



D2.5 IPR Report

Deliverable number	D2.5
Deliverable title	IPR REPORT
Nature ¹	R
Dissemination Level ²	PU
Author (email) Institution	<p>Luca Simeone (luca@vianet.it) VIANET</p> <p>Giuseppe Mazziotti (giuseppe@vianet.it) VIANET</p> <p>Nikos Frangakis (nikos.frangakis@iccs.gr) ICCS</p> <p>Lorenzo Picinali (l.picinali@imperial.ac.uk) ICL</p> <p>Arcadio Reyes Lecuona (areyes@uma.es) UMA</p> <p>Luis Molina Tanco (lmntanco@uma.es) UMA</p>
Editor (email) Institution	Mauro Simeone (mauro@vianet.it) VIANET
Leading partner	VIANET
Participating partners	ICCS, ICL, UMA
Official submission date:	M18
Actual submission date:	31 st May 2018

¹ R=Document, report; DEM=Demonstrator, pilot, prototype; DEC=website, patent filings, videos, etc.; OTHER=other

² PU=Public, CO=Confidential, only for members of the consortium (including the Commission Services), CI=Classified, as referred to in Commission Decision 2001/844/EC

Modifications index	
28/08/2017	Initial Release
19/09/2017	Review received from ICCS and ESM
21/09/2017	Further release of the document that addresses reviewers' comments
24/04/2018	Second iteration of the document distributed to consortium
17/05/2018	Review received from TUK and ESM
20/5/2018	Quality check
29/5/2018	Proof reading
31/5/2018	Final release



This work is a part of the PLUGGY project. PLUGGY has received funding from the European Union's Horizon 2020 research & innovation programme under grant agreement no 726765. Content reflects only the authors' view and European Commission is not responsible for any use that may be made of the information it contains.

Table of Contents

EXECUTIVE SUMMARY	6
1 INTRODUCTION	7
1.1 Purpose of the document	7
1.2 Intended readership	7
1.3 Relation with other Pluggy deliverables	7
1.4 Acronyms and Abbreviations	8
2 APPROACH.....	8
3 PLUGGY AND ITS CHALLENGES	9
3.1 A Short Overview of PLUGGY	9
3.2 What we wrote in the Description of Action in relation to IPR.....	9
3.3 Interdependencies among PLUGGY modules.....	10
4 OVERVIEW OF AVAILABLE LICENCES	12
4.1 Analysis of potential open source licences for the PLUGGY Platform and Applications	12
4.1.1 Overview	12
4.1.2 GNU General Public Licence (GPL) - version 3	13
4.1.3 MIT Licence.....	13
4.1.4 Mozilla Public Licence 2.0	14
4.1.5 Apache Licence 2.0	14
4.2 Analysis of potential licences for the content uploaded to PLUGGY by the end user.....	14
4.2.1 Overview	14
4.2.2 Commercial copyright licences: “All rights reserved” ©	15
4.2.3 GNU Free Documentation Licence	15
4.2.4 Creative Commons: “Some rights reserved”	16
4.3 ANALYSIS OF POTENTIAL LICENCES FOR THE CONTENT REMIXED AND ANNOTATED IN PLUGGY BY THE END-USER	17
5 RECOMMENDATIONS FOR LICENCES TO BE ADOPTED IN PLUGGY... 	18
5.1 PLUGGY Platform and the applications	18
5.2 Content uploaded to PLUGGY by the end-user	19

SECTION 6: CONCLUSIONS20**List of Figures**

Figure 1: Interdependencies among PLUGGY's components 11

List of Tables

Table 1: Suggested licences for PLUGGY software components and/or apps 19

EXECUTIVE SUMMARY

Deliverable D2.5 “IPR report” presents the results of an analysis of various licences that can be used within PLUGGY both in relation to (1) the software platforms and applications that will be deployed and released and (2) the data that will be gathered from existing archives and/or archived and curated by the PLUGGY users.

This deliverable describes a strategy that takes into consideration both the open source approach adopted by the consortium and the possibility for any external organisation or developer to create non-commercial and/or commercial applications by retaining (in whole or in part) their copyright in the creative works and information embodied into their derivative applications.

The deliverable identifies as suitable open source licences for the PLUGGY software applications and components both GPL v3 (for the PLUGGY website, the augmented reality app, the sonic app and the gamification app) and MIT (for the PLUGGY backend components and the geolocation app).

