



THE P2P BETTING DAPP



TEAM MEMBERS

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2021 PROJECT 3



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P2P BETTING

WHAT IS IT?

You place a bet against another player—a peer—and his or her bet. There can also be multiple people placing bets on the same game.





WHAT ARE THE BENEFITS OF P2P IN BLOCKCHAIN?



Online gambling is one of the fastest-growing markets on the planet especially now that an ever-larger percentage of the world's population has mobile Internet access. .

- Today Online gambling has a very clear range of issues that must be resolved to give the industry a better reputation "**Blockchain can actually solve these issues quite easily**".
- Many perceive online gambling and betting as inherently unfair
- Many users believe that these sites have a special switch that turns the odds in their favor.
- High fees, both commissions charged by the payment system and the house-cut rates, are a further disadvantage.



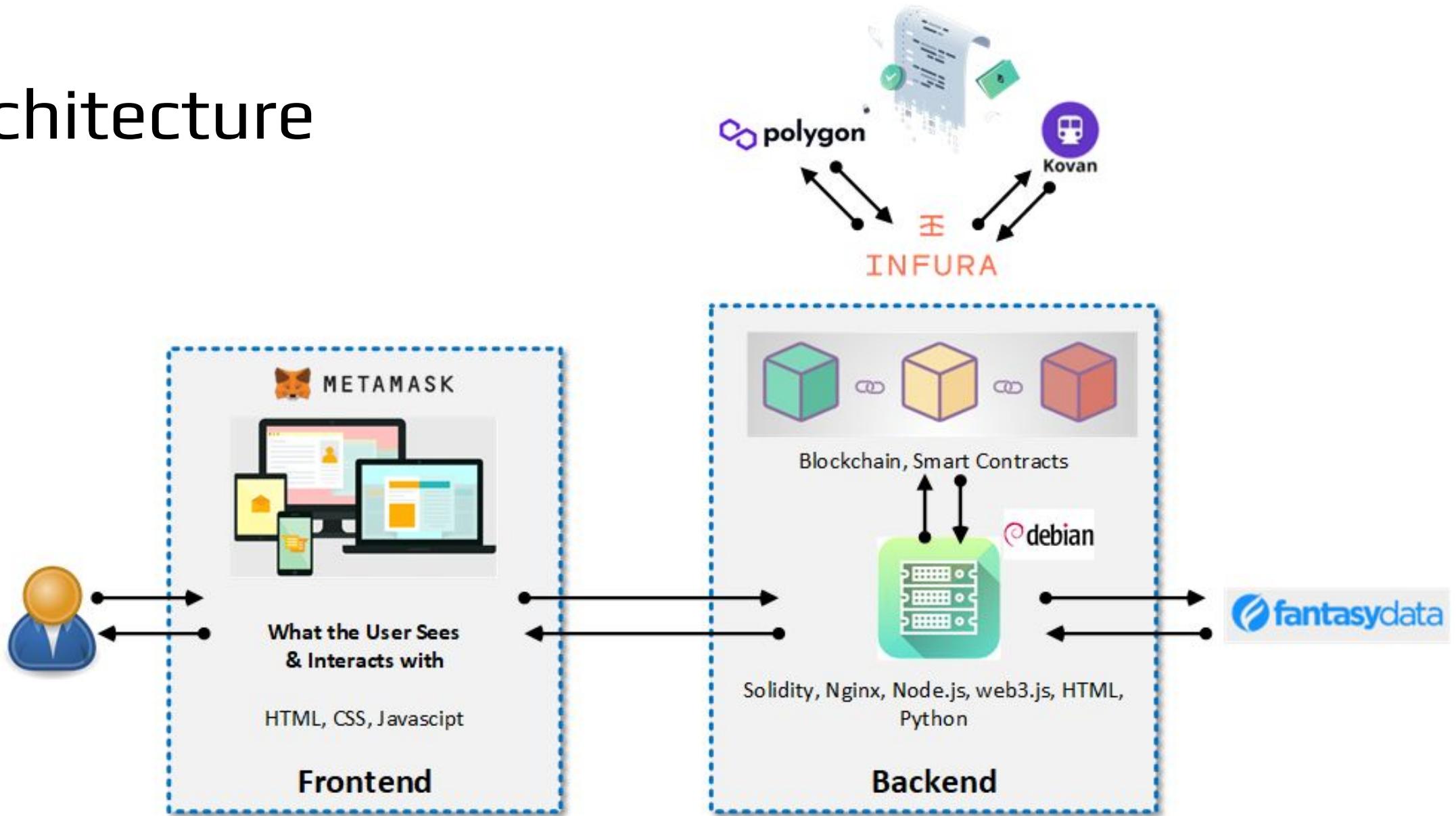
- Cases, where people wait many days or even weeks to receive their pay-out, are common, and sometimes winners are blocked from using the site again if they win big.
- Finally, just making a deposit to play can be difficult, because banks do not like gambling institutions.
- Some people who have had their bank accounts closed after making a deposit to an online casino.



"Blockchain can transform gambling into a wonderland, only if the concept is P2P"

- Blockchain will store records of all games and bets, their results, and the amounts that were won and paid out.
- Players can always access the transaction history to confirm that the system paid out all that was due.
- Blockchain have low fees as well as easy cross-border payments.
- With Smart Contracts the imaginations and ideas are endless, you can always create new concepts and strategies.

Architecture



Why Polygon-MATIC?

Comparison of Ethereum-ETH, BinanceSmartChain-BNB, and
Polygon-MATIC interactions



Price		\$3,264	\$399	\$1.36
GAS Price GWEI		70	6	2
Interactions	Gas Limit	On ETH	On BNB	On Matic
ERC20 approval	13,625	\$3.11	\$0.033	\$0.00003706
ERC20 transfer	21,000	\$4.80	\$0.050	\$0.00005712
NFT minting	65,000	\$14.85	\$0.156	\$0.00017680
NFT approval	24,500	\$5.60	\$0.059	\$0.00006664
NFT transfer	38,000	\$8.68	\$0.091	\$0.00010336

Exploring the Polygon Network features

Consensus

Proof of Stake (PoS)

Public / Private / Permissioned

Public

Smart contracts

Yes

Block Time

2-6 secs

Smart contract language(s) supported

Solidity, Vyper

Transaction privacy

No

Transaction visibility

All participants have access to all entries ever recorded.

