Deliverable D3.4

Report on business models emerging from the ACE

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Executive Summary

This deliverable is part of WP3, a work package that will (1) clarify intellectual property aspects of the of ACE, (2) relate them to the different Creative Commons licensing strategies, (3) define procedures that explain to content creators, content providers, tool developers and content users how to interact with the ACE, (4) and study emerging business models and long-term sustainability models for the ACE.

The present task explores emergent business models that may result from the creation of the Audio Commons Ecosystem (ACE) and demonstrates a pool of potential business models that either AudioCommons or third parties could decide to carry out within the ACE. This document evaluates how the ecosystem fits and impacts the current industries, and how the interactions of the different actors in the ACE can give birth to new business models and ultimately support the existence of the ecosystem itself. The ACE and use cases explored within previous tasks, demonstrated a large potential of the ACE to support new emerging business models, in the interaction between creators, consumers, services, and creative platforms such as music production tools or game engines. This task explores them, in order to create documentation that illustrates the potential business models and ways to implement them within the creative industries. The findings of this document, depicting hypothetical business models created using AudioCommons, lay foundation for future considerations regarding cross-subsidisation of the value of audio/music to emerging industry needs, such as health applications whereby the audio/music acts as agents for behaviour change (music for fitness apps or games for wellness).

This document starts from introducing the basic tools of business model analysis. We outline different tools, such as business model canvas and value proposition tools and explain the rules of their usage in the context of the project. By doing so, we give special consideration to the open nature of the content and the potential of commercial re-use of Creative Commons content. We argue that even though the information about commercial re-use in the license frameworks is rather limited and unspecific, the CC framework provides a ground for its commercial application, such acquiring permissions for content licensed under NC license. We show multiple solutions to how this process might be facilitated by the ACE.

In the further section we present three different business scenarios in which the ACE could evolve in the context of creative industry. We start from (1) an API-based model, based on business-to-business distribution of service. We then describe (2) a web-based interface with API offering a marketplace for open sound and related services. Lastly, we show (3) a community-based open sound platform operating in a similar way to Wikipedia. We consider each of the models using open business model canvas and addressing its elements, such as unique value proposition, key partners, customers segments etc. Even though the list we provide is not conclusive, it provides insights on possible directions and future of open sound community.

This deliverable clarifies issues connected to business model development and establishes industry needs that must be considered in the future steps of implementation of the ACE. The issues identified in this deliverable will also be utilized in the next task, aimed at exploration of business models for the ACE.

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Background

This Deliverable is part of the WP3 work package, which concentrates on understanding the rights management requirements and business models for the ACE. This document relates objectives stated in Deliverable 3.3. to possible directions of AudioCommons' ecosystem business model architecture. The analysis of these objectives contained in this document is intended to support the development of AudioCommons position in the creative industry.

Using data from interviews with project members and input acquired during the Business Model Workshop, this deliverable concentrates on two major aspects: (1) the design of three possible business models that the AudioCommons might develop; (2) the specific characteristics of these business models, such as distribution channels and user groups, and their unique value proposition proposed to users and customers; (3) potential of emergence of new businesses in order to identify the disruptive power of the future ACE.

The document is interconnected with other documents in Work Package 3, which have concentrated on the significance of Creative Commons licensing and presented the guidelines for including new actors in the ACE.

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1 Introduction

The AudioCommons Ecosystem (ACE) will provide a number of functions for actors with different needs representing gaming, music, and film/advertising industries, based on content licensed under Creative Commons framework. This deliverable investigates the possible directions of adapting this framework in the context of industry practice. The central issue of this document is the exploration of possible directions of business model architectures for the ACE and potential ways of engaging or disrupting the industry practice. We consider different models of adapting Creative Commons framework, looking at different scenarios, based on three different tracks: (1) establishing API as a paid service for tool developers; (2) creating a marketplace platforms for creators and consumers of sound; (3) creating a community-run platform operating in a similar way to Wikipedia. To do so, we use the open business model canvas, a tool created specifically to support development of open business models. We outline the key aspects of each of the business models, pointing at the possible direction of business growth. In the final section we show the potential models that might emerge from the ACE, showing the type of service they will perform in relation to the ACE.

1.1 Main objectives and goals

Objectives:

- Review of possible directions of business models for the AudioCommons;
- Analysis of each hypothetical business model through open business model canvas;
- Outline of potential businesses emerging from AudioCommons.

1.2 Terminology

AudioCommons: reference to the EC H2020 funded project AudioCommons, with grant agreement nr 688382.

Audio Commons Initiative: understanding of the AudioCommons project core ideas beyond the lifetime and specific scope of the funded project. The term “Audio Commons Initiative” is used to imply i) our will to continue supporting the Audio Commons Ecosystem and its ideas after the lifetime of the funded project, and ii) our will to engage new stakeholders which are not officially part of the project consortium.

Audio Commons: generic reference to the Audio Commons core ideas, without distinguishing between the concept of the initiative and the actual funded project.

Audio Commons Ecosystem (ACE): series of technologies and actors involved in publishing and consuming Audio Commons content.

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Audio Commons content (AC): audio content released under Creative Commons licenses and enhanced with meaningful contextual information (e.g., annotations, license information) that enables its publication in the ACE.

Content creator: individual users, industries or other actors that create audio content and publish in the ACE through content providers.

Content provider: services that expose content created by content creators to the ACE.

Content user: individual users, industries or other actors that use the content exposed by content providers and created by content creators in their creative workflows.

Ontology: In the context of computer and information sciences, an ontology defines a set of representational primitives with which to model a domain of knowledge or discourse. The representational primitives are typically classes (or sets), attributes (or properties), and relationships (or relations among class members). The definitions of the representational primitives include information about their meaning and constraints on their logically consistent application. In the context of database systems, ontology can be viewed as a level of abstraction of data models, analogous to hierarchical and relational models, but intended for modelling knowledge about individuals, their attributes, and their relationships to other individuals. Ontologies are typically specified in languages that allow abstraction away from data structures and implementation strategies; in practice, the languages of ontologies are closer in expressive power to first-order logic than languages used to model databases. [Gruber]

Tool developer: individual users, industries or other actors that develop tools for consuming (and also potentially publishing) Audio Commons content.

Embeddable tools: tools for consuming Audio Commons content that can be embedded in existing production workflows of creative industries.

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2. Introduction to business models and value proposal design

2.1 Business model - an introduction

In the most general terms a business model describes the rationale of how an organization creates, delivers and captures value in economic, social and cultural contexts. The literature of business models offers a multiplicity of definitions, uses and understandings—for example, scholars have refereed to business models as representations, conceptual tools, as a method or as a pattern (Arend, 2013; Baden-Fuller & Morgan, 2010; Shafer, Smith, & Linder, 2005; Teece, 2010; Zott et al., 2011). Björkdahl (2009) rightly points out that the literature on business models has tried to include the creation of value for users instead of solely addressing the appropriation of value—the latter usually defined as value capture. We take business models to be conceptual models that articulate the logic and activities put in place to create, deliver and appropriate value from a business. As Teece (2010, p. 173) suggests, "a business model embodies nothing less than the organizational and financial 'architecture' of a business". The business model thus describes how a business understands the customer segments that are being served and their offerings, how it organizes their activities and resources internally and with suppliers, and how it makes profits using value capture mechanisms (Magretta, 2002; Teece, 2010).

