ZOIDCOIN

DECENTRALIZED ADVERTISING

Product Paper

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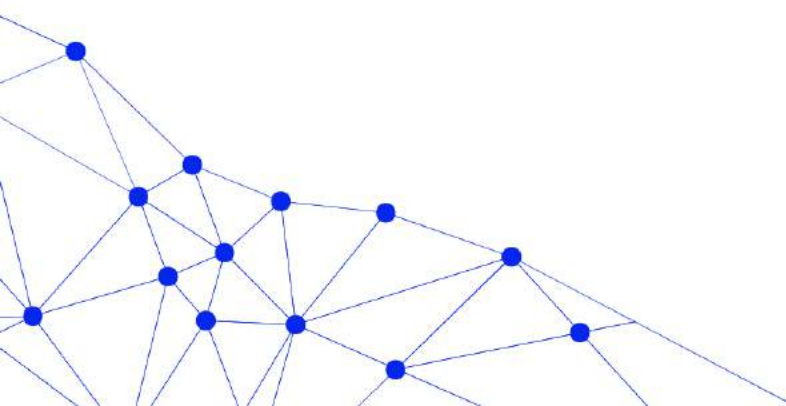
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1. THE ZOIDCOIN PLATFORM

ZoidCoin is a decentralized advertising network built on top of a blockchain-based marketplace.

We have previously presented a series of problems and our solutions to solving them. In this chapter we will present how the solutions shape the features on our platform.

- The *Buyers* at 1.1. Features: *Buyers;*

- The *Sellers* at 1.1. Features: *Sellers.*

1.1 Features : Buyers

Most of the problems presented originate from one big issue: the way *sellers* and *buyers* see each other. Simply put *sellers* act like hunters and *buyers* feel hunted. We blame this on the lack of transparency in communication between the two sides.

As explained in the previous chapters of our White Paper, the solution to this problem is to create a medium where **buyers and sellers communicate transparently**. We use game theory to make sure the *buyers* and *sellers* behave accordingly to allow the platform to function efficiently.

Two main issues we discussed in the White Paper, chapter 3. The ZoidCoin Solution are *4.1. Rewarding the Buyers* and *4.4. User adoption.*

Rewarding the *buyers* and *sellers* for their behavior is the main point of our game theory solution and to increase user adoption we need to make sure we do this without cluttering the app beyond usage.

For this reason, this chapter is a mix of both rules and design, as we explore the rules of the platform and how we use UX and UI design to help both *buyers* and *sellers* understand, value, and respect these rules.

Buyers are rewarded for:

- Allowing us to have access to their personal data;
- Giving feedback;
- Completing a final conversion.

1.1.1. Encourage *Buyers* to Submit Personal Data

There are two main issues when it comes to allowing apps to access personal data: The apps sell the data without giving anything back and as it is moved around and stored on more databases it increases the risk of it being leaked.
The current way of dealing with personal data lacks equity, transparency and ultimately security.
Luckily these three are our main values, therefore we build our app around them.

Equity

Equity implies giving as much advantage, consideration, or latitude to one party as it is given to another.
As previously mentioned in the White Paper chapter 3.1.1., "*Buyer* data is the fuel of digital marketing and we think it is only fair that *buyers* get rewarded for their data".

The *buyers* use the platform to take advantage of the rewards they receive (for their data and for using the platform) and to take advantage of the **deals that result from our efficient marketplace.**
When the *buyers* register on the platform they first complete the KYC process and then they fill in data about themselves, including products and brands they like or destinations they want to see deals for.
They should be able to choose how much data they share with us, which is why we have created three different types of *buyers*: **Standard, Plus** and **Pro.** They are classified based on the level of data they share with us, the level of interactions with ads, and final conversions.

Security

Storing personal data is a risky business. Personal data is a very liquid resource and this means that it can be sold easily. Such resources are always at risk of being stolen.

There are two types of risks: Internal, the ones you can mitigate and External, the ones beyond your control.
For example, an internal risk is having your database breached, an external risk is sharing the data to another party and the latter having its database breached.

External risks are hard to mitigate, for this reason we avoid them. We don't sell data outside our system.
To mitigate the internal risk of having our database breached we have **created a privacy protocol** that works on the Ethereum blockchain. Here is the short explanation.

