VINYL RHAPSODY

DAIEN LYU
s3755488
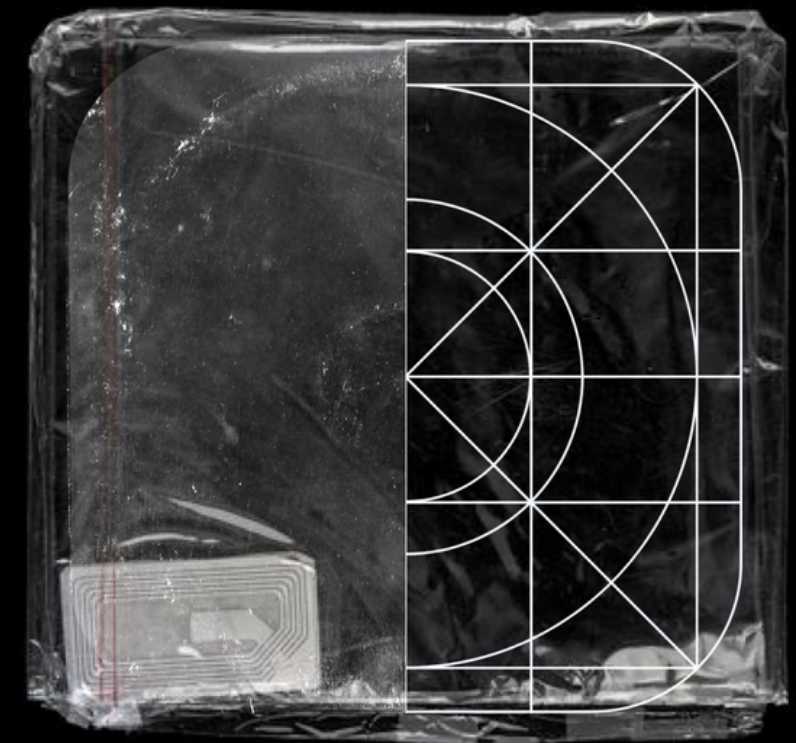
AR Scanner of Showing Dimensional Layers of Album Artwork in the Form of LP Record

https://youtu.be/5T3U_0ffncI →

TWO GROUPS OF USERS BOTH HAVE FUN IN RETRO STYLE. GENERATION Z & OTHER GENERAL USERS

ITS FLUENCE SPREADS THROUGH THE MUSIC INDUSTRY

1 NEW SONGWRITING
THE WEEKNDS - BLINDING LIGHTS
POST MALONE - CIRCLES

This type of songs takes a certain concept on past genre or vibe, but all in all they are all new songs, including songwriting, composition and etc.. It is a tribute to the retro styles.

2 NEW GENRE
SURF MESA - ILY
LATTO - BIG ENERGY

Songs like this take most of the style from the past, including melodies, rhythm, composition and the even rhymes, but they give the old songs a trendy punchline to make them reviving. The elements include: vocals, lyrics, genres. Therefore, it is more figurative.
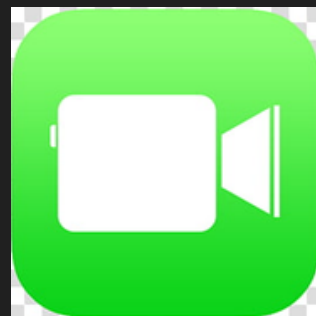
MIGRATION OF
UI DESIGN

Icon/Symbol

2011   2013   2019

Signified

actual

Signer

Video Camera

The icon of FaceTime initially consists of a video camera and a lens, implying it is a video-based app. But in the later updates, the lens is cut, and the detail on the video camera has experienced a enriching and simplifying. Visually, texture is being reduced, signifer has been simplified as well, for users, **it'll take a long time to recognize if the 2019 icon just comes out of the blue due to much abstraction. Instead, the company takes almost a year to adapt for users.**

MIGRATION OF
UI DESIGN

Since the smartphone has come to society as a mainstream device for over 10 years, UI design is one of the factors that digital devices are being used and familiar in people's lives. Once it is a communication, there has to be an adaption, for example, magnifying glass stands for search, a standalone upper arrow and an open box stand for sharing, and a cross stands for closing/turning off. Some elements are interpreted as well as in real life, but there are plenty of features fostered by digital design's culture, so what are they implying to make users adapt? And what can we practise on more instances?

To implement that, I plan to collect the objects that have already been converted and categorize them into two modes of interpretation as mentioned above; then, I intend to pick real-life objects or actions that haven't been converted into icons. After converting them into master icons, I build an app and apply the theme to those icons in terms of the unity of the design language. In this way, I can investigate how users will respond to these newly designed icons and whether they are confused or convenient to solve problems. This research is leaning toward Smartphone Users, Art Practitioners, and UI/UX Designers as this change is emphasized in their experience.

RATIONALE

IMMERSIVE DESIGN HAS TAKEN INTO A NEW LEVEL

Remembering since 2010 when loads of new technology have been put to market, people tended to try them intuitively, whose curiosity has reached to its climax. It's like making a friend, after introducing each other, doing interactions, making chemicals and more phases, the sentiment will reach life needs because essentially, technology is to help us.

REASON

- Advantage: This group is professional in their interest, picky and looking out for details of music, and especially, they tend to have collections. Therefore, designing an experience for vinyl enthusiasts could be a way of optimising the listening experience itself.
- Disadvantage: The tech pieces of this field are expensive to identify which is which, so designing equipment for them will be a spending rage.
- Conclusion: Designing not exclusively but leaning to them, which is a part of the product circle. Eventually, the experience has to go public.

CONTEXT

TARGET AUDIENCE

- Generation Z
- People who haven't experienced vinyl player, CD player or VCD/DVD player user experience

US EXPERIENCING INTUITIVELY HAS SHIFTED TO TECH BLENDING OUR LIVES

I purpose to optimise the listening experience of people, making it easier to blend into our lives. More important, during production, I intend to argue more about how the evolution of user interaction changes people's recognition and customs, such as those who haven't experienced vinyl players, CD players or VCD/DVD player user experience;

PROPAGANDA MACHINE

Additionally, the project is social media purposed for the popular retro style content sharing, testing how young people would react to retro technologies. Finally, for the designing purpose, I set off to innovate the combination of retro design and modern styles.

PROTOTYPE/ OUTCOME

There are certain features that I want to point out to emphasize the realistic operation on AR. Obviously, non-linear animation isn't a skeleton key. **Heavily relying on different types of motion and guesture, I come up with respective solutions to fit various occasions.**
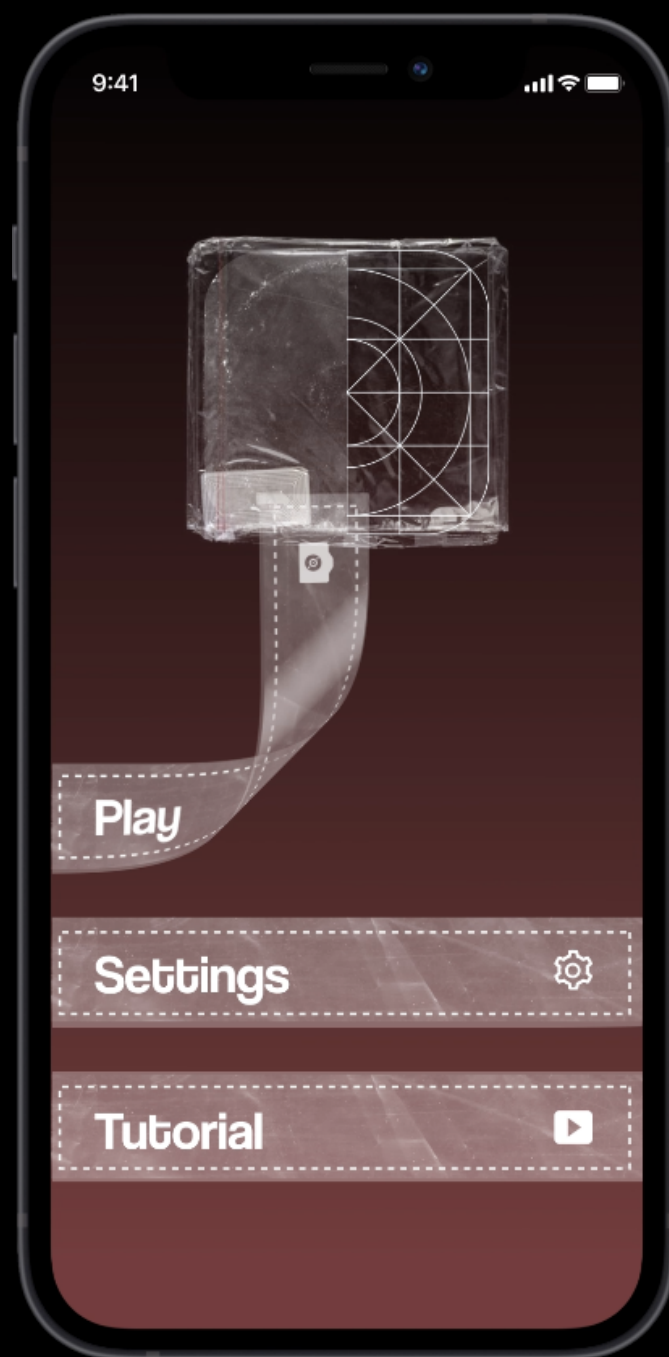
Swipe to access through screens

In the digital world, the main operation for access is taps, always to tap to update the content. In the real world, there's always a sliding motion to things, e.g. rotating volume knob or doorknob, pull to unzip. To combine with a realistic touch, I rotated the main gesture of the app, which will be swipes. For example: "swipe right to unleash the tape" as a button to access the interactive experience, which takes after unboxing an archive. In the app, there will be vibrations to mimic the reality as well.

