Dynamic User Interest Gathering and Mapping Best Friends with Secured Communication using Blockchain & Big Data

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Abstract:
Social media nowadays become an indispensable part of almost every human. People primarily use media to make friends too, and this eventually began to play a vital role in people’s life; hence it has to be legitimately secured and safe. It is also essential to be quite appropriate for users. The bigger and widely used online social network (OSNs), which is currently taking dominance in social media, also facing a lot of problems like privacy issues and inappropriate exposure of profiles. This paper proposes a dynamic user interest in gathering and mapping friends. The proposed system will have separate storage services and control services, provided by blockchain. The emergence of Distributed Online Social Networks (DOSNs), which solves the privacy issues faced in OSNs but not the best solution it too has so many problems like lack of access control and data availability. Hence we exploit Blockchain technology to create a new framework that incorporates the DOSNs with the benefits of OSNs as well. This design will get rid of the privacy issues, the combination of smart contracts with centralized OSNs and DOSNs, Blockchain considered being a trusted server indeed, we additionally isolate the capacity benefits with the goal that clients have full oversight over it.

Keywords: Social media, online social network (OSNs), Distributed Online Social Networks (DOSNs), Blockchain, Framework, centralized OSNs & DOSNs, decentralized OSNs & DOSNs.

INTRODUCTION
Social networking has become the major or the widely used segmentson the internet, which most of the leading online social media is working on the reference of ‘Facebook.’. These OSNs allows users to share their photos/video, formal & informal texts, posts, etc. with their friends, since their posts and other digital information regardless of being formal they need to be shared in such way that has to both quick & accessible hence OSNs compromises with privacy and security. OSNs also provide data storing services that store data apart from a personal user’s device, which again for ease of access purpose, security has been given up. OSN lack a lot of security that it doesn’t facilitate verification of user’s identity, which leads To big chances of misuses as frauds and fake profiling. Distributed Online Social Networks solves this sort of problem by providing a verification of identity and allots a separate profile for each id along with the verification with their phone numbers and email ids. DOSNs just solve few problems which is considered as better for OSNs but not the best solution for the proposal. Hence Blockchain technique can be fettled with the advantages of both DOSNs and OSNs. In this survey we propose a system, Blockchain based framework that deals with all the aforementioned problems. Separate addresses are given to each account by the blockchain, which is used as an identity for the users in the system. This system also encrypts the profiles of users with some elaborated encryption operations and stored in Blockchain. The immutability of the framework ensures that the data present are valid and authentic. Taking account of the two features provided, the framework prevents the unauthorized users from embezzling & forging. Unlike the traditional server, our system will have separate storage services and control services to increase the privacy and enhanced control over the user’s profile. Distributed Storage services are carried out and for the control services, smart contracts are combined. Along with this we also provide some convenient features like post notification (post updates) using smart contracts. In recent time there are some Blockchain based social networking applications have been developed. The potential of blockchain is increased drastically based on the birth of the social networking apps. However, these social networking sites do not primarily focus on the security issues faced by the users. Hence our frameworks mainly incorporate the privacy and security issue fixes, along with the integrity of OSNs and DOSNs. This framework is highly capable of providing an enhanced experience of social media networks.

II.RELATED WORKS
The Distributed Online Social Networks (DOSN) is a recently proposed system as an alternative for the existing traditional Online Social Networks (OSNs). This system mainly focuses on the privacy issue fixes. Hence it allows users to keep control of their data. In the last few years, OSNs have been the only reliable and popular internet services. These services made a strong impact on users on how they interact with each other since it has to be reliable, they gave up the privacy of user’s data over online storage, and they did this service to be usable. The most widely OSNs are based on centralized architecture where service has to take control of the user’s data. Hence this type of architecture produced several problems both technically and socially, as malicious users can easily seek information of users and may misuse it several forms.

Therefore decentralizing the architecture may improve the advantages of fighting the challenges mentioned earlier. Hence we use a valid alternate system proposed recently Distributed Online Social Networks (DOSN), which can be implemented on a distributed platform such as the P2P system or mobile network. However, decentralizing the control also produces several challenges that can be altered and enhanced to extract the advantage of the system to its fullest.
Blockchain is the revolutionary technology that made a significant impact on the common users and their computing behavior as well. This concept was first introduced to a system having primary application in finance & banking industries to have secure transactions of money; later, this technique started to play a vital role in IOT.
Blockchain is vaguely translated to various crypto-graphical chained blocks such blocks are categorized in three components such as the first block consists of the data, the second block represents the hash of the previous block and the third block gives the hash of the data and previous hash.