In management practice, the term business model is used for a broad range of informal and formal descriptions to represent core aspects of a business, including purpose, business process, target customers, offerings, strategies, infrastructure, organizational structures, sourcing, trading practices, and operational processes and policies including culture. A business model is an "abstract representation of a business, be it conceptual, textual, and/or graphical, of all core interrelated architectural, co-operational, and financial arrangements designed and developed by an organization presently and in the future, as well as all core products and/or services the organization offers, or will offer, based on these arrangements that are needed to achieve its strategic goals and objectives" (Al-Debei, El-Haddadeh and Avison, 2008). This definition indicates that value proposition, value architecture (the organizational infrastructure and technological architecture that allows the movement of products, services, and information), value finance (modeling information related to total cost of ownership, pricing methods, and revenue structure), and value network articulate the primary constructs or dimensions of business models.

Business model design is part of the business development and business strategy process and involves design methods. Massa and Tucci (2014) highlighted the difference between crafting a new business model when none is in place, as it is often the case with academic spinoffs and high technology entrepreneurship, and changing an existing business model, such as when the tooling company Hilti shifted from selling its tools to a leasing model[1]. They suggested that the differences are so profound (for example, lack of resource in the former case and inertia and conflicts with existing configurations and organisational structures in the latter) that it could be worthwhile to adopt different terms for the two. They suggest business model design to refer to the process of crafting a business model when none is in place and business model reconfiguration for process of changing an existing business model, also highlighting that the two process are not mutually exclusive, meaning reconfiguration may involve steps which parallel those of designing a business model.

[1] http://www.hbs.edu/faculty/Pages/item.aspx?num=52550

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Examples of the most popular business models include:

1) The 'razors and blades' model used by companies such as Gilette, in which a basic product (the razor) is sold cheaply, but an essential add-on or consumable (the blade) is sold at a high price once the customer has been lured in.

2) Another example is a mobile phone company may sell handsets (the bait) at a reduced price while signing up customers to buy calls over the period of a contract (the hook).

3) Also General Motors, for many years, had an unsustainable business model as its returns did not match or exceed its cost of capital. Profitability was focused on the financing of cars, i.e. providing financing to its automotive customers, such as loans to buy the cars, through its finance subsidiary GMAC, rather than by designing and manufacturing sought after cars that are also cost competitive. When the financial crisis struck, this model encountered problems, and as GMAC had to seek a US government bailout, the company's already precarious condition turned into bankruptcy.

In this document, we draw on current business model development practice and methods proposed by the Creative Commons foundation and use open business model canvas to draw attention to the selected aspects of AudioCommons' business model.

2.2. Business model canvas

Business models are intended to create value out of new ideas. In many cases great ideas for products or services fail. This is why methodologies were created to facilitate the process of conceptualisation and experimentation with business models. Their main logic is based on posing some some key questions reflecting the way forward for the business model. The underlying assumption here is based on the concept of expressing, considering brainstorming ideas, which help to draw out important risks and assumptions associated with a particular business idea or innovation. Having a business model also signifies experimentation - as business model development requires adaptation and ongoing evaluation. Many startups, such as Jamendo, have changed and evolved significantly and for many times until they have reached their final form.

This form of studying business ideas is closely related to lean startup methodology for developing businesses and products. The methodology aims to shorten product development cycles by adopting a combination of business-hypothesis-driven experimentation, iterative product releases, and validated learning. The central hypothesis of the lean startup methodology is that if startup companies invest their time into iteratively building products or services to meet the needs of early customers, they can reduce the market risks and sidestep the need for large amounts of initial project funding and expensive product launches and failures. It is necessary to stress that no canvas can replace real-life experimentation and adjustment, based on persistent testing and adapting of the business model.

The key tool in this document is Business Model Canvas which offers a simple tool for thinking through the business and keeping the key points highly visible to you, your team and your other stakeholders. Based on a one-page template, it outlines several fields, that require analysis and

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answering, allowing a structured way for developing new or documenting existing business models. The Business Model Canvas was initially proposed by Alexander Osterwalder is based on his earlier work on Business Model Ontology. Since the release of Osterwalder's work in 2008, new canvases for specific niches have appeared, including an open business model canvas, proposed by Paul Stacey. Formal descriptions of the business become the building blocks for its activities. Many different business conceptualizations exist; Osterwalder's work and thesis (2010, 2004) propose a single reference model based on the similarities of a wide range of business model conceptualizations. With his business model design template, an enterprise can easily describe their business model.

Key spheres of Business Model Canvas[2]:

Key partners	Who will help you?	This is a particularly significant element of the Business Model Canvas within the development and social sectors, in which organisations rarely work in isolation. Think about all the organisational relationships that are essential to your value proposition. For example, it might be that you have a key relationship that you tend to regard more as a supplier than a partner. The template uses the terminology of partner, when what it means is anyone you work with that is essential to delivering what you deliver.

Key activities	How do you do it?	As with all the elements in the Business Model Canvas, the key thing here is to focus on the most important examples of how you do what you do, rather than defining every activity within your business. Expand your thinking from the value proposition you identified: what are the essential activities to achieving your value proposition?

[2] Adapted from: *Business Model Canvas Tool* from the DIY Toolkit (Open University)

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Value proposition	What do you do?	This question should always be at the centre of your business model – it helps you to define your value proposition. 'Value proposition' is a term that is widely used in business to describe the thing that makes that business different from others and therefore offers distinctive value to customers. The answer to this question addresses what you do, why you do it and what makes you unique. In the development sector, of course, your customers won't be the same as those of different sectors; however, you will still have donors and beneficiaries. You should therefore think about the specific problem you want to address, and how your solution, be it a product or service, is valuable to the beneficiary. Then think about the donor: why should they fund you for this service rather than anyone else? What makes your solution the most attractive one available? If you can answer these questions then you can describe your value proposition in terms that make it unique. There is no maximum length to a value proposition statement, but keeping it short and succinct is a really good way to help you focus on the most important elements.

Audience relationship	How do you interact?	For this element, you will need to think about your two different audiences: beneficiaries and donor. What sort of relationship do you need to establish with them? What will their expectations be and how will you manage these?

Audience segments	Who do you help?	Your most important audience will be your beneficiaries because, if you're getting it right for them, then the donor should also be happy. Within this beneficiary group, for whom are you creating the most value? For example, your intervention might be to support teachers by enhancing their classroom skills, in which case you would be creating value for both teachers and students. However, the teachers are the direct beneficiaries with whom you will be interacting and therefore, from this perspective, they are the more important of the two groups.

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Distribution channels	How do you reach them?	Continuing with the example above, you might engage with teachers through face-to-face workshops, phone texts, email, website, phone, classroom mentoring, etc. You should consider which of these methods of engagement would be most appropriate according to the teachers' needs and the resources available to the project.

Key resources	What do you need?	What key resources do you need in place to support the activities you have identified above, and the process of bringing your value proposition to the beneficiary?

Cost structure	What will it cost?	You will incur costs in order to deliver the business, product or service, so it is important to prepare a budget. Creating a detailed budget is very time consuming so, unless you are already at that stage of planning, at this point you should focus on the greatest and most significant costs of key activities. Good estimates will be sufficient for most situations.

Revenue stream	How much will you make?	For a commercial business this is the element within which to consider profit. The closest equivalent for the not-for-profit sector would be to consider how you are maximising your donor's (or potential donor's) value for money. You might be able to demonstrate shared resources, matched funding, additional revenue streams and any other measures that will help to make your project stable and its impact sustainable.

