RanchiMall

Smart Contract System

Technology

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INTRODUCTION

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A smartcontract is like a Taxi meter.
It provides more trust compared to driver charging arbitrarily.

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What are smart contracts

Smart contracts are payment mechanisms when there are multiple parties that need to make payment to each other.

Ordinarily most of the payments can be done from senders to receivers using direct transfers.

Smart Contracts are useful when these payments have additional conditions attached to them, and everyone needs to get the assurance that payments will be made exactly as per those conditions.

Those additional conditions could be:

1. Payment to be made after a specified time.
2. Payments to be made only upto a certain maximum amount.
3. Payments to made to receiver only when a minimum amount has been collected.
4. Payment made to all successful participants who made a correct choice before an event.

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We can also have single transaction smartcontracts.

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ONE TRANSACTION SMART CONTRACTS

1.
Asset Exchange smart contracts:
If 100 RMTs are sent to XYZ address, then rights to asset ABC will be transferred to RMT sending address.The ownership of asset ABC is given to smartcontract while the smart contract is live. If no one sends RMTs to XYZ address, then ownership rights will revert back to creator.

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This is an event triggered smart contract. Some one sending 100 RMTs to smart contract address will trigger the smart contract.

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2.

Asset Unlocking Smart Contract:

If 100 RMTs are sent to some smartcontract, then password to asset would be linked to RMT sender's address.

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3.

Joint Asset purchase smart contract:

Everyone who puts 5 RMT gets a 5% share of 100 RMT asset purchase.

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4.

Credit Smart Contract:

Someone puts 100 RMTs in some address, and credit is given to him.

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RanchiMall has designed a smartcontract platform on the FLO Blockchain.

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We have introduced additional restrictions in order to guarantee trust for end users.

1.
All smartcontracts will be of standard types so that there are no obscure or hidden codes.

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2.
A smartcontract creator can only lock the funds, but will have no powers in distributing the funds.

3.
Distribution of funds can only happen either automatically through terms of the standard smartcontract, or if a data feed is given through a public committee/oracle organized by RanchiMall.

These restrictions will ensure that there is no scenario where users funds could diverted except the terms of standardized smartcontracts.

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FULL LIST OF RANCHIMALL STANDARD SMARTCONTRACTS

1. Expirytime - payeeaddress
2. Expirytime - payeeaddress - contractAmount
3. Expirytime - payeeaddress - minimumsubscriptionamount
4. Expirytime - payeeaddress - contractAmount - minimumsubscription amount

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5. Expirytime - payeeaddress - maximumsubscription amount
6. Expirytime - payeeaddress - contractAmount - maximumsubscription amount
7. Expirytime - payeeaddress - minimumsubscription amount - maximumsubscription amount
8. Expirytime - payeeaddress - contractAmount - minimumsubscription amount - maximumsubscription amount

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9. Expirytime - userchoice
10. Expirytime - userchoice - contractAmount
11. Expirytime-userchoices-minsubscriptionamount
12. Expirytime-userchoices-maxsubscriptionamount
13. Expirytime-userchoices-contractamount-minsubscriptionamount

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14. Expirytime-userchoices-contractamount- maxsubscriptionamount
15. Expirytime-userchoices-contractamount -minsubscriptionamount-maxsubscription amount
16. Expirytime-userchoices-minsubscription amount-maxsubscriptionamount

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1. Expirytime - payeeaddress

Meaning: Any token given to the smartcontract is given to payeeaddress at expirytime.

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2. Expirytime - payeeaddress - contractAmount

Meaning: Total tokens given to the smartcontract is given to payeeaddress at expirytime. Each participation should only send exactly the specified contractAmount, or else the participation is rejected.

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3. Expirytime - payeeaddress - minimumsubscriptionamount

Meaning: All tokens given to the smartcontract is given to payeeaddress at expirytime. When the contract expires, if the total tokens collected is less than the minimumsubcriptions, tokens collected are given back to participants and contract is closed.

