ZTips

Abstract

"Nip the evil in the bud" is a common saying but despite this universal public truth, all evil events keep happening undeterred and the major reason behind that is asymmetry of information about the event. The ones who can stop them, do not have the precise information and the ones who want to provide the information to the right user are not supported by secure infrastructure of anonymity and incentives. Project ZTips is an anonymous tipster service that allows tipsters to maintain full anonymity while performing the life-threatening act of providing the right information to the right user/seeker of the information. That user can be a law-enforcement agency, the potential victim, a corporate player, security agency (public & private), investigative journalist or even a media outlet. This will act as a great crime-deterrent framework for societies, institutions & individuals because it can solve a crime as well as stop a crime. It can easily fit in all the existing crime reporting systems of the world too. This project builds itself upon the twin pillars of decentralization and Zero-Knowledge-Proof in such an optimized way that every common man can use this.

Index

1.0 Executive Summary

Despite human awareness of the wisdom words, "Nip the evil in the bud", all evil events keep happening undeterred and the major reason behind that is asymmetry of information about the event. The ones who can stop them, do not have the precise information and the ones who want to provide the information to the right user are not supported by secure infrastructure of anonymity and incentives. Project ZTips is an anonymous tipster service that allows tipsters to maintain full anonymity while performing the life-threatening act of providing the right information to the right user/seeker of the information. That user can be a law-enforcement agency, the potential victim, a corporate player, security agency (public & private), investigative journalist or even a media outlet. This will act as a great crime-deterrent framework for societies, institutions & individuals because it can solve a crime as well as stop a crime. It can easily fit in all the existing crime reporting systems of the world too. This project builds itself upon the twin pillars of de-centralization and Zero-Knowledge-Proof in such an optimized way that every common man can use this.

1.1 Our Vision

1. ***Combating Crime*** ZTips can be a powerful aid to all governments and crime investigation agencies in combating crime. They can use the platform to obtain desired information by attracting tips from a larger, keener audience. ZTips holds the power to revolutionise crime reporting in a manner that has never been attempted before.

2. ***Accelerated Rate of Crime Solving*** The ability to remain anonymous can be a big motivation for professional tipsters, victims and general public to report crimes. This subsequently will lead to an increased rate of crime solving.

3. ***Crime Prevention and Crime Deterrence*** ZTips does not only provide a crime solving platform but also paves the way for a crime prevention and crime deterrent framework. Tipsters can provide tips anonymously that can prevent crimes from occurring and save many lives and valuable resources.

4. ***Other Applications*** The fundamental vision of ZTips is not only to solve crime-reporting challenges but dissolve the asymmetrical curve of information exchange between seekers and providers everywhere. This core project idea can find multiple applications in the real world.

5. ***Community as Stakeholder in Policing*** ZTips will be best utilized as the community policing tool as it will bridge gaps between law enforcement and general population. It will be act as a great humanitarian resource for crime prevention.

1.2 Our Mission

1. *First Zapp Platform* ZTips is proud to aim to provide the first Zapp, Ethereum decentralised applications that use privacy tech. It is built on the Zokrates Platform and will deploy state-of-the-art privacy techs such as **zk SNARKS** and **IPFS** to provide the users a total, all-encompassing secure **anonymous experience.**

2. *Building Relationships with Crime Investigation and Law Enforcement Institutions* We are already on our way to building strong, durable partnerships with Crime Investigation and Law Enforcement agencies. These institutions will form an integral part of the platform and will be able to leverage the platform for accelerated crime solving.

3. *Diverse and Accurate Reporting Formats* ZTips shall commence with a standard crime reporting format for its users. However, the reporting formats will continuously diversify and evolve to satisfy the varying requirements of different investigating agencies, types of crime and cultural barriers.

4. *Part of Everyday Crime Reporting* ZTips aims to successfully integrate into the everyday lives of general public and be an effective tool of crime reporting for Crime agencies and institutions.

5. *Autonomous Information Exchange* We hope to provide the world a decentralised secure private platform for anonymous information exchange that can empower each and every individual to play an active role in crime fighting. The flow of information shall be completely autonomous and users will be able to exchange information hassle free.

2.0 Problem Statement

Globally, the crime reporting system is inefficient, biased, fragmented and non-scalable. Whenever we think of crime reporting, it basically means filing an FIR (First Information Report). This process is generally paper-based and dependent upon physical presence of the reporting person. It means going to the particular police station and reporting the information that becomes the basis of follow-up action by the crime-investigating agencies.

So, reporting a crime is not the only issue but the process of crime reporting is also critical as it is affected by multiple factors. The quality and location of a police station, competence of the policeman, capacity of crime investigation, public culture of crime reporting and nature of the witness and reporting agency all are important factors. Rarely, all these factors converge to make a 100% fool-proof crime reporting system.

Tipsters or victims have no anonymity and find themselves exposed to various dangers. Traditional Law systems are unfriendly, confined to territorial jurisdictions, involve tedious processes, colossal costs and lack a crime-prevention framework

It is not easy for Law enforcement agencies to seek desired information either. It usually involves a significant cost of operations, time and efforts. Even the witness protection program incurs heavy costs and is a long cumbersome process for everyone

The problem tends to arise at the initial phase itself wherein the consequences and hindrances of crime reporting for a common citizen often outweigh the potential benefits.
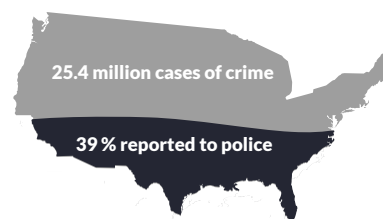
2.1 Varied ratio of crime reporting

In 2000, as per the Bureau of Justice Statistics report[1], only around half of the violent crimes like rape, sexual assault and robbery were reported to the police and only a third of property crimes like burglary, motor vehicle and property theft were reported to the police in the USA.

25.4 million cases of crime

39 % reported to police

Crime Reporting stats of USA in 2000

Among the total figure of 25.4 million crimes, the net share of crime reporting to law enforcement was only 39%. This figure also showed a lot of variation in terms of gender, race and colour of the victim. Female victims had a higher crime reporting than males and the Black victims had a better reporting rate over the White and Asians.

Female reported more crime than male

Teenage victims reported less as compared to adult victims and families with lower household income reported much lesser cases of victimization than those households with higher income.

Unmarried people reported more cases of crime than the married ones and urban people did more of crime reporting than non-urban population. This difference in crime reporting even extends to the race & colour of offenders; it was more for black offenders and less for white offenders.

2.2 Abysmal levels of crime reporting in developing & Least-developed countries (LDC)

This ratio is more disturbing in the case of developing countries and less developed countries where the reporting of crime is pretty less as people don't believe in both the curative and preventive capacities of the system.

A recent study[2] estimated the figures at around 27% in case of Latin America. As per another report[3], there occurred 490,000 deaths due to intentional homicide in 2004 with a world average homicide rate of 7.6 per 100,000 population but this rate had an average of over 30 in Southern Africa and around 28 in Caribbean countries in direct contrast to European average of 2.5 per 100,000.

It further states that death by violence in Africa is 7 to 40

1 https://www.bjs.gov/content/pub/pdf/rcp00.pdf

times higher than the average rates in Western Europe. This huge divergence is not only confined to homicide but also to cases of major assault, rape, robbery, burglary, kidnapping and automobile theft. The most disturbing aspect for developing countries is that these rates are on the increasing side year after year. In addition to this, complex crimes are on the constant rise too. They involve a highly organized set of both local and global set of players. Even Interpol does not have any crime data inputs from nearly half of the total countries in this category.

Homicide rate

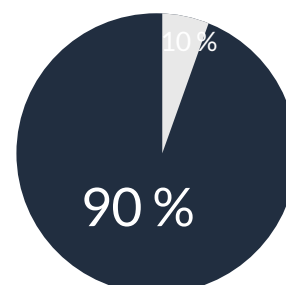| ■ 0.00 - 2.99 | ■ 3.00 - 4.99 | ■ 10.00 - 19.99 | ■ 20.00 - 29.99 | ■ >= 30.00 | ■ Not available |
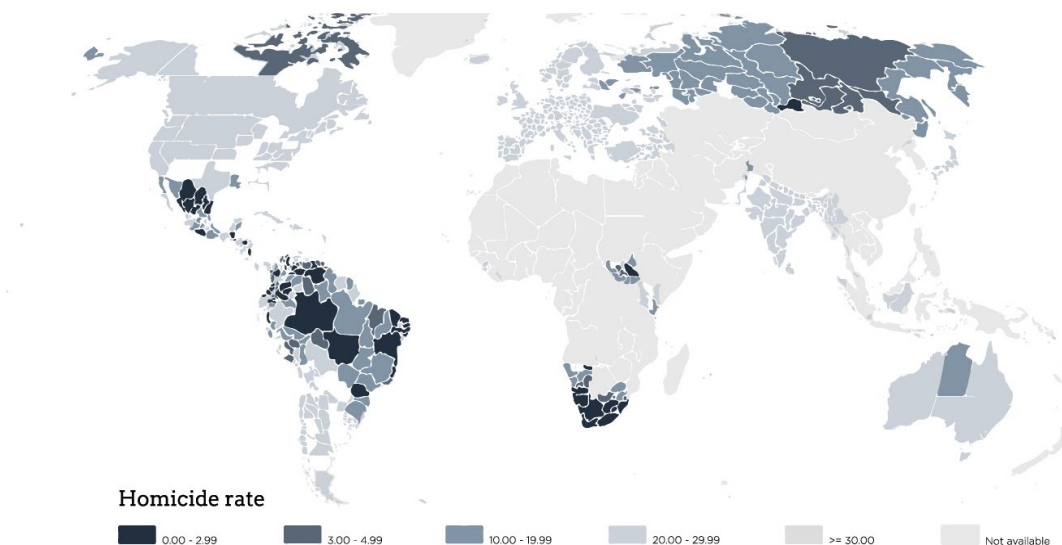
2.3 Quality of data collection in crime reporting is quite bad

If things were bad on crime reporting front, they are even worse on post-reporting stage. From reporting of a crime begins a long journey of arresting offender, prosecuting the same in the court of law and then conviction. The median rate from reporting to conviction tells a pretty abysmal story of only 20% across the world. It means that for some countries, this rate might be even in single digits.

