

{Privacy, Privacidad, *Приватност*} Policies in Social Media: Providing Translated Privacy Notice

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Abstract: As online social networks have become a global phenomenon, popular sites have been translated into many languages. However, privacy-critical components are not always translated into all languages in which sites are offered. To evaluate the extent to which privacy-critical information was translated, we examined the privacy settings, privacy policies, and terms of service pages in each language offered on five popular, global social networks: Facebook, Flickr, Google+, LinkedIn, and Twitter. We found large differences across sites in the availability of translated privacy information in February 2012, October 2012, and April 2013.

Privacy information on Google+ and LinkedIn was widely translated. In contrast, Facebook and Twitter's privacy policies and terms of service pages had been fully translated into fewer than half of the languages in which the sites were offered. We further examined the evolution of translation from February 2012 to April 2013, finding some improvements in privacy policy and terms of service translation on Facebook while also noting a decrease in the availability of translated privacy settings pages. While Twitter also had some improvements, many privacy policies

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and terms of service pages on Twitter that had been fully or partially translated in February 2012 were completely untranslated in October 2012 and April 2013.

Since “notice” is a core principle of privacy, we argue that social networking users who do not speak English are not afforded complete privacy rights. We assert that it should be the responsibility of the social networks, not the crowd, to ensure that privacy information is fully translated, even if translation for other parts of the site is crowdsourced.

I. INTRODUCTION

In recent years, the international user base of social networking sites has grown rapidly. For instance, from 2006-08, the percentage of Facebook users outside the U.S. increased from seven percent to sixty percent.¹ As social networks have expanded internationally, popular sites have been translated into many languages. Facebook, for example, states that it is offered in over seventy different languages.² Some sites, including Facebook and Twitter, rely on crowdsourcing for translation.

In this Paper, we investigate the extent to which privacy-critical information on five popular global social networking sites has been translated into the languages in which the sites are ostensibly offered. We argue that presenting translated versions of privacy information is an element of the privacy concept of “notice,” which stipulates that users be informed in an understandable manner about how websites collect, use, and retain their personal information. As many social networking sites serve as platforms on which users post and share personal information, it is particularly important that translated privacy information be available for users to make informed decisions.

To evaluate the extent to which users receive notice in their languages we collected the privacy settings, privacy policies, and terms of service pages in each language offered on five global social networks: Facebook, Flickr, Google+, LinkedIn, and Twitter. In order to examine the evolution in translation, we captured these pages at three points in time over fourteen months. Our initial round of data

¹ Jon Schwartz, *Social-Networking Sites Going Global*, USA TODAY, Feb. 10, 2008, http://www.usatoday.com/money/industries/technology/2008-02-10-social-networking-global_N.htm.

² *Internationalization*, FACEBOOK, <http://developers.facebook.com/docs/internationalization> (last visited Feb. 11, 2013).

collection took place in February 2012, the second round in October 2012, and the third round in April 2013. We coded each page in each language as being fully translated, partially translated, or untranslated.

We found wide variance across sites. While privacy pages on Google+ and LinkedIn were translated into nearly every language offered by those sites, privacy policies on Facebook and Twitter were only translated into fourteen to fifteen percent of the languages offered as of February 2012. Both the privacy policies and privacy-settings pages on Facebook and Twitter presented numerous cases that interspersed sentences or paragraphs in English with those in another language.

By October 2012, some aspects of the translation situation on Facebook and Twitter had improved, yet other aspects had regressed. For instance, the number of languages into which Facebook's privacy policy and terms of service pages were translated increased over time. However, for the majority of languages Facebook offers, those pages remained untranslated. Simultaneously, the number of languages with fully translated privacy settings pages decreased from forty-nine in February to only forty in October.

The translation situation on Twitter also simultaneously improved and regressed. Twitter added ten new languages, and the percentage of languages with translated privacy settings pages improved from eighty-six to eighty-eight percent. In contrast, the number of privacy policies left untranslated increased from two in February to twenty-five in October, while the number of terms of service pages left untranslated increased from zero to twenty-five.

Following our second round of data collection, we notified Facebook and Twitter of our findings, but did not receive a formal response. In the interim, Facebook overhauled its privacy settings and Twitter added two new languages. Six months later, during our third round of data collection, we found only incremental changes in the state of translated privacy information.

We argue that this lack of linguistic coverage violates the privacy tenet of "notice." Notably, Facebook and Twitter, the two sites with the largest gaps in presenting translated privacy information, crowdsource their translation. We believe that it should be incumbent on social networking sites to provide translations when crowdsourced coverage is incomplete. In Section II, we survey background information on privacy notice and global social networks before proceeding to our methodology in Section III. We present our results in Section V and discuss our high-level findings in Section VI.

II. BACKGROUND

In this Section, we first introduce the principle of “notice” as a core tenet of privacy frameworks from different regions of the world. As part of our discussion of global privacy frameworks, we briefly highlight differences in privacy law across different regions. In the second half of this Section, we introduce the global social networking sites whose translation practices we investigate, including discussing their mechanisms for translation. We also discuss recent changes in the terms of service and privacy policies of Facebook and Google that may impact privacy translation.

A. “Notice” as a Global Principle of Privacy

The principle of notice is the concept that people should be informed about actual or potential violations of the privacy of their personal data. The idea of providing notice to users has been encapsulated as a core component of a number of privacy frameworks worldwide.

The Organisation for Economic Development (OECD) is an economic organization that comprises thirty-four countries. In 1980, the OECD released “Guidelines on the Protection of Privacy and Transborder Flows of Personal Data,” defining privacy principles to help guide legislation. This set of guidelines included notice as one of its basic principles, terming the concept “openness.”³

Notice is also a core element of the Asian-Pacific Economic Cooperation (APEC) Privacy Framework, which is based on the OECD principles. The APEC Framework states, “Personal information controllers should provide clear and easily accessible statements about their practices and policies with respect to personal information,” and outlines a principle of “choice,” specifying that users should have “easily understandable, accessible, and affordable” means to make decisions about how their data should be used.⁴

³ Organisation for Economic Co-operation and Development [OECD], *Guidelines on the Protection of Privacy and Transborder Flows of Personal Data*, OECD Publishing (Sept. 1980), available at <http://www.oecd.org/internet/interneteconomy/oecdguidelinesontheProtectionofPrivacyandTransborderFlowsOfPersonalData.htm>.

⁴ APEC Secretariat, *APEC Privacy Framework*, at 12, 17 (2005), available at http://www.apec.org/Groups/Committee-on-Trade-and-Investment/~media/Files/Groups/ECSG/05_ecsg_privacyframewk.ashx.

“Notice/awareness” is also one of the U.S. Federal Trade Commission's Fair Information Practice Principles. The FTC states that notice should enable consumers to make an “informed decision” about the disclosure of personal information. The FTC specifies that notice can be provided online by an “unavoidable and understandable” description of data use.⁵ Consistent with these principles, many websites post privacy policies that outline their information practices.

The importance of providing consumers with clear privacy notice has been reinforced in the past year in two U.S. government publications. For instance, a 2012 Federal Trade Commission report on consumer privacy proposed that “privacy notices should be clearer, shorter, and more standardized to enable better comprehension and comparison of privacy practices.”⁶ A 2012 report from the White House similarly noted the importance of providing easy-to-read notice about privacy. In particular, the White House report discussed the importance of providing privacy notice even on screen-limited mobile devices, advising that “companies should provide notice in a form that is easy to read on the devices that consumers actually use to access their services.”⁷

Although global privacy frameworks are generally similar in advising that consumers be provided with notice, there are important international legal distinctions between regions of the world. Consumer privacy in the United States is often protected under the aegis of the Federal Trade Commission, which has the ability to prosecute companies for deceptive business practices.⁸ For instance, in November 2011, the FTC reached a settlement with Facebook over deceptive privacy practices in publicly sharing information posted

⁵ FED. TRADE COMM’N, *PRIVACY ONLINE: A REPORT TO CONGRESS*, at 8 (1998), available at <http://www.ftc.gov/reports/privacy3/priv-23a.pdf>.

⁶ FED. TRADE COMM’N, *PROTECTING CONSUMER PRIVACY IN AN ERA OF RAPID CHANGE*, at 61 (2012), available at <http://www.ftc.gov/os/2012/03/120326privacyreport.pdf>.

⁷ U.S. WHITE HOUSE, *CONSUMER DATA PRIVACY IN A NETWORKED WORLD: A FRAMEWORK FOR PROTECTING PRIVACY AND PROMOTING INNOVATION IN THE GLOBAL DIGITAL ECONOMY*, at 15 (2012), available at <http://www.whitehouse.gov/sites/default/files/privacy-final.pdf>.

⁸ *About the Federal Trade Commission*, FED. TRADE COMM’N, <http://www.ftc.gov/ftc/about.shtm> (last visited Apr. 9, 2013).

privately to Facebook.⁹ This settlement was given final approval in August 2012.¹⁰

In contrast to the U.S. approach of prosecuting practices that appear deceptive, the European Union has codified a number of consumer privacy principles into law. Among the most well known pieces of privacy legislation in the E.U. is Directive 95/46/EC, commonly known as the "Data Protection Directive."¹¹ This directive established a number of principles for the processing of personal data. In 2002, the E.U. supplemented this legislation with Directive 2002/58/EC. This directive, commonly known as the "E-Privacy Directive," adapted existing privacy protections to electronic communication systems.¹²

The 2002 E-Privacy Directive was amended in 2009 by Directive 2009/136/EC,¹³ which specified how companies must handle information stored on a user's computer, such as cookies. The directive specified that these types of activities be "allowed on the condition that the subscriber or user concerned has given his or her consent, having been provided with clear and comprehensive information" about the storage or access of information.¹⁴ This amendment's restrictions on the use of cookies went into effect in May 2012, in between our data collection periods.

