THRESHOLD

Iterative User Research

tBTC v2 - Bridge Usability Testing

May 2022

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Agenda

- Methodology
- Usability Tests - Methodology
- Findings - Page by Page
- Appendix
    - Interview Script
    - Figma Prototype here

Design Research

Design Research helps teams build the right thing, the right way.

Explorative Design
helps building the *right thing*.

Iterative Design
helps building the *thing right*.

Design Research

Design Research helps teams build the right thing, the right way.

Iterative Research

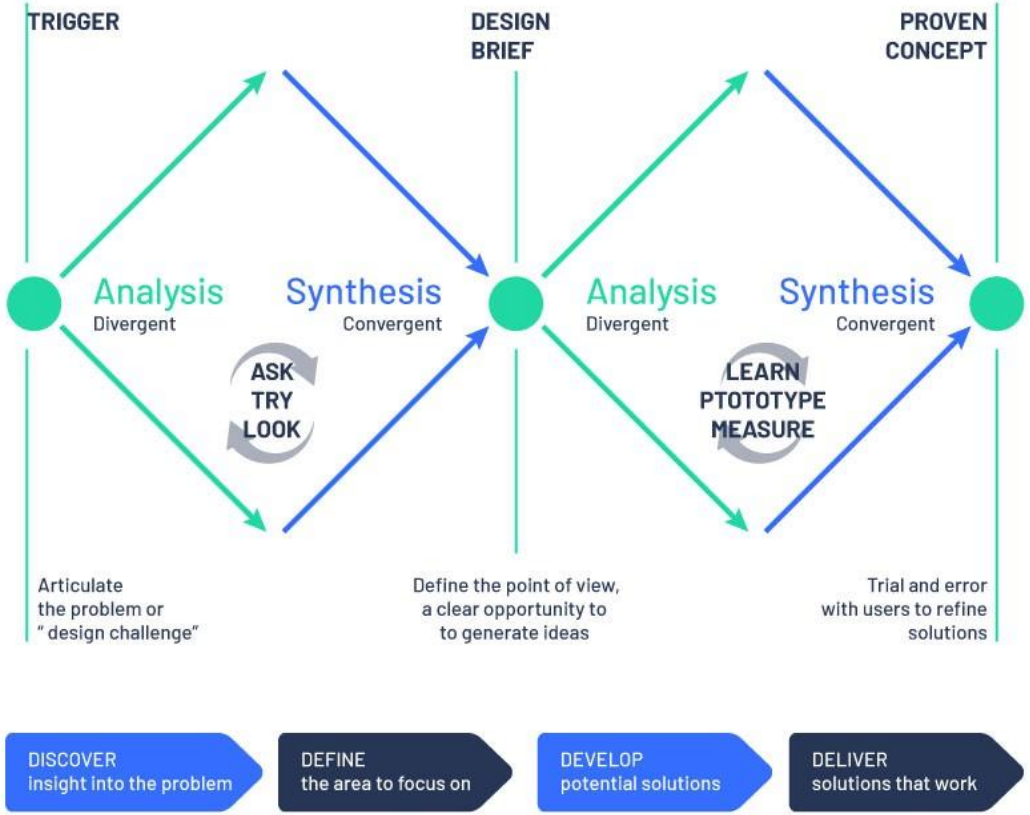
User testing to determine whether what we've built meets user needs,is understood, and is easy to use

Methodology

DOUBLE DIAMOND

In our Design Process, Coverage Pool is in the **Synthesis Step**. We have prototyped and tested our solutions to the users. We have gathered feedback and found what we need to change and what we need to add.

Next step - Go back to the drawing board, find solutions based on the findings and test again.



Study Goals

- are BTC users actually interested in bridging their assets?
- find out (renBTC, WBTC, or any other bridge) bridge user behaviours - do these users ever unmint their tokens?
- get a sense of the bridged assets BTC owners views on taxes.
- are taxable events important for them?
- is really permissionless non-custodial fully decentralized bridge a priority among the users who are bridging BTC assets?
- are really BTC owners against KYC? Or would they prefer to use a product with zero KYC over one with KYC?
- are incentives/rewards good enough to overcome the potential risks for tBTC stakers? - **separate study**
- are users preferring instant minting over decentralization?
- will users find the 8h sweeping time too long?

Research Methods and Users

WHAT WE DID

- We interviewed **6 users**
- Qualified users were individuals who **used BTC to ETH bridges or who owned WBTC, tBTC, renBTC**
- **45 minutes** video calls
- Figma Clickable Prototype used for the test here

Research Methods and Users

TOPICS COVERED IN THE INTERVIEW

Demographics

- are not extremely important only the tech background and tech profile

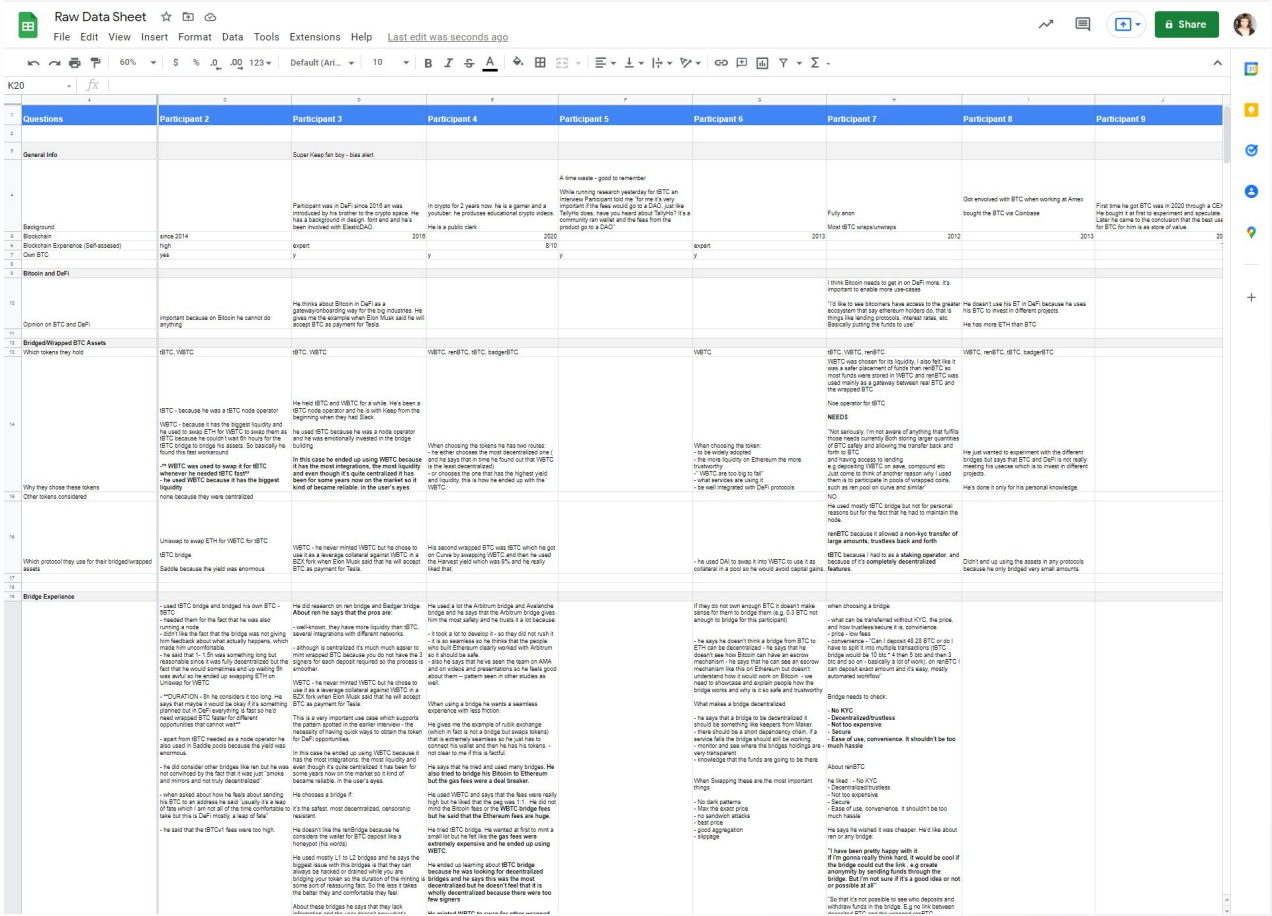
Blockchain Bridges

- we wanted to find what is the common behaviour, the fears, the needs, when bridging assets to any chain not only BTC to ETH

Prototype Walkthrough

- This exercise involved thinking out loud technique in which users had to go through both the minting and unminting flow and describe what they see, and also checked how well the How it works page performs. We used a clickable prototype made in Figma.

