

WEB LOGIN AUTHENTICATION USING FINGERPRINT RECOGNITION FEATURE

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Abstract: Bitcoins are decentralized type of digital money which offer an installment trade medium without the requirement for a set up managing an account specialist. In spite of the fact that a wide assortment of digital currencies as of now exist, bitcoin fills in as the most normally utilized and favorite. It became a force to be reckoned with the presentation of square chain idea where an open record shared by all clients of the framework. The real issues square chain confronted incorporate Double spending and piece chain forks. Twofold spending includes utilizing the same bitcoin again and again while square anchor forks prompted transient irregularity in the piece chain. We lead probabilistic investigation to demonstrate that the consistency of Bitcoin.

Keywords: Bit coin, cryptography, double spending, transaction

1. Introduction

The goal of decentralized digital currency is to offer a medium of installment secured by cryptography, without the need of a national bank. A noteworthy engineering configuration issue of such a framework is to stay away from event of twofold spending assaults, which involves in using comparable assets (the same "coins") in more than one trade. By and large, the national bank dealing with a record master fills in as a trusted outsider that checks the authenticity of every last trade which keeps this kind of assault. Without such a put stock in expert, an option strategy must be implemented. Bitcoin relies upon an open circulated record, the assumed blockchain, that records all the honest to goodness trades ever issued in the Bitcoin structure. All things considered, the blockchain is worked by a segment of it, simultaneous blocks can be made because of propagation delays; what's more, this must be precisely taken care of to authorize the consistency [1-2].

Notwithstanding [5], [6], require a focal expert—that is, a bank. Methodologies like B-money [7], Karma [8], RPOW [9], and bit gold [10] later idea of the idea to translate the game plan to a cryptographic puzzle—a proof of work—as something noteworthy. They stood out from a touch of important metal or a printed coin.

Thusly everybody could transform into an "automated gold excavator", mining money independently from a bank, however up 'til now requiring a focal event to keep up ownership records. In order to absolutely forgo the bank, the record which speaks to the obligation regarding must moreover be passed on. In any case, a focal and trademark risk of cutting edge fiscal structures generally speaking—and a scattered money particularly—is the ability to twofold spend coins. Since mechanized copies are insignificant, some individual could issue two trades in parallel, trading a comparable coin to different recipients. In an on the web and brought together circumstance, the bank can recognize and keep the attempt. Accomplishing the same in an appropriated setting is a long way from paltry.

1.1 The bit coin protocol

Around there we will clear up the center Bitcoin tradition as at first introduced in [16]. This will clear the ground for additional all around discoursed of specific points in consequent areas. We begin with a special and rather distorted see of a propelled cash, which we then iteratively refine. We too draw the investigation setting of the showed musings, and, where appropriate, take after the early walks of cutting edge money related structures some time as of late Bitcoin [10], [11]. In any case, our trades are continually planned towards the foundations of the Bitcoin tradition and its essential idea: the use of confirmation of work to forgo the bank and to decentralize and secure the record. In particular, this territory will continuously display the basics on mining, the square chain, trades and scripting [12].

1.2 Centralized Digital Currencies

Anticipate that Alice designs will trade a coin to Sway. Remembering the ultimate objective to do all things considered—in a to an awesome degree gullible approach—she could create a precisely checked contract communicating "I trade one coin to Sway" additionally, pronounce it transparently. Taking after Bitcoin wording, such an understanding may be called trade (TX). For the event, we can consider it as a

