IPR Issues in Data Sharing via Linkage of Platforms and Apps

Iryna Lishchuk, Marc Stauch, Nikolaus Forgó
Institut für Rechtsinformatik
Leibniz Universität Hannover
Hannover, Germany
e-mail: {lishchuk, stauch, forgo}@iri.uni-hannover.de

***Abstract*—Data exchange systems have made it possible to link platforms, apps, wearables and share the users´ data. Apart from personal data, collected by the platforms, also user generated content may be shared. However, sharing the content brings various intellectual property (IP) issues into play – on top of privacy matters. So, sharing creative content requires authorization from the content owner. But who is the content owner in respect of content shared online? From whom and how can a service provider obtain rights on use of the content? In this article, we explore some legal issues associated with content sharing and provide solutions on how these issues may be resolved.**

Keywords-user-generated content; Intellectual Property Rights (IPR); IP protected content; content license; copyright.

I. INTRODUCTION

Many platforms, like Facebook, Fitbit and Twitter, release their application programming interfaces (API) for the purposes of data sharing. By doing so, they offer third party service providers a technical possibility to access and share users´ data. Through a platform API, a third party service can connect to the platform and exchange data with it. Apart from the user´s personal data, such as name, date of birth, etc., the platform may also store content generated by the user. Such content, if produced by intellectual creation, may be protected by intellectual property rights (IPR).

While processing and sharing the users´ personal data is subject to the law on data protection and may require consent of the user, the processing of IP protected content will be subject to intellectual property law and, unless exceptions apply, require authorization of the right holder (who is not necessarily the user). In the case of personal data, the user behind the data is normally identified or at least identifiable. Hence, the user to whom the data relate has the right to decide with whom and how to share his data. However, in the case of user-generated content, which is freely shared among the networks, the question about who is the right holder and may decide on its exploitation is often complicated by the unclear origin of the work. Creative content may be produced by a user who uploads such content, or it may also be created by a group of users (who would share copyright in it together), or it may be a result of post-processing of someone´ else work (requiring permission by the latter), etc. When a user posts some creative content to the platform services, it does not mean that the user is the copyright owner or even has the right to upload such content and share it with the public. On the other hand, almost all forms of online communication require copying and distributing creative content, thus becoming copyright-related [1]. This makes it necessary for service providers, engaged in spreading user generated content, to obtain a copyright license. However, a problem arises when the holder of rights in creative content is not that easy to identify. In such a case, how should the service provider go about obtaining the relevant license?

In this paper, we explore legal issues such as these, associated with content sharing and content licensing and suggest some options as to how service providers may get rights in order to carry creative content and provide their services to their users.

This paper is organized as follows. Section II provides insight into data sharing in clinical research. Section III describes the types of data collected by the platforms. Section IV then deals with IP rights in content and IPR implications by content sharing. Data sharing via API exchange systems follows in Section V. Section VI deals with licensing implications. The overall findings are summarized in Section VII.

II. DATA SHARING IN CLINICAL RESEARCH

Data sharing is widely used now as a way to increase service functionality. Many service providers offer an option to share content via Facebook, Twitter, etc. Increasingly, too, the research community is looking into data sharing as a potential resource for expanding research.

One such ICT research project funded under the EU 7th Framework Program is 'MyHealthAvatar' (full name "A Demonstration of 4D Digital Avatar Infrastructure for Access of Complete Patient Information", abbreviated to "MHA") This aims at creating a platform, . "*…that offers access, collection and sharing of long term and consistent personal health status data through an integrated digital representation of an in silico environment, which helps to deliver clinical analysis, prediction, prevention and treatment tailored to the individual citizen.*" [2]. Various possibilities are being investigated to allow, inter alia, connecting the avatar to hospital records, and to third party social networks (e.g. Facebook, Twitter, etc.), to extend the population of medical data within the platform.

III. PLATFORM DATA

Because the MHA project is engaged in clinical research, lifestyle platforms Fitbit [3], Withings [4] and Moves [5] are the primary sources for data sharing. Also, the social platform Twitter is being explored for linking, but rather because of the role of Twitter in spreading the content, than the nature of the data, which Twitter stores.

