Privacy Protection on Internet Using Android Application

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Abstract

The internet is amazing tool now being widely used. It has the potential to change the way of people live. With only a few mouse clicks, people can follow the news, look up facts, buy goods and services, and communication with other from around the world. However, the power of the internet also allows for the efficient, inexpensive collection of vast amount of information. People can give away information about themselves if they not careful. The prevalence, ease, and relative low cost of such information collection distinguish the online environment from a more traditional means of commerce and information collection.

Most of the android had no, best or very less security. But as the need was felt to provide confidentiality for financial and personal data of the users over the internet. Your personal information is a valuable commodity. It's not only the key to your financial identity, but also to your online identity.Many companies have information about their clients which they later use for making profits by selling them to marketing companies who want to reach us with their products.

Images capture by mobile or cameras can also store the image location (GPS Coordinates) in image metadata. This application removes image location before posting the image on the internet. On internet we can expose our friends and family identity. This application can alert the user from posting our friends and family photos. Some Not trusted website (not secure) takes user personal information like mobile number, address, bank account number, etc. This application alerts the user to be aware that website. Some third party application access our mobile data and input devices like camera, microphone, etc. When third party access the data and input device it automatically alerts the user.

1. Introduction

The internet was created in 1983. Since that time it has grown beyond its largely academic origin into an increasingly commercial and popular medium. The internet connected many computer networks. The internet has connected millions of computers throughout the world. Here an unsolved problem is we cannot imagine our life without it. Nowadays it has become daily and essential necessity with contemporary men.Every second 8 new users joining the internet [1].227,000 new pieces of malware per day [2].30,000 new infected websites everyday 80% small businesses website [3].An increasing number of people are using the Internet, in many instance unaware of the information being collected about them. In contrast, other people concerned about the privacy and security issues are limiting their use of the Internet, abstaining from purchasing products online. The is international and largely unregulated. This means that the laws of any one country do not usually apply to Internet activities originating in other countries. Thus, it is necessary to protect the privacy of the user.

When you send an images through the internet, your images can travel through many different networks and computers. The data is constantly being directed towards its destination by special computers called routers. Because of this, it is possible to get into any of the computers along the route, intercept and even change the data being sent over the Internet. But there are many encoding programs available. Not with-standing, these programs are not perfect and can easily be cracked. Another big and serious problem of the internet is control. Yes, there is no effective control in the internet, because a huge amount of information circulating through internet. It is like a tremendous library and market together. In the future, the situation might change, but now we have what we have. It could be expressed in two words – an anarchist's dream.

The advance of internet and database technology increase information privacy concerns. Data entered into forms or contained in existing database, can be combined almost effortlessly with transaction records and records of an individuals every click of mouse on the internet. Privacy concerns increase further as data mining tool services become more widely available.Everyone uses smart phones to take photos and post in social network, an interesting feature of smart phones when you take photo embed gps data about where photo was

taken. About 60% profile picture on the social networking site contain gps coordinate.Accuracy of gps coordinate which + or – 10 meter in area [4]and cybercriminal done the same thing. Our friends, family and colleague can break our security even when we do the right thing. Thisapplication can act like as the privacy guard of user data and user privacy, for example user want to upload the photo on social networking side like Facebook, Instagram, etc. Photo conation user information like camera or mobile model name, date and time when the photo has been taken, GPS (Global Position System) data like gps latitude reference(ref), gps longitude ref, gps altitude ref, gps date and time stamp, gps position. This data is sensitive. But actually today cybercriminal how wonderfully professional and organize they have product advert.Here the problem is internet and technology are grow rapidlynew technology, therefore anyone can learn how to use hacking tools, anyone create malware and viruses.

2. Literature review

Winnie Chung and John Paynter 2002 Privacy Issues on Internet, give the brief information about the Privacy concerns. Ammar Yassir and Smita Nayak 2012 Cybercrime: A threat to Network Security, give the information about cybercrime. Cassandra Beyer 2014 Mobile Security: A Literature Review, give the information about the Android Security.

3. Proposed System

Proposed system aims at developing an android based mobile application that protect the privacy of the user on the internet. Image protection feature on by user then when user upload any images then application can search for GPS coordinates if GPS coordinates are found in the images then application can remove the GPS coordinates and send the filtered image for the next procedure. When user want to upload the images on the social networking site or any other online website this system firstscans the images for metadata, if system found the metadata in the images removes the metadata contain gps location and other data can be removed. When we upload the photos of friends, family and colleague on internet we expose their identity also so this app can notify user from preventing their identity. Sometime user visit to the non-trusted website then the system can alert the user that website is not-trusted. Some third party application access our mobile data and input devices like camera, microphone, etc. When third party access the data and input device it automatically alerts the user. The proposed system consists of the following advantages, Image protection, protect user and friends, family privacy, third party application protection