Data Capture and Analysis



Raw Data Sheet

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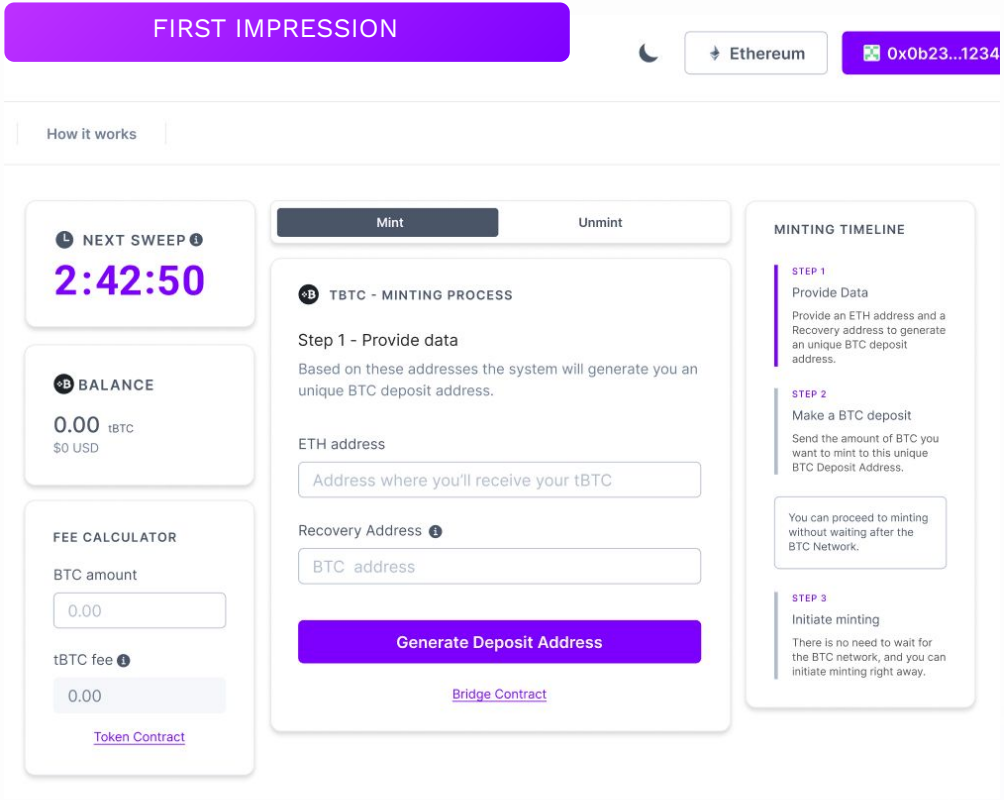
Questions	Participant 2	Participant 3	Participant 4	Participant 5	Participant 6	Participant 7	Participant 8	Participant 9
General Info		Super Keep fan boy - bias alert						
Background		Participant was in DeFi since 2016 an was introduced by his brother to the crypto space. He has a background in design, font and and he's been involved with ElasticDAO.	In crypto for 2 years now, he is a gamer and a youtuber: he produces educational crypto videos. He is a a public clerk	A time waste - good to remember While running research yesterday for tBTC an interviewi Participant told me "for me it's very important if the fees would go to a DAO, just like TallyHo does, have you heard about TallyHo? It's a community ran wallet and the fees from the product go to a DAO"		Fully anon Most tBTC wraps/unwraps	Got envolved with BTC when working at Amex bought the BTC via Coinbase	First time he got BTC was in 2020 through a CEX He bought it at first to experiment and speculate. Later he came to the conclusion that the best use for BTC for him is as store of value.
Blockchain	since 2014	2016	2020		2013	2012	2013	20
Blockchain Experience (Self-assessed)	high	expert	$10		expert			
Own BTC	yes	y	y	y	y			
Bitcoin and DeFi								
Opinion on BTC and DeFi	important because on Bitcoin he cannot do anything	He thinks about Bitcoin in DeFi as a gateway/onboarding way for the big industries. He gives me the example when Elon Musk said he will accept BTC as payment for Tesla.				I think Bitcoin needs to get in on DeFi more. It's important to enable more use-cases. "I'd like to see bitcoiners have access to the greater ecosystem that say ethereum holders do, that is things like lending protocols, interest rates, etc. Basically putting the funds to use"	He doesn't use his BT in DeFi because he uses his BTC to invest in different projects. He has more ETH than BTC	
Bridged/Wrapped BTC Assets								
Which tokens they hold	tBTC, WBTC	tBTC, WBTC	WBTC, renBTC, tBTC, badgerBTC		WBTC	tBTC, WBTC, renBTC	WBTC, renBTC, tBTC, badgerBTC	
Why they chose these tokens	tBTC - because he was a tBTC node operator. WBTC - because it has the biggest liquidity and he used to swap ETH for WBTC to swap them as tBTC because he couldn't wait 9h hours for the tBTC bridge to bridge his assets. So basically he found this fast workaround **I WBTC was used to swap it for tBTC whenever he needed tBTC fast!!** **- he used WBTC because it has the biggest liquidity**	He held tBTC and WBTC for a while. He's been a tBTC node operator and he is with Keep from the beginning when they had Slack. He used tBTC because he was a node operator and he was emotionally invested in the bridge building **In this case he ended up using WBTC because it has the most integrations, the most liquidity and even though it's quite centralized it has been for some years now on the market so it kind of became reliable, in the user's eyes.**	When choosing the tokens he has two routes: - he either chooses the most decentralized one (and he says that in this case he found out that WBTC is the least decentralized) - he chooses the one that has the highest yield and liquidity, this is how he ended up with the WBTC.		When choosing the token: - to be widely adopted - the more liquidity on Ethereum the more trustworthy - " WBTC are too big to fail" - what services are using it - be well integrated with DeFi protocols	WBTC was chosen for its liquidity. I also felt like it was a safer placement of funds than renBTC so most funds were stored in WBTC and renBTC was used mainly as a gateway between real BTC and the wrapped BTC. Now operator for tBTC **NEED5** "Not seriously, I'm not aware of anything that fulfills those needs currently Both storing larger quantities of BTC safely and allowing the transfer back and forth to BTC" and having access to lending e.g depositing WBTC on aave, compound etc Just come to think of another reason why I used them is to participate in pools of wrapped coins, such as ren pool on curve and similar"	He just wanted to experiment with the different bridges but says that BTC and DeFi is not really meeting his usecase which is to invest in different projects. He's done it only for his personal knowledge.
Other tokens considered	none because they were centralized					NO		
Which protocol they use for their bridged/wrapped assets	Uniswap to swap ETH for WBTC for tBTC tBTC bridge Saddle because the yield was enormous	WBTC - he never minted WBTC but he chose to use it as a leverage collateral against WBTC in a BZX fork when Elon Musk said that he will accept BTC as payment for Tesla	His second wrapped BTC was tBTC which he got on Curve by swapping WBTC and then he used the Harvest yield which was 9% and he really liked that.		- he used DAI to swap it into WBTC to use it as collateral in a pool so he would avoid capital gains.	He used mostly bitcoin but not for personal reasons but for the fact that he had to maintain the node. renBTC because it allowed a non-kyc transfer of large amounts, trustless back and forth tBTC because I had to as a staking operator, and because of it's completely decentralized features.	Didn't end up using the assets in any protocols because he only bridged very small amounts.	
Bridge Experience								
	- used tBTC bridge and bridged his own BTC - tBTC - heeded them for the fact that he was also running a node - didn't like the fact that the bridge was not giving him feedback about what actually happens, which made him uncomfortable. - he said that 1-1.5h was something long but reasonable since it was fully decentralized but the fact that he would sometimes end up waiting 6h was awful so he ended up swapping ETH on Uniswap for tBTC - **DURATION - 6h he considers it too long. He says that maybe it would be okay if it's something planned but in DeFi everything is fast so he'd need wrapped BTC faster for different opportunities that cannot wait!" - apart from tBTC needed as a node operator he also used in Saddle pools because the yield was enormous. - he did consider other bridges like ren but he was not convinced by the fact that it was just "smoke and mirrors and not truly decentralized" - when asked about how he feels about sending his BTC to an address he said: 'usually it's a leap of faith which I am not all of the time comfortable to take but this is DeFi mostly, a leap of faith' - he said that the tBTCv1 fees were too high.	He did research on ren bridge and Badger bridge. About ren he says that the pros are: - well-known, they have more liquidity than tBTC, several integrations with different networks. - although is centralized it's much much easier to mint wrapped BTC because you do not have the 3 signers for each deposit required so the process is smoother. WBTC - he never minted WBTC but he chose to use it as a leverage collateral against WBTC in a BZX fork when Elon Musk said that he will accept BTC as payment for Tesla. This is a very important use case which supports the pattern scetted in the earlier interview - the necessity of having quick ways to obtain the token for DeFi opportunities. In this case he ended up using WBTC because it has the most integrations, the most liquidity and even though it's quite centralized it has been for some years now on the market so it kind of became reliable, in the user's eyes. He chooses a bridge if : It's the safest, most decentralized, censorship resistant. He doesn't like the renBridge because he considers the wallet for BTC deposit like a honeypot (his words). He used mostly L1 to L2 bridges and he says the biggest issue with this bridges is that they can always be hacked or drained while you are bridging your token so the duration of the minting is some sort of reassuring fact. So the less it takes the better they and comfortable they feel. About these bridges he says that they lack	He used a lot the Arbitrum bridge and Avalanche bridge and he says that the Arbitrum bridge gives him the most safety and he trusts it a lot because - it took a lot to develop it - so they did not rush it - it is as seamless as he thinks that the people who built Ethereum clearly worked with Arbitrum so it should be safe - also he says that he've seen the team on AMA and on videos and presentations so he feels good about them – pattern seen in other studies as well. When using a bridge he wants a seamless experience with less friction. He gives me the example of rubik exchange (which in fact is not a bridge but swaps tokens) that is extremely seamless so he just has to connect his wallet and then he has his tokens. - not clear to me if this is factful. He says that he tried and used many bridges. **He also tried to bridge his Bitcoin to Ethereum but the gas fees were a deal breaker.** He used WBTC and says that the fees were really high but he liked that the peg was 1:1. He did not mind the Bitcoin fees or the WBTC bridge fees **but he said that the Ethereum fees are huge.** He tried tBTC bridge. He wanted at first to mint a small lot but he felt like the **gas fees were extremely expensive and he ended up using WBTC.** He ended up learning about **tBTC bridge because he was looking for decentralized bridges and he says this was the most decentralized but he doesn't feel that it is wholly decentralized because there were too few signers**	If they do not own enough BTC it doesn't make sense for them to bridge them (e.g. 0.3 BTC not enough to bridge for this participant) - he says he doesn't think a bridge from BTC to ETH can be decentralized - he says that he hasn't see how Bitcoin can have an escrow mechanism - he says that he can see an escrow mechanism like this on Ethereum but doesn't understand how it would work on Bitcoin - we need to showcase and explain people how the bridge works and why a it is so safe and trustworthy What makes a bridge decentralized - he says that a bridge to be decentralized it should be something like keepers from Maker. - there should be a short dependency chain, if a service fails the bridge should still be working. - monitor and see where the bridges holdings are - very transparent - knowledge that the funds are going to be there When Swapping these are the most important things - No dark patterns - Max the exact price - no sandwich attacks - best price - good aggregation - slippage	when choosing a bridge: - what can be transferred without KYC, the price, and how trustless/secure it is, convenience. - price - low fees - convenience - " Can I deposit 49.28 BTC or do I have to split it into multiple transactions (tBTC bridge would be 10 btc * 4 then 5 btc and then 3 btc and so on - basically a lot of work), on renBTC I can deposit exact amount and it's easy, mostly automated workflow" Bridge needs to check: **- No KYC** **- Decentralized/trustless** **- Not too expensive** **- Secure** **- Ease of use, convenience. It shouldn't be too much hassle** About renBTC he liked: - No KYC - Decentralized/trustless - Not too expensive - Secure - Ease of use, convenience. It shouldn't be too much hassle He says he wished it was cheaper. He'd like about ren or any bridge: **"I have been pretty happy with it** **If I'm gonna really think hard, it would be cool if the bridge could cut the link , e.g create anonymity by sending funds through the bridge. But I'm not sure if it's a good idea or not or possible at all"** "So that it's not possible to see who deposits and withdraw funds in the bridge. E.g no link between	