Privacy legislation in the E.U. remains fluid. For instance, a draft update of the original Data Protection Directive was released in

⁹ *Facebook Settles FTC Charges that It Deceived Consumers by Failing to Keep Promises*, FED. TRADE COMM'N, <http://ftc.gov/opa/2011/11/privacysettlement.shtm> (last visited Apr. 9, 2013).

¹⁰ *FTC Approves Final Settlement with Facebook*, FED. TRADE COMM'N, <http://www.ftc.gov/opa/2012/08/facebook.shtm> (last visited Apr. 9, 2013).

¹¹ Directive 95/46, of the European Parliament and of the Council of 24 October 1995 on the Protection of Individuals with Regard to the Processing of Personal Data and on the Free Movement of Such Data, 1995 O.J. (L 281) (EC), available at <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:31995L0046:en:HTML>.

¹² Directive 2002/58, of the European Parliament and of the Council of 12 July 2002 Concerning the Processing of Personal Data and the Protection of Privacy in the Electronic Communications Sector, 2002 O.J. (L 201) (EC), available at <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32002L0058:en:HTML>.

¹³ Directive 2009/136, 2009 O.J. (L 337) (EC), available at <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2009:337:0011:01:en:HTML> [hereinafter DIRECTIVE 2009].

¹⁴ *Id.*

January 2012.¹⁵ Among other aspects, this legislation would establish the “right to be forgotten,” which some scholars have argued could upset the balance between privacy and free speech.¹⁶ This draft legislation has yet to be adopted as of the time of press.

While the concept of notice is central to many privacy frameworks, numerous roadblocks to providing users with easily comprehensible notice have been identified in the literature. Prior work has identified violations of notice through privacy policies that are difficult to read,¹⁷ difficult to understand,¹⁸ or that take too long to read fully.¹⁹ In this work, we identify incomplete or missing translation as an additional barrier to providing notice.

B. Crowdsourced Translation

Crowdsourcing is the idea of distributing a task among a large number of workers. It has been used to improve everything from editing documents while they are being written, to choosing the right moment for a photograph.²⁰ It has also been used for translation, both in academic settings and on some social networks. Whereas translation on social networks is often performed by unpaid volunteers, who also use those social networks, academic work has primarily studied translation by amateurs paid small amounts of money.

¹⁵ Commission Proposal for a Directive of the European Parliament and of the Council on the Protection of Individuals with Regard to the Processing of Personal Data by Competent Authorities for the Purposes of Prevention, Investigation, Detection or Prosecution of Criminal Offenses or the Execution of Criminal Penalties, and the Free Movement of Such Data, COM (2012) 010 final (Jan. 25, 2012), available at <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:52012PC0010:en:NOT>.

¹⁶ Jeffrey Rosen, *The Right to Be Forgotten*, 64 STAN. L. REV. ONLINE 88 (Feb. 2012).

¹⁷ See Annie Anton et al., *Financial Privacy Policies and the Need for Standardization*, 2 IEEE SECURITY & PRIVACY 36 (Mar.-Apr. 2004); Mark Graber et al., *Reading Level of Privacy Policies on Internet Health Web Sites*, 51 J. FAM. PRAC. 642 (2002).

¹⁸ Aleecia McDonald et al., *A Comparative Study of Online Privacy Policies and Formats*, in PRIVACY ENHANCING TECHNOLOGIES 37 (Lecture Notes in Computer Sci., Ser. Vol. 5672, 2009), available at <http://www.aleecia.com/authors-drafts/PETS-formats-AV.pdf>.

¹⁹ Aleecia McDonald & Lorrie Cranor, *The Cost of Reading Privacy Policies*, 4:3 ISJLP 540, 540 (2009).

²⁰ Michael S. Bernstein, *Crowd-Powered Systems* (May 23, 2012) (unpublished Ph.D. thesis, MIT), available at <http://hci.stanford.edu/publications/2012/CrowdPoweredSystems/phd-thesis-msbernst.pdf>.

Recent academic work has studied the quality of crowdsourced translation, arguing that results comparable to professional translation are possible with the right safeguards in place.²¹ To improve the reliability and quality of crowdsourced translations, Ambati et al. have proposed a pipeline model that uses initial translations of both words and sentences to feed future rounds, which can yield better results than synthesizing translations created by independent crowdsourced workers.²²

A number of research projects have successfully crowdsourced the task of translation, often for the purpose of improving or evaluating machine translation systems. For instance, Bloodgood et al. used Amazon's Mechanical Turk crowdsourcing service to translate Urdu to English,²³ while Negri et al. used the same service to create a Spanish/English textual entailment corpus.²⁴ Post et al. used Mechanical Turk to construct parallel corpora for machine translation purposes. They asked Mechanical Turk workers to translate Wikipedia pages between English and six languages spoken in India, applying a number of tricks to the crowdsourcing process to improve the quality of translation.²⁵

Other researchers have aimed to use different languages on the Internet for goals beyond simple translation. Through the Duolingo

²¹ Dimitra Anastasiou & Rajat Gupta, *Comparison of Crowdsourcing Translation with Machine Translation*, 37 J. INFO. SCI., at 637, 637-659 (2011); Omar F. Zaidan & Chris Callison-Burch, *Crowdsourcing Translation: Professional Quality from Non-Professionals*, ACL 2011, available at <http://www.aclweb.org/anthology-new/P/P11/P11-1122.pdf>.

²² Vamshi Ambati et al., *Collaborative Workflow for Crowdsourcing Translation*, CSCW '12, FEBRUARY 11–15, 2012, SEATTLE, WASHINGTON, USA, 1191-1194 (2012), available at <http://www.cs.cmu.edu/~jgc/CollaborativeWorkflowforCrowdsourcingTranslationACMCoCSCW2012.pdf>.

²³ Michael Bloodgood & Chris Callison-Burch, *Using Mechanical Turk to Build Machine Translation Evaluation Sets*, PROC. NAACL HLT 2010 WORKSHOP ON CREATING SPEECH AND LANGUAGE DATA WITH AMAZON'S MECHANICAL TURK, 208-211 (2010), available at <http://www.aclweb.org/anthology/W10-0733>.

²⁴ Matteo Negri & Yashar Mehdad, *Creating a Bi-lingual Entailment Corpus Through Translations with Mechanical Turk: \$100 for a 10-day Rush*, PROC. NAACL HLT 2010 WORKSHOP ON CREATING SPEECH AND LANGUAGE DATA WITH AMAZON'S MECHANICAL TURK, 212-216 (2010), available at <http://dl.acm.org/citation.cfm?id=1866696.1866730>.

²⁵ Matt Post et al., *Constructing Parallel Corpora for Six Indian Languages via Crowdsourcing*, PROC. SEVENTH WORKSHOP ON STATISTICAL MACHINE TRANSLATION, 401-409 (2012), available at <http://www.aclweb.org/anthology/W12-3152>.

project, von Ahn adds a twist to the idea of crowdsourcing translation by making translation a game that helps users learn a language while they translate webpages.²⁶ In contrast to projects that aim to duplicate content in many different languages, Bao et al. created a tool for finding and visualizing similarities and differences between Wikipedia articles in different languages.²⁷

III. SOCIAL NETWORKS IN TRANSLATION

In this Paper, we investigate the privacy translation practices of five social media sites: Facebook, Flickr, Google+, LinkedIn, and Twitter. Between sixty-one and seventy-four percent of traffic on all five sites came from outside the U.S. and U.K. as of our initial data collection period.²⁸

A. Sites Examined

Two of the sites we examined, Facebook and Twitter, crowdsource the translation of parts of their sites. In contrast, we are not aware of opportunities for the public to help translate Flickr, Google+, or LinkedIn.

Facebook is a social network with over one billion users²⁹ that publicizes that it has been translated into over seventy languages.³⁰ Facebook crowdsources translations through the “Translations” application. Volunteers suggest and vote on translations for Facebook-provided phrases used on the site, including elements of the Facebook newsfeed (e.g., “X is now single”), dates (e.g., “October”), and some privacy-critical information. For instance, Figure 1 shows the Facebook translation application being used to translate the “Friends except Acquaintances” privacy setting into the Hungarian language. In this example, a user can vote on eleven translations suggested by other

²⁶ DUOLINGO, <http://www.duolingo.com> (last visited Apr. 9, 2013).

²⁷ Patti Bao et al., *Omnipedia: Bridging the Wikipedia Language Gap*, PROC. CHI 2012, 1075-1084 (2012), available at <http://doi.acm.org/10.1145/2207676.2208553>.

²⁸ ALEXA, <http://www.alexa.com/siteinfo> (last visited Apr. 9, 2013).

²⁹ *Key Facts*, FACEBOOK, <http://newsroom.fb.com/content/default.aspx?NewsAreaId=22> (last visited Apr. 9, 2013).

³⁰ *Internationalization*, FACEBOOK, <https://developers.facebook.com/docs/internationalization> (last visited Apr. 9, 2013).

users, or propose a new translation. Context is given to the translation through a small phrase identifying how it is used on the site. Figure 13 in the Appendix presents an additional example of crowdsourced translation for a sentence about Facebook's use of cookies. Facebook's translation application also allows users to translate while using Facebook, which is termed "inline" translation. We have observed some, but not all, of the privacy-critical information we examined in our study being translated through the Facebook translation application.

Twitter is a microblogging service with which users post "tweets" of 140 or fewer characters. As of April 2013, Twitter is currently offered in thirty-four languages other than English. Like Facebook, Twitter crowdsources translations for some user interface elements, settings pages, and notifications provided by the site. Translations are suggested and voted upon by volunteers through an online "Translation Center."³¹ For example, Figure 2 shows the Twitter Translation Center in the Hungarian language setting. In this example, the user is asked to translate a privacy-critical sentence about Twitter's disclosure of personally identifying information. As with Facebook, we observed the translation of some, but not all, of the privacy-critical information examined in this study being crowdsourced. For instance, Figure 14 in the Appendix shows one paragraph from Twitter's current terms of service page being offered for translation into Hungarian through the Twitter Translation Center.