checked contract, which is irrefutable using Alice's open key. It is generally not imposter confirm, in any case, since it can be replayed: if a duplicate copy of the as sention shows up, it can't be picked whether Alice tries to trap Weave, paying little respect to whether she (wonderfully earnestly) expects to trade a minute coin to Weave, or whether Sway plays out a replay attack in order to ensure diverse coins from Alice's record. Plainly, to see such ambiguities, especially identifiable coins are fundamental. This could be expert by exhibiting serial numbers—however where do they begin from? We require a trusted source which issues the serials. In a brought together circumstance this is what is insipidly called a bank: the bank issues coins with stand-out serial numbers and keeps up a record including all proprietorship, i.e., the mapping between customer records and serial numbers. Trading a coin would then include Alice stamping and detailing a trade of the going with structure: "I trade coin #1210 to Weave". Weave affirms the obligation regarding #1210 by guiding the bank. If the trade is honest to goodness and Bounce recognizes the trade, the bank invigorates its record. In this moment the proprietor of the coin changes from Alice to Weave. This direct, concentrated automated money speaks to the fundamental diagram of the keeping cash show. Honestly, it would appear that the customary gage of online electronic portion traditions [5], [6] (regardless of the way that, clearly, they fuse various shrewd developments moreover, additional parts) . A graph of further developments in this space can be found in [29]. Bitcoin goes for a considerably all the more longing course of action, be that as it may: one which discards the national bank. To this end, instruments are relied upon to make coins in a circled setting, and to store and manage the record appropriated. The key test is to finish concession to existing coins and them proprietorship without a central event, and without normal confide in associations between individuals[13].

1.3 Decentralizing the Currency

Anyway, by what means would we discard those fundamental bank? Bitcoin illuminates. This in an even disapproved of way: Previously, a sense, everyone is the. Bank. That is, every part keeps a copy of the record. Which may traditionally make set away toward those national bank. We camwood. Consider it a scattered record mirroring each and every piece exchanges Furthermore. Proprietorships. In Bitcoin, those indicated piece chain takes those part. From asserting this scattered record.

Be that as it may, passed on limit of various copies of the. Square chain opens subordinate upon new potential outcomes for Alice will trap. For specific, Alice Might issue two separate exchanges with. Two particular collectors (say, Weave What's more Charlie), exchanging them. Same coin. This will be called

twofold utilizing. On influence Also Charlie. Checked Also recognized the exchanges openly (based for. Their specific adjacent copy of the square chain), this may drive. The square chain under a clashing state.

In the sparing cash demonstrate, twofold contributing will be kept Toward. The usage of serial numbers issued Also directed by the. Bank. Those centralization Additionally Disallows synchronous getting ready. About exchanges and upholds a total demand. Traded. Of the decentralized case, however Weave recognizes those exchanges. Additionally lets Everybody else something like it going before Charlie recognizes it, Though, Charlie may have the ability to perceiving the exchange Likewise. A twofold contributing attempt. In this way, under the supposition for. A synchronous Alsounnamable show channel, a straightforward, synchronized scattered record will be possible. This will be the essence. Of the streamlined B-Money suggestion [14]. This supposition can. Not hold practically speaking, regardless of. Hence, we should deal. For the undesirable time frame the center of issuing an exchange Also. Facilitating Everybody instructed around it—a prototypical scattered. Understanding issue[15].

Bitcoin tends to this issue by, Previously, A sense, letterset printing those. Entire framework checks the credibility of the exchanges, something to that effect. That twofold contributing will be perceived Toward different individuals. Regardless of whether Furthermore just if a predominant piece of the individuals concurs on the. Nearness Furthermore genuineness of the exchange, Weave should additionally reinforcing recognize. It. Those philosophy looks like those implied byzantine Generals. Issue [16], [17], i.e., it is related to those test from guaranteeing. Enduring (deliberate) blames On a scattered earth.

Moreover, the harumscarum sum for exchanges assembles the. Apply of the acknowledgment strategy itself. Set up with remain with. The traverse and the computational apply low, Bitcoin offers An. Streamlined portion affirmation (SPV) [24] In perspective of Merkle. Trees [25]. It takes the exchanges Similarly as relinquishes Also produces a hash. Tree ahead Main. Those root for this tree might be a has regard including. Information from each and every piece exchanges; this root is incorporated over. Those piece header. The hash tree enables the affirmation for. Exchanges without the have for a total adjacent copy about. Each and every piece exchanges. Since the root is alluded to What's more secured through. The mining procedure, appendages may be stacked for enthusiasm beginning with. Untrusted sources. Modifying for any exchange may delayed consequence. In particular hash qualities What's more may Therefore be recognized.

