Matthew Amosa

Media Mastery: Elevating Communication through Media Formats & Outputs

   This case study encompassed a wide range of different technologies and methodologies, ranging from in-depth research to experimentation with software. A portion of this case study also included a case study within the project itself. To give a quick overview, the project's main objective was to create streamlined and comprehensive documentation processes that mimic real-world corporate standards and practices, ensuring clarity, accessibility, and efficiency in capturing and disseminating essential information across the organization.

To provide a bit more context, the project's duration and constraints adhered to the timeline of UVU's Fall 2023 Semester. This meant I had until the end of that semester (approximately 4 months) to complete the main project. I say main project because the case study for which I am writing this was for a combination of multiple projects/sections within the duration of the semester. There were roughly 5 main parts to this case study: Part 1 – Media Format Technologies, Part 2 – Image Compression / Export & Evaluation, Part 3 – Audio Listening Experience, Part 4 – Video Streaming Assessment, and lastly Part 5 – Combining the Documentation from all sections.

Part 1 - A Discovery of Media

During this phase of the project, I was tasked with choosing a specific area within media format technologies to focus on. I had to choose an area and then delve deep into it with the overall goal being to learn more about the subject matter. For this, I chose to discuss a case study of mine in which I faced multiple obstacles using technologies. I mentioned how my main struggle arose when my mother's favorite show, Murder She Wrote, was removed from Amazon Prime Video. This led me down a rabbit hole of creating a multimedia home Plex Server. Later on, I struggled to obtain her show but faced issues with it being encoded in H.265, which wouldn't play properly on her older TV. I also faced challenges with audio codecs such as Vorbis (OOG). This case study of mine was immensely helpful in completing the documentation of this project as it helped bring together a wide range of different obstacles I had previously encountered.


Part 1 Continued - Image Formats

Throughout this section of the project, my main objective was to complete a wide range of research to learn more about Image formats, their specific use cases, associated file extensions, compression, format, and a multitude of other technical details. This area was challenging due to the amount of research required. I had to scour the internet for information on image formats such as JPEG, PNG, GIF, TIFF, PSD, PDF, EPS, AI, INDD, SVG, RAW, and more, ensuring not just technical details and images, but also credible sources. It should be noted that sources for all these sections were required to be professionally cited in a works cited page at the end of each section.
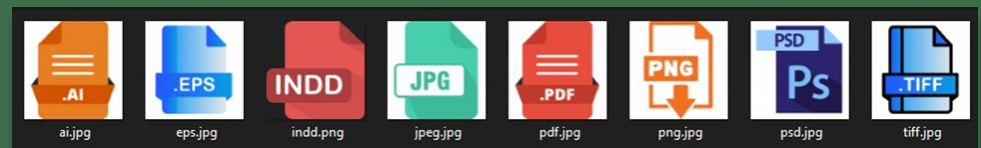
Also included in this section were Audio Formats, Video Formats, and a technology assessment which incorporated detailed information about different technologies such as TV screen resolution, Mobile screen resolution, Pixel density information, Bit-depth, Units of computer memory measurements, Alias vs Anti-alias info, Lossy vs Lossless, and much more.
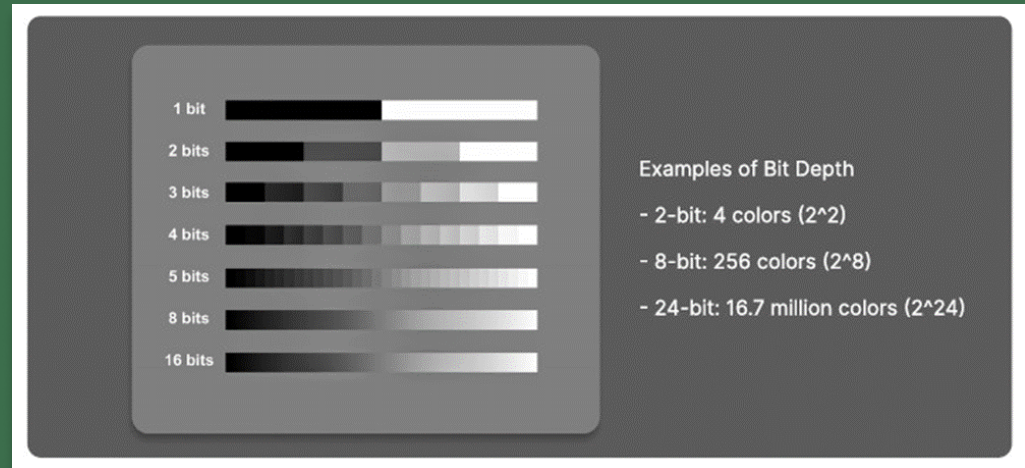
Part 2 – Image Compression, Export & Experiences

