



Exploring Music Distribution in South Africa to the Beat of the Townships

An Interactive Qualifying Project
submitted to the Faculty of
WORCESTER POLYTECHNIC INSTITUTE
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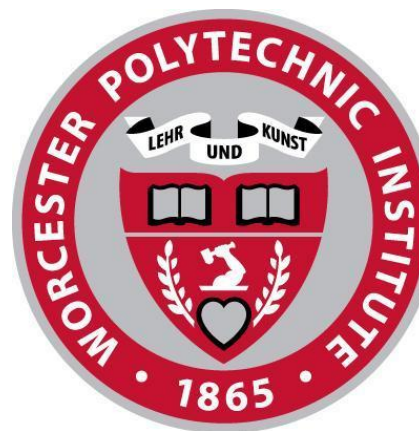
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I. ABSTRACT

Philippi Music Project (PMP) is a social enterprise aimed at providing affordable music recording services to township artists by building a professional recording studio. We assisted PMP in re-evaluating its business model and exploring music distribution options. We updated the operational budget to be more realistic and sustainable, explored existing music distribution platforms and their applicability to PMP, and developed projection models. Based on consumer interviews and meetings with the PMP founder, we engaged in a participatory design process for a prototype Android mobile application for music distribution. Collectively, these efforts resulted in a more complete business plan and resources for PMP to be successful in its mission to serve and cultivate local music talent.

II. AUTHORSHIP PAGE

Gina, Tess, and Carter primarily collaborated to write and edit the introduction, background, and methodology sections of the report. Gina led the writing on the introduction section and "A Way to Reach that Market" section and the methodology regarding the production of the mobile application. she also edited "A Market for their Music" section of the background. Tess led the writing of the "A Market for their Music" section of the background and the music registration methodology as well as the methodology pertaining to interviews of music professionals and consumers. She was also responsible for refining the consent statements for the interview methodology. Carter authored the "Need for Affordable Music Resources in South Africa" section of the background and Tess edited it. Carter also authored the "Music Monetization" section of the background well as the methodology pertaining to the distribution models.

The results, discussion, conclusion and recommendations sections were a collaborative effort especially when it came too expressing our opinions in the discussion. Tess authored the results regarding the How-To Document, the Consumer Interview section as well as the discussion. Carter led the writing of the Distribution Model Development section of the results and the CiTi Interview section and the Distribution Model Development section of the discussion. he also led the writing of the conclusions and recommendations section which Gina edited. Gina led the writing of the Application results and thoroughly edited the results, discussion, conclusions and recommendations sections.

Sections written were edited by both the remaining members to ensure a singular voice was present throughout and Gina was responsible for final revisions and submission.

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I. INTRODUCTION

Communities utilize resources available as a tool for empowerment regardless of economic status. In the mid 1990s, children from the townships of Cape Town, South Africa aspired to become professional soccer players. Soccer was an enticing profession as all one needed was a ball and two posts; anyone, no matter their economic background, could play. The accessibility of honing one's soccer skills created an environment where children aspired to become professional soccer players as a means of escaping the township. Yet, starting in the early 2000's there was a drastic shift. Children now aspire to become musicians instead (DJ Fosta, 2016). As music related technology, specifically for mixing and mastering, becomes more available and less expensive, the desire to become a professional musician has begun to surpass soccer as a more enticing and reachable goal. As a result, the new one ball and two posts has become one synthesizer and many voices.

In 1994, African youth started to distance themselves from imitating American rap, and began to embrace African rap as a new genre with a new significance (Charry, 2012). Instead of attempting to assimilate with other cultures and other rap styles, African youth not only began to create a new and unique style of rap as their own, but used this change as a means for empowerment and pride in their own culture. While this new genre's sound was different than previous African music, a profound shift in the lyrical content of the songs created a new outlet for African youth to express themselves (Nyamakazi, 2016). In the book *Hip Hop Africa: New African Music in a Globalizing World*, Eric Charry states that "African rap had emerged as a mature genre, featuring creative use of mother tongues, smart multilingual word plays, messages that were relevant to the experience of African youth, original rhythmic flows, and, within a few years, instrumental tracks that drew on local music" (2012, p.16). The main components needed for African rap were solely one's voice and a synthesizer or other electronic instruments, which aided in its growing momentum. The increased ease of making music resulted in township residents having more freedom in cultural expression through music (Charry, 2012).

Recognizing the growing momentum and appreciation of African rap, the developing social enterprise Philippi Music Project (PMP), located in the township of Philippi in Cape Town, dedicated itself to creating a novel infrastructure in order to provide affordable resources for musicians to develop their craft. Knowing that raw talent exists in Philippi, co-founders of PMP, Sibusiso Nyamakazi and Baptiste Guillemet, began considering strategies to provide musicians with an opportunity to formalize their work and distribute their music more widely. They quickly identified that the deficiency of recording space, training, and dissemination opportunities in the townships hindered the local musicians' development. Inspired to develop a method through which music could empower their local community, they established Philippi Music Project.

Over their first two years, PMP found success in recording and producing local music throughout Philippi, with their next move to construct a professional music studio in the township of Philippi. Currently, PMP is coordinating with an architect to retrofit a shipping container to serve as the shell of the recording studio. While PMP has already organized a myriad of music workshops and event showcases, the creation of the music studio will allow PMP to offer free masterclasses, mentorship, promotion to artists, organize music events, and distribute music. Moreover, PMP plans to include affordable recording time, mixing, and mastering to artists in the townships, for the townships.

Once construction of the recording studio in Philippi has been completed, the next critical step for PMP is to develop a plan for music distribution. To assist PMP in this process, we identified viable music dissemination models to consider implementing as well as researching current formal structures and requirements involved in music registration. We gained a thorough understanding of existing distribution platforms and their applicability to PMP's business model by utilizing projection models as well as conducting music consumer interviews. Based on our assessment of the music consumer interviews, we designed an Android prototype mobile application for music distribution. These processes resulted in a more complete business plan and resources for Philippi Music Project as it aims to serve and cultivate local music talent.

II. BACKGROUND

A. NEED FOR AFFORDABLE MUSIC RESOURCES IN SOUTH AFRICA

PMP is not the first agency to support music in low-income areas. Companies and organizations have emerged throughout South Africa to help aspiring musicians record their music. For example, Black Mango Cape Town manages artists through promotion and booking music events. The organization also acts as the African arm of Bridges for Music, a nonprofit that develops young people through their shared passion for music. Bridges for Music is currently building a music school in the Langa Township. Professional music education is also well established in Cape Town as well as in the townships. The institutions dedicated to this education are Cape Audio College, School of Audio Engineering (SAE) Institute, and the Jump Start Music Academy.

Utilizing this new wave of artists, Red Bull Studios and other recording studios provide professional recording settings for local artists to hone their craft and potentially profit from it. These recording studios are located in the central business district (CBD) of Cape Town, requiring township artists to travel to record their music. The cost of travel is a barrier for township artists. The ride from Philippi Village to Red Bull Studios and back would cost between R312 and R415 in an Uber which is a cheaper alternative to using a taxi service (Uber, 2016). The distance between Red Bull Studios and Philippi Village is a smaller distance between Philippi township and a recording studio in the CBD; there are further distances which would require upwards of R600 (Uber, 2016). In addition to the cost of travel, the services are expensive; the cost of recording time on its own can reach up to R335 per hour, the equivalent of 24 USD per hour.¹ This cost does not include mixing and mastering the recording needed to produce a professional track. Such services can cost an additional R1,000 per hour (Sound & Motion Studios, 2016). The median monthly income in South Africa in 2012 was R3,897 and young township residents often make considerably less given that the unemployment rate is 53.7% among people ages 15-24 (BusinessTech, 2016). This means that an artists would have to spend half of the

¹ R335 is the South African Currency (ZAR) Rand. This exchange rate is from November 10th, 2016.

average monthly income for these services and the transportation there. This high cost of recording presents a clear need for a professional recording studio closer to home where services can be paid for at an affordable rate.



Figure 1: Map of Cape Town Recording Studios and Philippi Village

PMP took these obstacles and devised their business plan to address the current difficulties township artists have in recording their music. To address the cost of expensive services, PMP developed its business plan to be affordable for township residents. Studio time will only cost R150 and mixing and mastering will cost R300. Artists can pay for mixing, mastering, and music distribution services, and PMP can offer free master classes, promotion, and

mentorship. To address the cost of travel, the studio will be built across the street from Philippi Village which makes it accessible to the township musicians. The furthest point in Philippi from the Philippi Village is approximately half the distance from Red Bull Studio to Philippi Village. If the cost of travel to PMP’s studio was between R100 and R150, then the cost of travel and services would be one third of what it would have cost them to record, mix and master at one of the studios in Cape Town.

When the studio is built and content is generated, PMP needs a way to get the music from the studio to listeners. In order to successfully distribute music to benefit the artists and PMP financially, Philippi Music Project must have a market for their music, a way to reach that market, and a way to monetize the music.

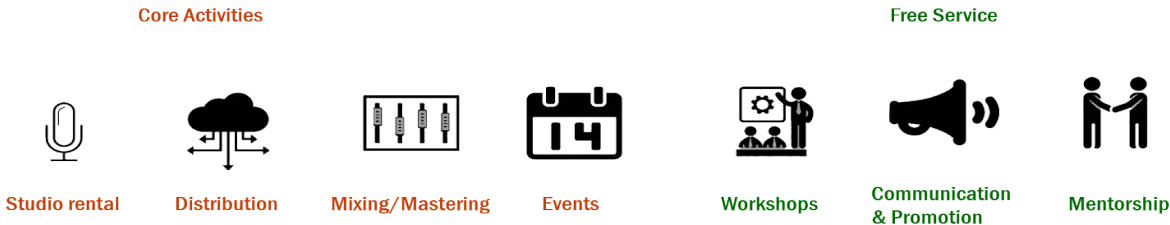


Figure 2: Services Provided

B. A MARKET FOR THEIR MUSIC: INCREASED APPRECIATION FOR LOCAL CULTURE

Centralized control of the music industry has previously inhibited local artists from generating income and gaining recognition in their home countries. Local artists often have to sign with large, primarily Western, record labels to gain popularity (Brown, 2000). A case study by Adam Brown (2000) compares two English cities' attempts to provide an infrastructure to support local musicians at all levels of popularity. The study found that despite the existence of sufficient infrastructure to transform music from recording to dissemination, widely successful local artists would still leave for music industry capitals such as London or Los Angeles (Brown, 2000). The dominance of Global North² music in South Africa is exemplified by a report from the popular music discovery application Shazam; out of the ten most discovered songs in South Africa in 2016, only one was created by a South African artist (Shazam Entertainment Limited, 2016). This centralized control creates a significant barrier for companies new to the music industry to reach a wide audience; therefore, these firms should focus on promoting local musicians to the surrounding communities that can most identify with the music.