As for the IPR strategy more strictly connected to content and depending on the conditions of use of the original materials, the PLUGGY platform users should be able to opt for either a customised commercial licence or for the Creative Commons BY. This Licence allows for the broadest forms of re-use of existing works and materials created by users while respecting the right to paternity of the original author(s).

1 Introduction

1.1 PURPOSE OF THE DOCUMENT

This deliverable D2.5 “IPR report” presents the results of an analysis of various licences that can be used within PLUGGY.

The deliverable is structured as follows:

- Chapter 2 (Approach) describes how D2.5 stems from a process that saw the involvement of all the partners of the consortium
- Chapter 3 (PLUGGY and its IPR challenges) illustrates the key exploitation results of PLUGGY and what we stated in the DoA
- Chapter 4 (Overview of available licences) presents a selection and an analysis of various licences that can be used for the PLUGGY platform and applications and for the content uploaded to PLUGGY by the end-user
- Chapter 5 (Recommendations for licences to be adopted in PLUGGY) provides some recommendations in relation to which licences should be adopted and to the overall IPR strategy

1.2 INTENDED READERSHIP

This deliverable is flagged as public, and, as such, will be distributed beyond the boundaries of the PLUGGY consortium. In light of this extended readership, whenever possible we tried to adopt a communication style suitable for a wider and non-specialist audience.

1.3 RELATION WITH OTHER PLUGGY DELIVERABLES

This deliverable is strictly interlinked with what emerged from the activities of the other WPs. Particularly, the overall approach towards innovation and IPR management (WP1 Project management, coordination, quality, innovation & IPR), the user requirements defined in WP2 Social Interaction design and specifications and the first iterations of the documents for the exploitation of PLUGGY (WP8 Exploitation) informed the choices that we made in relation to the licences to be examined and recommended.

Both the iterations of D2.5 are going to support the development activities of the WP3 Social Platform and Curatorial Tool implementation and WP4 Applications design and implementation and the validation and deployment activities carried out in WP5 Digital Encounters, WP6 Evaluation and validation of usability and utility, WP8 Exploitation.

Last but not least, the overall approach toward open source licencing can also be used as an important element of the communication and dissemination activities carried out in WP7 Communication and dissemination.

1.4 ACRONYMS AND ABBREVIATIONS

Abbreviation	Description
D	deliverable, as in D6.1
DoA	description of actions
EU	European Union, as in EU-funded
GNU GPL	General Public Licence
IPR(s)	Intellectual Property Rights
M	month, as in M18
MIT	Massachusetts Institute of Technology
T	task, as in T2.5

2 Approach

The deliverable D2.5 emerged from the activities of the T2.5 IPR management and of various tasks simultaneously running within the WP8 Exploitation.

The IPR strategies have been defined in strict collaboration with the other PLUGGY partners, mostly through a series of workshops (during the PLUGGY plenary meetings in Athens, Malaga and Košice) and online conversations.

3 PLUGGY and its Challenges

3.1 A SHORT OVERVIEW OF PLUGGY

PLUGGY will support citizens in shaping cultural heritage and being shaped by it. PLUGGY frames its objectives around the Faro Convention³, in line with new social paradigms which declare heritage as an asset and a responsibility for all, aiming to encompass greater democratic participative actions with concern for the local and the everyday.

PLUGGY will develop two interlinked sets of software applications:

- The PLUGGY software platform, which will facilitate a continuing process for creating, modifying and safeguarding heritage where citizens will be ‘prosumers’ and maintainers of cultural activities. It will be web-based, easily accessed and will allow the development of shared identity and differentiation. PLUGGY Social Platform’s users will curate stories using the PLUGGY Curatorial Tool. Content will be either uploaded by end-users or derived from digital collections (e.g., museums, archives, cultural institutions), allowing users to create links between seemingly unrelated facts, events, people and digitised collections, leading to new approaches of presenting cultural resources, and new ways of experiencing them. PLUGGY will provide the necessary architecture and the technologies for the creation of pluggable applications, allowing for beyond-the-project, not yet imagined ways to utilise the uploaded content on the social platform, while focusing on the design of social interaction, helping to build new virtual heritage communities.

Moreover, 4 PLUGGY-derived applications (i.e., Augmented reality, Geolocation, 3D Sonic Narratives and Collaborative Games) will be developed and released as demonstrators of the potentiality of the PLUGGY software platform.

