International Journal of Computer Science
Scholarly Peer Reviewed Research Journal - PRESS - OPEN ACCESS
ISSN: 2348-6600
http://www.ijcsjournal.com Volume 5, Issue 1, No 22, 2017 ISSN: 2348-6600
Reference ID: IJCS-265 PAGE NO: 1691-1700
Alagappa University, Karaikudi, India 15th -16th February 2017
IT Skills Show & International Conference on Advancements in Computing Resources (SSICACR-2017)
http://aisdau.in/ssicacr ssicacr2017@gmail.com

PHOTO SHARING SAFE MODE SERVICES TO MAKE PRIVACY RELIABILITY

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Abstract – Social network is one of the platforms for making relationship each other. The members, communities, friends, posted information are the properties of Social networking system; the greater amount of communities gives the strength in the network and digs more information. Generally, the members tide with at least one community and the community members may be or may not be having the relationship with other communities. . The members join with at least one group or one community and they share the expression, knowledge and information to others. But users should be aware of threats that can be faced due to lack of proper privacy settings. In the existing paper a novel method for collaborative sharing of data in OSNs is discussed as well as a method to resolve privacy conflicts that can occur while multiple persons share a data. Evaluation results show that privacy risk and data sharing loss are minimized in this approach. Various websites offer services such as uploading, hosting, and managing for photo-sharing (publicly or privately). These functions are provided by websites and applications that facilitate the upload and display of images. The main theme of this proposed approach is to develop a social communication medium which allows sharing the images to their friends. The web system is aimed to provide image security with various ways which can't be misused. The web system provides auto server watermarking, image editing blocker and download blocker tools. Any person can get free registration and share the images with the security tools to any person. This proposed research approach can overcome the entire issues in present systems.

Introduction

Photo sharing is the publishing or transfer of a user's digital photos online. Photo-sharing websites offer services such as uploading, hosting, managing and sharing of photos (publicly or privately). This function is provided through both websites and applications that facilitate the upload and display of images. The term can also be loosely applied to the use of online photo galleries that are set up and managed by individual users, including photo blogs. Sharing means that other users can view but not necessarily download the photos, users being able to select different

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copyright options for their photos. While photo blogs tend only to display a chronological view of user-selected medium-sized photos, most photo sharing sites provide multiple views (such as thumbnails and slideshows), the ability to classify photos into albums, as well as add annotations (such as captions or tags) and Desktop photo management applications may include their own photo-sharing features or integration with sites for uploading images to them. There are also desktop applications whose sole function is sharing photos, generally using peer-to-peer networking. Basic photo sharing functionality can be found in applications that allow you to email photos. Photo sharing is not confined to the web and personal computers, but is also possible from portable devices such as camera phones, either directly or via MMS. Some cameras now come equipped with wireless networking and similar sharing functionality themselves.

History

The first photo sharing sites originated during the mid to late 1990s primarily from services providing online ordering of prints (photo finishing), but many more came into being during the early 2000s with the goal of providing permanent and centralized access to a user's photos, and in some cases video clips too. Webshots, SmugMug, Yahoo! Photos and Flickr were among the first. This has resulted in different approaches to revenue generation and functionality among providers.

Revenue models

Photo sharing sites can be broadly broken up into two groups: sites that offer photo sharing for free and sites that charge consumers directly to host and share photos. Of the sites that offer free photo sharing, most can be broken up into advertising-supported media plays and online photo finishing sites, where photo sharing is a vehicle to sell prints or other merchandise. Paid sites typically offer subscription-based services directly to consumers and dispense with advertisements and sometimes the sale of other goods. These designations are not hard and fast and some subscription sites have a limited free version. Consumers can share their photos directly from their home computers over high speed connections through peer-to-peer photo sharing using applications. Peer-to-peer photo sharing often carries a small one-time cost for the software. Some sites allow you to post your pictures online and they will then project the image onto famous buildings during special events, while other sites let you insert photos into digital postcards, slide shows and photo albums and send them to others. Some free sites are owned by camera manufacturers, and only accept photos made with their hardware

Subscription-based photo sharing

In return for a fee, subscription-based photo sharing sites offer their services without the distraction of advertisements or promotions for prints and gifts. They may also have other enhancements over free services, such as guarantees regarding the online availability of photos, more storage space, the ability for non-account holders to download full-size, original versions of photos, and tools for backing up photos. Some offer user photographs for sale, splitting the proceeds with the photographer, while others may use a disclaimer to reserve the right to

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use or sell the photos without giving the photographer royalties or notice. From the turn of the 21st century, some sites began integrating video sharing as well.

