provides a set of APIs to interact with backend. This API enable users to do all bridge operations. For flow freely between Harmony and Ethereum blockchains you need to call this methods in special order and with special params.	https://docs.harmony.one/home/general/horizon-bridge/bridge-api	Text	Reword the last sentence to: “To flow freely between Harmony and Ethereum blockchains you need to call this methods in specific order and with appropriate parameters.”

15	**LINKS** Smart contracts ABI and method call examples - here (https://github.com/harmony-one/ethhmy-bridge/tree/master/scripts)  	https://docs.harmony.one/home/general/horizon-bridge/bridge-api	Content	Suggestion. The Smart contracts ABI and method call examples on Github will be more understandable to new users if there was a README with deployment instructions.
16	**3. What if I can't find the token I want to bridge in the drop down menu of the bridge?** Most tokens can be found using the drop down menu on the bridge. If you cannot find the token you are looking for you can add it manually by clicking on "**use custom address**", inputing the contract address you want to interact with and then clicking on "**Select token**". If an asset has been bridged at least once, you will easily find it here.	https://docs.harmony.one/home/general/horizon-bridge/bridge-faqs	Text	Spelling mistake. Reword "inputing" to "inputting"
17	**Showcases** Here we showcase our cross-chain solutions as well as the decentralized applications built by our community and demos launched by our team and contributors. Our 2021 highlights are our Horizon bridge that connects to Ethereum assets and our community-built Viper and Mochi decentralized exchanges. Some of our notable DeFi applications including SeeSwap, Blits, SeeMarket and our NFT showcases include Atari, Beast Quest, and LMA Art Gallery. **Developers can build on Harmony today and join our Discord to collaborate with our team.**	https://docs.harmony.one/home/general/showcases	Hyperlink	Broken link. https://horizon.harmony.one/ does not work for me. The page never loads.

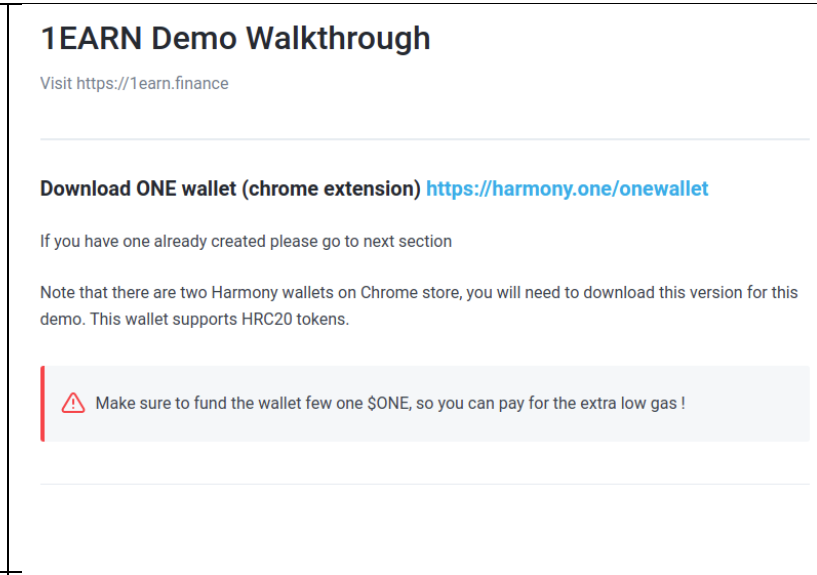
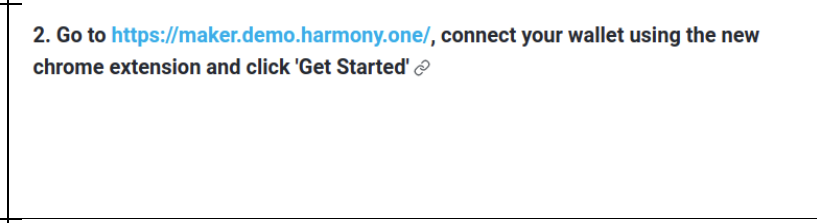
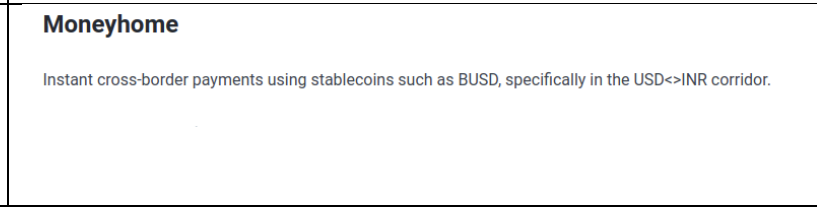
18	**Iris Bridge** Iris Bridge is a fully permissionless, trustless, decentralized bridge on Harmony for ALL ERC20 tokens. It employs an Ethereum light client on Harmony using Solidity. **Try alpha version:** iris.demo.harmony.one **See:** code, presentation, light client	https://docs.harmony.one/home/general/showcases/cross-chain	Hyperlink	Broken link. Iris.demo.harmony.one
19	**BNB-Harmony Bridge** Here we describe trustless bridge that enables tokens on Harmony Chain to be transferred do Binance Chain and back. Github Code: https://github.com/gupadhyaya/binance-chain-bridge/tree/harmony Community: Join our Telegram Community here.	https://docs.harmony.one/home/general/showcases/cross-chain/bnb-harmony-bridge	Hyperlink	Broken link (privacy error). https://bnb.bridge.harmony.one/
20	 Check it working here on https://bnb.bridge.harmony.one/.	https://docs.harmony.one/home/general/showcases/cross-chain/bnb-harmony-bridge/how-it-works-harmony-binance-bridge	Hyperlink	Broken link (privacy error). https://bnb.bridge.harmony.one/