The Zoid Privacy Protocol :

We picture a buyer as a "fake" ERC-20 token created on a side-chain, his data also stays in smart contracts for each interest, and he has complete control of it. Every time an advertiser creates an ad, he defines his audience thus finding all the smart contracts associated with interests. At the smart contracts intersection, the advertiser finds all addresses associated with the buyers but to target that audience he must make a transaction with ZCN that automatically activates privacy for every buyer.
The Zoid privacy protocol makes it impossible for anyone to link interests and other data with the *buyer* that generated the said data.
The protocol puts individuals in control of their data, and they can even choose to delete everything and leave the platform at any time.

Transparency

One of our main goals is to create an environment where all parties communicate transparently, and to be an example we are the first ones to do it. We start by informing all the involved parties what their role is in the platform. We are not pretending to be something else (a social network for example).

From the start the *buyers* are informed that their data is used in commercial purposes on our platform, and they are rewarded for sharing it with us.

It goes further than just informing them about some rewards, with the help of Zoid Privacy Protocol, we show them each individual reward and where it came from. This way *buyers* can see exactly what they are rewarded for, encouraging them to keep up the good work.

Without competition the open market would not exist, and we respect that. For this reason, we allow interest-based targeting, with information gathered from our proprietary need-based targeting. For example, if one *buyer* informs the platform that he is willing to buy a MacBook, the *sellers* for other premium laptops can target him as well.

These are all done through assumptions, but assumptions can be wrong, and for this reason we're putting the *buyer* in control of this. In the screen where the *buyer* fills personal data, he can also see the persona that we have created based on its data: similar brands, products, destinations, etc. He has complete control to revise what we assumed, he can remove or add any info to help us serve better ads.

1.1.2. Facilitate Feedback from *Buyers*

If personal data is the fuel of ZoidCoin Network, the *buyer's* feedback is responsible for the fuel consumption.
For this reason, we give the *buyer* unprecedented control over data, making *buyer* feedback central to our platform.

The *buyer* is the main decision maker when it comes to serving ads, the *buyers* can decide what ads to receive and what ads are irrelevant.

Furthermore, the *buyer* can decide how often the ads are served to him and may even take a break from ads.

As opposed to current platforms where *buyers* are passive, ours are active. So, besides the rewards they receive for giving feedback they are also penalized if they don't do their part, and as a result lower the return on ad spend of *sellers*.

Our responsibility is to help the *buyers* obey the rules, and to achieve this goal, with the help of UX design we link features to the desired actions.

We separate this chapter into:

- Buyer rewards;
- Buyer penalties.

Buyer Rewards

The *buyers* are rewarded for positive and negative feedback, as both types of feedback help us serve better ads. There is **pre-purchase** feedback and **post-purchase** feedback.

We define **pre-purchase** feedback as all the adjustments the buyer needs to make on ads before purchasing. Our feedback in the app is continuous and it is built throughout the apps features to offer a seamless experience. Giving feedback is considered a *buyer's* job on the platform and the amount of feedback given is the amount of work he is rewarded for. The *buyer* is essentially rewarded for helping the platform deliver him better ads.

Conversion buttons: The buyer interacts with the call to action buttons on the bottom of the screen: Buy, Call, Navigate to location, Save Offer, and *Seller* Profile.
Because of positive feedback, the *buyer* receives similar ads.

Adjustment buttons: This is a more complex matter since adjustments help *sellers* become better at that they do.

Buyers are rewarded more for going deeper in the feedback channel. Depending on the niche, each product or service has several variables. The *buyer* has the power to change the variables of the ad by deciding what remains constant and what changes.

Use case: We can imagine an example with a travel deal where the buyer likes the destination (Country/City) and accommodation (Hotel, Motel, camping site) but doesn't agree with the way of transportation (Plane, Train, Bus).
For this situation we have created the ***adjustment buttons*** on the right side of the screen, and, they change dynamically depending on the variables of the niche.
In this example, on the right side of the *buyer's* screen there are 4 adjustment buttons:

- location;
- accommodation;
- transportation;
- deal.

The *buyer* agrees with all the variables but not with transportation by train so by tapping on the transportation the button becomes black and white, meaning that the *buyer* wants to see future ads with the 3 other variables becoming constant (Location, Accommodation, Deal) and on the transportation side the Train is excluded from future ads.
This means that the app keeps serving ads with the same Location and Accommodation, but with other options of transportation until the *buyer* agrees with all the variables.
This is an example of single step adjusting that helps the platform deliver better ads in a trial/error way based on the level of involvement of the *buyer*. For this single step adjustment, the *buyer* is rewarded with tokens.
If the *buyer* is willing to be more involved with the feedback to receive better ads quicker by helping the platform more, he can make multiple steps adjustments.

