# **Demystifying the Mortal Kombat Song**

An Experience Report

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#### **Abstract**

Abstract, because the world is too real. There are many things that are real, like life. But exceptions like the Mortal Kombat movie prove that things can be abstract too. There is an unfortunate gap in the literature, namely it does not pay enough (or any) attention to Mortal Kombat, even though it is truly immortal. In this unique study, we focus on a crucial aspect which embodies the spirit of the Mortal Kombat franchise — its theme song. We present our in-depth analysis of all its 77 words, which was done — in appropriate context and without — to answer a singular research question: what is the real meaning of this song?

#### 1 Introduction

Have you ever wondered what mysterious incantation was used in the Mortal Kombat [2] theme song [3]? You know, that song from that movie? The movie that was single-handedly responsible for restoring mankind's faith in itself; when everyone was super bored, and did not have a lot going on.

The year was 1995. It was a time when internet was brand new, and people had to wait a couple of minutes just to connect to it. Cats were nowhere as popular as they should've been. Taylor Swift was just another kid in school. Tik tok was just a doorbell. Twitter did not exist yet, so if you wanted to shout at someone to tell them that they're idiots, 1) you had to go find them, 2) and then do the actual shouting too. Times were tough. (At the risk of deanonymizing this submission, we'd like to point out that one of the authors wasn't even born yet. Haha, what a baby.)

But director Paul W. S. Anderson stepped up and took it upon himself to make things better, in the only way he knew how – by making a movie! In it he answers the question: how would it feel to *watch* someone else play a video game for 2 hours but with really bad graphics? Like Twitch, but you know, not Twitch. And Mortal Kombat was a huge success. It brought joy to millions of people around the world, and made everything seem just a little bit better.

It's a movie about a ragtag group of people who travel on a ship to a secret island to fight ancient sorcerers in battles to death. Sure, short battles, and some of them disappointingly so, but still. These people are practically superheroes, and like always, mankind's fate depends on them. It's also a movie about love. And loss. Feel free to grab some popcorn. Now these sorcerers that they fight are not kidding around. They're not like the average sorcerers of present day who pull rabbits out of hats. No sir. These are powerful beings, some of whom have been alive for thousands of years, have special powers like teleporting to different dimensions and turning water vapor into snow, who can literally collect souls of other fallen warriors and use them in a battle. They're powerful AF. But the humans still win; with the power of karate [4]! The sorcerers know karate too, just not as well. Which is really surprising since they've been around for such a long time. Well, they're probably slackers <sup>1</sup>.

How cool is that? Have you ever watched a movie better than this one? We sure haven't. Doesn't it instill a sense of confidence in you that things are going to be OK? Doesn't it also inspire you to fight your own battles? Like you *can* do that load of laundry you've been putting off for weeks, and not die. Really, go do that. Anything is possible!

If none of those references made sense to you and you still don't know what Mortal Kombat is, go read its wikipedia page [2], before you read this paper. Seriously though, were you living under a rock all these years? You may have escaped now, obviously you have because you're reading this, but in that case, movies (even as great as this one) are probably the last thing on your mind. Perhaps you have bigger tofu to fry, so to speak. Yes, tofu not fish. (N.B. the authors do not enjoy eating fish, and they fully believe in imposing their world view on others.) Go fry that tofu, and put this paper back where you found it, probably in a trash can.

Anyway, getting back to the problem at hand. There's a song in the movie which plays during fight sequences and other gripping moments. It's a great song; lot's of electronic music that brings the energy up. However, it has a line in it which is just inscrutable. We believe that no one is able to understand it. Literally, no one. That may seem like a strong statement, but we back it up with a scientific survey.

We surveyed two people (who may or may not have been the authors themselves), and asked them if they understood the words in the song. Unsurprisingly, both of them did not. So this is clearly an important practical problem that bothers people almost everyday. In this paper, we put this problem to rest by answering the question on everyone's mind: "What the heck is that line in the Mortal Kombat song?"

