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Introduction

In this specific essay I will be reflecting on the key defining decisions when approaching the creation of my instrument. I will be conveying an overview of how the product works, and referencing the inspiration behind the project. I will be reflecting on the key techniques that were applied during the development of this project, what problems that I encountered and how they were overcome. I'll also be reflecting on comparison products and my overall execution, whilst looking at what could have been changed to ensure a higher product delivery.

Overview of how the instrument works.

The instrument that I have decided to create encompasses 55 different samples that have been made and manipulated by myself using Logic Pro X, Battery 4 and a variety of third party plug ins. The sample pack contains 3 different folders (See appendix 1). That includes 14 soul/boom bap one shot and looped drum elements, with multiple kicks, snares, toms, shakers and hi hats. There also contains a folder with 31 different chopped up and manipulated soul samples that I have created, detuned, pitch shifted and rearranged. The third folder includes a range of 10 different trap drum elements with multiple kicks, snares, hi hats and effects.

The main principle idea of the project is so that it can be played within a live setting, and/or be recorded in a daw using an external midi keyboard or instrument. For this to be enabled, I have included a preset that is applicable with the third party native instrument plugin 'Battery 4' (See appendix 2). I have also made a 'how to' video that guides the user through the process of making the instrument work with Battery 4. This enables the user to plug in a midi keyboard or instrument into the laptop and use the sample pack as an instrument using keys C1 through to B4. Some of the loop samples are set to a bpm of 150 however, if the user wanted to change the sample to a one shot hit that plays for the duration of the time that the note is triggered instead of a loop, then the video also describes how to do this with a few easy tweaks to the ADSR within the instrument. Alternatively the user can drag the sample into the daw, and time stretch the sample manually, then re drag the sample into its original place at the desired bpm. For users that don't have Battery 4 but would still like to play with the sample pack in a live environment, I have also added instructions of how to do this in the video via the use of Logic Pro X Drum Machine Designer. Simply by dragging the sample manually from the sample pack into the Drum machine and then applying it to your chosen key. Again, if the issue arises that the user would like the loops to be triggered for the amount of time that the note on the midi instrument is held down for, then this can be altered by selecting the sample and changing it to 'Classic'. Instructions on how to do this is also included in the video.

Alternately if the user does not want to play this live, or into the daw via live recording with the use of an external midi instrument. Then the user can just drag and drop the samples into the daw using separate tracks and then manipulate them with control via the channels instead. I have also included a demo track that encompasses the use of the samples as a reference to what can be created using just the pack alone.

Analyses and explanation of my approach to creating the instrument.

During the creative process of this specific instrument, I wanted to create a sample pack that drew inspiration from the likes of Kanye West, Motown soul, Frank Dukes, Nas, Wu Tang Clan and J Dilla. Reynolds (2009) suggests that J Dilla was crucial to bringing boom bap drum sounds to fruition in the genre of hip hop. Rac (2020) explains how boom bap

drum samples are characterised by an acoustic sounding kick, and a snappy/crunchy snare with all drums sounding somewhat saturated. This is something that i took inspiration from and will later analyse and reflect on in this essay. J dilla would also sample r&b soul singers and bands such as James brown and Dionne Warwick, this is again another factor that i took heavy inspiration from when creating the soul chops in the sample pack. I also wanted to add a modern edge to the pack by including a folder for trap drum samples. Trap drum samples can be characterised by the sounds generated in the Roland Tr-808, and the cultural origins can be dated back to the early 1990's (Grushecky 2022). The sounds contain a punchy kick, rolling hats and a short tail snappy snare that is heard in modern hip hop such as Roddy Rich's new album 'Live Life Fast' (2022), and is also prominent in Jack Harlow's track 'Nail Tech' (2022).

I made a pre set that is applicable with Battery 4 because i wanted to emulate the live playable elements that J dilla used with the Akai MPC 3000. Brewster (2021) suggests that J Dilla would use the MPC to chop up samples and record drum patterns in a way that humanised the tracks that he produced. I took inspiration from this as the preset is applicable with a midi instrument and can be played in a live setting. I wanted to give the user an option to play the drums live and off grid, similar to that of J Dilla. Whilst also being able to play around with already chopped up soul samples. I will reflect on my outcome of this later in the essay.