4. System Architecture

System architecture alludes to the "the overall structure of the software "andthe way in which that structure provides conceptual integrity for a system.
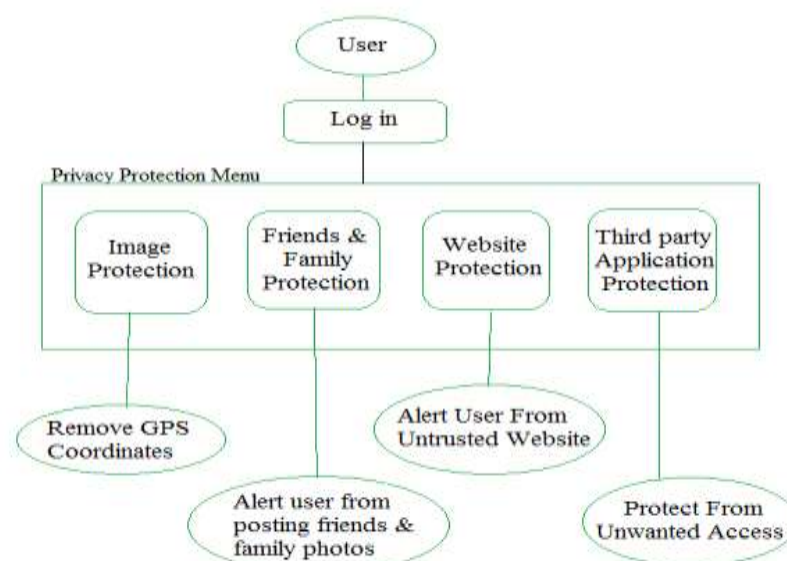

Figure 1: Overall System Architecture

Above figure 1 show overall system architecture, as show in figure user first login in the application, after the successful login the Privacy Protection Menu page will be open. In Privacy Protection Menu page there is four features are i) Image Protection, ii) Friends & Family Protection, iii) Website Protection and iv) Third party Application Protection. Image Protection application features can remove the GPS coordinates from the image before posting on internet. Friends & Family Protection feature can alert the user from posting the Friends & Family photos on internet. Website Protection feature can alert the user if user visited the untrusted website. Third party Application Protection feature can protect the user data and input devices accessed by third party application.

5. Technical Requirements

Software requirement of our system are:

     i.   Windows 7/8/10 operating system
    ii.   Android mobile Operating system
   iii.   Android studio
   iv.   Sql lite

As per as the hardware requirement are concerned, one needs to have a Pentium 4 processor or later with intel VT-X supports. Minimum 3GB RAM, 8GB RAM recommended and HDD 500MB disk for android Studio, at least 1.5 GB for Android SDK, emulator system. Java Development kit (JDK) 8 is required. One android devise is required for testing the application It should also have a well-equipped network adapter.

6. Modular Design

The proposed system is divided into six distinct modules which are describe as follows,

6.1 Register and login for user

Register Login module include two sub-modules, login module and registration module.

Figure 2: Login module   **Figure 3:** Register module

Above figure 2 show the login module and figure 3 show the registration module. The login module is used for user login and it also contain registrar button, after the click on Register button the registration model will be open. Registration model is used for the user when user first time open the application then the user registers for login purpose for first time then after user uses the created username and password for authentication later.

6.2 Privacy Protection Menu

When user successfully login into the application then the Privacy Protection Menu page will be open.

Figure 4: Privacy Protection Menu module

Above figure 4 show the privacy protection menu model. This page contain features menu for user for each feature user has switch button to on or off the function. This page also conation the logout button for the user to exit from the menu.

6.3 Image Protection

Image Protection is function inside the Privacy Protection Menu page. Image protection switch button feature provides the functionality to the user to protect the images by removing the GPS coordinates. User can easily on oroff the feature using switch button.

6.4 Friends & Family Protection

Friends & Family Protection is function inside the Privacy Protection Menu page. Friends & family protection switch button feature provides the functionality to the user to protect privacy of the Friends & family, when the user upload the friends & family photos then application alert the user. User can easily on or off the feature using switch button.

6.5 Website Protection

Website Protection is function inside the Privacy Protection Menu page. Website Protection switch button feature provides the functionality to the user to protect the user when user visits the untrusted website then user can notify the user. User can easily on or off the feature using switch button.

6.6 Third party Application Protection

Third party Application Protection is function inside the Privacy Protection Menu page. Image protection switch button feature provides the functionality to the user when the third party application unwantedly to get access to user mobile data and input devises. User can easily on or off the feature using switch button.

7. Implementation

This system will be implemented in thesocial networking. To protect the user privacy over the internet. This system can be helpful in today internet world where the cybercrime be the biggest problem. This system helps to minimize the cybercrime

8. Conclusion

Internet is become daily and essential and necessary component of our life. Nowadays Cybercrime is a fast-growing area of crime.More and more criminals are exploiting the speed, convenience and anonymity of the Internet to commit a diverse range of criminal activities that know no borders, either physical or virtual, cause serious harm and pose very real threats to victims worldwide.Implementation and use of this system can increase the level of security and maintain the privacy of each user and his friends and family also. This system also helpful in unwanted access from third party application. Also give protection from untrusted website on the internet. Legislation and self- regulation is also important on internet to protect user privacy.

9. Inspiration

James Lyne: Everyday cybercrime – and what you can do about it

https://www.youtub e.com/watch?v=fSErHToV8IU

10. References

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