The authors of the original Business Model Generation handbook licensed the business model canvas with a CC BY-SA Creative Commons license. This allowed Creative Commons foundation to adapt it, adding in additional building blocks: **Social Good**, **CC License**, and **Overall Environment Open Business Fits In**, as additional components that "open" businesses explicitly need to define as part of

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their open business model. We will be using this canvas in our analysis of business models for the ACE.

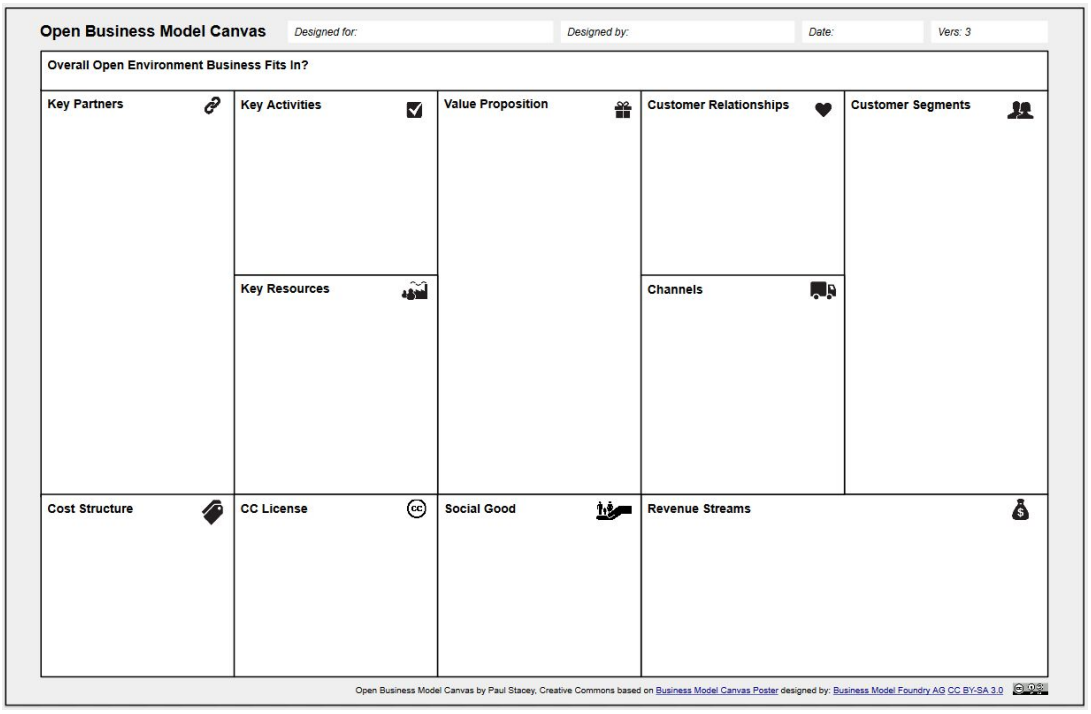

Illustration 1: Open business canvas (unfilled).

2.2 Value Proposition - an introduction

An important part of business model canvas is value proposition design. A value proposition is a business or marketing statement that a company uses to summarize concrete reasons why a consumer should buy a product or use a service. This statement not only convinces a potential consumer that one particular product or service will add more value or better solve a problem than other similar offerings, but also is an important enabler of the business model, allowing observing the linkage between the product and potential customers. Companies use this statement to target customers who will benefit most from using the company's products. In other words, a value proposition is a promise by a company to a customer or consumer segment. A value proposition should be a clear statement that explains how a product solves a pain point, communicates the specifics of its added benefit, and states the reason why it's better than similar products on the market. The ideal value proposition is concise, it appeals to a customer's strongest decision-making drivers, and communicates the number one reason why a product or service is best suited for a customer segment.

Value propositions can follow different formats, as long as they are unique to the company and to the consumers it is servicing. However, all effective value propositions are easy to understand and demonstrate specific results from a customer using a product or service. They differentiate a product

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or service from any competition; avoid overused marketing buzzwords; and communicate value within five seconds of reading it.

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3. The challenge posed by the ACE to the existing business models

The Audio Commons Ecosystem will pose a challenge to the existing industry by bringing together different actors of sound industry, integrating them, and fostering development of new businesses based on content and services of participants. There is a vast number of spheres to which AudioCommons will contribute, including:

1. Facilitation of negotiations for commercial reuse, with content providers building a platform for negotiation or mediation of the possible commercial application of the content. The platform might create a marketplace for artists and content users who could negotiate permissions using two elements:
2. Providing monetary compensation - commercial reuse is made available after monetary compensation.
3. Facilitating Attribution - copyright owners might be offered attribution in commercial projects, for instance broad commercial campaigns, movie productions or any other projects that could be considered beneficial for the artists, for instance benefitting them with recognition.

Within this domain, AudioCommons will facilitate the commercialisation of content, which might also encourage content creators to join ACE and further expand the recognition and role of the project. The intermediation mechanism of re-selling permissions of CC content could play a significant role in the industry. Even though some platforms already give this possibility, ACE will integrate this functionality of diverse platforms.

AudioCommons will also be an integrator of the open sound industry, facilitating:

1. Liberation of artists from powerful intermediaries, such as music labels or publishers. Intermediation on selling rights has been monopolized by agencies, such as collecting rights societies that were established to mediate the usage and payment for reusing. As the practice shows, their activity proves to be problematic and unfavorable for artists and audiences in many geographical contexts (Band and Butler, 2013). Their existence and activity has been one of the reasons why the CC framework was created.
2. Enabling greater exchange of open content with a great possibility of cross-sectioning to other industries, such as, film, gaming and media industries
3. Enabling networked production by permitting circulation of material, exchange of content and editing of content.

Within these dimensions AudioCommons open the field for new business ventures and models supporting production, distribution and consumption of CC material. One of the most important functions of the Audio Commons Ecosystem will be facilitating the fulfillment of all of these functions.

Firstly, great availability of sound will permit spin-off services based on intermediation have been provided provided by different types of businesses and initiatives (Carroll, 2006). Some examples would be:

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1. search engines, such as yahoo!, allowing to perform search of CC-material (but not sound);
2. libraries and archives;
3. new types of producers and publishers, such as Magnatune, offering musicians the 50/50 split.

AudioCommons will also allow development of new types of ventures, based solely on AudioCommons' effects, such as:

1. integration of AudioCommons API - such as API - based applications using sounds catalogued in the library or found using the API
2. usage of its annotated data - for instance in games where AudioCommons annotated audio contentwill support in-game sound effects.
3. and services offered within the ecosystem - for instance based on modifications done using services offered by service

These changes might signify a shift of users of CC-licensed content. Creative Commons has traditionally been associated with users such as amateur or semi-professional musicians and filmmakers. AudioCommons has a potential to go beyond this group. As recent developments prove, there are many ways of creative reuse of CC content and construction of a successful business model based on commons. As the practice has shown, different communities have not only developed business models, based on the availability of Creative Commons content, but also adapted the available frameworks to the needs of their models. This section concentrates on the ways in which different initiatives have adopted CC models and shows three general use cases of approaching it: a separate licensing model, CC-plus licensing and a new licensing framework[3]. In addition to describing it, this part also outlines their advantages and disadvantages.