Screen by Screen Walkthrough

Findings and Recommendations

FIRST IMPRESSION



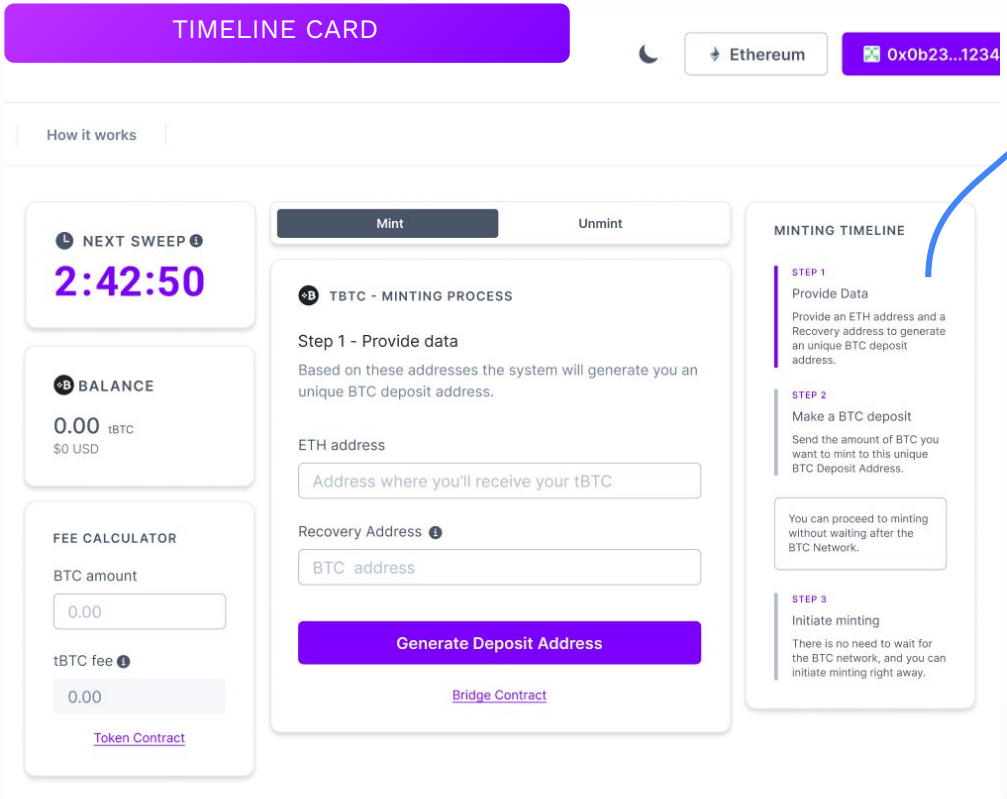
FINDING

2 out of 6 participants said they find the information load overwhelming. The system learnability is not that easy and these participants were accustomed to v1. Because of this, we were witnessing a real resistance towards our challenging of the status quo.

RECOMMENDATION

A redesign of this layout with better hierarchy of information will be really helpful. We might wanna take into consideration an integration of the balance and sweep card in the bridge card.

Findings and Recommendations



FINDING

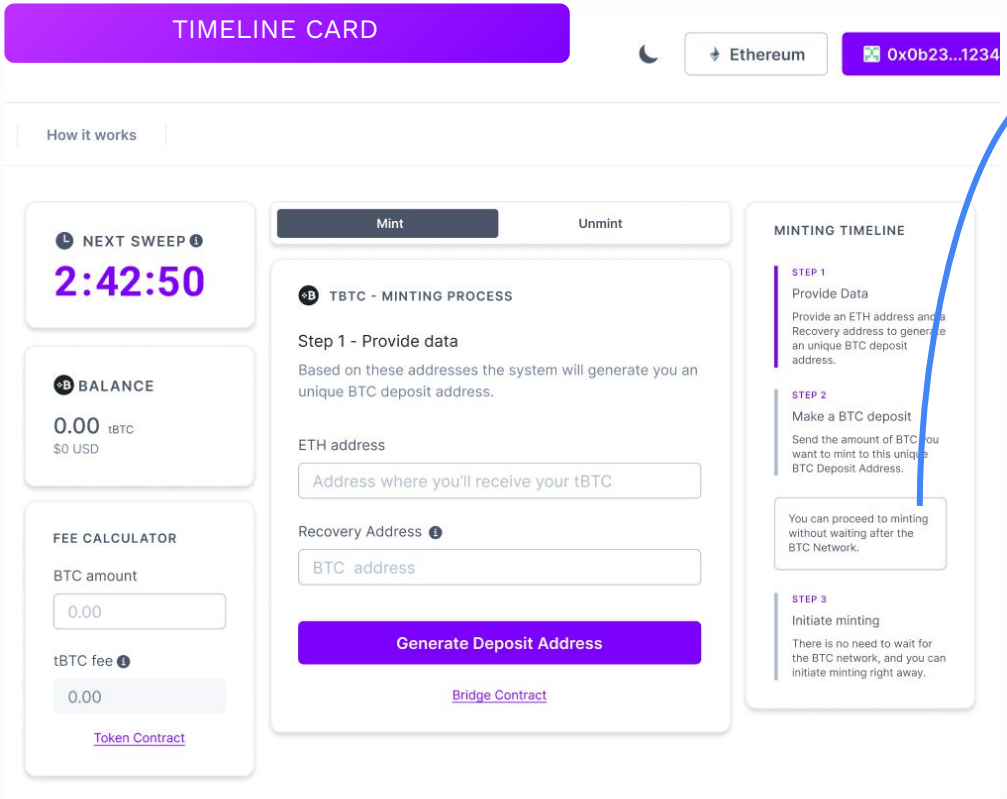
All participants found the TImeline card extremely helpful even though one of them did not notice it from the start. Step 1 and Step 2 were considered straight forward by all of the participants.

RECOMMENDATION

To avoid becoming noise on the layout, each step should have its explanation displayed when the user reaches the step. Visual support for each step could add value and help on the cognitive process.

The timeline card and the bridge card should be unified to follow the Gestalt principle and to ensure users understand that the timeline is part of the bridging process and it comes to their aid.

Findings and Recommendations



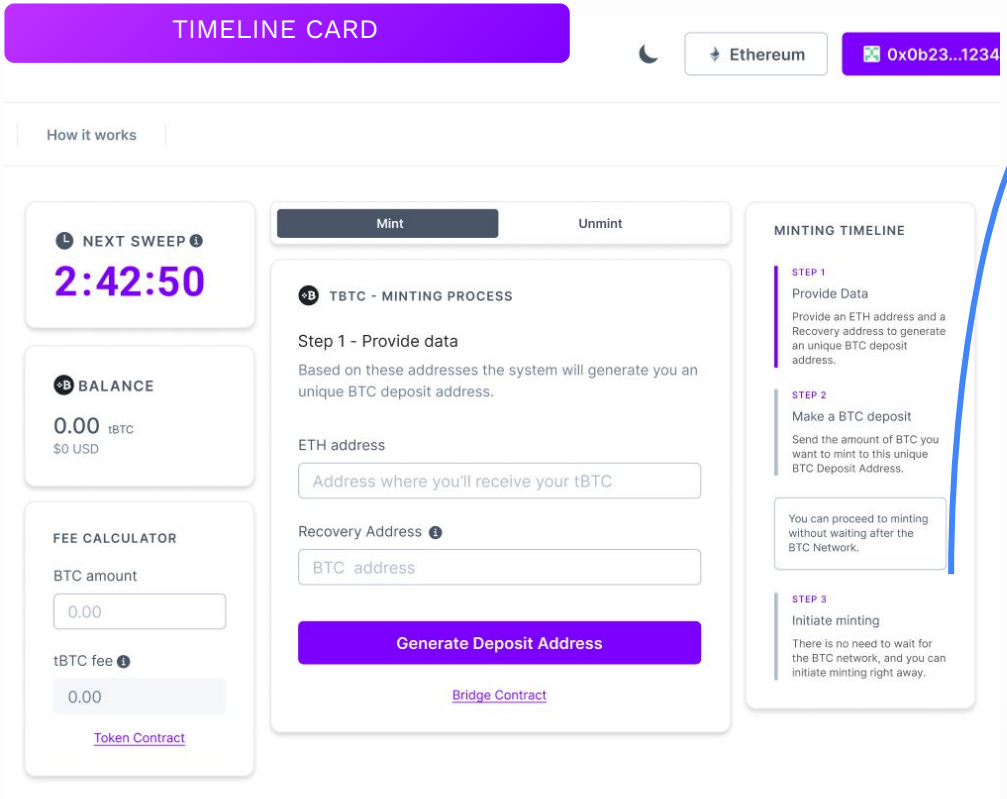
FINDING

The extra info between Step 2 and Step 3 confused most of the participants because it lacks some information.

RECOMMENDATION

Info Box - we need to make sure we mention to users that they do not need to wait for the BTC Network confirmations and that even though they initiate minting and it will be not included in the following sweep their gas is not paid in vain and it will be included in the next sweep.

Findings and Recommendations



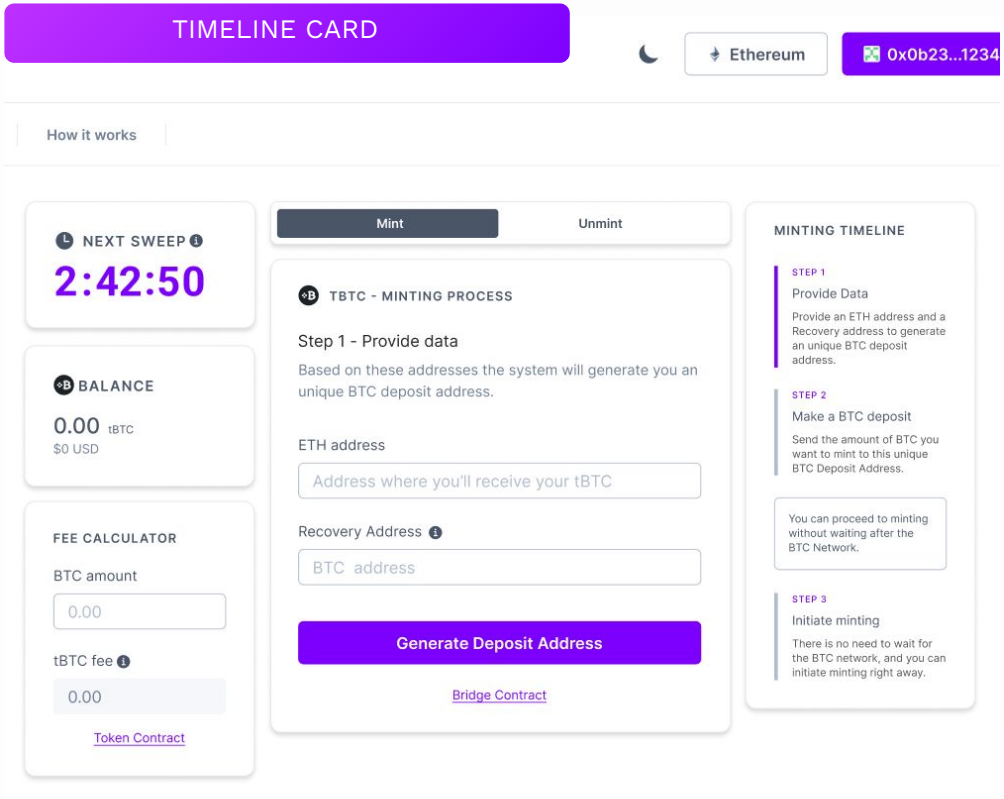
FINDING

Step 3 explanation didn't perform well either. Some of the participants needed a bit of closure and some of them found the text redundant to the extra info box.