Translation is not crowdsourced for the other three sites we studied. Flickr, a photo sharing site owned by Yahoo, has nearly 80 million visitors, around 60 million of whom live outside the U.S.³² Google+ is Google's social networking site. It has approximately 90 million users.³³ LinkedIn is a professionally-oriented social network, with about sixty percent of its users outside the U.S.³⁴

³¹ *Twitter Translation Center Adds Right-to-Left Languages*, TWITTER BLOG (Jan. 25, 2012), <http://blog.twitter.com/2012/01/twitter-translation-center-adds-right.html>.

³² *Flickr*, YAHOO! ADVERTISING SOLUTIONS, <http://advertising.yahoo.com/article/flickr.html> (last visited Apr. 9, 2013).

³³ *Google Announces Fourth Quarter and Fiscal Year 2011 Results*, GOOGLE INVESTOR RELATIONS (Jan. 19, 2012), http://investor.google.com/earnings/2011/Q4_google_earnings.html.

³⁴ *About Us*, LINKEDIN, <http://press.linkedin.com/about> (last visited Apr. 9, 2013).

Figure 1:

The Facebook translation application allows any Facebook user to suggest translations for phrases and sentences on Facebook in addition to voting on other users' suggested translations. This figure depicts the Facebook translation application set to the Hungarian language setting. The user is being asked to translate the phrase "Friends except Acquaintances" into Hungarian, or to vote on the eleven translations other users have already proffered. Facebook notes that this phrase is used for privacy settings.

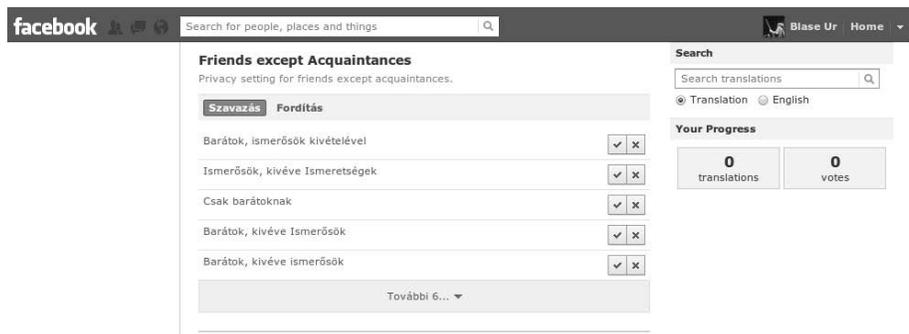
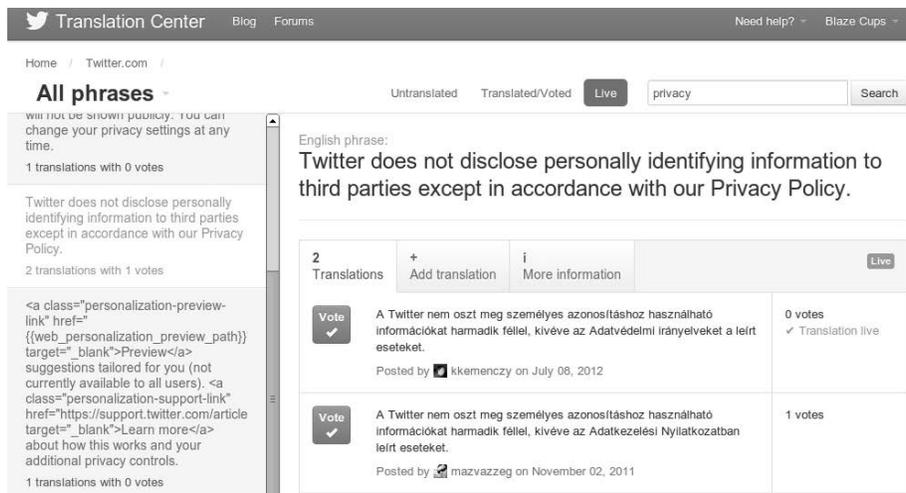


Figure 2:

Like Facebook's application for translation, the Twitter Translation Center allows users to suggest and vote upon translations of Twitter into another language they speak. This figure shows an example of privacy-critical text translation into Hungarian, which was originally crowdsourced, but is now live on the site.



B. Changes to Policies

Both Google and Facebook underwent policy changes in the spring of 2012 that may have impacted translations of privacy-critical components of their sites. On March 1, 2012, Google merged privacy policies for sixty of its services into a single, all-encompassing policy. This change allowed Google to share data across its many services, which attracted strong criticism in the European Union. For instance, the E.U. Justice Commissioner stated that this change violated E.U. law because “transparency rules [had] not been applied.”³⁵

On March 15, 2012, Facebook posted proposed revisions to its Statement of Rights and Responsibilities. An English language version tracking changes was posted, along with the full text of the statement in English, French, Italian, German, Spanish, Japanese, Turkish, Korean, and Portuguese. Comments on these policies were accepted for one week. No comments were made in Japanese or Korean, 526 comments were made in English, and 36,878 comments were made in German.³⁶ More than 32,000 of the German-language comments were a sentence that translates roughly as “I reject the changes,”³⁷ and German privacy authorities claimed that these changes failed to bring Facebook into compliance with German and E.U. laws.³⁸

Privacy-critical information on the social media sites we studied evolved even further in the following months. For instance, Facebook held its initial public offering as a company in May 2012.³⁹ In addition, Google+, LinkedIn, and Twitter all began offering their sites in additional languages. In May and June 2012, Facebook and Twitter posted updated privacy policies and terms of service, while Google

³⁵ Google Privacy Changes ‘in Breach of EU Law,’ BBC (Mar. 1, 2012), <http://www.bbc.co.uk/news/technology-17205754>.

³⁶ Emil Protalinski, *Facebook Examining Comments on Terms of Service Changes*, ZDNET BLOG (Mar. 22, 2012), <http://www.zdnet.com/blog/facebook/facebook-examining-comments-on-terms-of-service-changes/10743>.

³⁷ Laurie Segall, *Facebook Strips ‘Privacy’ from New ‘Data Use’ Policy Explainer*, CNN (Mar. 23, 2012), <http://money.cnn.com/2012/03/22/technology/facebook-privacy-changes/index.htm>.

³⁸ Loek Essers, *Despite Changes, Facebook Still Violates EU Privacy Laws, German Officials Say*, PC WORLD (Mar. 22, 2012), http://www.pcworld.com/article/252350/despite_changes_facebook_still_violates_eu_privacy_laws_german_officials_say.html.

³⁹ Julianne Pepitone, *Facebook Sets \$28 to \$35 IPO Price Range*, CNN MONEY (May 3, 2012), <http://money.cnn.com/2012/05/03/technology/facebook-ipo-price/index.htm>.

updated its privacy policy in July 2012. Furthermore, on October 2, 2012, Facebook introduced a redesigned help center for presenting privacy information to users.⁴⁰ Between our second and third round of data collection, Facebook made additional changes, updating its terms of service in December 2012 and overhauling its privacy settings. These overhauled privacy settings introduced new idiosyncrasies, with one example shown in Figure 15 in the Appendix.

IV. METHODOLOGY

To evaluate the prevalence of translated privacy-critical information on popular social media sites, we examined the privacy settings, privacy policies, and terms of service pages on the four most visited social networks from Alexa's Global Top Sites as of February 2012: Facebook, Twitter, LinkedIn, and Flickr.⁴¹ We also included Google+, although its traffic is not tracked separately from Google.

We performed our data collection in three rounds over fourteen months. In our first round of data collection, we examined each site in all languages in which it was available in February 2012. To determine whether the translation situation had improved over time, we conducted a second round of data collection in October 2012. In our second round, we examined all languages previously offered, as well as all new languages that had been introduced in the interim. We notified both Facebook and Twitter of our results following the first two rounds of data collection, but did not receive a formal response from either company. We then conducted a third round of data collection six months later, in April 2013.

When regional variants of a particular language were offered (Portuguese localized to both Brazil and Portugal, French in both Canada and France, Spanish in Latin America and Spain), we examined both options, yet counted them as one unless they varied in the extent of their translations. However, when similar or related languages were offered in multiple regional varieties that differed in the extent of their translation on any social networking site, they were counted separately. For instance, three distinct Chinese language settings were offered on some of the sites we examined (Cantonese/Hong Kong, Simplified, and Traditional), as were both

⁴⁰ Hayley Tsukayama, *Facebook Launches New Help Center*, WASH. POST (Oct. 2, 2012), http://www.washingtonpost.com/business/technology/facebook-launches-new-help-center/2012/10/02/2b8f3ab0-0c8d-11e2-bb5e-492c0d30bff6_story.html.

⁴¹ For a list of Alexa top sites, see <http://www.alexa.com/topsites>.

dialects of Norwegian (Bokmål and Nynorsk). The different Chinese and Norwegian language settings differed on at least one social networking site. Therefore, we evaluated these languages separately. On Facebook, we excluded non-languages (e.g., “Pirate,” “Upside-Down”), as well as Esperanto and Latin, which are rarely spoken natively.

On each social media site and in each language, we examined the main page on which users choose their privacy settings, the main privacy policy, and also the terms of service. For Facebook, these were the “Privacy Settings,”⁴² “Terms” (also called the “Statement of Rights and Responsibilities”),⁴³ and “Data Use Policy.”⁴⁴ Since the Data Use Policy shows only an overview, we also expanded the “Information we receive and how it is used” section. In between our rounds of data collection, Facebook introduced a page specifically about its use of cookies, which we also evaluated during our second round of data collection.⁴⁵ For Flickr, we followed the “Privacy and Permissions,”⁴⁶ “Terms,”⁴⁷ and “Privacy Policy”⁴⁸ links. In some languages, Flickr’s Privacy Policy link brings the user to a privacy policy about Flickr.⁴⁹ However, this link directs users from some other locations (and in some other languages) to a general Yahoo! privacy policy. Since the general privacy policy lacks information specific to photo privacy on Flickr, we do not credit this general privacy policy as a translation of Flickr’s privacy policy.