This section of the project consisted of experimenting with various image compression settings and export settings to gain a better understanding of the optimal settings one could use for different tasks and objectives when utilizing these Image assets. Essentially, I used Adobe Photoshop to import RAW images and experimented with different settings, comparing the results in technical documentation format, similar to how a professional company would conduct this research and incorporate it into standard operating procedure documentation. The testing of different settings and results ended up being very time-intensive though the experience ultimately gave me a greater understanding of how small changes could have a significant impact on a company's overall "image."
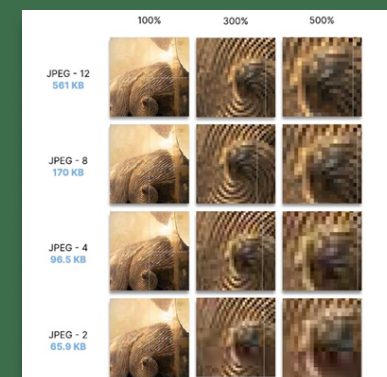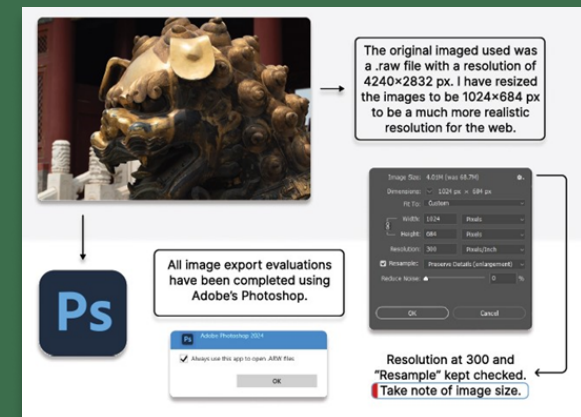
Part 3 – Audio Listening Experience

Throughout this section of the project, my main objective was to experiment with different audio formats, streaming services, and audio listening hardware to gain a better understanding of how different attributes can alter the audio listening experience. For example, I would listen to a certain song in my car, on my wireless Bluetooth headphones, and on my home audio system, comparing the differences between them all. This portion of the project helped me better understand the marketing aspect of media as well as the vast differences in approaches to media and their customer base.

Apple Music's AAC 256 Kbps format and user-friendly interface were noted. Consistently high quality was observed across devices, including AirPods, Bose QuietComfort Headphones, HomePod, and a 4runner.

HomePod: Apple-engineered audio technology and advanced software deliver high-fidelity sound throughout the room.

Units of Computer Memory Measurements

1 Bit	= Binary Digit
8 Bits	= 1 Byte
1024 Bytes	= 1 KB [Kilo Byte]
1024 KB	= 1 MB [Mega Byte]
1024 MB	= 1 GB [Giga Byte]
1024 GB	= 1 TB [Terra Byte]
1024 TB	= 1 PB [Peta Byte]
1024 PB	= 1 EB [Exa Byte]
1024 EB	= 1 ZB [Zetta Byte]
1024 ZB	= 1 YB [Yotta Byte]
1024 YB	= 1 Bronto Byte
1024 Brontabyte	= 1 Geop Byte (Highest Memory)