RECOMMENDATION

We need to better explain and reword what is needed from the user in Step 3. We need to mention in this step they'll receive their ERC20 token.

Findings and Recommendations



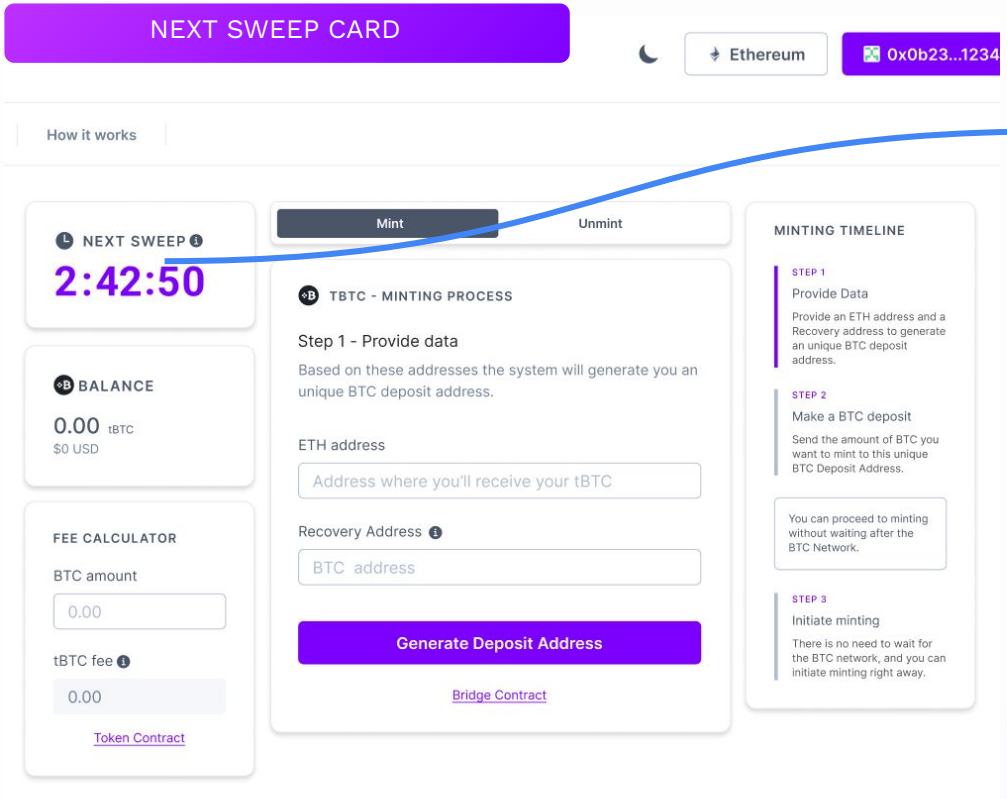
FINDING

We've noted that throughout the process there was no clear moment when users understood which part is done on Ethereum and which part is done on Bitcoin.

RECOMMENDATION

We could add labels with the networks to make it easier for users to understand which steps are on ETH and which is on BTC.

Findings and Recommendations



FINDING

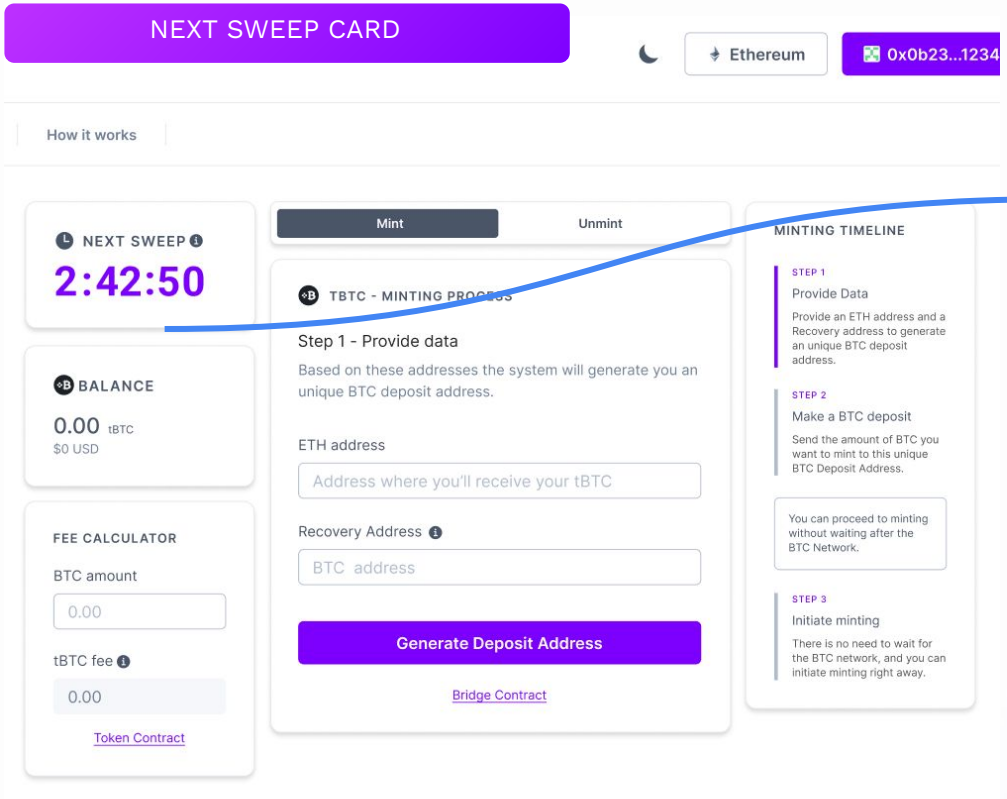
Many of the users were confused by the term sweep since it's a completely new term for them and they have never encountered it before. Some of them don't see the "i" icon for the tooltip.

RECOMMENDATION

We might want to change the name of sweep into Crossing or something else easier to understand and more relatable to our users.

As some of the users requested we could add a `Red more ` button inside the tooltip.

Findings and Recommendations



FINDING

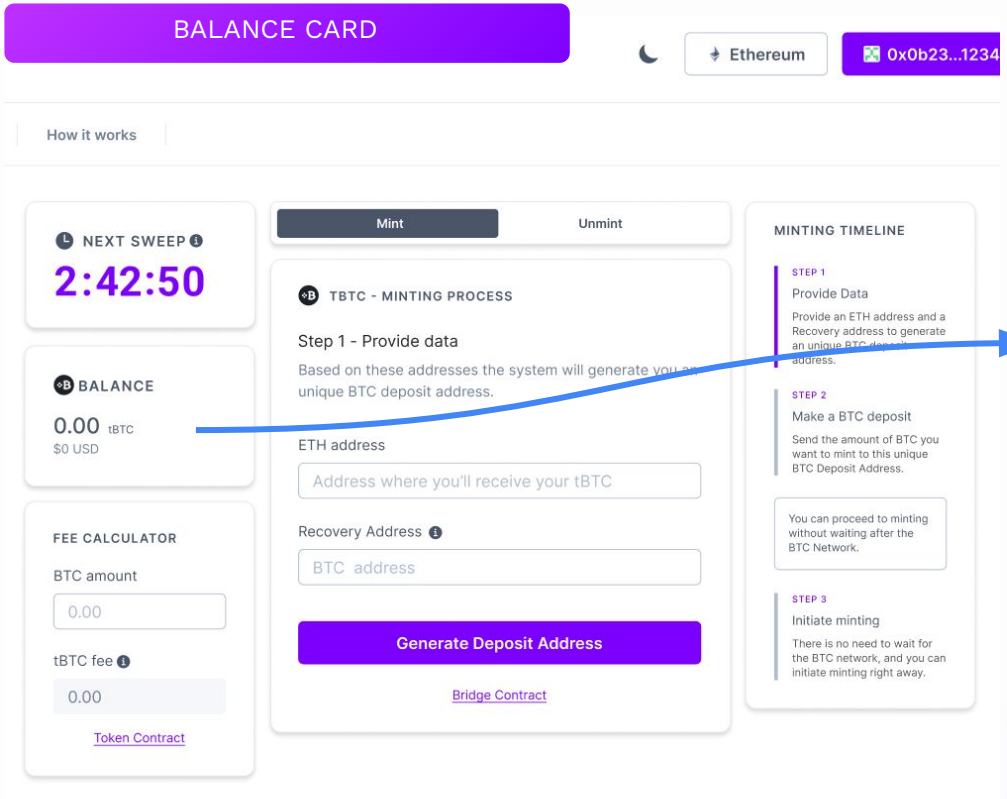
Some of the users, 2 out of 6 consider the countdown right there a bit stressful and state they feel as if they should be in a rush.

On the other hand some of them do not make the correct link between the sweep counter and the minting step.

RECOMMENDATION

We could consider moving the counter closer to the timeline, and reduce its importance.

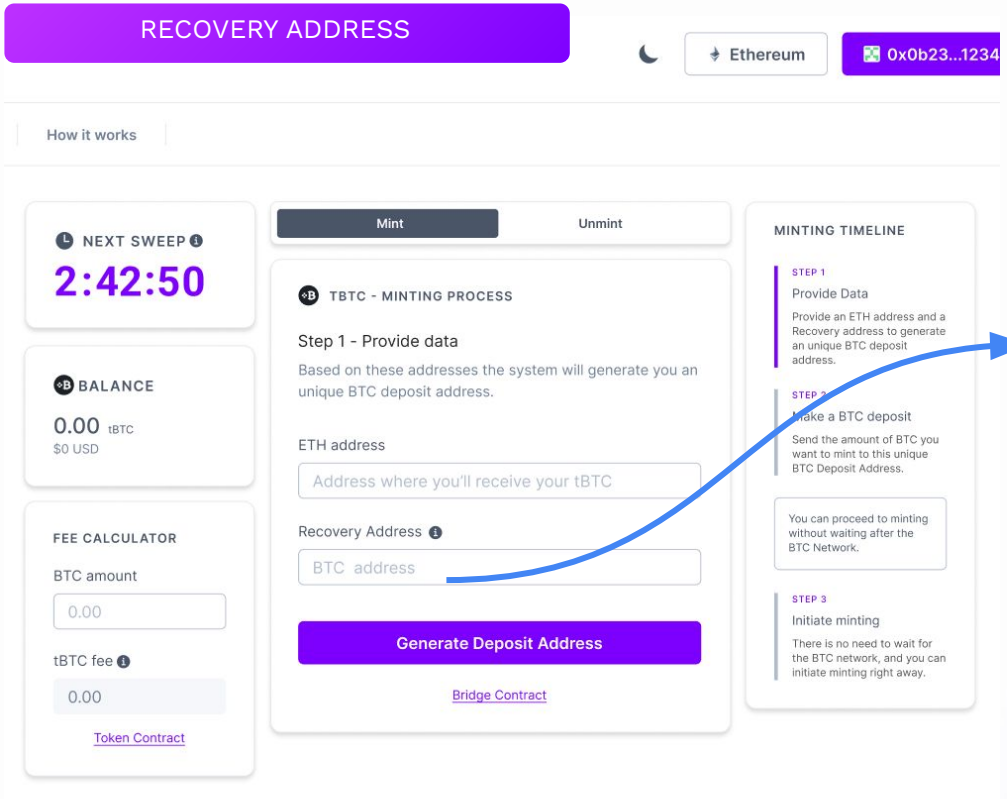
Findings and Recommendations



FINDING

Balance card is visible but we might want to integrate it better in the layout.

