Investigation on Freedom box - freedom for internet

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Abstract: Placing a root server in our country India, will be great and it is also great, if we have root servers in our respective concerned localities i.e., without interaction with a middleman. Because we can trust that our data is secure! So placing Freedom Box in every individual city and village will be alright. This is a project to mature, design and nurture personal servers managing the free software with gratis applications sketched for creating and preserving personal privacy.

Keywords: Freedom box, Server, Face book, Debian, Free basics.

1. Introduction: Internet is globally accessed network. It is must for every individual to survive. [1]The main hotspot for the use of internet is on the basic use of the social media. It smoothens the path for the nurturing of online social networks in affixing a user's profile with other individuals or groups related to the user. [2] So it is important for us to notice the impacts of its use and also the extent of its security. [3]Concerns have raised the possible links about the heavy use of social media and the despondency and the issues related to cyber bullying, harassment on online, trolling. [4]How this all is possible even though our data is assumed and expected to be secure? This is the question that always tread on the heels of our mind when we come across the despondency related with social media. [5]To explain about the above problems of despondency let us consider an example from the most popular social media websites like Face book, Instagram, Whatsapp, Google+, Snap chat, Twitter, Viber, Pinterest, We chat etc with 100 million user being registered, so let us consider Face book which is explained in the Literature survey below.

2. Literature survey: We all are existing in the technical system, and man is highly influenced with the networking services present around him. [6]The relative importance will be depending upon the usage and needs of the every individual but our main intention is about the security provided to our information. There have been findings in the community research that is related in identifying the theft. In an identity theft a person thefts another person's identity and profess to be that person by using his identity. It has been known that the million of the users of internets are the main sufferers of this type of illicit online activity every year. This leads to the great loss of our time and the money we spend in the identity repair and its recovery. A research that has been carried on in the country Australia, on the Australian users of the social network sites in online has revealed that up to an extent of $3 billions are lost every year due to the theft of their identity. According to the survey carried out in the year 2011 for the identity theft in the social network sites gives the percentage of the identity thefts carried out and also shows the users trust on the social platform providers that is being shared with the middleman websites and that can be exhibited online by scripting the suitable queries on the search engine. This all is due to the lack of awareness among the users. So inventing of this type of sites have created many opportunities for theft of the identity and committing for an online fraud. [7]Our existing system in the online networking is totally centralized it means every individual is connected to common root server in their respective fields. [8]Here if we focus mainly on the entire data of the world present in the foreign root server, it is just like our lives in their hands.

Figure 1: satellite view of face book

[9]Face book, an American social networking service in California. The root server of face book is present in US but its users are present across the world. If any valuable information is being shared by any means of social media like face book then it can be accessed by the admin of the face book and he can modify, share the data and do whatever he wants. [10]We can know the importance of the data and can estimate value of the data. Also we come across a question that there are some private terms and policies mentioned while installing any app from the Google play store. [11]In this busy world no one is interested and having time to read the prescribed long list of the private terms and policies. In that itself they mention that our data, audio, video, phone call management will be accessed when the user signs up for the social networking sites. It means that we have given them rights to access and record our audio, video and phone call management even the user doesn't want to share his personal profile to an unknown person. After that his data can be viewed in the form of identity by anyone of the stranger who browses on internet.

Figure 2: accepting privacy terms and policies by clicking on accept and allow type of keywords

Therefore the data of the profile of individual OSN user can be easily obtained by search engines. When the privacy policies of the social networking site of face book changed the default site settings were in such a way that anybody who browses internet could be able to find out and look at the status updates that are being made by the users and their photos and profile information is also visible.

The Internet around us is centralized and it is under the control of the digital titans. [12] It states that it is very easy for the internet to be surveilled, data-mined and can be controlled. Now it's our time to think about our own experience of internet. We must question ourselves that can we perform any task in the internet with entering through the main platform first? We know it's highly impossible because there is a middleman always in between. So till the middleman is gone we can't do anything on the internet without going through the main platform. This is the existing system. So in order to overcome such type of problems hereby we can implement the use of "FREEDOMBOX".

3. Freedom box Creates Freedom: The problem in the existing system can be rectified with use of a "FREEDOMBOX" which is a personal server handling a free software operating system, with number of free applications that are designed to create and conserve the personal privacy.

The aim of the developers of the freedom box is to provide freedom for the internet and also to provide a secure manifesto to build up the unified social network because it cuts off the middleman and empowers us to do many things like sharing the files, send the encrypted messages, having voice calls and video calls and editing the documents according to our requirements by means of a server that we host ourselves.

Figure3: Logo of Freedom Box

This should be done by designing a software stack which can run sprint on the plug computers that can be easily located in the individual residences or the office. So by promoting such type of decentralized deployment of hardware, this project hoped that Freedom Boxes will always provide the privacy in the normal life and secure, safe conveying for the people pursue to conserve their freedom in the oppressive regimes. The software stack is now at version of 0.47.0. The hardware has been currently put forward in the use with the Freedom Box software is described on the hardware page.

