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ACADEMIC TUTORS

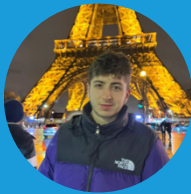
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Quarkk: a decentralized recording label

Executive summary

The current music industry faces significant economic and social challenges that disproportionately affect artists – especially independent and emerging ones – due to the dominance of few major record labels. This leads to limited competition, unfair revenue distribution with low artist payments and opaque regulations that hinder artists from understanding their rights and responsibilities with their fans, reducing the high-impact potential of the music market.

Our project aims to offer a new paradigm in the music industry. Fans can invest directly in their favorite artists' music production (or other activities), receiving a return based on their success. This model allows emerging artists to self-finance without long-term, often unfair, contracts with labels, and enables established artists to fund new or independent projects with direct support from their fanbase. Quarkk's goal is to provide artists a space for expressing themselves freely and financing their projects with direct support from their fans.

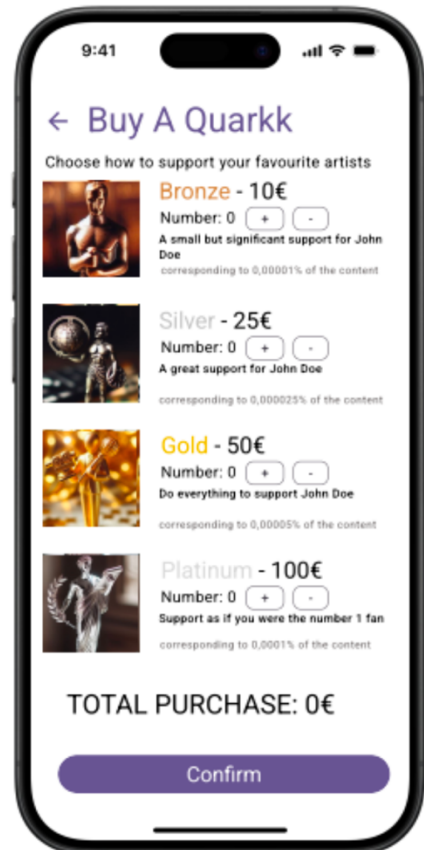
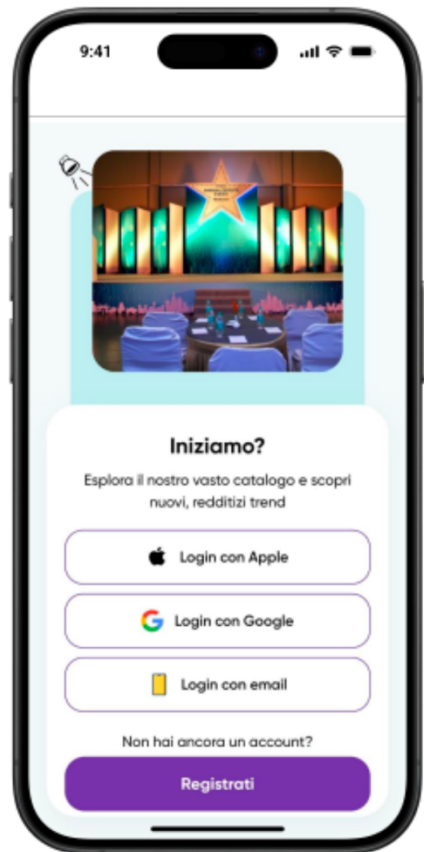
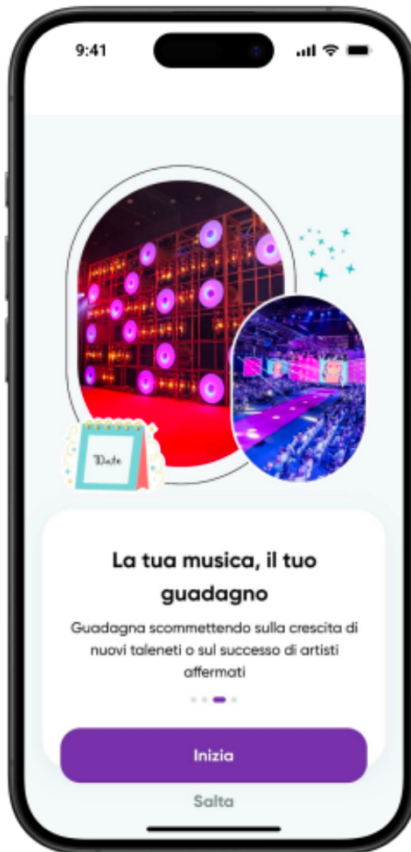
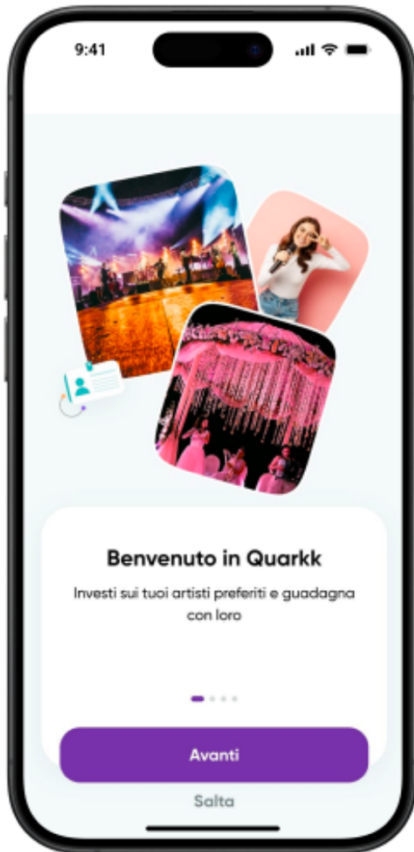
The project methodology started from a business strategy formulation to reach the Financial Plan and a minimum viable product of the platform. We gathered data on the music industry, competitors, customers through online sources and surveys and built Quarkk's Business Model. We defined the target customer segments – artists, fans and investors – how they interact in-app and the investment structure. We developed Quarkk as a mobile-first platform where fans can directly invest in their favorite artists through Revenue-Based Financing (RBF). This model allows artists to obtain funding by offering a percentage of their future revenues to their fans. Users can purchase *Quarkks*, which are assets representing fractional ownership of the artist's future revenues. Besides earning from these revenues, *Quarkks* can be traded or sold on the platform, similarly to traditional company shares. Artists can use these funds to purchase goods or services that support their activities and adherent to their contract. Artists can share exclusive content with their supporters, only accessible to those who have contributed to their campaign, enhancing the user experience and involvement. The app can also be leveraged to facilitate fan-provided funding for entrepreneurial activities outside of musical creation.