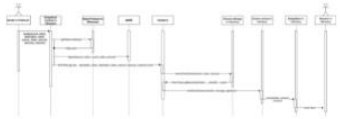
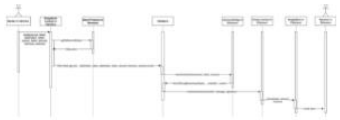
21	**How it works** Any external validator can participate on by fulfilling bridge transactions. Sending tokens from Harmony Chain to Binance Chain is done by locking tokens on Harmony Chain via a smart contract, at which point the same number of tokens are minted on Binance Chain. Differently from other bridges that use a collateral-based system, there is no pre-minting of tokens on this bridge, instead they are minted (on the-fly) once the tokens are locked on Harmony side. Users can later redeem tokens by burning them and unlocking the original tokens on Harmony Chain. Differently from other bridge implementations, we don't use block relayers, instead the bridge validators act like event relayers (relaying transfer events that happen on each side). On this bridge, two new concepts are being used: 1. **Multi-signature**: Binance to Harmony transactions are approved by multiple validators. 2. **Threshold Signature Scheme (TSS)**: a set of validators participate in a multi-party computation (MPC) ceremony to generate a common secret that could be used to securely fulfil Harmony to Binance transactions.	https://docs.harmony.one/home/general/showcases/cross-chain/bnb-harmony-bridge/how-it-works-harmony-binance-bridge	Text	Suggestion. For consistency refer to BNB across this page as BNB rather than Bnb or bnb.