It literally means that 90% of crimes reported don't result in conviction. If we compare these figures with actual crimes including those that were not reported, the final figure of conviction rate would be a very small percentage of the total volume of crimes. This presents a pretty sorry state of affairs of crime prevention-cum-resolution system across the world. This is despite the fact that billions of dollars are being spent on this every year by all countries as well as global bodies.

Broadly, it means that crime deterrent framework is seriously faulty and needs some structural innovations. The best way to initiate this lies in crime reporting system. It has been realized that live presence of the reporting agency is the biggest de-motivating factor because many people don't trust the conditions of a police station or a police officer. Sometimes,

10 %

90 %

■ Crimes not reported in developed countries
■ Crimes reported in developed countries

2 https://www.academia.edu/15664064/_Understanding_Differences_in_Crime_Reporting_Practices_A_Comparative_Approach_
3 https://www.unodc.org/documents/data-and-analysis/Crime-statistics/International_Statistics_on_Crime_and_Justice.pdf

they are highly unsure of their own capacity to face a crime investigator. They actually compare the cost of providing information with the potential cost of facing the consequences of the same act. If future cost is more than the present one, they tend to avoid the risk. This cost-benefit analysis works against the civic sense because benefits of reporting for a crime witness are way less than risks. In a major study, it was revealed that major police reform was "to initiate program to impress upon the citizen the crucial role he contributes to the crime solution" (page 31). Since a lot of crimes go unreported just because of fear and lack of privacy, it becomes paramount duty of the police to institute mechanisms that can actually bridge the gap between police and public.

2.4 Current format of online reporting system is neither safe nor scalable

The barrier of physical reporting has been partly corrected by building an alternative to physical FIR and that is online crime reporting system. People can register their reports online but even that has serious problems. It is nothing but digitization of current manual system of crime reporting in fragmented police divisions. For example, in case[5] of Chicago Police, a user is made to follow following form, selecting options from pre defined crime scenarios.

Such a system is less friendly to the reporting person as he/she has to take care of so many exceptions without any assurance of safety and anonymity. Similarly, problems are aplenty in other cases of online crime reporting systems. The system is so bound with the territorial jurisdiction that it fails to notice that many crimes like terrorist strikes, plane hijacks, homicides, bank robbery and cyber crimes have no limit of operational space as the critical information can come from any quarter of the planet. There is lot of information asymmetry for a crime investigator but for a criminal, no such problem exists. A police man operates within jurisdiction and that too with many information barriers but a criminal works without any limit or border. So, online reporting system makes filing a report easy but it does not work towards the prevention of the crime. If a crime is about to happen, a different format has to be used for its reporting. Second thing is that online reporting does not ensure the anonymity of the tipster and does not have any in-built assurance of safety or reward.

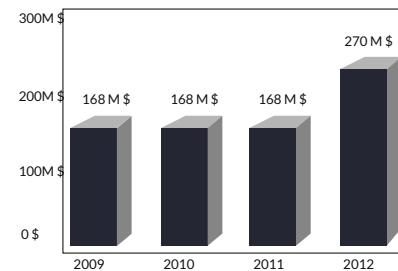## 2.5 Ensuring witness protection is neither effective nor affordable

In order to resolve the crimes, investigative authorities like Police, CBI and FBI tend to rely on their citizens for tipping about the crime. They publicize the need for potential tipsters on billboards and newspapers and even TV. They attract potential information providers by offering cash rewards and even go to the extent of building a very comprehensive witness protection programs.

Funding (FY 2009 - 2012)

https://www.justice.gov/sites/default/files/jmd/legacy/2014/01/04/fy12-few-bud-summary.pdf

In America alone, there are over 18,000 beneficiaries of the Federal Witness Protection Program. There is a huge cost of Federal Witness Protection Program in U.S. Mission as the FY 2012 budget request for FEW totals $270.0 million, which is a 60.4 percent increase from the FY 2011 CR[6] where the cost of protecting a single witness can be around $60,000 per year in US. Failure of witness protection program like those in the case of Debbie Ashton[7] and in case of Shawn Balch and Tammy Spooner in Saskatchewan's witness protection program[8] are prime examples of this.

There are various pitfalls of Federal Witness Protection Program. Though it is a highly needed requirement but the potential of its misuse is huge. It becomes a dumping ground for criminals; it is pretty difficult to get adapted to a new identity in the Federal Witness Program; protected witnesses start demanding unreasonable things from the government and so on. Not just in US, even the UK has over 3000 people

An official inquiry found 20-year-old Debbie Ashton's death was preventable.

http://www.news.com.au/national/crime/how-the-police-witness-protection-program-led-to-debbie-ashtons-death/news-story/a381540b3d44f5200933ed0f7c15f01d

under the similar witness protection program. In Mexico[9], reports show that all the protected witness were killed in a few years of the scheme launch.

FBI has got an online tipping system working too where people can go to www.tips.fbi.gov to provide tips to the FBI but what is the most worrisome sign of this system is the first page that one has to fill is shown in the image down. The first information that one has to fill is about one's own self. One can imagine the fate of such information if there is scant mechanism to persuade/convince a tipster to keep one's identity secret. In the FAQs related with this program, there is no mention of any superior technology or method that can give 100% guarantee of anonymity to the tipster. Second, there is no guarantee of any reward/incentive.

Even Dallas police has one program at http://dallas.iwatch911.us where tipsters can go to submit information to the police. There is another program called IGuardian that is known as the FBI's Industry-Focused Cyber Intrusion Reporting Platform which was exclusively developed for industries like telecom, defence, banking, finance and energy. Still, the FBI is seeking continuous powers under FISA 702 of the Foreign Intelligence Surveillance Act that "authorizes the Intelligence Community to target persons located outside the U.S for foreign intelligence purposes." It shows that police has no serious way of preventing or solving a crime without jeopardizing the privacy of the citizens.

4 Rand. (1975). The criminal investigation process 1-3. Rand Corporation Technical Report. Santa Monica.

5 https://home.chicagopolice.org/online-services/online-crime-reporting/

6 https://www.justice.gov/sites/default/files/jmd/legacy/2014/01/04/fy12-few-bud-summary.pdf

7 http://www.news.com.au/national/crime/how-the-police-witness-protection-program-led-to-debbie-ashtons-death/news-story/

8 http://www.cbc.ca/news/canada/saskatchewan/sask-witness-protection-1.4136085

Things are not different with phone based tipping system launched by some police agencies. A recent news item[10] mentioned following such departments that receive tips and promise anonymity.

Tips format like this leads to non security issues of the tipster.

"List of police agencies that accept texted, anonymous tips:
- Fairfield police: Text TIP FAIRFIELDPD followed by your message, to 888777
- Fremont police: Text TIP FREMONTPD followed by your message, to 888777
- Petaluma police: Text TIP PETPD followed by your message, to 888777
- Rohnert Park police: Text TIP RPDPS followed by your message, to 888777
- San Francisco police: Text a Tip to "TIP411" and begin the message with SFPD.
- San Leandro police: Text "TIP SLPOLICE" followed by your message, to 888777

List of police agencies that accept e-mailed or phoned tips:
- Alameda County Sheriff: Call (510) 667-3622
- Contra Costa Sheriff: Call (866) 846-3592 or email: tips@so.cccounty.us.
- El Cerrito police: Call Crime Stoppers (510) 799-8255
- FUGITIVE WATCH: text 408-355-0999 or email tip@fugitive.com or call 1-800-9-CAUGHT
- Hayward police: E-mail HaywardPDTips@hayward-ca.gov.

- *Milpitas police: Call Crime Tip Hotline at (408) 586-2500*
- *Oakland police: Call TIP LINE at (510) 238-7950*
- *Palo Alto police: E-mail paloalto@tipnow.org text (650) 383-8984*
- *Pleasanton police: Call (925) 931-5100*
- *San Jose police: Crime Stoppers Tip Line, (408) 947-STOP*
- *San Mateo police: Call Secret Witness Line at (650)522-7676*
- *San Mateo Sheriff: Call 1-800-547-2700*
- *Santa Clara Sheriff: Call (408) 808-4431*
- *Union City police: Call UCPD Tips line (510) 675-5207*
- *Vallejo police: Call Crime Stoppers 707-644-STOP"*

But same report also mentioned that despite the promise of anonymity, the one who comes forward to help with information, ends up with his/her own death. If a particular police department says that it will ensure anonymity, there is no scientific technology supporting such a claim and the result is that all such public postures by police end up back-firing thus further reducing the people's trust in them. Not only that, there are some campus safety programs too like Claremont University Consortium Silent Witness Program but as of now, no such system has proved beyond doubt that they are really popular among the public and they are also the authentic mechanism to stop the crime or solve the crime in any way.