 ISBN: 978-1-61208-457-2

The information stored on these platforms may have different value and quality in terms of the law. Personal data and user-generated content are the two major categories of information processed by the service providers. The processing of these two types of information is subject to different legal rules.

A. Personal Data

Most social platforms collect in one way or another data related to the user. Usually, platforms ask the user to provide some personal information, such as name, date of birth, e-mail, etc., when creating a user account.

Data, which may be associated to a particular user, who is identified or may be identified by some parameters or features, will qualify as personal data. Personal data comprises "*any information relating to an identified or identifiable natural person ('data subject'); an identifiable person is one who can be identified , directly or indirectly, in particular by reference to an identification number or to one or more factors specific to his physical, physiological, mental, economic, cultural or social identity*" [6]. Processing of personal data is subject to the law on data protection.

Data collected by wearable devices, such as Moves, Fitbit and Withings, would normally have the status of personal data Moves collects data from a mobile application Moves App, which records walking, cycling and running, which the user does while the application is on [5]. The major part of Fitbit data also comes from wearables, which track the physical activity of the user. The collected data may include the number of steps taken by the user, heart rate, calories burnt, etc. "*Every time Fitbit owners walk by their wireless base station (Bluetooth dongle and computer), data from their Fitbit device is silently uploaded in the background to fitbit.com."* [7]. The user can also enter certain data to fitbit.com manually, such as sleep logs, food logs, other activity logs.

According to European data protection law, data concerning the user´s health falls into a special category of sensitive personal data. Processing of sensitive data has to comply with more stringent legal requirements than those applicable to processing of personal data as such [6]. The sharing of sensitive health related data among the platforms raises multiple legal issues and privacy concerns, which have been described elsewhere [8], [9] and are outside the scope of the present paper.

The data recorded by the tracking devices or data entered by the user manually, which does not involve any creative input would normally qualify as personal data (with a higher or lower degree of sensitivity). Another quality may be attributed to data generated by the user himself, such as comments or images taken by the user. These types of data may expose certain parameters relating to a particular user (such as when a user is marked as the author), thus falling into the category of personal data. At the same time, this data may comprise creative input invested by the user (or another person), thus qualifying as a copyright work. Creative content, related to a particular person, such as marked as author or captured on a picture, would be subject to both legal regimes: the law of copyright and data protection at once.

B. User Generated Content

Most online platforms, either lifestyle or social, allow their users to submit their own content, like text, photographs or other data and information. Any data, which is produced and supplied to service providers in digital form constitutes "digital content" [10]. Such content may include "*computer programs, applications, games, music, videos or texts, irrespective of whether they are accessed through downloading or streaming, from a tangible medium or through any other means.*" [10]. Digital content created and provided to the online services by the users and made by such means accessible directly to the public is commonly referred to as "user generated content" [1]. If produced by intellectual effort, such content may be protected by IP rights (IP protected content).

C. Copyrighted Content

A number of items uploaded to the platform services, including images, melodies, videos, commentaries, etc., by showing a certain degree of creativity may relate to original intellectual creations in the literary or artistic domain and constitute works protected by copyright [11]. A comment where the user "*through the choice, sequence and combination of those words … may express his creativity in an original manner and achieve a result which is an intellectual creation"* [12] would qualify as a copyright work and be protected as such. Also, a picture taken by a user exercising free and creative choices thus stamping a picture with his personal touch [13] should be copyright protected.

However, just as data protection law has certain requirements for processing of personal data, so too will the use of copyrighted content on the digital services need to comply with the rules of copyright law. We look further at the substance of these rules below.

IV. IPR ISSUES IN CONTENT SHARING

A. Protected Rights

Whereas reading a book or listening to music does not create a copyright relevant action, the upload of a photo to online services, sharing music online or streaming may produce a copyright relevant action. The reason is that, in contrast with the case in which there is simple perception of the work by a viewer or hearer, technical actions of this kind involve a degree of copying or communication to the public.

Reproduction and communication to the public may also be carried out by service providers in the course of providing their services. Thus, transmission of content items between and/or on behalf of the user, the upload and hosting of content items on the platform facilities, or making the content items available to the others may qualify as one or another copyright relevant action and, unless exceptions apply, require authorization by the right owner.