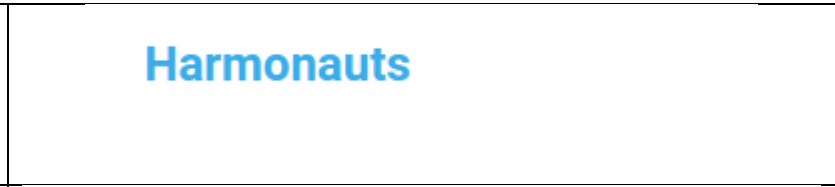
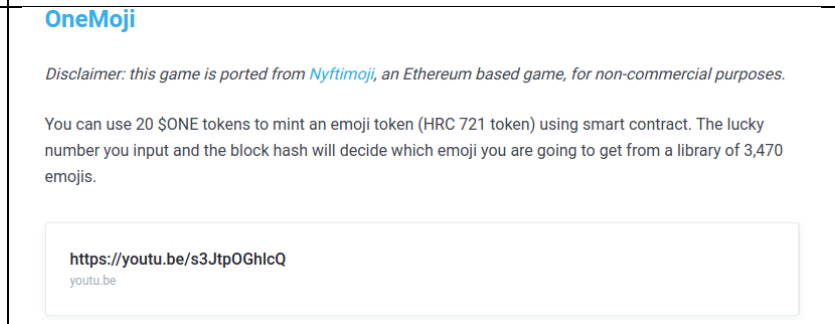
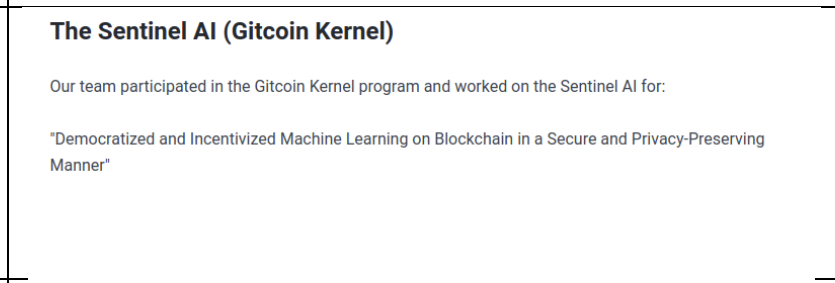
22	**Setup Walkthrough** Check the video below for the setup walkthrough on the BNB <> Harmony Bridge. We provide the link access to the bridge along with the necessary wallets right below this video.  **1. Access the BNB <> Harmony Bridge** Link to BNB <> Harmony Bridge: https://bnb.bridge.harmony.one/	https://docs.harmony.one/home/general/showcases/cross-chain/bnb-harmony-bridge/setup-walkthrough-harmony-binance-bridge	Hyperlink	Broken link (privacy error). https://bnb.bridge.harmony.one

23	**Video Demonstration** Here is a quick video demonstration of the BNB <> Harmony bridge:  	https://docs.harmony.one/home/general/showcases/cross-chain/bnb-harmony-bridge/video-demonstration-harmony-binance-bridge	Content	Suggestion. This video is not very understandable to a new user like myself. Personally I do not think it gives any value to new user. Perhaps remove or move to previous page.

24	**Method** • Build BTC relay and SPV client from Summa on the Harmony network, so that dApp builder can build on top it. **Links** • https://github.com/keep-network • https://github.com/summa-tx • https://github.com/bcoin-org • https://github.com/LeoHChen/playground/tree/master/go/btcrelay • Keep whitepaper: https://keep.network/whitepaper • TBTC whitepaper: https://docs.keep.network/tbtc/index.pdf • BTC SPV on Ethereum: https://medium.com/summa-technology/cross-chain-auction-technical-f16710bfe69f • https://dapp.test.tbtc.network/ • https://medium.com/@nickgrego/step-by-step-guide-for-installing-both-ecdsa-beacon-nodes-on-vps-with-100-voucher-db930ab2a667	https://docs.harmony.one/home/general/showcases/cross-chain/btc-bridge	Hyperlink	Broken link https://summa.one/ https://keep.network/whitepaper
25	**User Guide** The bridge is available at iris-testnet.harmony.one, currently deployed on Ethereum Ropsten Testnet and on Harmony Testnet. Smart contract transactions on the Ethereum side is publicly available on Etherscan. **2. Go to iris-testnet.harmony.one, connect your wallets on both Ethereum & Harmony side.** fee on both Ropsten (the Ethereum testnet) and the Harmony testnet. ◦ Ethereum Ropsten Faucet: https://faucet.metamask.io/	https://docs.harmony.one/home/general/showcases/cross-chain/iris-bridge	Hyperlink	Broken link. iris-testnet.harmony.one Takes user to https://rainbow.hmy.cc.ink/#/home Broken link. https://faucet.metamask.io/