[3] For more infromation consult:
http://www.audiocommons.org/assets/files/AC-WP3-SURREY-D3.2%20Report%20on%20usage%20of%20Creative%20Commons%20licenses.pdf

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4. Business model 1: API service

The first of the business models is a paid API service offered to tool developers. Below, we use canvas to present our findings and ideas of this type organisation of business activity and outline the potential of business model development. This business model will provide service to commercial consumers. As the user survey has demonstrated, currently users don't lack audio content but struggle with finding one of decent quality and appropriate for their needs, this business model will be based on facilitation of finding content that matches the needs and wants of customers. Building this service, based on unique analytical tools annotating and sorting open content, we will provide customized search allowing easier browsing of content and integration of the catalogue with automated, machine-based operations.

4.1 Open Business Model Canvas

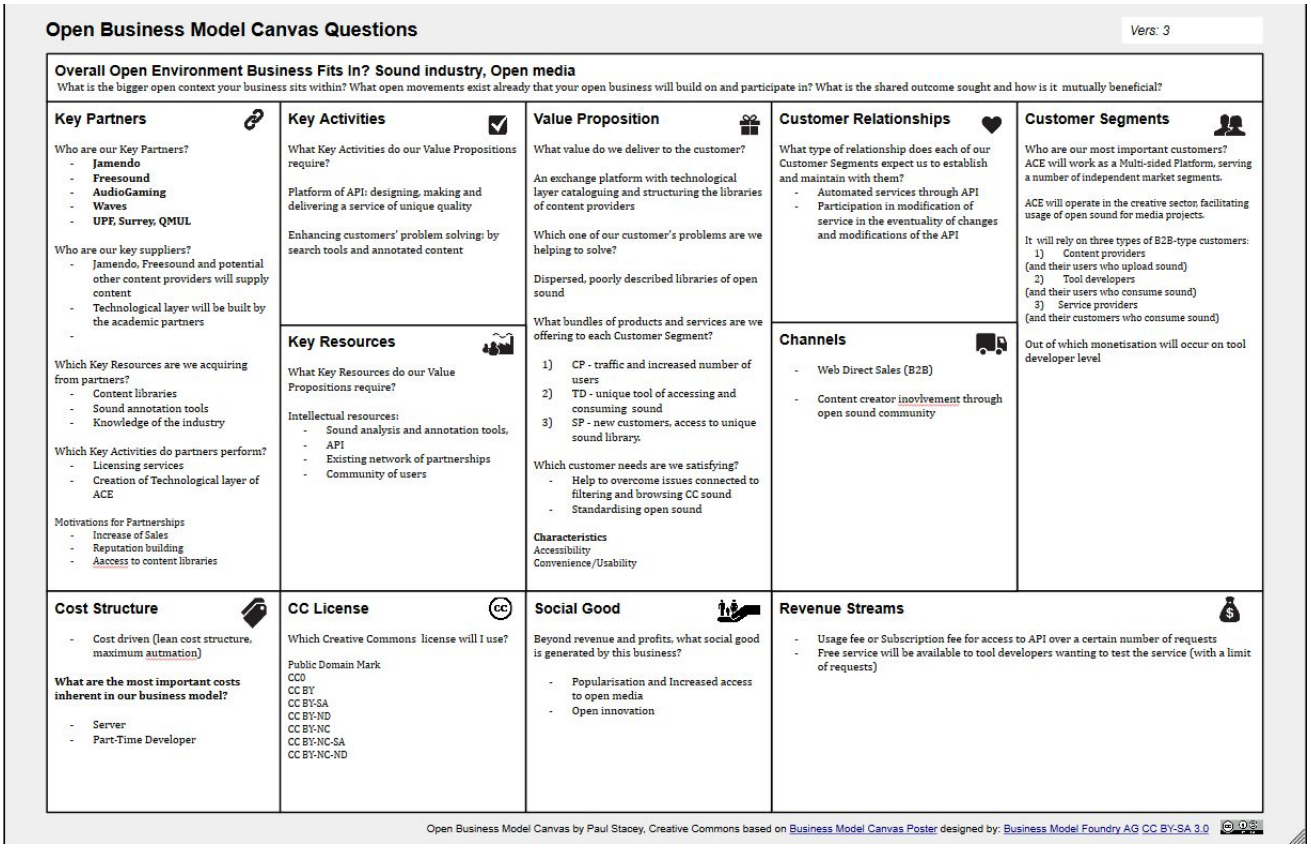

Illustration 2: AudioCommons as API Service (Canvas)

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Value Proposition

Question: What value do we deliver to the customer?

We give a commercial partner user a unique service based on: 1) connectedness with the largest repositories of open sound; 2) unique sorting mechanisms and annotation of content; 3) greater ease of browsing and downloading content.

Question: Which one of our customer's problems are we helping to solve?

We respond to dispersed, poorly described libraries of open sound and offer a unique, fully working solution overcoming these problems. Through using API, commercial partners will be able to access content and use it in their commercial projects, such as computer games, virtual apps or other innovative initiatives.

Question: *Which customer needs are we satisfying?*
- Accessibility - We help to overcome issues connected to filtering and browsing CC sound;
- Convenience/Usability - we standardise open sound, making it easier to use in commercial projects.

Customer Segments

Question: Who are our most important customers?

Even though AudioCommons is an ecosystem, connecting different types of actors, this business model draws on providing a service to tool developers, who will be using ecosystem for acquiring sound pieces and using them in commercial projects for a fee.

Besides tool developers, ACE will be a multisided ecosystem, serving under different conditions a number of independent market segments of the creative sector, facilitating usage and exchange of open sound.

Besides tool developers, it will rely on two types of B2B-type customers:

- Content providers - who for free will share their content (such as Freesound or Jamendo)
- Service providers (such as Jamendo licensing).

Key Activities

Question: What Key Activities does our Value Propositions require?

- Development and preparation of API and documentation**:** designing and delivering a fully functional service of unique quality

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- Enhancing customers' problem solving: by designing state-of-art annotation tools and tagging the existing and new content
- Implementation of API into new types of services - demonstrating the potential applications of AudioCommons.

Key Resources

Question: What key resources does our Value Proposition require?

Intellectual resources:

- API with related documents,
- Sound analysis and annotation tools,
- Growing network of partnerships.

Key Partners
Question: Who are our Key Partners?

- Jamendo
- Freesound
- AudioGaming
- Waves
- Academic partners: UPF, Surrey, QMUL

Question: Who are our key suppliers?
• Jamendo, Freesound and potential other content providers will supply content
• Technological layer will be built by the academic partners and include: API, analysis tools (based on ontology and annotation software developed in the project)

Question: Which Key Resources are we acquiring from partners?

- Content libraries - catalogue of Jamendo and Freesound
- Sound annotation tools - from Surrey, UPF and QMUL
- Knowledge of the industry - from industry partners

Question: Which Key Activities do partners perform?

- Creation of Technological layer of ACE (UPF, QMUL, Surrey)
- Implementation of the API to new types of services (Waves, Audiogaming)

Question: What are the motivations for Partnerships?

- Increase of Sales
- Extension of existing activity
- Reputation building
- Access to content libraries

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Channels

- Web Direct Sales (B2B)
- Content creator involvement through open sound community

Customer Relationships

Question: What type of relationship does each of our Customer Segments expect us to establish and maintain with them?

- Automated services through API
- Participation in modification of service in the eventuality of changes and modifications of the API

Revenue Streams

- Usage fee or Subscription fee for access to API over a certain number of requests
- Free service will be available to tool developers wanting to test the service (with a limit of requests)

Cost Structure
Cost driven (lean cost structure, maximum automation)

Question: What are the most important costs inherent in our business model?

