Collecting the right data at the right time can be a tough task, but don't worry I have got a solution. If we directly collect the data and purpose of the transaction before and after the transaction is completed. Then we could get correct data of address making transaction, address receiving the transaction and the purpose behind transaction(For ex: Singing a smart contract or buying/transferring any asset)

Let me simplify,

We all know how we have to sign through our wallet before making any transaction, what I'm saying that if we partner with the wallet ask them to collect all the listed detail of the transaction before signing the transaction and then they will ask for the permission to collect data from user in singing process no if the transaction is completed then they will confirm the data collected from the transaction.

How will this provide Security, Compliance and authenticity?

For Security

Let's take an example of in case of NFT stolen,

If an NFT is stolen then there will be the transaction of that NFT signed by both victim's and attacker's address so if we have collected the data of transaction then we will know if the NFT transaction is approved by victim or he was tricked and we will be able to blacklist that address or froze his assets.

For Compliance

Let's take an example of a case where an address has been limited to a certain number of transaction by a sanction,

If transaction data is stored then we will be able to see the number of transactions he is making and we could see if he is obeying sanction or not.

For Authenticity

Let's take an example of a address trying to create a copied project of token,

If transaction's data has been stored we will be able to see how old both of smart contract has been deployed and obviously address with oldest deployed smart contract will be original.