4. Expirytime - payeeaddress - contractAmount - minimumsubscription amount

Meaning: All tokens collected by the smartcontract are given to payeeaddress at expirytime. Each user pariticipation must be of the standard contractAmount specified. When the contract expires, if the total tokens collected is less than the minimumsubscriptionamount, tokens are refunded back to participants and contract is closed.

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5. Expirytime - payeeaddress - maximumsubscription amount

Meaning: All tokens given to the smartcontract is given to payeeaddress at expirytime. Any token collected above maxsubscriptionamount will be rejected.

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6. Expirytime - payeeaddress - contractAmount - maximumsubscription amount

Meaning: All tokens collected by the smartcontract are given to payeeaddress at expirytime. Each user pariticipation must be of the standard contractAmount specified. Any token collected above maxsubscriptionamount will be rejected.

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7. Expirytime - payeeaddress - minimumsubscription amount - maximumsubscription amount

Meaning: All tokens can be collected by the smart contract in any denomination, and are distributed to payeeaddress after expirytime only if minimumsubscription amount is collected. Any token collected over maxsubscriptionamount is rejected.

8. Expirytime - payeeaddress - contract Amount - minimumsubscription amount - maximumsubscription amount

Meaning: All tokens must be collected in standard contractamount by the smart contract, and are distributed to payeeaddress after expirytime only if minimumsubscription amount is collected, otherwise it is refunded to contributors. Any token collected over maxsubscriptionamount is rejected.

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9. Expirytime - userchoice

Meaning: All tokens collected by the Smart Contract are distributed to only those participants who, in their participation message, marked the choice selected as winning choice by trigger message. Trigger message must come after expirytime. The entire token collection of Smart Contract is distributed to every correct participation entry proportionally.

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10. Expirytime - userchoice - contract Amount

Meaning: Total tokens given to the smartcontract is distributed proportionately to the winning userchoice as nominated by committee message after expirytime. Each participation should only send exactly the specified contractAmount, or else the participation is rejected.

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11. Expirytime-userchoices-minsubscriptionamount

Meaning: All tokens collected by the smart contract are distributed proportionately to the winning userchoice as nominated by committee message after expirytime only if minimumsubscription amount is collected, otherwise it is refunded to all contributors.

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12. Expirytime-userchoices-maxsubscriptionamount

Meaning: A smart contract of this type distributes all the tokens collected, proportionaly back to the participating selecting winning userchoice as nominated by commitee message after expirytime. Any token collected above maxsubscriptionamount will be rejected.

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13. Expirytime-userchoices-contractamount-minsubscriptionamount

Meaning: All tokens must be collected in standard contractamount by the smart contract, and are distributed proportionately to the winning userchoice as nominated by commitee message after expirytime only if minimumsubscription amount is collected, otherwise it is refunded to all contributors.

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14. Expirytime-userchoices- contractamount - maxsubscriptionamount

Meaning: A smart contract of this type collects tokens in standard contractamount only and distributes all the tokens collected, proportionately back to the participating selecting winning userchoice as nominated by committee message after expirytime. Any token collected above maxsubscriptionamount will be rejected.

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15. Expirytime-userchoices-contractamount -minsubscriptionamount -maxsubscriptionamount

Meaning: All tokens must be collected in standard contractamount by the smart contract, and are distributed proportionately to the winning userchoice as nominated by committee message after expirytime only if minimumsubscription amount is collected, otherwise it is refunded to all contributors. Any token collected over maxsubscriptionamount is rejected.

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16. Expirytime-userchoices -minsubscriptionamount -maxsubscriptionamount

Meaning: All tokens can be collected by the smart contract in any denomination, and are distributed proportionately to the winning userchoice as nominated by committee message after expirytime only if minimumsubscription amount is collected, otherwise it is refunded to all contributors. Any token collected over maxsubscriptionamount is rejected.

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Expirytime: Why is it needed?

1. All smartcontracts need a specific expirytime, so that everyone knows when the smartcontract closes.

2. Expirytime can be very short like a day or very long like few years. But it puts a specific time period ranging from weekend time frame to retirement age time frames.

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Expirytime: Why is it needed?