Transaction ordering

All validating participants must reach consensus over the order of all transactions that have taken place, irrespective of whether a participant has taken part in a particular transaction or not.

Version

Bor 1.9.11

Transaction Cost Overview

Term	Description
Gas	Measure how much computation is done
Gas price	How much you are willing to pay per gas of work
Gas limit	Max gas you are willing to use for a transaction
Tx Cost	Gas units (limit) * (Gas Price)
Gas block limit	Max gas allowed in a block



ETH2.0 Fee Structure EIP-1559

Gas units (limit) * (Base fee + Tip)

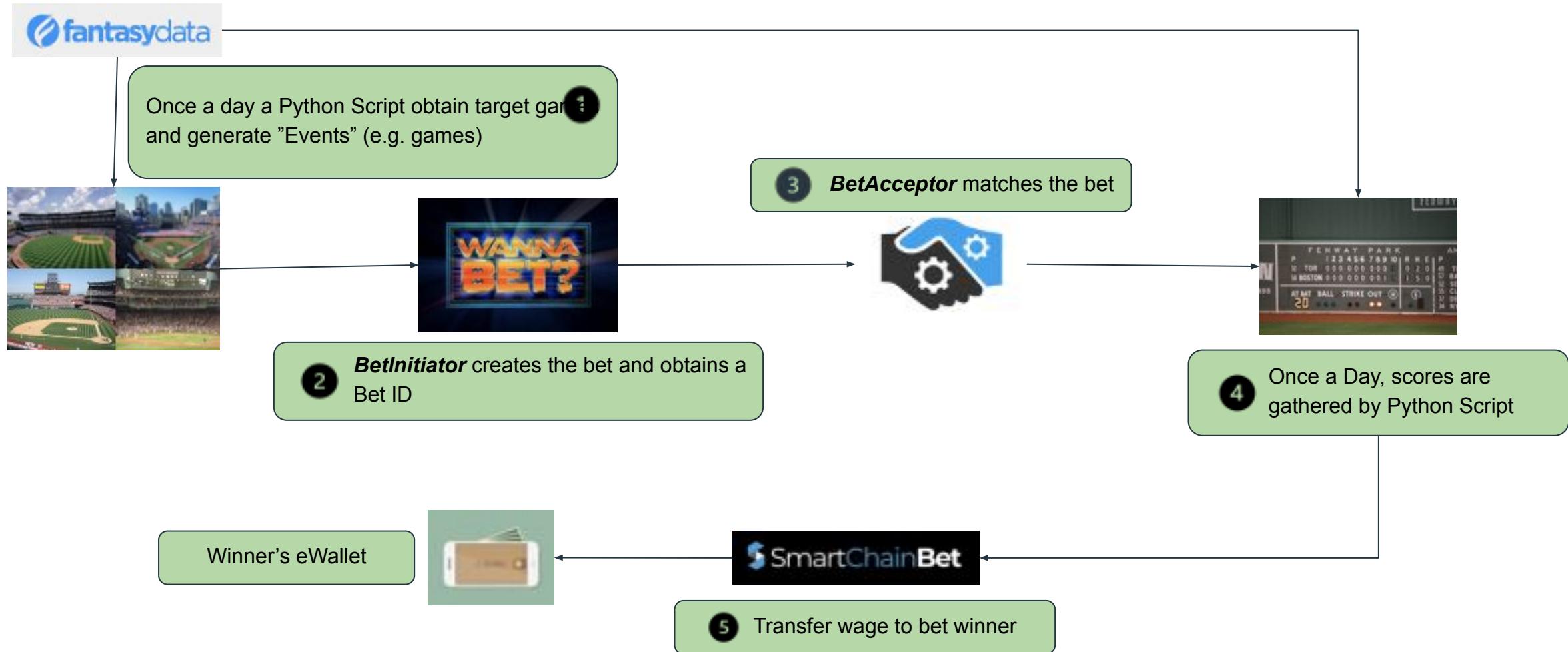
< Base fee is burnt and Tip goes to miners >

Increased the Gas block limit 2x.



