
Sonoba: On-The-Spot Information Sharing

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Abstract

Various services for sharing data among people are available on the Web. However, we can share data only when we know the network accounts or when we have a shared common repository; and sharing data with new acquaintances is not easy. We will introduce a new instant information sharing service called “Sonoba.org”, where people gathering at one location can easily share data by accessing Sonoba.org with a temporary and obvious keyword which is secretly shared between people on the spot. The shared repository with the temporary short URL is easily accessed, and later permanently available to the participants with a secret longer secret URL.

Author Keywords

Information sharing; File sharing; Cloud computing;
Mobile Services

ACM Classification Keywords

H.3.5 [Online Information Services]: Data sharing;
H.5.3 [Group and Organization Interfaces]: Web-based
interaction

Introduction

Though many information sharing services are available on the Internet, it is difficult to use those systems for sharing data with unknown people. For instance, when we attend



Figure 1: Top page of Sonoba.org

a meeting and want to share documents and slides with other members, we cannot transmit these files via email unless we know the email addresses of the other members beforehand. When we attend a wedding party and wish to share photos with other visitors, we may have to set up a photo repository and share the information among others. When a conference presenter has a conversation with other attendees and wants to provide more information or receive feedbacks from them, they may have to exchange email addresses for exchanging information afterwards. In general, it is not easy to share information without knowing the personal information of the other people or setting up a shared repository beforehand.

Such information sharing is possible if all participants exchange their email addresses or SNS accounts, but people usually do not wish to give their personal information to strangers for the explicit purpose of only sharing data. It would be far more convenient if we could use a temporary shared repository on the Web for the task of sharing, without revealing personal information like email addresses and SNS accounts.

Preparing a shared repository is fairly easy these days, but sharing the repository information among people is not as easy: the shared repository tends to have long URLs, making their input error-prone. Although we can use a URL shortening service like TinyURL.com¹ or Bitly² for creating a shorter URL, shortened cryptic names are hard to remember, even for a short period of time.

We propose using a temporary and local short URL for identifying a repository with a long unique URL. We created a service “**Sonoba.org**”³ for on-the-spot instant

¹<http://tinyurl.com/>

²<https://bitly.com/>

³ “Sonoba” means “on the spot” in Japanese.

data sharing. Using Sonoba.org, any group of people can quickly and easily begin exchanging data without revealing their identities to others. We will describe how we can use **Sonoba.org** for instant data sharing on the spot in the following sections.

Sonoba.org

When we want to share information with other people on the spot (e.g., at a wedding party or a meeting), we first choose a short task-relevant *keyword* and convey it to the people with whom we want to share information. People who are aware of the keyword will be able to access the repository by entering the URL

“<http://sonoba.org/keyword>”, or by accessing **Sonoba.org** and entering the keyword (Figure 1). They can thus start sharing information.

For example, when a person wants to share photos at a wedding party, he can use the keyword “*wedding*” and ask other visitors to access “<http://sonoba.org/wedding>” to initiate sharing (Figure 2). The simple URL is converted to a long unique URL like “<http://sonoba.org/wedding~npfaqtd3ls>”, based on the time and the location, and the browser is redirected to the long URL. Subsequently, the long URL is used as the permanent repository for information sharing, and users can upload their photos by simple drag-and-drop and enjoy the photos uploaded by others. Since the repository is implemented as a wiki, any participants can edit the information on the page (e.g. descriptions of a photo).

People who are at a specific location at the right moment can get the unique URL using the simple keyword like “*wedding*”. However, people who were not at the location at the time cannot get the same URL even when they input the right keyword “*wedding*” afterwards, since the



Figure 2: Information sharing on Sonoba.org

conversion function expires quickly: i.e. the name is valid only for one hour. Because the unique URL is long enough, it can be kept secret unless it is revealed to outsiders.

Implementation

Temporary URL and long secret URL

When the Sonoba.org server receives a request including a keyword, it generates a randomly-generated long unique URL as the secret URL for data sharing, and redirects the request to the secret URL. If the server receives another request with the same keyword within one hour, the request is redirected to the same secret URL. If the server receives a request with the same keyword, but after an hour has passed since the last request with the keyword, the request is considered to be different from the previous set of requests, and a new random long URL is created and used.

Drag-and-Drop file uploader

The Web page represented by the long secret URL works as a wiki page, and all the users can share text by editing the contents of the page. Users can also share photos and other arbitrary data by dragging data files from the desktop of PC to the Web browser and upload the data to the server, using the HTML5 drag-and-drop API. Uploaded files are displayed as thumbnail images (Figure 3). Smartphone and tablets users can also upload photos by clicking the file input field.



Figure 3: Information repository on Sonoba.org

Discussion

Usability issues

As described above, people can start data sharing only by selecting a shared keyword and accessing Sonoba.org without creating accounts, downloading software, or exchanging contact informations. The short URL (<http://sonoba.org/keyword>) is valid only for a short period of time, and it is converted to a secret, longer URL for later use. In many cases, people want to share data easily and securely. We believe that our “start easily / manage securely” strategy is ideal for instant data sharing.

One concern is that if people forget the secret URL, they can never access the shared repository again. This is a problem if people begin sharing data without understanding the importance of the secret URL and discard it lackadaisically. It is unlikely that all the participants will discard the secret URL, but if such things happen frequently, it may become necessary to provide a method to retrieve the secret URL afterwards.

Security issues

Using the long URL for data sharing is not as secure as using user accounts and passwords. Since most URLs are open to the public, people do not tend to handle URLs as

carefully as they handle passwords. They may accidentally save the secret URL in their bookmark lists, which are visible to other users.

We do not claim that Sonoba.org is a truly secure data repository, but we consider that the merits of not having to use user accounts and passwords far exceed the disadvantages. We believe that we require only “pretty good security” most of the time, and we can use other secure systems if security is a real concern.

Related Systems

Bump[2] is a system for sharing data between two smartphones. When two smartphones “bump” against each other, a communication channel is established between them to exchange data such as contact information and photos. Studer et al. discovered a security problem known as a “man-in-the-middle” attack in the system, and implemented a more secure system called Shot[8]. These systems are useful for sharing data between two smartphone users who do not know each other, but it is not useful for sharing data among many people.

Dropbox[3] is a personal file storage service on the Internet, that can also be used for data sharing. Users can create, edit, and delete files in the shared directories in the same way that they do on their local machines. Evernote[4] and Google Docs[6] are SaaS⁴ systems for managing documents on a Web browser. Using these services, people can share their documents with other people, and everyone can browse and edit the documents. To share information on these services privately, all the users should have set up their accounts on the services beforehand. Additionally, the owner of documents is

required to add other people as collaborators of the documents.

With one-click hosting services[1] such as RapidShare[7] or Ge.tt[5], people can easily upload their file to the Web, and obtain the URL for the sharing.

Conclusion

We have developed Sonoba.org, an on-the-spot information sharing system. Using a shared short keyword that represents a temporary URL which is valid just for an hour, Sonoba.org can facilitate the distribution of information to multiple individuals without complicated procedures.

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⁴Software as a Service