Team-Name:VIJAY04
Track-2:Gaming-DiceRollingGame

Gaming

Design a game or gaming platform on Tezos that leverages the benefits of Web3

Objectives:

- A group of people (invite only) can join only by Using Unique Game Code Set By the Admin

- All winners receive prizes(Based on Their Bet Amount)
  - The Winner with high bet amount receives the highest share

    For Example:

    Bob(winner,bet_amount=10xtz)

    Alice(winner,bet_amount=20xtz),

    ack(Runner,bet_amount=10xtz)

    Winners_total_bet=(10+20)xtz=30xtz

    Total Pool=(10+20+10)xtz=40xtz

    Bob_share=(bob's bet_amount/winners_total_bet)*total_pool=(10/30)*40= 13.33xtz(3.33xtz profit)

    alice_share=(alice's bet_amount/winners_total_bet)*total_pool=(20/30)*40= 26.66xtz(6.66xtz profit)

At_initiation:

- Dice->-1 (To represent Dice Not Set By the User Yet)

STORAGE	INTERACT	OPERATIONS	CODE & RAW

Storage

Dice	Admin	Game_code	Players				TotalBets	Winners	Winners_count
-1	tz1PtX8vDfB...	"	Key	Bet	Guess	Player	0		0

Addresses

Path	Address	Explore
admin	tz1PtX8vDfB...	TzKT

Initial setup

Game Initiated By the admin:

Note:
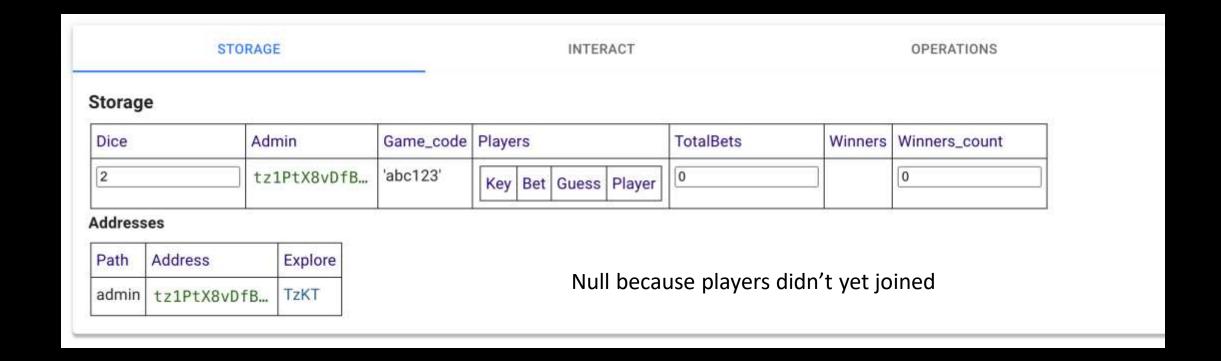
      1) Code and Dice Can only be Set By the Admin(Using Set_Dice()EntryPoint)

      2)Here admin is already set to ("tz1PtX8vDfBFsD5GJEmrCdXiqabETCvLVaYp")

After Game initiated By the admin:

Note:

    1)Dice was Set and Game_Code Is created

    2)Players can only join with the game code or else Exception reported.

Null because players didn't yet joined

Adding Players:

Note:

       1)Bet Amount is in Tez Type(xtz).

       2)Game_code Must be valid or else not executed.

       3)Guess is set by the player.

Adding Players:(Added 3 Players)