Findings and Recommendations

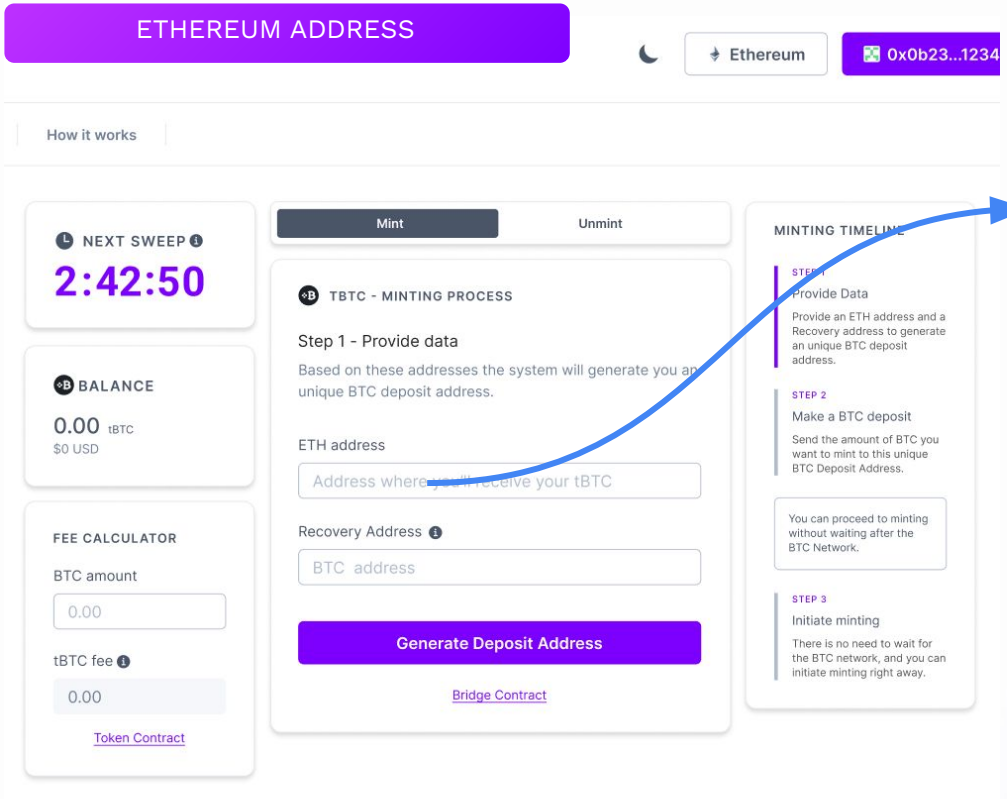


FINDING

2 out of 6 users stated that the fact that there is a recovery address means that there are many errors happening. Bear in mind these users were former v1 users so they have imprinted in their minds the fear of errors, and losses.

Users who did not interact with v1 appreciated that there is a method of recovery.

Findings and Recommendations



FINDING

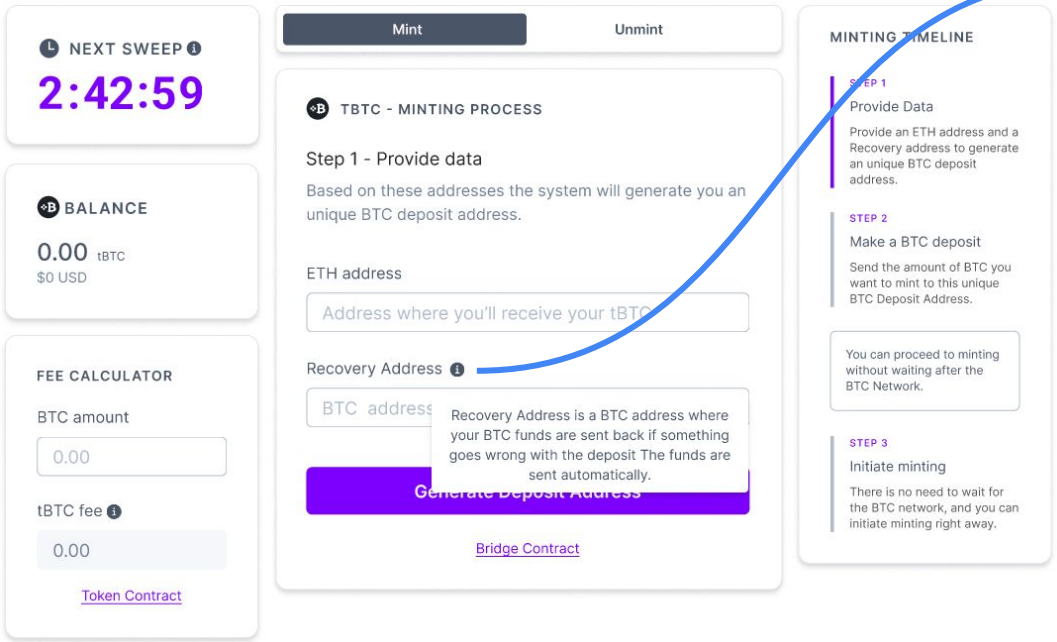
Some of the user consider adding the Ethereum address on their own a bit annoying and redundant and expect to have their ETH address filled in directly with their wallet address they are connected with.

RECOMMENDATION

Why might want to take into account filling in automatically with the ETH wallet address.

Findings and Recommendations

RECOVERY ADDRESS



FINDING

What most of the participants asked was when reading the tooltip what does “if something goes wrong” mean.
Also some of them expected to receive their funds in the recovery address instantaneously.

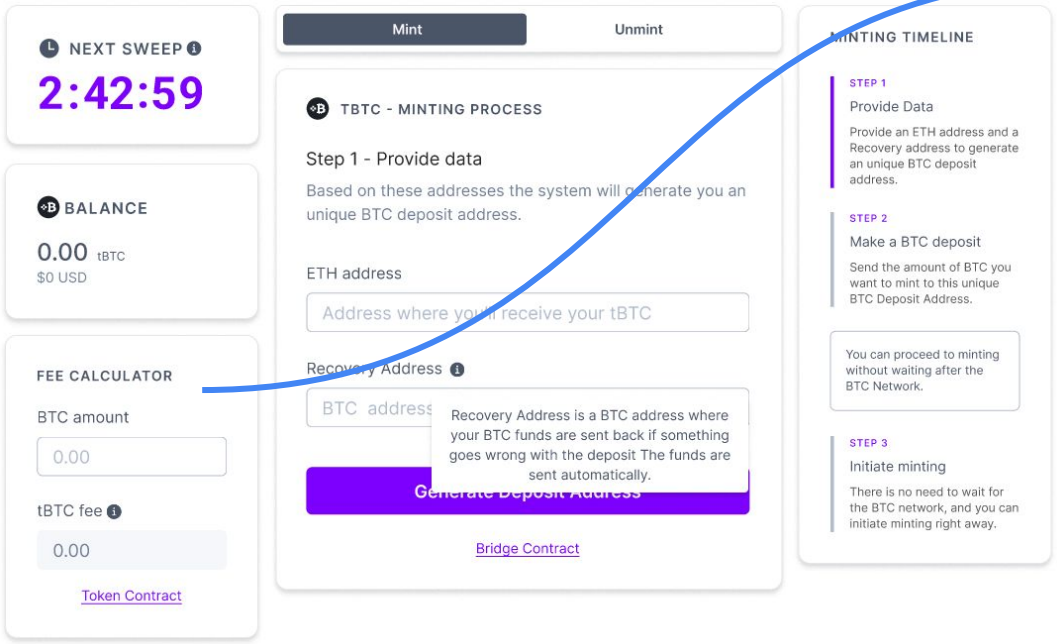
RECOMMENDATION

For the “something goes wrong” situations we could expand them in the How it works page and add a [Read more] button.

We should add “after 30 days in the tooltip”. Otherwise they find out about this period only from the How it works page.

Findings and Recommendations

FEE CALCULATOR



CLARIFICATION

Ask Piotr what is the currency of the Threshold Network fee - BTC or T?

FINDING

Most users did not pay attention at all to the fee calculator. Users would like more to see what they'd get for let's say 1 BTC rather than what they'd have to pay.