⁴² *Privacy Settings*, FACEBOOK, <https://www.facebook.com/settings/?tab=privacy> (last visited Apr. 9, 2013).

⁴³ *Statement of Rights and Responsibilities*, FACEBOOK, <https://www.facebook.com/legal/terms> (last visited Apr. 9, 2013).

⁴⁴ *Data Use Policy*, FACEBOOK, <https://www.facebook.com/about/privacy> (last visited Apr. 9, 2013).

⁴⁵ *Cookies, Pixels & Similar Technologies*, FACEBOOK, <https://www.facebook.com/help/cookies> (last visited Apr. 9, 2013).

⁴⁶ *Privacy and Permissions*, FLICKR, <http://www.flickr.com/account/privacy> (last visited Apr. 9, 2013).

⁴⁷ *Terms*, FLICKR, <http://www.flickr.com/help/terms> (last visited Apr. 9, 2013).

⁴⁸ *Privacy Policy*, FLICKR, <http://www.flickr.com/help/privacy-policy> (last visited Apr. 9, 2013).

⁴⁹ For example, see <http://info.yahoo.com/privacy/us/yahoo/flickr/details.html>.

The privacy settings on Google+ are integrated with the Google accounts page,⁵⁰ while the “Terms of Service”⁵¹ and “Privacy Policy”⁵² are both linked from the bottom of all pages. For LinkedIn, we considered the “Profile Privacy Controls,”⁵³ “User Agreement,”⁵⁴ and “Privacy Policy.”⁵⁵ Finally, we looked at Twitter’s “Settings,”⁵⁶ “Terms of Service,”⁵⁷ and “Privacy Policy”⁵⁸ pages.

We coded pages as *fully* translated, *partially* translated, or *untranslated*. Since a page that included a small amount of English but was otherwise translated would likely be intelligible, we created coding categories that allowed some flexibility in the extent of translation. A page was coded as *fully* translated if it had no more than four full sentences in English, with the rest of the page in the non-English language (termed the *target language*). We defined sentences in English as sentences in which at least seventy-five percent of the words were in English. *Partially* translated pages contained both more than four English sentences and also more than four sentences in the target language. As such, partially translated pages would contain a substantial amount of content in both the target language and in English, which would likely be confusing for anyone other than bilingual speakers. Pages with at most four sentences in the target language, with the rest in English, were marked as *untranslated*. These untranslated pages would likely only

⁵⁰ *Profile and Privacy*, GOOGLE, <https://www.google.com/settings/privacy?tab=4> (last visited Apr. 9, 2013).

⁵¹ *Terms of Service*, GOOGLE, http://www.google.com/intl/**/policies/terms (last visited Apr. 9, 2013).

⁵² *Privacy Policy*, GOOGLE, http://www.google.com/intl/**/policies/privacy (last visited Apr. 9, 2013).

⁵³ *Profile Privacy Controls*, LINKEDIN, https://www.linkedin.com/settings/?trk=hb_acc (last visited Apr. 9, 2013).

⁵⁴ *User Agreement*, LINKEDIN, http://www.linkedin.com/static?key=user_agreement (last visited Apr. 9, 2013).

⁵⁵ *Privacy Policy*, LINKEDIN, http://www.linkedin.com/static?key=privacy_policy&trk=hb_ft_priv (last visited Apr. 9, 2013).

⁵⁶ *Settings*, TWITTER, <https://twitter.com/settings/account> (last visited Apr. 9, 2013).

⁵⁷ *Terms of Service*, TWITTER, <https://twitter.com/tos> (last visited Apr. 9, 2013).

⁵⁸ *Privacy Policy*, TWITTER, <https://twitter.com/privacy> (last visited Apr. 9, 2013).

be accessible to English speakers, or to users who turned to automated translation systems to glean some idea of the content.

V. RESULTS

We found the availability of translated privacy information to differ starkly across the five social networking sites that we studied. Privacy settings pages were translated into the majority of, or all, languages offered on the five sites we examined. However, the availability of translated privacy policies and terms of service pages differed. Whereas these pages were translated into all languages available on Google+ and LinkedIn during both rounds of data collection, the availability of translation on Facebook, Flickr, and Twitter was much sparser. For instance, Facebook and Twitter had fully translated privacy policies for fifteen percent or fewer of the languages offered in February 2012. While the translation situation on Facebook improved somewhat by October 2012, previously translated privacy settings pages became untranslated. Similarly, pages that had been fully or partially translated on Twitter in February became untranslated by October.

Figure 3 presents a series of bar graphs summarizing our results by social network for privacy settings, privacy policies, and terms of service pages. Table 1 in the Appendix contains detailed results across social networks for each language, organized by language families.

A. Facebook

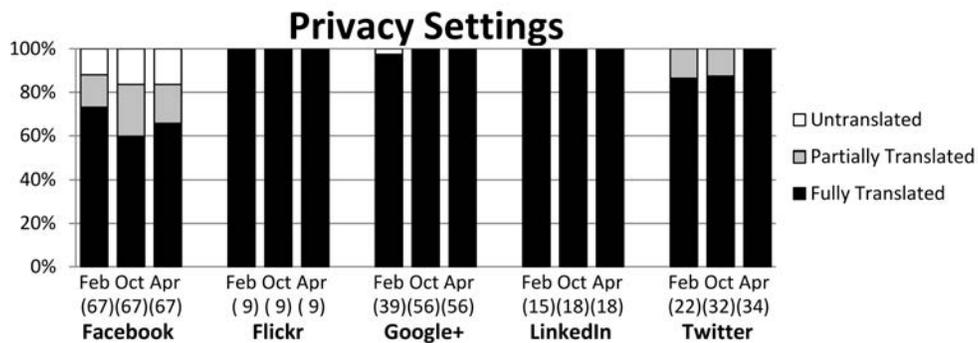
Facebook includes sixty-seven contemporary languages other than English, yet much of the site's privacy-critical text was at most partially translated during both rounds of data collection. The privacy settings page was the most widely translated of Facebook's privacy pages, with forty-nine full and ten partial translations into non-English languages in February 2012. Only eight languages were left untranslated. In the partial translations, privacy settings mixed English and the target language. For instance, Figure 4 shows this behavior in the Serbian language version of Facebook's privacy settings page. As an example of an untranslated page, Figure 9 in the Appendix shows the Pashto language privacy settings on Facebook.

Contrary to our expectations, the extent of translation decreased between February and October 2012. In October, only forty languages had fully translated privacy settings, with sixteen languages partially translated and eleven untranslated. Some of the text on the privacy settings page had changed between our rounds of data collection,

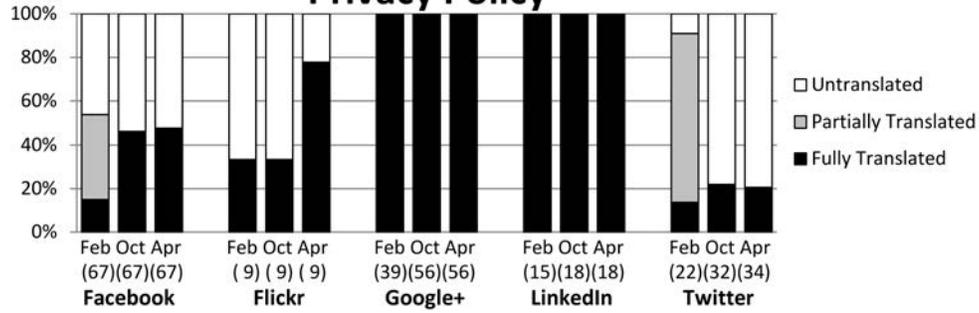
which may have caused some of the reduction in translation. However, even elements that had been previously translated were no longer translated. Figure 10 and Figure 11 in the Appendix respectively show the English and Romanian privacy settings on Facebook in both February and October 2012, demonstrating this phenomenon of translations disappearing even when the corresponding English text appears unchanged. By April 2013, the state of translation changed incrementally; privacy settings in four more languages were fully translated.

Figure 3:

This series of bar graphs shows the number of non-English languages into which social networks' privacy settings, privacy policy, and terms of service pages had been translated as a percentage of the total number of non-English languages offered on that network at that time. Data is shown for our three rounds of data collection, which took in place in February 2012 (labeled "Feb"), October 2012 (labeled "Oct"), and April 2013 (labeled "Apr"). The number in parentheses under each bar indicates the number of non-English languages offered on the site during that round of data collection.



Privacy Policy



Terms of Service

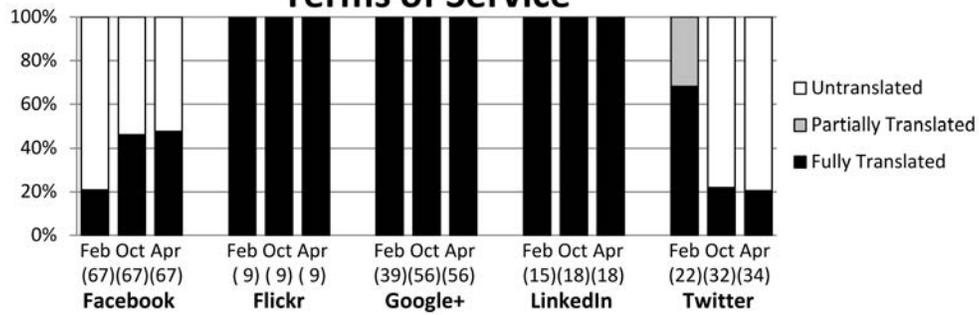


Figure 4:

Ten languages had partially translated privacy settings on Facebook as of February 2012, which increased to sixteen languages by October 2012 and decreased to twelve languages by April 2013. For example, Facebook privacy settings in Serbian, shown here, are a mix of Serbian and English.