Accordingly, there is a request for reliance between obstructs that can be utilized to guarantee the trustworthiness of the entire Blockchain. Should the information in any of the squares change, its hash will be changed also. This will prompt a winding impact where the hashes of the ensuing squares will get invalid. This is the reason exchanges on the Blockchain are changeless. This foundation can be profoundly gainful in offering digital security arrangements in hazardous territories, for example, IoT gadgets, systems and information stockpiling and transmission.

III. LITERATURE REVIEW

Using Blockchain and Big data to collect and chart best friends with encrypted communication is done with reference to the papers. In [1] Takshi Gupta, Gaurav Choudhary, and Vishal Sharma proposed proposes the modernization of OSNs and a combination of POSNs, it is necessary to comprehend the effect and reach of current answers for upgrading the security of clients just as related administrations. In [2] Shirin Nilizadeh, Sonia Jahid, Prateek Mittal, Nikita Borisov, Apu Kapadia proposed the social networking sites like Facebook and Google+ has changed the mode of communication in our society. In this paper, they give out a proposal that a union of techniques is required to efficiently support the complex functionality requirements of social networking apps. They propose Cachet, an engineering that gives solid protection which ensures and saves the primary objective of a online interpersonal organizations. In [3] Shaymaa Khater proposes another powerful suggestion framework model that gives better-altered substance to the client. That is, the model provides the user with the most important tweets according to his individual interests and then analyzes the changes in the surrounding environment can affect the user’s experience.

In [4] AbirDe, Sourangshu Bhattacharya, Niloy Ganguly proposed Smart Shape, a feeling control bundle that together chooses the control clients, just as registers the ideal pace of control messages, in this way driving the organized assessment elements to the ideal heading additionally incorporates a vigorous molding suit which makes the control structure flexible to stochastic changes of conclusion elements, beginning from a few wellsprings of irregularity. In [5] Thomas Paul, Antonio Fumalari, Thorsten Strufe proposes a grouping of past work under two measurements and also gives the advantages and limitations of each perspectives and produce a discussion on the effect of DOSNs on users, the OSN providers and all other stakeholders.

IV. PROPOSED SYSTEM

In the proposed framework, OSNs and DOSNs, we misuse the developing Blockchain method to plan another DOSN system that coordinates the upsides of both conventional unified OSNs and DOSNs. By consolidating brilliant agreements, we utilize the Blockchain as a believed server to give focal control administrations.

Figure 4. Architecture

V. METHODOLOGY

Creating the Application

A application will be created to communicate with our friends in this module. For designing the friend book application, we will be using JSP and Servlets. While designing the application, we’ll assign the attributes like Username, Password, Phone number and so on. Once the user has entered all the information and checking if it is valid then the user is permitted to enter into the chat app. The user will now use this chat application to communicate with other users and friends in the application.

Server Usage

The purpose of the server is to validate the user first and then allow them to communicate with their friends. Then the server will analyze the user’s contents and then will extract the keywords with a particle filter. Also the Server will be monitoring the information like access time, the usage of the app and location which is used to find the User’s location and so that we can provide any support to them.

Figure 5. Project Connectivity

Evidence Based Analysis

The application will investigate the posts between the people and then concentrate on the usage of the keywords with a Particle Filter. Then the Particle Filter will retrieve the Keywords and analyze the likes of individuals by their profile and send suggestion to the others. System will automatically collect the likes and make suggestion to the user.

Figure 6. Evidence Based Analysis

Analyze Location of User

In this module server will monitor regular movement of person. If the person regularly travelling on the same route. System will send suggestion about the friends who are all in same location.

Figure 7. Location Analysis
Block Chain Implementation
A square is a compartment information structure. The usual size of a square by any means will be 1MB (source). Here each and every endorsement number will be represented as a square. For each square, a hash code will be produced for security. Right now data is made as a blockchain.

VI. CONCLUSION & FUTURE WORK

In this paper, we introduced the plan and usage of Friendbook, a semantic-based buddy proposition system for informal organizations. It is not identical as the other suggestion system which is based on the social diagrams in the present informal communication administrations, Friendbook detach the ways of life from user-driven data gathered from the mobile sensors and they give suggestions about the buddy who have similar ways of life. We start Friendbook on a platform for android mobiles phones and we evaluate its dispensing for both small scope examinations and huge scope re-enactments. The result indicates that there will be a precise mirror inclination of the client and the companions they choose. In future, we planned to implement intermediate layer in the server in order to monitor user’s behaviour. Both the client’s very own data like name, telephone number, email id, and photographs won’t be shared among themselves for the underlying timeframe.

VII. REFERENCES