- Server
- Part-Time Developer

The actual cost is to be estimated according to the location of server/ developer.

CC License

Question: Which Creative Commons license will the service use?

- Public Domain Mark
- CC0
- CC BY
- CC BY-SA
- CC BY-ND
- CC BY-NC
- CC BY-NC-SA
- CC BY-NC-ND

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4.2. Business models - use cases

This business model will encourage the emergence of API-based applications, for instance based on automatised usage of content for machine-based composition, multimedia tools or any other types of ventures. The role of API and catalogue will expedite search process and facilitate its automatic download and re-usage.

A perfect illustration of this type of service could be a use case presented in the earlier Deliverable:

> *A large game studio is looking for a large database of sounds for the audio algorithm of its open-world game. The uniqueness of the game will allow the generation of endless variations, making the game infinitely replayable and player-adapted. The audio software will compose content without any human input – each time the tool is run, a new musical piece will be created or mixed in real time, based on number of interactive factors (both from inside and outside of the game). The game studio is currently looking for a database of sounds that can be integrated with the audio algorithm, considering the CC-licensed content. Among the studio's biggest concerns are licensing permissions; for instance, it is not sure how an algorithm-based (unique) composition could work with attribution and licensing permissions.*
>
> Needs:
> - seeking a well catalogued database and willing to pay for commercial usage of samples
> - looks for a platform able to handle machine-to-machine transactions,
> - intends to automatize licensing process via algorithm

> *A software studio is looking for a large database of sounds for a VR algorithm. Working in a similar way to a personal assistant, this application will allow the user to experience any kind of requested environment – providing a simulated VR experience of travel. The uniqueness of the programme will allow the generation of endless variations, making the application user-adaptable. For instance, the user could be able to request any imagined environments such as "Hawaiian Summer", "Polish Winter", "Indian Market" or "Chinese restaurant". Each time the tool is run, a new sound piece will be created or mixed in real time, based on number of interactive factors. The studio is currently looking for sound that can be integrated with the audio algorithm, considering the CC-licensed content.*
>
> Needs:
>
> - to find and access to high quality open sound pieces with adequate metadata
>
> - could potentially pay for content (conversion of license from NC to commercial usage)
>
> - procedural generation of soundtrack
>
> - looking for simple and straight-forward ways of purchasing content.

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5. Business model 2: The Marketplace

The second business model proposition is an exchange platform. It is essentially a digital version of traditional business model based on brokering transaction between parties for a fee. Its uniqueness will be based on providing an open sound exchange platform supported by analytical tools, permitting filtering of high quality results. It will offer free content without any fee, working as a bait and allowing users to test the service. The fee will be imposed on paid content by service providers, who transact with their customers and share the revenue with AudioCommons. The main access to the exchange platform will be through the web interface but it will also have an open API, allowing integration with other software

5.1. Canvas

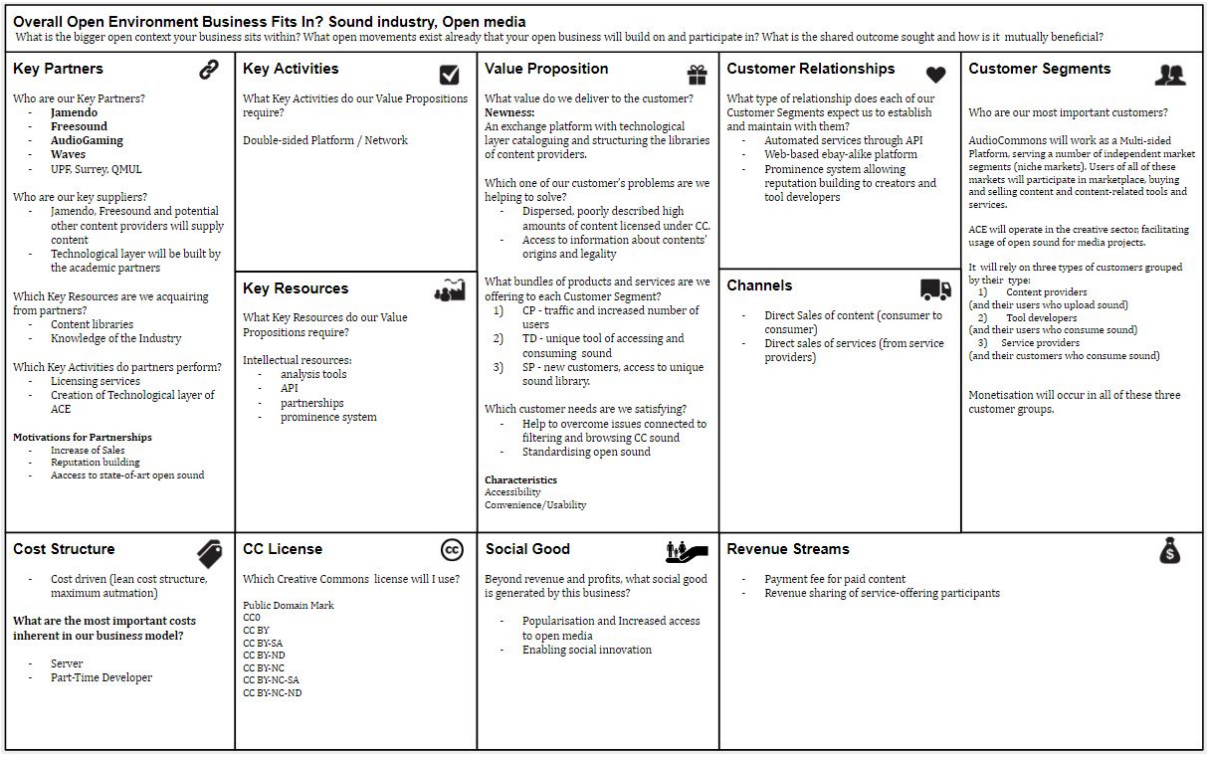

Illustration 3: Canvas - the Marketplace

Value Proposition
Question: what value do we deliver to the customer?

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We will deliver a unique, innovative form of sharing and reselling open audio content, hosted by content providers and owned by their users. The platform will facilitate browsing and searching for content because of unique annotation tools and tagging of content. It will also offer a unique system of prominence - allowing rating creators and owners of content and improving knowledge about content's owner and origins, which largely contributes to overcoming problems regarding commercial usage of CC-licensed content.

Question: Which one of our customer's problems are we helping to solve?

- Dispersed, poorly described high amounts of content licensed under CC.
- Difficulties monetising content
- Problems connected to verification of content's origins (access to information about contents' origins and legality)

Question: What bundles of products and services are we offering to each Customer Segment?

1. Content providers - traffic and increased number of users
2. Consumers:
    a. Tool developers - a unique way of accessing and consuming open sound
    b. Service providers - offering services related to sound via the largest open sound library.

Question: Which customer needs are we satisfying

Content providers:

- exposure and trust of consumers

Consumers:

- accessibility - overcoming issues connected to filtering and browsing CC sound;
- "all in one place" - convenience and usability

Customer Segments

Question: Who are our most important customers?

AudioCommons will work as a Multi-sided Platform, serving a number of independent market segments (niche markets). Users of all of these markets will participate in marketplace, buying and selling content and content-related tools and services.

It will rely on two types of customers:

1. Content providers (and their users who upload sound)
2. Content Consumers:
    a. Tool developers (and their users who consume sound);
    b. Service providers (and their customers who consume sound);

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Monetisation will occur in both customer groups.