<https://watchtheburn.com/>

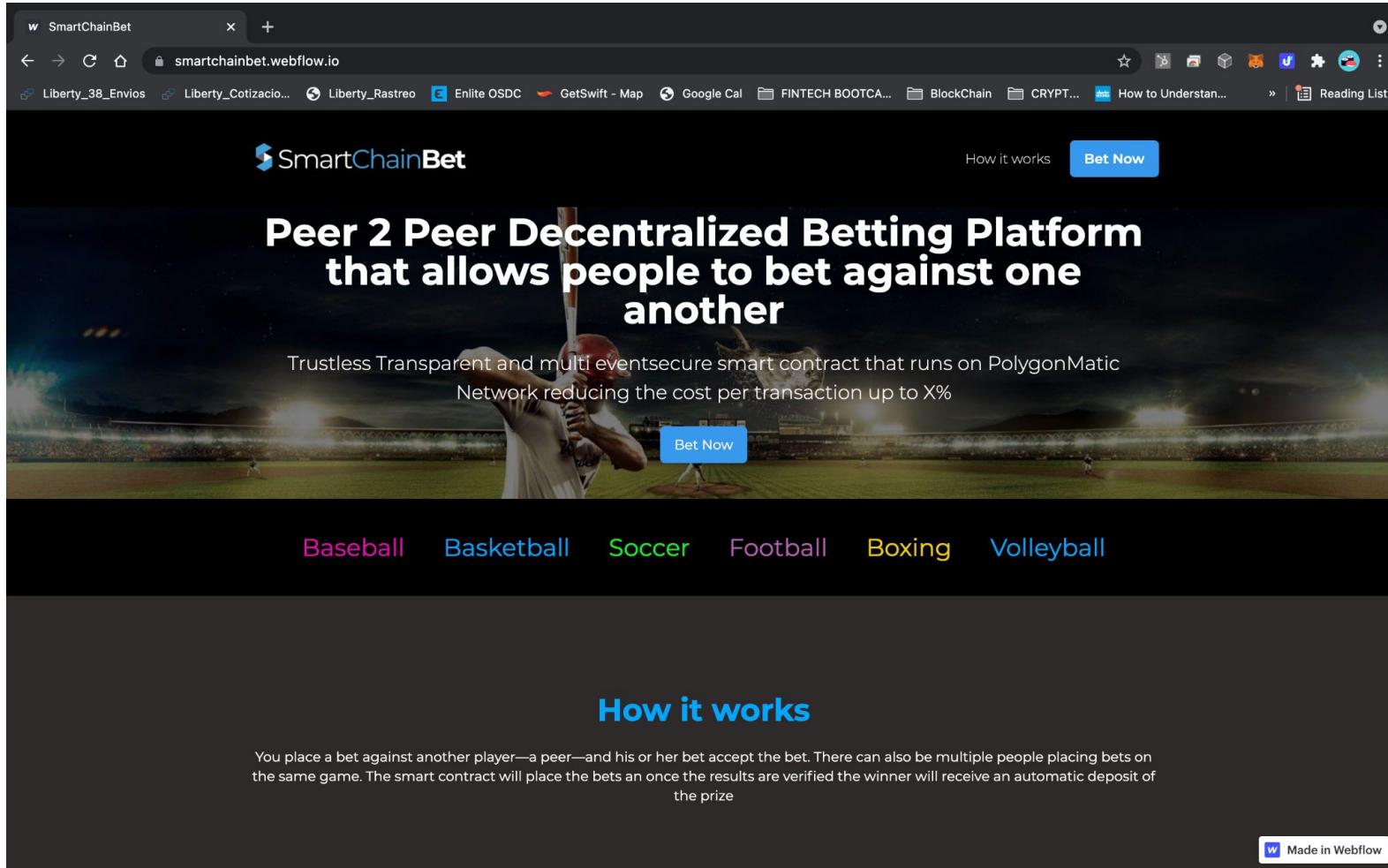
P2P Betting LifeCycle



P2P Betting Lifecycle

- Demo

SmartChain.bet



The image shows a screenshot of a web browser displaying the SmartChainBet website. The URL in the address bar is `smartchainbet.webflow.io`. The page has a dark background featuring a blurred image of a baseball player in action. At the top left is the logo "SmartChainBet". To the right are two buttons: "How it works" and a prominent blue "Bet Now" button. The main headline reads: "Peer 2 Peer Decentralized Betting Platform that allows people to bet against one another". Below the headline, a subtext states: "Trustless Transparent and multi eventsecure smart contract that runs on PolygonMatic Network reducing the cost per transaction up to X%". There are six categories listed below the subtext: "Baseball" (pink), "Basketball" (blue), "Soccer" (green), "Football" (yellow), "Boxing" (purple), and "Volleyball" (light blue). At the bottom, a section titled "How it works" contains the following text: "You place a bet against another player—a peer—and his or her bet accept the bet. There can also be multiple people placing bets on the same game. The smart contract will place the bets an once the results are verified the winner will receive an automatic deposit of the prize". In the bottom right corner, there is a "Made in Webflow" watermark.

SmartChain.bet

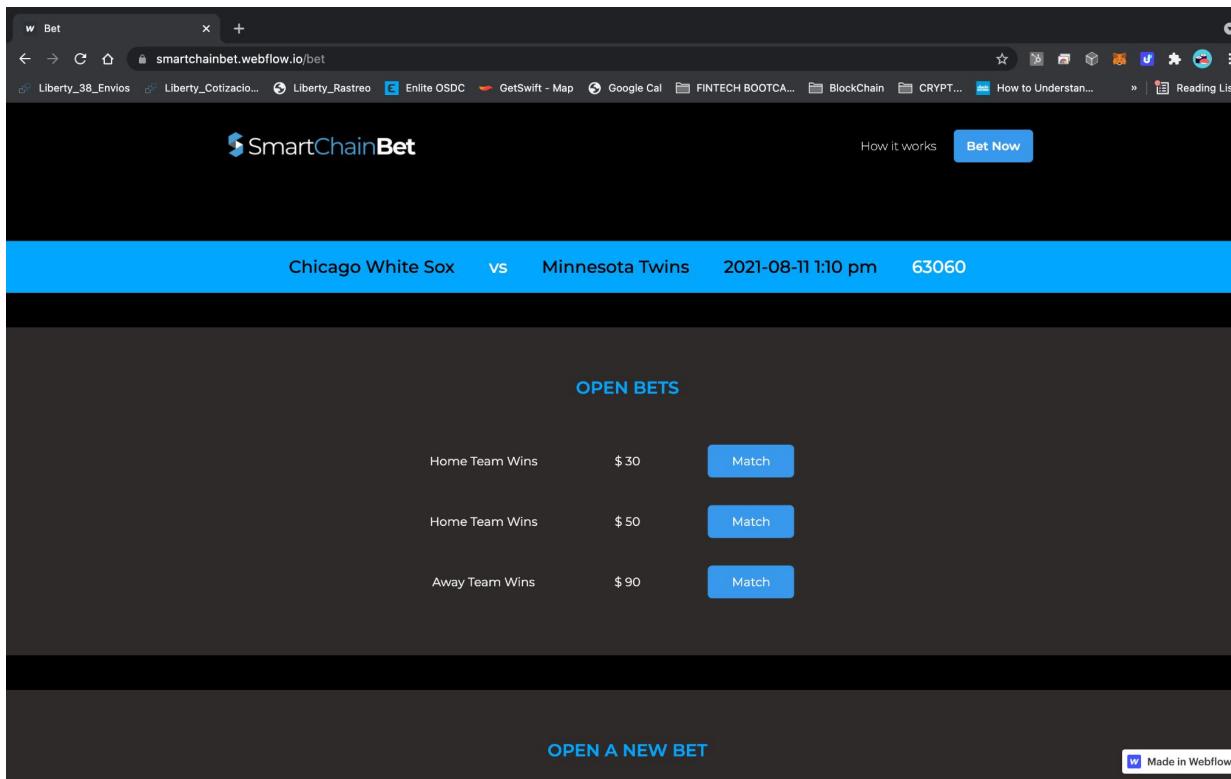
The screenshot shows the homepage of SmartChainBet. At the top, there's a navigation bar with links like "How it works" and "Bet Now". Below this is a section titled "Available Events" which lists ten baseball games. Each game entry includes the team names, date, time, ID, and a "Select" button.