3.2 WHAT WE WROTE IN THE DESCRIPTION OF ACTION IN RELATION TO IPR

In the Description of Action we specified that:

- Both the PLUGGY software platform and the 4 PLUGGY-derived applications (Augmented reality, Geolocation, 3D Sonic Narratives and Collaborative Games) will be released as technological tools made freely available under open source licences and, as such, distributed through appropriate channels and portals relevant for the open source software community.

³ For more information on the Faro Convention and on its interrelations with PLUGGY, please see the PLUGGY deliverable “D2.1 Faro research and ICT recommendations “.

- The PLUGGY software platform will be released together with comprehensive documentation, including tutorials and howtos. The applications, released as open source programs, will enable developers to use them as practical examples of how to build software drawing upon the PLUGGY platform.

More specifically, in terms of licencing policy, a suitable open source licence will have to be identified according to the following objectives:

- The use of the PLUGGY platform and of the related applications should remain free for any external organisation or developer to use and modify them and to further build on them. This means that the best licensing model should preferably contain a so-called ‘share-alike’ clause.

The PLUGGY platform should also allow any external organisation or developer to create non-commercial and/or commercial applications by retaining (in whole or in part) their copyright in the creative works and information embodied into their derivative applications.

3.3 INTERDEPNENCIES AMONG PLUGGY MODULES

PLUGGY will be built upon available software and libraries in order to speed up development and utilise the open source communities. Some libraries have already been identified as potential components of the PLUGGY software suite, namely the libraries from KnightLab⁴ and the software from the EU-funded project 3D Tune-In⁵. In the image below, one can see the relation between the already identified software and the several components of PLUGGY. The KnightLab libraries and the software of 3DTune-In already come under a specific Licence, the Mozilla and GPLv3 Licence respectively.

Currently there are three distinct components in PLUGGY: a) the back-end services, b) the Social Platform and Curatorial Tool and c) the mobile apps. These components will communicate with each other using web services. The diagram below describes the interdependencies among these components, where the sense of an arrow from A to B means that A makes use of B. This implies that the social platform and curatorial tool, as well as the apps, should be published under a Licence scheme compatible with the third parties they are using. Therefore, a GPLv3 Licence is being considered for these components.

However, as we do not want to impose GPLv3 Licence to future apps, the PLUGGY back end should be published under a less restrictive Licence, as for instance MIT (see 4.1.3 infra) or Apache (see 4.1.5 infra). In any event, the PLUGGY back end Licence must be compatible with the licences attached to software the back end incorporates.