Despite Global North music's dominance of the airwaves worldwide, there is an emerging demand for local music. A Dutch case study claimed that an appreciation for culture makes music genres lacking media attention more popular (Koreman, 2014). This developing appreciation of local music resulted in South African Broadcast Corporation, the public radio network in RSA, vowing to play 90% South African music in 2016 ("SABC", 2016). This promise, applauded by artists throughout Cape Town, is evidence of a desire for more South African created music.

² We are defining Global North as countries above the Brandt Line, which includes all the countries in the North Hemisphere, Australia, and New Zealand. These countries are deemed as economically developed while Global South nations comprise of "lower income countries," which is defined by the World Bank as countries with \$995 GNI per capita.

C. A WAY TO REACH THAT MARKET: EMERGENCE OF DIGITAL CONNECTIVITY

While it appears that radio would be the ideal platform for PMP to begin showcasing local township artists, there are significant barriers inhibiting musicians from getting on the radio. According to PMP's co-founder, Sibusiso Nyamakazi, South African radio stations typically play songs that are in high demand, so even if they are playing South African music, unknown local artists get little to no air time (Nyamakazi, 2016). Consequently, other distribution methods need to be considered that do not solely rely on the mainstream popularity.

Digital music platforms provide freedom from mainstream popularity due to user determined music selection, allowing for independent artists to reach a large and growing audience. Digital music has overtaken physical music with 45% of global revenue share according to the 2015 IFPI Global Music Report. Moreover, the Global Music Report stated that 43% of the digital music revenue is from streaming platforms (IFPI, 2016). Additionally, access to these platforms for artists is simple and affordable as distribution service companies like Tunecore and CD Baby will place their song on hundreds of platforms for a low cost. The combination of these factors allow artists to circumvent the major music labels while still gaining popularity and revenue. Digital platforms are increasingly important in developing markets like South Africa where the Internet and smartphones are becoming increasingly ubiquitous.

In recent years, access to the Internet and web-based applications in South Africa has increased immensely (Kreutzer, 2009). In the years preceding 2009, only the wealthiest South Africans had access to the Internet (Kreutzer, 2009). This hindered approximately 90% of the South African population in both listening to and searching for new music with leisure. However, the global agency "We Are Social" published a study claiming a 1.9 million increase of South Africans accessing the Internet from January 2015 to January 2016 (Shezi, 2016). This has resulted in the majority of South Africans, even individuals living in areas with limited infrastructure, being able to connect to the Internet via a smartphone, computer, or any other Internet enabled device (Kreutzer, 2009). Consequently, with the

widespread availability of the Internet now at the fingertips of such a large portion of South Africa, discovering and consuming new music has become increasingly easy.

The increased accessibility of the Internet and mobile devices allows the music industry to generate revenue from a market that was previously untapped due to the lack of banking capabilities (Gum, 2015). The World Bank in 2014 reported that two billion adults do not have a bank account with 17% of those individuals located in sub-Saharan Africa (Demirguc-Kunt, Asli, Klapper, Singer, & Van Oudheusden, 2015). Yet, many of the “unbanked” own smartphones with access to the Internet, streaming services and music downloads. Commonly in South Africa and other countries with the exception of the United States, monthly plans that allot a specific amount of airtime, texts, and data are not used. Instead, consumers pre-pay for airtime whenever needed. This pre-paid airtime can then be used as a mobile currency to make payments online such as for streaming service subscriptions. Simfy Africa, a popular streaming service in South Africa, accepts airtime as payment for its content. Other mobile currencies often require an existing bank or have transaction fees which many South Africans do not have access to or cannot afford, making airtime an ideal way for them to make payments. The integration of mobile devices throughout the world, specifically Africa, allows this new market to discover, share, and pay for music.

D. MUSIC MONETIZATION: AN EXPLORATION OF ONLINE MUSIC REVENUE MODELS AND ROYALTY COLLECTION

The shift towards music listening on digital platforms, either through streaming services, Internet radio, or music downloads, requires an entirely different manner of generating and collecting profits for recording artists and copyright holders. Previously, CDs or other media formats were purchased in a retail store directly by the consumer. The recording artist would agree to a contract with a recording company that produces, distributes, and promotes their music. The artist would then receive a percentage of the revenue from the sales of their albums. This percentage of the revenue is known as royalties. This model can be replicated for music download services. For example, the iTunes store, in which a consumer buys a song for a flat rate and owns a copy of that song. The artist would receive

royalties from the purchase of that song by a consumer. However, streaming services do not charge listeners per song or per song play, rendering this model inapplicable and makes royalty allocation and collection more difficult to administer.

Today's streaming services utilize various payment structures to generate income, mainly offering monthly or yearly subscriptions for access. In addition, streaming services often offer listeners a restricted experience for free as an introduction to the service by including advertisements every x number of songs or limiting skips (Gum, 2015). The subscription-based option usually removes all restrictions including advertisements. Simfy Africa, for example, offers an All Access and Web, PC, & Mac based package for 4.30 USD and 1.80 USD a month, respectively. They also have a two-week free trial of the All Access package to entice customers to subscribe (Simfy Africa, 2016). Similarly, Spotify offers two options, Spotify Premium at 9.99 USD a month and a free option instead of a limited subscription option (Spotify, 2016). The free option relies on advertisements to fund the use of the copyright music while the paid subscriptions use listener fees. Revenue of digital music in South Africa is expected to show an annual growth rate of 11.9% resulting in a market volume of 36 million USD by 2021 (Digital Media: Music, 2016). These revenue generation models represent the majority of models present in the growing streaming space; variations tend to exist in pricing due to popularity and size of music library. The shift towards digital music consumption through streaming and online radio has caused royalty collection and intellectual property protection for artists and copyright holders to be a complex issue to navigate.



Figure 4: Simfy Africa



Figure 3: Spotify

Intellectual property laws protect artists and copyright holders from listeners unfairly profiting from their works and are administered by Performance Rights Organizations (PROs). PROs exist to collect royalties from radio stations, television stations, and other platforms including retail businesses, restaurants and bars (Kinney, 2012). Organizations purchase licenses from PROs for a fee set by sector specific details and then the PROs divide this revenue among their members (Kinney, 2012). PROs only

collect performance rights, leaving mechanical rights unclaimed, unless artists and publishers register with additional rights organizations. Mechanical Rights are defined as the royalties collected by composers, lyricists, and publishers when their original work is reproduced or copied, like CDs or as an MP3, for public use (SAMRO, 2016). These models of fee collection make being a member of PROs and their counterparts essential to generating revenue as a recording artist, copyright holder, or publisher.

The South African PROs are the Southern African Music Rights Organization (SAMRO) and South African Music Performance Rights Association (SAMPRA). PROs exist in almost every country worldwide and have reciprocal agreements with each other to collect royalties for artists. This allows artists to register in only one country but still collect all foreign royalties. Additional organizations play a role in royalty collection in South Africa and their connections and roles are detailed in Appendix B. Despite the comprehensive royalty collection system in place throughout the world, independent artists still have difficulty generating satisfactory income from these organizations alone due to the way PROs determine royalty payouts.

Compensation from PROs depend heavily on the popularity of music and where it is played; therefore, independent and relatively unknown artists receive small payouts. For example, ASCAP takes into account the type of usage (theme, background, promotional), time of day, and the prominence of the platform it was played on (“ASCAP Payment System”, 2016). These factors lead to large revenue for popular artists and little to no revenue for relatively unknown artists who are rarely played. However, being a member of PROs is still an important avenue for smaller artists to collect revenue due to the wide reach these organizations have.

PROs, however, are not able to collect every royalty that artists are allowed and royalty administration services like TuneCore have been established to fill the gap. Large music labels have the capacity to do this on their own with a publishing arm of their organization or pay a publisher to handle the process of distribution. In addition, digital music distribution services have formed that service independent artists and labels by taking care of the necessary steps to distribute music digitally. For

example, TuneCore places an artist's song or album on over 150 popular streaming and download services worldwide for an annual fee and initial setup fee and does not take any ownership of the songs (TuneCore, 2016). This allows independent artists to quickly, affordably distribute their music without surrendering any of their ownership to publishers or record labels.



Figure 5: TuneCore

A competitor of TuneCore, CD Baby provides a similar service with access to a slightly smaller pool of digital services and pays out 91% of the sales revenue to the artist but only requires a one-time payment for the life of the

song. CD Baby also offers CD and vinyl distribution to 15,000 stores worldwide (CD Baby, 2016). Both of these organizations offer additional services to ensure the maximum amount of royalties are collected by registering music with PROs in its home country and abroad. Collectively, these services allow new, local artists or independent labels to focus on creating music, removing the need for working with large publishing companies that can take large percentages of the music revenue.

Other avenues of music distribution that do not rely on PROs or distribution services to collect royalties include independent artists selling their music directly to consumers in which the artists receive a much higher percentage of the profits, whether it be physical or digital music. Bandcamp is an online music distribution platform that hosts and promotes independent artists' songs and albums as well as merchandise for purchase by listeners. Listeners directly pay musicians for music with a small percentage going to Bandcamp to sustain its business (Bandcamp, 2016). Similar to Bandcamp, Bozza, an African centric platform for music, videos, and poetry, showcases the works on their website and artists receive direct payments from listeners minus Bozza and transaction fees (Bozza, 2016). This distribution model removes the need for PROs to collect royalties as well as large recording labels to produce, market, and distribute music, which tend to end up with the majority of the profits and provides much greater profits for a singular sale (Ingham, 2015).

Another method through which money can be made via music distribution is through advertising. YouTube is an alternate avenue of music distribution that until recently was solely based upon advertising revenue.