Home Page
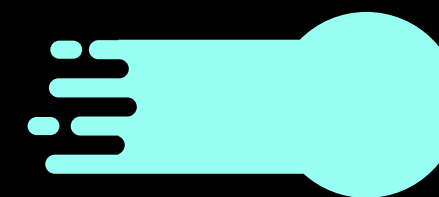
Responsive Transitions

Apart from illustrating the way back to reality, I figure out some certain transformation that must be rigour and unified: after a number of replays, the grabbing animation positioning from the shelf to the fingertip must be in a non-linear animation within 0.5 seconds. If the duration gets longer, user will find it unsynced and laggy. A responsive quick animation indicates the intuitive experience, implying the message that: you have successfully fetched the album in your hand.

Album Reveal

SELECTING AN ALBUM

Sometimes it is also good to mix digital way interaction and physical ways of interaction, such as taps and drags.

Once a user taps an album, the album pops for confirmation: do you wanna select this album to inspect? Tap again to fully operate the album.

Then, drag the album to pin it and it will follow your fingertip instead of the camera. As it is a swap of parents, the animation of this scene will play faster. The implication is responsiveness, meaning that the album is successfully fetched. No need to pop up a window or notification to say the same thing.

OPENING AN ALBUM
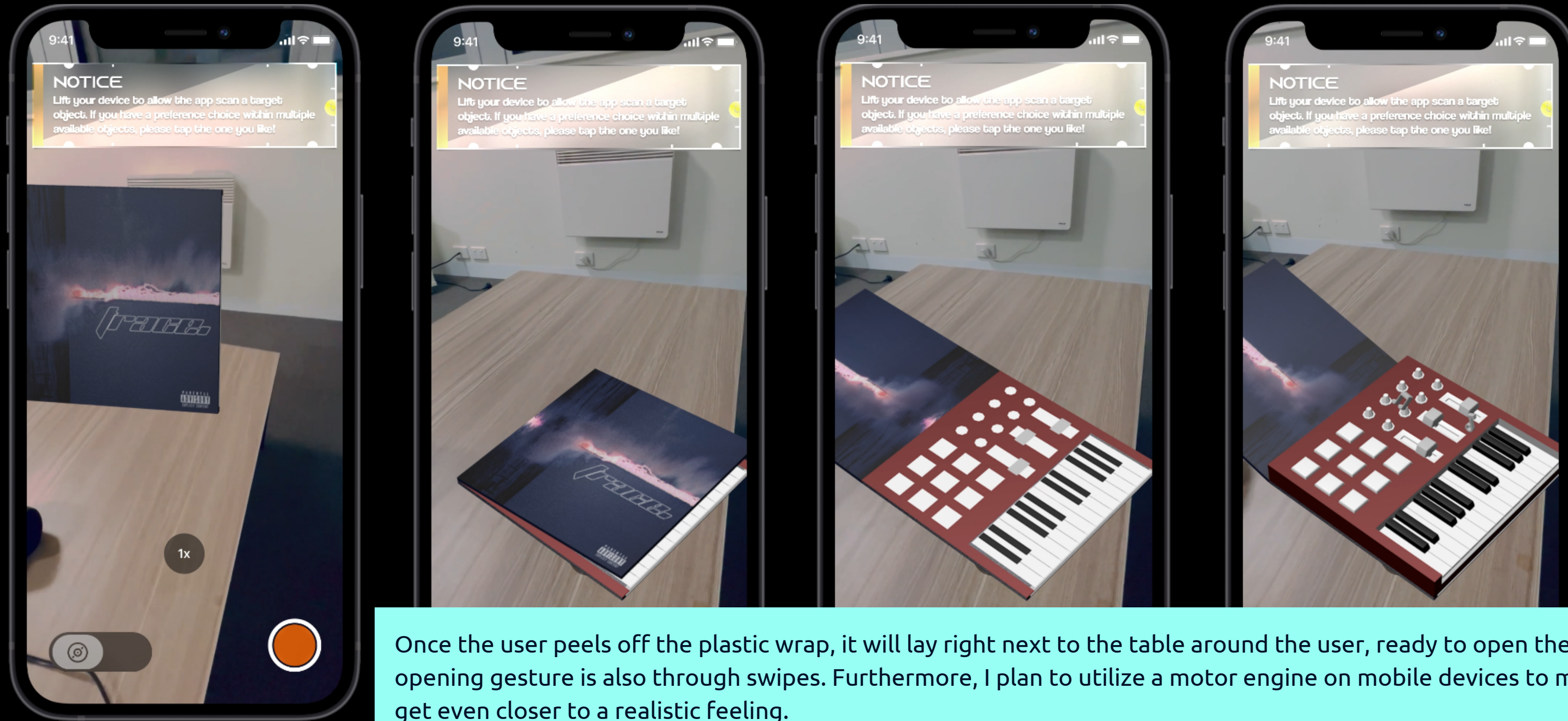
Once the user peels off the plastic wrap, it will lay right next to the table around the user, ready to open the album. The opening gesture is also through swipes. Furthermore, I plan to utilize a motor engine on mobile devices to mimic inertia to get even closer to a realistic feeling.

What is better is that the flat image from the inside will automatically "stand up", fulfilling a complete unboxing experience.
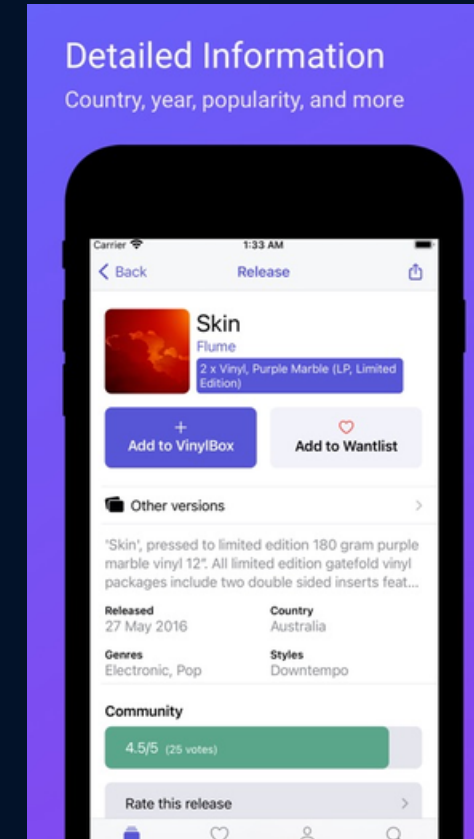
Presentation
- **AR Tease - WDDC 2022**
- **VinylBox**

VinylBox is a vinyl collector community allowing to collect and preview virtual music based on the physical albums already own or want to purchase. It also serves as a review site like Yelp where you can search for multiple versions and details of albums, such as inner image scanning, authors, and even instrument
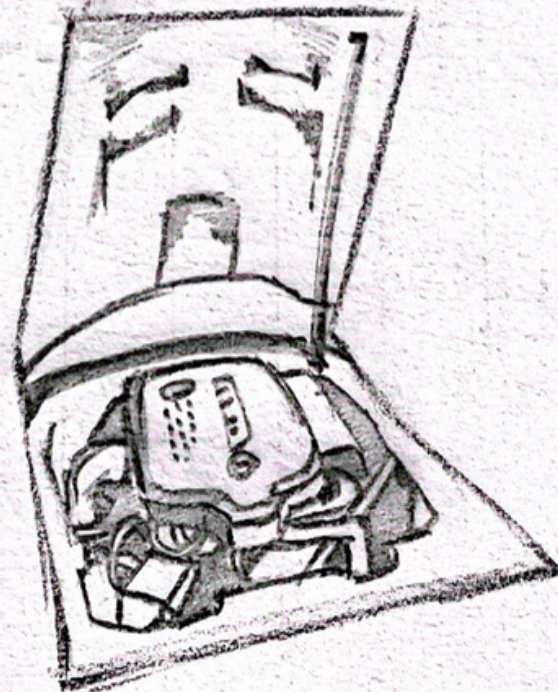
Technique
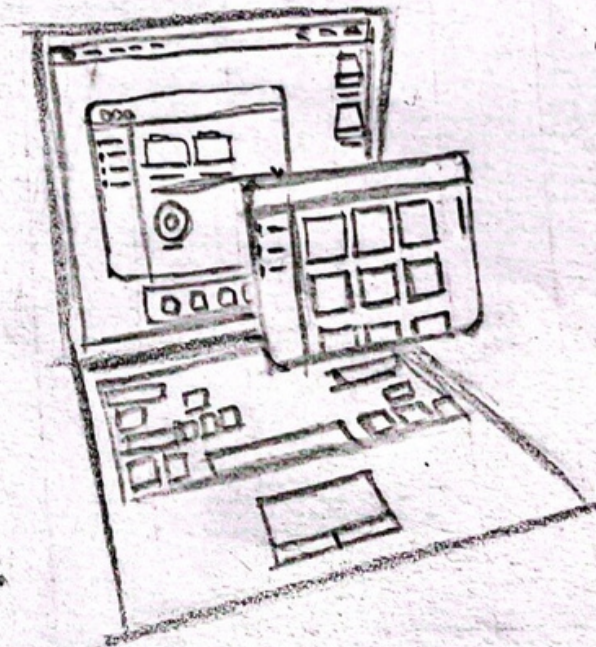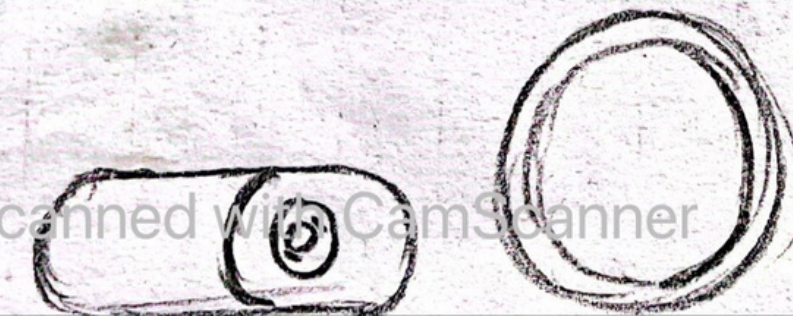
Target Object