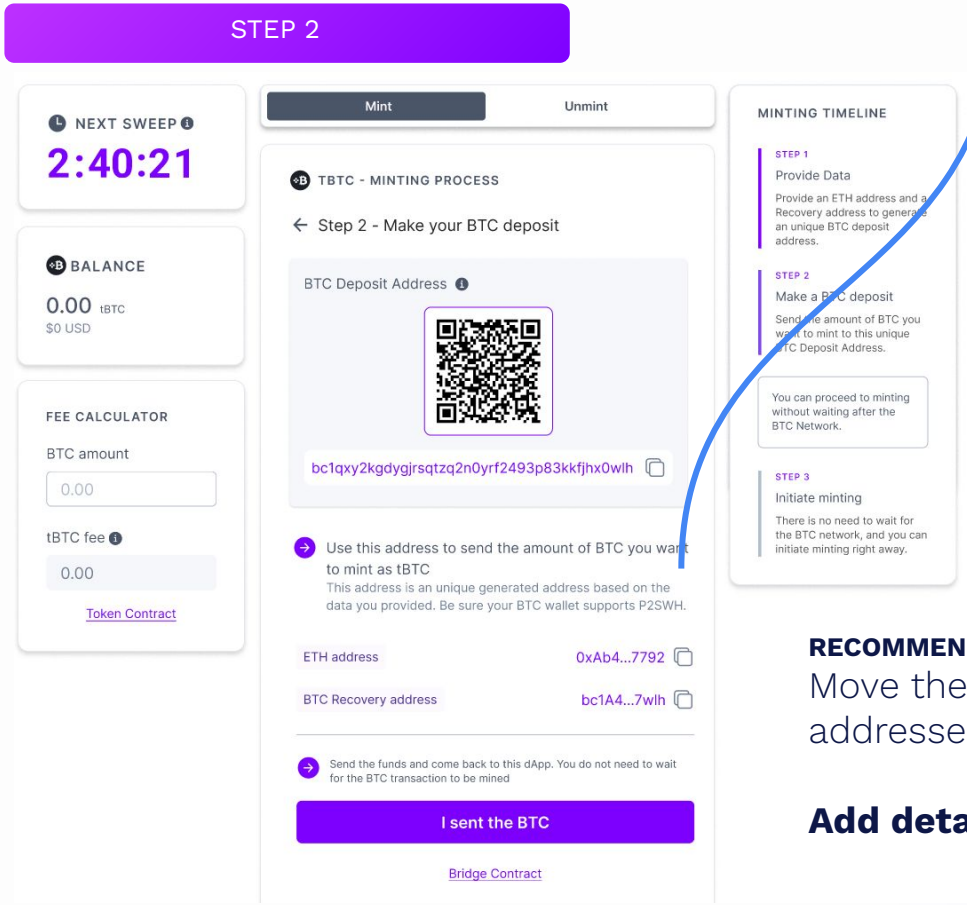
Some of them say that they'd like to see all of the fees - like gas fees, BTC network fees.

RECOMMENDATION

Few of the users had actually read the tooltip so it would be a good idea to right in the input what the fee is.

Also we should return in the tBTC field what they'd receive rather than the fee they'd pay. We need to mention that the fee is paid for unminting as well.

Findings and Recommendations



FINDING

Some of the users feel like they'd like to have the explanation text before the QR code.

Also the ones who used v1 do not understand if they can send a fraction or whole BTC or how much they're allowed to send.

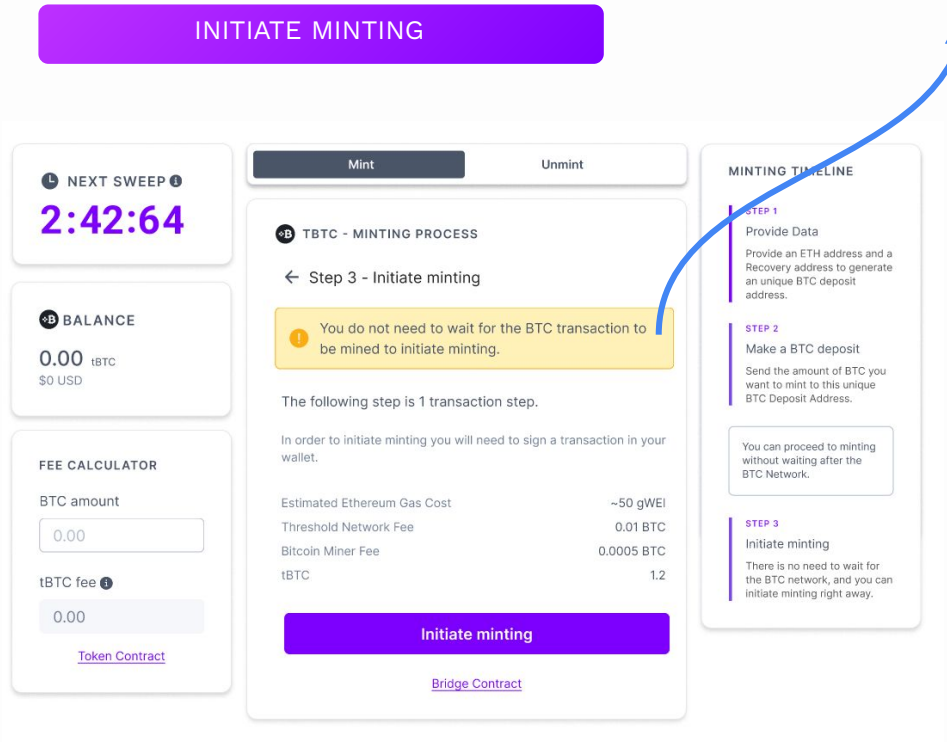
P2SWH and P2SH seem to e a little too technical for some of the participants.

RECOMMENDATION

Move the explanation text up. Add a label for the addresses recap. Make the directive text bigger.

Add details about the inexistence of a minting limit.

Findings and Recommendations



FINDING

All participants found that the informative text box in Step 3 is less confusing than the info box in the timeline.

RECOMMENDATION

Use the same info box text from this step in the info box from the timeline.

FINDING

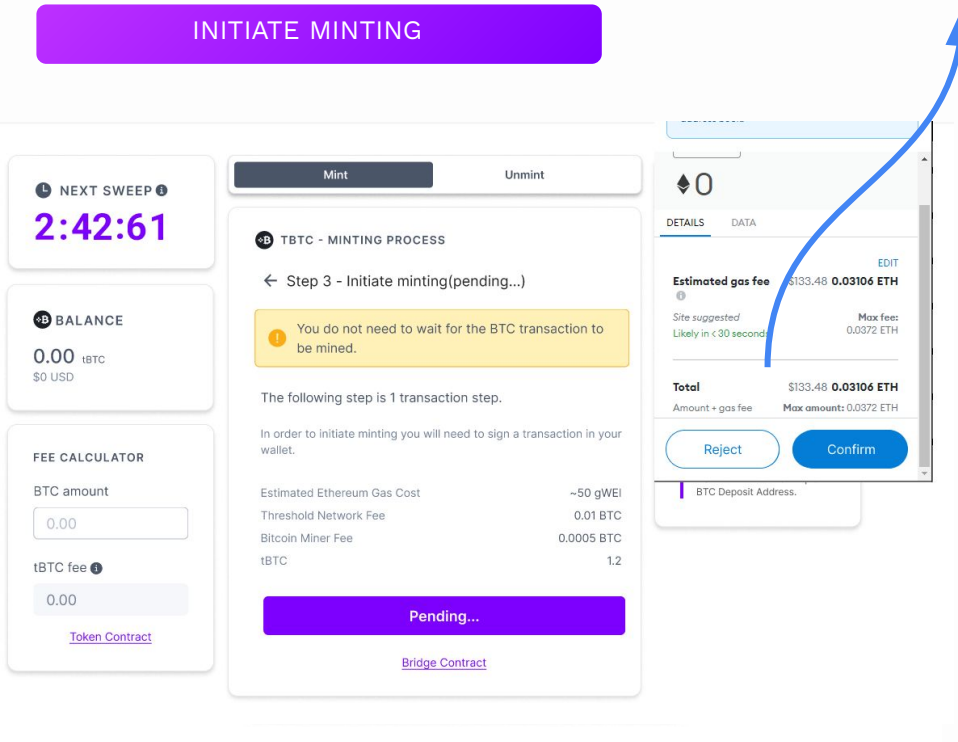
Some participants did not understand that the transaction is on Ethereum.

RECOMMENDATION

Better wording of Step 3.

Things to check:
- what's the currency for the Threshold Network Fee
- is this step about signing a transaction? If not what type of transaction is this.

Findings and Recommendations



FINDING

Some of the participants did no notice the state change and the MM triggered.

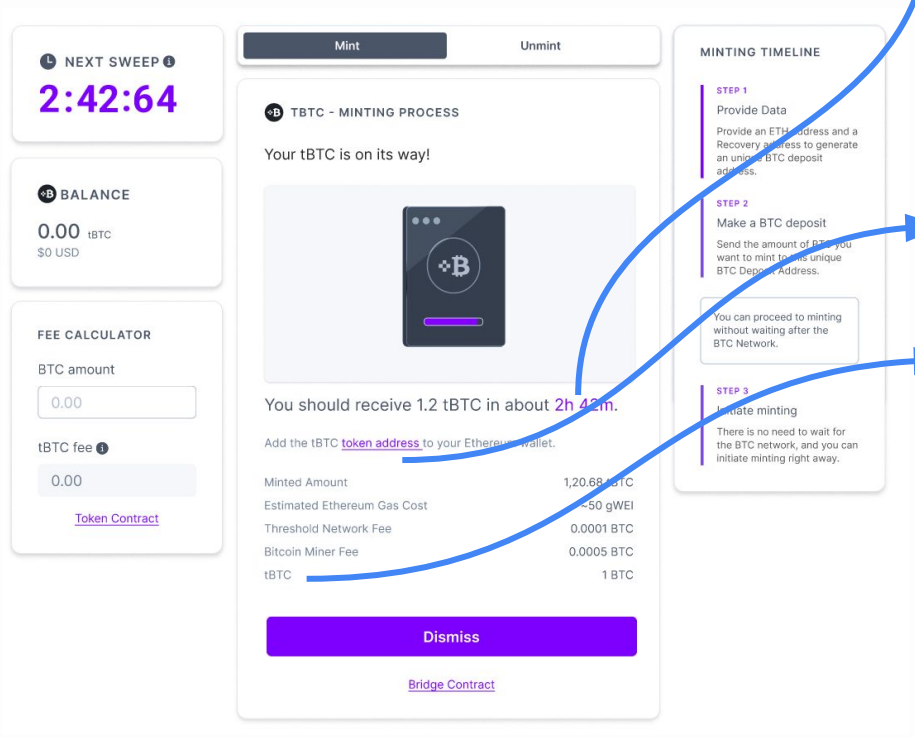
RECOMMENDATION

We should keep the same pattern of having an overlay and a pending state modal when users initiate a wallet interaction.

Also need to check what exactly is required for this transaction.

Findings and Recommendations

MINTING PENDING TO SUCCESS



FINDING

All of the participants liked very much this page. **They like a lot the fact that they could see how much tBTC they will receive and also the counter to show them how long it takes until the minting.**

They also loved a lot that the token address it right there.

This is an unnecessary info that can be removed.