Because the "fair use" doctrine [1] and exhaustion of copyright do not apply to the digital content commonly shared via online services [15], service providers who deal

with the user generated content would normally require a copyright license from the user.

B. Content License

Platforms usually obtain such a license on use of IP protected content when the user registers for a platform account and agrees to the platform terms. As a rule, a content license is incorporated into the platform terms of use and constitutes part of the agreement between the provider and the user.

Normally, platforms acquire a complete copyright license, which allows them to perform any actions with the user´s content as required to provide their services. A typical content license is granted on a royalty-free, non-exclusive, perpetual, worldwide basis and includes the sublicensable right of reproduction, modification, distribution, communication and making the content available to the public. For instance, Fitbit users grant Fitbit a "*perpetual, irrevocable, non-exclusive, worldwide, royalty-free license, with the right to sublicense, to reproduce, distribute, transmit, publicly perform, publicly display, digitally perform, modify, create derivative works of, and otherwise use and commercially exploit any text, photographs or other data and information you submit to the Fitbit Services (collectively, "User Generated Content") in any media now existing or hereafter developed, including without limitation on websites, in audio format, and in any print media format.*" [16]. Similar content license conditions may be found in the terms of other platforms, like Twitter and Withings.

V. DATA SHARING VIA API EXCHANGE SYSTEMS

As mentioned, most platforms, which collect information from their users, be it personal data or digital content, allow the sharing of such information via API exchange systems. However, in allowing third party services to use an API, platforms normally do not allow the use of creative content, which they store.

A. API Exchange Systems

API stands for application programming interface and is an element through which software interact and exchange information with each other. The use of a platform API allows external applications to communicate with the platform and access the platform data (if a platform allows this). In legal terms, an API can be defined as an element of a computer program, which provides for "*a logical and, where appropriate, physical interconnection and interaction … to permit all elements of software and hardware to work with other software and hardware and with users in all the ways in which they are intended to function*." [17]. For example, when a word processor sends a document to a printer, the word processor talks to the printer driver via API [18]. Although an element necessary for interoperability, API is a constituent part of a platform and usually released into use under an API license. This then allows software developers to use platform APIs in order to develop compatible apps designed to interact with a platform and exchange users data.

B. API License

As may be observed, when platform operators release platform APIs, they enable third party services to connect to the platform and share the data. Therefore, a typical API license is generally limited to the purpose of data sharing. For instance, Fitbit allows use of Fitbit API "*to develop Applications designed to interact with and enhance the Fitbit Platform, to retrieve or post Fitbit Data, subscribe to User Data-feeds and render and display information in external applications according to these Terms of Service"* [19]. As a rule, a personal, non-exclusive, non-transferrable license is granted.

Whereas an API license allows use of API for data sharing, it is, as previously noted, mostly the case that rights on the use of content itself are not included, unless such rights are expressly granted. In these circumstances, third party service providers, who intend to carry user generated content on their services, need to get the content license by themselves. The ways in which service providers may do this are described below.

VI. LICENSING IMPLICATIONS

There are several options how a service provider may obtain rights on use of content. One is to get the rights from the platform. Another possibility is to obtain a content license directly from the user himself. However, both of these options carry further legal implications. These implications can relate to copyright ownership, validity and survival of rights, applicable contract type, form requirements, etc, and may vary from jurisdiction to jurisdiction. Some key points in this respect, which are relevant to cases of content licensing by linking, are discussed below.

A. Content Sublicense from the Platform

Platforms, which have a sublicensable content license, have a right to sublicense their rights, which, however, they rarely make use of.

In fact, out of the considered platforms, it appears that only Twitter, when licensing its API, grants developers rights to use the content. In particular, Twitter accords the developer "*a non-exclusive, royalty free, non-transferable, non-sublicensable, revocable license...to...Copy a reasonable amount of and display the Content on and through your Services to End Users...; Modify Content only to format it for display on your Services"* [20].