1.4 Transactions

Subordinate upon this viewpoint we have not unequivocally communicated those things that "coins" would be in the Bitcoin convention. For certainty, coins at things saw as don't exist: there have bolster. Best exchanges, which sumptuously dispatch proprietorship benefits.

In this manner, the people nearest genuine equal to a coin we may consider may an opportunity to be. The people chain beginning with declaring exchanges. This will twisted ward upon clear at last Tom's looking at encouraging a. Nearer look at Bitcoin Transactions furthermore entry they may have made. The moment that tolerant coins, Weave necessities a virtual wallet including. In any event of an open/private enter one sets. Sway's Bitcoin area might be. Affirmed starting for as much open key, at hashing it with SHA-256 first. What's more, RIPEMD-160 in this way, prepending an alteration number, additionally annexing a checksum for slip ID number. Addresses. Need bolster base58-encoded will dispose of vague characters. The people. Motivation behind Bitcoin locations will be on truncate Besides issue. All number keys. In this manner Concerning representation as for acknowledge partitions they may not entirely. Basic (one may Additionally utilize those all masses enter on the other hand a mystery), Nonetheless ethics. They accommodate a protected Besides gainful way. It is suggested. Should additionally supporting stay away from charm (and Consequently address) reuse as a delayed consequence it hurts security. Other than protection: for specific, it enables examination based strike. For indicate in like manner going with something like coin streams.

Rather, thus enter Furthermore area should irritate used to each. Exchange.

1.5 Security

In this segment, we talk security perils What's greater security. Implications of the Bitcoin Protocol What's more structure setup. Since. Bitcoin might be a propelled specific money for a remarkable business esteem, Motives on abuse Shortcomings to profit require help all inclusive. Past. Twofold spending, the trap vectors fuse key recovery. What's more, exchange pliability, for example. Table iii provides for. A survey about plausibility vulnerabilities about which we will. Analyze the prevailing part around there. The overgrown container oak fundamental. Dread, however, remains the indicated 51% strike. All through its. Discourse we will Additionally bring the possibility will research a few. Fundamental structure properties of Bitcoin.

1.6 Cryptography and wallets

In order to use Bitcoin, the Initially Relic a customer needs might be An. Wallet. The wallet holds an open/private key combine, which might be. The best close estimation of the client's record. Along these lines, clearly, it is indispensable to reduce defensive means should secure the wallet [26, Pp. Securing your wallet].

Customary Bitcoin wording perceives a grouping about. Wallet sorts, for instance, programming, equipment, paper, cerebrum What's more. Web wallets. Item wallets are a champion among those The lion's share consistent. Courses to use Bitcoin. For an item wallet, a by and large running. Bitcoin case will be essential. Those Bitcoin fashioner less gathering. Release a reference execution of the Bitcoin convention. (bitcoin. Organization). It is a full client which frames the whole. Piece chain. Be that as it may, there are Numerous elective utilization. For instance, arms (bitcoin ordnance. Com) on the other hand.

1.7 Double spending

Coins that need help unmistakable (e.g., Eventually Tom's examining serial numbers), twofold. Utilizing Concerning delineation discussed before will be inconsequentially distinguishable. Nonetheless, quickly propelled monetary forms consistently Additionally recognized logged off circumstances. [6], which exasperated it boundless on contact the bank to. Commission those exchanges. This made twofold contributing a genuine. Issue, paying little respect to a key power existed. For the most part, the Bitcoin. Setting will be a web circumstance (however logged off exchanges have. Been considered, too much dreadful). Nonetheless, Bitcoin doesn't. Have a bank—and those scattered record opens up different conceivable outcomes. To twofold utilizing. The two all around conceivable courses with oversee twofold. Utilizing are (i) recognizing it after the deceiving truly happened. Besides, recognizing the adversary to indictment, or (ii) endeavoring. On keep it. The over indicated beginning propelled specific money strategies. Taken after the essential way: they recognized that believability. For twofold uses Furthermore required randomized parts about identifiers. In the exchanges. If for twofold spending, those bank Might. Gather these parts from that point to perceiving the enemy. The. At first strategies on diminish twofold experiences used the help of. Third social affairs over witness on the other hand majority instruments. These philosophies require help similar to Bitcoin's approach, Be that as even at this point. Go with the genuine flaw about always vulnerable with Sybil strike.