2.6 Vast damages done by the criminal activities

A basic idea[11] of the global size of this transnational crime is around \$1.6 to \$2.2 trillion per year that is much larger than the GDP of many countries. The prominent crimes listed in this category are drug trafficking, small arms & weapons smuggling, human trafficking, organ trafficking, counterfeiting, illegal logging, illegal mining, crude oil theft and others. If this is the size of the criminal industries, we can imagine the destruction of economic and social value that would be multiple times of above figure.
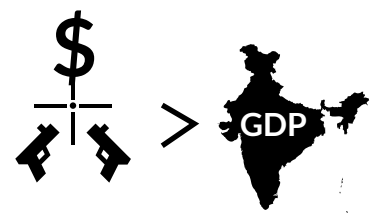
Size of crime expenditure is more than GDP of india

In addition to this, the size of localized crimes is not less if aggregated on a global level. As per the FBI's UCR (Uniform Crime Reporting 2015), there was an increase in violent crimes and property and amount of losses incurred, immeasurable human and great financial losses were to the tune of 14.3 billion dollars in losses. This is a cost without considering other crimes like Cyber Crimes, Kidnapping, rape and so on. If calculated globally, the damage done per year would be in hundreds of billions of dollars and this proportion is only increasing.

 Despite spending so much on crime prevention and investigation, the system is biased, fragmented and hence inefficient. Since jurisdictions are divided, a scalable crime reporting system cannot be built as no party would bother to spend so much energy on persuading and collaborating with other agencies for general cases. For some high profile cases, some cooperation is possible but in majority of cases,

no permanent structures actually exist because all the multiple systems are centralized and suffer from single point failure problem.

This is a high time to prevent the wastage of huge amount of resources on pitfalls of our crime-deterrent structures that are nothing but copy-cats of socially alienated centralized players. In money and banking, people as counter-parties are far more embedded because they use such systems daily. On the contrary, in case of crime-investigating agencies, there is far less incentive from the people as well as for the people. That is why a community-based incentive model of crime-reporting needs to emerge that is both anonymous and scalable. It should work equally for localized as well as transnational crimes. It should be adoption-friendly for both local police and Interpol. It should ensure proper targeting of information and tips by developing a global stakeholders' model because the network effect of such system would rise immensely with more adoption. Citizens can speak out only where public culture of reporting is supported by a seamless crime reporting system. Almost all the crimes have some kind of witness who is afraid to come forward because of non-availability of fool-proof anonymity or is not sufficiently incentivized for sharing the information with criminal investigating agencies. This is possible in an alternative that is decentralized and does not suffer from over-regulation, control or jurisdiction boundaries. According to an Accenture survey, 88% of citizens across six countries believe that citizens are important participants in crime fighting and reporting crimes is a key role for citizens in police services. This large number can make all the difference if given the right platform to play a greater role.

2.7 Anonymity through encryption is used effectively only by criminals

There has been a unique trend in the world of crime that is called "crime-as-a-service". The digital tools of encryption enable a criminal to outsource a crime to somebody who is closer and more capable of hitting the target. It becomes quite easy for certain tech-friendly criminals to commit a crime on pay-per-service mode.

A recent speech[12] from the Director, Europol claims that their department suffer a lot from the online encryption tools used by criminals and there is a serious stand-off between privacy advocates and online security. More than 75% of cyber crimes used some sort of privacy protecting encryption tools that made crime investigation a pretty difficult job. How law enforcement can go beyond such helpless predicaments? Had it been possible, things would have been built much earlier.

The reason is that a potent combination of blockchain-enabled decentralization with Zero-knowledge proof (ZK-Snarks) technology was not even available some time back. It is a unique historical opportunity that this area can be tapped by innovative entrepreneurs and public support of crowd-funding through ICO routes. All these things were unimaginable a couple of years back.
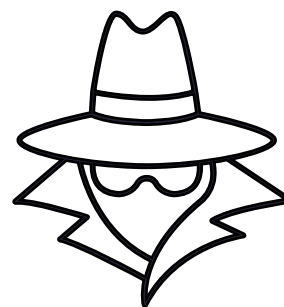
3.0 Project ZTIPS: Elaboration, Design & Ecosystem

Project ZTips platform offers a range of advantages compared to the traditional ways of soliciting information from the general public. There is guaranteed full anonymity of the tipster and this will ensure complete trust in sharing valuable information that can lead to the solution/prevention of a crime. It has been established above that crime deterrence works through an integrated ecosystem of crime reporting, arrest of offenders, prosecution and conviction. Since the data captured at first stage is critical for all the subsequent stages, crime reporting should gather the best and the most critical elements. This project is aimed to reduce crime data-loss and gather the critical information that is not acquired on a general basis.

The platform ensures that rewards and compensation which are duly earned are disbursed to the deserving tipster. The terms of the contract are established before it is signed and are stored on the blockchain and it is impossible to change its terms after both sides have agreed to them. The contract can only be closed or broken according to the original arrangements. All transactions on the ZTips platform are made with the use of ZTips (ZTPS) token and this completely eliminates all barriers to payment. The absence of an intermediary, such as a police officer or a bank, makes the counterparties free from unnecessary oversight procedures and streamlines the process.
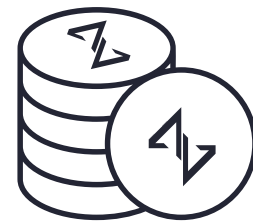
ZTPS Tokens

This project aims to disrupt all kinds of criminal enterprises. It actually makes community a serious stakeholder in the crime prevention as well as crime cracking. To put it more provocatively, it aims to become the Uber-like platform between seekers and providers of crime-related information. In fact, it is better than Uber because it does not aggregate the data on to a centralized honey-pot. It does not control the profits rather they are shared among the members of public. Police saves its cost of operations and community gets its share of rewards and indirect benefit of lower cost of crime prevention as well as lower damage due to crimes.

So, it is a global cloud-like crime reporting system that works without borders. If we just see it as potential replacement of Federal Witness Protection Program and hundreds of similar programs across the world, it can help a lot of public investigating bodies to save not only huge cost but also save in terms of fallacies of such programs. Anonymity is best handled when individuals can do it on their own but it is rarely perfect if some intermediary is handling it and that too if it is being done with public funds.

Project ZTips can actually work like a simple app in the hands of a police officer where the fastest route to information can be only a click-away. Police has to ensure only one thing and that is to maintain a healthy community bond by sharing

the same dApp (decentralized application) with the public. Since there are multiple kinds of investigative agencies at the local, provincial, federal and global level, the scale of adoption can be huge for ZTips. It is crime-deterrent mechanism available universally to all the people and investigative agencies across the world where a witness can mark his/her tip to partner agencies or non-partner individuals.

3.1 Operational Design of the project (Quick Tip + Complete Tip)

This project has huge range of applications. So, it has to be launched in phases and they will depend upon the kinds of stakeholders who become ready partners to the project. It would begin as a single application available in a decentralized manner via multiple routes. The major route would be that it would be listed in the dApp store of Ethereum platform so that it is immune to censorship/deletion.

It would also be available in Android/iOS mode on their respective play store. The system would operate via Smart contracts that are nothing but digital algorithms which describe a set of terms which are automatically fulfilled by the ZTips network. They enable law enforcement (the FBI and the Police) and informants to enter mutually agreed contracts with each other without having to worry about the default on the part of either of the parties. The purpose is for the informant to provide valuable intelligence on unresolved case, and receive the bounty if their information is good enough for the investigators.
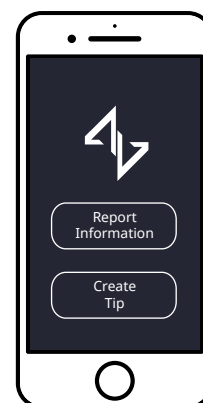
ZTips is a blockchain-based platform that would work with multiple law-enforcement agencies and bring them on-board as a ready partner. It will ensure direct access routes between tipsters and investigators. There would be filters like jurisdictions (Country, Province and District), crime categories (theft, kidnapping, vehicle theft, cyber crime, homicide etc), agencies (police, CBI, CID, NSA and so on) that will ensure the right targeting of information.

This will be followed by ensuring the transactions through an escrow route from the bounty issuers to the tipsters. The ones offering tip would set an amount on ZTips ZAPP and the anonymous users would reply with a tip. ZTips would then hold the bounty in escrow via smart contract to be transparent in the blockchain. Once tip is confirmed positive and the problem is solved, rewards would be released by confirmation and smart contract of both parties. The terms of a smart contract are established before the offer is made. Then their fulfilment is ensured by software code without human interference. Thus, the smart contract technology represents an ideal tool for low-risk deal-making, maintaining full anonymity of all parties involved. This is outlined and executed by program code and the contract between the counterparties can be fulfilled or

broken only in accordance with the originally established terms. Due to the technological specifics of the blockchain - the distributed database where the smart contract is stored - any interference aimed at changing the terms of the deal after it has been signed is nearly impossible. The ZTips smart contract works as an "escrow agent", a sort of bank cell, where the terms of the deal and the money (crypto-currency) are stored until the contract is fulfilled.

The team behind this project understands the huge range of the project. It can see the potential use cases of this application can go much beyond one category of players. Whenever a tip is to be sought or needed, it can happen in three circumstances.