Key Activities

Question: What Key Activities do our Value Propositions require?

- Creation and maintenance of a double-sided platform;
- Integration of services;
- Development and usage of annotation tools;
- Development of partner network;
- Marketing of the platform and increasing consumer awareness.

Key resources

Question: What Key Resources do our Value Propositions require?

Intellectual resources:

- platform creation (accessible both from API and web interface);
- sound annotation technology;
- existing partnerships to acquire content and use it in the commercial context
- growing prominence system (based on user ratings, quality of sound and popularity of sound).

Key Partners
Question: Who are our Key Partners?

- Jamendo
- Freesound
- AudioGaming
- Waves
- Academic partners: UPF, Surrey, QMUL

Question: Who are our key suppliers?
• Jamendo, Freesound and potential other content providers will supply content
• Technological layer will be built by the academic partners and include: API, analysis tools (based on ontology and annotation software developed in the project)

Question: Which Key Resources are we acquiring from partners?

- Content libraries - catalogue of Jamendo and Freesound
- Sound annotation tools - from Surrey, UPF and QMUL
- Knowledge of the industry - from industry partners

Question: Which Key Activities do partners perform?

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- Creation of Technological layer of ACE (UPF, QMUL, Surrey)
- Implementation of the API to new types of services (Waves, Audiogaming)

Question: What are the motivations for Partnerships?

- Increase of Sales
- Extension of existing activity
- Reputation building
- Access to content libraries

Channels

- Direct Sales of content (consumer to consumer via content provider)
- Direct sales of services (from service providers)

Customer Relationships

Question: What type of relationship does each of our Customer Segments expect us to establish and maintain with them?

Content Providers:

- Integration of content and services offered by the provider into unified form offered by AudioCommons;
- Promotion and broadening the outreach of the provider (for instance by: annotating, cataloguing and verifying the content; assessing it by the platform's prominence system).

Content consumers:

- Expedited and automated services through web interface of a marketplace (individual users);
- Integration with the catalogue and services through API (e.g. tool developers);
- Improved trust in content due to prominence system allowing reputation building to creators and tool developers

Cost Structure

- Cost driven (lean cost structure, maximum automation)

Question: What are the most important costs inherent in our business model?

- cost of server
- staff (developer, customer relations & content manager)

Revenue Streams

- Payment fee for paid content

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- Revenue sharing of service-offering participants

CC License

Question: Which Creative Commons license will the service use?

- Public Domain Mark
- CC0
- CC BY
- CC BY-SA
- CC BY-ND
- CC BY-NC
- CC BY-NC-SA

CC BY-NC-ND

5.2 Business models - use cases

This business model is based on commercialisation of content and expedited process of reselling and exchanging content. The site will permit obtaining libraries of sound (also in bundles - either selected by user or the system) which could be used in creative projects. As two of the cases illustrate (developed from the previous deliverables), this could both apply to creators looking for opportunities for monetisation of their content as well as consumers of content, from youtube video creators, to startup authors.

> *An enthusiast of open content, who admits facing problems when searching for good (and free) sounds/samples and sometimes finding it difficult to understand licensing. This user has significant experience in the music industry. He admits that it is challenging to locate interesting pieces of sufficient quality and that the search process takes a long time. He is looking for new ways of selling his content as well as reusing others' work.*
>
> Needs:
>
> - wants to easily filter through high quality results,
>
> - would like to reach the broadest audience possible,
>
> - would like to have more precise information about who reuses his content.

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6. Business model 3: wiki-alike

Third type of business model will be based on community participation and developed around a non-profit idea of increasing availability of sound commons. Similar to the ways in which Wikipedia operates, this service will be community-based and reliant on member participation. It will be financed from donations, traditional nonprofit funding model directly tied to the reciprocal relationship that is cultivated with the beneficiaries of their work. This model will need a large scale as the bigger the pool of those receiving value from the content, the more likely this strategy will work. In this way, allowing users to freely access the content and creating a community who will support actions of the platform, outside of traditional music market institutions will create a sense of a public good and a social mission.

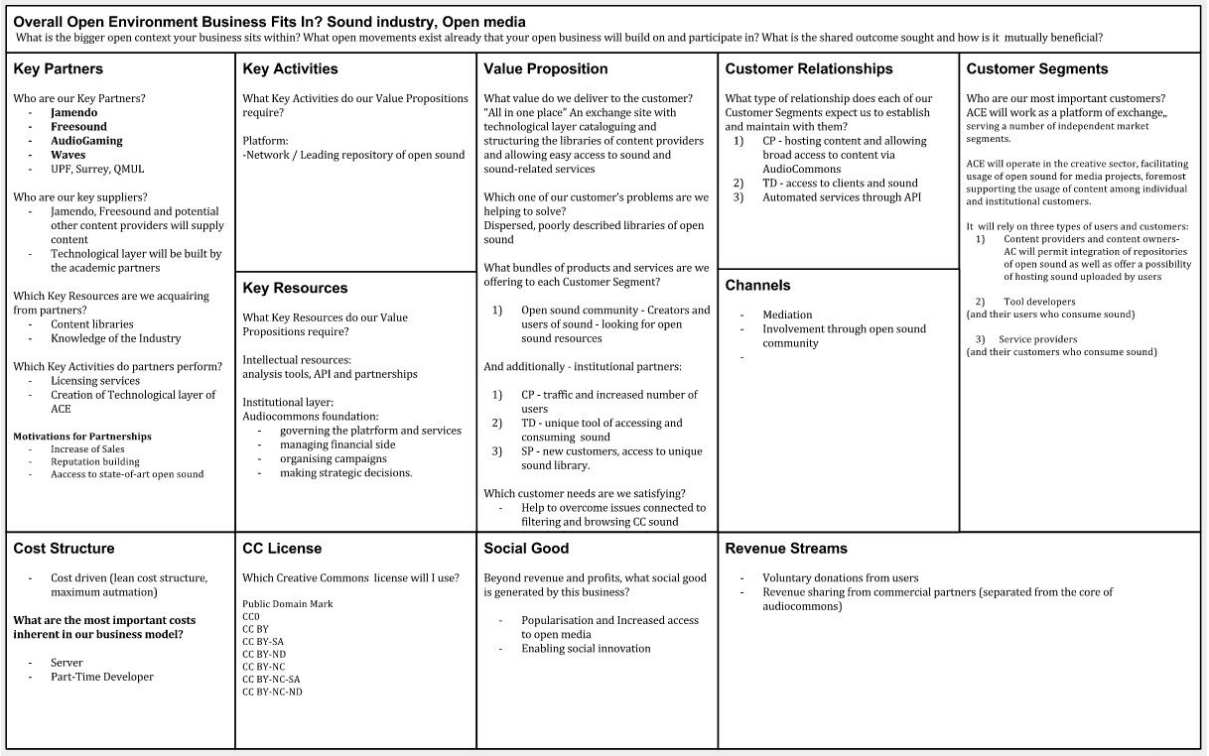

Illustration 4: Wiki-alike business model

6.1. Canvas

Value Proposition

Question: What value do we deliver to the customer?
The page will work as an independent catalogue and transaction site allowing exchange of open content, both free of charge and for a fee. Its non-profit nature will distinguish it from commercial catalogues and encourage users and creators who are unwilling to follow the traditional sound and

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music industry path. The site will also be “all in one place” - so a unique service with multiple offerings - from separate sound bites to full songs and music services.