26		https://docs.harmony.one/home/general/showcases/defi/1earn-demo-app	Hyperlink	Broken link. Unable to follow demo as result. https://1earn.finance Suggestion. Link for 1EARN is not very visible. Perhaps provide hyperlink within text rather than under the title.
27		https://docs.harmony.one/home/general/showcases/defi/maker-demo-steps	Hyperlink	Broken link. Unable to follow demo as result. https://maker.demo.harmony.one/
28		https://docs.harmony.one/home/general/showcases/fiat	Hyperlink	Suggestion. Provide hyperlink to Moneyhome

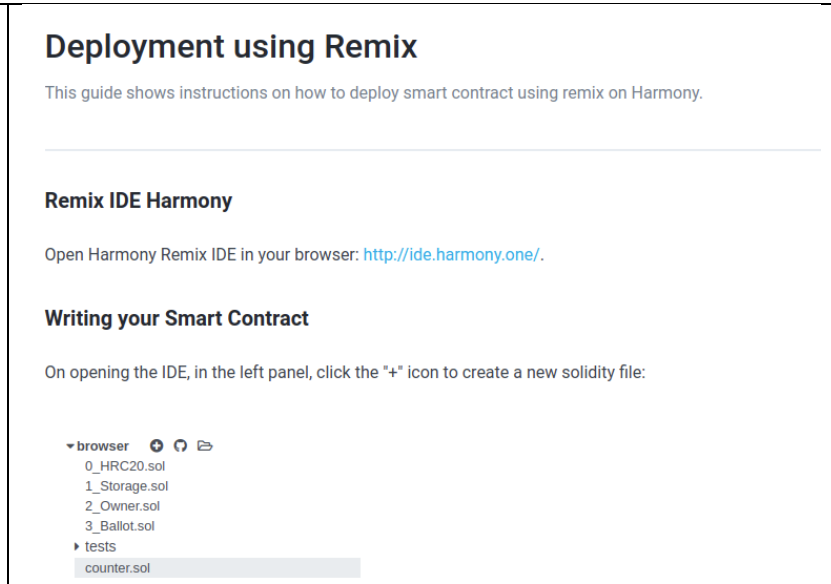
29	**Hackathons** Developers can build on Harmony today, a fast and open blockchain for decentralized applications, suited to handle DeFi, cross-chain, and cross-border finance. We showcase here the top developer projects from our hackathons.	https://docs.harmony.one/home/general/showcases/hackathons	Hyperlink	Suggestion. Perhaps reference GitCoin here
30	Ethereum to Harmony Sequence:  Harmony to Ethereum Sequence: 	https://docs.harmony.one/home/general/showcases/hackathons/hack-the-horizon	Content	Suggestion. The figures are too small to be visible. Provide larger or remove.
31	**Binance US Harmony API Dapp** Use of Binance.us API on Harmony using React : * API call from @harmony-js/core * API call from @binance-api-react-native * API call from Axios	https://docs.harmony.one/home/general/showcases/hackathons/hack-the-horizon	Hyperlink	Broken link. https://github.com/aadorian/BinanceHarmony
32	• Port Augur to Harmony: Dev ported Augur to Harmony.	https://docs.harmony.one/home/general/showcases/hackathons/hack-the-horizon	Hyperlink	Broken link. It takes you to jff-danno dashboard page https://gitcoin.co/jff-danno