Rank	Team 1	vs	Team 2	Date	Time	ID	Action
1	Chicago White Sox	vs	Minnesota Twins	2021-08-11	1:10 pm	63060	Select
2	Rockies Colorado	vs	Astros Houston	2021-08-11	2:10 pm	63062	Select
3	New York Yankees	vs	Kansas City Royals	2021-08-11	2:10 pm	63067	Select
4	Miami Marlins	vs	San Diego Padres	2021-08-11	4:10 pm	63065	Select
5	Los Angeles Dodgers	vs	Philadelphia Phillies	2021-08-11	6:00 pm	63064	Select
6	Detroit Tigers	vs	Baltimore Orioles	2021-08-11	7:05 pm	63063	Select
7	Seattle Mariners	vs	Pittsburg Pirates	2021-08-11	7:05 pm	63069	Select
8	Tampa Bay Rays	vs	Boston Red Sox	2021-08-11	7:10 pm	63070	Select
9	Oakland Athletics	vs	Cleveland Indians	2021-08-11	7:10 pm	63068	Select
10	Cincinnati Reds	vs	Atlanta Braves	2021-08-11	7:20 pm	63061	Select

This screenshot shows a specific bet page for the game between the Chicago White Sox and the Minnesota Twins on August 11 at 1:10 pm, with ID 63060. The page has a header "OPEN BETS" and three options: "Home Team Wins" (\$30), "Home Team Wins" (\$50), and "Away Team Wins" (\$90). Each option has a "Match" button.

Bet Type	Amount	Action
Home Team Wins	\$ 30	Match
Home Team Wins	\$ 50	Match
Away Team Wins	\$ 90	Match

SmartChain.bet

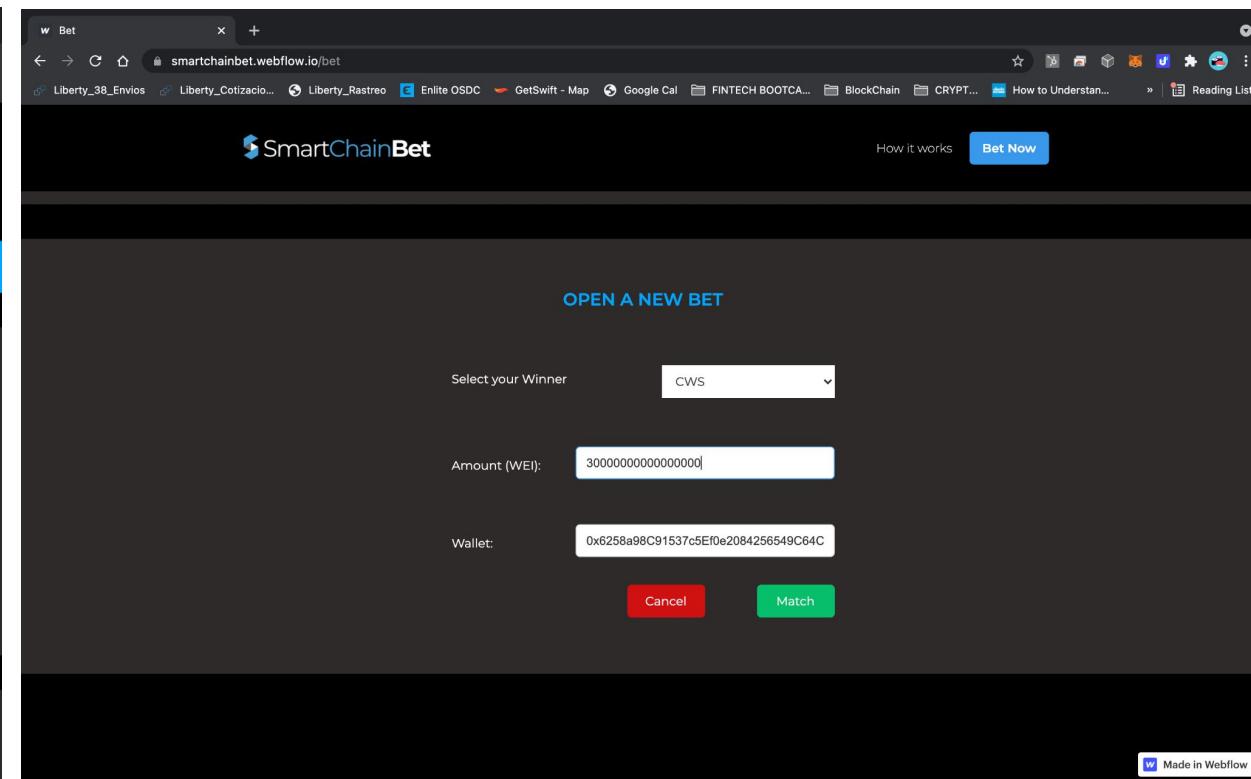


The screenshot shows the SmartChain.bet bet page for a Chicago White Sox vs Minnesota Twins game on August 11, 2021, at 1:10 pm, with a total bet amount of 63060.

OPEN BETS

Bet Type	Amount	Action
Home Team Wins	\$ 30	Match
Home Team Wins	\$ 50	Match
Away Team Wins	\$ 90	Match

OPEN A NEW BET



The screenshot shows the confirmation step for placing a new bet. The user has selected "CWS" as the winner and entered an amount of 3000000000000000 Wei. The wallet address is 0x6258a98C91537c5Ef0e2084256549C64C.