Reflective analyses of applied techniques

Analyses and reflection of the samples that i incorporated:

During this project i wanted to create and manipulate samples that are relevant to the chosen genres that i have referenced. I took time in learning about each specific sound that's prominent in each genre, i then chose and manipulated samples to make them my own, whilst also keeping them relevant.

For instance a technique that i believe went well was chopping drum samples. The drums that i have incorporated into the soul drums folder consist of 'Boom bap' one shots and hits. I referenced the sounds used in Wu Tang Clan C.R.E.A.M (1993). Navie D (2020) suggests that to re create the sounds that are heard in boom bap drum beats, a good technique is to find old acoustic drum breaks and chop them up so that you can use each hit in your own way. He also suggest that due to the scarcity in sampling space on machines during the 90's, there wasn't much space for intricate drums. Therefore the same sounds were heard in each beat. This is a technique that i incorporated into this project for hits such as the kicks, hi hats and snares. I used a series of acoustic sounding drum breaks, and chopped them up to get each hit separate. However, an issue that i encountered during this process was that on certain hits such as the 'Kick drum 2_wav' a hi hat was playing at the same time, and carried into the recording. As the hi hat was prominent in this specific recording i used a series of processing techniques in order to dampen the sound, such as; I used the EQ tool to reduce some of the frequencies that were prominent around the 12-20k range by using a wide band filter and applying around 1-2db of reduction, i also boosted the frequencies that are prominent in the kick such as the 200-500k range. I found that by using this technique i was able to reduce the sound of the hi hat, and create a punchier kick in return. I also found that in the sample pack 'The fantastic sounds of Jay Dee aka J dilla' (Splice, 2022) a numerous amount of the kicks contains a hi hat sample as well as it could be argued that this element adds energy to the kick. However a counter point might be that if the hat is too prominent it would take away the power of the kick. Overall i believe that processing with the EQ helped to maintain the energy of the kick whilst dampening the harshness of the hi hat. When

reflecting on my desired outcome of the samples i believe that an aspect that could of been improved is the use of incorporating live played drums hits into the project for more of an acoustic feel, however i believe that i was still able to maintain a good standard of sounds using drum breaks. In future projects this is something that i will look to incorporate for more of a professional outcome.

Another technique that i really enjoyed incorporating into this project was the use of chopping up soul samples, and manipulating them using various different processing techniques. Vercybeats (2020) talks about the way in which J dilla would chop up samples, giving an example of how to do it using 'Serato'. He states that J dilla would use soul samples dated from the 1950's-80's and dissect them using a sampling machine. He shows an example track of how to do this by re arranging parts of the sample, time stretching, adding effects such as delay and side chain compression to the kick. For the 31 soul samples that are included in my pack, i searched for old soul tracks from this era using Tracklib and Splice, and once i had found samples that i deemed suitable for use in the project, i then downloaded them and chopped them up. Instead of using 'Serato' I used a plugin called 'Arcade' from Output, Arcade allowed me to drag and drop the samples into their built in machine, which allowed me to speed up the bpm of the samples and then manipulate them in a way that is suggested by Vercybeats (2020). I also pitch shifted the samples using arcade and I then recorded parts of each sample into Logic pro x. Once I had recorded them into the daw on separate tracks, i used more processing such as ping pong delay to some of the samples in order to create stereo width, Vercybeats (2020) suggests that this is something J dilla used to apply using the MPC. I then bounced these samples into the labelled folder and then drag and dropped them into Battery 4 so that users can play around with already manipulated samples via the use of a midi instrument. One specific issue that i encountered whilst applying this method was the clicking that could be heard at the start and end of each sample. This made for an unpleasant listening experience and is something that can be overlooked, however with the use of Logic pro x's built in fade control, i softened the beginning and end of each sample which eradicated the prominent issue. When reflecting on what could of been improved in comparison to similar products, i believe that the use of live recording my own instrumentation might of boosted the authenticity of my project, for instance in 'Frank Dukes archive volume 1' sample pack, he recorded all of the samples using live recordings in his own studio. However his sample pack is priced a considerable amount more than mine at \$40 USD, whilst mine is placed at £10. His pack also does not include drums or a preset for live compatibility. In the future I plan to release further sample packs that incorporate the use of my own live instrumentation for an improvement on my previous pack. However overall I believe that i was able to create my desired outcome by using the suggested mixing methods, and i will carry this on into my future professional career.

