Multi-Party Access Control: A Secure Web Application

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Abstract— our project is web based application, deals with the multi-users communicating with each other. Online social networks (OSN) like Facebook, twitter, etc have different and interesting features. These all OSNs also provide security options to the users. We are providing in our project, security options to the users and bringing in new concept of slambook into picture. Slambook concept will not only make communication among users easier, but also create an interactive environment.

Key words: Online social networks, MPAC model, Decision Making

I. Introduction

The need of making this web based project resulted from the increasing curiosity of crowd towards internet, applications etc. Further, about our project, multiparty access control: a secure web application, is all about the application which is based on web and can be used by multi-users.

A typical OSN provides each user with a virtual space containing profile information, a list of the user's friends, and web pages, where users and friends can post content and leave messages. A user profile usually includes information with respect to the user's birthday, gender, interests, education and work history, and contact information.

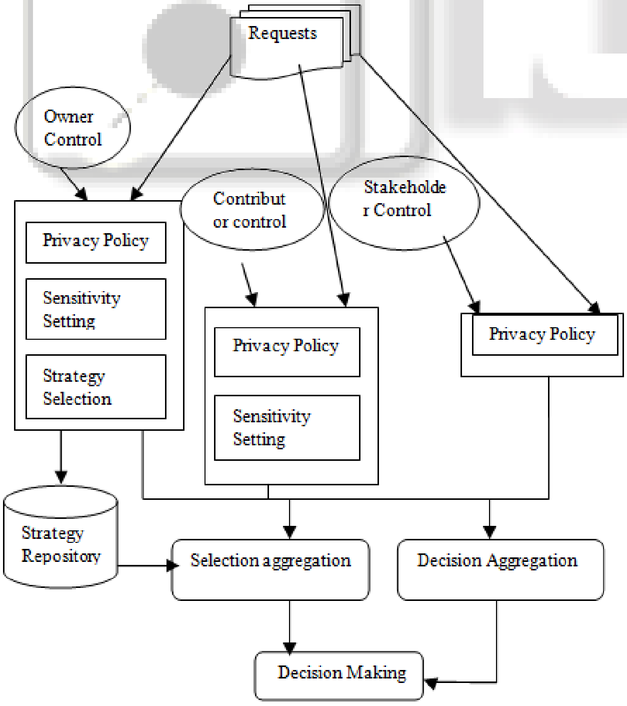

Fig. 1: MPAC model

Fig. 1: Explanation of above in short:

Also OSNs allow users to restrict access to shared data but it is not effective in enforcing security over the data. In this paper, we propose an approach to provide the protection by considering multiparty authorization requirements. It also explained a logical representation of our access control model that allows us to leverage the features of existing logic solvers to perform various analysis tasks on our model.

Nowadays, new technologies are welcomed by customers. Today's crowd demands everything on web; internet has become most important percept of individuals. In this project, we adopted this idea and introduced web based application that uses normal user interaction service: log in, sending & accepting friend requests, etc. The new thing that will act as additional feature to the project is slambook & messaging.

We may find slambook as separate application on mobiles. But this application will only provide a simple template of slambook to be filled by users.

Multi-party access control (MPAC) model has been used as reference to enhance the working of the communication among multi-users.

1) Requests: Users once registered themselves on the application, further create their profile, and manage their essential settings. Then, users send requests to their friends.
2) Owner Control: This one will have facilities like privacy policy, sensitivity settings and strategy selection.
3) Contributor Control: This one will have facilities like privacy policy, sensitivity settings.
4) Stakeholder Control: Similar to contributor; but difference of the type of people controlling these facilities.
5) Privacy Policy: This is a set of policies that deals with the privacy of the users and other personal information stored in the database.
6) Decision Making: This part will play role of giving right to the uses whether to accept or reject the friend request.

Above each and every block in the Fig.1, is being used in the application and applied by the user. The MPAC model has been referred completely to enhance the working of multi-users in web environment.

Thus, explaining MPAC model in the paper is the purpose to make clear picture of system where multi-users communicate with each other's.

II. Existing System

The existing system is like normal web application meaning multi-users registering, then log in, sending friend requests etc. In this application, there were restrictions and also simple systematic process of application. The registered user had wall, where the lists of friends and requests would be displayed to them. Another thing was creating or updating profile and making them displayable to the other users.

In other words, the existing system has basic profile which includes information like name, date of birth, etc. This also has the feature of login id & password for using the application. The existing system also includes sending friend requests via slambook concept.