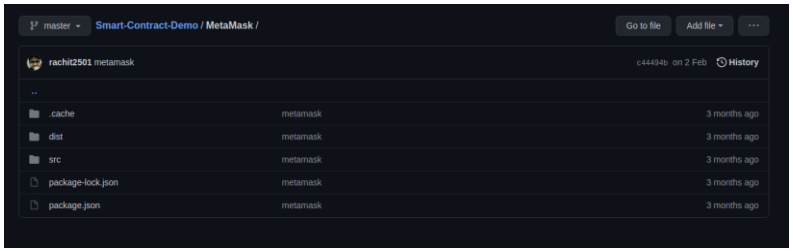
33		https://docs.harmony.one/home/general/showcases/other-showcases	Hyperlink	Broken link. https://punks.hmy.cc.ink/#/home
34		https://docs.harmony.one/home/general/showcases/other-showcases	Hyperlink	Broken link. Youtube video unavailable. https://youtu.be/s3JtpOGhlcQ
35		https://docs.harmony.one/home/general/showcases/other-showcases	Hyperlink	Suggestion. Is there no hyperlink to this?
36		https://docs.harmony.one/home/general/showcases/other-showcases/seemarket	Hyperlink	Suggestion. Is there no hyperlink to this?

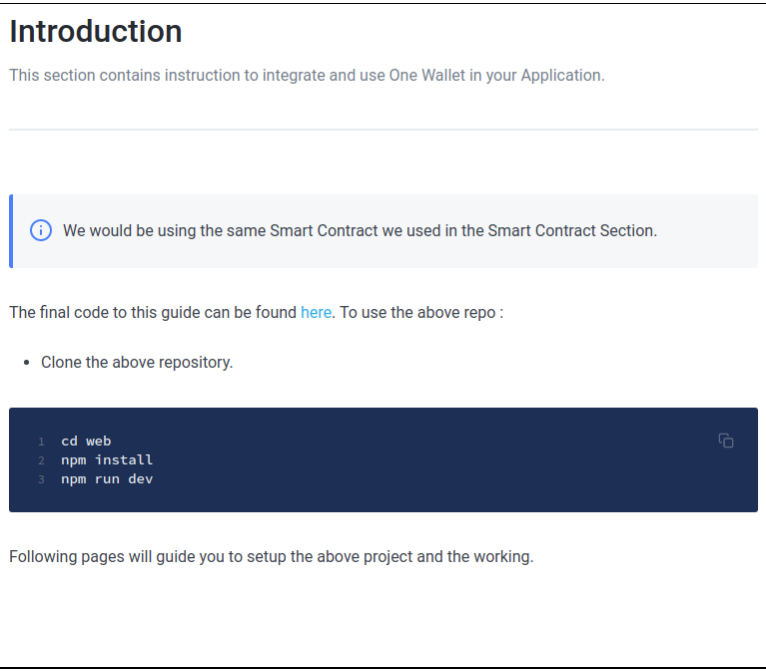
37	The Harmony Puzzle's Android app and backend are open sourced on our Github. 	https://docs.harmony.one/home/general/showcases/other-showcases/harmony-puzzle	Hyperlink	Broken link. Backend link not working. https://github.com/harmony-one/puzzle-backend
38	**Sesameseed UniFi** Decentralized exchange for HRC20 token holders to convert tokens through automated price discovery, liquidity pools.	https://docs.harmony.one/home/general/ecosystem/partners/dex-swaps	Hyperlink	Suggestion. Provide hyperlink to UniFi
39	**Integrations** **Coinbase Rosetta API** **Gitcoin** By partnering with Gitcoin, Harmony reaffirms its commitment to developers. Overall we're excited tc partner with Gitcoin in our shared goal of growing the web3 open-source ecosystem.	https://docs.harmony.one/home/general/ecosystem/integrations	Hyperlink	Suggestion. Provide hyperlinks to each individual platforms in the platform titles