1. *If a crime has happened as well as reported, the investigators need critical but additional information that is not available from the report filed.*
2. *If a crime has already occurred but no report has been filed. In such a case, the entire investigation would move upon the basis of the information that would be received from the tipster.*
3. *If a crime is yet to happen but the appropriate information, if disseminated to the crime prevention agency, can actually help stop a big catastrophe from happening.*

This kind of one-out-of-three choices would have to be standard methodology in all the tips and based upon them, the reporting format would be initiated either from the tipster or information seeker. Since information seekers can be of various categories, we have to develop reporting formats in accordance with their requirements. That is why this application would be developed in three phases of evolution as there are three major beneficiary categories for this project. There would be developed three crime reporting formats (one after the other) dedicated to following three stakeholders:

1. *Police/Law Enforcement Agencies*
2. *Big Corporations that are threatened by cyber-crime*
3. *Individuals*

3.2   For Police/Law Enforcement Agencies

In this case, there can be two methods; first for those who seek information and second for those who provide information. So, the first step would be to specify if one is a seeker or a

For those who offer ZTips for a tip (Information Seeker)	For those who offer tip for ZTips (Information Provider)
Authenticating that one has a good Quick tip	Attracting potential user with a Quick tip
1. Type of Crime: Potential or Past 2. Location of crime: Required/Not reqd. 3. Date & time of crime................. 4. Details sought after..................... 5. Bounty offered for the tip...............(ZTPS)	1. Type of Crime: Potential or Past 2. Location of crime: Required/Not reqd. 3. Date & time of crime................. 4. Details sought after..................... 5. Bounty offered for the tip...............(ZTPS)
REPORTING FORMATS Complete Tip — **ZT Locked**	**REPORTING FORMATS** Complete Tip — **ZT Locked**
Module 1.......................Submission approved Module 2......................Submission approved Module 3......................Submission approved Add module......	Module 1.......................Submission approved Module 2......................Submission approved Module 3......................Submission approved Add module......

provider of information. Depending upon either of the choices, the user would be given the option of creating more than one layers of tip offering. The standard format would be of two layers though a user can add more layers. This will be critical entry point because it will eliminate all those non-serious players who want to disturb the system with fake information. There can be other methods of weeding out such players like putting a small fee for tipsters in the form of some ZTips tokens (ZTPS) at the level of second tip-layer generation though it would be returnable (partly after deducting platform fees) once the tip is successfully closed with a counter –payment from the other party.

The project is aware of con players disturbing the fair game of information sharing. It would have safeguards to keep such players at bay.The first layer (also called Quick Tip layer) would be serious relevance. The first layer would be to attract counter party for offering tip in exchange for ZTips or by offering tip for a certain amount of ZTips (ZTPS) the one. In regular police language, it would be called a Quick tip. If a tipster wants to provide information, the first step would be to enter some information that has some sort of credibility.

If the Police or seeker is looking for information, the purpose would be to attract the tipster by offering some bounty for the tip. In both the cases, the authenticity of the information would be verified. In both the cases, the basic information would be filled or sought after in the first layer. (See TABLE above)

The second layer would be called complete tip in the police language. Here, the dApp would let your enter the formal details in a proper reporting format where payment and information would be matched together through an escrow route. Token rewards would be locked down into the account till the right information reaches the counter-party. In order to ensure this, a serious research into cross-cultural and cross-linguistic reporting formats would be done that a minimal but most effective reporting system can be built. This format will be modularized and every module can be linked to part-payment of the ZTips so that no party can challenge the process. The escrow account would lock the token reward if counter-party is not satisfied with the information in that module.

People will realize in a pretty short time that it would be pretty difficult to con the system because it would be a peer-to-peer information sharing system. On the one side, reward is locked while on the other side, information is being provided in steps. Nobody would provide fake information if ZTips are not released for the same. The modularity would safeguard the smooth running of the system. Since this is a dynamic challenge, it would be more familiar and intelligible in the visual and actual use format. These things will vary from area to area and hence will need regular updates and customization. Once the critical information reaches the counter-party, the payment would be released. Since they will not be able to withdraw their funds, they will not be able to refuse the tipster's due. This will bring both parties on an equal playing field. One will not be rewarded if provides wrong or fake information and the other will not be able to refuse the release of funds for right information. There would be some sort of time-lock in this mutual game of tip offering so that no party can overplay its card. Once the payment is done, the tip would be closed. Every tip supplied to the ecosystem would be serialized with a unique number right in the first layer and would be connected with subsequent layers/modules. If we imagine an average expected tip reward to be between $1,000-10,000, a user would assign certain value to the ZTips token in the anticipation of that reward. This would be purely a market linked exercise where community would decide what the fair price is.

The critical question as well area of constant research here is the reporting format. The

platform would begin with a standard format but will improvise with more inputs from multiple reporting formats used by investigating authorities across the world. What suits an SHO (Station House Officer) of a local police station may not suit a transnational body. The format that suits a motor vehicle theft may not suit a homicide case. The format that suits US criminal system may not work for Indian one. So, this area would be continuously made better so that diversity of reporting formats can be accommodated. The moment one particular filter is applied, the platform would auto-choose the right kind of reporting format. No amount of complacency can be assumed on this front. So, a large chunk of development cost would be dedicated to such kind of research centred on reporting formats.

3.3 Architecture of the platform (Taskflows and usecases)

The platform is being designed keeping two broad categories in consideration, information seeking and information reporting. We tried iterating around few sample use cases about crime reporting and information seeking. To understand the plausible use cases, we will be creating two fictional characters, namely X and Y.

Use case 1(Information Providing): Y possesses information about a gang which is involved in the notorious crimes of causing mass riots and terrorism. Y can leverage the ZTips platform to report the name, provide the location of the gang and the time when they gather around that particular location.
 Y decides to use the platform to report this tip to a suitable investigation agency and seek a reward in return, as demonstrated below.

Different sections will constitute the Tip report to provide all the relevant information needed for the report to be submitted.
The standard format will be similar to the one below:

Sample Use Case 1
1. Type: Crime /Information tip
2. Status: Occurred
3. Tag Agency: FBI/CBI etc
4. Title: Location of a gang of wanted terrorists
5. Priority: Urgent
6. Sub Description: Gang was involved in Terror attacks
7. Description: I have information about the whereabouts of a gang of terrorists and the time they will be present at the location
Proof Point: Picture
(Optional)
8. Tip Reward : 10,000 $ (Equivalent 2M ZTPS)
9. Condition 1: Name of people of this gang for 3000 $
10. Condition 2: Location of the gang for 4000 $
11. Condition 3: Photograph of the gang for 3000 $

Use case 2(Information Seeking): Y is an investigative agency that is seeking specific information regarding a particular terrorist organization. It has created an open tip regarding the same and posted it on ZTips.

Different sections will encompass the details to be filled.
The standard format will be similar to the one below:

Sample Use Case 1
1. Type: Reward tip
2. Status: Occurred
3. Tag People: Open
4. Title: Provide information that can lead to a terrorist gang and earn handsome rewards
5. Priority: High
6. Sub Description: Gang was involved in Terror attacks last seen in South Africa
7. Description: We are looking for the location of a gang who were involved ..(further information)
8. Tip Reward : 10,000 $ (Equivalent 2M ZTPS)
9. Condition 1: 3000 $ will be given for the name of the gang
10. Condition 2: 4000 $ will be given to the address of the gang
11. Condition 3: 3000 $ further for any extra information like a photograph
12. Time Limit: Particular date set for the expiry of the tip

Keeping these fields in consideration, we have designed the task flows for each use case. Discovering all possible insights via these use cases we have then utilized these insights for value propositions such as setting up business goals and designing the Interface for the platform. Task flows are mentioned as below in the chart numbers 3.3a and 3.3b.
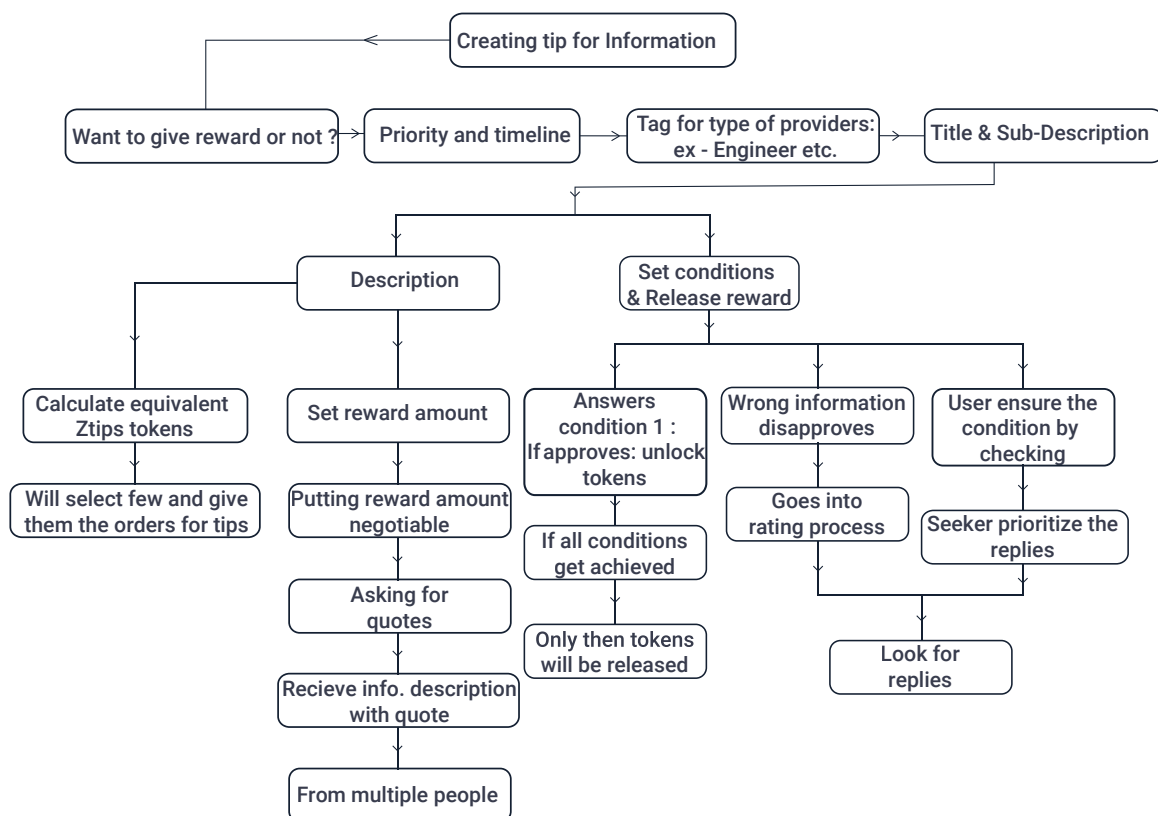