Tones
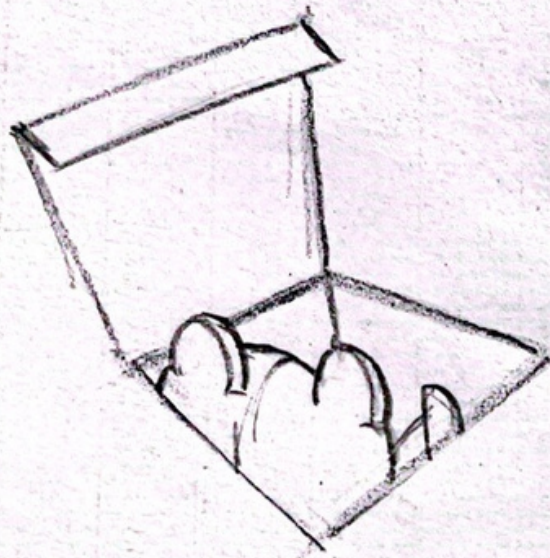
Inner World
i. Gift Box
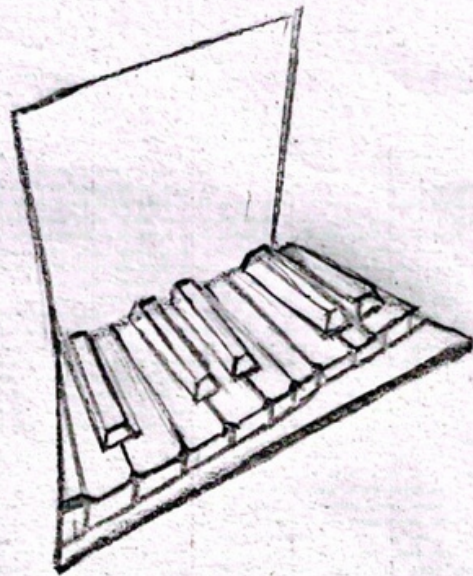
Piano Grand(midi)

Vinyl Player
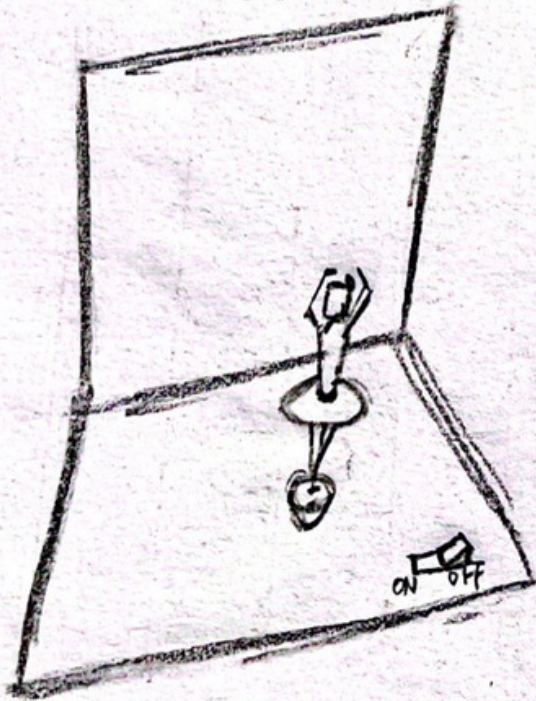
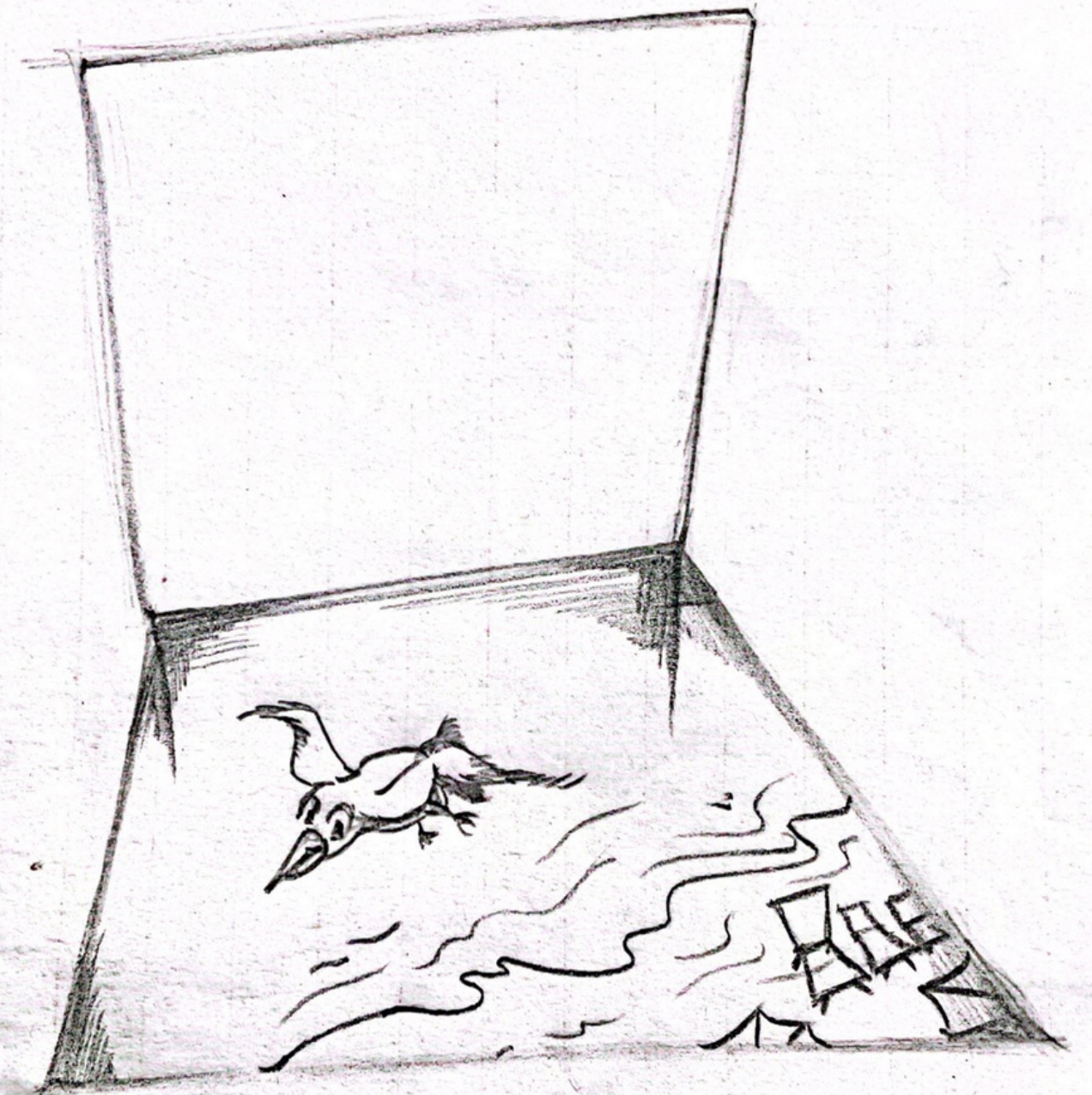Ballet (toy player)

Car Engine

Laptop

DESIGN SKETCHES
GENRES & FEATURES

Different albums have their effects, and each the element stands out as the theme of the album or song. I imagined the experiences with the particular characteristics of the genres.

KIDS' SONGS

Describing a story, probably a teddy bear fighting for justice, so I designed a gift box with a teddy bear doll in a vinyl album when it is unfolded;