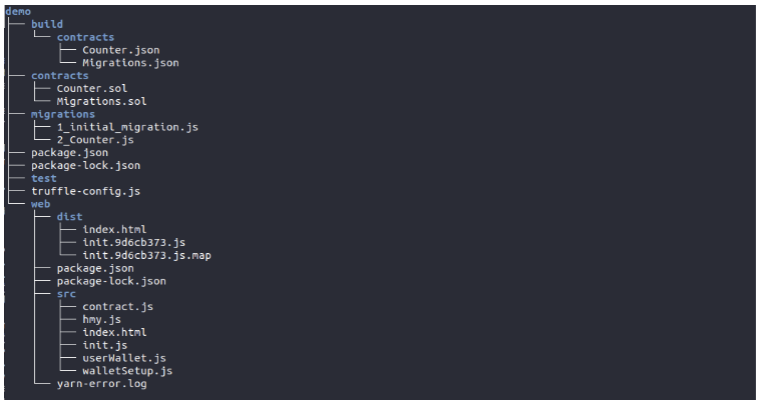
40	***Harmony One Compatible Wallets Legend:*** • 🟢 Staking compatible • 🔴 Staking NOT available • 🖥️ Website version available • ⛔ Website version NOT available • 📱 Mobile compatible • 📵 Mobile version NOT available	https://docs.harmony.one/home/general/community/faq	Text	Suggestion. Text could be simplified tO; Staking available Staking NOT available Website available Website NOT available Mobile app available Mobile app NOT available
41	**Grants Process** A prospective grantee starts an application by filling out the grant application. **Apply at harmony.one/grant-form today!**	https://docs.harmony.one/home/general/grants	Hyperlink	Broken link. https://harmony.one/grant-form
42	Going forward, we have learned to be as specific as possible setting grant deliverables and metrics upfront with each grantee. We'll be clearly setting expectations with governors (below) and streamline the approval process to maximize Harmony Foundation's 154 million monthly token allocation.	https://docs.harmony.one/home/general/grants	Hyperlink	Suggestion. (below) hyperlink does not seem to do anything. Suggest to remove.

43	Going forward, we have learned to be as specific as possible setting grant deliverables and metrics upfront with each grantee. We'll be clearly setting expectations with governors (below) and streamline approval process to maximize Harmony Foundation's 154 million monthly token allocation. **Apply for a grant here.**	https://docs.harmony.one/home/general/grants	Hyperlink	Broken link. Apply for a grant here.
44	We use Twitter instead of a blog post for faster iteration and broad community engagement. **Apply for a grant:** harmony.one/grant-form	https://docs.harmony.one/home/general/grants/requests-for-startups	Hyperlink	Broken link. https://harmony.one/grant-form
45	**Getting Started** A quick guide to getting started with developing on Harmony blockchain. **Overview** Harmony is a powerful blockchain that is EVM comptible with sharding and staking features. Developing	https://docs.harmony.one/home/developers/getting-started	Text	Typo. Change “comptible” to “compatible”
46	**How to deploy a smart contract on Harmony?** • Tutorial • Github repo • Interacting with wallets programmatically	https://docs.harmony.one/home/developers/getting-started	Content	Suggestion. The github example needs a README with instructions on use.

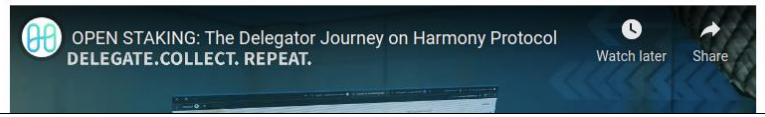
47		https://docs.harmony.one/home/developers/smart-contracts/deployment-using-remix	Example	Suggestion. I was not able to reproduce the tutorial to deploy the contract to testnet. Errored transaction failed:insufficient funds for gas * price + value
48	If you have an idea that you'd like to deploy on the Harmony Protocol, you might be interested in learning about the Harmony Grant Program.	https://docs.harmony.one/home/developers/smart-contracts/deploying-an-ethereum-smart-contract-onto-harmony	Hyperlink	Broken link. https://docs.harmony.one/home/developers/grant-proposals

49	Full code example will be here: https://github.com/harmony-one/ethhmy-bridge.frontend/blob/web3_hmy/src/pages/Examples/TransactionExample.tsx Also you can use all Provider API from official MetaMask and Web3 docs: https://docs.metamask.io/guide/ethereum-provider.html#table-of-contents	https://docs.harmony.one/home/developers/wallets/metamask/interacting-with-metamask	Hyperlink	Suggestion. Move this link to the begging of the page.
50	**Using Metamask with Harmony Smart Contracts** **Project Setup** The completed code can be found here. 	https://docs.harmony.one/home/developers/wallets/metamask/using-metamask-with-harmony-smart-contracts	Example	Suggestion. Provide more detailed setup instructions. As a new user I did not understand what I need to do to setup the project environment.