Our model also contains a multiparty policy specification scheme. While people were already flocking to the internet, most did not have extended networks of Friends Who were online. Early Addopters.com explained that there was little to do after accepting Friends Request and most users were not interested in meeting Strangers.

III. Proposed System

The existing system has registration, login facilities. Along with this, it also includes slambook option. Slambook is the set of questions which is exchanged among friends so that users can know each other very well. The proposed system consists of additional features like multiple profiles.

In the proposed system, we are trying to overcome the drawbacks in the existing system. The wall will be having slambook options: create, update, send and publish or keep private. These options would be provided to the registered users. Along with this, we are adding messaging option in the application, so that users can communicate smoothly with each other.

We are making our project more interactive by adding above features and bringing in new concept of using web.

IV. Implementation

In our project, multi-party access control: secure web application, we are using decision tree algorithm. Decision making algorithm helps making decisions during accepting or rejecting friend requests, slambook etc. A decision tree is a decision support tool that uses a tree-like graph or model of decisions and their possible consequences, including chance event outcomes, resource costs, and utility. It is one way to display an algorithm.

Further, we using this algorithm to allow users to decide whether to keep slambook private or public; sharing within friends or with everyone. Decision trees are commonly used in operations research, specifically in decision analysis, to help identify a strategy most likely to reach a goal.

Decision Tree is a flow-chart like structure in which internal node represents test on an attribute, each branch represents outcome of test and each leaf node represents class label (decision taken after computing all attributes). A path from root to leaf represents classification rules.

Decision making algorithm has been used in every option that involves taking decision wherever necessary in the application.

A decision tree consists of 3 types of nodes:

- Decision nodes - commonly represented by squares
- Chance nodes - represented by circles
- End nodes - represented by triangles

Decision trees are commonly used in operation research specifically in decision analysis, to help identify a strategy most likely to reach a goal. If in practice decisions have to be taken online with no recall under incomplete knowledge, a decision tree should be paralleled by a probability model as a best choice model or online selection model algorithm. Another use of decision trees is as a descriptive means for calculating conditional probabilities.

Under this section, we are trying to explain about the actual work behind the main frame. In this paper, we have explored the use of algorithm in the decision making procedure. Also, session tracking algorithm has been used for the purpose of identification.

Session tracking algorithm is basically for the proper communication between client and server. The sessions are created when the client communicates with the server. Here, there are many clients and one server.

This algorithm assigns identity numbers to the sessions that are generated. The use of session tracking algorithm is basically to track the cookies and the sessions.

V. Conclusion

In this paper, we have proposed the different perspective of web based applications. A multiparty access control model was formulated, along with a multiparty policy specification scheme and corresponding policy evaluation mechanism. In addition, we have introduced an approach for representing and reasoning about our proposed model. As part of future work, we are planning to investigate more comprehensive privacy conflict resolution approach and analysis services for collaborative management of shared data in OSNs (Online Social Networks). Also, we would explore more criteria to evaluate the features of our proposed MPAC model.

Besides, we present a logical representation of our access control model which allows us to leverage the features of existing logic solvers to perform various analysis tasks on our model.

VI. Acknowledgment

Our project is purely trying to attempt to give new phase to the web scenario. Along with this, the paper has explained the importance of security to be followed while using web. This paper has explained the working of multiparty by using MPAC model and also studied reference papers.

We have successfully worked upon our paper under guidance of Mr. D.M.Dalgade and project co-coordinator Mr. Nilesh Rathod.

VII. Reference

[1] Hongxin Hu, Gail-Joon Ahn, Senior Member, IEEE, and Jan Jorgensen: Multiparty Access Control for Online Social Networks: Model and Mechanisms

[2] Besmer and H. Richter Lipford.Moving beyond untagging: Photo privacy in a tagged world. In Proceedings of the 28th international conference on Human factors in computing systems, pages 1563–1572. ACM, 2010.

[3] L. Bilge, T. Strufe, D. Balzarotti, and E. Kirda. All your contacts are belonging to us: automated identity theft attacks on social networks. In Proceedings of the 18th international conference on World Wide Web, pages 551–560. ACM, 2009.

[4] Carminati and E. Ferrari. Collaborative access control in online social networks. In Proceedings of the 7th International Conference on Collaborative Computing: Networking, Applications and Work

sharing (CollaborateCom), pages 231–240. IEEE, 2011.

[5] Carminati, E. Ferrari, and A. Perego.Rule-based access control for social networks. In On the Move to Meaningful Internet Systems2006: OTM 2006 Workshops, pages 1734–1744. Springer, 2006.