First, Twitter has the right to sublicense its rights in content because the user grants to Twitter "*a worldwide, non-exclusive, royalty-free license (with the right to sublicense) to use, copy, reproduce, process, adapt, modify, publish, transmit, display and distribute such Content in any and all media or distribution methods (now known or later developed)."* [21]. As explained by Twitter, the user authorizes not only Twitter to make the user´s Tweets available to the public, but also "*let others do the same."* [21]. Second, the user generated content is included into the term "Content", which may be shared via Twitter API. In the Twitter API license agreement, the term "Content" covers

"*Tweets, Tweet IDs, Twitter end user profile information, and any other data and information made available to you through the Twitter API or by any other means authorized by Twitter, and any copies and derivative works thereof*." [20].

In contrast, as follows from the API license terms of other platforms, in particular Fitbit and Withings (which also carry some user generated content), express grant of rights on use of the content is not included. If we consider Fitbit, and also Withings, it is rather unclear whether they allow connecting services to use and re-post the user´s content on their services or not.

Thus, dealing with Fitbit first, it also hosts some user generated content and has a sublicensable content license [16]. Fitbit allows data sharing via its API, but 'User Generated Content', as defined in the Fitbit Terms of Use [16], is not included in the scope of Fitbit Data, which may be shared via Fitbit API. The Fitbit Data, as defined in the Fitbit API license agreement, covers "*the user data collected from the Fitbit Tracker and made available to you through the API"* [19]. Fitbit allows a third party service provider to "*use the API to retrieve or post Fitbit Data, subscribe to User Data-feeds and render and display information in external applications"* [19], but Fitbit is silent on the rights to re-post the User Generated Content. At the same time, Fitbit is rather clear in not allowing developers to "*upload or otherwise transmit any content that you do not have a right to transmit under any law or under contractual relationships*" [19]. However, whether the term "content", as used in the Fitbit API license agreement, covers also "User Generated Content", as defined in the Fitbit Terms of Use (and which a third party service provider may not transmit on its services) is for Fitbit to answer.

A similarly unclear content licensing practice is pursued by the lifestyle platform Withings. Withings also provides a function to submit users´ comments and opinions to Withings website. Withings also obtains "*a sub licensable, right on a worldwide basis to represent and reproduce your commentary and/or opinion in whole or in part, in a lineal manner or not on any media, such as the Website, press review or advertising, presentation or any physical or digital media as long as the rights shall enjoy legal protection*" [22]. By licensing its API for data sharing, Withings allows use of API to "*exchange data concerning you, Withings or Withings' Products and Services Users* [23]. As long as a commentary or opinion can be related to a Withings user (for instance, when the user is marked as the author), then the user´s comments may be considered as relating to the user and included into the scope of data, which may be shared via Withings API. On the other hand, if Withings expects to make use of the user´s comments or opinion, such as in an advertisement or third party website, Withings should contact the user. In cases where it is unable to reach the user, or upon the user´s request, it also reserves the right to use the user´s commentary or opinion without identifying the user as the author [22]. At the same time, this wording and practice of Withings makes it questionable whether a third party service designed to interact and share data with Withings may re-post the user´s comments on its services or not.

In the absence of an express term, an implied license on use of copyrighted content may be presumed. However, an implied license may not be regarded as a reliable instrument for getting the rights because of varying interpretation rules and the copyright licensing implications, which we consider next.

B. Implied Copyright License

The legal strength of an implied license as a basis for using copyrighted content is relative and depends on the rules on interpretation of agreements and court practice. The rules on interpretation of agreements vary from jurisdiction to jurisdiction and relevant domestic case law is rather scarce. If an agreement is to be interpreted by purpose, as is typically the case under the German or English law, then in the absence of an express term an implied license may be presumed. Hence, a UK court might depending on the facts of the case accept an implied copyright license where such license is "*necessary to give business efficacy to the contract"* [24]. If accepted, an implied license would be limited to the purpose of contract. In the context of an API license agreement limited to the purpose of data sharing, it may be argued that a developer might be entitled to an implied personal, non-assignable and non-sublicensable, royalty free copyright license to access, copy and re-display the user´s content on its service as necessary to provide a service to the user. Such implied copyright license might be considered as justifiable for data sharing with a platform whose data assets subsist for the most part in the user generated content, like Twitter, for example. Otherwise, i.e. in the absence of such an express content license, the principal goal of using the API for data sharing would be lost.