⁴ <https://knightlab.northwestern.edu/projects/>

⁵ <http://3d-tune-in.eu/>

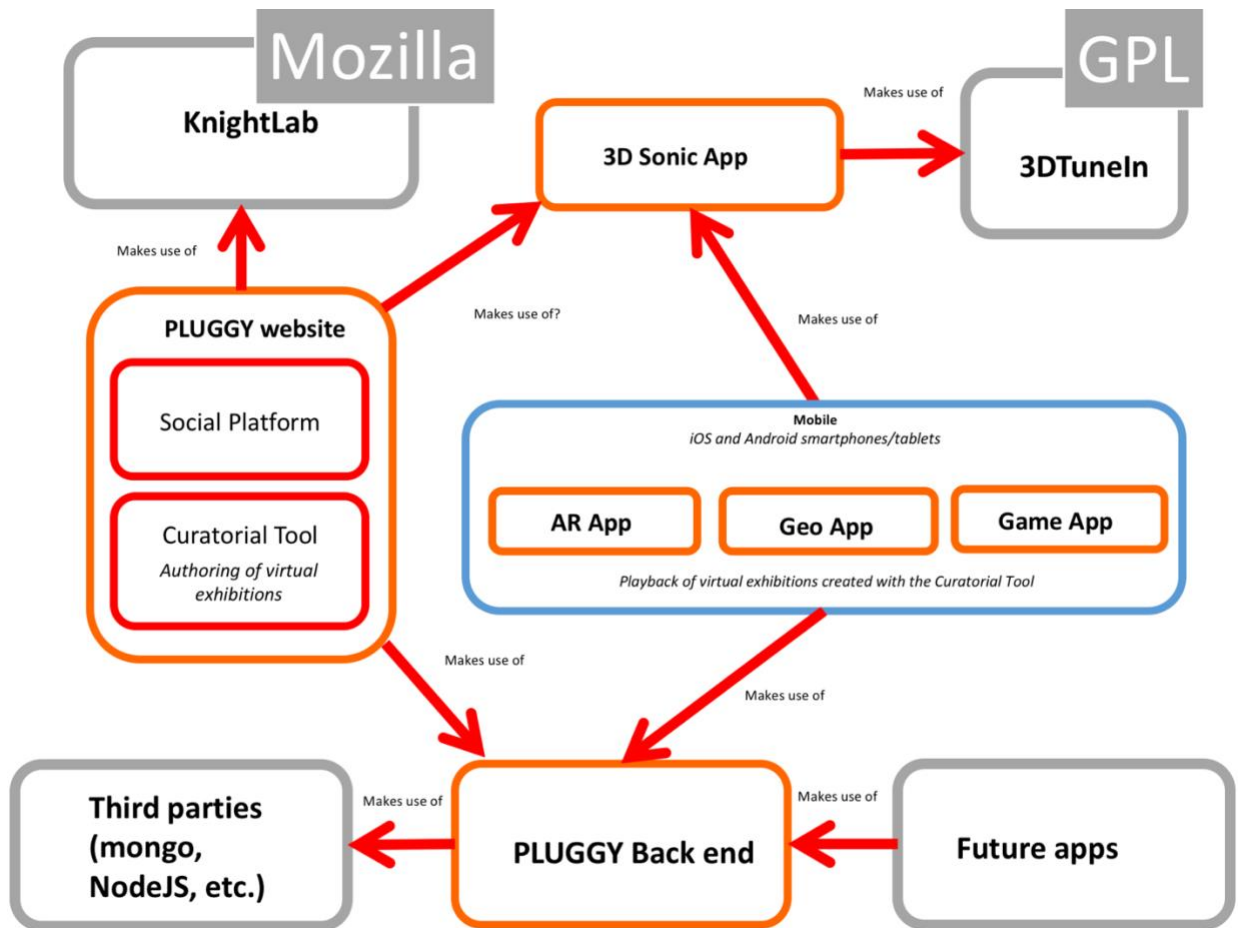


Figure 1: Interdependencies among PLUGGY's components

4 Overview of available licences

4.1 ANALYSIS OF POTENTIAL OPEN SOURCE LICENCES FOR THE PLUGGY PLATFORM AND APPLICATIONS

As pointed out above, PLUGGY's licencing policy will have to be shaped so as to achieve the objectives of enabling use of its platform and of the related applications and freedom for any external organisation or developer to use and modify these technologies and to further build upon them. This means that the best licencing model should contain a so-called 'share-alike' clause, which aims at keeping all further developments of free software as open as the original products. As agreed by the Consortium members, moreover, in order to enable commercial uses of materials and technologies stored in the back-end of the platform, these items will have to be released under an open source licence that allows for commercial uses of follow-on applications and technologies.

Given the aforementioned goals and considering the openness of all licences the consortium will attach to its products, the source code of computer programs developed by the PLUGGY Consortium can be freely made available on public repositories on the GitHub platform from the outset of the project.

4.1.1 Overview

The main purpose of PLUGGY is that of developing technologies (i.e. a web-based platform + four applications) that will have to be and remain freely downloadable, accessible and modifiable in order to be used as tools by the platform users and any external organisation or developer. The whole Consortium agreed at the plenary meeting in Malaga (March 2017) that the exploitation strategy should be purely content-driven, i.e. without a directly or indirectly commercial exploitation of the technology the Consortium partners will develop and make available to the public. However, technologies contained in the back-end of the platform will have to remain freely available also for commercial uses, which can rely on applications and other software that third party and external users might create and develop for their own businesses. This means that the aim to maximise access to the functionalities embodied in each of PLUGGY's products through licences ensuring perpetual gratuity and openness, will have to be made compatible with the possibility for third parties and external users of distributing the original software they modify and incorporate into their products while amending and abandoning the free and open conditions originally attached to each PLUGGY's technological component.

In short, the standard licences to be attached to the software or technology created by PLUGGY should be chosen in a way that such licences work well, do not contradict and inter-operate smoothly with those terms and conditions of use attached to pre-existing

software and technologies the Consortium partners will use in developing PLUGGY's products.