Select your Winner: CWS

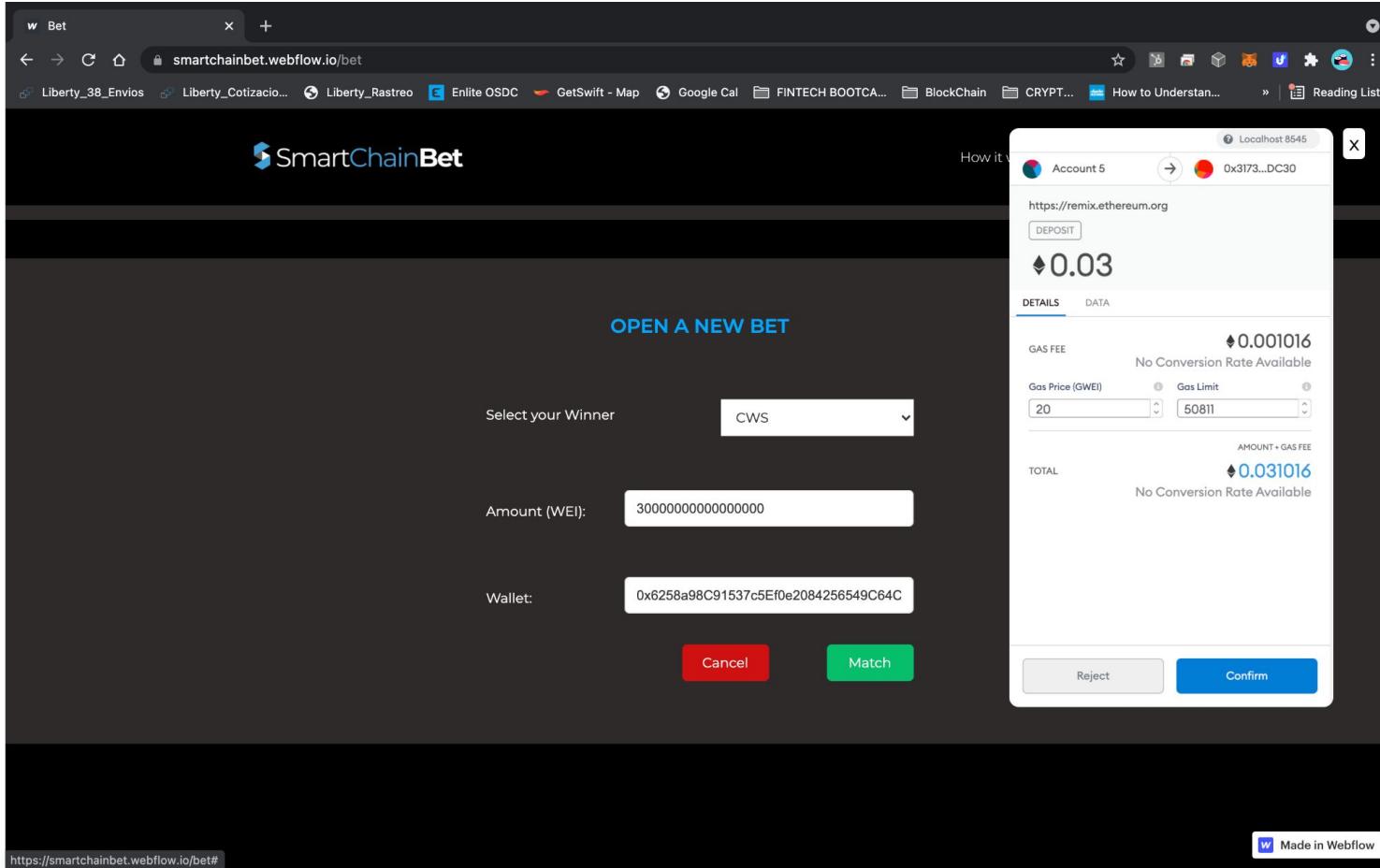
Amount (Wei): 3000000000000000

Wallet: 0x6258a98C91537c5Ef0e2084256549C64C

Cancel **Match**

Made in Webflow

SmartChain.bet



Next Steps

- Move more backend logic from servers to blockchain. We can accomplish this by interacting with Chainlink SmartContracts to gather event and resolve bets on chain.
- Add WalletConnect protocol for support 76+ mobile wallets
- Unstoppable Domains Decentralized webApp







Backup Slides

Smartchain.bet

High-Level Process



I'm sure Colombia will win

No! The best team is Brazil!!!!

I'll bet \$100 that Colombia wins!

Done!

Smartbet website



Creates Smart Contract and deploys it in the Blockchain

Executes Contract by getting results from "outside world"

Smartbet

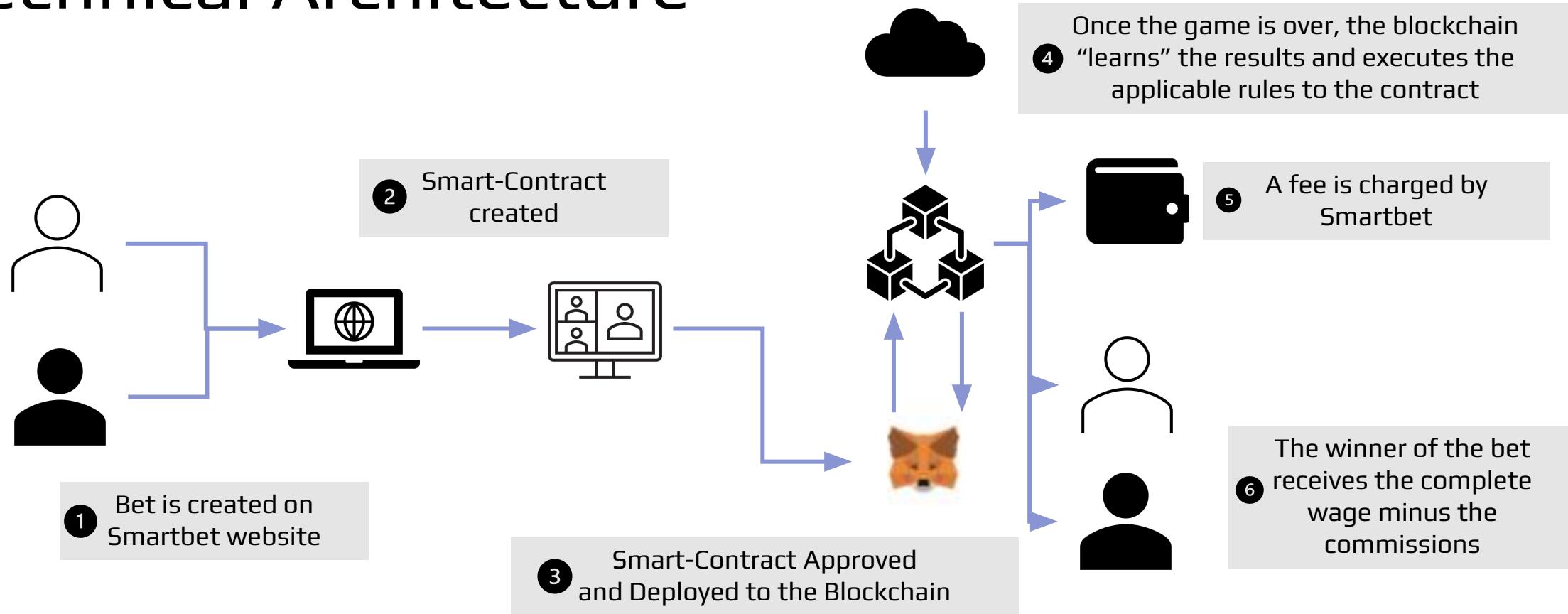
Smart Contract automatically assigns the wager assigned to winner once the game is over