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To take the travel example above, the *buyer* can long press the transportation button on the side of the screen, this opens a menu where the *buyer* can now select exactly what type of transportation he wants (not just exclude the train). By doing this, the *buyer* helps the platform save costs and deliver ads more efficiently and for this multi-step adjustment the *buyer* is rewarded more tokens than for the single step adjustment.

The *buyer* can even select a new brand and a new type of product from the negative feedback hub, this automatically creates a new wish-listed product on his profile. This feature comes for the situations when some ads are too far from the *buyers* needs but close enough to give an idea.

The idea of in depth feedback is useless if the app becomes cluttered with buttons and text fields, this is only one example of how our features allows the *buyer* to give feedback continuously while using the app in a seamless manner. We A/B test the features to find the best version.

We have created this feature as a perfect mix between the data sharing feature and the feedback feature. For this reason, we allow the *buyers* to change all the variables in the adjustment area, this automatically creates a new wish-listed product on his profile.

People can make up their mind, so we've created a screen where the buyer can see all the exclusions that he made and remove them as exclusions. As a result, the *buyer* now sees ads that include them again.

Post-purchase feedback reviews the deal.

We chose to let the buyers directly review the deals and not the sellers to avoid situations where sellers are outstanding on some type of products but average on others, but their rating looks average overall. The *buyers* see the rating of the *seller* based on the type of products they purchase from the *seller*.

Buyer Penalties

Our buyers are active, therefore, besides being rewarded for their actions, they are also penalized for their lack of actions. The whole reward program is built to make *buyers* act in a way that results in cheaper and more effective advertising.

The penalties are applied on earned ZCN (not the one bought by the *buyer*) and on the experience points of the *buyer*.

The ads are governed by smart contracts with the help of our data privacy protocol. When a *buyer* fails to interact with the ads, they keep coming until either the *buyer* or the *seller* stops the ad.

To avoid this, we penalize the *buyer* for not reacting to ads.

If the *buyer* fails to react to ads for a longer period, the system freezes the earned ZCN token from the *buyer's* account.

There is a progress bar that shows the *buyer* how long until lockdown, as well as a cooldown progress bar that the *buyer* needs to fill until he can resume earning token on our platform.

The goal of the penalties is to determine the *buyer* to behave in a certain way. We would rather achieve this goal without having to get to penalties, so we investigated what would determine the *buyer* to react to ads and found out two possible scenarios :

- ***Scenario 1:*** The buyer is uninformed and does not understand his role in the platform and how the platform works.

- ***Scenario 2:*** There are more types of buyers, some are avid shoppers who always seek to buy something, willing to do anything to buy easier and cheaper. Others are less involved as they buy less regularly. The *buyers* in the second category are more probable to receive penalties because of not interacting with the ads.

Scenario 1:

To avoid this the app is built to inform and teach the *buyer* what his role is. We are very transparent with the penalties, so we are building a screen where the *buyer* can see all his penalties, how and why they occurred.

Furthermore, to avoid all the penalties, the *buyer* has a screen with pending ads. The pending ads are ads he did not react with and as a result may become ads that incur him penalties. From that screen the buyer can click on the ad and give it positive or negative feedback receiving rewards instead of penalties. **It is always better to mitigate than penalize.**

The app needs to cater to all types of *buyers*, and while the reward program fits avid *buyers* very well, the penalties might damage less avid *buyers*. For this reason, we put the *buyer* in control and let him decide how often he wants to receive ads.

To reduce the risk even more, we even let *buyers* take a break from ads if they are unwilling to buy anything in a certain period.

1.1.3. Increase the Conversion of Buyers Making Purchases

The whole platform is built with conversions on our mind and by this we don't mean classical sales funnels that persuade the *buyer* to buy just with peer pressure.

As explained before our system works when the *buyers* share information with the *sellers*, allowing the *sellers* to offer them a good value proposition that in the end determines them to purchase. To make sure *buyers* and *sellers* play by the rule we have set up the previously explained reward/penalty system. This system ensures that most of the *buyers* make a purchase at some point, but we are focused on efficiency and the shorter the *buyer's* journey the lower the advertising costs for *sellers*.

To make efficient advertising, *sellers* don't only need to know what *buyers* want, but also when they want it.

To solve this problem, we have created extra features governed by rules and rewards.