Listening Variables (Equipment):
• AirPods, Bose QuietComfort Headphones, HomePod, 4runner

Qobuz: Elevating Audio Excellence
• Active Subscribers: 200K+
• Format: 16-bit 44.1 kHz / 24-bit 192 kHz

Qobuz, a rising star in the audiophile realm, has garnered attention with its subscriber base exceeding 200,000. The platform offers a versatile format, ranging from 16-bit 44.1 kHz to 24-bit 192 kHz, providing users with a rich audio experience. The uniqueness of Qobuz lies in its streaming of Hi-RES audio files in the lossless FLAC format at various quality levels. Unlike other platforms, Qobuz even offers MP3 at 320 Kbps, catering to a wide audience. The platform's base of 24-bit 96 kHz and the top-end 192 kHz for premium offerings sets it apart.

Qobuz allows not only streaming but also downloading of files, enhancing the mobile listening experience.

Hi·Res AUDIO NOTE: The highest quality audio files available are known as HI-RES and are lossless in nature.

The End Of The Innocence
by Don Henley released by Geffen

Share

Available in
24 bits
96.0 kHz · Stereo

Part 4 – Video Streaming Services

In this section, I essentially did the same thing as in the Audio Listening Experience, except this time, I was experimenting with Video Formats instead of just audio. I compared different video streaming services such as Netflix, Amazon Prime, Disney+, etc., noting the different features they offer to their customers, such as whether HD streaming was available, among other factors.
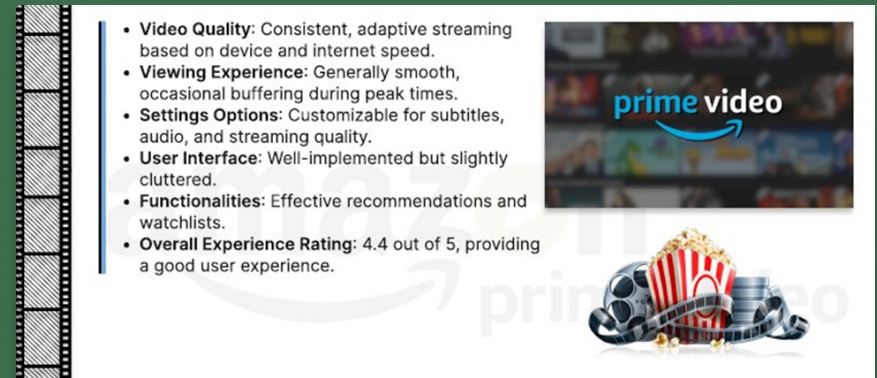
Part 5 – Bringing it all together

Part 5 of this case study involved bringing all the different sections of the project together into one final document. Throughout the entirety of this project (all sections), I had been working on building the sections using the Figma design application. I would create and then separate different parts into their own respective sections to help with organization and uniformity. This helped me a lot as I could quickly look for whichever section I needed and then adjust and make changes as necessary. Throughout this entire project, I was responsible for pivoting and making necessary changes to help design and create a better end product. This process taught me a lot about the iterative process and also helped me stay up to date with learning the ever-changing Figma ins and outs.

Media Formats & Outputs:
A Comprehensive Analysis & Evaluation

by Matthew Amosa

Final Thoughts

Looking back, I learned an incredible amount of information throughout this project. While I already knew quite a bit of the information, what I really gained from this project was the importance of the documentation process. The objective was to create streamlined and comprehensive documentation processes that mimic real-world corporate standards and practices, ensuring clarity, accessibility, and efficiency in capturing and disseminating essential information across the organization. This project accomplished just that from beginning to end. I learned that learning new technologies is simply not enough; applying newly learned information in a professionally documented format for others to learn from is what distinguishes a novice from an expert in the field. This project emphasized the importance of not only learning new technologies but also documenting them professionally, bridging the gap between knowledge acquisition and effective dissemination for organizational growth.