Question: Which one of our customer’s problems are we helping to solve?

- Dispersed, poorly described libraries of open sound;
- Difficulties finding content within catalogues;
- Strong community engagement in open sound movement but limited outlets for this engagement;
- Lack of any control over quality, format and origins of content in existing repositories;
- Lack of moderation and control over CC content.

Question: What bundles of products and services are we offering to each Customer Segment?

The page will rely on open sound community, serving multiple segments involved in creating, consuming and circulating open sound. Open sound community (as a whole) will be offered a complex platform where different activities might be performed, such as search and purchase of open sound, annotation of sound from different repositories. Additionally, services offering consumption of sound will be able to connect to the platform and offer its users access to content.

Products according to customer segment:

- individual users - uploading sound directly to the platform - a possibility of reaching broad audience and monetising content;
- repositories with own catalogues of open sound - exposure, increased traffic and potential sales.
- service providers - access to the largest catalogue of open sound, with multiple functions, including upload download and purchase of open sound.

Question: Which customer needs are we satisfying?

- Standardisation of open sound (annotation, analysis, format, quality);
- Moderation of content (exclusion of fraud, poor quality and wrongly described content);
- Accessibility - “all in one place”
- Convenience - easy usage and navigation (compared to existing platforms).

Customer Segments

Question: Who are our most important customers?

The page will be addressed to open sound community including commercial actors involved in this site. Because AudioCommons will strongly rely on user engagement we will concentrate on individual users, who would both supply and consume content as well as contribute to improving the quality of content, annotation accuracy, user rating etc. The page will not compete with other existing repositories. Instead, as many users participate in many open platforms, AudioCommons will permit their unity and foster cross-exchange.

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In addition to that, the page will be open to collaboration with commercial sound consumers such as tool developers or service providers. They will be able to access it using AudioCommons API, and allow users to browse and consume sound through sources other than web interface.

Key Activities

Question: What Key Activities does our Value Proposition require?

- Creation and maintenance of web-based interface (with user and content rating) and API;
- Integration of other platforms;
- Development and usage of annotation tools;
- Annotation of content;
- Increasing consumer awareness and involvement.

Key Resources

Question: What Key Resources do our Value Propositions require?

Intellectual resources:

- platform creation (accessible both from API and web interface);
- sound annotation technology;
- existing partnerships to acquire content and use it in the commercial context
- growing prominence system (based on user ratings, quality of sound and popularity of sound).

Creation of an institutional layer:
For instance AudioCommons foundation, a governing body of multiple functionctions:

- governing the platform and services
- managing financial side
- organising campaigns
- making strategic decisions.

Key Partners

Key Partners
Question: Who are our Key Partners?

- Jamendo
- Freesound
- AudioGaming
- Waves
- Academic partners: UPF, Surrey, QMUL

Question: Who are our key suppliers?

- Jamendo, Freesound and potential other content providers will supply content
- Technological layer will be built by the academic partners and include: API, analysis tools (based on ontology and annotation software developed in the project)

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Question: Which Key Resources are we acquiring from partners?

- Content libraries - catalogue of Jamendo and Freesound
- Sound annotation tools - from Surrey, UPF and QMUL
- Knowledge of the industry - from industry partners

Question: Which Key Activities do partners perform?

- Creation of Technological layer of ACE (UPF, QMUL, Surrey)
- Implementation of the API to new types of services (Waves, Audiogaming)

Question: What are the motivations for Partnerships?

- Increase of Sales
- Extension of existing activity
- Reputation building
- Access to content libraries

Channels

- Mediation
- Involvement through open sound community

Customer Relationships

Question: What type of relationship does each of our Customer Segments expect us to establish and maintain with them?

Content Providers:

- Integration of content and services offered by the provider into unified form offered by AudioCommons;
- Promotion and broadening the outreach of the provider (for instance by: annotating, cataloguing and verifying the content; assessing it by the platform's prominence system).

Content consumers:

- Expedited and automated services through web interface of a marketplace (individual users);
- Integration with the catalogue and services through API (e.g. tool developers);
- Improved trust in content due to prominence system allowing reputation building to creators and tool developers

Cost Structure

- Cost driven (lean cost structure, maximum automation)

What are the most important costs inherent in our business model?

- Server

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- Part-Time Developer

Revenue Streams

- Voluntary donations from users;
- Revenue sharing from commercial partners (separated from the core of AudioCommons)
    - if sales via platform occur;
    - for a large number of API requests.

CC License

Question: Which Creative Commons license will the service use?

- Public Domain Mark
- CC0
- CC BY
- CC BY-SA
- CC BY-ND
- CC BY-NC
- CC BY-NC-SA
- CC BY-NC-ND

6.2 Business models - use cases

This business model will allow similar business operations similar to the other models, however there is a large potential for the platform to be expanded to community actions, which can foster:

- Track verification
- Growth of repository
- Expansion of content and services

Involvement of community would be a strong enhancement mechanism, supporting the technological part of the ecosystem. Uniquely enough, it would be independent from major labels and collecting societies and involving commercial actors, such as repository owners, media studios or individual creators. The page would be integrated with Integrated with third-party software and pages BUT independent from it. Its main goal will be to be administered by community and run on public funding and voluntary donations.

The earlier mentioned AudioCommons Foundation & Community will:

- moderate sounds and provide technological standard for open sound;
- remove content violating copyright;
- modify and update API & webpage, adapting to community needs.

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7. Emerging businesses - an overview

AudioCommons has a potential to reshape practices in the industry and establish a new type of service, fostering collective creation and developing multiple sectors of the creative industry. As we have demonstrated in the previous Deliverables AudioCommons' main goal is facilitation of commercialisation of content, as well as easy access and permissioning of commercial use among different actors and stakeholders. We believe that this observation also applies to open content in the audio industry. In order to make AudioCommons take part in this process, there is a need to prioritise several elements, connected to the layout of licensing and possible commercialization of content.

(1) The framework provided by Creative Commons is a useful innovation in the sphere of intellectual property. It offers practical and user-friendly tools that reinvent the exercise of copyright, as the open source licenses did for software. Compared to most open source licenses, the Creative Commons licenses probably are more easily accepted by authors and users because they can understand the licenses' language and can rely on the licenses' compliance with their national law (Dusollier, 2006). However, as both the literature, platform providers and content providers note, licenses are still difficult to be understood by some users. This is why AudioCommons needs to be proactive in disseminating rules of licensing and ensuring proper education of users and checks of content. Growing content in libraries and users aware of licensing procedures could be a turning point for generation of new business models based on open content.

(2) At the same time, the industry expresses deep concern about security of content. Today, taking a track licensed under a Creative Commons license and using it in the commercial context without any verification might be considered risky and irresponsible. Possible legal consequences might cause harm to organisation and product. In order to overcome this obstacle AudioCommons needs to provide a higher level of verification of content. Working towards blockchain / smart contract transaction system might be a way of overcoming these obstacles. ACE might integrate multiple platforms with different payment systems. Even though currently only Jamendo's content is commercialised, it might be necessary to think about a situation where multiple platforms intermediating in sales of content enter the ecosystem and allow not only access to the content but also commercialisation of it through the ACE. In this situation, AudioCommons could become a platform intermediating these sales (as an addition to facilitating free exchange) through:
    - redirection to content providers' platform payment pages where a purchase of a single song is possible;
    - mediating contact between artists and buyers; allowing simple negotiation, providing contract templates integrated with payment system (and realised on content providers' pages)
    - given an extremely high potential of machine-to-machine transactions, ACE should also provide directions of regulating supply of sounds through either selling of multiple pieces and/or providing a machine-usable interface. We hope to find a partner to develop new protocol in order to facilitate complex reuse scenarios of audio content, such as procedural content generation, machine-to-machine transactions, and queries in game engines and algorithmic exchange of permission data from procedurally generated content.