Контролиши своју уобичајену приватност

This setting will apply to status updates and photos you post to doesn't have the inline audience selector, like Facebook for Bl:



Public

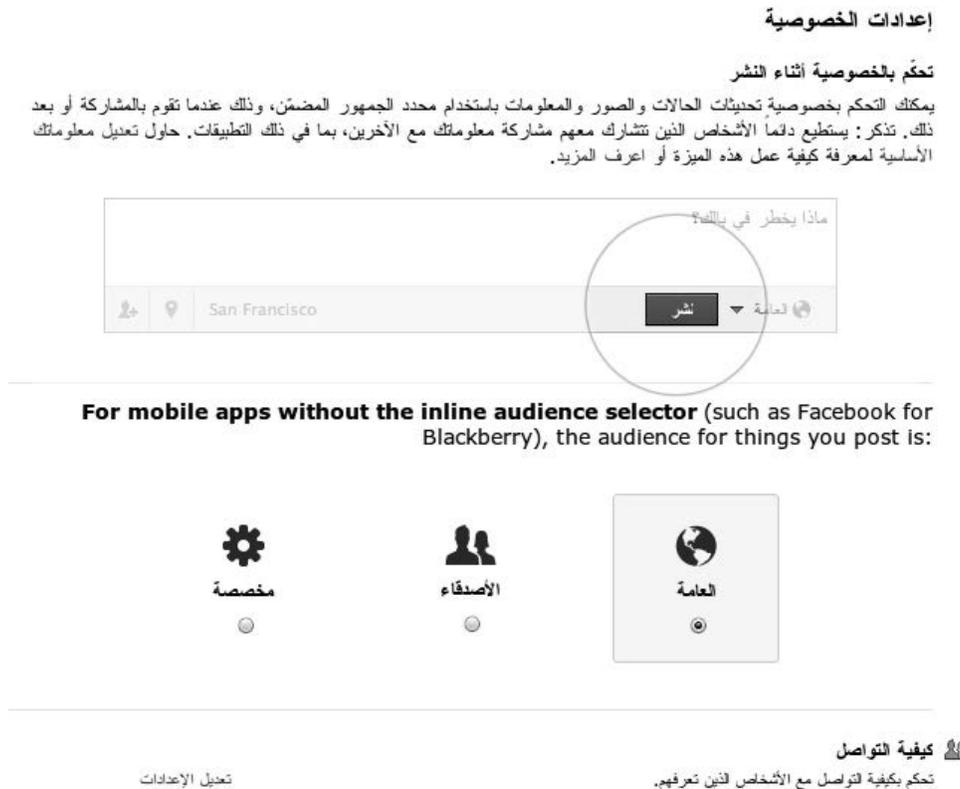


Пријатељи



Figure 5:

Many Facebook privacy settings pages that were fully translated based on our criteria, such as the Arabic language page shown, still contained one particular sentence in English: "For mobile apps without the inline audience selector (such as Facebook for Blackberry), the audience for things you post is:"

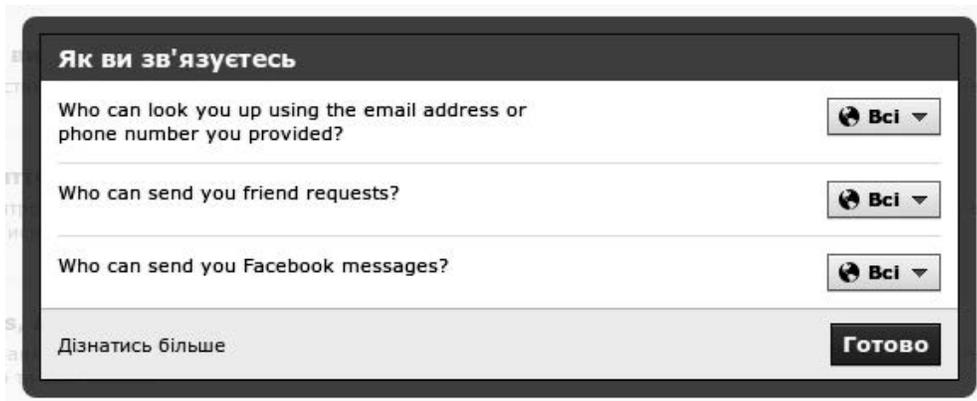


Furthermore, our count of fully translated pages on Facebook is an upper bound on the availability of translation. For instance, one sentence that had been added between February and October commonly appeared in English on pages that were otherwise completely translated, as seen in Figure 5. Our definition of full translation allowed small amounts of text in English, because such a page would still be mostly intelligible. Furthermore, our coding considered only the main privacy settings screen, which provides a

summary. Facebook's privacy settings are a web of subpages that users would only look at if they understood the main page, but these subpages were not always translated. For instance, editing privacy options in some languages our metric considered fully translated, including Bosnian, Thai, and Ukrainian, revealed a screen with a significant amount of untranslated text. This phenomenon is depicted in Figure 6.

Figure 6:

Since our criteria only consider a subset of the text for each piece of privacy-critical information, the number of languages we count as fully translated is an upper bound on the availability of translated content. For instance, in the Ukrainian language, the initial page of Facebook's privacy settings is fully translated by our criteria. However, as shown below, when a user clicks the "edit settings" option, English text appears.



Translation on Facebook was even sparser for its privacy policy ("Data Use Policy") and terms of service pages. As of February 2012, Facebook's privacy policy was fully translated for only ten languages, and it was partially translated for twenty-six languages. None of the privacy policy was translated for thirty-one languages, including widely spoken languages like Hindi and Russian.

The extent of translation for Facebook's privacy policy improved somewhat by October 2012; however, the majority of languages offered on the site still had untranslated privacy policies. The number of privacy policies that were fully translated increased from ten to thirty-one between our two rounds of data collection. Hindi and Russian were among the languages whose privacy policies went from

untranslated to fully translated. Furthermore, there were no longer any partially translated privacy policies. However, some languages that formerly had partial translations of their privacy policies now had untranslated privacy policies, leading the number of untranslated privacy policies to increase from thirty-one languages in February 2012 to thirty-six in October 2012, decreasing to thirty-five by April 2013. These thirty-five languages with untranslated privacy policies represent fifty-two percent of the languages offered on Facebook as of April 2013.

Similarly, Facebook's terms of service were not widely translated even after improvements from February to April 2013. As of February 2012, Facebook's terms of service were provided only in English for fifty-three out of sixty-seven languages. We credited Facebook with providing full translations of its terms of service in fourteen languages. However, of these fourteen languages, six languages had translations of outdated versions of the terms of service, and two translations were undated.

As of February 2012, Facebook's privacy settings, privacy policy, and terms of service were completely translated and current only for French, Italian, and Spanish. However, Facebook includes both a "Spanish" and "Spanish-Spain" option, and it was only for the latter that the terms of service were in Spanish in February. For the "Spanish" option, users were shown the terms of service in English. The translations of the terms of service for the German, Japanese, Korean, and Portuguese versions were outdated but otherwise fully translated as of February.

This situation did improve somewhat over the course of fourteen months. By April 2013, all three privacy-critical pages we examined had been fully translated into twenty-two languages. However, inconsistencies remained. For instance, Facebook's terms of service had been translated into Bokmål Norwegian but not Nynorsk Norwegian, whereas the site's privacy policy had been translated into both.

Between February and October 2012, Facebook added a page specific to its use of cookies. However, this page was only fully translated into sixteen languages, whereas it was untranslated for thirty-eight languages. The remaining thirteen languages were partially translated. In these partial translations, the beginning of the page appeared in English, while an FAQ section at the bottom of the page was translated into the target language, as seen in Figure 12 in the Appendix. By April 2013, eight of the partially translated pages had been fully translated. Beginning after our first round of data collection, if a full translation was not available, Facebook told the user that this page was not available in his or her language and

provided a list of available languages. However, while this message itself appeared translated for twenty-nine languages, it was presented in English for fourteen languages as of April 2013.

This cookie page presented a curiosity in our data collection. Facebook introduced a new help center in the middle of our second round of data collection,⁵⁹ before we had collected data for all languages. At that point, we had already collected cookie information pages that were fully translated into the target language for Czech, Danish, Estonian, and Hungarian. Following the transition to the new help center, the cookie pages for the aforementioned four languages were now only partially translated. Since we had not finished data collection, we restarted the data collection process and our results thus reflect the updated scenario.

B. *Flickr*

The languages offered by Flickr, as well as the state of translation of each language, did not change between our two rounds of data collection. Flickr had fully translated privacy settings and terms of service for all nine of its non-English languages, but only three languages other than English had translated privacy policies. As of October 2012, Flickr's Privacy Policy was only available in English, French, German, and Spanish. For the six other languages, Yahoo's general privacy policy was available in translation, yet the privacy policy specific to Flickr was unavailable. This situation improved by April 2013, when seven of the nine languages offered on Flickr had fully translated privacy policies specific to Flickr.

C. *Google +*

In contrast to the incomplete state of translation on Facebook and Flickr, Google+ had close to complete availability for translated privacy information. Google+ was offered in thirty-nine non-English languages as of February 2012, which was expanded to fifty-six non-English languages by October 2012. Of the thirty-nine non-English languages in which Google+ was offered in February, privacy settings, privacy policies, and terms of service pages had all been fully translated to thirty-eight languages. On the Malay language setting, the privacy settings page was displayed in English in February. In both Estonian and Malay, the privacy policy was also displayed in

⁵⁹ Tsukayama, *supra* note 40.

English in February. However, in March 2012, a combined privacy policy for all Google services supplanted individual policies for each service.⁶⁰ At the time of the first round of data collection, this sitewide policy was already available for all languages, including Estonian and Malay. Although this policy had not yet taken effect, we credited Google+ for the translations, since privacy information that would soon come into effect was available. By October 2012, Google+ had expanded to fifty-six non-English languages and also fixed the issue of the Malay privacy settings page appearing in English. Privacy settings, privacy policies, and terms of service on Google+ were 100% translated in all languages as of both October 2012 and April 2013.