As previously stated, i wanted to use sounds that are also relevant in today's commercial market, opposed to hip hop samples that were just prominent from the early 90's to mid 2000's. Which is the reason i chose to make a separate folder for trap drums. The influence of these sounds in the current market come from Roddy Rich's new album 'Live Life Fast' (2022), and is also prominent in Jack Harlows track 'Nail Tech' (2022). Also they're prominent in artists such as; Drake, Future, lil baby, Lil Nas x and Lil Durk current tracks. Trap drums are can be defined by the Roland TR-808's use of snappy snares and punchy kicks. I used the same technique that i used with the boom bap samples, and chopped multiple pre existing trap drum loops. However, by doing this i encountered some issues. The Hi Hats are arguably the driving force in trap music, and carry the rhythm of the drum patterns, I wanted the hats to have a similar feel to that of 'Nail Tech'

Jack Harlow (2022) however the hi hats that i chopped up were not as crispy as what's heard in the track. Therefore i applied some processing techniques such as; EQ in order to boost the high frequencies, some subtle saturation at a low mix level in order to get some crunch and i also applied some gentle compression. I found that by using my own analyses and ear that i was able to achieve my deserved outcome more effectively. I had the same issue with the kick (Labelled, trap kick 1.wav). I felt as if the sample that i had chopped wasn't as punchy, and didn't cut through the mix as well as what is heard in the reference track. However with some applied mixing techniques such as: application of the plug-in 'Decapator' at a low mix level and some gentle boosts to the 12-20k range, I was able to saturate and distort the high end of the kick to allow it to punch through the mix more. I believe that in comparison to other trap drum sample packs, i could of added more instrumentation and sounds, however with my main primary focus being soul samples, i believe that i added sufficient amount to play with. In the future i will look to develop more samples in each pack in order to develop a larger and more precise product.

Analyses and reflection of my choice to use battery 4:

I chose to use Battery 4 as the VST to host my samples because of the plugins various different attributes and benefits. One of the distinctive benefits of using battery 4 is its use of sampling effects. Quanta (2021) discusses how you can use the vst in order to manipulate your samples with a range of effects such as; pitch shifting, pitch shifting using an envelope, volume envelope, velocity, filter, compression, reverb and delay sends, saturation, a lofi element and my personal favourite using the sampler vintage emulation effect of the S1200 and MP-60. The vintage effect adds artefacts to the samples that emulate hardware software and give it a certain analog feel similar to that of the MPC-3000 used by J dilla. Which is another reason that i used this VST, because i wanted to use Battery 4 in a way that emulates the MPC-3000. The MPC-3000 however has some different advantages, for instance; Audiojive (2020) argues that when you use drum samples in the MPC-3000, the hardware instrument adds a certain colour to them that makes them punch in a subtle way that is unmatched to any other sampler. It's also argued that the low end on the hardware instrument is very heavy and thick in sound whilst also displaying a unique texture that is unmatched by any DAW or plug in. This is something that arises as a disadvantage when trying to achieve my desired outcome, as i wanted the sounds to emulate that of what J dilla use to create. However an advantage of Battery 4 that the MPC-3000 doesn't have, is the ability to spread the samples across 4 different octaves on a midi device. Whilst the MPC-3000 only allows for you to use 16 different pads to trigger the sample. It could be argued that this allows for a larger scale workflow in studio sessions as you are able to trigger more samples with Battery 4. However another advantage of the MPC-3000 is that it allows you to manipulate samples using the hardware device, which it could be argued makes for a better and quicker workflow as you can do this very easily using the hardware instrument. With Battery 4 you have to manually use your laptop and click on each sample if you would like for it to be edited. Which is a trouble that i had when using Battery 4 in a live setting studio session, i found that i was able to use a large range of samples via the use of a 48 key midi keyboard, however when sounds needed editing i had to switch to my laptop and manually edit them which took time and wasn't optimal with my workflow. However i was able to overcome this by pre editing my samples before the session began. Another issue that arises with having the preset directly set up for battery use only, is that not all of my future customers will have access to the VST as it is a third party plugin that needs to be purchased from Native instruments separately. However, it is not imperative that the user has Battery 4 as you can manually place the samples into Logic Pro x Drum Machine Designer, which is something that I've included in the 'How to' video that i have made.