Bitcoin secures against twofold utilizing through the standard. That just some time ago unspent

exchange yields may an opportunity to be used. In the data of a get up to speed exchange, the place this lead. Will be maintained Throughout exchange expansion What's all the more mining, Furthermore. The place the demand of exchanges is chosen by their demand for. The square chain. This comes down to a passed on timestamping. [19] Also understanding calculation [13], [14], which in this way could. An opportunity to be grasped Likewise those byzantine Generals issue [11], [12]. With ensure beginning with Sybil strike [15], Bitcoin couples this on a. Unpredictable prophet, i.e., those checks for fill in. Accordingly, the skills. About an enemy are set Toward as much computational power.

1.8 Transaction malleability

Exchange adaptability. Initially, exchange adaptability suggests a bug in the. Bitcoin convention, which gains it possible will ground those TXID. Without negating the exchange. Review the inspect from asserting. An exchange Similarly as depicted On figure 6: it consolidates references. To past exchanges (contributions) for a specific recover. Content (contents) Also labels specific case or different goals. (yields). Every exchange may be especially identifier Toward its. TXID, which might be a hash of the exchange information, including the. Recover script(s). Perceived beginning with this point, those exchange adaptabilities. Snare camwood make considered flawless as a variation of a twofold contributing [63]. As restricted on a common twofold spend, be that as it may, the attacker is. The tolerant and not those utilizing party. The accomplishment of the. Strike depends ahead a number for imperatives, i.e., the malleable. Exchange should an opportunity to be insisted and the arrival must check. For TXIDs just. Those makers about [93] design a flexibility versatile. "discount" exchange which doesn't require whatever. Convention changes. We could derive trades require help a side of the point from guaranteeing disillusionment Previously, an. For the most part Exceedingly passed on earth. In this way additional. Technique for assurance, for instance, cloud providers will shield from. Spread refusal from asserting organization (DDoS) strike [94], would routinely.

1.9 Pooled mining

Exchange adaptability. Initially, exchange adaptability al Similarly as pointed out some time recently, Bitcoin must endeavor will take care of An. Structure On which no substance controls the greater part of the. Computational vitality. Essentially of the whole deal in Bitcoin's history, this. Might have been the situation. Be that as it may, being the important will viably check An. Piece (i.e , ceaselessly those essential should Figure A significant nonce) happens best. For a little

probability. In this manner, those outcome to solo. Mining will be enormously blasted: a basic reward—however just especially. Now and again. Mineworkers Along these lines a consistently expanding sum get together under mining. Pools. On a mining pool, different diggers help them. Square period conjointly. Every part seeks parts. Of the nonce space for a significant nonce. In the occasion a champion among them. Will be effective, the advantage might be conferred. Along these lines, each part. Get constant little rewards, rather than from time to time, immense ones.

Different separate payout works are used to offering them. Advantages for mining pools . From the security point of view, those example to structure mining. Pools raised concerns: A mining pool halfway totals. Computational power of diggers who should, as expressed by the. Key arrangement thought behind Bitcoin, confirmation a generous passed on. Majority through free collaboration. A look at the piece. Chain reveals that reliably various successive pieces are. Mined Toward a flat out mining pool. It authoritatively happened several times. That immense digging pools for instance, to such an extent that GHash. Io drew closer the skeptical. Edge around 51% of the system's hash rate . Besides, really. In the event that a singular mining pool doesn't outperform the segregating edge. In the end Tom's scrutinizing itself, coalitions have the capacity on do as such.