D. LinkedIn

Like Google+, LinkedIn made translated, privacy-critical information widely available in both rounds of our data collection. LinkedIn was available in fifteen languages other than English in February 2012, with three additional languages added by October 2012. During all three rounds of our data collection, LinkedIn's privacy settings, privacy policy, and terms of service pages were available in every language offered, achieving 100% translation.

E. Twitter

In contrast to Google+ and LinkedIn, Twitter performed poorly in offering translated versions of its privacy-critical information. As of February 2012, Twitter had twenty-two non-English language options. At that time, the privacy settings page was fully translated for nineteen of Twitter's twenty-two languages. However, the privacy policy had only been fully translated into Indonesian, Portuguese, and Russian.

Twitter's privacy policy was not widely available in translation as of February 2012. For instance, in both Finnish and Hungarian, the privacy policy was only available in English, with a few words of the target language present as section headings. In seventeen languages, Twitter's Privacy Policy was partially translated. However, for ten of these seventeen languages, only one full, five-sentence paragraph about the site's use of cookies was displayed in English, with the rest of the page in the target language, as in Figure 7.

⁶⁰ *Privacy Policy*, GOOGLE, <http://www.google.com/intl/en/policies/privacy/preview> (last visited Apr. 9, 2013).

Figure 7:

In the Japanese Twitter, as in nine other languages, a paragraph about cookies is in English. The rest of the page is in the target language.

リンク Twitter社はツイートに含まれるリンクをユーザーサービスやクライアントを含む当社サービス全体で、
て追跡してよいものとします。これは広告を含めた
クが何回クリックされたかなどの統計情報を共有可

Cookies: Like many websites, we use "cookie" technology to improve our Services, but we do not require cookies for navigating or looking at public user profiles or lists. A cookie is a small

Paragraphs alternated at points between English and the target language for the remaining seven languages for which Twitter had partial translations of its privacy policy. For instance, in four successive paragraphs in the Norwegian translation, the first and third paragraphs ("Location Information" and "Links") were translated, while the second and fourth paragraphs ("Log Data" and "Cookies") were untranslated. Similarly, seven languages' terms of service pages alternated between the target language and English, sometimes within the same paragraph. In four languages, the privacy settings page similarly interspersed English and the target language, often within the same paragraph or menu.

Between February and October 2012, Twitter added ten new languages and updated its privacy policy. However, the state of translation for its privacy information became more complex. Whereas three languages previously had partially translated privacy settings pages, this number increased to four by October. An example of a partially translated privacy settings page is shown in Figure 8.

While partially translated privacy policies and terms of service disappeared from Twitter, many languages that formerly had partial translations were now left untranslated. Whereas there were seventeen partially translated and two untranslated privacy policy pages in February, Twitter had no partial translations and twenty-five untranslated privacy policies in October. While Twitter offered fifteen full translations and seven partial translations of its terms of service in February, only seven languages had fully translated terms of service in October. The remaining twenty-five languages had untranslated terms of service pages.

Between October 2012 and April 2013, Twitter added two new languages. Furthermore, as of April 2013, Twitter's privacy settings

were available fully translated into all thirty-four languages offered on the site. Twitter's privacy policy and terms of service, however, remained available in only seven of these thirty-four languages.

Figure 8:

Four of the languages offered on Twitter had partial translations of their privacy settings pages in October 2012. For instance, in the Thai language setting shown below, text on the privacy settings page alternates between English and Thai.



F. Binding vs. Non-binding Translations

While Facebook and Twitter offered fully translated privacy policies for fewer than half of their language options, both sites also

noted that the English language versions would prevail over translated versions in a legal context. Facebook explained, "To the extent any translated version of this agreement conflicts with the English version, the English version controls."⁶¹ Twitter's Terms of Service provided a similar caveat.⁶² For both networks, while translations were incomplete, even translated portions were not legally binding.

Like Facebook and Twitter, LinkedIn noted that translated versions of its terms of service and privacy policy were only for the convenience of users, whose relationship with LinkedIn was governed by the English language documents. In contrast, neither the terms of service nor the privacy policies for Flickr or Google+ noted that the translation would be superseded by the English language version.

VI. DISCUSSION AND CONCLUSIONS

We found wide variance in translation coverage across social media sites. Privacy-critical information on Google+ and LinkedIn was translated into all languages offered on those sites. In contrast, only fourteen percent of the twenty-two languages offered on Twitter and fifteen percent of the sixty-seven languages offered on Facebook had fully translated privacy policies as of February 2012. Although we hypothesized that our two subsequent rounds of data collection would uncover improvements in translation coverage, the situation that we found was actually more complex. On the one hand, the extent of translation increased for Facebook's privacy policy and terms of service. On the other hand, each of these privacy-critical components was untranslated for the majority of languages offered on Facebook, and the number of languages for which privacy settings pages were translated decreased. Similarly, between February and October 2012, Twitter eliminated confusing partial translations of its privacy policy and terms of service. However, most privacy policies that were previously partially translated became untranslated, and the number of terms of service pages that were fully translated decreased.

The rapid change of privacy critical information on social networks may explain some of the flux in translation. For instance, Twitter updated both its privacy policy and terms of service pages in between our first two rounds of data collection, which obsoleted previous translations. Facebook also added some new language to its privacy settings pages, in addition to updating its privacy policy and

⁶¹ FACEBOOK, *supra* note 44.

⁶² TWITTER, *supra* note 57.

terms of service. The updated privacy policy and terms of service pages were more widely translated than the previous version. Unexpectedly, translations of privacy settings options that did not seem to change also disappeared. Of course, the idea that privacy-critical information changes rapidly on social networks suggests an even greater need for providing translated privacy notice in order to inform consumers properly.

Cookies were another aspect of privacy that showed signs of rapid change during our data collection. The European Union's "Cookie Directive" came into effect in May 2012,⁶³ possibly spurring this change. In February 2012, language about cookies that had seemingly been added to Twitter's privacy policy post facto was commonly untranslated. Similarly, Facebook's introduction of a new privacy page about cookies between February and October presented an additional page of privacy-critical information that was often left untranslated. Understanding this lack of translation is complicated by the changes in translation we observed as Facebook introduced its new "Help Center,"⁶⁴ with pages that were previously fully translated into another language being reduced to partial translations literally overnight.

For Facebook and Twitter, the two sites we observed to have the greatest variance in translation between languages, the provenance of translations may elucidate the source of this variability. The translations of Facebook and Twitter have been primarily crowdsourced, resulting in both benefits and drawbacks. Facebook is available in nearly seventy languages other than English and Twitter is available in more than thirty, compared to the nine languages that the non-crowdsourced Flickr offers and eighteen languages that LinkedIn offers. In this sense, crowdsourcing translation bridges the digital divide, enabling global citizens to participate in social networks. However, fewer than half of the languages offered on Facebook and Twitter have full translations of the privacy-critical information we examined, raising the question of whether non-English speakers can participate fully.

Furthermore, Facebook and Twitter both offer the sites in numerous languages without caveats that these translations are incomplete, particularly with regard to privacy notice.

Since "notice" is a key principle of privacy frameworks, yet the privacy pages on social media seem to remain untranslated by "the

⁶³ DIRECTIVE 2009, *supra* note 13.

⁶⁴ Tsukayama, *supra* note 40.

crowd,” we believe it is the responsibility of companies like Facebook and Twitter to ensure that privacy-critical information is translated. These companies have large, global audiences, yet many of these users are not afforded the same level of privacy notice as English speakers.

The cost of achieving full translation across all languages and all privacy-critical pages would likely vary by social network. The number of languages and the length of privacy-critical pages both varied across social networks. Each social network we examined contained roughly 5,000 to 15,000 words of text related to privacy policies, terms of service, and privacy settings that should be translated into every language offered by the site.⁶⁵ Language translation services vary in costs, but generally fall in the \$0.10 to \$0.30 per word range, depending on translation quality and which language is being translated. Thus, we estimate a cost between \$500 and \$4,500 for each language translated. There are likely additional costs associated with translations, such as review by lawyers who speak the target language.

Laws and regulations, including recent E.U. privacy directives, have developed around international privacy frameworks (OECD, FTC, and APEC) that require clear and comprehensive privacy notice. The lack of fully translated privacy policies on some sites raises the question of whether this privacy notice is sufficiently clear and understandable. To our knowledge, the legal dimensions of this issue have not been fully explored. As outlined in this work, crowdsourced translations used by Facebook and Twitter fail to provide privacy information in all languages in which the sites are offered, arguably leaving groups of users who do not speak English without clear notice. Furthermore, while all translation may introduce errors, the use of crowdsourced translation may introduce translation errors at a higher rate. Even when privacy information is translated, Facebook and Twitter note that the English-language privacy policies prevail. We

⁶⁵ In particular, Facebook’s privacy settings contain about 170 words, while the main page of its data use policy (privacy policy) contains about 250 words. We did not evaluate the rest of Facebook’s privacy policy since it is spread over many different subpages and links; it contains nearly 10,000 words. Facebook’s terms of service page contains approximately 4,500 words. Flickr’s privacy settings contain around 300 words, its privacy policy specific to Flickr contains around 350 words, and its terms of service contains about 5,600 words. The Google+ privacy settings contain around 350 words, while its privacy policy and terms of service respectively contain around 2,300 words and 1,700 words. LinkedIn’s main privacy settings page contains only around 100 words, whereas its privacy policy contains approximately 7,500 words and its terms of service include around 6,500 words. Twitter’s privacy settings, privacy policy, and terms of service contain approximately 250 words, 2,100 words, and 3,500 words, respectively.

would argue that this approach violates the spirit of providing clear and comprehensive notice, although it remains an open question whether this state of affairs complies with legal requirements. Going forward, regulators will need to address whether English-only translations, or even unofficial crowdsourced translations, provide sufficient privacy notice.