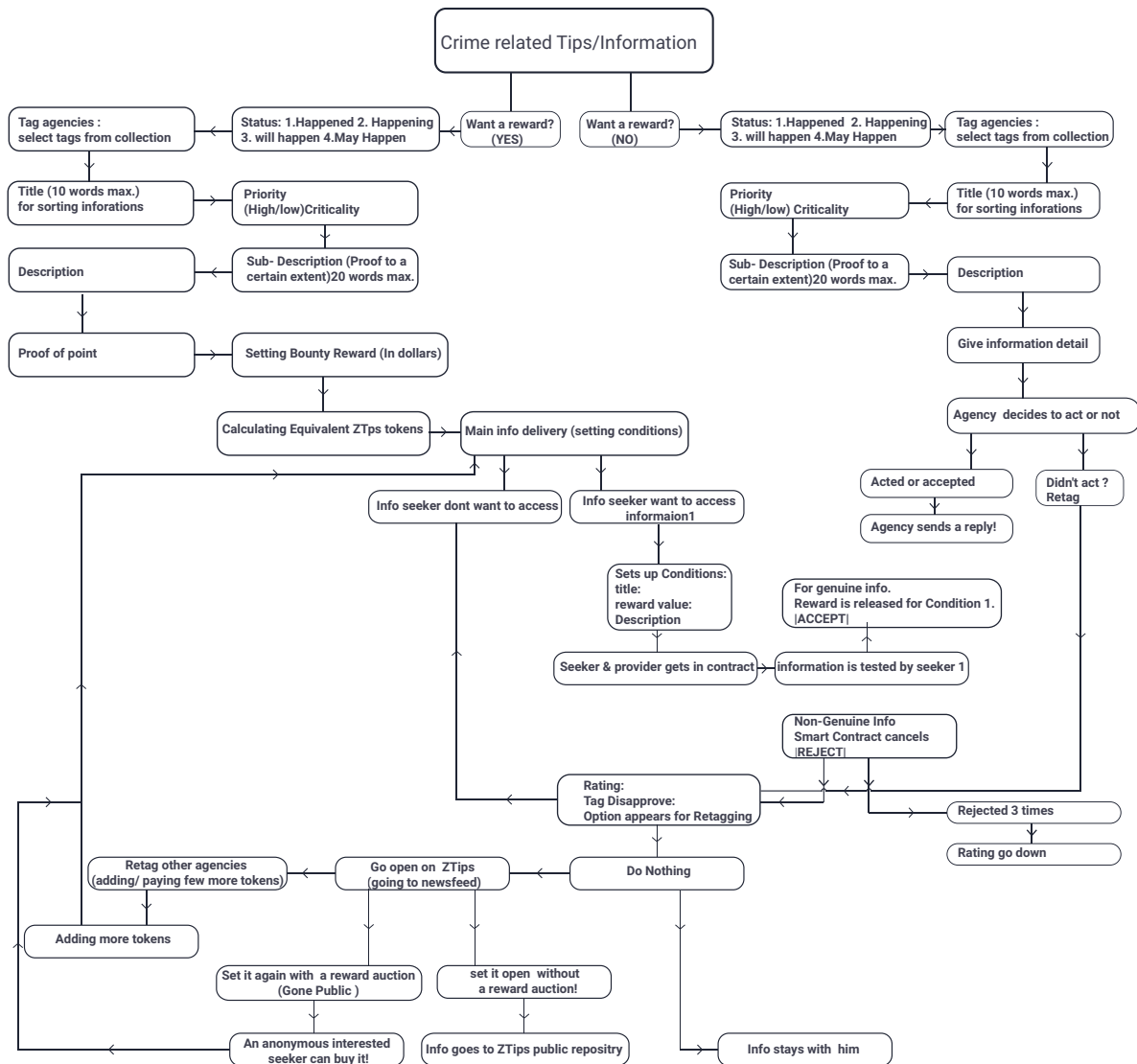Chart no. 3.1.3b Taskflow for posting a Tip on the platform

Crime related Tips/Information

Tag agencies :
select tags from collection

Status: 1.Happened 2. Happening
3. will happen 4.May Happen

Want a reward?
(YES)

Want a reward?
(NO)

Status: 1.Happened 2. Happening
3. will happen 4.May Happen

Tag agencies :
select tags from collection

Title (10 words max.)
for sorting inforations

Priority
(High/low)Criticality

Priority
(High/low) Criticality

Title (10 words max.)
for sorting inforations

Description

Sub- Description (Proof to a
certain extent)20 words max.

Sub- Description (Proof to a
certain extent)20 words max.

Description

Proof of point

Setting Bounty Reward (In dollars)

Give information detail

Calculating Equivalent ZTps tokens

Main info delivery (setting conditions)

Agency decides to act or not

Info seeker dont want to access

Info seeker want to access
informaion1

Acted or accepted

Didn't act ?
Retag

Agency sends a reply!

Sets up Conditions:
title:
reward value:
Description

For genuine info.
Reward is released for Condition 1.
|ACCEPT|

Seeker & provider gets in contract

information is tested by seeker 1

Non-Genuine Info
Smart Contract cancels
|REJECT|

Rating:
Tag Disapprove:
Option appears for Retagging

Rejected 3 times

Rating go down

Retag other agencies
(adding/ paying few more tokens)

Go open on ZTips
(going to newsfeed)

Do Nothing

Adding more tokens

Set it again with a reward auction
(Gone Public)

set it open without
a reward auction!

Info stays with him

An anonymous interested
seeker can buy it!

Info goes to ZTips public repositry

Chart no. 3.3a Taskflow for Tip and crime reporting

User Accounts on ZTips

Aliases for Information Seekers
Needless to say, the identities of information providers on ZTips will be completely masked to provide a full anonymous experience. The information seekers will each, however, have aliases allotted to them which will act as addressable handles for these users. All transactions will be coordinated and made to these addressable randomly generated aliases. Other related user information like user ratings will be incorporated in the user account.

Visible and Identifiable Accounts for Information Providers
Information seekers such as crime investigation agencies like local police, FBI and CIA will all have absolute addressable handles to enable the public or tipsters to contact them. Data Companies and militaries looking to procure information for clandestine tasks will also have easily addressable accounts.
All user accounts will possess ZTips tokens as per their buying capacities and all processes and transactions occurring on the platform will be made via these crypto tokens.