51		https://docs.harmony.one/home/developers/wallets/onewallet/introduction	Example	Observation. Github repository does not align with the instructions. There is no web folder. Npm install fails on ubuntu with error *Secp256k1 bindings compilation fail*. Npm was run in sudo mode. Suggestion. Instructions need updating.

52	For this demo we assume such a project setup:  	https://docs.harmony.one/home/developers/wallets/onewallet/project-setup-1	Example	Observations. This does not align with the Github repository linked on previous page. Suggestion. Instructions need updating.
53	**Congratulations** you have now connected your one wallet, and completed writing code for it to interact with the harmony blockchain. Here is the completed code.	https://docs.harmony.one/home/developers/wallets/onewallet/using-one-wallet-with-smart-contracts	Hyperlink	Broken link. Here hyperlink to completed code reads page not found.

54	**Demos** **Harmony-React example dApp** **URL:** https://hmyreact.demo.harmony.one hmyreact.demo.harmony.one is an adaption of web3-react's original example dApp. The dApp supports all of the previous Ethereum wallets as well as including the new support for OneWallet as well as MathWallet. The example dApp can be used as a basis for setting up wallet connections for cross-chain dApps for Ethereum <> Harmony. **Token Faucet Demo dApp** **URL:** https://dapp.demo.harmony.one We've created a simple dApp that utilizes `Harmony-React` to manage its wallet connections. The code for the demo dApp can be used as a basis for writing hook-based React dApps on Harmony.	https://docs.harmony.one/home/developers/tools/harmony-react	Hyperlink	Broken links. All demo.harmony.one pages cannot be reached.
55	**Rules** • The voting power is equal to the number of staked ONE tokens on your validator regardless you are elected or not. • Only elected validators can create proposals, while unelected validators are still allowed to vote on the proposals, enabling them a voice of their own. The proposal stays pending for the first 7 days after creation, so that all validators have time to get familiar with the topic and the impact of the proposal's results. • After the initial 7 days, the voting period starts and lasts for 14 days. Once you submit your vote, you cannot change it. The voting power is equal to a validator's total ONE token staked, and can vary in terms of voting power depending on delegation or undelegation. We have made this choice to passively include delegators in the governance process. If a delegator does not agree with the vote of the validator he/she delegated to, he/she can simply redelegate to another validator, to support it's vote. • Final snapshot of voting power is taken at the epoch in which the proposal closes, so with epochs passing, you might see your total voting power vary a bit. The staked amount of ONE tokens at that time is your final voting power. For a proposal to successfully pass, 66% of all the staked tokens is needed to reach a majority quorum.	https://docs.harmony.one/home/network/governance	Text	Typo. Change "undelegation" to retention.

56	**11. How can I change my wallet password?** Ensure you have access to your seed phrase or private key first. Uninstall the extension, go to chrome store and reinstall. Launch the extension and choose the option to recover your account. Enter your seed We report here Network Outages which might affect the Staking Rewards of your Harmony Node.	https://docs.harmony.one/home/network/delegator/staking-dashboard/open-staking-faq	Hyperlink	Broken link. The extension hyperlink does not work. Outages report here hyperlink does not work.
57	**Informational Videos** Media content for staking on Harmony  	https://docs.harmony.one/home/network/delegator/delegator-journey	Content	Suggestion. A content description at the top of the page or in the content navigator would make navigating this page much easier.