A Computational Framework To Strive Sustainable Engineering Activities In The Context Of Bangladesh

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Abstract

Engineers are effective members of our society in this period of fast technological advancement. They must be ethical in order to perform their responsibilities, according to the IEEE and ACM codes of ethics. As digital services become more prevalent in our society, we face a slew of societal issues, including the possibility of piracy, data loss, hacking, corruption, security breaches etc. To combat these issues, engineers can play a front fighter role. We can develop a framework which is sustainable, secure, transparent and user-friendly to cope up with the difficulties in a developing country like Bangladesh. For maximum safety, this framework will be programmable by the developer team, as well as a self-programmable feature for the users. It will also have a personal IDE to aid in the user's learning and identification of syntactic solutions. To avoid data loss or odd claims from other users, each user in the network will receive a copy of the ledger. This report analyses and targets on implementing and enhancing this framework.

Keywords: *Cyber Security, Data Encryption, CIA, Sustainability, Anonymous.*

1 Introduction

We are aiming to build a platform that will evolve into a community where people, corporations, and all other computer engineers can join together to work in an open source fashion that will revolutionize the cyber security educational experience. This IT workforce development platform will be a collaborative ecosystem in which people and other organizations will work together to produce an ever-growing collection of online courses and immersive technologies that will allow anyone, anywhere, at any time to acquire the knowledge of information technology and cyber security that too without spending any money. By providing online preparation, this platform will aid in the memorization of security programs. As a result, the framework and staff will be able to cope with security concerns. The integrity of all information will be protected, and security concerns will be resolved with exceptional skill. Nothing is more important than functioning and maintaining the company's security system. Our representative may also learn to supervise security strategies, and their implementation is quite simple for anybody.

Other similar services take charges but the services are really valuable. On the other side, we will develop an open source platform aimed at cyber security for anyone interested in

learning for free, as opposed to other programs that are pricey and we are unsure if they are worthwhile. Engineers should strive to create platforms that are distinct from the majority of free resources, which are excellent for creating a foundation but insufficient for proper understanding.

2 Related Work

2.1 Preferential Treatment

This malpractice of favouring someone over another who is more suitable for that particular position has become a disrespectful issue in our society. For this reason, we get to see failings of loyal judgement. Sometimes it becomes a great disaster for the person who is suffering because of cruel judgement of the potentate. Even, this misconducting is occurring by making the issue of "Gender Discrimination" and "Religion Varieties" which is so offensive, the paper [1] also refers such issues in workplaces. However, maltreatment is flowing among our new generations because they are evidencing and learning all these and it is not so far that they will also do such things.

This is occurring because there is no such system to stop all this shameful work. So, we have to make a supportive structure which will keep records of all work and we can do fair judgements and can identify the traitors.

2.2 Cyber Crimes

The most common computer illegal activity is "Cyber Crime". There are many segments to attack through hacking, spamming, destroying others personal properties, privacy threats and so on. It causes a huge risk as well as loss for confidential information. Sometimes, it is seen that the victim becomes blackmailed by the criminal. As our lives are so much easier now, the use of computers and other networking devices are popular in every sector. That's why cyber crime has spread through the internet. The main target of the criminals are government sites, banking system, profiles of high profiled people. If any government site becomes hacked it will cause harm to a lot of the people in the nation. However, some people intentionally harm others for their personal issues by abusing the network.

So, we need a cure that will be helpful for a secure network. Moreover, we need a proper appearance for tackling the harmful effect of cyber crime and its way of happening.

2.3 Data Loss

This term refers to the destruction of anyone's personal information from various devices. Even in mourany cases there is no recovery system and some functionalities do not provide any backup service. Some confidential elements may be lost and cause extreme disaster for such improper systems. In some cases, hardware failure causes a great issue because

it is so tough to fix all the data in a hardware system. Sometimes our computer hardware clashes in between important work and cannot keep backup at that moment. To get rid from such malfunction we need an all in one support scheme so that it can keep all the important data safe for further use.

2.4   Improper Use Of Technical Resources

Technology is our part of life in this 21st century. Whatever we do has become technology based. The matter of concern is that almost 90 percent of us are not using our technical resources in a significant way. It creates wastage of resources. In Bangladesh, it makes economical loss and the matter of concern that 60 percent of this waste remain ungathered. If we make this wastes in renewable resources, it may bring profit to us. We can be sustainable and make economical growth. We can implement a cyclic way - use, collect and reuse. It will save our resources from being destroyed.