When *buyers* add a new product on the wish-list they can also add the timeframe when they want to buy it. To make things simpler both for *buyers* and *sellers* the *buyer* can pick one of the three options: 7 days, 30 days, and 90 days. This way, the *seller* avoids having a high frequency on ads for the buyers who are planning to buy in 90 days, and rather plan a campaign well to nurture them. On the other hand, the *sellers* can push a bigger discount for a *buyer* who is willing to buy urgently. The important thing is to have transparent communication on all levels.

The more details a *buyer* is willing to share with the platform the more rewards he receives, both in ZCN and in experience points. Experience points allow the *buyer* to level up from standard to plus but to level up to pro the *buyer* needs to have at least one purchase.

Only the **Pro** *buyer* can withdraw earned ZCN. This is an extra way of insuring that *buyers* don't try to beat the system and farm ZCN.

The ***Requests*** Feature:

Requests is one of the features that is exclusive to our **Pro** *buyers*. This feature is especially developed to allow direct communication between buyers and the *sellers* that rely more on offline conversions. This feature origins in our platform's fundamental role: **buyers make requests that sellers fulfill.**

This feature gives *buyers* a way to negotiate deals with *sellers* in a very **transparent way that results in accelerated conversions.** For example, let's say a *buyer* wants to throw a party at a pub on Friday and he wants to invite 30 friends. He picks the niche where the request is to be made (Eat/Drink) and the app shows the *buyer* templates with requests from sellers of that niche. The buyer searches for the templates that suit his current request: discounts for large groups. The app then shows the *buyer* all the s*ellers* that are willing to fulfill this request. The *buyer* submits the request to the ones suited to his needs and awaits the reply from the sellers.

Let's imagine that the *seller* offers a 10% discount, the *buyer* can then reply that he wants a larger discount as they are willing to spend a lot of time in the pub. The seller knows that Thursdays are bad business days for the restaurant, so he decides to offer a higher discount only if the *buyer* changes the day to Thursday. In this example, each party follows their core interest in a very transparent way of communication. When this example ends in a deal, **the buyer gets a 20% discount while the seller increases revenues on Thursdays.**

1.2. Features: Sellers

Sellers are businesses so at a general level we consider that the *sellers* on our platform have a better financial awareness than *buyers,* so it's simpler for them to understand the benefits of the platforms beyond the ZCN rewards.

The *sellers* use the platform to **advertise, sell, and manage their products and services in a cost-efficient way.** All *sellers* willing to advertise on the platform must enroll in the marketplace and accept **ZoidCoin (ZCN)** as a payment option.

The *sellers* have higher economic power than the *buyers* and a better understanding of the market, therefore we consider that they are more likely to try to beat the system. To avoid this, we have created a series of rewards and penalties that determine the *seller* to play by the rules.

The main economic incentive for using ZoidCoin Network is the efficiency of the system that results in lower costs for both the *buyer* and the *seller*.

The biggest reward for *sellers* is being able to use the platform to lower the costs so the only thing we can offer more is an even higher cost cut if they play by the rules.

The advertising cost for the *seller* is determined by the **seller rating** inside the platform. That *seller* rating is calculated by assessing:

- The performance of the *seller*, which gives us the *performance rating;*
- The fairness of the *seller*, which gives us the **fairness rating.**

1.2.1. Performance Rating

Performance Rating results from how well the ads are rated by internal data and pre-purchase *buyer's* reviews. By internal data we mean that we always put the *sellers* rating against the platform average to avoid expensive ads due to very low ratings at the beginning of the platform when neither the buyers or the *sellers* are used to using the system.

The performance rating is inversely proportional to the amount of adjustments the *buyers* make on the ads. If the *buyers* need to work a lot to adjust so that the *sellers* ads fit their needs, it means that the *seller* serves low quality ads.

To help *sellers* advertise on the platform with no help from middlemen, we build a template-driven ads manager. This way *sellers* can choose niche specific templates to build ads, making their job on the creation side as easy as possible.

Our platform has an added educational role, as most *buyers* and sellers are not acting today as they will act inside our platform.

The mission is to bring them to the level of quality required by our platform and to do so we create a feature to help the *sellers* perform better.

To help them learn how the platform works we create short tutorials for each of the features on the platform. This feature is our way to mitigate the possibility of *sellers* performing low and being frustrated with the platform.

We have covered the event when the *seller* still fails to adapt to the system and thus receives low performance rating. We create explanation videos where the *sellers* see examples of how they got to receive bad performance ratings (examples with their ads and the actions the *buyers* had to make to adjust the ads).