Below we shortly present and analyse a selection of potential open source licences whose suitability for PLUGGY's technology is assessed in relation to the following criteria:

- Popularity and size of the communities of users relying on open source licences (as identified by websites such as <http://opensource.org>). Well-known and broadly used licences will ensure the broadest accessibility of PLUGGY's platform and products;
- Compatibility and interoperability of PLUGGY's licences with the terms and conditions attached to software and technologies Consortium partners are expected to use (i.e., 3D Tune-In Toolkit, Audacity⁶, Elgg⁷)

Freedom of external organisations or third party developers to create and use their own commercial applications incorporating PLUGGY's technology or modules while adopting licences which are compatible with the ones adopted by PLUGGY.

4.1.2 GNU General Public Licence (GPL) - version 3

The GPL v3 is, by far, the best known and most widely used open source licence. This licence incorporates contractual permissions enabling use of the licenced software for commercial purposes, free distribution and modification of the computer program, which entails the possibility of including the licenced work into larger works.

Under this Licence software can be used and modified privately and contributors provide an express grant of patent rights. **GPL v3 requires the source code to be disclosed in its entirety** and a copyright of the licence and the copyright notice to be attached to the software.

As a result of the 'share-alike' clause, **modifications should be released under the same licence (i.e. the GPL itself)** when distributing the software. The Licence provides also that changes to the source code shall be documented. The GPL licence includes a limitation of liability and expressly states it does not provide any warranty.

4.1.3 MIT Licence

In comparison to the GPL v3, the MIT is a shorter and more permissive licence that allows commercial and non-commercial uses, distribution and modification of the source code and private use on condition that a copy of the licence and a copyright notice are attached to the software. A relevant difference between the MIT and the GPL is that the MIT licence does not require a full disclosure of the source code. **Moreover, the MIT licence does not require modifications and larger works including the licenced software** to be released under the MIT licence itself: this means that works originally released under the

⁶ <http://www.audacityteam.org/>

⁷ <https://elgg.org/>

MIT licence may be modified and then distributed under different licensing conditions and without source code (in so far as the newly adopted licence allows this). In the same way as the GPL v 3, this licence includes a limitation of liability and expressly states it does not provide any warranty.

4.1.4 Mozilla Public Licence 2.0

This licence allows for commercial and non-commercial use, distribution and modification, private use. The licence comes with the patent rights that the software developers might hold. The Mozilla Public Licence requires the licence terms and the copyright notice to be included in the software. Similarly to the GPL, when distributing the software, its source code must be fully disclosed and modifications of existing files should be released under the same licence (i.e. Mozilla Public Licence). In some cases a similar or related licence may be used. **This licence is generally regarded as weaker than GPL v3 in so far as a larger work including the licenced work can be distributed under different terms and with no source code for files added in the larger work.** In addition to a limitation of liability and the absence of any warranty, this Licence expressly provides that it does not grant trademark rights (even though licences without such an explicit statement might be interpreted as not granting any explicit trademark rights).

4.1.5 Apache Licence 2.0

The Apache Licence is similar to the MIT Licence in so far as – while permitting commercial use, distribution, modification, private use and granting patent rights with it – entails freedom to release licenced works, modified versions and larger works under **licencing terms which are different from the ones originally attached to the software.** In the same way as the MIT licence, **the Apache Licence requires no disclosure of the source code.** This licence requires the licence terms and the copyright notice to be included in the software and changes made to the source code to be documented. Apache contains the same limitations of the Mozilla Public Licence (i.e. a limitation of liability; absence of any warranty; an explicit reference to non-grant of any trademark rights).

4.2 ANALYSIS OF POTENTIAL LICENCES FOR THE CONTENT UPLOADED TO PLUGGY BY THE END USER

4.2.1 Overview

As pointed out above, PLUGGY's products will be designed to enable any platform user or external organisation/developer to create non-commercial and/or commercial products relying upon the technology and functionalities of the platform and the related four applications. Given that the technologies and modules developed by the Consortium will be released under one of the aforementioned open source licences, users and follow-on developers of the PLUGGY platform and applications will have to comply with the licence accompanying each PLUGGY component. This means that, while developing and then distributing newer versions of the applications and/or creating new applications, follow-on users will have to check whether the single PLUGGY module or component they use,

modify and incorporate comes under a licence which allows for a change of licencing terms.