2.5   Lack Of Ethics

The concept of IEEE and ACM code of ethics are not properly applicant in Bangladesh. We supposed to see unethical behaviour and work. Specially in work places it seems that employees are maltreated by the owners, owners also suffer by the pressure of high level parties. There is no loyal monitoring in such cases. What if we execute such a framework that will ensure proper guidance of ethics and will notify for unethical consequences. This code of ethics for engineers are undoubtedly clear and can make a suitable flow in any denomination and that is mentioned in the paper [2]. We cannot strive our goals untill we establish the concept of ethics among us.

2.6   Sustainable Devolution

Sustainable development indicates the necessity of our needs without compromising or destroying for future. But, this term is totally being opposite because of our inappropriate demands. We are not thinking about the destruction, our only thinking is grabing from anywhere for what we need. The report [3], analyses the challenge of sustainability. We need to stop unsustainable conditions by limiting the chances of getting everything by using ethical laws with a systematical manufacturing structure wereach the 17goals of sustainable development in Bangladesh. It will also lead towards a sustainable engineering performances. We can practice to be sustainable in our life which preserve for others that leads to well-being.

3   Methodology

A computational framework is designed to protect the data stored in the system database. The features of the system is given below :

3.1 User Friendly

Anyone who is new to a system or a framework needs guidance. A proper guidance is needed to enlighten the users who will use the system. And to do so it needs to be simple and to the point. It is designed in such a way that the users will be able to learn the features of the system without any complexity. Moreover a systematic AI will be used to help the users . By using cookies it will surf the previous data to add suggestions for the users. So to say the system will be user friendly.

3.2 Secure

A user will only use a framework if it can provide highest security. This system will use the three main parts of data security (CIA) [4] . Which are:

1.Confidentiality: This framework keeps their users Anonymous and their data encrypted to provide confidentiality.

2.Integrity: Data modification and destruction is the main threat to any data. This Framework will use authorization to help keep integrity.

3.Availability: The users will be able to select which data will be open-to-all or confidential in this framework to keep availability.

Figure 1: CIA.

3.3 Irreversible

Data which are stored or shared in the framework will be irreversible or cannot be changed within time. As this system does not approve any data modification or deletion , any user cannot harm another user's data. The main threat is getting hacked and misuse of the data .To avoid such harmful activities , the data will be Irreversible .This helps users to transact money or store bank related information or even classified files. However , some

data that are confidential will be given access to modify or delete with the verification of the administrator.

3.4 Safe Duplication

Whenever a user uses this framework to add or share data it will be saved on the database within all the nearest connected verified users. Those data will be encrypted to avoid unusual claims of the other users. This safe duplication process will be useful against data loss or data leakage. [5] If a user's Data gets erased the system will automatically use the nearest user's database to collect the data . As it is automated, there will be no central authority.

3.5 Self Programmable

Another feature that adds to a new strong touch to the framework is that the users will be able to program the data smartly by using a uniform compiler platform. This feature utilizes a smart contract system which improves the performance and also safety. It will also have a personal IDE which will help the user to study and identify syntax solutions.
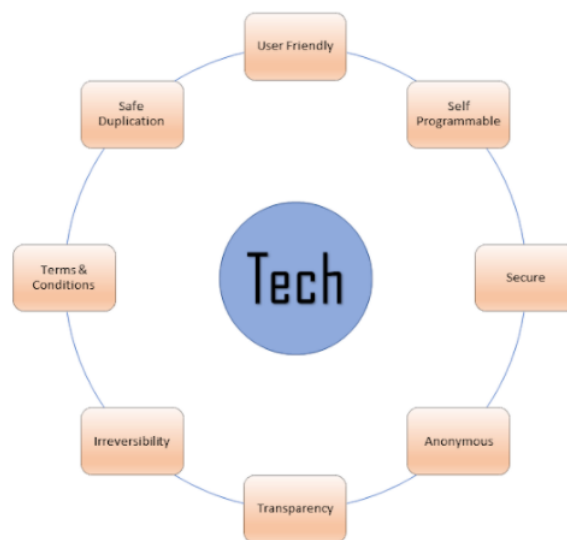
Figure 2: Self Programmable.