We interviewed industry professionals and obtained a gentlemen's agreement for an initial round of RBF with one artist. We created a financial model and drafted a concise contract that successfully convinced our first artist to participate. This model helps quantify their funding needs and ensures proper allocation of resources. It allows us to test different strategies, measure their financial viability, and ultimately propose an appealing offer for artists. We evaluated the financial sustainability of the project, its long-term viability, and we created design documents for the mobile app from API endpoint diagrams to ER schemas for the database. We have implemented the majority of the essential API routes and completed half of the front-end screens. We fully developed the backend for the MVP, adding key features to test user reactions and market needs by focusing on a specific artist so as to identify successful strategies and areas needing improvement when testing a full round of capital raising through RBF.

Quarkk is not a project confined solely to the ASP context; it will continue to be developed by some team members even after the end of the program. Several steps necessary to build a successful company, such as the participation in acceleration programs, have already been initiated. This forward-thinking approach reflects the long-term vision and commitment to bring the platform to the market, beyond its initial academic phase.

Key Words

Technology, music, innovation, impact



**Project description
written by the Principal
Academic Tutor**

Quarkk is an innovative platform being developed within the Alta Scuola Politecnica project that transforms the traditional model of artistic financing and support by creating a direct and transparent relationship between creators and their fans. Unlike conventional platforms, where artists often have to give up creative control in exchange for funding or exposure, Quarkk removes intermediaries and allows creators to maintain full ownership of their projects.

Through Quarkk, fans become more than just passive consumers—they can actively invest in their favorite creators' success. By using a Revenue-Based Financing (RBF) model, fans contribute to an artist's growth and, in return, receive a share of the future earnings from concerts, music sales, or royalties. This unique system strengthens the bond between creators and their audience, enabling fans to support what they believe in while enjoying tangible economic returns.

What sets Quarkk apart is its ability to democratize access to creative projects. It offers a scalable and flexible solution that goes beyond the music industry, opening up new funding possibilities for all kinds of creators—from musicians to content producers. By bypassing traditional gatekeepers like record labels or production companies, Quarkk empowers creators to thrive independently while offering fans an opportunity to be part of something bigger.

**Team description by
skill**

Claudio Arione: MSc in Computer Science at Politecnico di Milano. Expertise in software engineering and complex systems design. In the project he's part of the technical team, focusing on system design and front-end development.

Fabrizio Boncoraglio: MSc in Physics of Complex Systems at Politecnico di Torino. Expertise in data analysis and forecasting with machine learning and physics inspired algorithms. In Quarkk he's the intersection among technical and business teams, analyzing data to validate business assumptions.

Marco Esposito: MSc in Management Engineering at Politecnico di Milano. Expertise in Digital Business. In the project he's part of the business team, focusing on business model development, RBF model creation and process validation.

Lorenzo Ferretti: MSc in Computer Science at Politecnico di Milano. BSc in Finance at Bocconi University. Expertise in Finance and Artificial Intelligence. In Quarkk he's part of the business team, focalizing on business model development, RBF model creation and process validation.

Riccardo Inghilleri: MSc in Computer Science at Politecnico di Milano. Expertise in Machine and Deep Learning models and CyberSecurity. In the project he's part of the technical team, focusing on system design and back-end development.

Davide Palatroni: MSc in Computer Science at Politecnico di Torino. Expertise in Security Protocols in Computer Science. In Quarkk he's part of the technical team, concentrating on system design and back-end development.

Goal

In light of the ongoing challenges and inefficiencies among existent actors, our project aims to offer a new paradigm in the music industry, distinct from the traditional market structure controlled by record companies. The objective is to give an unconstrained and fair financing method to both independent and established artists, untying them from long-term, and often unfair contracts with music labels, while still offering all the main services needed to support their creative production. In doing so, we envisioned also the creation of a music-centered platform where fans can engage and connect among them and with their favorite artist, access to exclusive content, and feel part of the artist's journey. Ultimately, we could say that Quarkk's final goal is to give artists a new space where they can express themselves freely and, at the same time, finance their projects with direct support from their fans.

Problem	Aim
Restrictive contracts and loss of creative control under traditional labels.	Offering flexible-terms contracts that allow artists to maintain artistic freedom, ensuring they control their work while still accessing necessary funding.
Limited engagement and connection with fans.	Providing seamless tools for fan-artist interaction, allowing fans to support artists directly, contribute to their success, and access exclusive content, creating a closer and more meaningful relationship.
Opaque revenue models and unequal income distribution.	Ensuring transparent revenue-sharing models, offering artists a fairer share of the income generated from their work
Difficulty securing funding for creative projects.	Raising funds directly from fans, giving them the possibility to be fully independent
Long-term dependency on labels with lock-in effects.	Avoiding lock-in contracts, allowing artists to move freely between projects without long-term constraints.

Understanding the problem

The core focus of our project addresses the complex relationship between artists and music labels. This relationship is multifaceted, involving technical, economic, and logistical interactions that have historically led to tension within the music industry. Often referred to as a "binding contract," this dynamic typically places artists in a sub-dominant position compared to the labels, which control much of the process. Record labels, which control the major part of the music process, often impose high fees and exert creative control, particularly on smaller artists, pressuring them to prioritize commercial success over artistic expression. This restrictive influence can undermine artists' well-being and further alienate them from their fan base. In addition, these labels play a dominant role in the market structure: the industry is dominated by a few major players, leading to a lack of diversity and competition and limiting opportunities for independent artists to succeed. In fact, according to recent reports, three main companies own almost 70% of market share: Universal Music Group, Sony Music Entertainment and Warner Music Group. While they assure several benefits, artists are notably underpaid and are looking for new ways to generate revenue, e.g. launching other products or initiatives aside their music commitments. Given their size, the "Big Three" are hard to undermine, and they leverage their dominant position to undercut revenues for artists. Another information that impressed us was the fact that labels typically hold a percentage between 50% (very few cases) and 90% (most typical situation) of the music rights of the artists. Despite such incredibly high percentage, many of the services that music labels traditionally offer to artists, such as promotion and distribution, have become obsolete. Indeed, nowadays the primary role of music labels is to finance artists. On the other hand music distribution platforms pay artists very little, i.e. 10% of the revenues on average; the majority of artists'

revenue comes from live performances and events. Such low benefits are further constrained by the fact that music labels control the music production of artists. This lock-in effect is even more pronounced for emergent artists and adds up to the presence of opaque and complex contracts, along with unclear industry regulations, hindering artists from fully understanding their rights and responsibilities. The music industry in general relies on standardized business processes, in which many actors are involved and the actors' benefits are unfairly distributed according to our previous observations. Exploring the social value chain of the music market more in detail, we were able to observe the inefficiencies that characterize it and that lead to frustration especially on the artists' side, who play, along with the fans, the weaker role in the process.

Indeed, another key objective of our project is to bridge the gap between artists and fans, fostering a more direct and mutually beneficial relationship. The intrinsic discouragement caused by the current unfairness of the music industry results into major difficulties for many fans to actively support the artists, decreasing the high-impact potential of the music market. Fans often feel disconnected from the music creation process, despite having more access to artists through social media than ever before. They increasingly seek a more intimate connection with the artists they admire, not just by consuming their content, but by becoming a part of their journey. They want to be involved in meaningful ways, whether through exclusive experiences, behind-the-scenes access, or by directly contributing to the success of their favorite artists. This lack of genuine engagement is a significant gap in the fan experience, as many feel like passive observers rather than active participants in an artist's career. In an era where personalization and community are paramount, fans are searching for opportunities to stand out as dedicated supporters, to feel a sense of ownership in the creative process, and to join a niche group of "die-hard" fans who are truly invested in the artist's success.

Exploring the opportunities

As previously analyzed, the current music industry operates within a framework heavily dominated by major players such as record labels, publishers, and streaming services. These entities hold significant power over artists' careers, often creating lock-in effects that bound the artists and reduce their bargaining power. This dynamic leaves many artists reliant on these intermediaries to sustain their careers, perpetuating a cycle in which artists struggle to maintain control over their own work and earnings.

Recent technological innovations and alternative digital distribution paradigms are starting to challenge this traditional model and provide artists with out-of-the ordinary routes to financial independence. Fan investment platforms offer alternative financing models that allow fans to invest in artists and earn returns, but have different approaches, whether they focus more on the financial tool or on a gamified and engaging experience. Prominent musicians have publicly criticized the unfair revenue splits imposed by record labels and have taken steps to either buy back their music rights or explore new business models that bypass labels altogether. They have embraced direct-to-fan platforms, where they can sell music, merchandise, and experiences directly to their audience without the need for intermediaries. Crowdfunding platforms also provide a powerful alternative to traditional financing models. The rise of blockchain technology and tokenization has lowered the barriers to entry for new digital platforms, making it easier for innovative startups to enter the space with similar offerings. Beyond startups, there is also a risk that streaming giants like Spotify, and Apple could enter the music funding market, having vast financial and technological resources, as well as an extensive user base.

We use Porter's Five Forces model to give an immediate overview of the complex network of actors making up the reference industry.

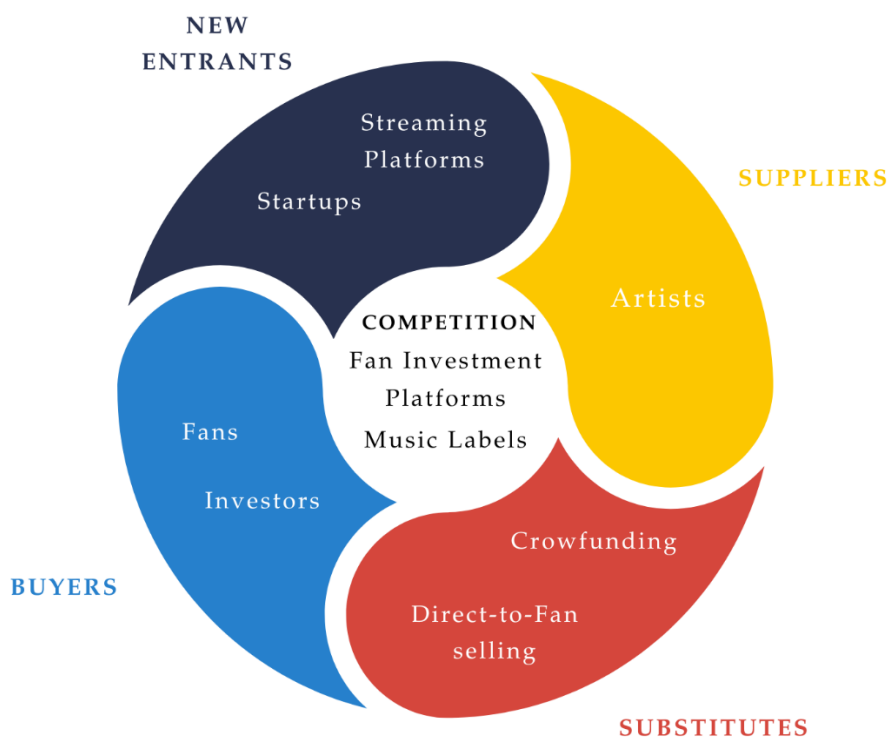


Figure 1 : Porter's 5 forces analysis for our reference market.

Generating a solution

Quarkk is a multi-sided platform allowing fans to invest directly in their favorite artists without intermediaries. It democratizes access to music investments, now prerogative of music labels and publishing groups, and gives artists access to a new pool of financial resources, while still maintaining full control and ownership on their works. The relationship between investors and artists on Quarkk is built on the concept of Revenue Based Financing (RBF), where fans invest in an artist in exchange for a percentage of the artist's future revenues. The definition of "revenues" varies based on each agreement and is clearly outlined in the contract. It could be a percentage of streaming earnings, live performance revenues, or even a portion of all revenue streams combined. For small to mid-sized artists, access to financial backing is crucial for sustaining their music production. Currently, many of these artists are self-funding and lack support in navigating complex revenue distribution channels. Through Quarkk, these artists can sell a portion of their revenue rights directly to their fans, paying them back using RBF. This model is not only legally viable but also highly

appealing to artists, as Quarkk offers an alternative to traditional record label deals, providing financial support without the downsides of long-term label contracts.

For major artists who regain control of their music rights (either by repurchasing them or through the expiration of previous contracts) Quarkk presents an opportunity to operate independently from record labels. However, if these artists still need services typically provided by labels, Quarkk can negotiate distribution agreements with the labels, obtaining a more cost-effective fee through the exclusive focus on the distribution aspect. Revenue-based financing can also offer a unique opportunity for well-established artists by leveraging their financial stability and consistent revenues to fund entrepreneurial ventures beyond their music careers. These ventures could include anything from launching a merchandise line to starting entirely unrelated businesses, such as energy drinks or clothing brands. Rather than taking on debt from banks, using their own savings, or seeking external investors, artists can ask Quarkk to raise funds from their fanbase. In return, fans would receive a significant portion of the venture's revenues. Additionally, in some cases, fans might receive a share of the artist's gross earnings. However, it's important to emphasize again that, since Quarkk is not an alternative to distributors, this share would be a fraction of the artist's gross earnings (and not of the total one). Artists set a fundraising goal for their project and, based on their past performance, future plans, contract length and other metrics, Quarkk determines the percentage of future revenues to be retained from the artist in exchange for the funding. This revenue share is divided among fans (which are now full-fledged investors) according to their investment, allowing fans to directly participate in the artist's success. In addition to this possibility, Quarkk becomes a new platform to create exclusive interactions between fans and their favorite artists, who can post digital content, previews, unreleased tracks, discounts and (in a future vision) even sell physical goods. Artist in this way get access to a convenient financing source, an appealing form of debt directly correlated to their performance. Listing on the platform, the artist keeps full ownership on creative, image and reproduction rights, future royalties and overall artistic direction, while creating an ecosystem where fans actively participate in their economic success and accessing a pool of investors unexplored until now.

The funds collected are then spent on the platform on services and activities needed by the artist with a network of affiliated service providers, such as recording studios, legal consulting, equipment, marketing, tour agencies and more. Artists can propose their own providers, but each expense has to be carefully checked and approved by Quarkk's team.

Main bibliographic references

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