For all types of **content that do not concern the technology and/or the related functionalities**, instead, both platform users and third parties creating their own content will be in a position to choose a customised licensing scheme and to retain (in whole or in part) their copyright in the creative works incorporated into their products. Given that PLUGGY intends to enable both commercial and non-commercial uses of its products and technologies and of the cultural heritage contents created and disseminated by both professional and non-professional users, it will have to clarify on its web pages and in its tutorials that each user is free to choose for their own contents the licence that suits them best.

As emphasised in the project description, PLUGGY will receive data such as digital artefacts and related annotations from **two typologies of users**:

- Existing archives and/or institutions active in the cultural sector or
- Individual end-users that, after having been authenticated and having logged in, will be able to upload their own contents and information.

Both of these sources of content will potentially allow economic exploitation since each user will be entitled to choose the most appropriate and convenient copyright licence. What PLUGGY is expected to do with regard to content-related licences is to suggest a number of licencing policies, which go from restrictive commercial licencing schemes (i.e. based on the principle of ‘all rights reserved’) to permissive terms and conditions. As we will see, standardised licensing schemes that are based on the idea of ‘some rights reserved’ might prove to be an ideal compromise for many users of the PLUGGY platform and applications.

4.2.2 Commercial copyright licences: “All rights reserved” ©

Users of the PLUGGY platform and of its applications will have to be able to choose the terms and conditions under which their “non-software” contents, works and data will be accessible and usable by third parties. In other words, the fact that a user, external developer or organisation relies upon PLUGGY’s free software made available under open source licences should not restrict them from exploiting the creative works incorporated into their applications in a commercial and for-profit manner, keeping all their rights reserved. Users pursuing commercial goals will have to draft and implement their own customised licences on the grounds of freedom of contract and in accordance with their specific needs, business purposes and philosophy.

4.2.3 GNU Free Documentation Licence

On the opposite edge of the spectrum of the licencing options there are standardised licences such as the GNU Free Documentation Licence. From a contractual point of view, in terms of permissions related to content and documentation, this licence has the same

purposes and effects the GPL v3 has for software. This licence has been designed by the Free Software Foundation in order to give readers the rights to copy, re-distribute and modify a work and requires all copies and derivative works to be released under the same licence. This licence was originally designed for manuals, textbooks, other reference and instructional materials and documentation that accompany open source software.

4.2.4 Creative Commons: “Some rights reserved”

The Creative Commons initiative makes available to all creators a set of standardised licences for their works with a view to giving each copyright holder broad discretion in determining the conditions under which his or her works can be accessed and used by third parties. Even though the initiative originated from the idea of extending to digital content the philosophy and purposes the open source movement has pursued for software, Creative Commons has gone far beyond the licensing terms embodied into open source licences. In comparison to the GNU Free Documentation Licence, **Creative Commons provides a much more flexible and nuanced range of exploitation opportunities** given by the possibility of combining clauses and usage permissions in different and customised ways.

Creative Commons is based on the choice and/or combination of the following **usage permission clauses**, whose minimum common denominator is the ‘Attribution’ clause, which deals with the right to paternity of the author and credits his or her work:

- BY (Attribution): it means that the author of the work must be identified and credited for his/her work
- SA (Share-alike): it means that the work shall be distributed according to the same conditions under which it was licenced originally
- NC (Non-commercial): it means the copyright holder allows just non-commercial uses (whereas there is a reservation for commercial uses)
- ND (Non-derivative): it means that the work cannot be lawfully modified, altered or transformed without the author’s permission

The combination of the above-mentioned clauses gives rise to choices or sets of usage permissions, each of which reflects a distinct way to dispose of rights granted under copyright laws. From the most to the least permissive licencing schemes, the Creative Commons licence combinations are the following ones:

- BY(Attribution)
- BY-NC (Attribution/Non-commercial)
- BY-SA (Attribution/Share Alike)
- BY-SA-NC (Attribution/Share Alike/Non-commercial)
- BY-NC (Attribution/Non-commercial)
- BY-NC-ND (Attribution/Non-commercial/Non-derivative)

An additional advantage that would make Creative Commons particularly well-suited for PLUGGY's purposes of diversified and nuanced exploitation with regard to non-software content created by platform users or external developers/organisations is that such licences can be easily expressed through icons and metadata, which make works released under Creative Commons easy to find via dedicated websites (e.g. Flickr) and search engines. What is also remarkable and useful from a dissemination perspective is the fact that the Creative Commons licences have been translated into dozens of languages and adapted to a multiplicity of jurisdictions and legal systems.