3.6 Principles

The above systems can only be followed when a user agrees to the validity of records they share or add to this technology. And thus the validated records are unchangeable and safe. Users can only join this network framework if they agree to the framework Terms and Conditions.Every user must have ethics using this system.Any violations to the codes and principles will result in permanent ban from the network for network safety.

4 Results

In general, the frameworks mostly used now-a-days have some issues such as data lacking, confidentiality, easy data accessibility, information security, instability,complex architecture etc.Our framework we designed as it could help us to get rid of these problems.This framework consisted easy architecture that could help people to understand and use easily not like others complex systems.The framework provided whole security system with stable networking.Data could be stored and transformed safely.There had not any chance to lack any data so anyone could use it rest assured.It gave the statement to keep confidentiality strongly so any user cannot harm another user's data since this system did not approve any data alteration or deletion. The major danger was being hacked and having your data misused. The data would be irreversible to prevent such dangerous behaviors. To avoid odd claims from other users, those data would be encrypted. This secure duplicating method would protect data from loss or leaking.There had been no central authority because it was automated.Users would be able to program data intelligently utilizing an unified compiler platform. This feature made use of a smart contract framework, which boosted both performance and security. The framework also provided a personal IDE to aid in the user's learning and identification of syntactic solutions.
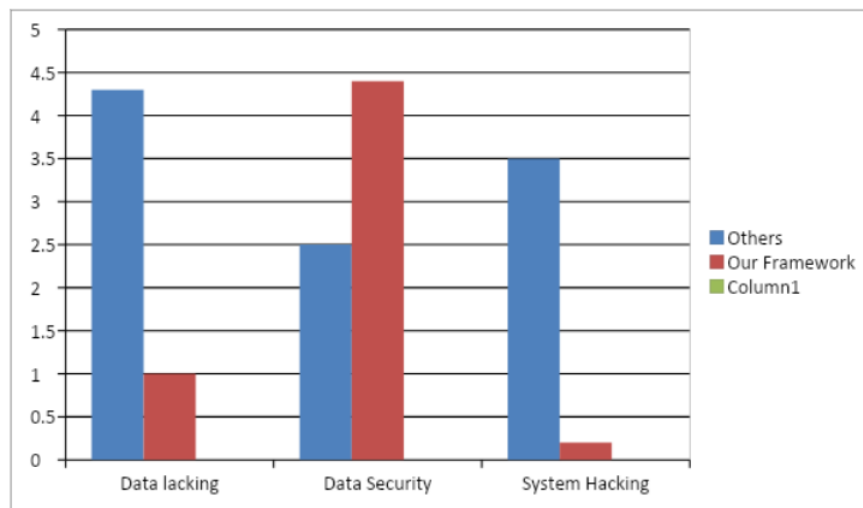

Figure 3: Comparable Bar Chart Of Our Framework.

5 Discussion

This platform intends to be the most comprehensive cyber security professional development platform available, delivering the combined expertise of the industry's best professionals to all of us, including comparable businesses. We will combine courses on the most in-demand cyber security skills with real-world, hands-on learning experiences and assistance from a community of cyber security professionals to create a unique learning experience.

In addition to these this platform will be used by professionals in the cyber security area at all levels to:

1. Obtain practical experience in order to develop skills that may be used instantly to their daily activities;

2. Create personalized career paths and role-based learning to provide a clear path to achieve personal or team goals; and

3. Take industry certification courses that include practice exams to improve your skills and progress your career.

This manifesto will be a terrific resource for everyone interested in learning about IT and cyber security. Anyone interested in improving their talents can enroll in one of our free classes.

6 Conclusion

Presumption of the whole complexity of our tasks to be solved by our framework may have a beneficial and long-term impact on engineering operations in Bangladesh. The inclination to engage in cyber crime, preferential treatment, data loss, and unauthorized access, among other things, can be countered by exercising ethical judgment. The major goal is to retain ethics in all aspects of the system so that it can be self-programmable, anonymous, and adaptive. There may be flaws in the framework, but it is simple to defeat. By adhering to the terms and conditions, the user of the system benefits himself as well as others.

This entire procedure, however, relies on the skill of engineers to counteract the objectives. Engineers in Bangladesh do not have enough opportunities to demonstrate their abilities. If engineers are successful in developing a supportive system, it will have a significant impact on our society in addition to the advancement of engineering operations. This project may also inspire the next generation of engineers to be environmentally conscious, ethical, and dedicated to their work.

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