3. Expirytimes ensures that tokens do not get locked into smartcontract forever.

4. Smartcontract creators have no control on tokens after they have submitted the smartcontract except as per the terms of smartcontract. So a default exit has to be present.

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Payeeaddress: Why is it needed?

1. Gains do not go to partcipants immediately.

2. Gains go to third party.

3. Payeeaddress is needed to send all tokens to another entity first without having to distribute to participants first with blockhain proof of payment.

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contractAmount: Why is it needed?

1. It standardizes the contribution. So it brings the benefits of standardization like more usability.
2. Transferability is easier.
3. Contributors have to just decide yes or no. They do not have to ponder on how much to contribute.
4. Represents equal rights per contribution scenario.

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Minimumsubscriptionamount:
Why is it needed?

1. Gauging public interest on a new innovation, and potentially turning it into an enterprise in case minimumsubscription amount is met.

2. This will setup that enterprise for future funding with proof of concept, and measure of support.

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Minimumsubscriptionamount:
Why is it needed?

3. It assures public verifiability of a new idea.

4. It gives a guarantee to all contributors that the project indeed will be closed, otherwise all their funds will be released back to them.

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Minimumsubscriptionamount:
Why is it needed?

5. To select among many projects. Those who meet minimumsubscription amount means they have achieved viability. Its like first past the post system.

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minimumsubscriptionamount=

Gauging interest + public verifiability + proof of concept + selection + first past the post + assurance of completion

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Maximumsubscriptionamount:
Why is it needed?

1. Those scenarios where expenses are precisely budgeted out.
2. Contributors need an assurance that organizers will get no more tokens than needed.
3. When fund raiser needs people to hurry up, otherwise opportunity to invest will be lost.

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Maximumsubscriptionamount: Why is it needed?

4. When the fund raiser wants to publicly demonstrate a constraint and upper limit.

5. Maximumsubscription amount will accelerate fundraising, as people know there are limited spots.

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1. Expirytime - payeeaddress

Applications:

This is good for crowdfunding scenarios with payments coming in multiple denominations, all of which will be given to receiver at expirytime. This is good for scenarios where A has to pay B to start some work, but B needs to be sure A has blocked the money for the job. And he will definitely get paid after the job is over.

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1. Expirytime - payeeaddress

Applications:

Cases:

A) Freelancer payments:

Freelancer will ask employer to block tokens in a smart contract in advance, to be released on a certain due date.

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1. Expirytime - payeeaddress

Applications:

Cases:

B) Musicians getting paid for gigs:

Bands will ask host for tokens to be blocked in smart contracts before the performance, and the band will be paid automatically upon expiry time.

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1. Expirytime - payeeaddress
Applications:

Cases:
C) Crowdfunding for a certain music concert where every contribution is of different token amount.

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2. Expirytime - payeeaddress - contractAmount Applications

This is good for scenarios where masses have to interact with each other for a certain activity or event, and all contributions must be standard.

This is also good for scenarios when someone needs to save money regularly for a future big expenditure. He will himself be recipient in that case.

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2. Expirytime - payeeaddress - contractAmount Applications

A person has to sell tickets for a concert. All the prices of the ticket are same, specified by the contractAmount.

Also token sales can be organized using this kind of contract. All payments are in standard amounts, and record of everyone making a payment in the contract is available.

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2. Expirytime - payeeaddress - contractAmount
Applications

Mass group buying can be organized when every contribution must be equivalent.

Making payments for livestreams where number of privileged places are limited.

2. Expirytime - payeeaddress - contractAmount
Applications

A family setting up a trust fund for their kid. For 20 years they pay 10 token# to the contract, after 20 years all the tokens go to a specified flo address. If the tokens increase in value in those 20 years, it will ensure long term gains.

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2. Expirytime - payeeaddress - contractAmount Applications

Long term investment where the returns must come after 20 years, and tokens are locked till then.

Retirement planning when a person needs to be assured he must get a definite amount in future, he keeps on contributing tokens to himself.

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2. Expirytime - payeeaddress - contractAmount

Applications

Planning for a future big expense for which you want to start saving now: like child higher education, house purchase, child marriage.

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