A Commission fee is transferred to Smartbet



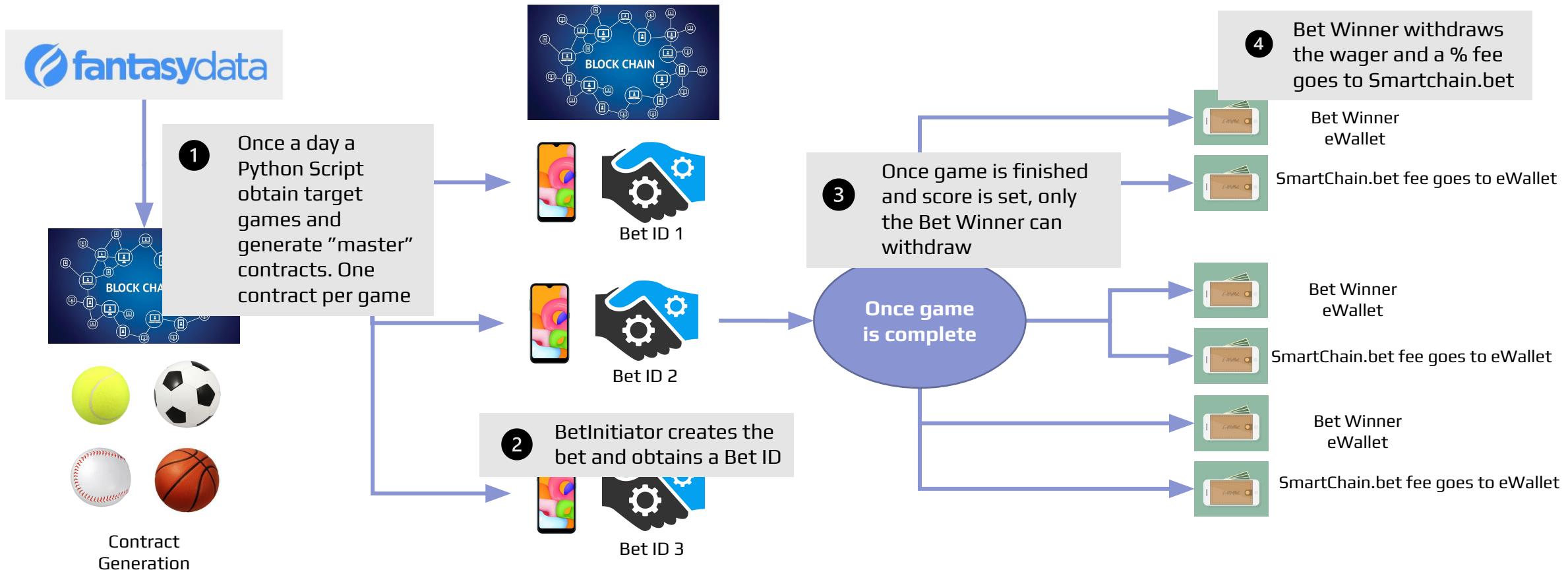
Smartchain.bet

Technical Architecture



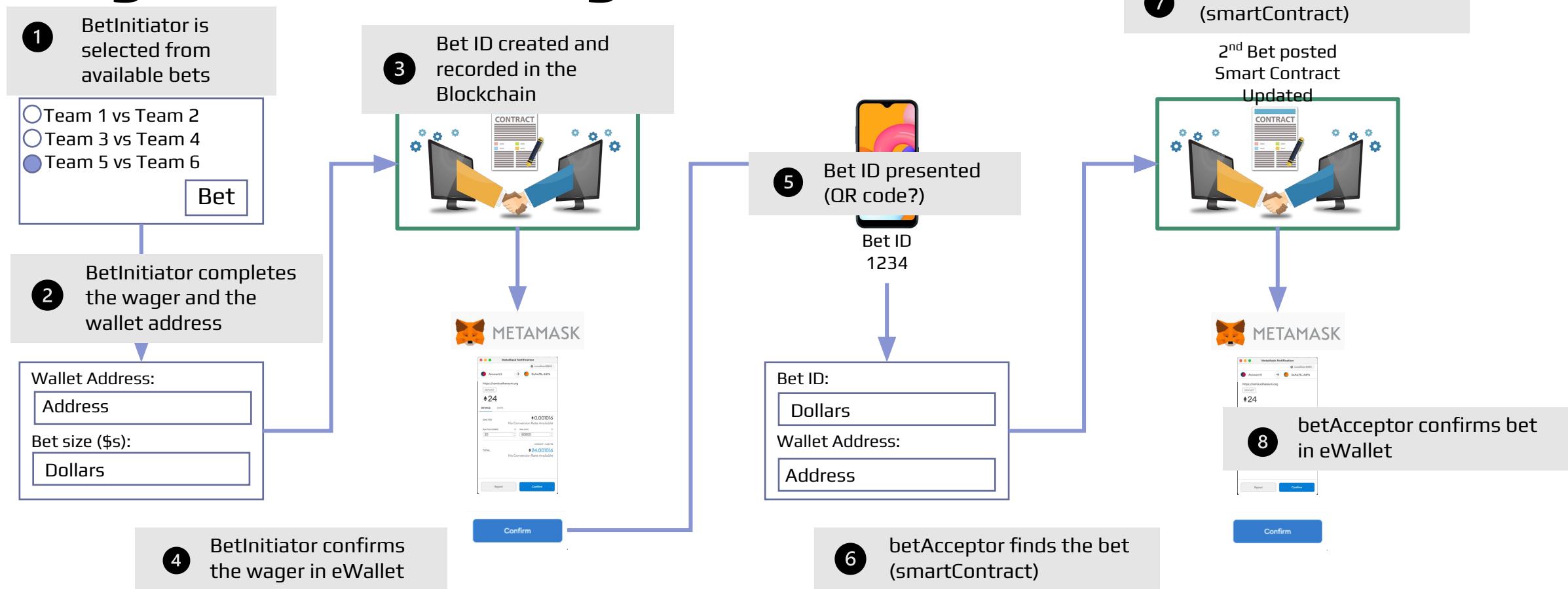
Smartchain.bet

High-Level Smart Contract Creation



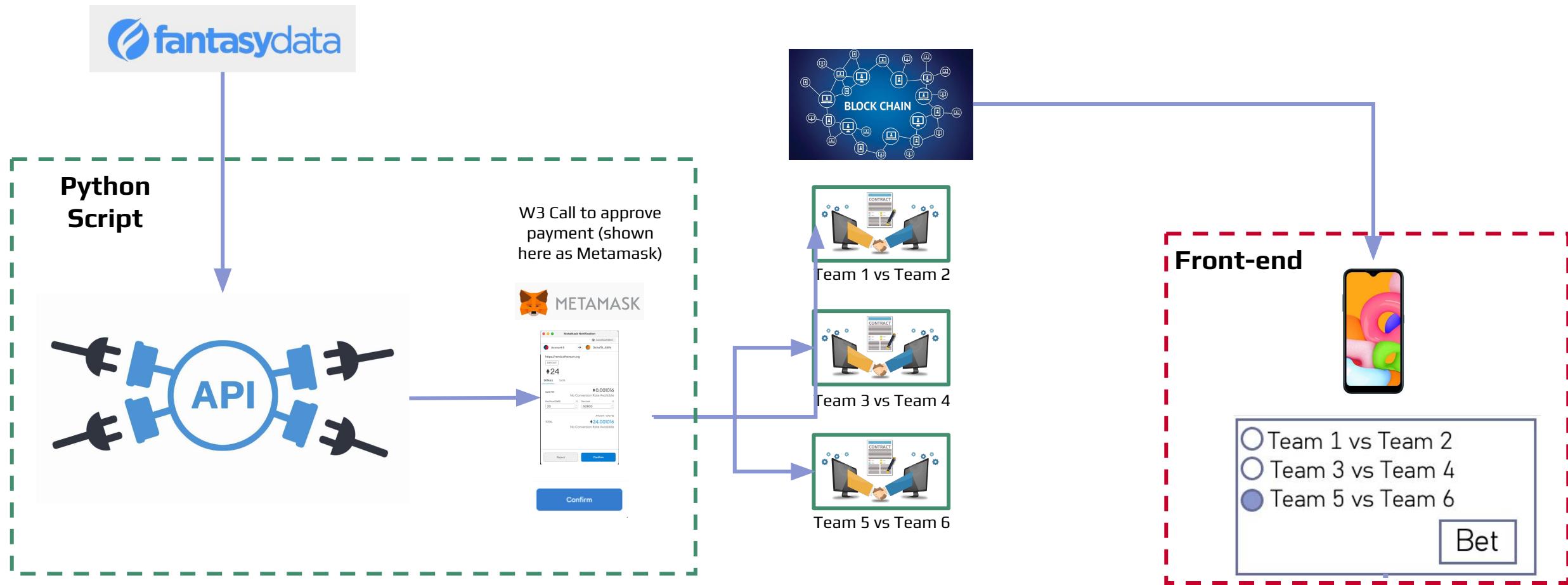
Smartchain.bet

High-Level Betting Process Flow



Smartchain.bet

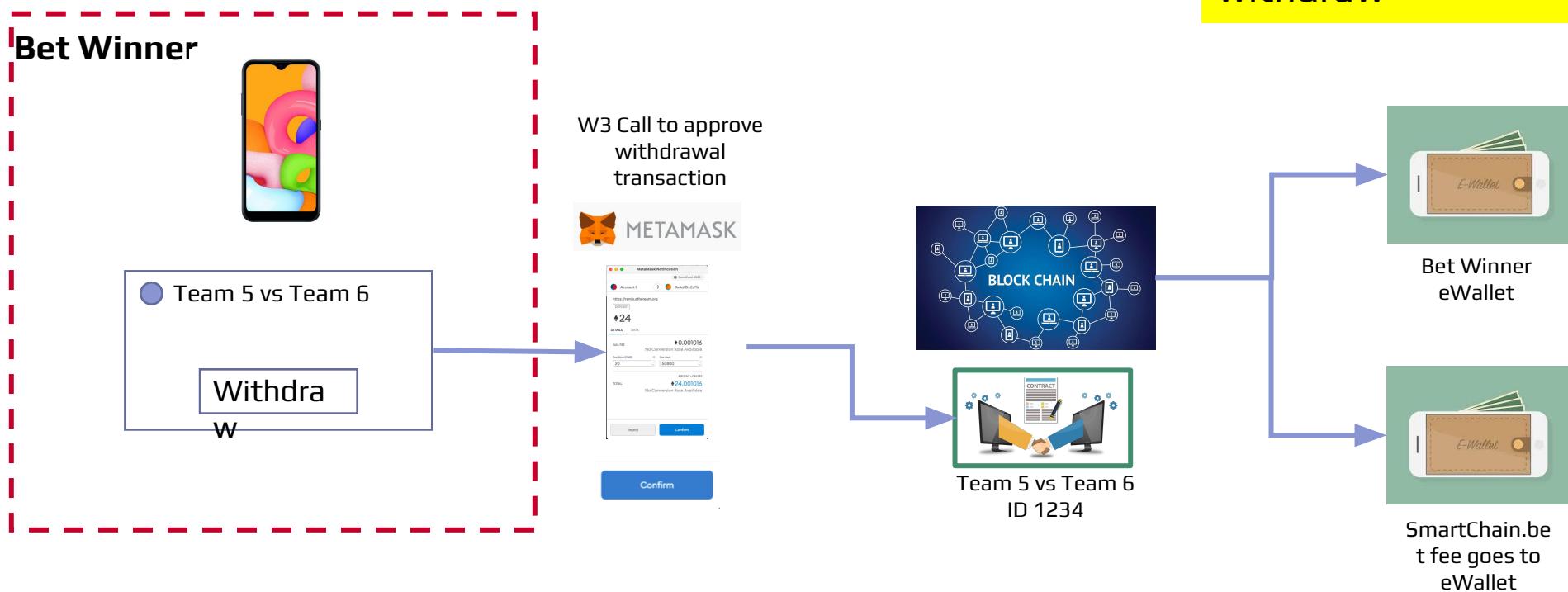
High-Level Smart Contract Creation



Baseball has winner/loser, but we need to define how to deal with the ties

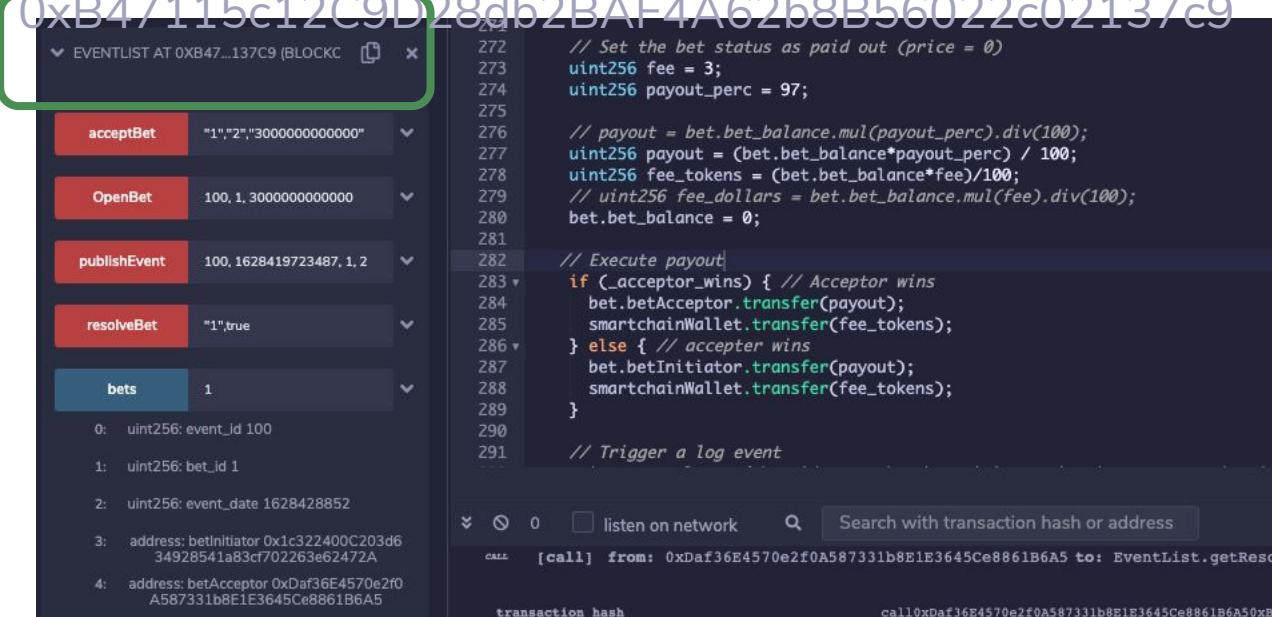
Smartchain.bet

High-Level Bet Resolution



Contract Address:

0xB47115c12C9D28db2BAF4A62b8B56022c02137c9



The screenshot shows a blockchain transaction details page. At the top, there's a green box highlighting the contract address: 0xB47115c12C9D28db2BAF4A62b8B56022c02137c9. Below the address, there are several input fields and their corresponding values:

- acceptBet: "1","2","3000000000000
- OpenBet: 100, 1, 3000000000000
- publishEvent: 100, 1628419723487, 1, 2