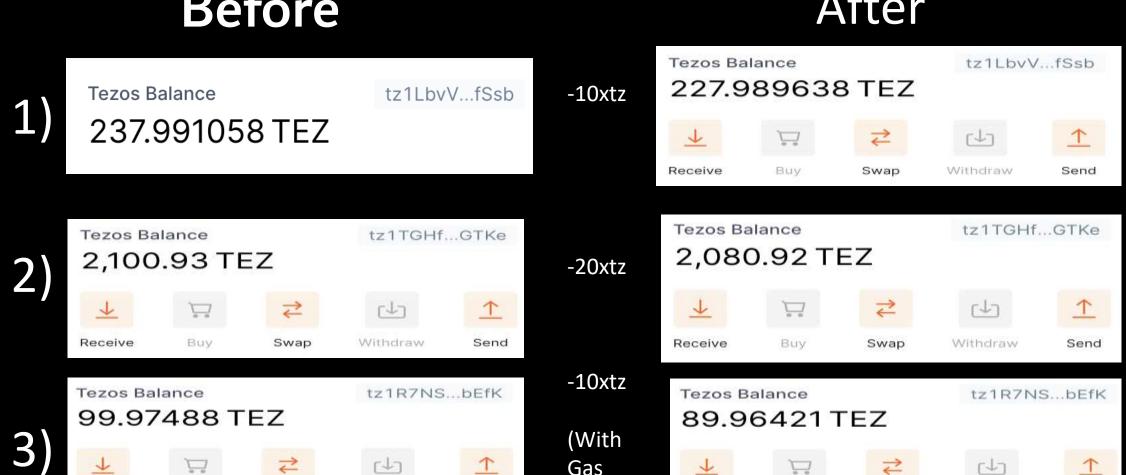## Before

After

1)

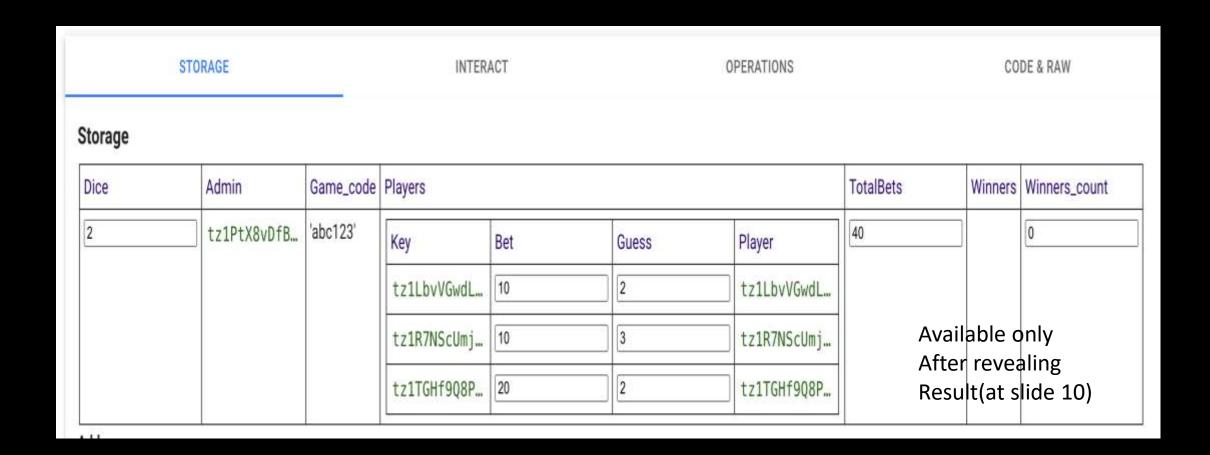Tezos Balance   tz1LbvV...fSsb
237.991058 TEZ

-10xtz

Tezos Balance   tz1LbvV...fSsb
227.989638 TEZ

Receive   Buy   Swap   Withdraw   Send

2)

Tezos Balance   tz1TGHf...GTKe
2,100.93 TEZ

Receive   Buy   Swap   Withdraw   Send

-20xtz

Tezos Balance   tz1TGHf...GTKe
2,080.92 TEZ

Receive   Buy   Swap   Withdraw   Send

3)

Tezos Balance   tz1R7NS...bEfK
99.97488 TEZ

Receive   Buy   Swap   Withdraw   Send

-10xtz

(With Gas Price)

Tezos Balance   tz1R7NS...bEfK
89.96421 TEZ

Receive   Buy   Swap   Withdraw   Send

Storage, After Adding Players:

STORAGE	INTERACT	OPERATIONS	CODE & RAW

Storage

Dice	Admin	Game_code	Players					TotalBets	Winners	Winners_count
2	tz1PtX8vDfB…	'abc123'	**Key**	**Bet**	**Guess**	**Player**		40		0
			tz1LbvVGwdL…	10	2	tz1LbvVGwdL…				
			tz1R7NScUmj…	10	3	tz1R7NScUmj…				
			tz1TGHf9Q8P…	20	2	tz1TGHf9Q8P…				

Available only
After revealing
Result(at slide 10)

Revealing Results:For all Players

Storage, After Reavealing Results:

Now,

      1)Winners list is assigned

      2)Totalbets is Calculated
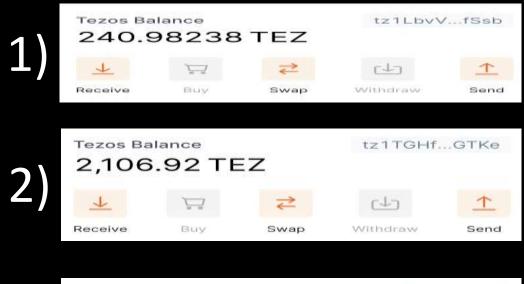
      3)Winners count also calculated

Note:

      !)Prizes are Only distributed to the winners ,when admin initialte(Distribute())->On Next Slide

	STORAGE		INTERACT		OPERATIONS		CODE & RAW

Storage

Dice	Admin	Game_code	Players				TotalBets	Winners	Winners_count
2	tz1PtX8vDfB…	'abc123'	**Key**	**Bet**	**Guess**	**Player**	40		2
			tz1LbvVGwdL…	10	2	tz1LbvVGwdL…		tz1TGHf9Q8P…	
			tz1R7NScUmj…	10	3	tz1R7NScUmj…		tz1LbvVGwdL…	
			tz1TGHf9Q8P…	20	2	tz1TGHf9Q8P…			

Addresses

Distribution Of Prizes:

Balance After Result:

1)

Tezos Balance   tz1LbvV...fSsb
240.98238 TEZ
Receive   Buy   Swap   Withdraw   Send

Bob's_Profit:
  3.33 Xtz

2)

Tezos Balance   tz1TGHf...GTKe
2,106.92 TEZ
Receive   Buy   Swap   Withdraw   Send

Alice's_Profit:
  6.66 xtz

3)

Tezos Balance   tz1R7NS...bEfK
89.963702 TEZ
Receive   Buy   Swap   Withdraw   Send

Jack's_Profit:
  -10 xtz(loss)

Refer:silde-2,7 For Better Understanding.

After Game Over Storage Set To default:

After Prize-distribution:
Storage->

Errors handled: Un-authorized game Creation

proto.017-PtNairob.michelson_v1.runtime_error
Contract KT1GtGy2Bwt7JTnUZYiiH5XAvAjnpkPxMKD7:

proto.017-PtNairob.michelson_v1.script_rejected
Line 56: Only admin can set dice

Errors handled: Dice out of range

Errors handled: Try to update dice at middle of the game

proto.017-PtNairob.michelson_v1.runtime_error
Contract KT1GtGy2Bwt7JTnUZYiiH5XAvAjnpkPxMKD7:

proto.017-PtNairob.michelson_v1.script_rejected
Line 100: Dice Already Set

Errors handled: Invalid Game Code

Errors handled: Transaction failure on Low balance

Errors handled: No Duplicate Player

> ⊘ proto.017-PtNairob.michelson_v1.runtime_error
> Contract KT1GtGy2Bwt7JTnUZYiiH5XAvAjnpkPxMKD7:

> ⊘ proto.017-PtNairob.michelson_v1.script_rejected
> Line 360: Player is already in the game

Errors handled:Player Not in game

Errors handled: Only admin can distribute prizes

Errors handled: Trying to distribute prizes before result

proto.017-PtNairob.michelson_v1.runtime_error
Contract KT1GtGy2Bwt7JTnUZYiiH5XAvAjnpkPxMKD7:

proto.017-PtNairob.michelson_v1.script_rejected
Line 143: No winners to distribute to