Figure 6: YouTube

YouTube has one billion subscribers and provides a massive audience for music. YouTube has a 45:55% revenue distribution model for advertisements in which YouTube channel owners receive 55% of the revenue while YouTube retains the rest (Rosenberg, 2015). Advertisements are can be placed all around the video player as well as an advertisement video preceding the video itself. The simplicity of placing content on YouTube provides an easy avenue for music distribution but can only be capitalized on financially once a strong subscriber base is established. YouTube, looking to expand its revenue, launched a subscription called YouTube Red, which removes all advertisements in addition providing other benefits (Mitroff, 2016). This should benefit both YouTube and video creators, artists, and others on YouTube as more revenue will be brought in.

The shift towards digital platforms has disrupted traditional distribution models, allowing artists to remain independent while generating a higher percentage of revenues. The increased accessibility of Internet and smartphones in emerging markets like South Africa will push digital platforms to the forefront of music consumption. These factors together result in an environment in which local artists can thrive and generate a sustainable income from their work.

III. METHODS

Philippi Music Project aims to provide an infrastructure to township artists by building a studio and offering studio rental time as well as mixing and mastering services. We assisted PMP by reevaluating its business plan and exploring music distribution models including a mobile application to serve as a potential revenue generation method.

- Document the process of registering music for intellectual property protection and royalty collection in South Africa.
- Assess current means of music consumption in Cape Town.
- Identify viable music distribution models for PMP and test profitability.
- Identify a design partner to collaborate with in the production of a mobile application.

A. DOCUMENT THE PROCESS OF REGISTERING MUSIC FOR INTELLECTUAL PROPERTY PROTECTION AND ROYALTY COLLECTION IN SOUTH AFRICA

We needed to understand and document each step in the registration process across all music dissemination platforms to ensure artists and PMP collect all the royalties they are entitled to. The copyright asset institutions we explored were SAMRO, SAMPRA, RiSA, POSA, and CAPASSO. The information was gathered through various document collection efforts. First, we visited each organization's website, which provided a detailed overview of what each organization covered in terms of rights, who it represented, and the process to join. Additional information was collected by contacting each of the rights organizations. To supplement that information, we interviewed an Entertainment and Intellectual Property lawyer in Cape Town to provide the intricacies of the organizations and their connections. We also interviewed a popular DJ in Cape Town about his experience with SAMRO. With this information, PMP will be able to direct artists to a web-based toolkit that has all of the information we compiled, so the artists can easily apply the documented steps to their own music.

B. ASSESS CURRENT MEANS OF MUSIC CONSUMPTION IN CAPE TOWN

To gain an understanding of music dissemination in Cape Town we looked from the perspective of music consumers. We reached saturation in our data after interviewing 24 individuals between the age of 18 and 35 (Guest, 2006). The data began to repeat itself and additional interviews would not have added any value to our data.

We chose consumers to interview by convenience sampling, engaging individuals that were willing to talk to us in addition to areas frequented by Cape Town residents and individuals aged 18 to 35. To access the desired sample population, we traveled to various locations in Cape Town. These locations included a community event called Open Streets in the township of Langa; at a jam session in the Philippi township; and neighborhood areas including Observatory and the Central Business District, specifically Long Street. We chose these areas due to the presence of PMP's target audience. The interviews were semi-structured, using the flexible nature of the interview type to probe consumers for more in-depth information about their preferences and opinions. Some topics included in the interview were personal music preferences, money spent on music, and platforms used to obtain or listen to music. See a completed list of interview questions in Appendix A.

Each interview lasted 5-10 minutes. Notes were taken to document the interview. See the verbal consent form in Appendix A. Data obtained from interviews with residents were analyzed using content analysis. A codebook was established and all interviews were coded to identify key issues related to music consumption.

C. IDENTIFY VIABLE DISTRIBUTION MODELS FOR PMP AND TEST PROFITABILITY.

Philippi Music Project must create a distribution plan to complete their business model. We set out to provide PMP with viable options for music distribution in addition to building multiple projection models based upon information collected. We first researched online to discover the different distribution models including YouTube, mobile applications, and distribution services like TuneCore.

We then selected viable distribution models by identifying costs and necessary resources for each model and comparing these characteristics to the resources Philippi Music Project plans to focus on music distribution. Utilizing information gathered about music revenue breakdown for various music platforms, we were able to estimate potential revenues for Philippi Music Project and its artists for each viable distribution model. To compare each model, we created three songs: a high popularity song, a medium popularity song, and a low popularity song. The high popularity song was defined as a top ten song in South Africa made by a South African artist. This song provides a realistic ceiling for a Philippi Music Project song. We defined the medium-popularity song as a less popular song from the same artist, using its number of YouTube views for the distribution model. Finally, the low popularity song was determined to be a local South African artist's song on SoundCloud due to it being a popular platform for new artists. We rounded YouTube views and other stream values to provide representative values for our distribution models. As our models were monthly projections, we divided these views by the number of months since it was published.

We needed to correlate the number of YouTube plays to equivalent values, in terms of popularity, for the streaming and download distribution models to be able to compare the revenue results. We used the number of YouTube views of each music videos for the YouTube models and used the active user numbers of Spotify and YouTube to scale the YouTube view value to the number of Spotify streams. The Recording Industry Association of America define 150 streams or video plays equivalent to one track download or single purchase in stores for its awards and we utilized this to translate YouTube views or SoundCloud streams to monthly downloads. We then used industry standards in artist shares of revenue at 20% across all of the distribution models and the rest of the distribution models variables including upfront costs to music aggregators, and retailers cut of revenue were filled out through online research. Costs such as monthly fees and one-time registration costs were also incorporated into the projection models. This information was combined together in an excel document to get the monthly revenue for PMP for each of the songs. Each value is easily editable in the document and is linked together using formulas such that one change affects the monthly revenue automatically.

D. IDENTIFY A DESIGN PARTNER TO COLLABORATE ON THE PRODUCTION OF A MOBILE APPLICATION USING A PARTICIPATORY DESIGN APPROACH

We set out to build a prototype for a prospective platform. In order to develop a platform that users enjoy using, their input must be present and considered throughout the entire design process. The platform that aligned best for prototype generation was a mobile application as many other distribution models rely on existing platforms to market and sell music. To complete the prototype under the time constraints, we attempted to hire a graduate from CiTi, a coding academy in Cape Town, to develop the back-end functionality of the application, an intensive part of the process. As our goal was a functional prototype, the application was not ready for release on the application stores and will require further development that will be completed by another programmer who our sponsor will contact. This approach also provided the benefit of continuing the development process and application maintenance after our project has concluded.

The user interface of the application (front-end) was developed in collaboration with Sibusiso Nyamakazi. We also obtained opinions on the design features from local artists, likes and dislikes of current music applications, and what they as artists would want out of the application. We showed them a series of screenshots depicting different design layout and ask them what they like or dislike about each design. We utilized the previously mentioned semi-structured interviews with music consumers to inform application development by adding questions focusing on design features of existing streaming mobile applications.

IV. RESULTS

A. HOW-TO DOCUMENT & INTERVIEWS REGARDING REGISTRATION

The “Guide to Music Registration” begins with a summary of the documents purpose as well as a simple image of how each musician will profit from registering their music through each organization stated.

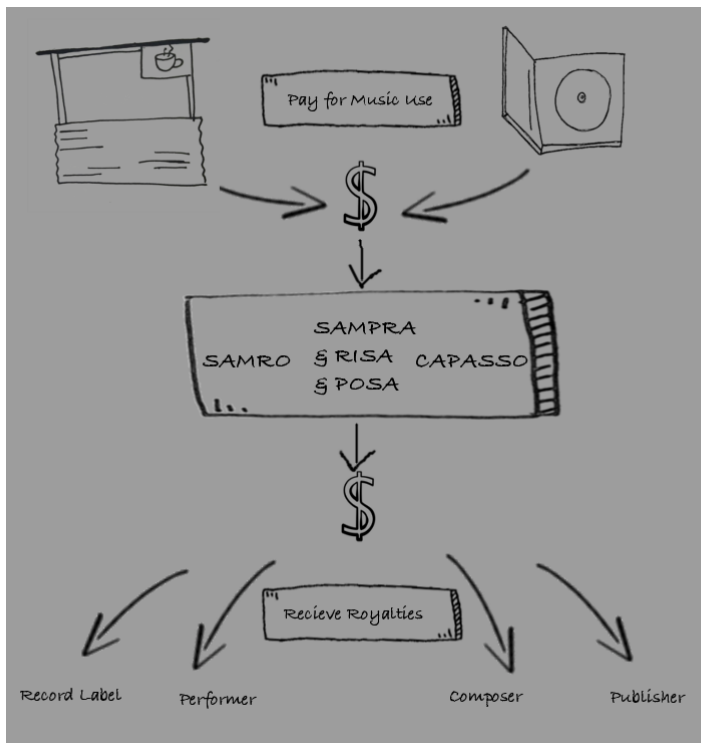


Figure 7: How-To Graphic

Following the summary, the document is designed for an artist to go straight to the organization with whom they wish to register. The organizations included, listed by order, are RiSA, SAMRA, SAMRO, CAPASSO and POSA. After a description of each respective organization and how it fits into the musical rights landscape, the reader is directed to the organization’s website in addition to detailed steps in the process of registering. Contact information and the amount of time it takes to get approval from the organization is included as well.

We met with an Entertainment and Intellectual Property lawyer to gain more insight on the legal processes of music distribution and

registration. The lawyer clarified that artist registration was a completely separate process than distributing music via an application. In order for PMP to include local music on their application, the artist needs to sign a contract detailing their agreement with PMP. Every service PMP provides, whether it is recording music or distributing their music via the application, needs to have a contractual agreement in order to protect PMP from lawsuits and ensure the artist is in control of where their original work is going and for what it’s being used. These contracts are simple and examples can be found online (www.bozza.mobi/terms).

We interviewed a successful local DJ regarding his career decisions, experiences with PROs, and application designs. He released a single on iTunes a year ago and only one week before that did he register with a PRO, which was SAMRO. Every six months SAMRO pays the artists what they are entitled to so he is hoping to receive the money gained from the song on iTunes soon. He is also registered with RiSA which means that SAMPRO is responsible for collecting royalties on his behalf as well. The business plan that the DJ has created for himself relies on events and live performances to generate the most revenue, which is why he has contracts with five booking agents; one of which is Black Mango, which receives 20% of the profits from the events they book for him. This offered us insight into how organizations like SAMPRO and SAMRO are used in practice versus theory.

We recommend that PMP charge a service fee for use of the document that was created. Consolidating all the information in an easy to follow compact document is a convenience for the artist, even though all of the information can be found online. Additionally, we contacted Guillemet in regards to including a graphic from the document on the PMP website. The graphic was designed to attract the attention of artists so they can understand that if they are distributing their music and hearing it being played in coffee shops for example, then they are entitled to royalties. If the artist is interested in registering with the organizations who are responsible in compensating them with the royalties they deserve, then they can contact PMP, who will use the Guide to Music Registration to walk the artist through the process.

The full “Guide to Music Registration” can be found in Appendix B.

B. CONSUMER INTERVIEWS

In order to access the musical landscape of Cape Town and get data on music consumption from PMP’s target audience we conducted a series of interviews in various locations and contexts. After discussing possible locations with our sponsor we were able to make a list of places that would be ideal for data collection, including Observatory, a neighborhood that is frequented by young creative people; Long Street, which is in the Central Business District; and in Philippi Township. Specifically, we were looking for potential music consumers of ages 18-35, who like hip hop and house music. Thirty-two

consumer interviews were conducted from October 23rd until November 13th. The predominant race of interviewees was Black (83.3% Black, 12.5% White, 4.2% Coloured) in addition to interviewees being predominantly male (71.8% male, 28.2% female). The economics of our interviewees' were difficult to discern as we did not ask interviewees to self-identify their economic standing. Although the location of our interviews and interactions predominantly with people at work allowed us to surmise that the vast majority were lower and middle class. While thirty-two consumers is about half the number of our initial goal, due to saturation we felt that conducting more interviews would only provide us with the same information and therefore were unnecessary.

Almost half of our interview sample stated that they use their smartphone to access music. This

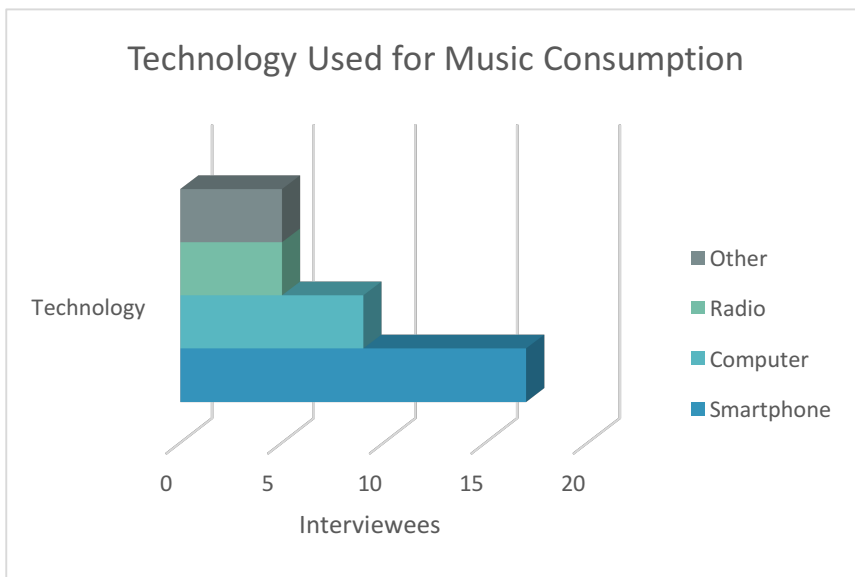


Figure 8: Chart of Technology Used

evidence matches existing research on smartphone usage in South Africa (Kreutzer, 2009). While there was a clear popular choice in what devices music consumers used, there was no single platform that each user utilized. Moreover, regardless of what device and music platform each music consumer utilized, a large majority of our sample population stated they did not pay for music. The Internet offers most music for free and people would rather use the

money for other things. Out of our interviewees, only four stated they would be willing to pay for music, which included two who explained that even then, they only pay for music they extremely like or when they want to show support for the artist.

C. DISTRIBUTION MODEL DEVELOPMENT

We developed four separate distribution models: two pertaining to YouTube monetization, one for streaming, and one for downloads. For the high popularity song, we selected *Come With Me* by Black Coffee as it fits the criteria as a hit song by a South African artist. This song provides a realistic ceiling for a Philippi Music Project song. This song had 1,107,141 YouTube views which we rounded to the closest hundred thousand to provide a representative value for our distribution models.

$$\text{Monthly Distribution Profit} = (\text{Views} \times \$ \text{ Per 1000 Views} \times \text{PMP Share}) - \text{Costs}$$

High Popularity: **R4720** = (180000 Views X R71.80 X 35%) - R0

Medium Popularity: **R40** = (1500 Views X R71.80 X 35%) - R0

Low Popularity: **R5** = (200 Views X R71.80 X 35%) - R0

We chose *Angelina* by Black Coffee as the medium popularity song and a song by a local Cape Town artist for the low popularity song following the criteria previously set out in the methodology. We needed to correlate the number of YouTube plays to equivalent values, in terms of popularity, for the streaming and download distribution models to be able to compare the revenue results. We used the number of YouTube views of each of Black Coffee's music videos for the YouTube models and used the active user numbers of Spotify and YouTube to scale the YouTube view value to the number of Spotify streams. The Recording Industry Association of America defines 150 streams or video plays equivalent to one track download or single purchase in stores for its awards and we utilized this to translate YouTube views or SoundCloud streams to monthly downloads. The general formula used to calculate the monthly revenue can be seen below, as well as the three examples from YouTube monetization.

The monthly revenue for each song can be seen below. The full document used to calculate the monthly revenues is in Appendix C.

Spotify/Streaming Service Model					
Song Popularity	# of Streams	Revenue/Stream	First Month Revenue of Year	Monthly Revenue	
High	18000	ZAR 0.10	ZAR 900.00	ZAR	900.00
Medium	150	ZAR 0.10	ZAR 7.50	ZAR	7.50
Low	20	ZAR 0.10	ZAR 1.00	ZAR	1.00
Yearly Revenue:				ZAR	10,902.00
Average Monthly Revenue:				ZAR	908.50

Distribution Revenue From iTunes or Google Play					
Song Popularity	# of Downloads	Cost Per Download	First Month Revenue of Year	Monthly Revenue	
High	1200	ZAR 9.99	ZAR 5,850.54	ZAR	5,994.00
Medium	10	ZAR 9.99	ZAR (93.51)	ZAR	49.95
Low	1	ZAR 9.99	ZAR (138.46)	ZAR	5.00
Total Yearly Revenue:				ZAR	72,156.97
Average Monthly Revenue:				ZAR	6,013.08

YouTube Monetization Using Audiam					
Song Popularity	# of Views	Revenue/1000 Views	First Month Revenue of Year	Monthly Revenue	
High	180000	ZAR 114.88	ZAR 3,101.76	ZAR	3,101.76
Medium	1500	ZAR 114.88	ZAR 25.85	ZAR	25.85
Low	200	ZAR 114.88	ZAR 3.45	ZAR	3.45
Total Revenue:				ZAR	37,572.65
Average Monthly Revenue:				ZAR	3,131.05

YouTube Monetization					
Song Popularity	# of Views	Revenue/1000 Views	First Month Revenue of Year	Monthly Revenue	
High	180000	ZAR 71.80	ZAR 4,523.40	ZAR	4,523.40
Medium	1500	ZAR 71.80	ZAR 37.70	ZAR	37.70
Low	200	ZAR 71.80	ZAR 5.03	ZAR	5.03
Total Yearly Revenue:				ZAR	54,793.45
Average Monthly Revenue:				ZAR	4,566.12

Figure 9: Monthly Revenue Charts

We recognize this method of creating views/plays/downloads is not entirely sound as there is no evident correlation between the number of plays on different platforms. SoundCloud and YouTube are the only platforms that publish number of views or plays. Other platforms like iTunes provide download and play statistics to the artists and publishers but after asking two separate artists for rough estimates on the number of downloads for their music, ensuring that the values will not be published anywhere, we received no responses. This lack of data makes it difficult to draw any connection between platforms in which could be used to deduce views for the same song on a platform it is not already on.

Regardless, song popularity on YouTube or any platform does not necessarily translate to song popularity on iTunes as songs can be vastly popular on just one of the platforms, such as if a song does not have a music video. A music video can also drive popularity of a song on YouTube but not do the same on iTunes as it is a different medium. These platforms are interconnected but separate as each has a different subscriber base. Worldwide hits would likely tend to show that the popularity of songs on different platform is linked but that is due to the prevalence of the song on all platforms, word of mouth,

and social media driven people to listen to that song on all platforms. Localized and independent music is more dependent on the popularity within a specific community, which can be located within a specific platform such as SoundCloud or Spotify and cause songs to be vastly popular on that platform only.

Understanding this, we still believe scaling by audience size is the only way to estimate the relative levels of success in downloads and streams for the various distribution models. Without full access to data provided to artists by these platforms, it is impossible to discern accurate values. An alternate way to build the models would be to reverse engineer the number of views/downloads/streams by selecting a desired monthly revenue based off desired profits or break-even point, when revenues equal costs. The desired value for the specific platform could then be calculated based upon the monthly revenue. This would remove the need to correlate between plays but would still have the difficulty of discerning if a number of plays/downloads/streams corresponds to a specific popularity and consequently would provide no information about which platform provides the most revenue.

We also updated the monthly operating budget with our sponsor to show exactly what revenues are necessary for Philippi Music Project to be profitable as the original operating budget underestimated the costs of important aspects. This included adding a Chief Financial Officer (CFO) to handle business negotiations and other business opportunities and operations. This would allow the PMP facilitator, most likely our sponsor, to focus on discovering and meeting with talent and making connections in the music industry to expand PMP. The cost of mixing and mastering greatly increased due to the cost of the talent needed to produce a top quality album. This new monthly operating budget was nearly triple the original budget, R80,000 in comparison to the original R30,000. The original budget was used to show business projections to prospective funding partners and thus was tailored in a way that profitability of the business model was sound with relatively low risk. This realistic monthly operating budget will inform what revenue is required and if they need to increase important costs such as hourly rates of recording, mixing, and mastering to be sustainable. These changes when incorporated into the overall business model yielded losses in each scenario such that more revenue would need to be generated in at least one, if not all core revenue generating activities.

The prominent South African DJ, Sir Vincent, told us that he makes all of his money through booking events and that PMP should consider acting as a booking agent. Even if PMP offers services that are affordable, there will always be people who cannot afford them. The musician Tonny Sparks thought that it should be cheaper and that PMP should consider focusing on another source of revenue. While this might not be a viable choice for PMP, it gave us insight from a person who is a possible client of PMP and asked to be connected to the organization.

D. APPLICATION

The software Android Studio was utilized for the production of the first three versions of the mobile application. The first two versions were dedicated mostly to back-end development, with the third solely front-end design. Once completing the implementation of the first version of the application, we found that only the first five seconds of each song could be played. This was due to the SoundPool Class being used for song playback, which under documentation review showed it only had the memory capacity for approximately five seconds of each song to be played before overload. This was discovered after two full days of coding, and could have been easily realized through reading the documentation prior to starting the first version. While this could be viewed as a failure, it proved as an astute learning experience in still taking the time to research and completely

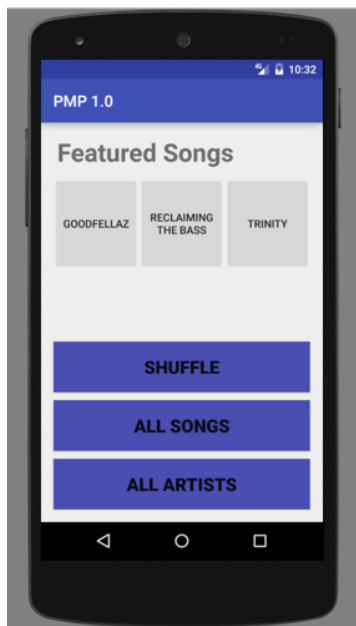


Figure 10: Version 1

understand a resource before attempting to fully integrate it into our project.

For the second version, The MediaPlayer Class was utilized instead of SoundPool, which allowed for full playback. While the songs could be played completely, again after intense documentation review it was discovered that

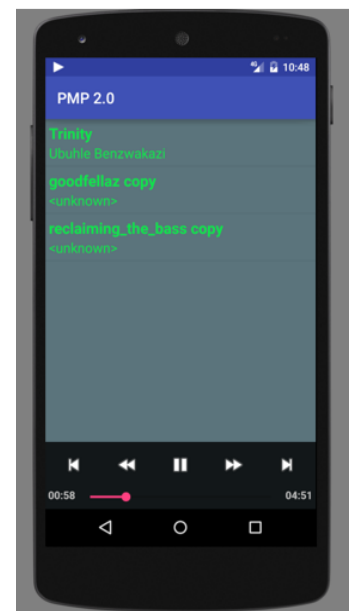


Figure 11: Version 2

only songs that were already downloaded on the phone through a SD card could be played. As a result, this could not be utilized for the application as well. As this was the second time of failing to implement a successful music player due to inadequate reading and researching of the resources through which we implemented the code, we now fully grasped the importance of detailed research.

While the first two versions were oriented towards the back-end music playback functionality of the application, for the third version we focused solely on the visual front-end design of it. Once Sibusiso drew out a sketch of what he envisioned the application to look like as well as all the features he wanted we then attempted to implement exactly what he had given us. Only focusing on the front-end design of the application, it was incredibly easy to follow the sketch for the design. Once finished, while it appeared almost identical to the sketch, we found that it was simply not

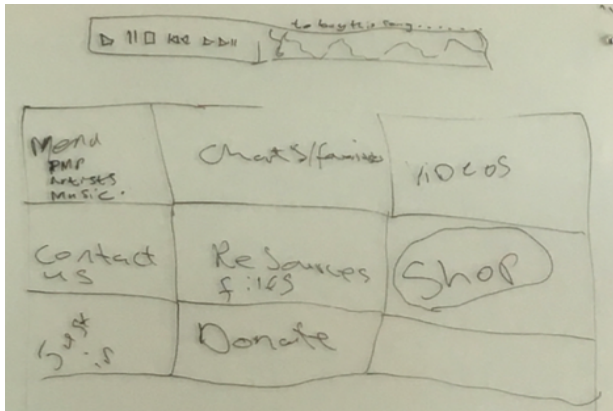


Figure 12: Sketch from Sponsor

aesthetically pleasing to most we showed it to. While one main reason for this was the lacking capabilities of the Android Studio IDE platform, we also acknowledged that in a creative design process as the one we were doing, it can be difficult to convey what one envisions as a final



Figure 13: Version 3

implementation until it is actually tangibly seen and complete. This process was much more trial and error testing that simply copying a sketch of an app to the exact line and stopping there.

We were able to represent PMP in an internship job fair through CiTi, which we learned about through our sponsor. We interviewed 20 current CiTi students for the position of back-end application developer. Of the 20 interviewed, we chose 12 candidates who had the required background to collaborate in the design of a mobile application for PMP while also showing an interest in PMP itself. We did not hear back from CiTi until the last week of our project, where they sent us ten of the CVs of

the candidates we were interested in. As we did not hear back for a couple of weeks from CiTi we had assumed none of the candidates were available for collaborating with PMP. As a result, we began the fourth version of our application, again focusing on the front-end design of the mobile application. Although we could not utilize the CiTi coder for our immediate iterations, we now have the contact information of the ten candidates that will be passed on to our sponsor for future collaboration.

After fully reading the Justinmind documentation while also researching the capabilities of the platform, we began development of the application front-end layout. This proved successful for both aesthetic as well as the complete design relative to what both our sponsor wanted as well as well as what our interviewers described as an effective application. Through active trial and error of designing part of the application, then showing it to Sibusiso as well as fellow WPI students for feedback, we were able to dramatically make progress on the front-end development of our application. Through this process, within less than a week we successfully designed a layout for the application.

While our main design was derived from Sibusiso's wishes, we additionally drew inspiration from our conversations and interviews with local artists, fellow WPI students, and other music consumers. We compiled a document with screenshots taken from popular music applications including Apple Music, Google Play, Simfy Africa, Pandora, and Youtube. We showed local artists these screenshots and asked them what they liked and disliked about each one. We also asked about how the use of pictures versus words effectively communicated information and pleased the eye.

We also inquired of what they thought were the most important features of a music application and why. Through these interviews, we gained valuable insights, which we then applied to our own application. One of the suggestions included incorporating the ability to have the application in multiple languages, and that there should be an equal ratio of icons to words.

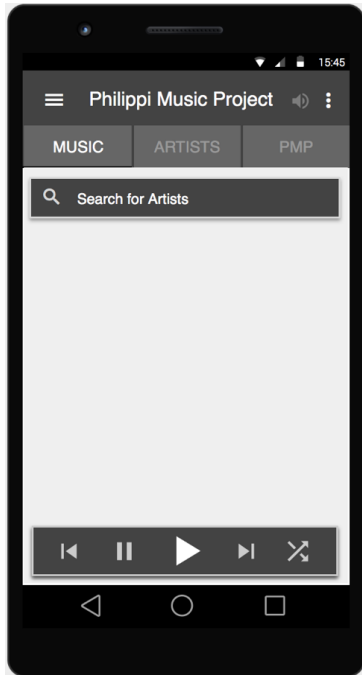


Figure 14: Version 4 Song Screen

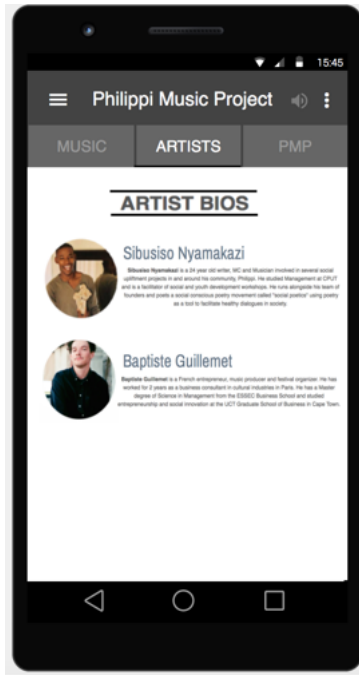


Figure 15: Version 4 Artist Bio Screen

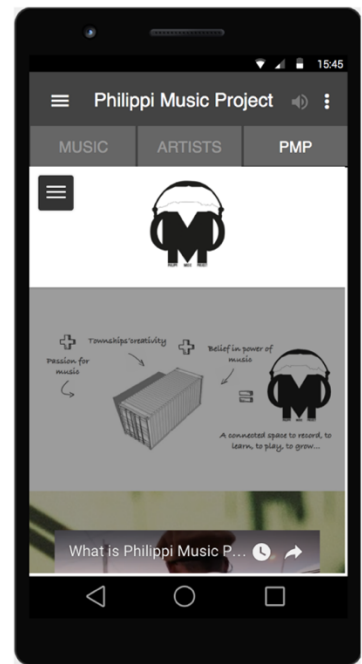


Figure 16: Version 4 PMP Website

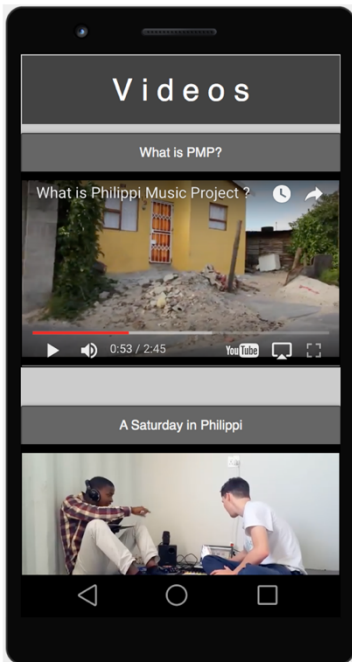


Figure 17: Version 4 Videos Screen

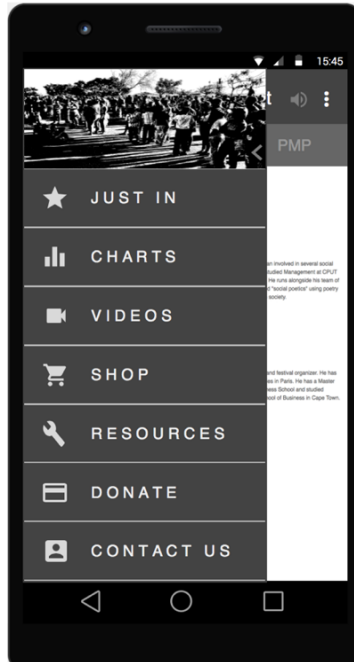


Figure 18: Version 4 Left Screen

V. DISCUSSION

As students from the United States, we involved ourselves with local companies and organizations. We work hard for seven weeks then we leave. While the process is extremely educational for us we must also consider how the locals that we interact and work with feel.

Our sponsor, Sibusiso, started PMP with the help of three foreigners, with two of them only in Cape Town for graduate school. The group of four put an immense amount of energy into PMP, driving its mission forward. Unfortunately, once they left, progress stalled and PMP struggled to establish itself. Outsiders coming in with enthusiasm and new ideas have the potential to be incredibly beneficial, yet it is very hard for the locals who remain to keep up that level of intensity. There is a very scary reality to face when you are alone and trying to single handedly build something that four people imagined.

Even though our project was intended to help PMP with its distribution plan, we needed to expand both our vision and our perspective in order to understand the relationship between locals and foreigners that exists between us and Sibusiso, and every local person we have talked to. Without acknowledging this relationship, it would be impossible to genuinely understand how we are perceived by the rest of the world and thus be able to minimize the negative effects of our impact during and after our stay in Cape Town.

When we began interviews, we did not quite understand that people might view us as foreigners or even outsiders; we believed it would be easy to find people to interview. Upon conducting the first of our interviews at Open Streets Langa, we were unsure of how to start the conversation. This was mainly due to our outlook that individuals at Open Streets were there to enjoy all the events, including dancing, music, and food, and would not want to be bothered with research questions pertaining to music interviews. That, in addition to our inexperience in approaching individuals created a general unease for us in conducting our first interviews.

Midway through the Open Streets Langa event, we were introduced to a friend of Sibusiso's, who we talked to for a while before we realized that it was a perfect opportunity to ask her our

questions. We had already built a small relationship with her on mutual interests so when we started asking her questions for our project the woman answered honestly and in detail. A volunteer from Open Streets even asked if we had known each other for years; because of the baseline foundation we had created, the dynamic between us and her, foreigner and local, seemed more comfortable. While we began our interviews with the mindset that each interviewee would simply be a number in our report, we quickly realized that was not the case; genuine human interaction made the interviews much more successful and easier for all involved.

Although we then had the basic understanding of how to create a comfortable interview setting, the rest of the interviews did not happen as easily as we hoped. In Observatory we mostly interviewed people who were working at the shops or restaurants along the street. As they were working they did not have time for lengthy conversations from random foreigners walking into their place of work. The gap was defined by the fact that they were working and we were patrons/interviewers. People were reluctant to answer us because they felt uncomfortable with someone just asking them questions. We did find that after each interview, our personal confidence grew as we accepted the gap and the sometimes odd looks we received. We were able to navigate the conversations based on how receptive a person was and when to politely walk away if they seemed unwilling.

In that one day, Gina completed 15 interviews, Carter completed five and Tess, four. There are a few different explanations for this discrepancy. Gina has a quieter voice compared to Carter and Tess; this may have made her seem more approachable and relatable as we have found that people in South Africa tend to speak very quietly. In addition to her soft voice, she carries herself very unobtrusively. Her clothes tend to be comfortable and casual and her body language is responsive as it adjusts to the body language of the person she is approaching. Carter and Tess have a louder presence and do not have a natural affinity for adjustment. Another aspect to consider was that people might have felt more comfortable talking to Gina because she is considered mixed, as opposed to Carter and Tess who are White. While Gina was more successful in these casual interviews, Carter and Tess felt more comfortable in the artist interviews, due to the more structured environment and shared understanding

between the interviewer and interviewee. The team worked well to account for the strengths and weaknesses among us.

Another relationship dynamic we encountered was that of an outsider and an insider. Our sponsor invited us to a Jam Session in the Philippi Township. Jam Sessions are open mic events held by The Bridge Experience where local artists can perform on a stage in the township of Philippi while other township residents and artists show their support. Even though we were physically in the township, there was a clear feeling of being an outsider. People stared at us and waved; it felt like we were in a small parade. It is difficult to comment on their feelings towards us as we did not really talk to anyone besides the people Sibusiso introduced us to. He was our link, bringing together outsiders and insiders. Since people knew and respected Sibusiso, they likewise showed us respect when we asked them questions. Even though we asked the same questions at the previous music consumer interviews, the responses were different. There was a conscious positive attitude towards music there so the answers we got were more personal and enthusiastic. This created an opportunity for longer conversations because music was a mutual interest.

Being in the township caused us to fully acknowledge our workspace in Philippi and what it meant for us to work there. Working in Philippi Village for the day was vastly different than working in the township in a traditional sense. While we technically worked in Philippi, our air conditioned, furnished, comfortable office overlooked the rest of the township. We were dropped off near a guarded gate and proceeded to walk a few hundred yards to the tallest building in Philippi. We walked past security and took the elevator to the third floor where we sat in comfy chairs, took out our laptops and got to work. Looking out the windows we saw hundreds of shacks. Going into the township for the Jam Session brought the view from the office to life and filled all of the shacks with people who have families and needs. Instead of ignorantly continuing to do work without the real life perspective of living in the actual township of Philippi, it introduced us to another culture of South Africa and the people who PMP intends to help make music.

A. CITI INTERVIEW

We attended a CiTi job fair event in which we encountered a whole new dynamic. As employers looking for an employee the relationship was more professional. There were approximately 20 employers interviewing candidates and the employers were predominantly small companies and startups looking to hire interns. These companies appeared to be more established than PMP and could provide programming mentorship which PMP could not provide. This initial realization caused our group to be nervous, considering if we actually belonged at the event as college students interviewing individuals, many who had graduated college, alongside established startups and companies. This manifested itself in our first interviews being awkward interactions with the candidates. We were stumbling on our words to describe PMP, the position we were offering, and were unprepared to answer questions the candidates had. After the first couple interviews, we solidified our deliveries and determined exact answers to the questions candidates were asking, allowing for much smoother and productive interviews. Sibusiso arrived halfway through the interviews and provided pointers about the specific phrases we were using after noticing which questions candidates were consistently asking. He also let us do the talking for him as his representatives instead of taking over the interview once he arrived, showing real confidence in us as his representatives for the Philippi Music Project.

The interviewers were mainly young professionals dressed in business casual wear common in the programming and engineering sector. Carter, a computer engineer student, was dressed very similarly to the other interviewers and felt as if he fit in during the event.

The relationship dynamic between foreigners and locals was less noticeable because the relationship dynamic was instead dictated as employers and prospective employees. There was a shared understanding of what we were looking for and what they wanted out of the interview and allowed each party to act accordingly. One of the major differences that we noticed was the handshake; the vast majority gave limp handshakes. One candidate had a firm handshake, which pleasantly surprised Carter, and exuded confidence throughout the interview. We are used to firm handshakes in the United States as it is often seen as a sign of confidence and thus, these gentle handle shakes were perceived as weak by

Carter's social conditioning. We quickly learned that gentle handshakes were just the social norm in Cape Town and disregarded any information we had gleaned from the handshakes.

While we ultimately did not hire a new member for PMP, interviewing each potential candidate served exceptionally useful in simply having our team become very comfortable in quickly and effectively stating our "elevator pitch" of what PMP is and what we are doing. Additionally, as none of us had ever been on the other side of a job interview, it was interesting to then also find an effective way to ask the candidate questions while appearing knowledgeable in our field yet not aggressive or unsociable. Overall, this was an insightful and useful experience for not only our team in being aware of our surroundings and how we approach people, but also for PMP to get its name out to more potential future collaborators.

B. DISTRIBUTION MODEL DEVELOPMENT

PMP plans on having 10% of the revenue from distribution so we needed to make a distribution plan that would generate that 10%. While we were being realistic about the revenue, we had to ensure that the budget PMP had was realistic. Developing a realistic operating budget proved a difficult task, requiring multiple meetings and a shift in mindset for our sponsor. Initially, we questioned our sponsor about the operating budget that had been created during the development of the business model which proved to gain no additional information on whether PMP could actually run off of that budget. After gaining our sponsor's trust through proving ourselves through the CiTi interviews and other successful work, he began providing us with more information. The relationship dynamic shifted at that time; we became Sibusiso's recruiting and hiring team. While he was clearly the one with the final say in the room, he allowed us to represent PMP. His new confidence and trust in us resulted in much more successful line of communication between us. We could ask him questions and he would respond with useful information.

PMP was still focused on pitching prospective investors and fundraising as evidenced by including rent as a line item in the budget to showcase PMP's resourcefulness but was not helpful for the operating costs and planning how the business would be sustainable. Explaining the importance of a

realistic operation budget, our sponsor became very receptive and began providing the necessary information to build an accurate operation budget. This process which seemed simple on the surface proved difficult because of the disconnect between where we thought PMP was in the startup process compared to our sponsor and additionally having to earn his trust as international students coming to help PMP.

This anecdote about the operating budget highlights broader issues for startups started by internationals in conjunction with locals. Our sponsor provided the idea for the project as a whole and was developed within an MBA program with three enthusiastic business centric individuals. The MBA students built the business models behind the project with a focus on securing funding to start the project and subsequently left the area once their MBA program had concluded leaving our sponsor to continue developing the business model into a realistic plan that will work on the ground and not just in theory or to impress investors. The lack of business expertise as well as enthusiasm currently, which the international MBA team of people brought when the project was first developed, is likely to explain for the stalling in progress of PMP and this situation is mirrored in startups in South Africa and throughout the world.

From the time we got our project assignment, we were excited and filled with ideas. We wanted to dive right in, demanding every bit of information our sponsor had, never considering that maybe we had to earn our right to have that information. When we got to Cape Town we found that PMP was not in the state we had assumed it was in and our project got more complex. At first we were frustrated at being told half-truths, but then realized the risk involved in giving outsiders so much information immediately, because we might not understand. Nearing the end, we finally started to understand the environment that we and PMP were in, so we could look at action plans more realistically and with compassion.

VI. CONCLUSION AND RECOMMENDATIONS

Contextualizing our results in the current state of Philippi Music Project has led us to create an action plan for how Philippi Music Project should move forward with music distribution. The plan is centered around a stepwise approach, in which one step needs to be completed for the next to be implemented, with a few additional recommendations:

1. Increase crowdfunding efforts
2. Build and maintain internet presence
3. Complete the studio
4. Generate music content
5. Monetize distribution
6. Complete the music distribution application

In lieu of an expansive income, we recommend long-term crowdfunding or donations through websites like Patreon or PayPal. Current short-term crowd funding efforts in which the money has been raised is for a specific task or goal, which have not proven successful, individuals could pledge monthly donations to PMP for sustained development. This additional cash flow will assist in any shortfalls in revenue generation from month to month. This can be done through a crowd funding site like Patreon or to a lesser extent by adding a PayPal donate button to all of PMP's online presence.

As well as continuous crowd-funding, we also recommend that PMP builds its YouTube presence prior to studio and music creation. Uploading videos of the creation of the studio itself and the process of making PMP come to life could potentially increase the followers of PMP, even before any music content is created. This will provide a base for the PMP channel which can be capitalized on once music has been created through lyric or music videos.

Before any further steps are taken, we recommend that PMP focus on completing construction of the studio, and solidifying working relationships with artists and potential employees in the immediate

future. Currently, PMP does not have enough content to distribute music; this warrants no further investing in development of a mobile application or paying for distribution services until the studio is built and there is a pool of music available. In addition, PMP and PMP musicians do not have a large enough following of people yet who would be willing to pay for music downloads or use the application.

While distribution can be a source of revenue, it might be hard to make a significant amount of money unless a particular song or musician is highly popular. The distribution models shown in this report identify that significant monthly revenue (greater than R1,000) was only generated from the high popularity song from each platform. This was corroborated in our prior research and conversations with artists, suggesting that hit-singles or albums were the only content that digital distribution provided sustainable monetary gains. This is mainly due to payouts exponentially growing due to the nature of song popularity and how advertising rates are determined.

As PMP is only in the beginning stages of content generation and producing a hit song does not happen often, music distribution should be used as a promotional tool instead of as revenue generation. This can be done by hosting and sharing music on free and easily accessible platforms such as YouTube and SoundCloud due to the simplicity of uploading content and the potential large audience that can be reached. Engaging with platforms such as YouTube and SoundCloud will increase PMPs recognition as they do not charge listeners. There is no guarantee that the music distributed will make money right away. Moreover, it is more probable that a significant revenue will not be generated, given how revenue is determined by the various music distribution platforms. Paying money upfront to place music on various distribution platforms is not a sound business decision until there is a significant interest in PMP given a substantial song list and followers.

Creating a mobile application for PMP has the potential to aid in the distribution and branding of PMP. However, as PMP is presently still not recording, mixing, and mastering songs on a daily basis, we recommend temporarily halting of the development of the mobile application until after the creation of the studio. Through our hiring interviews at CiTi, we obtained the CVs of ten candidates that showed the skills and interest necessary to finish the application successfully. Their contact information is on file with PMP for updates on potential future collaborations. Building connections with competent

application developers will make hiring a candidate much simpler in the future if the mobile development is continued.

These recommendations focus on expanding cash flow while keeping costs low to ensure PMP will not take on unnecessary risk investing in artists. Keeping this approach consistent throughout PMP will yield a sustainable business that will be able to help the community and be profitable.

VII. APPENDIX A: MUSIC CONSUMERS INTERVIEWS

Verbal Consent for Participation in Interview Research

Hello, my name is _____. I am a student at Worcester Polytechnic Institute. I am collecting information to help Philippi Music Project in their goal to distribute music made by local artists. Do you listen to music? Do you have a few minutes to talk with me about this?

Interview questions:

How often do you listen to music?

5 hours a week, 15 hours a week, or 40 hours a week?

How do you generally listen to music?

On your phone, radio, YouTube?

Why do you use those services?

Do you share your music with your friends?

How do you share your music?

How often do you hear new music?

What is the maximum effort you are willing to put in to find new music?

No effort, some effort, a lot of effort?

Do you ever buy music? If so, how much do you generally spend on music?

Per song/album, Per week, Per month?

How much would you be willing to pay for one song?

Not willing to pay, depends on the artist/song, or willing to pay if I like it?

Are you interested in hearing music made by local artists?

What is your favorite feature on (insert service based on interviewee response)?

Search bar, pictures, or menus?

What do you dislike about certain platforms?

VIII. APPENDIX B: GUIDE TO REGISTER MUSIC



Guide to Registering Music

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Overview

Definitions

1. A. RiSA

B. SAMPRA

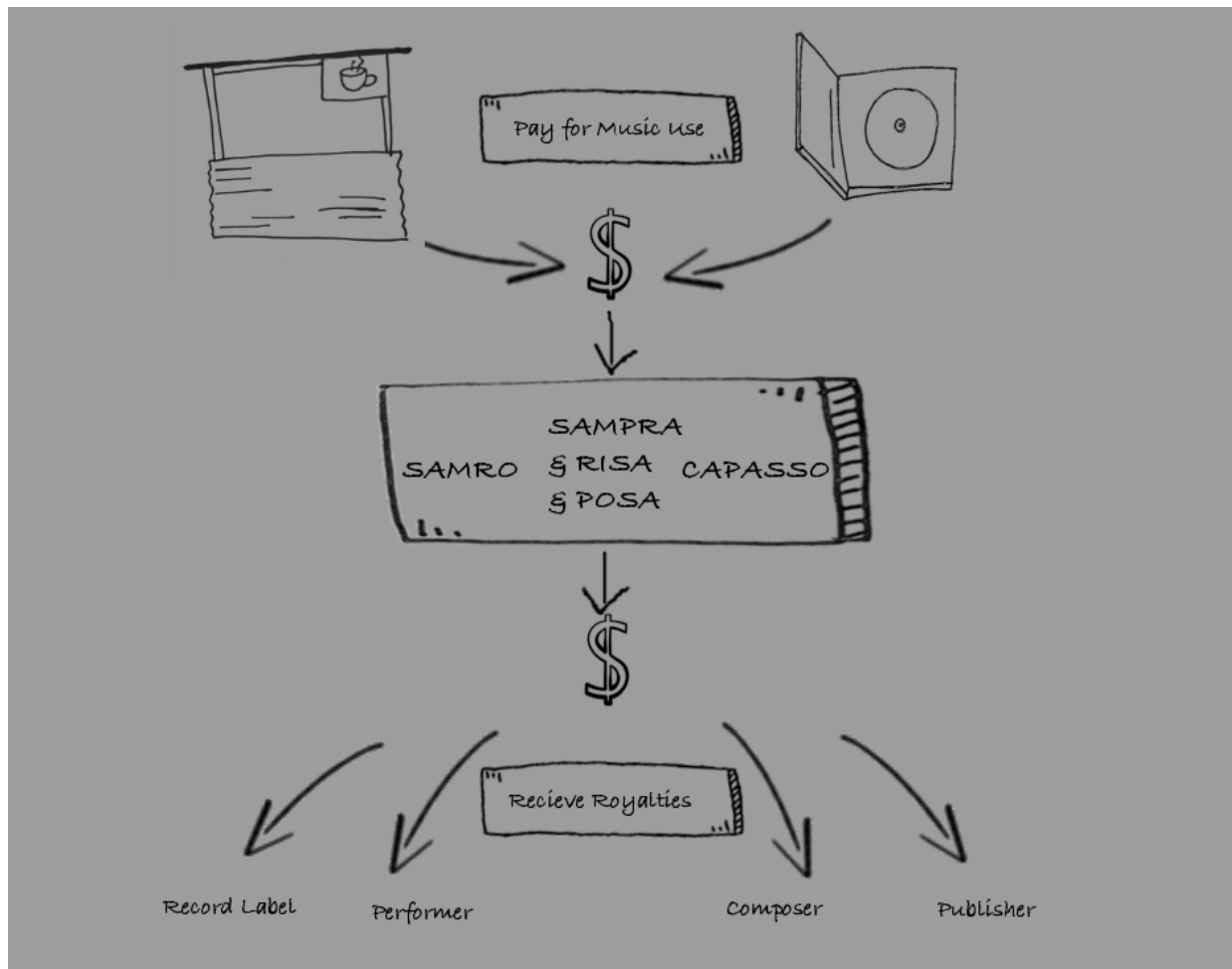
2. SAMRO

3. CAPASSO

4. POSA

Overview

This document is designed to assist local artists in the process of registering their music for royalty collection and protection purposes. We have provided the steps, forms and resources that must be completed in order to receive royalties for Performing Rights, Mechanical Rights, and Needletime Rights.



Definitions

Licensing: giving a person, organization, or company permission to use a musical work in exchange for money

Performance Rights: royalties earned by the owner of a musical work, for example, the composer, music publisher or lyricist when the musical work is played or performed in public such as in concert, or on the radio

Mechanical Rights: royalties earned by the owners of a musical work when that musical work is copied to any sort of device, like a CD, DVD, tape, MP3 or computer hard drive; this includes every time a song is downloaded from online

Needletime Rights: royalties earned by recording artists, including back up vocalists and musicians, when the musical work is played publicly on the radio, TV or in concert

Publisher: responsible for ensuring the songwriters and composers receive payment when their compositions are used commercially.

Composer: owner of original musical work



1. A. RiSA (Recording Industry of South Africa)

Recording Industry of South Africa (RiSA) is a trade association that represents producers of music sound recording in South Africa. For more information about RiSA and its objectives, visit www.risa.org.za/about-us/. If you are a registered member of RiSA then SAMPRO is required to collect all licensing fees on your behalf.

- a. Go to www.risa.org.za
- b. Click on “Become a member”, this will bring you to a screen called “Membership Application”
- c. Click on “RiSA Membership Application Form” to download the document
- d. The document is titled “IRSC First Owner Code Application For Performers/Groups Only”. IRSC stands for International Standard Recording Code which is how sound recordings and music video recordings can be identified internationally. The document is written in English and is not available in any other language. It asks for information such as:
 - i. Stage name/Group name
 - ii. Group Representative
 - iii. Identity Number
 - iv. Contact information
 - v. Alternative contact information
 - vi. Product Manufacturing & Distribution
 - vii. Nature of business (the nature of your operation within the music industry)
- e. On the bottom of all of the pages there is contact information which has been typed out below. This is how you submit the application. Question regarding the application can also be directed to this contact information.