In contrast, most data assets of lifestyle platforms Fitbit or Withings come from the tracking devices. It is obvious that exactly such lifestyle data is a target for data sharing. Some smaller part of Fitbit and Withings data may comprise creative content produced by the users, such as comments, opinions or photographs. But, in comparison to the volume and value of the lifestyle data, it is hardly arguable that such user generated content would constitute the primary goal for data sharing. Under these circumstances, it is doubtful how far a content license in the Fitbit or Withings API license agreement is "*necessary to give business efficacy to the contract*". Hence, the chance that an implied content license as granted by Withings or Fitbit under an API license agreement would be accepted by the court is arguably fairly low. Under the rules of verbal interpretation of agreements (as may be the case under the Russian law [25], for example), the prospects for an implied content license may also be assessed as negative. According to oral interpretation, a right, which is not expressly granted is to be considered as not granted at all.

C. Content License from the User

Alternatively, as noted, a service provider may get a license on use of the content from the user. The core legal issue here is that the user, who introduces creative content to

the platform, is not necessarily the author with the right to make such content available to the public.

According to the rule of first ownership in copyright, it is the original author, who created a work and who owns copyright in it [26]. Creative content may be generated by a group of people, sharing co-authorship and copyright respectively. Such content may also be produced by re-using and/or transforming pre-existing copyright works [1]. The latter type of content might fall into the category of derivative works. The use and sharing of such derived content would be legitimate if permission on transformation of the prior work and making such derivative work available to the public is obtained from the original copyright owner.

Some platforms try to address this situation by making the user guarantee that he has the rights to share the content, which he introduces. Such a provision, by which a user represents and warrants that he has obtained all necessary rights and licenses required to allow posting of any content posted by the user [16], may be found in the terms of some platforms. However, though such clause may have effect and be enforceable under the US law, it may not survive the control of general terms and conditions provided for under the German law [27]. Instead, the inclusion of such a clause into the terms of a service provider established in Germany (or also in other jurisdictions) needs to be considered on a case-by-case basis.

As noted earlier, platform operators usually get a content license from the user by incorporation of such content license into the platform terms. The user, at the time of registering an account or using the platform services, accepts the terms - and by so doing grants rights on use of his content to the platform - [16]. In the absence of other plausible options, this approach may also be extended to other service providers who intend to carry the user´s content on their services.

Regarding the scope of the license, as we saw, platform operators typically acquire the rights, which they consider necessary to provide their services. As a rule, a non-exclusive, royalty free, worldwide, non-assignable license to copy, reproduce, display, transmit, distribute, post, publish, modify, produce derivative works, make the content available to the public in the media, in the form and via distribution methods, known and later developed is specified [16]. Such scope of rights may also be considered as sufficient for third party services.

However, it is not advisable to copy this scope of license verbatim, because a license term, which can have validity for the US based platform, may have no legal effect for a service provider established elsewhere. It may be noted, that the terms of most platforms, including Twitter, Fitbit and Withings, are governed by US law. Whereas the content license, which allows exploitation of content "*in any media now existing or hereafter developed*" [16] granted in this form, i.e. via clicking the "Accept" button, may have effect and be enforceable under the US law, this may not be the case under the national law of some EU member states. Thus, the German Copyright Act, Article 31a, requires that contracts concerning unknown types of exploitation be made in writing [28]. Also, under UK copyright law agreements as to future ownership of copyright would only be enforceable if evidenced in writing [24]. In this regard, the UK Copyright, Designs and Patents Act, section 91 (1), provides that agreements in relation to future copyright be made in writing. *"Future copyright"* in this context means "*copyright which will or may come into existence in respect of a future work or class of works or on the occurrence of a future event"* [29]. Thus, for such a license to be enforceable in Germany or the UK, it would need to be signed via handwritten or e-signature by authorized representatives of the parties, which can hardly be expected in a license agreement concluded online.