4.3 ANALYSIS OF POTENTIAL LICENCES FOR THE CONTENT REMIXED AND ANNOTATED IN PLUGGY BY THE END USERS

The software platform built up by the PLUGGY Consortium will be designed to be easily connected to a number of existing archives, museums, libraries, private collections and other cultural institutions that aim at making their collections available to the public. Each item or collection made available by these institutions generally comes with a specific licence. Some of these licences can be restrictive and clearly entail that the institution maintains full ownership on the contents and data. Users of the PLUGGY platforms will have to be warned and instructed about the necessity to check the terms and conditions of use under which these materials are made available by their respective rights-holders. If such terms and conditions are restrictive, users will not be in a position to lawfully re-mix and annotate pre-existing content.

Other licences implemented by archives, museums, libraries and private collectors, instead, might prove to be more permissive. For instance, if archives and collections owned by cultural institutions were made available under licensing terms that do not restrict commercial uses, activities such as remixing, annotating, `adapting or editing and redistributing such works would, potentially, be a way to create economic value from the contents coming from existing archives and collections.

5 Recommendations for Licences to be adopted in PLUGGY

5.1 PLUGGY PLATFORM AND THE APPLICATIONS

A preliminary issue to consider in the choice of the best licensing package for PLUGGY is whether or not, in building its infrastructure and technologies, the Consortium should use also proprietary software. For instance, in the development of the application enabling collaborative games, a question might arise about the compatibility of a program such as Unity with the open source structure and the main dissemination and exploitation purposes of PLUGGY. To avoid uncertainties in this regard, one should clearly distinguish the proprietary character of the technological environment developed by a company like Unity⁸ (whose products are mainly exploited through subscription models) from the autonomous creation of games by subscribers taking advantage of Unity's products to develop their own ideas and projects. If the developer of proprietary software clarifies, as Unity does on its website, that products are royalty-free (i.e. Unity does not charge on a per-title basis or require a revenue share model with its subscribers) the Consortium members having purchased a Unity subscription end up fully owning the content they create, also when they stop subscribing to Unity.

It goes without saying that the Consortium members should avoid using proprietary technology in so far as they intend and/or need to modify such technology (e.g. Unity's software) in order to develop PLUGGY's components. Without the proprietor's consent, any of such unauthorised changes, alterations or developments would infringe the third party's intellectual property rights in the technology.

Considering the essential function of pre-existing software the Consortium partners intend to use in the development of PLUGGY's products – especially the 3D Tune-In Toolkit - and the fact that such software is licenced under a GPL, the implementation of the above-mentioned strict terms of the GPL seems to be inevitable for the release of PLUGGY's products and modules that technically depend on pre-existing (and strictly open source) software. As emphasised above, the GPL contractually obliges users of the licenced software to release newer versions of the software or works incorporating the licenced work under the same licence, i.e. GPL itself.

The GPL is much less suitable, instead, when it comes to uses of **back-end materials** and technologies that do not depend technically on the functioning of open source software such as 3D Tune-In. As agreed by the Consortium partners at the Košice plenary meeting (June 2017), compelling users and third parties to disclose and make available the source code of their derivative software and products and to licence such works under the GPL

⁸ <https://unity3d.com/>

would be counter-productive since it would deprive follow-on developers of the **freedom to abandon the ‘share alike’ condition** and to adopt a customised commercial licence for their applications. This means that, as far as back-end materials are concerned, PLUGGY shall preferably opt for open source licences such as **MIT and Apache**, which do not require a full disclosure of the source code of the newly created programs and allow for the adoption of different (and potentially more restrictive) licencing terms.

Having said so, the most appropriate solution for the licensing of the platform components and of the mobile applications can be sought through a combination of two licences: GPL and MIT. The choice of the most suitable licence can be based on whether or not specific software components – when it comes to their core functioning - depend on pre-existing components released under GPL. If such interdependency subsists, the PLUGGY consortium will opt for the GPL. If there is no dependency, instead, PLUGGY will be free to opt for the MIT, which is **less restrictive** in so far as it allows commercial uses of the specific software component and is **not bound by a share-alike clause**.