3.1 Freedom box and Debian: It is Debian pure blend. Applications on the Freedom Box are installed as the Debian Packages. This project spreads its software from the Debian repositories. According to the Debian for the software maintenance is the reason for what the Freedom box has outlasted many number of similar projects that used the manual installation scripts instead. Freedom box always comes out with the every automatic software updates that are being powered by Debian.

Figure 4: Top view of map of village to install the freedom boxes

3.2 About hardware and software use of Freedom Box:

  3.2.1 Ingredients: Freedom Box is made up of only two main ingredients: 1) a free software system 2) an inexpensive, power efficient pocket sized dictionary hardware. Mostly we target for the software to be hardware neutral but here we are in supporting about the ten hardware models which are single board computers which costs 60 USD that issues the computing power as that of a Smartphone. Its software system is 100% free and it is completely open source and can be downloaded with no cost. It is preloaded with above 20 apps and the features are nurtured to conserve freedom, privacy and also the user rights.

Figure 5: Installing of the poles of the freedom boxes

  3.2.2 Installation Process: We can just install the Freedom Box system onto our own single board computer and just plug it into our internet router. Then a web interface acts as the central hub that offers one click install and displays a simple configuration paper on desktop for the apps and services that we require.
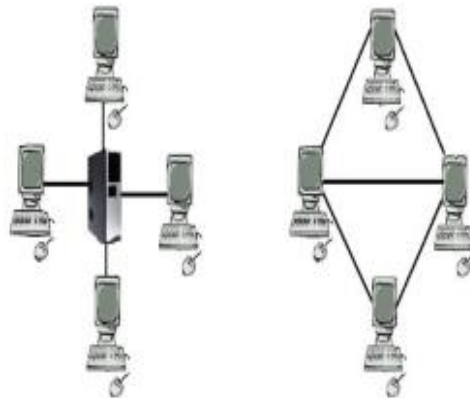

Figure 6: centralized system of internet and decentralized system of Freedom box.

Freedom Box is a new project that was born in the year 2010. After few years of its development it's now a fixture in the Universities, Villages and homes throughout world.

  Conclusion: The planning of present centralized system of social networking sites is in a way that they couldn't fortify the privacy and security to users. Hence, there is need of such type of architecture which is privacy and secure to the users. So there is a use of planning which is private and secure conserving process such that the user just feels like that he is a "user" and not like a "consumer". So these type of requirements of the user are being disposed to a decentralized distributed planning. Since the plan proposed is decentralized and distributed (i.e., the use of the server related to the Freedom box) which uses the Diaspora as the main social platform that upgrades privacy and the security from its different forms of protocols, this planning conserves privacy and security of user and be engaged by the people for the use of information sharing. Let's provide freedom for internet by the use of **"FREEDOMBOX".** Mostly there will be no problems arising like trolling, cyber bullying and online harassment after establishing and implementing Freedom boxes throughout the country.

References:

[1] BazeerAhamed, B., & Mohamed, S. S. S. (2011). Implementation of Trusted Computing Technologies in Cloud Computing. International Journal of Research and Reviews in Information Sciences (IJRRIS), 1(1), 7-9

[2] T. Allard et al.: Secure Personal Data Servers: a Vision Paper. PVLDB 3(1): 25-35 (2010)

[3] S. Bajaj, R. Sion: Trusted: a trusted hardware based database with privacy and data confidentiality. SIGMOD Conference 2011: 205-216

[4]FreedomBox:http://freedomboxfoundation.org/.

[5] Global Platform Device Technology. Trusted Execution Environment Internal API Specification. Version 1.0. December 2011.

[6] 15. Shanmugapriya, S., Valarmathi. A., & Yuvaraj, D.(2018).The Personal authentication service and security enhancement for optimal strong password. Currency and computation: practice and Experience

[7] H. Lam. A Novel Method to Construct Taxonomy Electrical Appliances Based on Load Signatures. IEEE Transactions on Consumer Electronics, 2007.

[8] Dhivakar, B., S. V. Saravanan, M. Sivaram, and R. Abirama Krishnan. "Statistical Score Calculation of Information Retrieval Systems using Data Fusion Technique." Computer Science and Engineering 2, no. 5 (2012): 43-45

[9] H. Nissenbaum, Privacy in context: Technology, policy, and the integrity of social life, "Stanford Law Books, 2010.

[10] J. Park and R. Sandhu, "The UCONABC usage control model," ACM Trans Information System Security, vol. 7, no. 1, pp. 128-174, 2004.

[11]Ahamed, B. B., & Ramkumar, T. (2016). An intelligent web search framework for performing efficient retrieval Of data.

[12]Ahamed, B. B., & Hariharan, S. (2011). A survey on distributed data mining process Via grid. International Journal of Database Theory and Application, 4(3), 77-90.

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