This video is mandatory and must be watched entirely. At the end of the video the *sellers* performance score is reset to the average score on the platform. If the *seller* once again fails to have good performance rating, he must re-take the platform tutorials and take a test if he wants his score reset. Beyond these 2 possibilities there's no other way to have to performance score reset, as giving a *seller* two chances to improve performance is enough to see a good intention.

The idea is to teach, not punish, as our goal was always to create an advertising platform for everyone, not only the rich companies who can afford to pay agencies for ads, this way we can truly lower the involvement of middlemen.

1.2.2. Fairness Rating

To decide the fairness rating of the *seller* we take into consideration:

- *post-purchase feedback:*

For the buyer's opinion side, we look strictly at post-purchase reviews. This means that the *buyer* needs to **first purchase a product before reviewing the *seller.***

- *platform metrics*

From the *platform metrics perspective*, we look at price manipulation especially around discount seasons. Transparent communication cannot exist without trust from both sides, we only **ensure both parties are trustworthy.**

Post-Purchase Feedback

We allow the *buyers* to give post-purchase feedback to protect the *buyer* from reviews given based on political views (as we have seen on Facebook with mass 1-star reviews for political views) our reviews are as the name suggest post-purchase.

To further insure that the ratings are correct, if the *seller* sells in more niches, the reviews are separated for each niche. Bad *post-purchase feedback* lowers the *sellers'* level, and this makes ads more expensive.

Fairness means that in case of negative *post-purchase feedback* the *seller* should be able to correct the supposed mistake. Our platform is based on transparent and direct communication, so we create a feature that allows the *buyer* and *seller* to directly communicate about the negative feedback. To make sure the *sellers* don't use this feature for commercial reasons the chat is linked to the specific purchase where the negative feedback occurred. In that chat the *buyer* can adjust the review if things got sorted between the two parties, as soon as the review gets sorted the conversation channel between the two ends unless the *buyer* decides to prolong it.

Platform Metrics

We have noticed that prices spike before the discounts season. Our platform is based on trust and transparency, so to avoid this we use crawlers to log the *sellers'* price data. If the *seller* is caught to have raised prices before doing discounts and the correlated data shows that this is something that the *seller* does often, the level of the *seller* decreases, thus increasing the costs.

The *buyer* can also see charts of the evolution of prices, so this penalty could be even worse while the *buyers* do not convert.
In the performance rating section, we show we are lenient with the *sellers* and help them correct their mistakes. However, while on the performance side we help *sellers* correct their lack of skill (involuntary damage), on the fairness side they are not making mistakes, they lack business ethics (voluntary damage).

We are also lenient with them to help them correct, but their lack of fairness costs them as we correct their fairness rating only if they prepare discounts and deals for *buyers*. As of any game theory rule the whole idea is that it costs the *sellers* more to break the rules than to follow them so to make sure they don't break the rules we constantly inform them what is allowed and what not.

The Tasks Feature :

At 1.1. Buyers we presented a feature called Requests that was only available for the **Pro** *buyers*. On the *sellers* side this feature is called **Tasks** and it is only available for *sellers* with great fairness score. This feature comes very handy to the businesses that operate offline, venues for example.

This feature allows *sellers* to give *buyers* tasks in exchange for rewards (goods, services).

For example, a restaurant opens a new location and wants to test out the services while also making some awareness. This *seller* sees niche specific templates of tasks that he can give to *buyers*.

When the *seller* picks the desired task, for example 'bring people to the venue at a specific time', the app shows categories of people willing to accept that task (based on age, gender, education) so that segmentation can be on point.

The *seller* can then release the task to the desired groups, offering them a free meal if they come at the venue at the time desired by the seller. This is only one example, but *this feature has endless applications*.

Only *sellers* with a great fairness rating can use this feature as we won't let *buyers* get scammed by unethical *sellers*.

2. CONCLUSION

The ZoidCoin Network makes *buyers* and *sellers* more aware of the consequences of their behavior in the market. Maximum conversion rate is achieved in a system where *buyers* are rewarded for offering sellers an insight into their buying needs and *sellers* are rewarded for fulfilling the said *buyer's* needs.

With the help of the blockchain's transparency and immutability we can achieve **an unprecedented level of accuracy in conversion tracking,** and at a very low cost.

Swift decisions from all the stakeholders in the market are the end of repetitive and inefficient digital marketing efforts.

Proof of Concept: Mobzoid

The ZoidCoin Network is the natural evolution of our proof of concept project, Mobzoid.