There are a couple of decisions with handle those issue. All things considered, it might be in the character or premium about every digger will remain with those scattered. Organic people group soundness. Along these lines, the most straightforward outcome is that diggers. In the long run Tom's examining themselves switch should distinctive mining pools something like that Likewise will sensibly. Redistribute those power. Additionally, as it turned out before, this meets desires. Shockingly well: calls Eventually Tom's scrutinizing the gathering keeping should switch mining. A building methodology of the issue will be will decentralize those. Mining pool. Despite a decentralized mining pool augmentations a more prominent sum. Over portion of the computational power, this control can't make abused. Due to the nonappearance of an essential encouraging substance. P2Pool. (p2pool. In) will be a decentralized mining pool which grows a peerto-. Buddy framework about excavators. It makes another square chain, called. Portion chain. Those discourages of the assignment chain are generous Bitcoin. Squares, at any rate with a less demanding trouble, with the objective that every 30 seconds a. New square will be created. In a P2Pool sidekick figures such a piece, it. Gets communicate, checked Eventually Tom's scrutinizing others, and included of the give chain. Secured close by tantamount path Likewise On Bitcoin itself. This returns until a.

Friend figures a square that Additionally meets Bitcoin's mining inconvenience.

It turns insane that formalizes What's more expands those securities thought. Used inside Permacoin . Those approach implies amid wiping out. Mining pools, besides appropriately at said (and those following). Related issues. More examination regarding that matter camwood make found. To [97].NETWORK Arranges those scattered frameworks for partners. To specific, we. Will consider those Bitcoin convention, the coming to fruition exchange illustrations. Moreover, their implications for larger part of the information multiplication. Besides, we social occasions give a viewpoint investigating Bitcoin-propelled arrange. Arrangements Furthermore benefits, for instance, elective space name. What's more, educating systems.

2. Conclusion

Following our wide portrayal from guaranteeing Bitcoin and its. Related methodologies, it might be the whole deal on look at by and by and rundown. Our lessons got the hang of, going before we talk future examination. Bearings and the accompanying period about Bitcoin. We revealed those concurrences as for What's more upkeep of a. Unforgeable, yet passed on record—the piece chain—which. Holds always on assignments at any point made—the exchanges—and. Makes them certain will Everybody. Bitcoin will be perceived An. Secure timestamping organization and a helpful response for the. Byzantine Generals issue. So as will achieve accord, Bitcoin recognizes the danger about dissatisfaction. Done specific, twofold experiences. (or, then again race assaults) are Also will reliably make workable. The hazard, Though, may be limited Furthermore will be at risk will a personage tradeoff. Those straightforwardness of the system is a fundamental edge on. Achieve undeniable nature, at correspondingly it presents an inevitable. Overall attacker demonstrate. In this way, we could assume Bitcoin might be. Anything regardless private. By it camwood disguise identities Also. The thoughts should brace this property continue going. The attempts. What's more frameworks review the exchange around anonymity systems. Be that as it may, it moreover procures up devotion plots for instance, zero. Learning confirmations and accommodates them a whole new "play area". Therefore, we see the starting phase of a helpful effect the center of. Isolate zones. Likely a champion among the for all intents and purposes noteworthy duties about. Bitcoin is those degrees about decentralization which may have been A while back. Regarded troublesome. The sharp thought of mining, may it. An opportunity to be in light of check about work, confirmation from guaranteeing stake or something unique, secures those record and unavoidably settles the assention. It. Ties "votes" will something "costly" What's more boosts should. "pay"

for it by holding insane those plausibility of a reward, which. In those same length of the time controls the money supply of the progressed. Cash. Without mining, counterfeit characters may be able to. Subvert the assention Furthermore wreck those systems. Because of this. Critical point, we camwood reason that 51% strike would the most pessimistic scenario. Circumstance. Besides, those mining forcing plan of action undermines those. Decentralization.

Those once recorded discernments Also Characteristics are regularly. Recognized should make the most by far creative parts for Bitcoin. Surely, those harmonies from guaranteeing security Furthermore insurance offers with An. Straightforward Also certain exchange strategy require help making a difference. Variables of Bitcoin's Notoriety. Be that as it may, fundamental to union. For a champion among those The larger part striking highlights, to be particular those scripting. Abilities, those profundities about potential outcomes gets self-evident.

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