Even if all privacy pages were fully translated into every target language on each site, one might argue that these pages would not support consumer privacy due to the high reading level and length of privacy policies.⁶⁶ While one can debate the role of lengthy privacy policies in communicating privacy-critical information, we believe that the lack of translated privacy information on both Facebook and Twitter is problematic. Non-English speakers should not be presented with a language barrier, on top of any other difficulties, when seeking information about how their personal information will be collected and used.

VII. ACKNOWLEDGEMENTS

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⁶⁶ McDonald & Cranor, *supra* note 19.

VIII. APPENDIX

Table 1:

This table shows the state of translation of each language across the different social networking sites we examined. A filled circle (●) indicates full translation into that language, a half-filled circle (◐) indicates partial translation, and an empty circle (○) signals that privacy information was not translated into that language. Each cell contains three values separated by vertical bars. The leftmost value indicates the state of translation in February 2012, the middle value represents October 2012, and the rightmost value represents April 2013. A dash (-) signals that a particular language was not offered in a particular time period. If a language was never offered on a particular site, that cell is blank.

Language	Facebook				Twitter			Flickr	Google+	LinkedIn
	Privacy Settings	Privacy Policy	Terms of Service	Cookie Policy	Privacy Settings	Privacy Policy	Terms of Service	All	All	All
<i>Afroasiatic: Semitic Languages</i>										
Amharic									-●●	
Arabic	●●●	●●●	●●●	-●●	-●●	- ○ ○	- ○ ○		●●●	
Hebrew	●●●	○●●	○●●	-●●	-●●	- ○ ○	- ○ ○		●●●	
<i>Austro-Asiatic Languages</i>										
Khmer	●●●	○ ○ ○	○ ○ ○	- ○ ○						
Vietnamese	●●●	○ ○ ○	○ ○ ○	- ○ ○			● ○ ○		●●●	
<i>Austronesian: Malayo-Polynesian Languages</i>										
Filipino	●●●	○ ○ ○	○ ○ ○	- ○ ○	●●●	○ ○ ○	● ○ ○		●●●	
Indonesian	●●●	○ ○ ○	○ ○ ○	-●●	●●●	○ ○ ○	● ○ ○	● ○ ○	●●●	●●●
Malay	●●●	○ ○ ○	○ ○ ○	- ○ ○	●●●	○ ○ ○	● ○ ○		●●●	●●●
<i>Dravidian Languages</i>										
Kannada									-●●	
Malayalam	○ ○ ○	○ ○ ○	○ ○ ○	- ○ ○					-●●	
Tamil	○ ○ ○	○ ○ ○	○ ○ ○	- ○ ○					-●●	
Telugu	○ ○ ○	○ ○ ○	○ ○ ○	- ○ ○					-●●	
<i>Indo-European: Balto-Slavic: Baltic Languages</i>										
Latvian	○ ○ ○	○ ○ ○	○ ○ ○	-●●					●●●	
Lithuanian	●●●	○ ○ ○	○ ○ ○	-●●					●●●	
<i>Indo-European: Balto-Slavic: Slavic Languages</i>										
Belarusian	●●●	○ ○ ○	○ ○ ○	- ○ ○						
Bosnian	●●●	○ ○ ○	○ ○ ○	- ○ ○						
Bulgarian	●●●	○ ○ ○	○ ○ ○	- ○ ○					●●●	
Croatian	●●●	○ ○ ○	○ ○ ○	- ○ ○					●●●	
Czech	●●●	○ ○ ○	○ ○ ○	-●●	-●●	- ○ ○	- ○ ○		●●●	●●●
Macedonian	●●●	○ ○ ○	○ ○ ○	- ○ ○						
Polish	●●●	○ ○ ○	○ ○ ○	-●●	●●●	○ ○ ○	● ○ ○		●●●	-●●
Russian	●●●	○ ○ ○	○ ○ ○	-●●	●●●	○ ○ ○	● ○ ○		●●●	●●●
Serbian	●●●	○ ○ ○	○ ○ ○	- ○ ○					●●●	
Slovak	●●●	○ ○ ○	○ ○ ○	- ○ ○					●●●	
Slovene	●●●	○ ○ ○	○ ○ ○	-●●					●●●	
Ukrainian	●●●	○ ○ ○	○ ○ ○	- ○ ○	-●●	- ○ ○	- ○ ○		●●●	
<i>Indo-European: Celtic Languages</i>										
Irish	●●●	○ ○ ○	○ ○ ○	- ○ ○						
Welsh	●●●	○ ○ ○	○ ○ ○	- ○ ○						
<i>Indo-European: Germanic Languages</i>										
Afrikaans	●●●	○ ○ ○	○ ○ ○	- ○ ○					-●●	
Danish	●●●	○ ○ ○	○ ○ ○	-●●	●●●	○ ○ ○	● ○ ○		●●●	-●●
Dutch	●●●	○ ○ ○	○ ○ ○	-●●	●●●	○ ○ ○	● ○ ○		●●●	●●●
Faroese	●●●	○ ○ ○	○ ○ ○	- ○ ○						
Frisian	○ ○ ○	○ ○ ○	○ ○ ○	- ○ ○						
German	●●●	○ ○ ○	○ ○ ○	-●●	●●●	○ ○ ○	● ○ ○	●●●	●●●	●●●
Icelandic	●●●	○ ○ ○	○ ○ ○	- ○ ○					-●●	
Norwegian- Bokmål	●●●	○ ○ ○	○ ○ ○	- ○ ○	●●●	○ ○ ○	● ○ ○		●●●	- ○ ○
Norwegian- Nynorsk	●●●	○ ○ ○	○ ○ ○	- ○ ○						
Swedish	●●●	○ ○ ○	○ ○ ○	-●●	●●●	○ ○ ○	● ○ ○		●●●	●●●
<i>Indo-European: Indo-Iranian: Iranian Languages</i>										
Kurdish	○ ○ ○	○ ○ ○	○ ○ ○	- ○ ○						
Pashto	○ ○ ○	○ ○ ○	○ ○ ○	- ○ ○						
Persian	●●●	○ ○ ○	○ ○ ○	- ○ ○	-●●	- ○ ○	- ○ ○		●●●	
<i>Indo-European: Indo-Iranian: Indo-Aryan Languages</i>										
Bengali	○ ○ ○	○ ○ ○	○ ○ ○	- ○ ○					-●●	
Gujarati									-●●	
Hindi	○ ○ ○	○ ○ ○	○ ○ ○	- ○ ○	○ ○ ○	○ ○ ○	○ ○ ○		-●●	

Figure 9:

This figure shows the Facebook settings page in the Pashto language, which is one of the major languages of Afghanistan. The only Pashto text on this page is a translation of the word “friends” as the audience for posts. The remainder of the page appears in English, albeit right-justified since Pashto is written from right to left. This page is presented as an example of an untranslated piece of privacy-critical information.

Privacy Settings

Control Privacy When You Post

You can manage the privacy of your status updates, photos and information using the inline audience selector — when you share or afterwards. Remember: the people you share with can always share your information with others, including apps. Try editing your basic info to see how it works or learn more.



For mobile apps without the inline audience selector (such as Facebook for Blackberry), the audience for things you post is:



How You Connect

Edit Settings .Control how you connect with people you know

Timeline and Tagging

Edit Settings Control what happens when friends tag you or your content, or post on your timeline

Ads, Apps and Websites

Edit Settings .Manage your settings for ads, apps, games and websites

Limit the Audience for Past Posts

Manage Past Post Visibility Limit the audience for posts you shared with friends of friends or Public

Blocked People and Apps

Manage Blocking .Manage the people and apps you've blocked

Figure 10:

This figure shows the evolution of part of Facebook's privacy settings page from February 2012 (first image) to October 2012 (second image). In particular, there were changes in wording for the heading shown at the top of these images, the "How Tags Work" subsection, and the "Apps and Websites" subsection.

Control Your Default Privacy

This setting will apply to status updates and photos you post to your timeline from a Facebook app that doesn't have the inline audience selector, like Facebook for Blackberry.



Public



Friends



Custom



How You Connect

Control how you connect with people you know.

[Edit Settings](#)



How Tags Work

Control what happens when friends tag you or your content.

[Edit Settings](#)



Apps and Websites

Control what gets shared with apps, games and websites.

[Edit Settings](#)



Limit the Audience for Past Posts

Limit the audience for posts you shared with friends of friends or Public

[Manage Past Post Visibility](#)



Blocked People and Apps

Manage the people and apps you've blocked.

[Manage Blocking](#)

For mobile apps without the inline audience selector (such as Facebook for Blackberry), the audience for things you post is:



Public



Friends



Custom

	How You Connect	
	Control how you connect with people you know.	Edit Settings
	Timeline and Tagging	
	Control what happens when friends tag you or your content, or post on your timeline.	Edit Settings
	Ads, Apps and Websites	
	Manage your settings for ads, apps, games and websites.	Edit Settings
	Limit the Audience for Past Posts	
	Limit the audience for posts you shared with friends of friends or Public	Manage Past Post Visibility
	Blocked People and Apps	
	Manage the people and apps you've blocked.	Manage Blocking

Figure 11:

The first image in this figure is the Facebook privacy settings page in Romanian as of February 2012, while the second image is the same page as of October 2012. The February version was fully translated, while the October version was only partially translated since it contained five sentences of English. Three of these five sentences went from being translated to being untranslated even though the corresponding English language versions did not change, as shown in Figure 10. These three sentences were: “Control how you connect with people you know,” “Limit the audience for posts you shared with friends of friends or Public,” and “Manage the people and apps you've blocked.”

Ajustați confidențialitatea implicită

Această setare se va aplica actualizărilor de stare și fotografiilor pe care le postați în cronologie dintr-o aplicație Facebook care nu are un buton selector de audiență, cum ar fi Facebook pentru Blackberry.