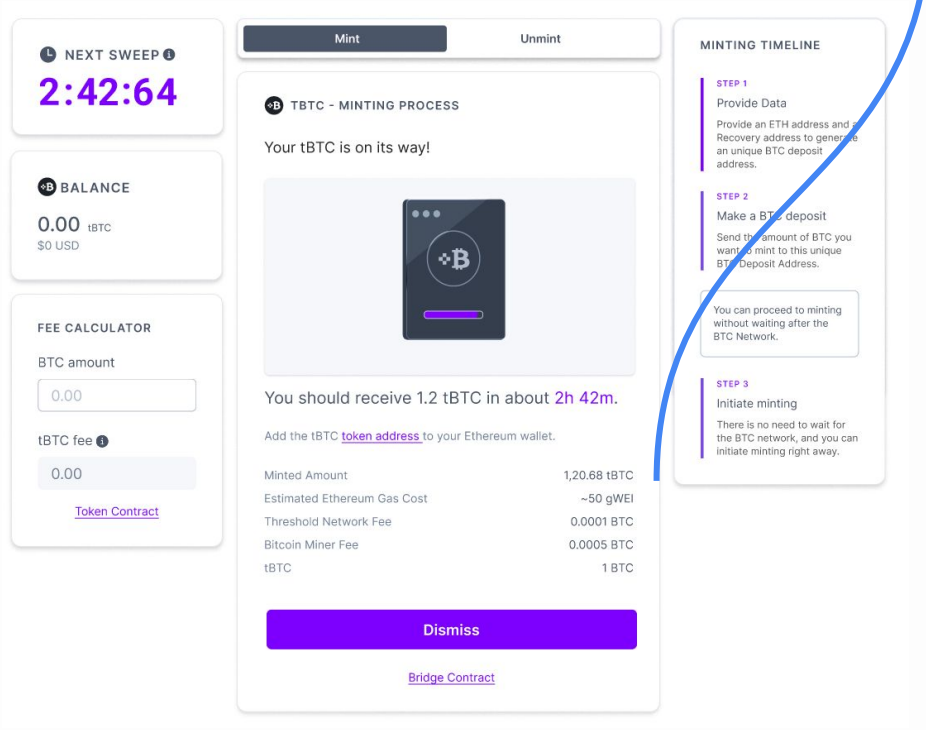
The illustration was misleading for some of them thinking that it's an actual loader.

RECOMMENDATION

Change the illustration to something that's more accurate or remove the loader and introduce an abstract counter.

Findings and Recommendations

MINTING PENDING TO SUCCESS



FINDING

Most of the users stated that they'd like **History of their mints and unmints and a way to revisit the information from this page.**

Also they stated that they'd like **a way in which the dapp would communicate to them that they have a minting in process.**

RECOMMENDATION

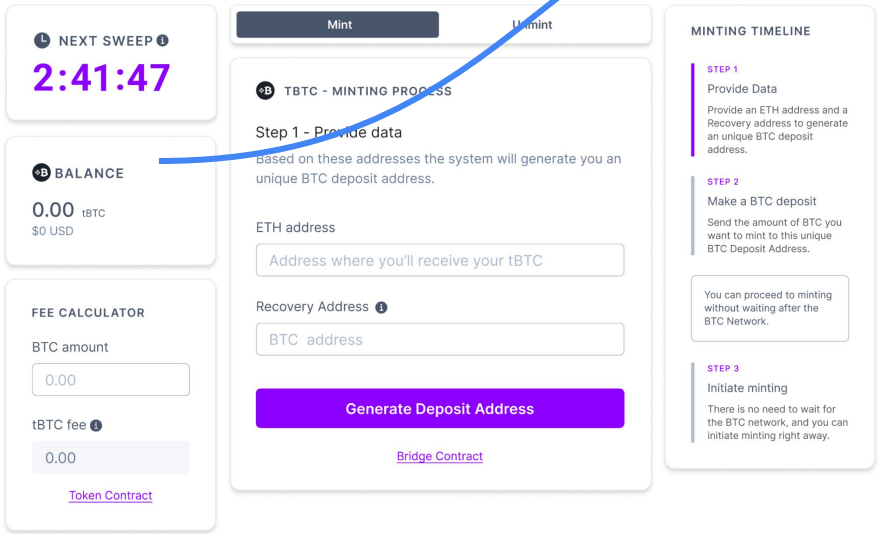
We should keep the same pattern of having an overlay and a pending state modal when users initiate a wallet interaction.

Also need to check what exactly is required for this transaction.

Add a history of transactions so the users can check what they've done.

Findings and Recommendations

MINTING PENDING TO SUCCESS



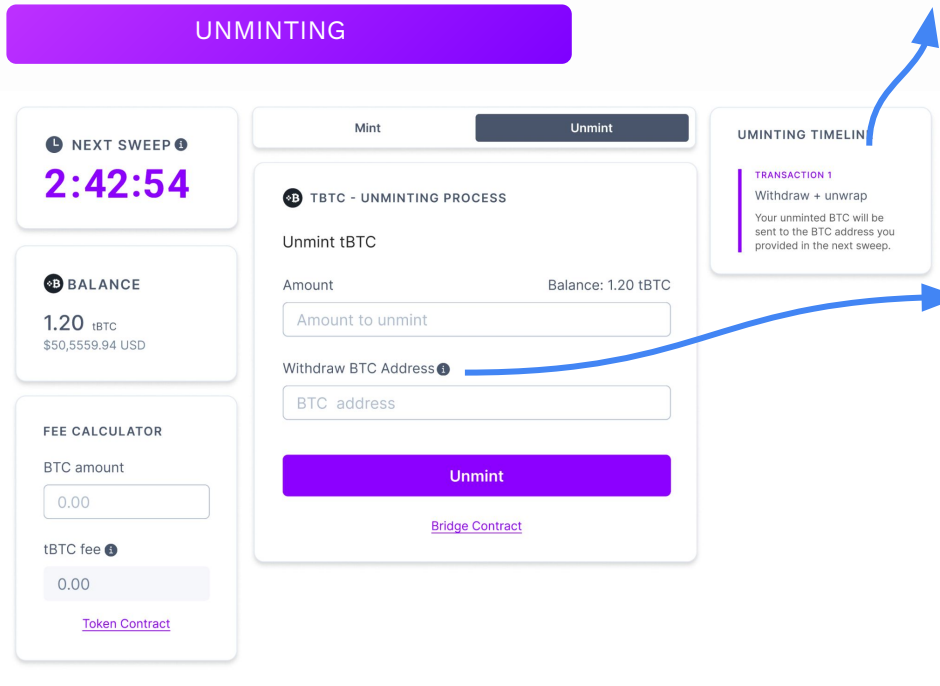
FINDING

Also they stated that they'd like a way in which the dapp would communicate to them that they have a minting in process.

RECOMMENDATION

Have a way of displaying the user has a minting waiting for the sweep..

Findings and Recommendations



FINDING

Users consider the unminting process much much easy, but some of them do not make the link between the sweeping time and the unminting.

Also some of them are asking **why they cannot have the withdraw BTC address pre-filled with their BTC sender address.**

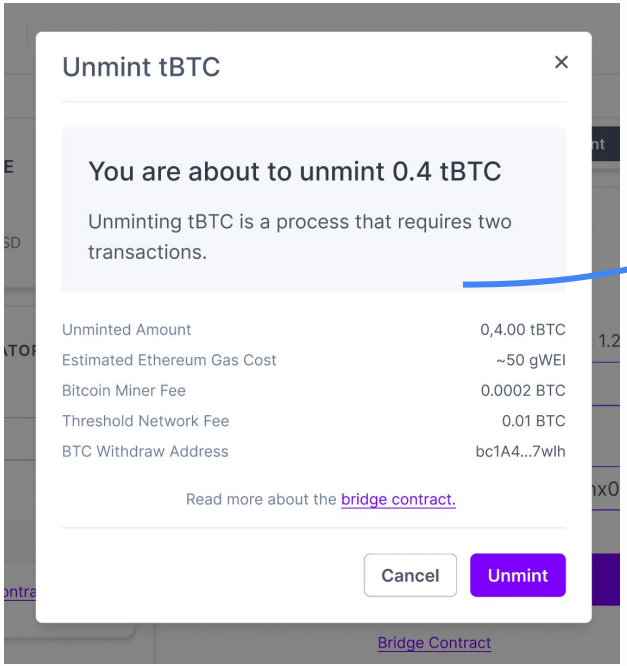
RECOMMENDATION

We need to move the sweep counter closer to the timeline as previously stated.

Might want to look into the possibility of pre-filling the withdraw address with the sender address (is that possible? Questions for Beau and Piotr).

Findings and Recommendations

UNMINTING



FINDING

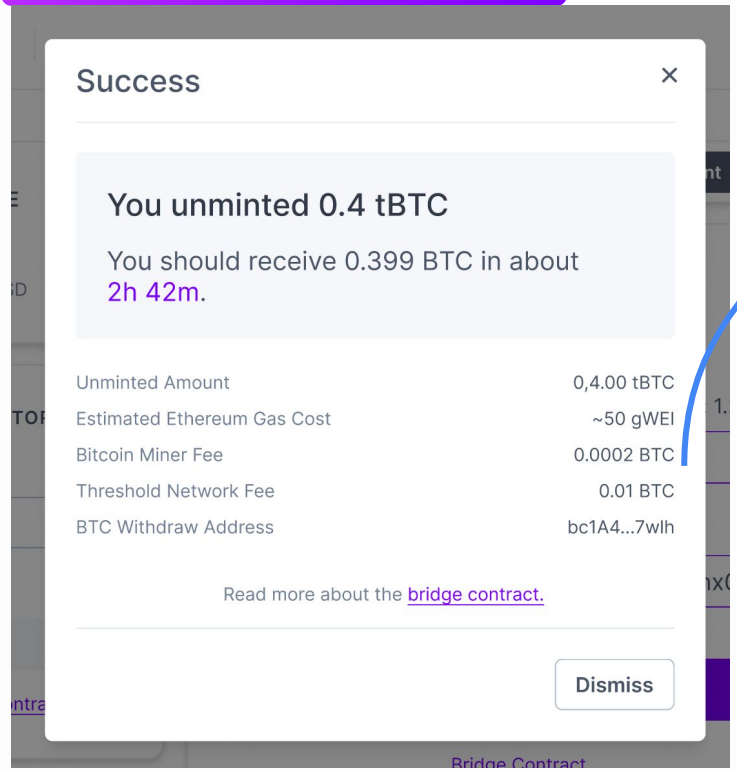
Users like this recap ,modal and there are 0 issues here. We just need to make sure how many transaction are required and maybe give some more details about what happens on the BTC side of things.

RECOMMENDATION

We just need to make sure how many transaction are required and maybe give some more details about what happens on the BTC side of things.