The downfall of using the Drum Machine Designer is that it does not have as many advantages as Battery 4, for instance; it doesn't have an option to add artefacts like Battery 4's vintage button and i have personally found that Battery 4 is much more precise and easier to use when manipulating samples via the use of effects such as the delay and reverb sends, or the pitch shifting options. However, i have personally found it extremely beneficial to use Battery 4, and i have found that it achieves most of my desired outcomes when trying to achieve the MPC-3000's overall workflow in studio sessions. I believe that my choice to add a preset that is compatible with the VST enables users to play with my samples in a live environment which can increase their workflow and help the users to create tracks in a more creative way. In the future i will look to add multiple pre sets for different popular VST's so that the product is adverse across all platforms. However, i have enjoyed using Battery 4 and i have learnt multiple skills when applying sample manipulation in order to achieve my desired outcome.

Another option for users when applying my sample pack to their chosen projects is that instead of using Battery 4 or Drum Machine Designer, they can instead just drag and drop the samples into separate tracks of their DAW. A benefit of this is that they can control and manipulate each sample independently using their own plugins and effects. A disadvantage of doing this is that the samples won't map out to an external midi instrument, which takes away from my overall desired outcome for workflow. When reflecting on using this specific technique, i believe that some producers might argue that its easier to manipulate samples through separated tracks as they're able to apply their own plugins to each sample in order to achieve their desired sounds. Others might argue that manipulating sounds using a sampler instrument might glue the elements together in a more effective way. However i found that when trying to achieve my desired outcome of increasing workflow in a creative environment, that using the sampler instrument allows me to play with the sounds in a more creative way.

Conclusion

In conclusion i believe that i have been able to reach my overall desired outcome of creating a sample pack that enables users to input drum and soul sounds into their projects in an effective way via the use of external midi instruments. I believe that i have been able to apply this outcome with the use of a third party plugin Battery 4 preset that has been created and manipulated by myself. I believe that with the use of this VST that i have been able to reach my desired outcome of emulating the workflow of the MPC-3000. I believe that through the use of critical research that i have also been able to identify, control and manipulate each specific sample effectively according to the relevant genre in context in order to give the user an authentic sample pack. In this essay i have also identified the issues that occurred during the creative process of this assignment, and found effective solutions in order to overcome them. I have also reflected on my outcome of the desired intentions. I have reflected on the use of samples and how i came about mixing and applying effects to them, i have identified the reasons behind my choice to use the chosen VST and the advantages/disadvantaged of it. My overall impression of the project is that i have been able to accumulate a new skillset when making my own samples effectively, i can now continue with this skillset and apply it in my own professional career moving forwards. I have enjoyed the process of making this sample pack, and i have also enjoyed using it in my own work. I have been able to identify what i will change in my future projects. Overall i believe that i have been able to reach my desired outcomes.

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Appendices

Appendix 1:

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Name	Date Modified
Sample pa...t.aupreset	12 March 2022 at 01:50
> Soul drums	10 March 2022 at 22:22
> Soul samples	12 March 2022 at 01:44
> Trap Drums	11 March 2022 at 16:25



Trap Drums

Folder - 3.5 MB

Information

Created Friday, 11 March 2022 at 16:16

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More...

Appendix 2:

