The Downfall of The Rocket Network

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How did the website, 'The Rocket Network' make innovative use of emerging technologies in the 1990s and what was the cause of the company's downfall?

Abstract:

High speed internet is rapidly changing modern life, as well as the modern musical landscape. One innovation born out of high speed internet was online networked musical creation, which promised technology-savvy users the ability to create music in collaboration with musicians all over the world. 'The Rocket Network' was a website born in 1994 that provided a platform from which this exciting musical experience could take place. The Rocket Network not only closed its website in 2003, but most musicians haven't even heard about it despite its nine year existence. This paper discusses reasons as to why The Rocket Network shut down, and the limitations it faced that prevented it from becoming a music making environment for all musicians.

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Introduction:

Online networked musical creation encompasses the act of collaborating with musicians over the internet across different time zones and spaces to form a kind of 'virtual music' (Duckworth, 2005, p. xi). One of the most notable permutations of this idea came in the form of an online networked musical creation business entitled, 'The Rocket Network'. Launched in 1994 under the name 'Res Rocket Surfer', The Rocket Network enabled online musicians to interact with one another by uploading musical ideas, and editing, reworking and reinventing them in what appeared to be real time (Duckworth, 2005, p. 132). The company was not long lived though, and closed down in March of 2003. This paper seeks to address reasons why The Rocket Network is no longer in existence, with regards to the musical, technical, and economical components of the online networked musical creation provider.

The Impact of 'The Rocket Network' on the Creation of Music:

Like many new technologies, The Rocket Network inspired anticipation of an improved future for those with access to it. Bloustien, Peters, & Luckman (2008, p. 32) describe this technology as, "A logical spatial extension of the recording studio", while Buskirk (2007, Online) comments on its compositional potential with, "The next big step in the so-called online music revolution is for more people to become involved in music creation, whether that means… remixing other people's tracks or participating in online music projects". The Rocket Network attracted excitement with its service that allowed online musicians to trade MIDI or digital audio files through an online looping application governed by a centralized FTP server, which created the illusion of real-time music collaboration (Barbosa, 2003, p. 55). It was neither the first nor last manifestation of online networked music creation though. Alexandraki (2008, p. 1) notes that, "Networked music began as early as in the late 1970's", with Ayres suggesting that its origins may have come from what he labels, "The Webmix" – the result of multiple streams of music playing at a single time from a computer's speakers (2006, p. 2010). What distinguished The Rocket Network from earlier projects such as 'The Hub' (1986) and 'NetJam' (1990) (Duckworth, 2005, p. 62-65), was its unique looping data structure that avoided the necessity for individual computers to be chronologically synchronized (p. 132).

Despite the hype created by The Rocket Network's service (65000 users) (Théberge, 2004, p. 778), there were musical limitations to The Rocket Network's capabilities, including restrictions on the transfer of high quality audio over the internet, inability to actually communicate in real-time, and lack of visual connection between musicians. These issues pose the question of the service's viability. Barbosa acknowledges that "Designing and implementing a network music system supposes that new, meaningful sonic results can be achieved by collaboration over computer networks" (2003, p. 53-4). Herein lies the problem with The Rocket Network's influence on music creation. While the prospect of creating music with, "The biggest band in the world" (as cited in Duckworth, 2005, p. 69) is endearing, it is likely that the complications involved in online networked musical performance outweighed the convenience of decentralizing musical creation, and therefore, "meaningful sonic results", as Barbosa put it, were less likely to be achieved. One of the main restrictions to the musical capabilities of The Rocket Network came in the form of technological and physical limitations to online networked music creation.

Technological Limitations Faced by 'The Rocket Network':

It is impossible to fully examine the musical impact of The Rocket Network without also investigating the technology involved, as music and technology are inherently related in this instance. As alluded to above, one of the biggest challenges faced in online networked musical creation is network delay, or latency. While The Rocket Network's solution of introducing an online looping application to circumvent the issue of latency has been addressed, there exists a utopian undertone in publications about The Rocket Network where the possibility of live networked performance is cherished. Word-spins such as "near real-time" (Théberge, 2004, p. 760), and "internet jam session" (Evangelista, 2000) summon the misinformed idea that musicians may actually be able to play *together* online. Barbosa provides this sobering statement to those who are sold by this prospect:

> *"If we consider the smallest possible peer-to-peer connection between two opposite points on the planet, we have an approximate distance of 20,004.5 km (half the distance of earth's perimeter: 40,009 km). Even with data transfer at the speed of light (approximately 300,000 km per sec) and unlimited bandwidth, bidirectional latency would reach approximately 133.4 msec, which is much higher than the tolerable threshold"* (2003, p. 53).

Apart from the speed of light simply not being fast enough for long-distance real-time communication, a realm of other factors stand to complicate the issue, including, "Operating system load, path, network protocol choice, buffering, network type, network topology, [and] network difficulties" (Chafe & Leistikow, 2001, p. 2). Due to restrictions of bandwidth, the buffering mentioned by Chafe and Leistikow often involves some form of audio compression, which both reduces audio quality, and introduces delay to the signal (Chafe, Wilson, et al. 2000, p. 1). Finally, methods of data transfer, including *UDP* (User Datagram Protocol), *TCP* (Transmission Control Protocol), and routers with QoS (Quality of Service) capabilities all burden the process by introducing inconsistency, reduced speed, or increasing network load (Chafe, Wilson, et al. 2000, p. 1-2). Restrictions to data transfer efficiency, while minimized by The Rocket Network's looping application, remains at the heart of any networked musical creation project, and was a significant force in the closing of The Rocket Network. To compound the issue, unrealistic expectations of The Rocket Networks technical capabilities resulted in a slowing of the company's momentum as the reality of the situation was absorbed.

'The Rocket Network's' Online Business Model:

The third potential reason for The Rocket Network's close lies within the company's business model. This is an especially relevant topic as several authors blamed the termination of the company on business-related issues. Pam Miller, President CEO of The Rocket Network claimed on March 14, 2003, that "The difficult economic climate and the slow adoption of the paid service have forced us to make this decision [and shut down The Rocket Network]" (Jamwith website). Duckworth, however, says that "The reported inherent costs of both data storage and requisite bandwidth for data transfer caused it to close" (2005, p. 73). These statements concede that finances were a significant problem for The Rocket Network, so it is necessary to take a step back and examine the underlying principles behind the business.

Authors tend to agree on the volatility of the online marketplace around the turn of the millennium. Sparrow (2006, p. 1) commented on the internet business climate saying that, "Its time came and with it wholly misplaced forecasts for its immediate commercial impact". The last two decades have seen these 'wholly misplaced forecasts' evident in an assortment of failed internet business models, one of which appears to be that of The Rocket Network. The Rocket Network is based upon a combination of

business models, including the ‘Merchant Model – Bit Vendor’, the ‘Community Model – Social Networking Service’, and the ‘Subscription Model – Content Service’ (Rappa, 2010). To elaborate, The Rocket Network provided a digital application, a social networking service, and access to digital content, each of which combined to create the product that was sold. The problem that arose here, was that in a time where Napster was creating an ‘everything is free on the internet’ culture (Gordon, 2005, p. 86), customers were either reluctant or uncomfortable with paying for a subscription service over the internet – and so the ‘wholly misplaced forecasts’ presented themselves.

Discussion:

The research above identifies problems with the musical, technical, and business-related components of The Rocket Network. The findings from each of these sections can now be examined against each other to answer the ultimate question of why The Rocket Network did not succeed as a business. The problems were as follows:

1. The Rocket Network did not support high quality audio, real-time ‘jamming’, or a visual connection of online musicians, so was not nearly as practicable as traditional music creation.
2. The online looping application adopted by The Rocket Network failed to meet unrealistic expectations of users who wanted a real-time jamming experience.
3. The business was based on a hybrid version of several online business models during a time of market instability. A lack of experience and knowledge caused these elements to react and become a severe problem.

Firstly, I would like to compare problems one and two (musical and technical) by introducing a statement from Théberge (2004, p. 760), who said, “They (The Rocket Network) promulgate the network model itself as an idealized form of sound recording practice”. These words uncover the important concept, where the creators of The Rocket Network could perhaps be blamed for the overwhelmingly *idealized* representation of online networked musical creation prior to the companies collapse. When relating this to problems one and two, it could be said that customers approached online music making with this idealized expectation of what they may experience, which simply could not be met by The Rocket Network in terms of sound quality, or usability of the program.

I would propose that if The Rocket Network instead promulgated its services as an *alternative* to traditional sound recording practice rather than a superior sound recording practice, users may have embraced the program for what it was capable of, rather than become disappointed by its limitations. In a similar vein, there have been a number of composers who have realized the limitations of online networked music creation technology, and adopted its flaws as musical devices. Pauline Oliveros took the ever-present issue of latency to the extreme in 1987 by sending a signal of an accordion back and forth from the moon, creating a musical delay (Duckworth, 2005, p. 131). If too, The Rocket Network upheld and accepted technical and physical limitations such as latency, rather than publicize itself as an 'idealized form of sound recording practice', perhaps demand for the service would have been greater, enabling the company to prosper. Admittedly, the creative use of latency is likely to be most attractive to Avant-Garde musicians, a less-commercially viable market and hence, The Rocket Networks implementation of its mainstream-friendly looping platform.

It can now be observed that problems one and two directly impact on problem three, and therefore the overall sustainability of the company. Put simply, if the fundamental objective of the business – to facilitate innovative musical creation - is not effective, there will be no demand for the service, and no means from which to create a successful business. If we assume that the business *did* provide a valuable service though, the problem of customer's willingness to pay for an online service remains. A viable alternative to The Rocket Network's subscription-based business model could be the 'Advertising Model' (Rappa, 2010), which could incorporate content-targeted advertising due to the very specific target market of The Rocket Network. Business would sponsor the website in exchange for online advertising, alleviating apprehension faced by customers in paying to use the site. Further, the style of the website encourages long periods of use, making advertising more effective and therefore encouraging further sponsorship.

To finish, the aftermath of The Rocket Network can be examined as an alternative to my proposed solutions. After the companies close in 2003, DigiDesign (now Avid Audio) purchased the assets of The Rocket Network (Théberge, 2004, p. 778), and released a professional "LAN- and WAN-based system", designed to, "link ProTools systems within a single studio complex… as opposed to a long-distance, web-based system" (as cited in Duckworth, 2005, p. 73). Dididesign's incarnation of The Rocket Network solved the issue of usability by incorporating the technology in a single

studio, and therefore dramatically reducing the problem of network delay. The fact that the technology was attached to a larger, more stable business also allowed for a greater customer base and financial security. It must be noted though, that the re-centralization of The Rocket Network's technology made its original intentions redundant – music could no longer be created by musicians from different geographical locations.

Conclusion:

A combination of problems regarding musical operation, technical limitations, and business model flaws resulted in the demise of The Rocket Network website. Specifically, misleading ideals conceived by The Rocket Network itself led to unrealistic expectations for the musical, technical, and physical performance of its service. Further, a lack of knowledge and experience in an unstable economic climate caused the company's inability to provide a valuable service to combine with poor business decisions, and ultimately mean the end of The Rocket Network. It is my belief that each of the three problems identified in this discussion contributed equally to the closing of The Rocket Network, and if only one of such problems were to have occurred, The Rocket Network would have recovered, and be still operating today.

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