From this observation, it may be noted, that a form, in which one or another type of copyright license needs to be obtained in order to have legal effect, should be considered on a case- by-case basis and depending on the jurisdiction where the service provider is established.

VII. SUMMARY AND RECOMMENDATIONS

In this paper, we have described some core legal issues associated with content sharing on digital services and by linking the platforms and apps, in particular.

To summarize the main points, a service provider carrying some user-generated content on its platform needs to have an IP license to do so. Platform operators, who host and transmit user-generated content, typically acquire a copyright license from the user who uploads the content. Such a content license is normally included into the platform terms, which the user accepts (and thereby grants a content license to the platform) when the user signs up for the platform services. Normally, it is non-exclusive, non-assignable, worldwide royalty free license with the right to sublicense. The scope of rights normally covers the whole spectrum of copyright relevant actions, which a platform may need to perform for providing its services. The basic rights of reproduction, distribution and communication to the public are typically included.

Third party service providers who intend to exchange data with social platforms via API exchange systems, such as via apps designed to communicate with a platform via API, may obtain the rights on use of the content from the platform or from the user. In cases where the rights on use of the user generated content are incorporated into and granted under the API license agreement (such as is done by Twitter), an external service provider may rely on the content license from the platform (subject to its validity) and does not necessarily have to obtain a separate content license from the user.

In the absence of content license from the platform (and due to the absence or weak legal strength of other alternatives), the remaining option would be to obtain a license on use of the content from the user himself. In this case, a service provider may follow the practice of platform operators, i.e. include the content license into the service terms and make acceptance of the terms by the user a pre-requisite of using the service. However, when following this practice, re-use of the content license verbatim is not encouraged. First, the terms in question may themselves be copyrighted and not be reproduced without authorization of

 ISBN: 978-1-61208-457-2

the right holder. Second, a license granted on the terms and in the form, which have legal effect in one jurisdiction may be challengeable and subject to the risk of being declared invalid by the court in another.

As we have seen, there are multiple copyright issues, which are inherent to the sharing of creative content and which service providers need to handle. However, as is also apparent, the methods and means of dealing with such issues may vary depending on the legal and technical background. The issues, which need to be looked at include the following: what type of data is stored and is to be shared with the platform? Will the user generated content be stored by the platform? Does the platform grant the rights on use of the content via API license agreement or not? What scope of rights is needed for provision of the service? And in what jurisdiction is the service provider established? Therefore, there is no hard rule, which may be considered as applicable and advisable to all service providers. Rather, these matters will need to be assessed as part of arriving at a satisfactory legal solution in each particular case.

ACKNOWLEDGMENT

The research leading to these results has received funding from the European Union Seventh Framework Program FP7/2007-2013 under grant agreement No 600929.

REFERENCES

[1] L. Dobusch, "Need for new regulation to enhance creativity in the digital age: The case of user generated content and cultural heritage institutions", input paper to Baku Conference, First Council of Europe Platfrom Excahnge on Culture and Digitisation "Creating an enabling environment ofr digital culture and for empowering citizens", July 2014, Baku, Azerbaijan.

[2] MyHealthAvatar, Project, Concept <http://www.myhealthavatar.eu/?page_id=927> 2015.10.26.

[3] Fitbit <http://www.fitbit.com/uk> 2015.12.28.

[4] Withings <http://www.withings.com/eu/de/> 2015.12.28.

[5] Moves App <https://www.moves-app.com/> 2015.12.28.

[6] Directive 95/46/EC 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, Official Journal of the European Communities, No L 281 /31, 23.11.95.

[7] Fitbit, WEB API Documentation <https://dev.fitbit.com/docs> 2015.12.28.

[8] S. Jandt and C. Hohmann, "Fitness- und Gesudheits-Apps – Neues Schutzkonzept für Gesundheitsdaten?", Kommunikation und Recht, pp. 694-701, November 2015.

[9] A. Dahi, N. Forgó, S. Jensen, and M. Stauch, "Using patient avatars to promote health data sharing applications: perspectives and regulatory challenges", European Journal of Health Law, available from: <http://www.brill.com/european-journal-health-law> 2016.01.11. Accepted for publication in March 2016.