- resolveBet: "1",true
- bets: 1

Below these inputs, the transaction details are listed:

- 0: uint256: event_id 100
- 1: uint256: bet_id 1
- 2: uint256: event_date 1628428852
- 3: address: betInitiator 0x1c322400C203d634928541a83cf702263e62472A
- 4: address: betAcceptor 0xDaf36E4570e2f0A587331b8E1E3645Ce8861B6A5

The main content area contains the Solidity code for the contract, starting from line 272:

```
272 // Set the bet status as paid out (price = 0)
273 uint256 fee = 3;
274 uint256 payout_perc = 97;
275
276 // payout = bet.bet_balance.mul(payout_perc).div(100);
277 uint256 payout = (bet.bet_balance*payout_perc) / 100;
278 uint256 fee_tokens = (bet.bet_balance*fee)/100;
279 // uint256 fee_dollars = bet.bet_balance.mul(fee).div(100);
280 bet.bet_balance = 0;
281
282 // Execute payout
283 if (_acceptor_wins) { // Acceptor wins
284     bet.betAcceptor.transfer(payout);
285     smartchainWallet.transfer(fee_tokens);
286 } else { // accepter wins
287     bet.betInitiator.transfer(payout);
288     smartchainWallet.transfer(fee_tokens);
289 }
290
291 // Trigger a log event
```

At the bottom, there are search and filter options:

- listen on network
- Search with transaction hash or address
- transaction hash
- call0xDaf36E4570e2f0A587331b8E1E3645Ce8861B6A50xB

Smartchain.bet Vision

- Be the ***“go-to” and leader P2P-Betting*** Dapp in the Market
- Create a ***Blockchain-Smart Contract*** based platform that supports a multitude of options for peer-to-peer betting
- Universal Bet Support – Provide users with different ways of betting (e.g. score, spread, who scores first, etc.)
- Universal Bet Wager – Bets could be not only on Sports events (e.g. how much it is going to rain in NYC today?)



Smartchain.bet Mission

- ***Innovate*** on the betting market by providing a ***friction-less platform*** to do peer to peer (P2P) bets
- Deploy ***secure*** tools and services to users
- *Other.....*

GLOBAL ARCHITECTURE