SONGWRITERS' SONGS

Emphasizing mental environments, and piano or guitar is an expressive representation, like A Thousand Miles, A Thousand Years, artists use piano melodies to immerse the audience into their state of mind
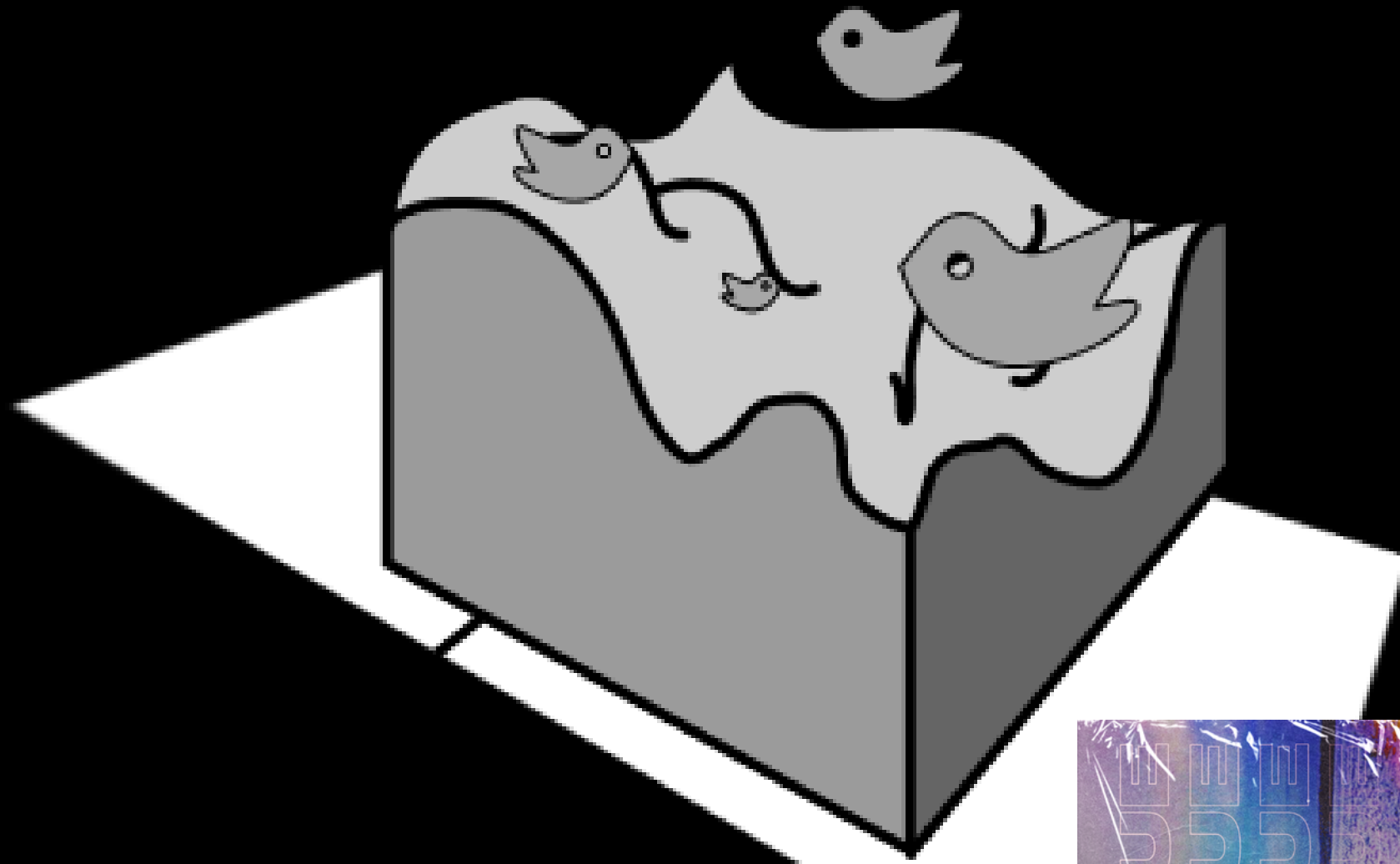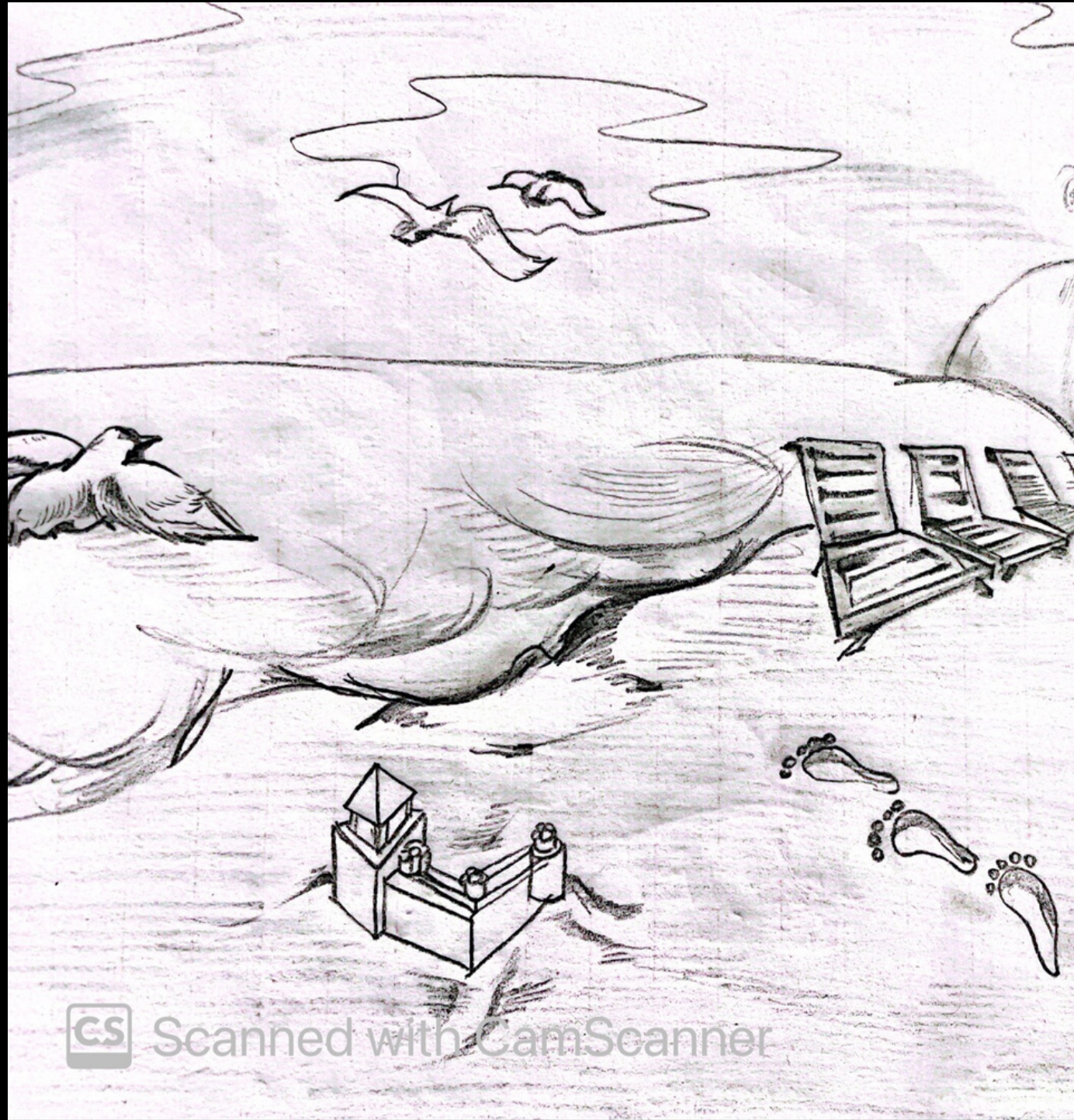
VINYL PLAYER

Implies a classic song that everyone remembers and loves
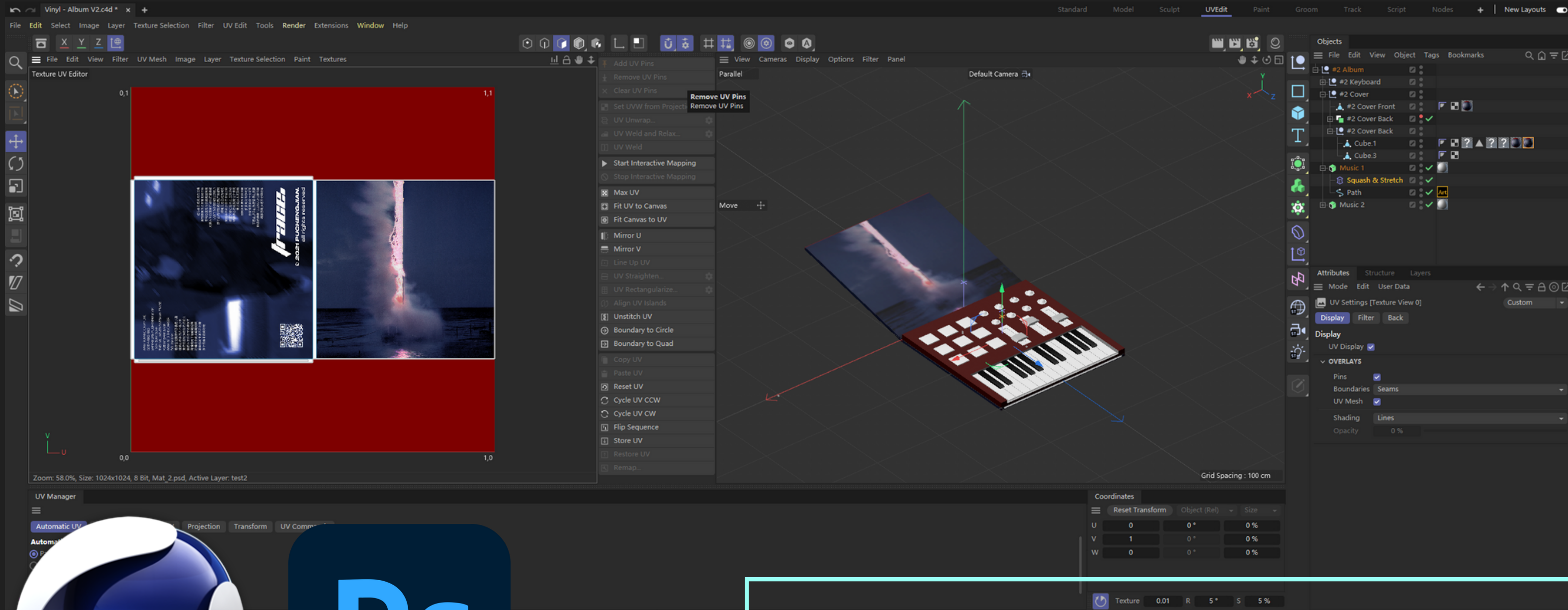
BALLET