Peer-to-peer photo sharing

With the introduction of high speed (broadband) connections directly to homes, it is feasible to share pictures and movies without going through a central service. The advantages of peer-to-peer sharing are reduced hosting costs and no loss of control to a central service. The downsides are that the consumer does not get the benefit of off-site backup; consumer Internet service providers (ISPs) often prohibit the serving of content both by contract and through the implementation of network filtering, and there are few quality guarantees for recipients. However, there are typically no direct consumer costs beyond the purchase of the initial software, provided the consumer already has a computer with the photos at home on a high speed connection. Applications like Tonido photos provide peer-to-peer photo sharing.

Peer-to-server photo sharing

Operating peer-to-peer solutions without a central server can create problems as some users do not leave their computers online and connected all the time. Using an always-on server like Windows Home Server which acts as an intermediate point, it is possible to share photos peer-to-peer with the reliability and security of a central server. Photos are securely stored behind a firewall on the Windows Home Server and can be accessed only by those with appropriate permissions.

Peer-to-browser photo sharing

A variation on the peer-to-peer model is peer-to-browser, whereby images are shared on one PC with the use of a local (on the host computer) software service (much like peer-to-peer) but made available to the viewer through a standard web browser. Technically speaking, this may still be described as peer-to-peer (with the second peer being a web browser) but it is characteristically different as it assumes no need to download peer software for the viewer. Photos are accessed by regular URLs that standard web browsers understand natively without any further software required. Consequently, photos shared in this way are accessible not only to users who have downloaded the correct peer software (compatible with the software in use by the share). Peer-to-browser sharing has (similar to peer-to-peer) reduced hosting costs, no loss of control to a central service, and no waiting for files to upload to the central service. Furthermore, universal web browser access to shared files makes them more widely accessible and available for use in different ways, such as embedding in, or linking to, from within web pages. As with peer-to-peer, the downsides are lack of off-site backup, possible inhibition by some ISPs, and limitations in speed of serving.

Social network photo sharing

Sharing photos through social networks has become increasingly popular as well. Facebook surpassed 250 billion photos in 2013. Social Network photo sharing allows users to share photos with only those they specify as being allowed to see those albums, whether it is all users, or only those whom they are connected with. Some applications, like VoxWeb requires users to use its

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native platform to view the pictures. Instagram is another extremely popular platform for photo sharing - the growth in user numbers in just two years was enormous, from one million at the end of 2010 to 30 million in 2012.

Photo sharing on entertainment / aggregation sites

Photo sharing on entertainment / aggregation sites such as Reddit, Imgur, 4chan, Pinterest and Tumblr allow users to share images with a large number of people around the globe. Images are the most liked content of the aggregation and media sharing site Reddit; as of August 2014, nearly 2/3 of all successful posts on the site were links to an image hosted on Imgur.

Mobile photo sharing

Photo sharing via mobile phones has become the rage of 2011. Several networks and applications have sprung up offering capabilities to share photos directly from mobile phones to social networks. The most prominent of these is Instagram which has quickly become the dominant mobile social network with over 200 million members. Other applications and networks offering similar service and growing in popularity include Streamzoo, Path, PicsArt and Starmatic. Critics of photo-sharing on social media such as Keen (2007) were concerned with the use of applications such as Instagram, because they thought the behaviours portrayed on these sites could potentially be linked to the narcissism trait. In his book, The Cult Of the Amateur, keen argues that “Self” is running digital culture, and he is of the opinion that people use social-media platforms because they are interested in advertising themselves. Buffardi and Campell (2008) also alleged that Instagram offers "a gateway for self-promotion via self-descriptions, vanity via photos, and a large amount of shallow relationships" However, Buffardi and Campell (2008) later said that the large number of users suggests the general psychology of the members is normative.

Web photo album generators

Software can be found on the Internet to generate your own photo albums, usually to share photos on the web, using a home web server. In general, this is for advanced users that want to have better control over the look and feel of their web albums and the actual servers they are going to run on.

Photos classification

Photo sharing sites usually propose several ways to classify images. Most sites propose at least taxonomy where images can be grouped within a directory-like structure in so-called "galleries". Some sites also allow users to classify images using tags to build a folksonomy. Depending on the restrictions on the set of users allowed to tag a single document and the set of tags available to describe the document, one speaks about narrow and broad folksonomies. A folksonomy is broad when there is no restriction on the set of taggers and available tags. When there are limitations, the folksonomy is called narrow. Another mechanism is coupling taxonomy and folksonomy, where tags associated to galleries and artists are cascaded to the galleries and artist's pictures. Broad taxonomies have interesting properties like the power law.

Some sites including Panoramio and Wikimedia Commons show their geocoded photographs on a map, helping the user find pictures of the same or nearby objects from different directions.

