# Music360: Software Engineering for Assessing the True Value of Music

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***Abstract.*** *While it is well known that music influences our emotions, health and work, there is a lack of standardised information to measure and share the true impact of music and how this relates to the distribution of royalties. The Music360 project, led by a European consortium, aims to assess the value of music and connect stakeholders across the music value chain to build a common data analytics platform that goes beyond traditional metrics to explore the impact of music. The Music360 platform is based on a novel model-driven approach that will be applied to empirical case studies in the form of living labs in healthcare, media, retail, etc. to evaluate how music enhances well-being, patient recovery, brand identity and revenue potential.*

## 1. Introduction

Various studies demonstrate that music can influence our emotions, decisions, and even our health [Zhou et al. 2022, Martin-Saavedra et al. 2018]. As a result, many venues, such as bars, shopping malls, supermarkets, and hospitals, use background music to enhance the experience for their customers [Choo et al. 2021], users [Fu et al. 2020], and employees [Mao 2022]. These establishments are required to pay licensing fees for the use of music, which are typically managed by Collective Management Organizations (CMOs). CMOs distribute royalties to the various rights holders associated with the musical works played, including singers, musicians, songwriters, and composers.

However, the payment of music royalties does not take into account the real impact that music has on people in different places and contexts [Eidsvold-Tøien 2023]. For example, a store or bar might pay a licensing fee based on its square footage, when a more accurate measure would be the actual number of listeners or the contribution of music to the customer's purchase decision. On the other hand, to determine the distribution of music royalties between the different rights holders, the CMOs apply what the lawsuit calls "fair compensation" [Commission et al. 2020], using reference data such as the top 20 radio stations in a country. However, this distribution model does not consider to local artists, while the superstar artists receive the most royalties.

To overcome these challenges, the Music360 project[1] aims to create a fair and sustainable European music ecosystem by developing a platform that collects and shares detailed music usage data with different stakeholders, while maintaining data confidentiality. To achieve this goal, the Music360 platform considers the use of model-driven

[1]Music360. https://music-360.eu/

engineering approaches [Gaševic et al. 2009, Schumacher et al. 2014] to ensure consistent terminology and facilitate information interoperability among different stakeholders of the music value chain [Giachetti et al. 2023].

Music360 focuses on background music, such as live music, music broadcast on the radio, music streamed, or music distributed by other means such as tape or disk, as it accounts for 28% of the royalty collection for songwriters and composers, more than streaming, which accounts for 21% [Commission et al. 2020]. It is an interdisciplinary research effort involving experts in the social sciences, economics, and technology. Specifically, to measure the actual value of music in three specific areas: Therapeutic, Social and Cultural. To this end, Music360 requires conducting empirical studies, called living labs, to understand the real-world impact of music and how the technology developed can provide an appropriate platform for assessing the true value of music.

## 2. Music360 Objectives

The Music360 project aims to develop a new perspective on the value of music and to enable the collection of more reliable data [Guilhot et al. 2024]. The project started in March 2023 and will run for three years ( see Figure 1). The main objective of the project is to provide mechanisms for information interoperability and facilities for research scenarios aimed at developing new technologies and studies around the music value ecosystem. The specific objectives are the following:

1. Conceptualize and measure the monetary and non-monetary value of music, including economic, societal, cultural, and therapeutic perspectives. This will be based on a thorough and broad literature review [de Miguel-Molina et al. 2024].
2. Define a standardized, trusted, and unified collection and representation of music data (such as recordings, plays, claims, etc.) to ensure that all stakeholders have a clear understanding of the information presented .
3. Develop a distributed information network between different music stakeholders to analyze the value of music and to make information widely and transparently available to address challenges related to the fair distribution of neighbouring and author rights while respecting confidentiality requirements.
4. Conduct living labs to test and validate the platform solutions for capturing music value data (such as music fingerprinting devices) and defining appropriate measures for the monetary and non-monetary value of music in different contexts.

## 3. Music360 Current Status

The Music 360 project is in its second year of development (from March 2024 to February 2026). The main milestones achieved so far are described below.

- Implementation of the Music360 platform V1.0, which adapts the conceptual models and evaluates them using data collected from the living labs. Novel data analysis mechanisms were implemented to generate a set of reports on music usage, which were positively validated by CMOs and policy makers. For the transparent and secure exchange of information between the different stakeholders involved in the music ecosystem, a specific distributed architecture was defined (obtained in May 2024) [McLaren et al. 2024].

- The Music360 conceptual model V2.0, based on a literature review and previous studies, together with the first preliminary results from living labs conducted, was obtained in March 2025. The Music360 metamodel can be found in Zenodo [2].
- Live demonstrations of the platform for stakeholders (November 2024 and January 2025), including data from four countries: Ireland, the Netherlands, Finland and Portugal. The feedback from these demonstrations was positive and generated interest among stakeholders such as artists and CMOs.

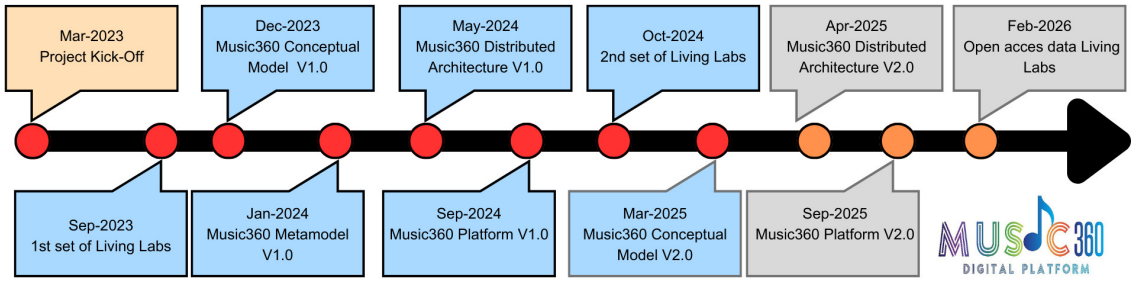


**Figure 1. Music360 Project Sumarized Roadmap till Feb 2026**

## 4. Relevance for the CIBSE Community

1. Provide new technology for measuring and analyzing the value of music that can be used by practitioners and researchers to develop specific studies.
2. Provide a novel distributed architecture that facilitates the comparison and communication of results from different studies with relevant partie.
3. Conducting empirical studies that combine social, economic, and computer sciences to define appropriate measures of the value of music in various domains.
4. Create novel solutions based on model-driven software engineering (Music360 conceptual model), data science, IoT, and artificial intelligence to support the project objectives [Giachetti et al. 2024].

## 5. Conclusions

Music360 aims to provide robust methods and tools to assess the value of music in a more standardised and contextual way. By integrating model-driven software engineering principles with data science and AI, it is possible to create a fairer and more transparent system for valuing and distributing music royalties. This will address the challenges faced by CMOs and the music industry as a whole to ensure a fairer distribution of royalties, and help researchers to understand the multi-faceted value of music for the benefit of all stakeholders involved in the creation, distribution and consumption of music.

## 6. Acknowledgement

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[2]Music360 Ontology V2. https://doi.org/10.5281/zenodo.15063314

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