Suite 4, 152 Bram Fischer Drive Randburg 2194- PO Box 367 Randburg 2125

Tel: 011 886 134 Fax: 011 886 4169 E-mail: sunny@risa.org.za

- f. In 3 to 5 business days you should receive an email with the approval.
- g. If you are applying through RiSA’s website you will only see the ISRC Application, this is because you are required to fill out this form before you can become a member of RiSA. After you get approval of the ISRC Application, RiSA will send you the Membership Application via E-mail.
- h. Fill out the Membership Application to be a member of RiSA

B. SAMPRA (South African Music Performance Rights Association)



You must be registered with RiSA (see Section 1) before you can be a member of SAMPRA. Once you have registered with RiSA, SAMPRA has an obligation to collect all licensing fees on your behalf. For more information on how and what SAMPRA does, visit www.sampra.org.za/faqs.

- i. The Membership Application for RiSA can also be found at www.sampra.org.za
- j. Click on the “Record Companies” tab
- k. Click on the “Membership Application Form” listed as the first bullet under “Become a SAMPRA Member”. The application is only offered in English.
 - i. The questions are very similar to those on the ISRC Application.
 - ii. This form goes into more detail on Manufacturing and Distribution
- l. The contact information is located at the bottom of each page

**150 Hendrik Verwoerd Drive (Entrance in Republic Road) Randburg 2194 PO Box 367
Randburg 2125**

Tel: 27 11 886 1342 Fax: 11 886 4169 E-mail: risa@risa.org.za

- m. You should receive an Email with your approval for this application in 6-8 weeks.

2. SAMRO (South African Music Rights Organization)

Your performance rights as a composer or publisher are administered by SAMRO, an organization that collects royalties on your behalf. For more information on SAMRO visit <http://www.samro.org.za/samro-music-creators-south-africa/FAQs>



To Register:

- a. Go to **www.samro.org.za**
- b. Click on the “Music Creator” tab on the menu bar along the top of the page
- c. There will be a menu that opens below the tab, click on “How do I apply for membership?” which is 5 down from the top
- d. Scroll down, near the bottom of the page there is a heading called “Applying for SAMRO membership”. Below it is a list of the requirements for applying, including:
 - i. Downloading and completing the membership application form
 - ii. Completing a “Notification of Works”
 - iii. Deed of Assignment
 - iv. Proof of Identity
 - v. Relevant agreements or statements with partnered organizations
- e. Below the list of requirements, there is a statement that says “Download membership application forms here”. Click on “here” to get the forms.
 - i. Click on the first dark brown bar that says “Music Creators Forms”
 - ii. Download these PDFs- They are the documents required as mentioned above
 1. “Composer, Author Membership Form”
 2. “Composer, Author, publisher - Notification of works form”
 3. “Deed of assignment world form”
 - iii. The other forms listed here, are useful but not required, go through each and see if they would benefit you
 - iv. There is also an option to get the forms from the physical address or to contact the Customer Services Department- this is written above the brown bars, under the header “Apply here”.
- f. At the bottom of the page, contact information is provided.

If you have any queries regarding the membership application process you can contact the SAMRO 24/7 Communication Hub on 0800 247 247 or email: 24-7@samro.org.za

- g. SAMRO's Board of Directors approve membership and they only meet 4 times a year; March, June, September, and November.

3. CAPASSO (Composers, Authors, and Publishers Association)

This organization administers the mechanical rights to publishers and composers. To get more information on CAPASSO you can visit <http://www.capasso.co.za/index.php/faqs.html>



To Register:

- a. Go to **www.capasso.co.za**
- b. Click on the “Become a Member” tab in the menu bar along the top of the page
- c. There will be a little drop down menu, click on either “Composer Registration” or “Publisher Registration”
 - i. Composer Registration

Notes

- Should your application be approved; we will advise you via email, post or fax. *Please note that communication sent to you by way of email is deemed to have been received by you in terms of Electronic Communications and Transactions Act no 25 of 2002.*
- CAPASSO Annual Membership Fees are R100.00 per annum and are due on 1 January every year.
- Use your full name and surname as reference
- Please note that the membership application process is only complete once your first Annual Membership Fee is received.
- We would appreciate regular updated song catalogue listings, in order that we may register your songs on our database and ensure collection of your income.
- Please note that you cannot belong to more than one mechanical rights organization in the same territory (South Africa)
- Whilst the onus is on the user to notify us of the reproduction of your Works, it is vital that you, as rights holder are as vigilant as possible in also notifying us of such use.

1. Log-in Information
2. Personal Details
3. Client Banking Details
4. Details of Next of Kin

5. Confirmation

You can also find the application using by copying this link and pasting it in your internet browser's search bar:

www.capasso.co.za/index.php/forms.html?download=17:composer-application

ii. Publisher Registration

Notes

- Should your application be approved; we will advise you via email, post or fax. *Please note that communication sent to you by way of email is deemed to have been received by you in terms of Electronic Communications and Transactions Act no 25 of 2002.*
- CAPASSO Annual Membership Fees are R250.00 per annum and are due on 1 January every year.
- Use name of your publisher as reference
- Please note that the membership application process is only complete once your first Annual Membership Fee is received.
- We would appreciate regular updated song catalogue listings, in order that we may register your songs on our database and ensure collection of your income.
- Please note that you cannot belong to more than one mechanical Rights organization in the same territory (South Africa)
- Whilst the onus is on the user to notify us of the reproduction of your Works, it is vital that you, as rights holder are as vigilant as possible in also notifying us of such use.

1. Log-in Information
2. Publisher information
3. Client Banking Details
4. Company Profile

5. Declaration

You can also find the application using by copying this link and pasting it in your internet browser's search bar:

www.capasso.co.za/index.php/forms.html?download=18:publisher-application-form

4. POSA (Performers' Organization of South Africa Trust)



Needletime Rights are administered through POSA for musicians and record labels. For more information on POSA visit <http://www.posatrust.org.za/faqs.php>

To Register:

- a. Go to **www.posatrust.org.za**
- b. Click on the “Membership” tab in the menu bar for an overview of the General Membership Rules
- c. Click on the “Forms” tab in the menu bar to access the PDF’s that need to be submitted for membership
 - i. Needletime Rights Deed of Assignment
 - ii. Notification of Recorded Performances
 - iii. Recording Artist Application Form for Membership
- d. It takes +/- 7 business days to get approval, which will come via email

IX. APPENDIX C: DISTRIBUTION MODELS

Spotify/Streaming Service Model													
Song Popularity	# of Streams	Revenue/Stream	Total Revenue	Artist %	PMP %	Retailer %	Aggregator %	Upfront costs	Yearly Costs	First Month Revenue of Year	Monthly Revenue		
High	18000	ZAR 0.10	ZAR 1,800.00	20%	50%	30%	0%	ZAR -	ZAR -	ZAR 900.00	ZAR 900.00		
Medium	150	ZAR 0.10	ZAR 15.00	20%	50%	30%	0%	ZAR -	ZAR -	ZAR 7.50	ZAR 7.50		
Low	20	ZAR 0.10	ZAR 2.00	20%	50%	30%	0%	ZAR -	ZAR -	ZAR 1.00	ZAR 1.00		
										Yearly Revenue:	ZAR 10,902.00		
										Average Monthly Revenue:	ZAR 908.50		

Distribution Revenue From iTunes or Google Play													
Song Popularity	# of Downloads	Revenue/Play	Total Revenue	Artist %	PMP %	Retailer %	Aggregator %	Upfront costs	Yearly Costs	First Month Revenue of Year	Monthly Revenue		
High	1200	ZAR 9.99	ZAR 11,988.00	20%	50%	30%	0%	ZAR 143.46	ZAR 143.46	ZAR 5,850.54	ZAR 5,994.00		
Medium	10	ZAR 9.99	ZAR 99.90	20%	50%	30%	0%	ZAR 143.46	ZAR 143.46	ZAR (93.51)	ZAR 49.95		
Low	1	ZAR 9.99	ZAR 9.99	20%	50%	30%	0%	ZAR 143.46	ZAR 143.46	ZAR (138.46)	ZAR 5.00		
iTunes Cost/Song:		ZAR 9.99											
										Total Yearly Revenue:	ZAR 72,156.97		
										Average Monthly Revenue:	ZAR 6,013.08		

YouTube Monetization													
				Average CPM:	ZAR 71.80								
Song Popularity	# of Views	Revenue/1000 Views	Revenue	Artist %	PMP %	Retailer %	Aggregator %	Upfront costs	Yearly Costs	First Month Revenue of Year	Monthly Revenue		
High	180000	ZAR 71.80	ZAR 12,924.00	20%	35%	45%	0%	ZAR -	ZAR -	ZAR 4,523.40	ZAR 4,523.40		
Medium	1500	ZAR 71.80	ZAR 107.70	20%	35%	45%	0%	ZAR -	ZAR -	ZAR 37.70	ZAR 37.70		
Low	200	ZAR 71.80	ZAR 14.36	20%	35%	45%	0%	ZAR -	ZAR -	ZAR 5.03	ZAR 5.03		
										Total Yearly Revenue:	ZAR 54,793.45		
										Average Monthly Revenue:	ZAR 4,566.12		

YouTube Monetization Using Audiam													
				Increased CPM:	ZAR 114.88								
Song Popularity	# of Views	Revenue/1000 Views	Total Revenue	Artist %	PMP %	Retailer %	Aggregator %	Upfront costs	Yearly Costs	First Month Revenue of Year	Monthly Revenue		
High	180000	ZAR 114.88	ZAR 20,678.40	20%	15%	45%	25%	ZAR -	ZAR -	ZAR 3,101.76	ZAR 3,101.76		
Medium	1500	ZAR 114.88	ZAR 172.32	20%	15%	45%	25%	ZAR -	ZAR -	ZAR 25.85	ZAR 25.85		
Low	200	ZAR 114.88	ZAR 22.98	20%	15%	45%	25%	ZAR -	ZAR -	ZAR 3.45	ZAR 3.45		
										Total Revenue:	ZAR 37,572.65		
										Average Monthly Revenue:	ZAR 3,131.05		

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