Object-Oriented System Analysis, Modeling, and Design (ITMT-531-02)

Assignment 1

Problem Statement:

As an independent music composer, Daniel Schwartz wants to exploit "GenAI capabilities" to increase his productivity in compositions. Given the context of cognitive automation and GenAI that is emerging at a faster pace, Dan also wants to identify/exploit better ways (rather than assuming conventional approaches) to improve his visibility and reach with his current/future followership (fan base) across media channels (digital and non-digital). § Dan is unsure if GenAI is hype vs reality, as he is not a technocrat. But, given media attention to GenAI, Dan wants to embark on a new journey by partnering with you and create magic by augmenting music creativity and technology. How can Dan effectively or efficiently leverage GenAI and create value for his firm and his audience?

From the internet, we can infer that GenAI is a type of artificial intelligence that can produce a wide range of data, including photos, videos, music, text, and 3D models. As a music enthusiast working independently, assistance is always welcomed. Understandably, Daniel Schwartz seems unsure since he is unaware of the game. GenAI is currently trending and many multinational labels and artists like *Holly Herndon*, and *Benjamin* also known as *Plan B* use it to compose music. There is a famous quote from *Albert Einstein* that says, "The only real valuable thing is intuition." Second thoughts while composing music whether it should be done with or without AI should be avoided in order to get the artist emotionally occupied with the job. In fact, Daniel Schwartz is looking for improvement in reach & visibility while making use of augmented production to create music.

The only way to get hold of GenAI is by educating oneself in it. As an independent music composer, the reach and the instruments might be limited. GenAI can break all the limits by helping in the below-mentioned ways. The Music Production will usually go through three stages.

1. Pre-Production:

Dan can make use of GenAI to write the lyrics and pick the right studio to produce. The AI can also help in cutting down the budget and scheduling the calendar as requested. It has unlimited access to multiple libraries which Dan, as an independent artist, can make use of. Demo Recording can be done without too much effort compared to the conventional way. A top-notch technical setup access for an independent artist like Dan can bring out a lot more innovative and mesmerizing music. Dan can easily focus on contingency plans and some legal aspects such as contracts and licensing currently with so much assistance around to make music.

2. Production:

The GenAI helps in recording, individual instruments, vocals, and tracks. The other steps like editing the track or music or mixing can be done seamlessly. Effects on the produced music can be added.

3. Post-Production:

In this phase of making the music, the mastering, and quality control is automated. The GenAI also suggests streaming platforms for the music genre that is created. It can also create posters and videos for the music that is composed to use it upfront for digital marketing. The release, documentation, and budgeting would be on Dan while the rest can be taken care of by GenAI.

With all these features packed the composed music has a boost and an upper hand before the release. Dan can be more efficient in the production of music if the above-mentioned assistance is taken from GenAI while retaining the artistic input.

The AI can also work in a certain way called Reverse Engineering Methods:

- **4. Dan's Existing music and his fan base** can be an extensive source of what genre produced is most liked by them. Music is always about making something new and nice and attracting a large set of audience. As *Seth Godin* rightly quoted "Don't find customers for your products, find products for your customers." Knowledge of the customer pool is always important. GenAI has a feature to pull out such data of records that have made its mark from a certain library of songs.
- **5.** Current trending music is a go-to genre. The probability of having a hit music track is higher in this case. Knowing the market value or the kinds of music that are trending on streaming and social media platforms is important. Promotion and marketing can be done effortlessly in this case. GenAI can automate newsletters, advertising campaigns, and social media postings depending on the reaction of the audience.

The above two ways of creating music using GenAI can effectively increase the value of his firm and its reach to the audience.

There are some cons to using GenAI to produce music that cannot be neglected. With access to more people, the pool of great music will be more, thereby the level of competition is high.

Technically, there might be a problem in terms of copyrights or breaches while the music is being composed since it is an open-source AI. There are cons to using GenAI where regulators are finding it hard to keep up with ethical and legal issues it raises. GenAI is susceptible to attacks from hostile actors who trick AI systems by manipulating inputs.

Even though the risks are indulged we cannot ignore the positives that are brought to the table. Creating music through GenAI eliminates huge investments in musical instruments and the unavailability of necessary instruments that can depreciate the quality of the music that could be made. The efforts to improve the reach and visibility are minimal. The process to reach the right streaming pool and social media is automated based on the filter which is built into the AI saving a lot of time in manually understanding the music streaming charts. The AI has its own futuristic

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flavors which can help in creating music for the youth. So, after going through the features of GenAI there won't be a need to be not sure in having an involvement in using it. There is this famous quote "It's okay to be a beginner, every expert was once a beginner". Each solution has its unique values and challenges. But it does take some smart work to create magic by augmenting.

Thank you,
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