<sup>&</sup>lt;sup>1</sup>A slacker is someone who spends the entire day sending Slack messages instead of actually working.



Figure 1. A word cloud of Mortal Kombat's script.

# 2 Data Analysis

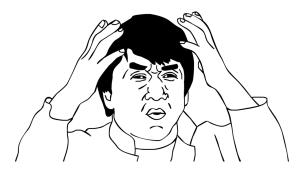
Before trying to understand the meaning of the song, we wanted to get to the *essence* of the movie itself. Why? You know, because "something something, *hollistic*, something something". Also, we wanted to understand some of the (lack of) knowledge imparted by this highly popular movie. So we conducted an in-depth frequency analysis of its script [6]. After omitting 386 words which even the computer program thought were unnecessary, our corpus revealed a rich, extensive vocabulary which would make even the Gods shudder. Of course, except those who were a part of this movie, for example Rayden, "..God of Lightening and Protector of the Realm of Earth." [6]. Figure 1 shows the word cloud, made of the invaluable script of Mortal Kombat, painstakingly transcribed by Script-O-Rama<sup>2</sup>. The reason that motivated this transcription is so far unknown to the research community.

As you can see, the whole movie revolves around "Shang", "Sonya", "Goro", "Tsung", "Liu", among many other fictional biological species. Words indicating aggression, both necessary and unnecessary, are reflected through "tournament" (that no one knows about), "Kombat" (because people cannot spell), and "fight" (because that is what you do in a Kombat tournament). If you are curious what the shape of Figure 1 is, it is the same cloud that was flying over the location of the tournament when Kitana was fighting Liu.

## 3 Methodology

In this section, we finally get to decoding the song. We started with hypothesis that the song contains a secret message from the Gods. After all, the song (and a little bit of karate) is what helps humans beat the almighty sorcerers. And as these messages often are, this one is also encrypted so that not everyone can understand it.

So we got to work. We extracted the audio sample from the movie, and fed it into a SHA256 decryption program. Why SHA256 you ask? Well of course that would be Gods' chosen encryption algorithm. Get outta here with your weak SHA1's that collide! This is serious business, and there's no room for error.



**Figure 2.** A (common) reaction after reading Section 4. For the curious reader, this image is more commonly known as the "mind blown" meme in the community.

The decryption went fine, but the resulting audio was worse than before. It did not sound good at all. The beats in it vanished, and if any DJ played this song at a pub they would likely get beaten up. It was almost as if the song was *not* encrypted in the first place. But we did not lose hope.

We concluded that the problem clearly lies with the decryption program. That is the only logical conclusion one can draw. Seriously, a lot of software is broken. So we implemented our own SHA256 decryption! Sure, it took us a full hour to do it, but we were confident that the results would be worth the hour long investment of our valuable time.

Alas, we hit another dead end. The decrypted sample from our implementation was the same the other one. Terrible! We then started considering the possibility that our hypothesis was incorrect. Maybe, just maybe, Paul W. S. Anderson was not a chosen messenger after all. And maybe the message was not encrypted using SHA256. To be honest, we were starting to lose hope now.

So we did what other responsible scientists in our shoes would have done (instead of writing this paper). We turned to Google for help. And to our surprise, someone else had already figured out the incantation used in the song <sup>3</sup>. The secret message in the song is: "Mortal Kombat!!!". Repeat, it's "Mortal Kombat!!!".

#### 4 Results

Say what? The message is "Mortal Kombat"? That is so confusing and satisfying all at the same time. We cannot even put that feeling into words. Our reaction to this discovery is shown in Figure 2. It's the stuff that will melt your brain. Seriously, it melted ours.