Implying classical songs

CAR ENGINES

Implying some typical Hip-pop songs, artists sing about their rich life, especially wealthy cars, and they want to show these things to the audience, so that's what I headed.
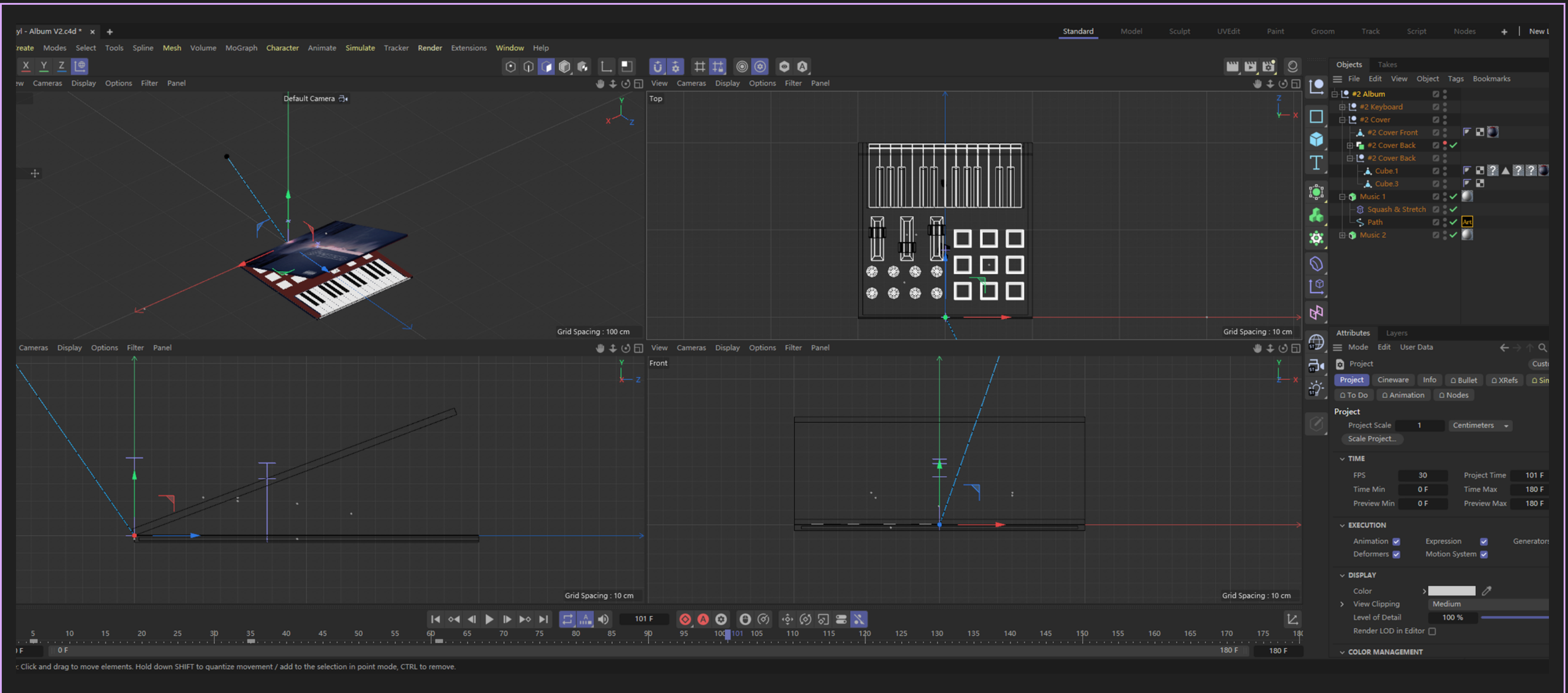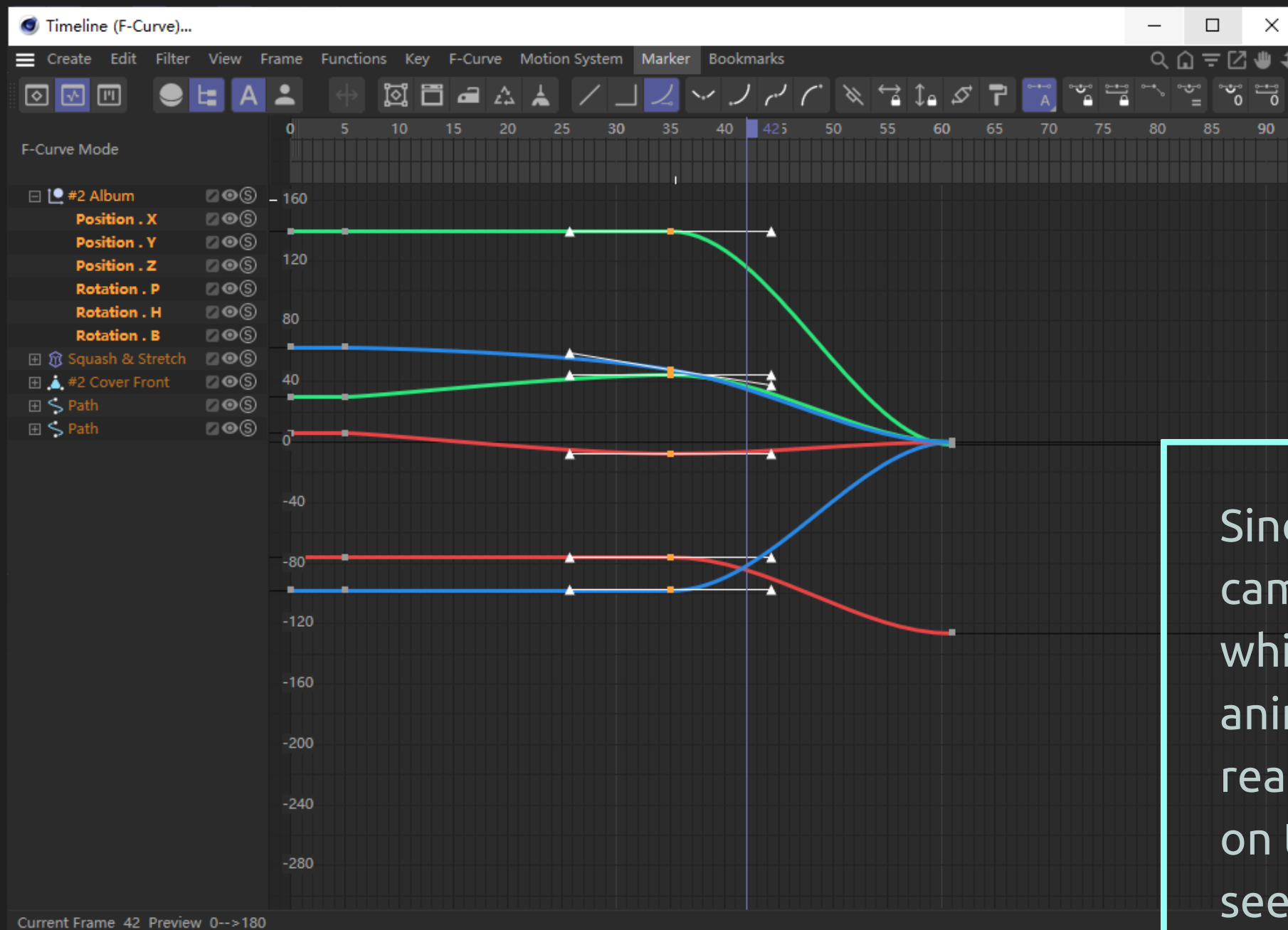
DESIGN SKETCHES

UV MAPPING

After having all albums, the UV Map is one of the most important elements in iimmersive experience, designing for the each original album cover.

ENVIRONMENT DESIGN

Technique in Cinema 4D
Squash & Stretch - Multi-dimensional Portal to transport an object from a flat image
F-curves - Optimize for a natural animation in real life