Photo tagging

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Photo tagging is the process that allows users to tag and group photos of an individual or individuals. With facial recognition software tagging photos can become quicker and easier; the more tagging done of an individual the more accurate the software can be. Photo tagging is a way of labeling photos so that viewers can know who is who in the picture. On most online photo sharing sites such as Facebook, a tag can also be used as a link that when clicked will take you to the person's profile that was tagged. Most of the time photos can only be tagged by the user to uploads the photo but on some sites photos can be tagged by other users as well. These tags can be searched for across the entire Internet, on separate websites or in private data bases. They can be used for crowdsourced classification (see #Photos classification) but can also play a socio-cultural role in that they can establish neologisms, Internet memes, snowclones, slogans, catch phrases, shared vocabularies and categorizations as well as producing comedic twists, contexts and perspectives of the presented images, and hence often play a significant role in the community building and identity formation of and the entertainment in online communities that allow the creation of broad folksonomies.

Geotagging

Geotagging a photo is the process in which a photo is marked with the geographical identification of the place it was taken. Most technology with photo taking capabilities are equipped with GPS system sensors that routinely geotag photos and videos.

Digital Watermarking

Digital watermarking is an extension of this concept in the digital world. In recent years the phenomenal growth of the Internet has highlighted the need for mechanisms to protect ownership of digital media. Digital watermarking is a technique that provides a solution to the longstanding problems faced with copyrighting digital data. Digital watermarks are pieces of information added to digital data (audio, video, or still images) that can be detected or extracted later to make an assertion about the data. Watermarks may be visible, in which case their use is two-fold — to discourage unauthorized usage, and also act as an advertisement. However, the focus is on invisible watermarks, as they do not cause any degradation in the aesthetic quality or in the usefulness of the data. They can be detected and extracted later to facilitate a claim of ownership, yielding relevant information as well. Watermarks may also be classified as robust or fragile. Robust watermarks are those which are difficult to remove from the object in which they are embedded, despite various attacks they might be subjected to, discussed later. Absence of a watermark in a previously watermarked document would lead to the conclusion that the data has been tampered with. For a digital watermark to be effective for ownership assertion, it must be robust, recoverable from a document, provide the original information embedded reliably, be non-intrusive, and also removable by authorized users.

There are 3 main processes involved in watermarking — insertion of a watermark, detection of a watermark, and removal of a watermark.

i) Watermark Insertion Unit
ii) Watermark Extraction Unit
iii) Watermark Detection Unit

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A simple Spatial watermarking algorithm — The LSB technique

The LSB technique is the simplest technique of watermark insertion. If we specifically consider still images, each pixel of the color image has three components — red, green and blue. Let us assume we allocate 3 bytes for each pixel. Then, each colour has 1 byte, or 8 bits, in which the intensity of that colour can be specified on a scale of 0 to 255. So a pixel that is bright purple in colour would have full intensities of red and blue, but no green. Thus that pixel can be shown as

X0 = {R=255, G=0, B=255}

Now let's have a look at another pixel:

X1 = {R=255, G=0, B=254}

We've changed all the value of B here. But how much of a difference does it make to the human eye? For the eye, detecting a difference of 1 on a color scale of 256 is almost impossible. Now since each color is stored in a separate byte, the last bit in each byte stores this difference of one. That is, the difference between values 255 and 254, or 127 and 126 is stored in the last bit, called the Least Significant Bit (LSB). Since this difference does not matter much, when we replace the color intensity information in the LSB with watermarking information, the image will still look the same to the naked eye. Thus, for every pixel of 3 bytes (24 bits), we can hide 3 bits of watermarking information, in the LSBs.

Thus a simple algorithm for this technique would be:

Let W be watermarking information

For every pixel in the image, Xi

Do Loop:

Store the next bit from W in the LSB position of Xi [red] byte

Store the next bit from W in the LSB position of Xi [green] byte

Store the next bit from W in the LSB position of Xi [blue] byte

End Loop

To extract watermark information, we would simply need to take all the data in the LSBs of the color bytes and combine them.

A modification of this method would be to use a secret key to choose a random set of bits, and replace them with the watermark. This technique of watermarking is invisible, as changes are made to the LSB only, but is not robust. Image manipulations, such as resampling, rotation, format conversions and cropping, will in most cases result in the watermark information being lost.

Frequency based Watermarking

Watermarking in the frequency domain involves selecting the pixels to be modified based on the frequency of occurrence of that particular pixel. This is to overcome the greatest disadvantage of techniques operating in the spatial domain i.e. susceptibility to cropping. The mosaic attack discussed later, defeats most implementations of digital watermarking operating in the spatial domain but the frequency domain watermarking is less susceptible. Frequency based techniques result in a watermark that is dispersed throughout the image, therefore, less susceptible to attack by cropping.

Audio Watermarking

Watermarking is not restricted to just images. Audio watermarking uses the time and frequency masking properties of the human ear to conceal the

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watermark, and make it inaudible. One of the techniques is echo-hiding which involves hiding information within recorded sound by introducing very short echoes, relying on the fact that the human auditory system cannot perceive echoes shorter than a few milliseconds.