But after our brains got back to their original shape again we realized that this is much more than a simple message in a song. It's a way of life. It's an answer to every question. If someone asks us, "How's it going?", our answer from now would be, "Mortal Kombat!!!". "What's your plan for

<sup>&</sup>lt;sup>2</sup>http://www.script-o-rama.com/

<sup>&</sup>lt;sup>3</sup>https://www.musixmatch.com/lyrics/Mortal-Kombat/Theme-Song

#	Topic	List of Related Words
1	Fight: SubZero v. Johnny Cage	sub, johnny, test, fight, might
2	Fight: Sonya v. Liu Kang	mortal, sonya, kombat, kang
3	Fight: Scorpion v. Kano	mortal, <b>scorpion</b> , kombat, sub, <b>kano</b>
4	Liu Kang, Johnny Cage, Sonya team up hoping to excel	kang, cage, might, excel, sonya
5	Fight: Johnny Cage v. SubZero, Scorpion	kombat, excel, <b>johnni</b> , <b>zero</b> , <b>scorpion</b>
6	Scorpion, Kano, SubZero team up hoping to excel	kano, scorpion, excel, test, zero
7	Fight: Liu Kang, Johnny Cage v. SubZero, Scorpion	test, zero, scorpion, liu, cage
8	Liu Kang probably doing something on his own	fight, mortal, kombat, <b>kang</b> , <b>liu</b>
9	Fight: Raiden, Liu Kang, Johnny Cage v. SubZero	raiden, liu, kombat, johnni, zero
10	There is a probability of winning this thing	might, excel, test, mortal, kombat

**Table 1.** Topic model using Latent Dirichlet Allocation to analyze the various topics being discussed in the song. The characters in Mortal Kombat are highlighted in bold.

the week?", "Mortal Kombat!!!". "What time is it?", "Mortal Kombat!!!". "Are you idiots?", well you get the idea.

# 5 More Results: Topic Modeling

In this section, we present even more results. Because we believe in going above and beyond what's expected, and because these results add some spatial value to this paper. To paraphrase The Notorious B.I.G., "Mo' Result Mo' Trust".

It is worth mentioning that we had a relatively small sample size (thank goodness) of 77 words (565 characters with white spaces). Thus, our analysis is short and sweet, unlike most other (painfully long) articles we write in our academic career.

Since our manual qualitative analysis yielded more confusion, we turned to our dearest friends for help: algorithms. Latent Dirichlet Allocation(LDA) [1] is one of the several algorithms which would help us categorize the seemingly discordant words into meaningful topics. Combined with our in-depth knowledge of the Mortal Kombat movie, we were able to discover ten topics of significance as shown in Table 1.

The most significant topic which elated us was "There is a probability of winning this thing". This indicated that there indeed was an end to this phenomenon called "Mortal Kombat". It also indicated that there might be a winning individual/team and a losing individual/team. And sure enough, there would also be endless fights, as indicated by the several "fight" topics in Table 1. The movie suggested that there were several people destined to win (Liu Kang, Sonya, Johnny Cage) pitted against several people destined to lose (SubZero, Scorpion, Kano). But like most people, we were skeptical of destiny. But the movie shows that the people destined to lose were also evil. Also, the evil people had way cooler names.

We were unable to decide who would finally win, but at some point the topic, "Liu Kang probably doing something on his own" emerges, suggesting he might be the only one who wins. Our conjecture was confirmed from the Wikipedia page of the movie [2]: "Liu renews his determination and ultimately fires an energy bolt at the sorcerer, knocking him down and impaling him on a bed of spikes.".

We rest our case that this was a useful analysis to no one but us. However, this research can impact the creation of future songs, and address this growing concern about the creation of several such songs.

### 6 Discussion

At this point you may be wondering why did we decide to write this paper. That's a good question. We don't really have to justify it, but we do have a reason in this particular instance. We had a free afternoon on a slow Monday, when the world around us looked like it might end on the following Tuesday. And this is the kind of important information that we would like everyone else to know before we die. Remember, Mortal Kombat!!!

## 7 Conclusion

Actually, Mortal Kombat is not that bad a movie. It's OK for the most part. Go watch it if you can \\_(\odol)\_/\bigs\_. Otherwise, you can also watch the upcoming 2021 version of the same tragedy [7] if your soul is up for a post-pandemic [5] challenge.

# Acknowledgements

We would especially like to thank no one but ourselves for writing this brilliant paper. You're welcome.

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