Findings and Recommendations

UNMINTING



FINDING

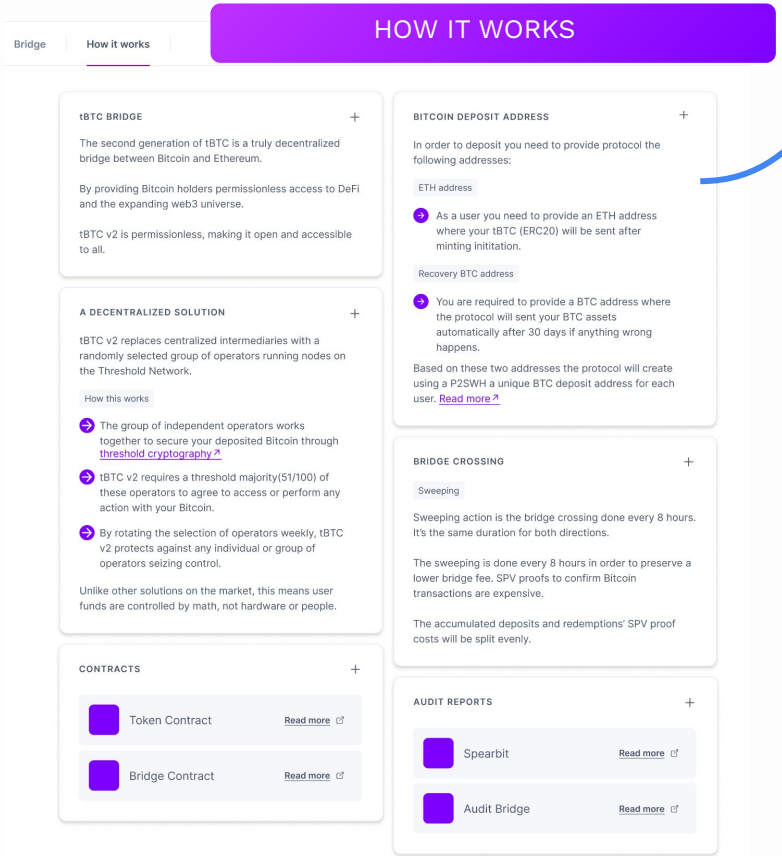
Same as earlier we need a way to signalise in the dApp the user has an unmininting in process and also add the info in a History section.

Unminted amount food for thought - should we display it in tBTC or in BTC?

RECOMMENDATION

Create a way to signalise in the dApp the user has an unmininting in process and also add the info in a History section.

Findings and Recommendations



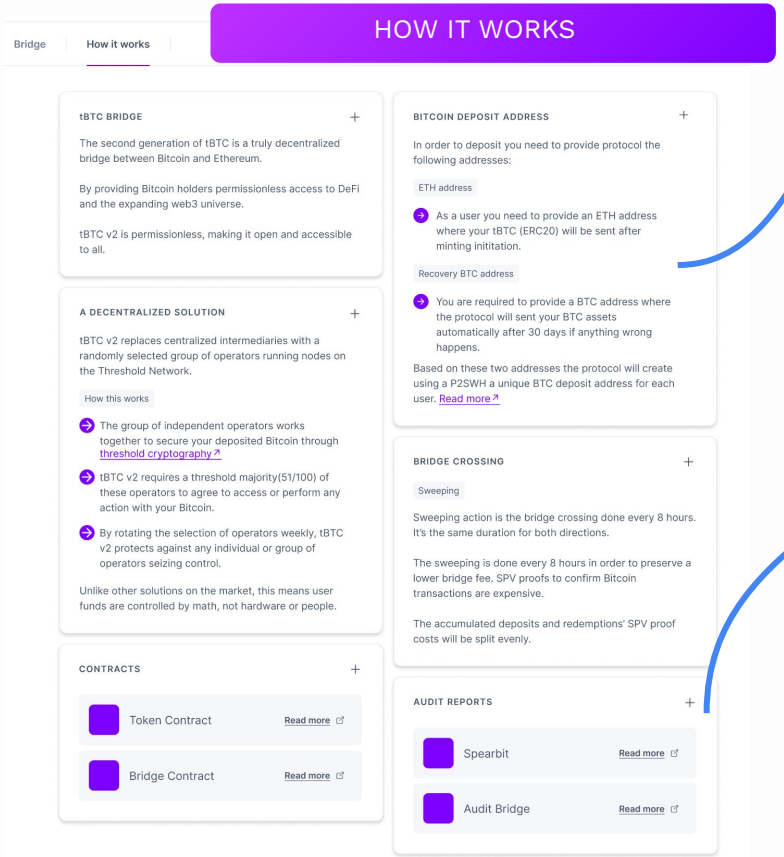
FINDING

It was observed that most of the participants would have appreciated the timeline of the actions being displayed here as well.

RECOMMENDATION

Create a way to signalise in the dApp the user has an unmininting in process and also add the info in a History section.

Findings and Recommendations



FINDING

Users read through the information but it was noted that they needed a better structured way of displaying the information following a pattern that we already used.

The headers of the cards don't seem to bring enough importance to the titles. Everyone loved the cards with the audits and the contracts.

RECOMMENDATION

We should display the information and explanations following the minting and unminting timeline and flows.

Some visual support might also break the walls of text here.

Overall experience rating

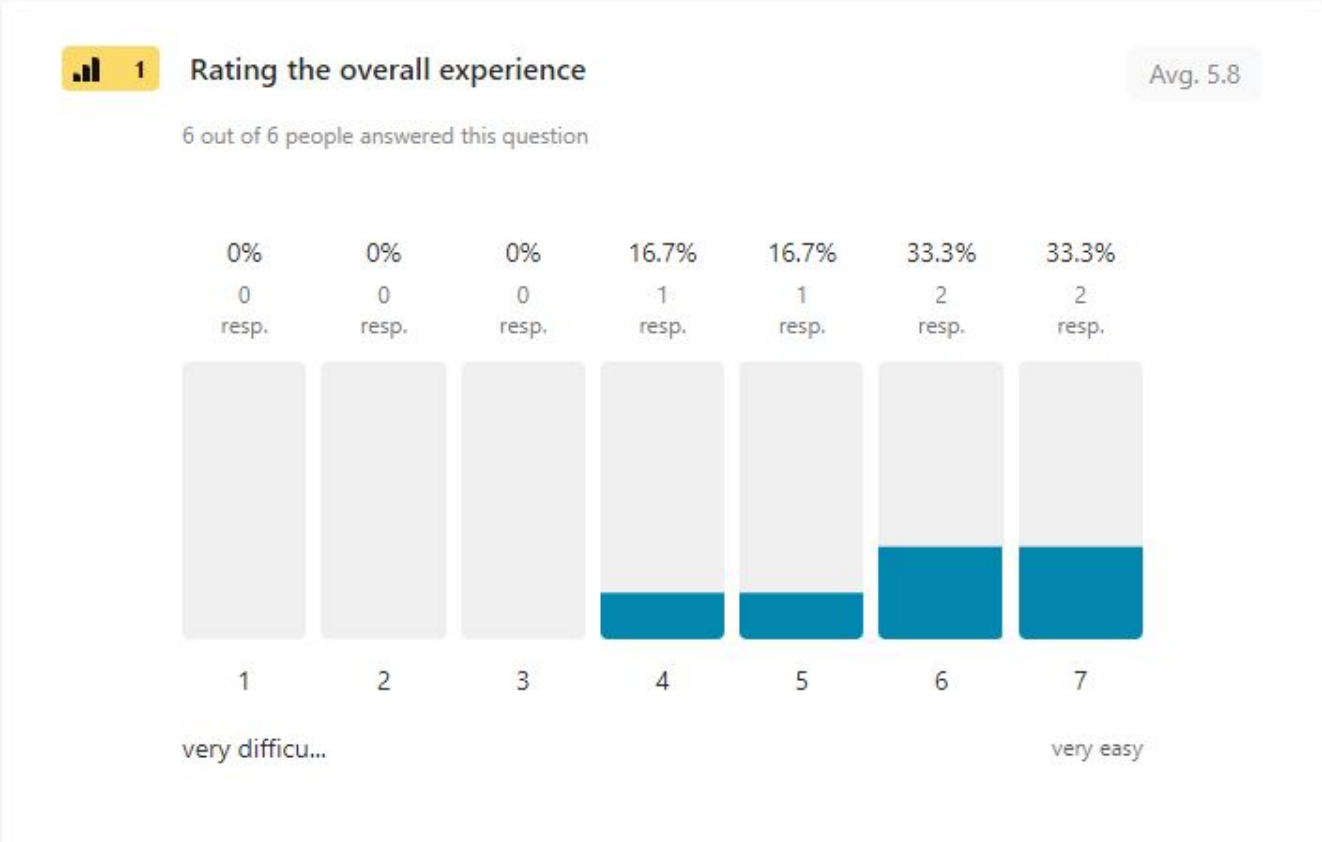
AVERAGE RATING **5.8**

Average Rating - 5.8

Why it didn't score 7? Reasons stated by the participants:

- It's a steep learning curve
- Step 3 in the minting timelines lacks some explanations
- The timeline doesn't have visual support
- Users do not understand which actions are on Bitcoin and which actions are on Ethereum
- They are confused by the sweep term and they do not understand why they do not need to wait for the Bitcoin confirmations
- They expect their tBTC to land in their wallets right after the deposit.
- Users want a history and the dApp to give them feedback about the fact that they have a minting/unminting waiting to be processed

Overall experience rating

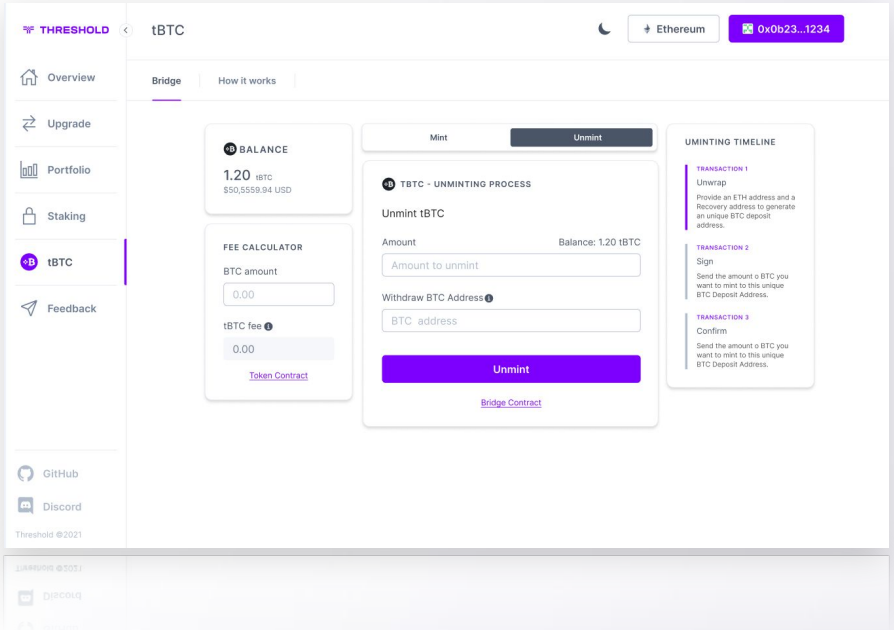


What’s Next

NEXT STEPS

Following this iterative user study the next action will be taken:

- Include the findings in the new design iteration of the tBTC dApp
- Run a new set of Usability Tests with at least 5 people



Love your users!