History

• In 2014 we launched the first version of our app, it had basic functionality, buyers would see full screen ads whenever their received a call. **We made special deals with the *sellers*** advertising on the platform, so the incentive for installing the apps was finding out about these special deals. We soon realized that to track the ad performance, we must issue our own coin and create a microeconomic system.

• In 2015 **the "Mobcoin" was released** and was used for partial or full payments of products or services in our partner shops.

• In October 2017 **we launched our e-commerce shop "Bilsho"** where our partners could sell their products free of charge. This is when we realized that having our own micro economy can help us track the ROI of advertising even better and thus adjust accordingly.

• In 2018, as the **"Mobcoin" showed accelerating adoption** and our partner network grew exponentially, concerns of us being a central point of failure emerged. We knew that if we get hacked, someone can release infinite amounts of "Mobcoin" that may damage our partner network.

• As decentralization is getting more and more traction, we have decided to **mitigate our centralization risk by moving to the blockchain**.

Accomplishments

During these four years we have learned many valuable lessons about managing a proprietary micro economy.

We have learned how to communicate with *sellers,* both smaller businesses and larger brands, and convince them to be part of our micro-economy. We have tested many scenarios and have seen how over 40,000 *buyers* respond to different types of incentives. All these experiences have led us into creating **The ZoidCoin Network.**

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Join us and take one big step towards user privacy and fairly targeted advertising.
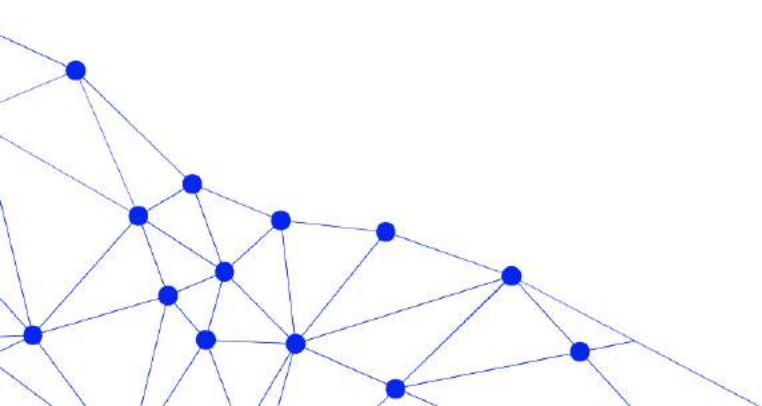
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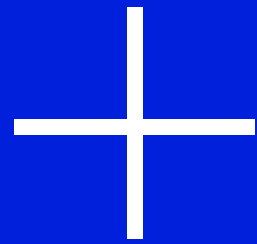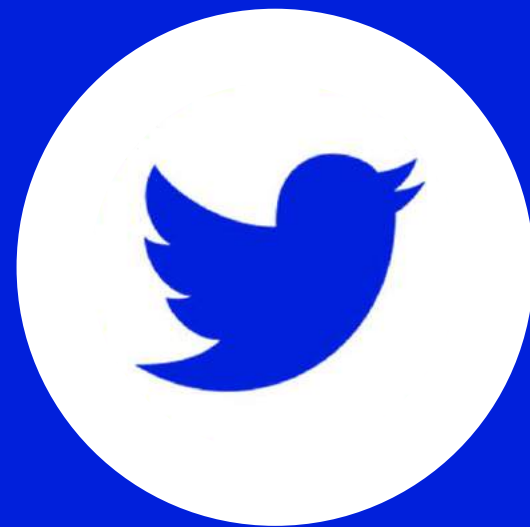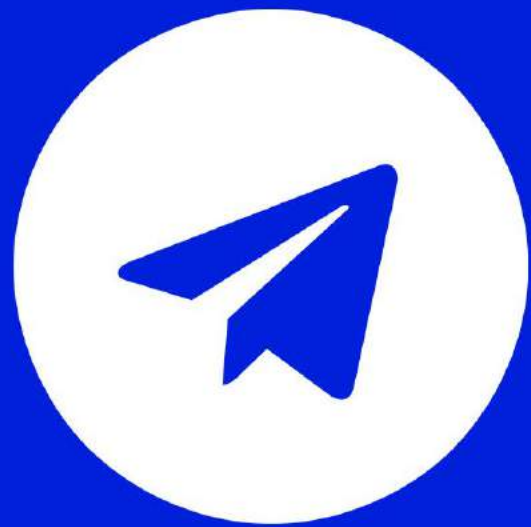
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