3.4 Wireframes and Platform Design
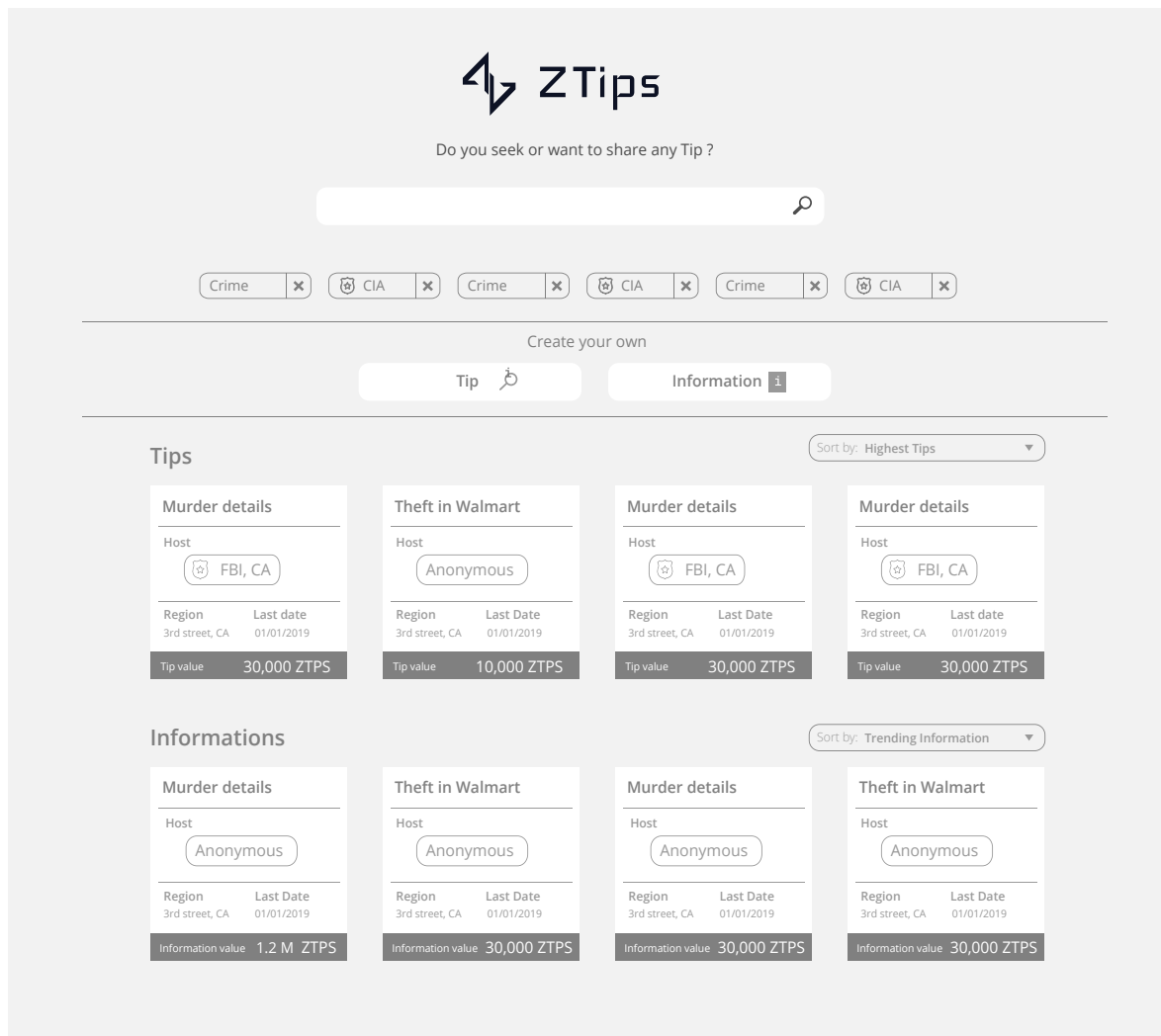
Z tips main Landing Screen:

The main screen will have Tips and informations with details mentioned, Filter tags for sorting agenices.
The information about reward declared, Host agency with expiry date will be provided along any tip or an information.
The tips and information would be able to sort on basis of trending nature ,popularity and most views of any particular information or tip.

Create a Tip

General Details

Title (Max. 8 words) *(mandatory)*

Description (Max. 500 words) *(mandatory)*

Upload files if any (Check the charges as per size of upload)

From your computer ▼   *No files uploaded yet*   Upload

Set amount of ZTPS tokens as value of Tip   *0000*   ZTPS tokens

☑   Set conditions to release the tip (Max. of 3 conditions)

Condition 1

Title of condition

Description

I wish to release   0 %   ▼   of my total tip if condition 1 is achieved.

Submit

Create another condition   Add condition

Set an expiry date to the tip   Date : Month : Year

Submit Tip

ZTips platform for creating information and a tip

By analysing the outputs and insights from task flow, the design of basic Tip reporting platform and information providing platform has been designed, From title and description, the main information sharing part, the layout will work in three levels, Basic title and Description will be used to identify the tips and information, and to get first hand information on those respectively.

Second level consists of setting up the reward amount in form of ZTPS Tokens ,giving approximate price of dollars along, which will give an idea of the Reward to be released for tip or seeken for the information.

Third level consists of creating the conditions, where information can be delievered in layers for ensuring reward and genuinity of the information. The conditions will help ensuring that reward money is only getting released to escrow account made with smart contract between both parties if the information has been accesed by the seeker, and those token released to escrow cannot revert back, until one of the information for that particular condition gets approved by the seeker, also he can access the next information if previous information gets approved. The token declared for reward can only be reverted back if information has not been accessed.

ZTips

Create an Information

General Details

Title (Max. 8 words) *(mandatory)*

Description (Max. 500 words) *(mandatory)*

Upload files if any (Check the charges as per size of upload)

From your computer ▼   *No files uploaded yet*   Upload

Set amount of ZTPS tokens as value of reward   *0000*   ZTPS tokens

☑   Set conditions to release the Tip (Max. of 3 conditions)

Condition 1

Title of condition

Description

I wish to recieve   0 %   ▼   of my total reward if condition 1 is achieved.

Submit

Create another condition   Add condition

☐   *Select if you want to make this information public after selected timeframe*

Set timeframe
Date : Month : Year

Submit Information

Tip Title

30000 ZTPS

Perspiciatis unde omnis iste natus error sit voluptatem accusantium doloremque laudantium, totam rem aperiam, eaque ipsa quae ab illo inventore veritatis et quasi architecto beatae vitae dicta sunt explicabo. Nemo enim ipsam voluptatem quia voluptas sit aspernatur aut odit aut fugit, sed quia consequuntur magni dolores eos qui ratione voluptatem sequi nesciunt. Neque porro quisquam est, qui dolorem ipsum quia dolor sit amet, consectetur

Condition 1

3000 ZTPS

Perspiciatis unde omnis iste natus error sit voluptatem accusantium doloremque laudantium, totam rem aperiam

Upload any file (Calculate fees with **bytes calculator**)

Fees of submitting answer : 3 ZTPS

Submit answer

** Other conditions will be unlocked if condition 1 gets accepted

Condition 2

12000 ZTPS

Perspiciatis unde omnis iste natus error sit voluptatem accusantium doloremque laudantium, totam rem aperiam

Condition 2

15000 ZTPS

Perspiciatis unde omnis iste natus error sit voluptatem accusantium doloremque laudantium, totam rem aperiam

Tip answering page:

For submitting information to posted tips on the platform, the provider will have access to condition 1 only with detailed description regarding the tip, alongwith reward offer on that tip.

Also a provsion for uploading any file with the information will be given for different kinds of formats of information.

My Tips

Tip/Information mailbox

	Title of tip			30000 ZTPS	*Edit Tip*	Conditions Achieved
☑	Sender name	Perspiciatis unde omnis iste natus...		10/10/2017		Condition 1 ✔
	Sender name	Perspiciatis unde omnis iste natus...		10/10/2017		Condition 2 ✔
	Sender name	Perspiciatis unde omnis iste natus...		10/10/2017		Condition 1
	Sender name	Perspiciatis unde omnis iste natus...		10/10/2017		Condition 1
	Sender name	Perspiciatis unde omnis iste natus...		10/10/2017		Condition 1
☐	Title of tip					
	No Response yet					
☐	Title of tip					
	No Response yet					
☐	Title of tip					
	No Response yet					

Tip and Information mailbox:

The information or tips coming from providers or seekers respectively, will be sent to mailbox of the host. Every sender will have an '**Unique Alias name'**, which will be used to keep track of information and also for rating purposes. Mail box will give information about conditions agreed by user, which will make him liable to get the respective reward for declared conditions, for keeping genuinity of information and ensuring the rewards.

3.5 For large corporations

After the reporting formats for the crime-investigating agencies are settled, the next phase of the project would move on to purely crime-prevention stage particularly focussed on corporate crimes, cyber crimes, supply chain leakages, inventory theft, data breaches, accounting frauds, insider trading and other kinds of financial crimes. The size of value locked in corporate sector is in trillions of dollars and they can suffer huge damages. Project ZTips would use its network effect for the benefit of corporate safety. It would build reporting formats in exclusive partnerships with large corporate of multiple sectors. Since the nature of global trade and business is widespread, the decentralized nature of the platform would help information flow from all the corners of the world. In the last phase, the experience gained from corporate world would also help in building the final layer for VVIPs who would like to keep a quality source of information for their safety.

3.6 ZTips Ecosystem

ZTips platform will deal with different sectors of information-sharing where the two ends of this thread will be information providers and seekers. In the world of crime reporting, it will deal with agencies from crime investigation to crime prevention bodies. Crime investigation agencies can create tips to seek information from tipsters on this platform by offering rewards in form of ZTPS tokens in exchange of the information. Official communication protocols or Tag handles will be managed for these agencies, where an information provider just directly needs to tag the agency and send the information across. In other scenarios of information sharing, the major adopters of platform can be media companies, big information companies, banks, security agencies, financial institutions, ethical hackers etc. They can work in different scenarios other than those related with crime. Since the most of organisations have some secretive operations, they can seek critical information. These internal information seekers or providers can operate depending upon subject matter. Some of examples of possible use cases of these organisations and their revenue generation capabilities have been discussed below.

Also we have tried to map down the different agencies on basis of information seeking and information providing in quadrants, sorting them on basis of involvement with the platform. For eg. News outlets and media channels will be most in information seeking and information providing.

Organisations/bodies	Possible use cases
Media Outlets	To check the sources of information leaks or seeking information via secret mediums
Financial institutions	Looking information or disclosing information regarding frauds or catching frauds or runaways
Big Corporations	Catching Corporate trading information
Militaries and security organisations	Using platform for secret agents or information resources
Data companies	Releasing critical research data about any bad activities
Ethical hackers	Hackers can release information or create any tips and seek for reward on daily basis
NGO's and social organisations	Releasing and seeking any information regarding internal working of organisation or critical information of general

4.0 ZTIPS Token issuance model

The total value of ZTIPS network would be locked within a finite limit of 880 million tokens. (Table 1) Out of this, only 35% (308 millions) of the tokens would be released for public sale and that too in three phases. First phase would comprise only 1% (8.8 million) tokens for private sale; second phase would comprise 4% (35.2 million) tokens during the pre sale and third phase would comprise 30% (264 million) tokens during the main token sale. The other chunk of 35% (308 million) tokens would be released during the tip-generation activity in network.

Activity Mining (figure 2) It means that this share would be released as an incentive for all those who participate in the popularization of the platform. This would go on till 3.98 million tips are entered into the network. This share is a sort of reserved category that serves two purposes. First, it ensures that tip generation activity is encouraged. If it is by a tip-seeker, it becomes a discount on the bounty reward offered. If it is by a tipster, it becomes additional incentive other than the one sought after in the bounty. Of course, there is a fear that spamming may affect this kind of behaviour. To control this, every tip generation must be allowed with a minimum span of 10 seconds in the first two years so that nobody can spoil this

Token Sale Allocation

- ◆ **35%** Tokens to be released by Activity Mining (308 million)
- ◆ **30%** Tokens to be released for Token Sale (264 million)
- ◆ **20%** Tokens for Advisors, Founders & Team(176 million)
- ◆ **8%** Tokens for Foundation Reserve (70.4 million)
- ◆ **4%** Tokens to be released for Pre-Sale (35.2 million)
- ◆ **2%** Tokens for ZTips Bounty Campaign (17.6 million)
- ◆ **1%** Tokens to be released for Private-Sale (8.8 million)

feature. This incentivization process will start from the first tip onwards.