Public



Prieteni



Personalizat



Cum intrați în legătură cu alții

Decideți cum intrați în legătură cu persoane pe care le cunoașteți.

Schimbați setările



Cum funcționează etichetele

Decideți ce se întâmplă când prietenii vă etichetează conținutul sau persoana.

Schimbați setările



Aplicații și pagini web.

Decideți ce conținut va fi distribuit aplicațiilor, jocurilor și altor site-uri.

Schimbați setările



Limitează audiența pentru postările anterioare

Limit the audience for posts you shared with friends of friends or Public

Administrează vizibilitatea postărilor din trecut



Persoane și aplicații blocate

Administrați persoanele și aplicațiile pe care le-ați blocat.

Administrați procesul de

For mobile apps without the inline audience selector (such as Facebook for Blackberry), the audience for things you post is:



-
-  **Cum intrați în legătură cu alții**
Control how you connect with people you know. Schimbați setările
-
-  **Timeline and Tagging**
Control what happens when friends tag you or your content, or post on your timeline. Schimbați setările
-
-  **Reclame, Aplicații și Website-uri**
Gestionează-ți setările pentru reclame, aplicații, jocuri și saitari. Schimbați setările
-
-  **Limitează audiența pentru postările anterioare**
Limit the audience for posts you shared with friends of friends or Public Administrează vizibilitatea postărilor din trecut
-
-  **Persoane și aplicații blocate**
Manage the people and apps you've blocked. Manage Blocking

Figure 12:

Facebook's cookie page was commonly either untranslated or partially translated. These two screenshots are the top and bottom sections, respectively, of the Hungarian language version of Facebook's cookie page, which was partially translated. The page informs users in Hungarian that this element of the help section is unavailable in their language, and then proceeds to present information about cookies in English. However, the FAQ section at the bottom of the page is available in Hungarian.

Fiókbeállítások Magyar

Cookies, Pixels & Similar Technologies

Ez a súgó tartalom nem elérhető a nyelveden. Kérünk válassz egy általunk támogatott nyelvet:

Please Select a Language ▾

Saját nyelveden a többi felhasználótól kaphatsz segítséget ezen a helyen: felhasználói fórum.

How Cookies Work

Cookies and other similar technologies help provide a better, faster and safer experience.

Technologies like cookies, pixel tags ("pixels"), and local storage are used to deliver, secure, and understand products, services, and ads, on and off Facebook. We want this page to help you understand more about these technologies and how they are used. Your browser or device may allow you to block these technologies, but you may not be able to use some features on Facebook if you block them. For more information about whether these tools are available and how they work, visit your browser or device's help material.

Check back here from time to time to get the latest information about these technologies and how they are used.

The specific names of the cookies, pixels and other similar technologies that we use may change from time to time, but they generally will fall into the above categories. If you'd like to learn more about these tools, review our Data Use Policy. You can also take a look at the cookies section of our publicly available audit that provides a snapshot of the cookies we use, which was performed by the Irish Data Protection Commissioner's Office. This will give you a good idea of the cookies we describe on this page.

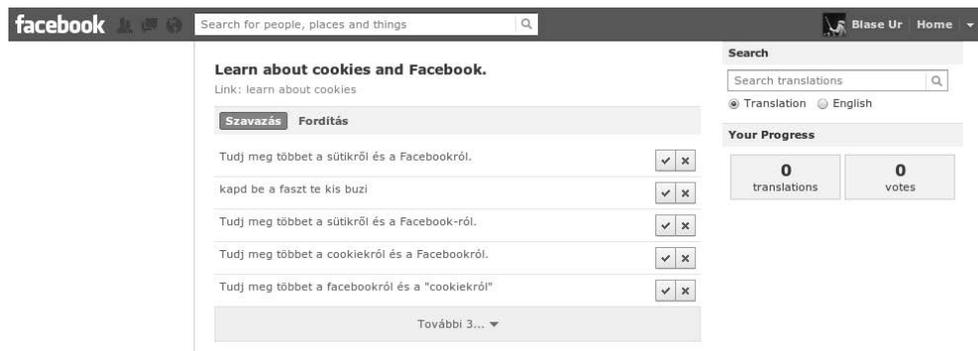
Learn more

- Mik azok a cookie-k?
- Hogyan használja a Facebook a cookie-kat?
- Milyen esetben helyezhet cookie-kat a Facebook a készülékekre?
- Milyen esetben olvashatja le a cookie-kat a Facebook a készülékemen?
- Miért látja el cookie-val a Facebook azt a böngészőt, amellyel megnyitják a weboldalait?
- Hogyan használják a harmadik felek a cookie-kat, pixeleket és egyéb hasonló technológiákat a Facebookon?

Továbbiak

Figure 13:

Sentences about Facebook's use of cookies were among the elements offered for translation to Facebook users through Facebook's translation application at the time of research.



The screenshot shows the Facebook translation application interface. At the top, there is a search bar with the text "Search for people, places and things" and a search icon. Below the search bar, the main content area is titled "Learn about cookies and Facebook." and includes a link "Link: learn about cookies". There are two tabs: "Szavazás" (Voting) and "Fordítás" (Translation). The "Szavazás" tab is active, showing a list of sentences with checkboxes and an 'x' icon for each. The sentences are:

- Tudj meg többet a sütiokról és a Facebookról.
- kapd be a faszt te kis buz!
- Tudj meg többet a sütiokról és a Facebook-ról.
- Tudj meg többet a cookiekról és a Facebookról.
- Tudj meg többet a facebookról és a "cookiekról"

At the bottom of the list, there is a button labeled "További 3..." (More 3...). On the right side of the interface, there is a "Search" section with a "Search translations" input field and a search icon. Below this, there are radio buttons for "Translation" (selected) and "English". At the bottom right, there is a "Your Progress" section with two buttons: "0 translations" and "0 votes".

Figure 14:

Paragraphs from Twitter's Terms of Service were among the translations offered to volunteer translators in the Hungarian language on Twitter's Translation Center at the time of our research, which may help explain the behavior we observed of Twitter's privacy policy and terms of service switching between English and a target language.

The screenshot shows the Twitter Translation Center interface. At the top, there are navigation links for 'Home', 'Twitter.com', 'Blog', and 'Forums'. A search bar contains the word 'privacy'. The main content area displays an 'English phrase' which is a paragraph of Twitter's Terms of Service. Below this, there is a section for translations, showing one translation in Hungarian. The interface includes buttons for 'Untranslated', 'Translated/Voted', and 'Live'. A 'Vote' button is visible next to the Hungarian translation, and a 'Not live' status is shown in the top right corner of the translation area.

Translation Center Blog Forums Need help? Blaze Cups

Home / Twitter.com /

All phrases

Untranslated Translated/Voted Live privacy Search

English phrase:

Delete, obscure, or alter the identification of the user. You may show Tweets in anonymous form in exceptional cases such as concerns over user privacy.
0 translations with 0 votes

These Terms, the Twitter Rules and our Privacy Policy are the entire and exclusive agreement between Twitter and you regarding the Services (excluding any services for which you have a separate agreement with Twitter that is explicitly in addition or in place of these Terms), and these Terms supersede and replace any prior agreements between Twitter and you regarding the Services. Other than members of the group of companies of which Twitter is the parent, no other person or company will be third party beneficiaries to the Terms.
1 translations with 0 votes

Any information that you provide to Twitter is subject to our % {privacy_policy_url}, which governs our collection and use of your information. You understand that

1 Translations + Add translation i More information Not live

Vote ✓

Ezek a feltételek, a Twitter Szabályok és az Adatvédelmi Politika a teljes és kizárólagos megállapodást Twitter között, és szolgáltatások tekintetében (kivéve a szolgáltatásokat, amelyekre van külön megállapodás, amely kifejezetten Twitter mellett vagy helyett ezekkel a Feltételekkel), és ezek a kifejezések helyébe lép minden korábbi megállapodást Twitter között, és szolgáltatások tekintetében. Más, mint

0 votes

Figure 15:

Although Facebook changed its privacy-settings interface between our second and third rounds of data collection, the proportion of languages into which this interface was translated stayed relatively constant. This change, however, introduced new idiosyncrasies. For instance, in the Faroese language setting as of April 2013, clicking on the English-language text “Limit the audience for posts you’ve shared...” caused it to appear suddenly in the Faroese language, as shown in this sequence of two screenshots.

Privatlívsstillingar og tól

Hvør kann síggja míni ting?	Hvør kann síggja tínar postar framyvir?	Lat aftur
	You can manage the privacy of things you share by using the audience selector right where you post. This control remembers your selection so future posts will be shared with the same audience unless you change it.	
	<input type="text" value="Hvat hugsar tú um?"/> <div style="display: flex; justify-content: space-between; align-items: center; margin-top: 10px;"> Vinir Posta </div>	
	Endurskoða allar tínar postar og lutir har frámerki er sett við teg	Tín virksemisloggur
	Limit the audience for posts you've shared with friends of friends or Public?	Avmarka gamlar postar

Privatlívsstillingar og tól

Hvør kann síggja míni ting?	Hvør kann síggja tínar postar framyvir?	Vinir	Rætta
	Endurskoða allar tínar postar og lutir har frámerki er sett við teg		Tín virksemisloggur
	Avmarka fjøldina til eldri postar á tinarí tðarrás		Lat aftur
	Um tú brúkar hetta tólið, innihaldi á tinarí tðarrás, so deilur tú við vinum hjá vinum ella almenningunin vil broyta vinir. Minnst til: fólksnum eru frámerkt og teirra vinir kunna síggja teirra postar. Tú kann eisini velja at individuelt broyta áskoðarar av tinum postum. Far bara til postin tú ynskir at broyta og vel so eina aðra fjøld. Fá meira at vita um at broyta gamlar postar		
	<input type="button" value="Avmarka eldri postar"/>		