F-CURVES

Since the animation for the demo is specialised in AR cameras, so I picked a position and a camera angle in which the way that user may put their AR devices. The animation is simulating that an album is selected and ready to be opened on a table. You place the album on the table and unfold it in the usual way. You will see the flat images that are printed on the screen. But what makes it interesting is that the flat image will automatically pop up as a 3D layer and play music for you to interact with. This is beyond the traditional experience when we bought a physically vinyl album.
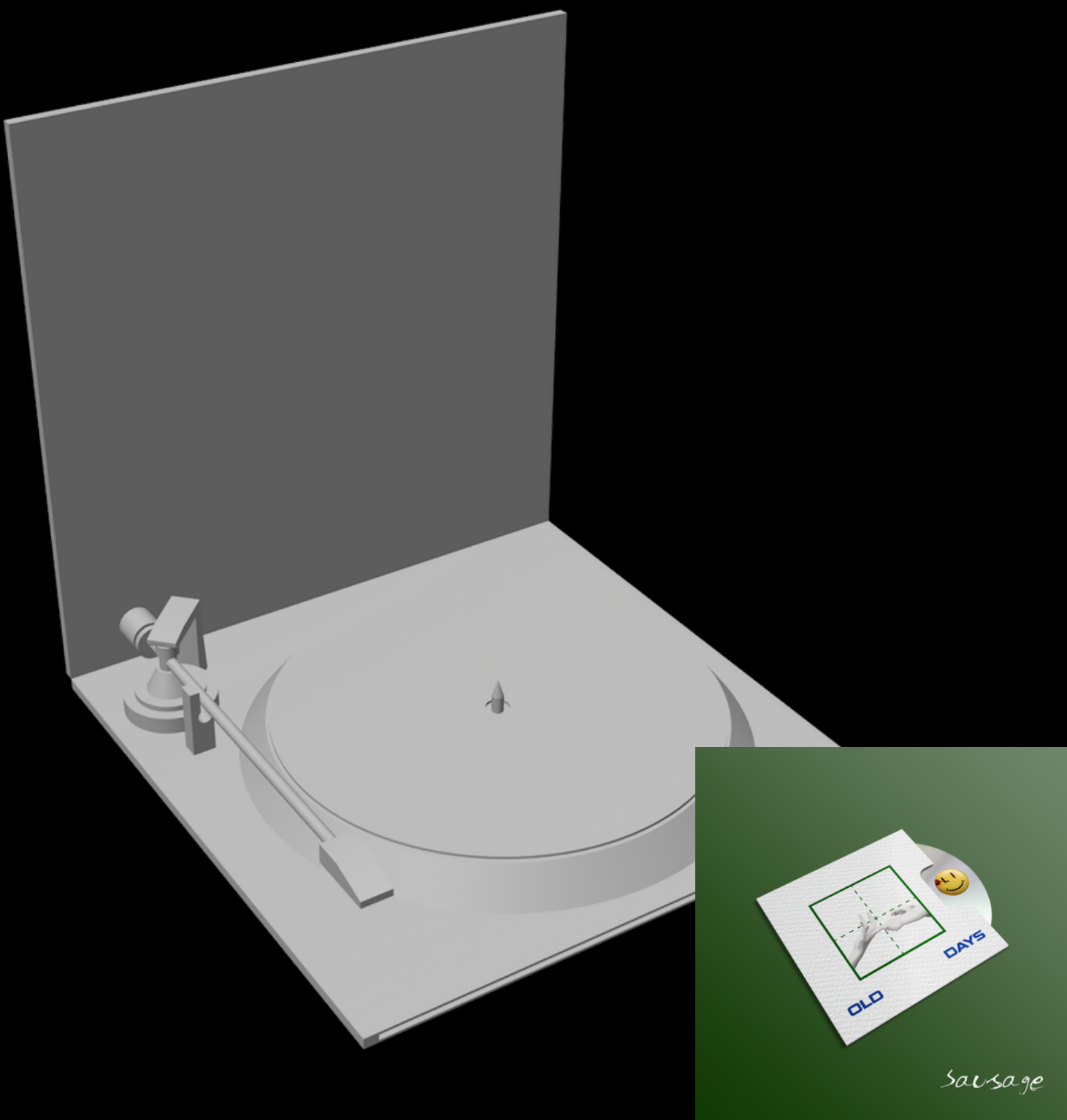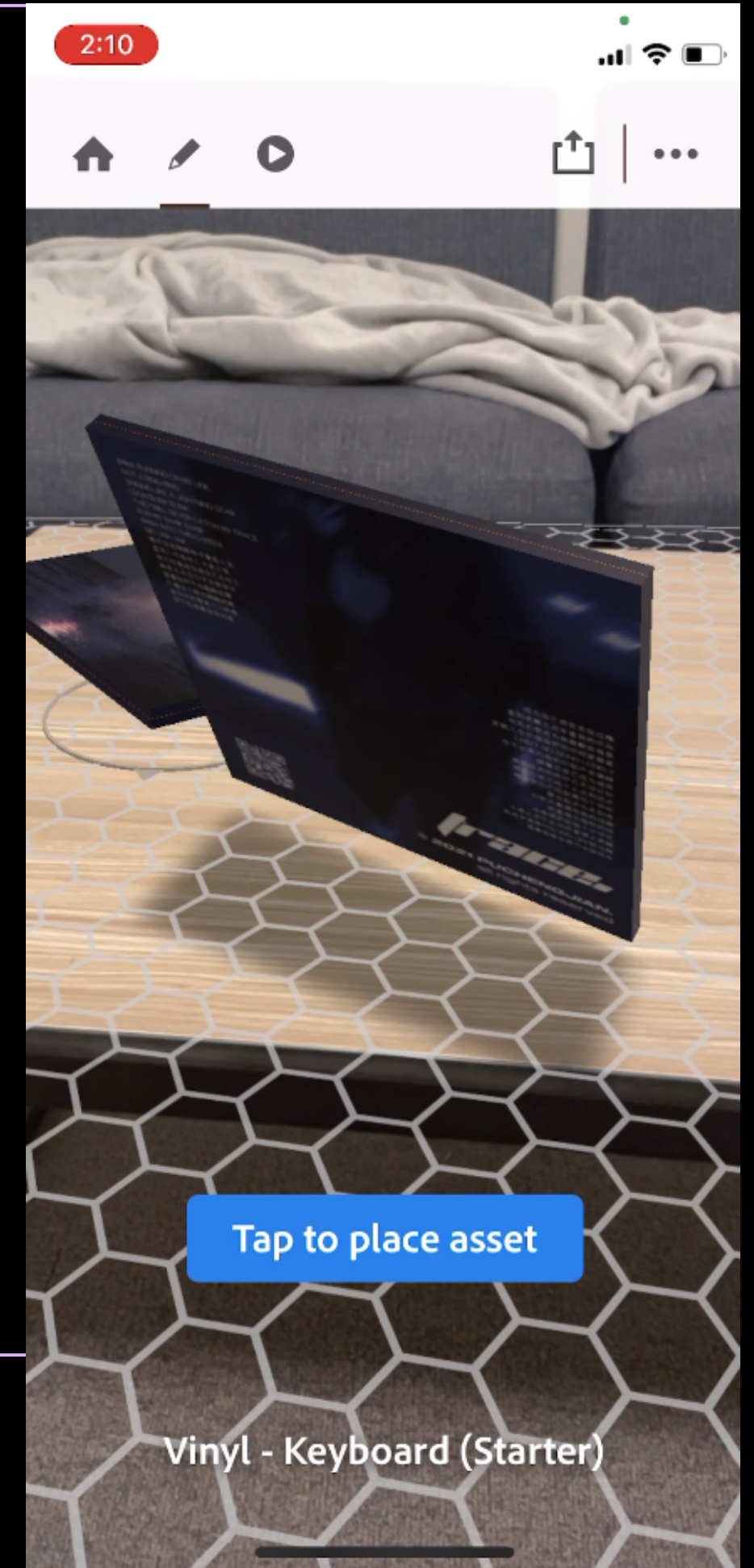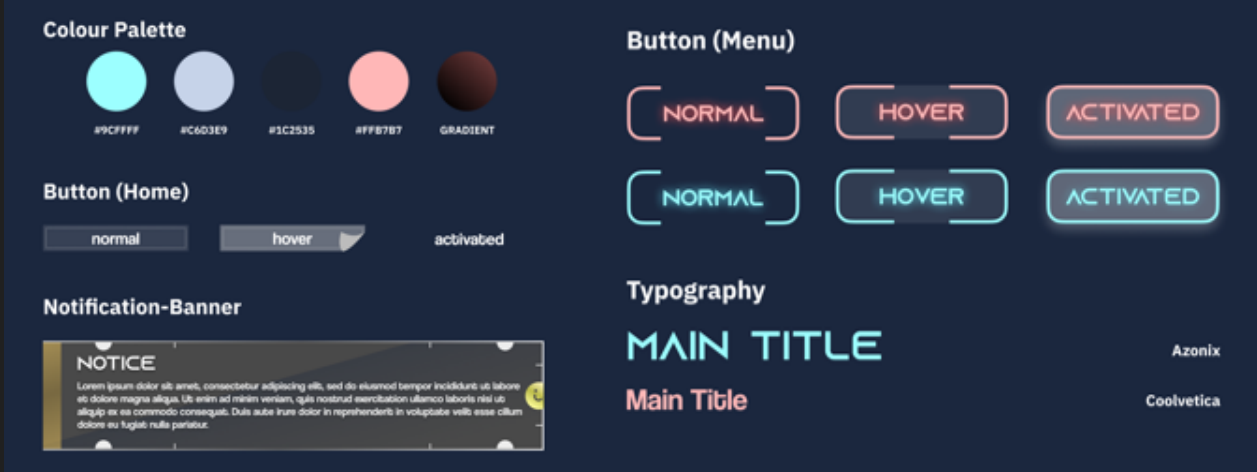
RESULTS

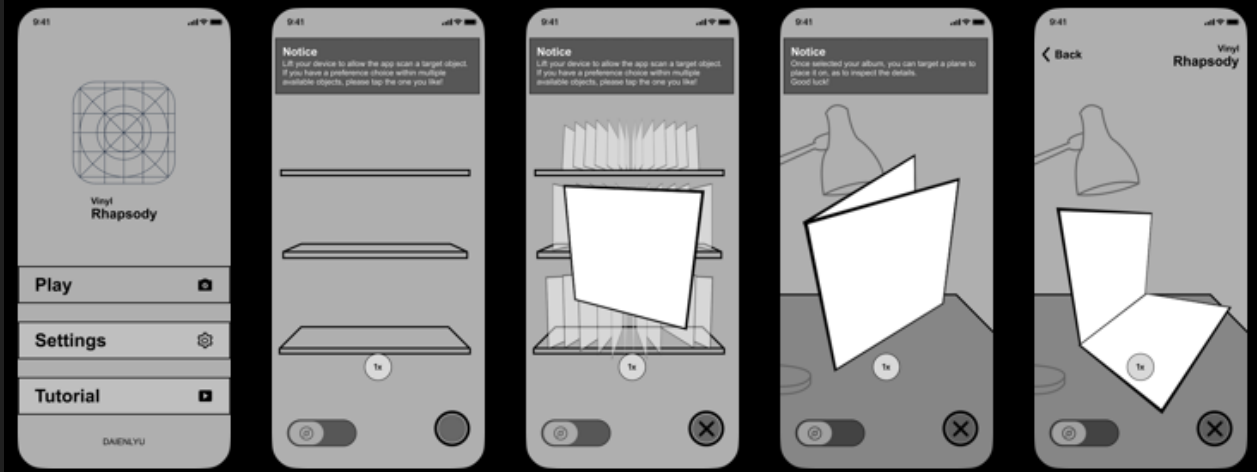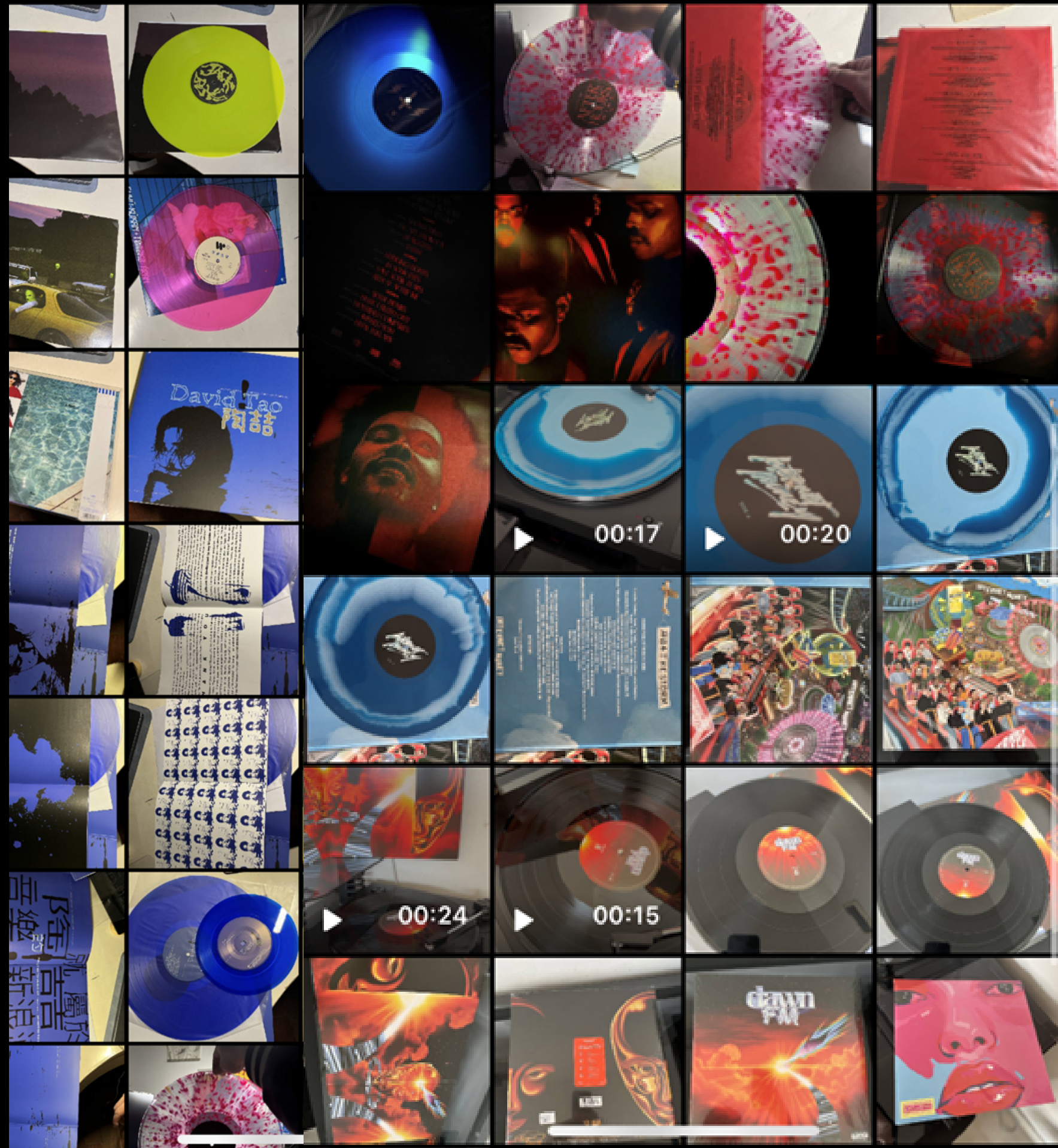TEST ON ADOBE AERO