Next share i.e. 2% (17.6 million) tokens would be reserved as Bounty campaigns for those participants that participate in airdrop campaigns, social media, signature bounty campaigns, media portals, community groups, ethical hackers, industry associations, language translators, bloggers and marketers etc. Next share of 8 % (70.4 million) will be dedicated for foundation reserve, which will be locked in smart contract until 100K tips get generated on the platform , once achieved will be unlocked to initiate the process of transition from LLC to non-profit foundation.

The final share of 20% (176 million) tokens would be reserved for the team of developers, founders and advisers. This chunk would be released slowly for the founders over a period spanning 2 years. It would keep founders permanently aligned towards keeping the token value sustainable and remunerative in long-run. Secondly, it would keep gaining value over a period of time because of activity-dependent release system. It would permanently discourage pump-and-dump tendencies on the part of stakeholders. Since over half of the token distribution would tend to seek higher and higher valuation over a period of time, it would keep the team focussed on building the product and its supportive ecosystem. A deliberate strategy is also being pursued here to make a broad-based choice of advisors so that the project can be taken to wider set of possible audience and stakeholders so that their experience and inputs can keep pouring into the system.

Once the coin issuance is over, the project would run sustainably on the basis of platform fees deducted from the actual payment of bounties to the tipsters. If asked what the lifeline of this project is, the answer would be hundreds of years. It would run till the global community finds its utility in fighting the crime. A solution that is cost-effective, scalable and global would remain relevant for long time to come
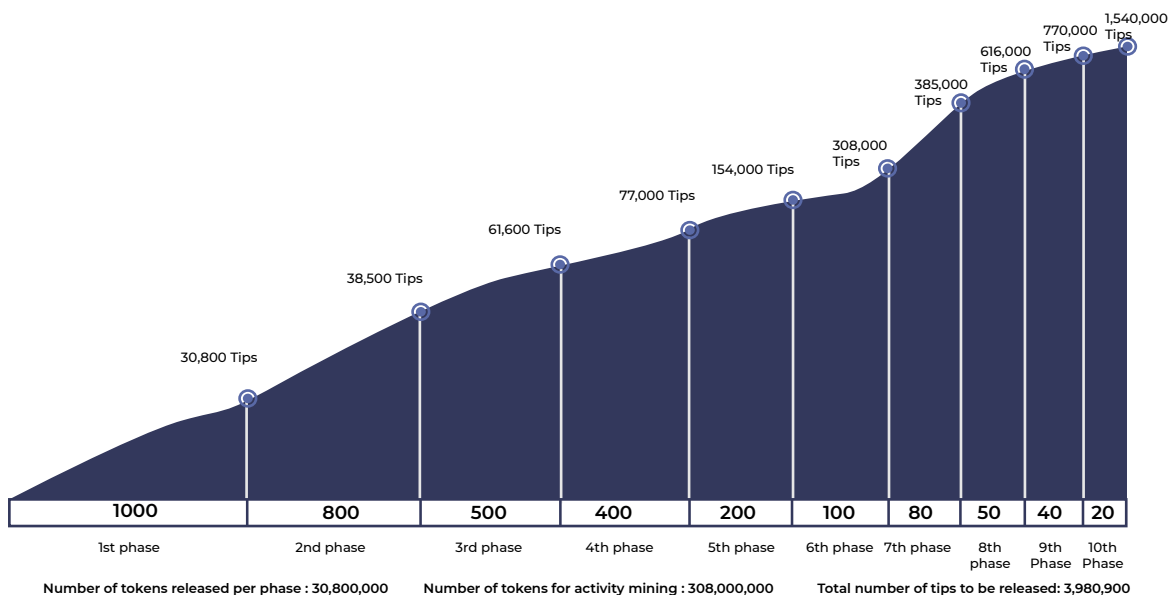

Figure 2: Activity Mining

TABLE 2: FUND-RAISING

PRE SALE PROCESS	
Total ZTPS tokens for sale	35,200,000
Bonus at pre sale stage	25%
Offer price during pre sale	11,000 ZTPS: 1 ETH
Total amount to be raised at pre sale	**3,200 ETH**

MAIN TOKEN SALE PROCESS

Token shares (% age)	Token numbers	Bonus	ZTPS token	ETH to be raised
25%	66,000,000	20%	10560	6250
25%	66,000,000	10%	9680	6818
25%	66,000,000	5%	9240	7143
25%	66,000,000	0%	8800	7500
100%	**264,000,000**			**27,711**

NET SALE PROCEEDS

Pre-Sale	3,200 ETH
Main Token Sale	27,711 ETH
Total amount	**30,911 ETH**

During pre-sale round, a 25% bonus would be offered to all the investors in addition to a standard rate of 8800 ZTPS to 1 ETH. It means that during this stage, 1 ETH = 11,000 ZTPS rate based tokens would be given to all the investors. Against a total allocation of 4% (35.2 million tokens), 3200 ETH would be raised.

In the third (last) round of main token sale, funds would be collected in four phases (TABLE 2) wherein first 66 million tokens would be offered @ 10,560 ZTPS: 1 ETH and next three tranches each would be offered at a rate of 9680, 9240, and 8800 ZTPS respectively against one ether. 27,711 ETH would be raised against the allocation of 308 million tokens. So, a total cap of 3,200 + 27,711 would make 30,911 Ether that would be raised during this project. The project is not banking on fiat currency value of Ether as of now because it assumes that fiat currency values are only in a declining phase. Any dependence on long-term dollar value of the project would undermine the project. Since the project is a global community project, its true value would be decided by the stakeholders from all parts of the world. Who knows whether a dollar-yuan currency war may distort fiat currency pricing throughout the global monetary regime!

5.0 Global Partnership-cum-Ecosystem building Program

The most of the crypto-projects suffer from one problem and that is lack of large social adoption. The real use of Project ZTips is for the public and hence, it is not confined to crypto-community only. It is a social tool available to create a crime deterrent system. It means that larger the size of adoption, larger would be its relevance and its value. The project's core focus would be enabling global adoption of the project through establishing official communication protocols with multiple bodies. The team of founders and advisors would focus on building social layer of adoption through a global partnership program. This would enable the ZTips tokens to be used by a set of potential beneficiaries in a big way. This program would be augmented in collaboration with multiple kinds of steady and sustainable stakeholders.
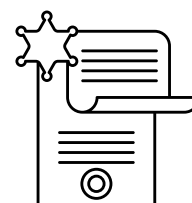
More partners would be added to the list and a thorough execution of partnership would be followed up with due updates and customizations in the API frameworks. More details would be released on the project website on a regular basis.

6.0 A much-needed breakthrough in Legal Tech design

Legal tech design is quiet an upcoming research area in many universities and think-tanks. Stanford Law School is running Legal Design Lab as its critical program; University of Michigan Law School is active in this field; University of Helsinki, Finland has a Legal Tech Lab and many other inter-disciplinary projects are operational as in Harvard Law School and others. A world that is moving towards near universal ownership of 4G connected smartphones would need to have a solid tech uses for all kinds of legal applications but the most critical would be how community can be made an equal partner and beneficiary of any crime-deterrent framework or crime-solving system. If law is aimed at fair and just society, tech should aim at effectiveness of user participation and design should make this possible. Project ZTips is at the cutting edge of legal tech design because it ensures following things:-

1. It makes communication easy & rewarding because anonymity becomes the default value.
2. It connects users and clients in mutually reinforcing bond as it is rewarding for both.
3. It adds space for new ideas and products into tipping services.
4. Its focus is minimal user interface with a smooth experience so that it can be easily adopted by Legal Organizations, Corporate Organizations and Individuals.

The basic idea is that legal tech design is an output of social utility and community participation. Adoption and ease of technology use is the key element. This project brings community into the heart of law enforcement by enabling a higher percentage of crime reporting in both preventive and curative phases. What the founders of this project hope is to enable academic community of law departments become the stakeholders so that ZTips can become case study as well as future ground of opening up unused spaces in anonymous crime reporting.

7.0   Roadmap & Budgetary Allocation
7.1   Roadmap

Q3 2017

Birth of ZTips
Sep-17: Origin of the core idea that holds the potential to transform crime reporting.