The table below summarises the current choice of licences made together with the other partners and helps identify the most suitable licence for each software component

PLUGGY software components and/or application	Suggested Licence
Website	GPL
Back-end components	MIT
Augmented reality app	GPL
Sonic app	GPL
Geolocation app	MIT
Gamification app	GPL

Table 1: Suggested licences for PLUGGY software components and/or apps

5.2 CONTENT UPLOADED TO PLUGGY BY THE END-USER

As pointed out above, end-users will have to be able to choose whether to distribute their non-software content (i) for free or (ii) under the terms and conditions of customised commercial licences. If they wished to let follow-on users use and freely modify their works and cultural heritage contents for their own purposes, individual and corporate/ institutional users would need to opt for **open content licences** such as the GNU Free Documentation Licence or the **Creative Commons BY (Attribution)**. Considering the popularity and the simplicity as well as the successful iconography and metadata developed by the Creative Commons foundation, the best choice is that of encouraging PLUGGY users to opt for the Creative Commons BY. This licence allows for

the broadest forms of re-use of existing works and materials created by users while respecting the right to paternity of the original author(s).

It should be made it clear that, to ensure an effective community-building strategy, the Creative Commons BY licence should be given **priority over the CC0 (public domain dedication) licence** suggested by the European Commission reviewers since the relinquishment of all rights (including moral rights) through the CC0 Licence would be legally very questionable in those countries of the European Union where copyright protection is based on the subsistence of non-waivable personality rights.

If, to the contrary, platform users or external developers or organisations wished to restrict use of their contents while using PLUGGY's software and technology in order to pursue commercial goals (e.g., marketing a PLUGGY-based mobile application), they shall remain free to do so and to generate economic revenue from them. To this end, individual or institutional users shall be entitled to either retain full copyright in their work and information, on the grounds of a customised commercial licence, or opt for a **form of customisation** that could be expressed through one of the different combinations of the aforementioned Creative Commons clauses, which reflect various degrees of freedom and usage restrictions. For instance, if PLUGGY users creating new content wished to restrict follow-on users from making commercial uses of their original content they could opt for a **CC BY-NC**. In this example the licence would reserve the *commercial* exploitation of the user-generated content to its own original author, leaving the PLUGGY community with the freedom to use the same content for *non-commercial* purposes within the platform and applications.

The only limit users and external developers would face in making their works subject to usage restrictions is the **'share-alike' clause attached to PLUGGY's technology** and functionalities licenced under the GPL. As pointed out above, this clause relates to the web-based platform and the main 4 applications with the exclusion of the back-end, where the MIT licence will ensure a much higher degree of flexibility for profit-seeking users. It seems evident that, from a legal point of view, the viral and restrictive effects of the GPL would not allow follow-on users to claim exclusive rights in the (modified) software components of their own applications if the GPL were applied also to PLUGGY back end materials, as incorporated into third party derivative products.

As emphasised above, what a customised commercial licence adopted for a new application would cover is the non-software content (i.e., creative works and other materials protected under copyright law) which could be exploited and valorised in different ways.

Last but not least, it should be borne in mind that, whenever the PLUGGY platform users or third parties intend to annotate, alter, modify and/or remix contents made available via the platform and the 4 applications, they should **check the terms and conditions under which such materials are made available** before publishing/posting their modified contents. This check will be of utmost importance in the use of contents selected for

purposes of transformative use originating from existing archives, museums, libraries, private collections and other cultural institutions, whose licences could either be restrictive or permissive. Depending on the conditions of use of the original materials, the PLUGGY platform users will be able to opt for either a customised commercial licence or, as suggested above, for the GNU Free Documentation Licence or one of the Creative Commons standardised solutions.

6 Conclusions

This deliverable provided some considerations in relation to the IPR strategy of PLUGGY, with particular reference to the software components and applications and the material uploaded by the users onto the PLUGGY website and applications. The deliverable suggests that suitable open source licences for the PLUGGY software applications and components can be both GPL v3 (for the PLUGGY website, the augmented reality app, the sonic app and the gamification app) and MIT (for the PLUGGY backend components and the geolocation app). It is here suggested that a combination of these two licences can be used.

In relation to the IPR strategy more strictly connected to content and depending on the conditions of use of the original materials, the PLUGGY platform users should be able to opt for either a customised commercial licence or for the Creative Commons BY.

The IPR strategy analysed in this document will serve as a backbone to elaborate a more comprehensive legal framework in the remaining months of the project (mostly in WP8 in the *D8.3 Exploitation plan & agreement*). If while the project progresses new considerations on the licences will arise, such considerations will be reported in the above-mentioned D8.3.