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(3) Additionally, as expressed in the previous documents, ACE in the domain of licensing ought to concentrate on the following functions:

- To provide norms for licensing and re-licensing of new content available through content providers,
- To facilitate filtering particular types of content under a particular type of license in the ACE,
- To enable commercialization of CC content by for instance:
    - Facilitating negotiation of commercial usage of content under a CC license (via content providers),
    - Creating channels for machine-to-machine negotiation for usage of this content.
- To facilitate storing license information in metadata (both for single and multiple files), which could be utilized in existing workflows, for instance in order to determine under which license a derivative could be shared.
- To improve licensing of derivative works by making attribution process automatised (using metadata or history of downloads),
- To facilitate setting permissions on derivative works.

Below we review types of business models that could emerge from the AudioCommons and briefly provide examples of activity that could be built within the ecosystem.

7.1 Machine-to-machine models

The first type of business models is based on operations performed on a software-to-software basis via API. The operations permitted by API could be of different type, allowing client to: search for tracks, download information about tracks and users, download content or packages of content.

As the graph below illustrates, potential business models arising from AudioCommons could be based on different services performed by machine-based clients. Even though this list is not exhaustive, it well exemplifies the nature and type of services offered by machine-based technology.

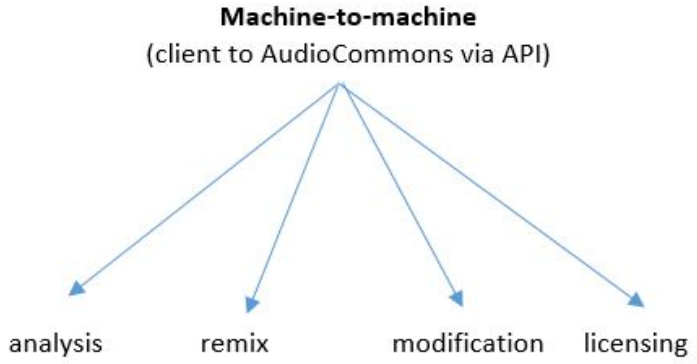

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Illustration 5: Machine-to-machine business models

- **Analysis** - this type of service is based on analysis and selection of tracks and packages them into particular style or type (outside of tags and analysis performed within the ecosystem). For instance, this service could offer creators sound packages (similar to off-the-shelf paid packages) of specific characteristics.
- **Remix** - this service is based on automatic remixing of existing music tracks. Machine-based service analyses music tracks and selects them, for instance to create a soundtrack, playlist, background music or any type of service.
- **Modification** - this type of service will allow changing sound significantly, to for instance compose a new music track or generate soundtrack (all machine-based). This type of service might be performed by procedural content generation algorithms and used in videogames, healthcare apps or vr apps.
- **Licensing** - this service is based on computer-based analysis of tracks, their selection and further re-licensing, for instance to new types of clients or to institutional customers (such as local TV stations which might not have resources to look for CC files but are open to using it).

7.2 Human to machine models

Even though machine-to-machine transactions have enormous potential and will be the future of creative industry, large part of activity within the ecosystem will be based on interaction of human clients with AudioCommons interface (supported by analysis tools and software).

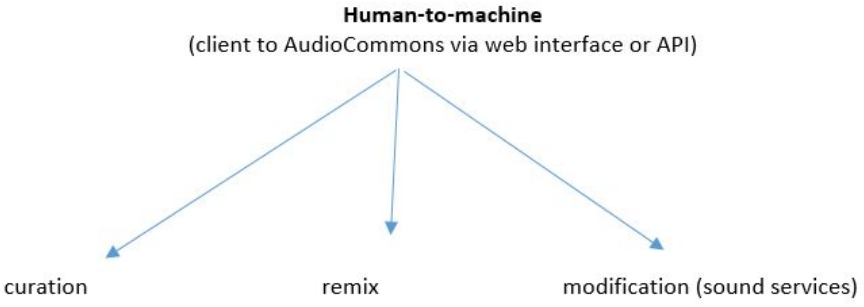

Illustration 6: Human-to-machine business models

- **Curation** - this type of service is based on human decisions regarding track selection and grouping. It could be computer-supported decision making but might also be drawing on decisions regarding selection of content by artists or organisations, for instance specialising in computer gaming and supporting particular types of sounds based on CC-license (e.g. gunshots or laser sounds).

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- **Remix** - this service will be based on creations by artists who by mash-upping or remixing sounds could share their collections for a revenue - for instance paid mixtapes or playlists.

- **Modification** - this service could be based on on-demand services (machine-based - for instance within the plug-in) performed on tracks and based on changing them, for instance to improve quality, add instruments or modify substantially (such as Waves' plug in). Another example could be Audiogaming's "car engine sound" software - based on a Creative Commons sample and adjusted to car's speed inside the game.

7.3 Human-to-human

Finally, AudioCommons will also foster ways of collaboration and allow user interaction within the CC community. These types of business models will be based on pairing collaborating artists and allowing them to perform their creative work using the mediation of the platform.

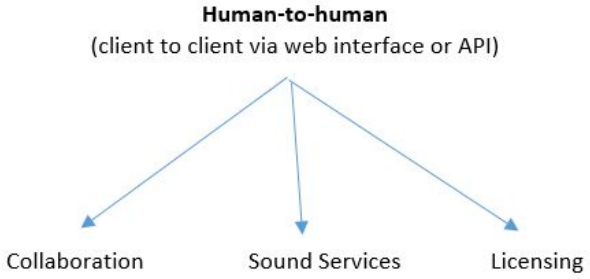

Illustration 7: Human-to-human business models

- **Collaboration** - this service might be based on on-demand collaboration - for instance if a game creator needed a drum sound, instead of looking for a sample or recording it, he could request the recording from a creator that specialises in drum recordings. Another example would be band composing a music for advertising campaign (similar to the offer that Jamendo has).
- **Sound Services** - human-based sound services allowing improvements of music tracks or sound not based on automatised services. For instance, improvements made by sound engineers to recordings in order to improve the quality or enhance them.
- **Licensing -** individual type of negotiations with artists in order to acquire a license that is currently not available for the content (for instance for Commercial usage).

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8 Conclusions

In this deliverable we presented the directions for business model architecture for the Audio Commons Ecosystem and considered business models growing atop of it. In this process we considered copyright management practices and industry actions and used different use cases that exemplify all possible issues, situations and solutions in which ACE could be useful.

This document provided an introduction to business model development procedures in the audio industry, specifying the role and functionality of Creative Commons-based platform. We provided an outline of three business model, pointing at specific functionalities and positioning which need to be taken into account when developing the ACE. Their range provides insights into new directions, such as drawing on machine-to-machine transactions or integrating large open sound community into the functioning of the platform. The decision making process needs to be based on ongoing experimentation and adjustment.

Among the recommendations provided in this deliverable, we point to (1) the issues connected to licensing facilitation, especially making licensing understandable to users and facilitating human- and machine-readable attribution, (2) the directions of machine-based licensing and negotiation, (3) licensing features of plug-ins and add-ons developed within the project.

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