[10] Directive of 25 October 2011 on consumer rights, amending Council Directive 93/13/EEC and Directive 1999/44/EC of the European Parliament and of the Council and repealing Council Directive 85/577/EEC and Directive 97/7/EC of the European Parliament and of the Council, OJEU, L 304/64, 22.11.2011.

[11] Berne Convention for the Protection of Literary and Artistic Works of 9 September 1886.

[12] CJEU, Judgment of 16 July 2009, Case C 5/08, Infopaq International A/S v Danske Dagblades Forening, Recital 45.

[13] CJEU, Judgment of 7 March 2013, Case C 145/10 REC, Eva-Maria Painer v. Standard VerlagsGmbH, Axel Springer AG, Süddeutsche Zeitung GmbH, Spiegel-Verlag Rudolf Augstein GmbH & Co. KG, Verlag M. DuMont Schauberg Expedition der Kölnischen Zeitung GmbH & Co. KG, Recital 94.

[14] Directive 2001/29/EC of 22 May 2001 on the harmonisation of certain aspects of copyright and related rights in the information society, Official Journal of the European Communities, L 167/10, 22.6.2001.

[15] M. Schmidt-Kessel, "Verträge über digitale Inhalte – Einordnug und Verbracuherschutz", Kommunikation und Recht, pp. 475-483, July-August 2014.

[16] Fitbit Terms of Use <http://www.fitbit.com/uk/terms> 2015.12.28.

[17] Directive 2009/24/EC of 23 April 2009 on the legal protection of computer programs, Official Journal of the European Union, L 111/16, 5.5.2009, Recital 10.

[18] C. McSherry, "Dangerous Decision in Oracle v. Google: Federal Circuit Reverses Sensible Lower Court Ruling on APIs", Electronic Frontier Foundation, 9 May 2014, available from: <https://www.eff.org/deeplinks/2014/05/dangerous-ruling-oracle-v-google-federal-circuit-reverses-sensible-lower-court> 2016.01.05.

[19] Fitbit API Terms of Service <https://dev.fitbit.com/terms> 2015.12.28.

[20] Twitter Developer Agreement <https://dev.twitter.com/overview/terms/agreement> 2015.09.18.

[21] Twitter Terms of Service <https://twitter.com/tos?lang=en> 2015.12.28.

[22] Withings Website Terms of Use <http://www.withings.com/uk/en/legal/legal-information#/uk/en/legal/website-terms-of-use> 2015.12.28.

[23] Withings API Terms of Use <http://www-media-cdn.withings.com/wysiwyg/legal/2015-Withings-API-Terms-of-Use-VUS.pdf?_ga=1.254361352.1215146296.1418739123> 2015.12.28.

[24] D.Rowland, U.Kohl, and A.Charlesworth, "Information Technology Law", 4th edition, Routledge, Taylor&Francis Group, pp. 400, 2012.

[25] Civil Code of Russian Federatrion N 51-ФЗ of 30.11.1994 /Гражданский кодекс Российской Федерации (ГК РФ) от 30.11.1994 N 51-ФЗ <http://pravo.gov.ru/proxy/ips/?docbody=&nd=102033239&intelsearch=%C3%F0%E0%E6%E4%E0%ED%F1%EA%E8%E9+%EA%EE%E4%E5%EA%F1+%D0%EE%F1%F1%E8%E9%F1%EA%EE%E9+%D4%E5%E4%E5%F0%E0%F6%E8%E8> 2015.12.28.

[26] C.Reed and J.Angel, "Computer Law", Sixth Edition, Oxford University Press, pp.352-353, 2007.

[27] German Civil Code in the version promulgated on 2 January 2002 (Federal Law Gazette, p.42, 2909, 2003, p.738, last amended by Article 4 para 5 of the Act of 1 October 2013 (Federal Law Gazette, p.3719), Artricle 307.

[28] Copyright Act of 9 September 1965 (Federal Law Gazette Part I, p. 1273), as last amended by Article 8 of the Act of 1 October 2013 (Federal Law Gazette Part I, p. 3714).

[29] United Kingdom, Copyright, Designs and Patents Act 1988.