Q4 2017

Discovery Phase
Nov-17: Initial Research
      : White Paper
Dec-17: MVP development commences

Q1 2018

The Beginning
Mar-18: Company Shout-out and Web Launch
Mar-18: Whitepaper launch

Q2 2018

Launch Period
Apr-18 : Private sale Phase
     : MVP Launch
     : Partnerships with organisations and institutions commence
     : Proof of Concept/Testing diverse scenarios
     : Research to diversify and evolve reporting formats
May-18 : Pre sale phase
June-18 : Main token sale phase

Q3 2018

Development Phase
Jul-18 : An initial draft of Public Directory constituting ZTips' partnerships with different organisations is constructed
    : Growth ladder will involve expansion by targeting one country after another
Aug-18 : Enlisting ZTips token on various Exchanges
Sep-18 : Platform Launch
    : Design Process of Crime Reporting Formats
    : Standardisation of platform for use in every nation

Q4 2018

Final Product
Oct-18 : Evaluation of Beta Platform with all possible test scenarios
Nov-18 : Functional partnerships with financial institutions and crime agencies
Dec-18 : Smooth information exchange achieved on the platform

7.2 Budgetary Allocation

This project is an enterprise that has both instant as well as long-term goals. The first instant target is to enable people to use a Minimum Viable Product (MVP) as early as April 2018 just before the launch of pre sale in May 2018. This would only begin the long journey that the founding team has decided to undertake. A brief roadmap of this journey can be seen as following Visual mock-ups of reporting formats would be released every month from March 2018 to Sept 2018. A series of test phases would be run where the duration of tips would be fixed in terms of lower and upper range from a few hours to a few weeks and a user would be allowed to decide any figure between this ranges. This would enable an optimum fixing of time duration of tips. First draft of public directory of partnerships to be released in July 2018 Public listing of ZTips (ZTPS) tokens on crypto-currency exchanges

Geo-tagging of a tip would be allowed in terms of police divisions, county or otherwise as well as direct targeting of a potential beneficiary of the tip.

A steady listing of partnering agencies would be in-built into the platform with regular updates from the team. A public key registry of partner institutions would be built so that a tipster can easily search and select the right beneficiary of the information. Precision targeting of tips would be given the first priority.
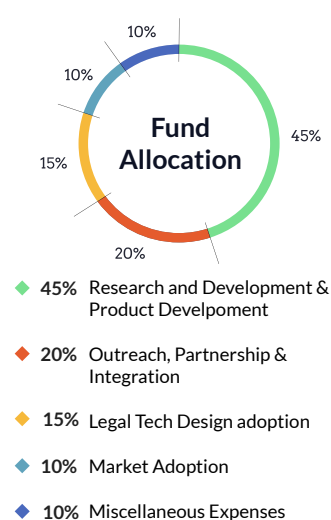
A formal public release of the platform ZTips would be unveiled in the month of September 2018. A transition design strategy would be built for all the existing tipping & public leads services so that they can be shifted over to ZTIPS over time as it will reduce a lot of cost and response time for crime prevention or catching a criminal by December 2018. Unused or un-responded tips can be passed on to the public media if a tipster wants to offer the same without any monetary incentive. This would create a public repository of information that can be used even if law enforcement failed to notice it in the first go. Though the project does not aim to become a whistle-blowing platform yet it would be a natural follow-up destiny of all the unused tips. A tipster would be free to air views in a public channel but this facility would be opened anytime in the second half of 2019.

A team of experts working in the field of crime investigation and crime prevention would be built so that reporting interfaces can be built based upon the actual inputs of field experience. Though no exact parameter of project success can be finalized as of now yet some of the following elements would be critical for its long-term evolution as well as adoption. Accommodating the linguistic competence of the reporting agency Ease of typing or input like Natural Language Processing tools like (speech-to-text) without compromising anonymity Standardization of reporting formats as per the regions Making tips modular enough to be linked to release of ZTips tokens Public demonstrations of assurance-of-anonymity

Public listing of ZTips token on maximum possible altcoin exchanges to ensure liquidity

Ensuring its compatibility with asset exchange offered by Decentralized exchanges on the lines of Barterdex facility offered by KOMODO blockchain today.

7.3 Expenditure categories

Project ZTips is a scalable project that aims to provide incentive-driven crime reporting benefits to people from all corners of the world. In order to achieve this scale, a lot of regional diversities of reporting formats and languages would have to be assimilated. This would require a lot of serious research into how data is captured at the time of reporting. It would require a proper balance of user interface and maximum amount of data collection. We aim to begin moving from USA and India in the first place and then move towards Europe, Russia, China, Japan, Southeast Asia, Pakistan, Bangladesh and other countries of Latin America and Africa. So, Crime reporting format research would be require a lot of expenditure as the number of formats would have to be optimised as per geographical and linguistic category. The subsequent sub-categories' allocation would be announced shortly too.

Also we have to ensure the implementation of zero-knowledge proofs in the system. We aim to hire some of best cryptographers from across the world This would require a lot of testing in terms of how much data needs to be captured

Fund Allocation

10%
10%
15%
20%
45%

◆ **45%** Research and Development & Product Develpoment

◆ **20%** Outreach, Partnership & Integration

◆ **15%** Legal Tech Design adoption

◆ **10%** Market Adoption

◆ **10%** Miscellaneous Expenses

without increasing the computing cost of the information transfer too much. Since zk-SNARKS is a fast evolving technology and now a new feature zk-starks has also emerged, the focus would be upon how to ensure low cost of data exchange with state-of-the-art anonymity protection. Along with anonymity research, here we will be dedicating the funds on UI/UX issues as well. We expect to dedicate 45% of our token sale funds towards this complete research and product development.

The second category of expenditure would be the global partnership program that would require a lot of liasioning and marketing for the platform. A good project needs to communicate its goodness to the potential users, particularly the institutional ones. It would require country-specific and language-specific ambassadors to carry out the global outreach program.This category would require 20% of the total funds raised.

The third category of expenditure will be the end to end user adoption in the market. This have to be supported through some incentives as well as some regular fellowships. This category would require 15% of fund allocation.

We shall also hire the experts of Legal Tech design to accelerate our adoption rate which would account 10% of total fund allocation.

Finally The office and other miscellaneous issues like travel, accommodation, public meet-ups, fund raising and others would be taken care from the last 10% of the total funds.

All these funds would be utilized over a period of 2-5 years and periodic balance sheet of the project would be updated on a quarterly time-basis. We shall also enable a public review of the project and would ensure a rating mechanism to get community approvals for a regular health check.

7.4 Revenue generation of platform via fees on tip.

As a platform, we shall deduct certain transaction fees for any tip-reward activity. This fees will become a regular source of revenue for us but it would be denominated in the native currency of the platform that is ZTPS. The regular revenue generation model will consist of two kinds of fees on Tips reported or seeked, first will be the transaction fee and second will be the commission fees. To explain in brief, transaction fee will be the standard decided percentage respectively as shown in the table 7.4 a, This fees has been decided by assuming 1 ZTPS token to be approximate equivalent of 1 cent wrt to market value.
Transaction fee will work on smart algorithm, so if the market price of token fluctuates the range of transaction fees also changes accordingly, but the ratio across whole spectrum of ranges remain same.
Commission fees on the other hand will be the fees, which will be charged according to nature of information, tags and keywords involved , this information will be processed with help of machine learning and artificial inteliigence. and then commission will be charged accordingly; For eg. If somebody have given information regarding national security to Government agency, and has not seek any reward, will not be charged for any commission fees; but on the other hand if they seek for a reward they will be charged accordingly as mentioned in the table below.

The Commission fees will only be delievered if the reward will be released, but the transaction fee will be charged irrespective of reward delievery, to avoid spamming. The lesser amount of reward seeked will be charged with a higher percentage, to avoid any spamming, also to increase utility and value of token.

Exceptions will be made for tips where no reward will be seeked, no commission fee will be charged but a minimal amount of 5 ZTPS token as transaction fee will be charged, To further avoid spamming with these scenarios we will use spam proof technologies in blockchain to keep out regulated bots or spammers.

Range of Reward	Transaction Fees	Commission Fees
No Reward	5 ZTPS	No Commission
10 ZTPS	50 % (5 ZTPS)	On basis of tag based information, Priority or timeline to deliever the information. (10 % to 20 %)
100 ZTPS	10 % (10 ZTPS)	
1000 ZTPS	5 % (50 ZTPS)	
10,000 ZTPS	2 % (200 ZTPS)	
100,000 ZTPS	2 %(2000 ZTPS)	On the basis of tag information,Priority and host agency(5 % to 20 %)
1M ZTPS	1 % (10000 ZTPS)	
10 M ZTPS	1% (1 LAC ZTPS)	
100 M ZTPS	0.5 % (5 LAC ZTPS)	
>500 M ZTPS	0.1 % (5 LAC ZTPS)	On the basis of tag information,Priority and host agency(1% to 10 %)

Table 7.4a   Table for revenue generation model with tip fees

8.0 Unexplored potential of the project

The fundamental hypothesis of Project ZTips is not about solving only crime reporting challenges rather it is all about solving asymmetry of information between seekers and providers. If we can re-imagine Satoshi Nakamoto today, the most important feature he/she/they would seek is how to remain anonymous while contributing to the project. There can be some hugely important public projects where a contributor would like to keep a secret identity or promoters might think of issuing a bounty to anybody who can help build the critical elements of a project. There are many critical projects in scientific establishments

where because of nationality and other reasons, some qualified and competent people cannot participate but ZTips can be developed in such a way where they can be enabled. There can be hundreds of potential equivalents of Linus Torvalds who can build the core of UNIX-like projects. It is too early to find such projects and right kind of user interface for them. That is why ZTips is totally dedicated to a thorough R & D on a continuous basis so that a continuous value addition can be done.

9.0 Company values

The project would be dedicated to the cause of crime prevention. It would build protocols of crime deterrent frameworks so that a world with adequate safety can be built. It would work with all the known names in the field so as to unleash a scalable model that can aggregate a lot of common problems on to a single platform so that they can share their resources globally.

10.0 Conclusion

Project ZTips is a mammoth task and can prove a serious game-changing platform in solving the information asymmetry problem in crime prevention and solution. The team expects to meet this challenge by showing a transparent track of continuous progress on the fronts of anonymity, reporting formats, community collaboration and institutional partnerships. It is a long-term project that hopes to scale as many heights as given in our mission statement above. We await a wholehearted support from the crypto-community and wider society from all corners of the world.

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