PHOTO SHARING SAFEMODE SERVICES TO MAKE PRIVACY RELIABILITY – EXPERIMENTAL RESULTS

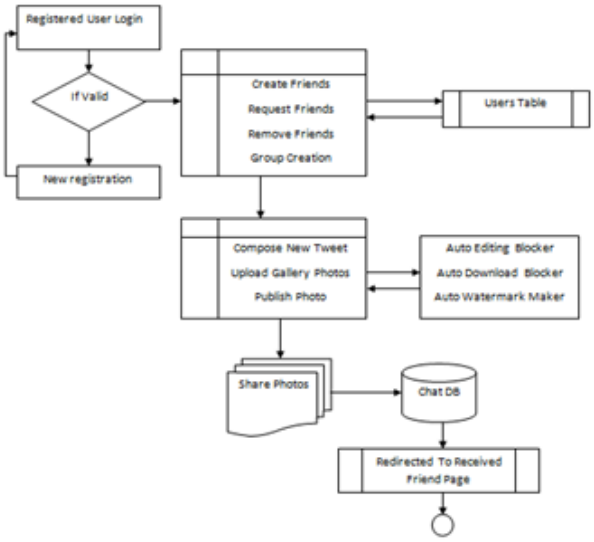
Algorithm Used - Least significant bit

The binary representation of decimal 149, with the LSB highlighted. The MSB in an 8-bit binary number represents a value of 128 decimal. The LSB represents a value of 1. The least significant bits have the useful property of changing rapidly if the number changes even slightly. For example, if 1 (binary 00000001) is added to 3 (binary 00000011), the result will be 4 (binary 00000100) and three of the least significant bits will change (011 to 100). By contrast, the three most significant bits (MSBs) stay unchanged (000 to 000). Least significant bits are frequently employed in pseudorandom number generators, hash functions and checksums.

Unsigned integer example

This table illustrates an example of decimal value of 149 and the location of LSB. In this particular example, the position of unit value (decimal 1 or 0) is located in bit position 0 (n=0). MSB stands for Most Significant Bit, while LSB stands for Least Significant Bit. Position of LSB is independent of how the bit position is transmitted (Some system transmit MSB first, others transmit LSB first), which is a question more of a topic of Endianness.

Architecture Of Entire Working Unit Of Proposed Approach



Working Unit 1: Profile Controller

- New User Registration Page
- User Login with CAPTCHA Code
- User Home Page
- Profile Administration Page

Working Unit 2: Online Services

- Friends List Creator

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- Request / Add Friends
- Remove Friend
- Friends Group Creations /Administration

Working Unit 3: Gallery Upload

- Message / Tweet composer tool
- Gallery Upload Page
- Photo Upload and Publisher

Working Unit 4: Editing Blocker

- Photo Format Reader
- Photo Format changer / Editing Blocker
- Format Verification List

Working Unit 5: Download & Watermark Controller

- Download Blocker tool
- Image / Photo Pixels Reader
- Dynamic Water Marking Text Composer
- Photo Watermarking Tool

Conclusion

Photo sharing is the publishing or transfer of a user's digital photos online. Photo-sharing websites offer services such as uploading, hosting, managing and sharing of photos (publicly or privately). This function is provided through both websites and applications that facilitate the upload and display of images. The term can also be loosely applied to the use of online photo galleries that are set up and managed by individual users, including photo blogs. Sharing means that other users can view but not necessarily download the photos, users being able to select different copyright options for their photos.The proposed approach shows the newest and combined techniques to provide maximum security of our images. The social networking and the photo sharing notes are discussed in the entire study and the major advantages and drawbacks are carefully referred. At the end of the research the proposed multi way based photo securing methods are more effective than by using a single method. This proposed approach provide triple way of security which includes image water marking utility, image format online changer which can be changeable at online and download blocker. All the tools are integrated with all user accounts. Any user can utilize the security features before sharing any photo. Thus proposed approach is quite better than others.

Future Enhancements

The proposed research work is developed to solve the major issues of present system. The proposed approach can offer complete security in sharing photos in social sites.

1. The website should be implemented in newer technologies to provide best interface

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The proposed approach offers best user interface with the help of ASP.NET and it is necessary to implement the application with modern technologies which provides effective user interface.

2. Registered User security features are necessary to implement

In the next version of this proposed approach more security features should be implemented for web users. For example, photo authentication or biometric authentication.

3. The security features also implemented for video and URL Sharing

This proposed approach is implemented for photo sharing service only. The same approach and security models are implemented for video sharing features and URL Sharing features. This implementation should make a complete social site.

4. Image Steganography should be implemented in future to offer data security

The same web portal should be implemented for secret data transfer. The image steganographic method should be implemented to send and receive secret data's with the help of an image.

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