Vinyl - Keyboard (Starter)

Tap to place asset

PRE PRODUCTION

Research on Vinyl Album library 1
Wireframes 2
Style Guide 3
Flowchart 4
Preparing Assets 5
Deployment on Mobile Device 5

VINYL RHAPSODY

VINYL RES.

To deeply knowledgeable about the history of vinyl albums, I had a consultation with a friend of mine who is a vinyl record collector, I reached him and asked for some opinions and materials that I can learn from, and some knowledge which you will gain when you purchase enough amount of vinyl records. So yeah, that helps a lot.

Also, I visited a Sir Louis Matheson Library in Clayton which possesses an archive of physical vinyl albums categorized by region from the globe to get closer to the categories.

Lastly, I bought a classic album "Thriller" by Michael Jackson to experience myself at any time.

VINTAGE + FUTURISTIC

WIREFRAME
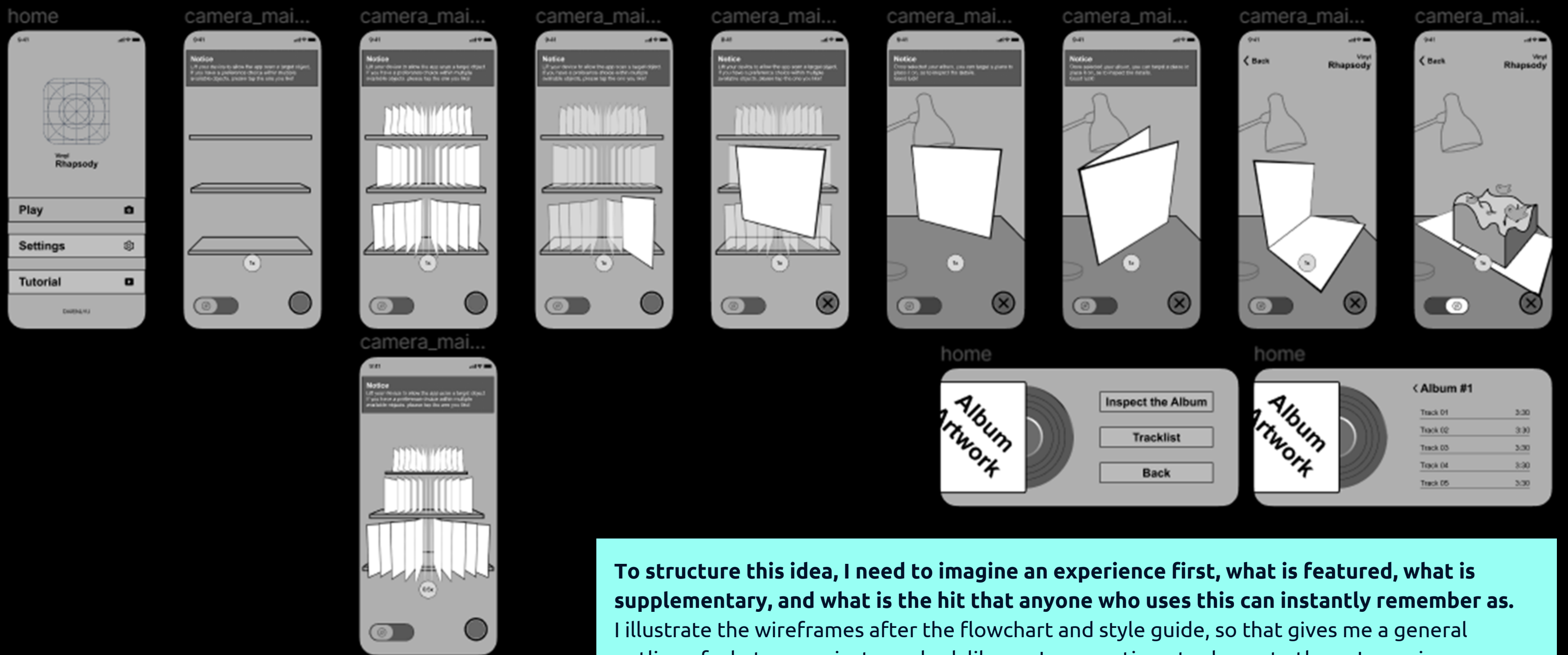
To structure this idea, I need to imagine an experience first, what is featured, what is supplementary, and what is the hit that anyone who uses this can instantly remember as.
I illustrate the wireframes after the flowchart and style guide, so that gives me a general outline of what my project may look like, so I can continue to decorate them. I can give you a preview of the mockups.
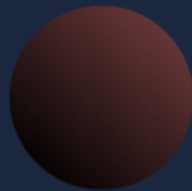
Colour Palette

#9CFFFF	#C6D3E9	#1C2535	#FFB7B7	GRADIENT

normal

hover

activated

NOTICE

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur.

NORMAL   HOVER   ACTIVATED

NORMAL   HOVER   ACTIVATED

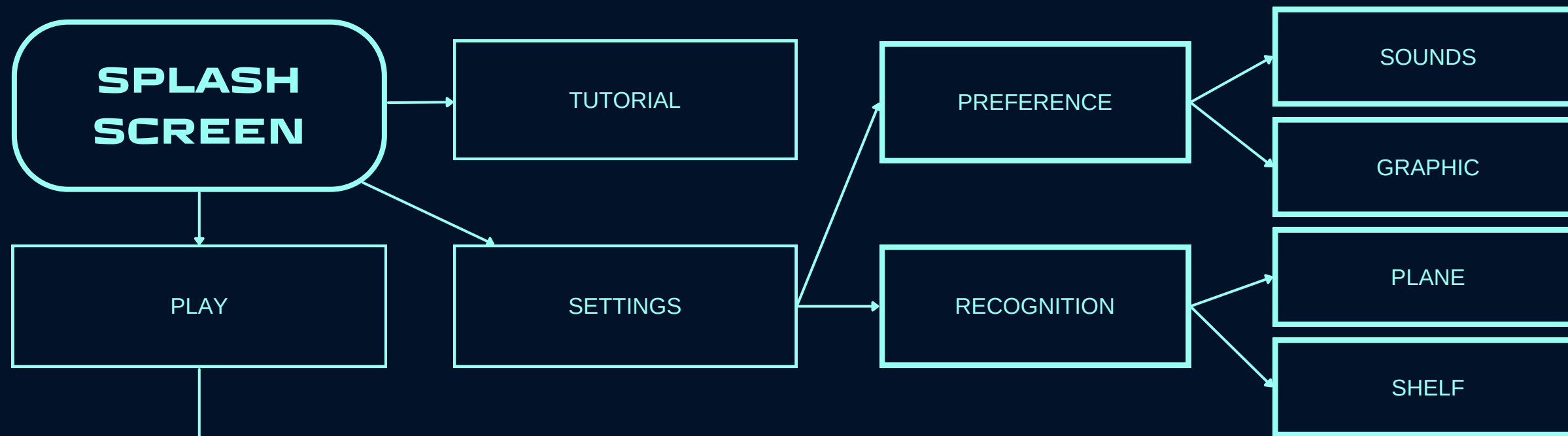## MAIN TITLE

Azonix

Main Title

Coolvetica

STYLE GUIDE

Determining the colour palette, buttons and important UI elements can help me illustrate the overall tone of the experience, especially on the left side of the style guide, which settles the vintage, retro vibe, while on the right side, there is also something futuristic elements going on to leverage the seasoning, such as rounded corners and curved typography. That's also why I decide to continue with the AR experience, we remember the good old days not just to feel settled, but to explore what more can be possible and friendly.

VINTAGE + FUTURISTIC

SPLASH SCREEN

SPLASH SCREEN → TUTORIAL

PREFERENCE → SOUNDS

PREFERENCE → GRAPHIC

PLAY

SETTINGS → RECOGNITION

RECOGNITION → PLANE

RECOGNITION → SHELF

USER FLOWCHART

Try to simplify the usage and functions and access them with just GESTURES, and UNIVERSAL BUTTONS.

Horizontally expand the experience rather than create separate functions.

Guidance Overlay:
Loop Animation
Tap to Dismiss
Guide to a surrounding plane

Vinyl Player and Albums appear:
Animation - Push, inertia and bump effects (Natural)
Sound Effects (Successful Deployed)

Scaned a shelf/plane:
Creating an invisible plane ontrigger, play a polishing effect on the surface

Tap the Album:
Peek (Confirmation on selected album)
Pop - Flip animation

Inspect the Album:
The Album rotates to horitonal angle, used as a plane
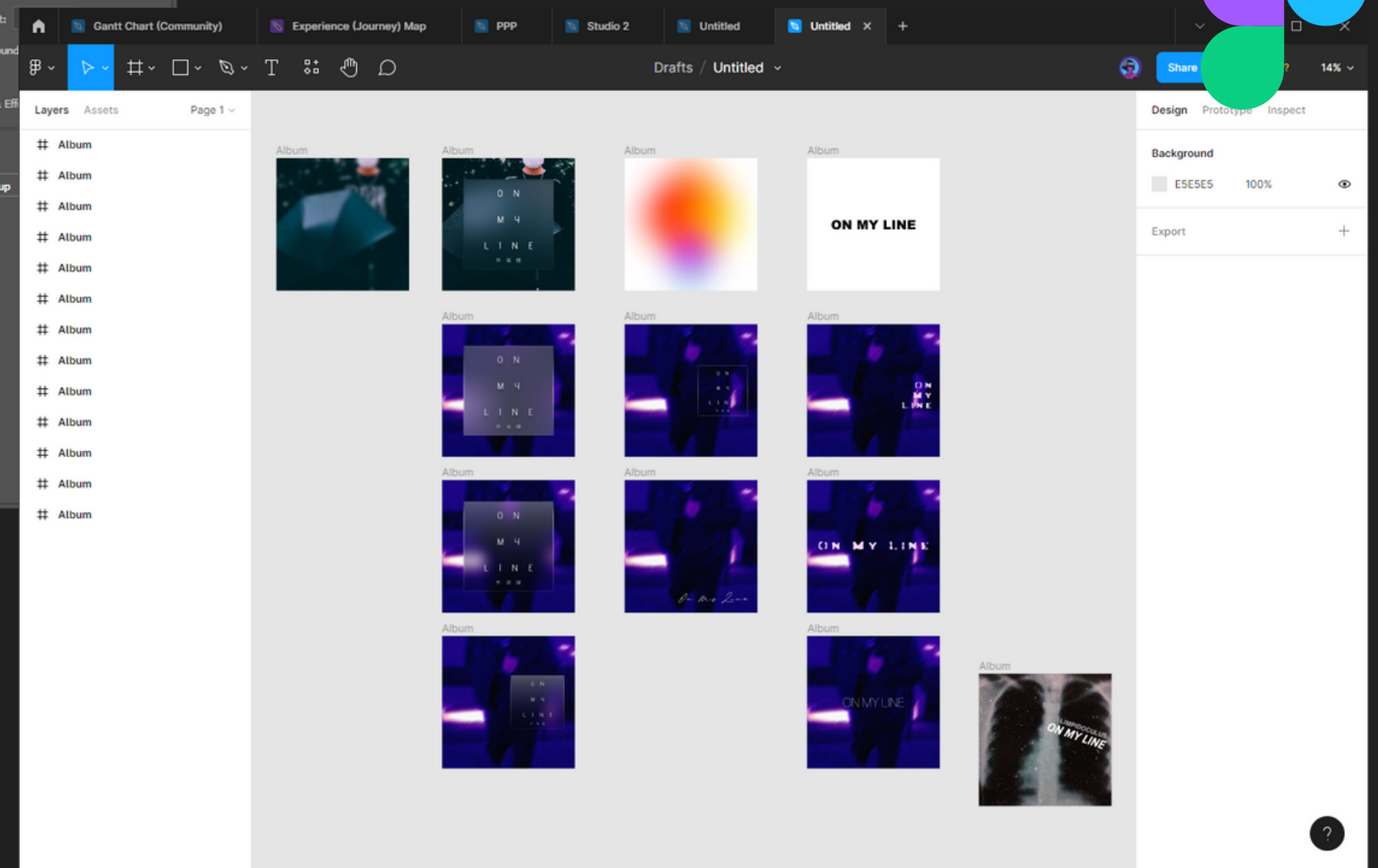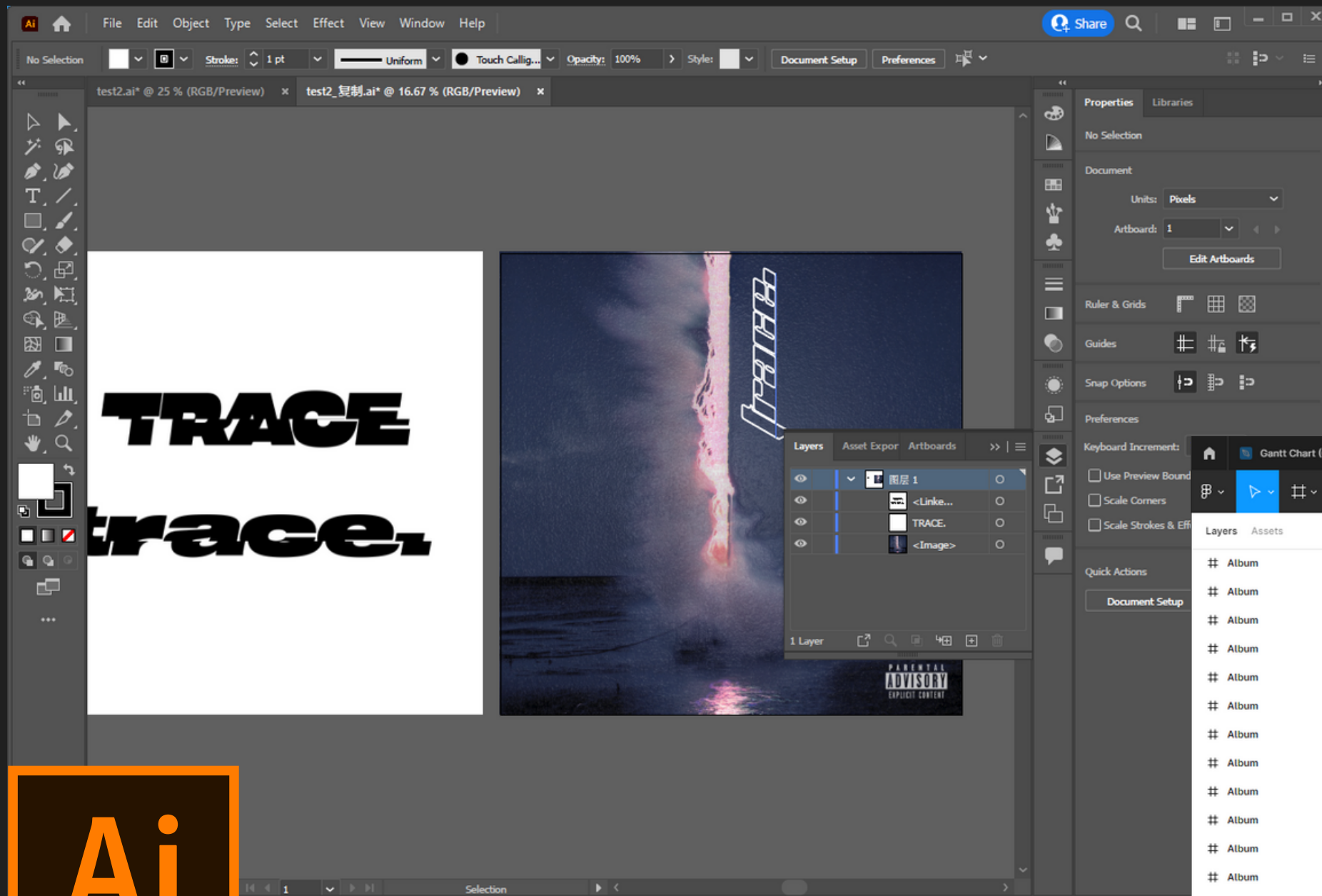Elements pop out in a vertical level based on the album

Camera gets close to the artwork:
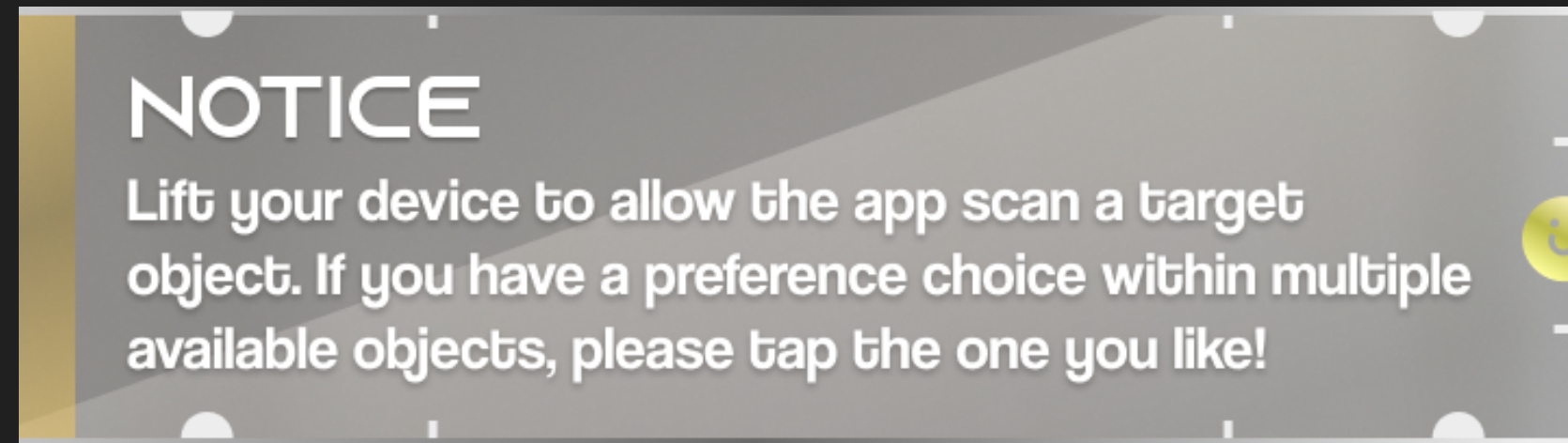Individual element is interactive or looped animation

DESIGNING
ALBUM COVERS

To efficiently optimise artworks, I choose the album covers that I previously designed for artists as there are available project files and immediate connections.
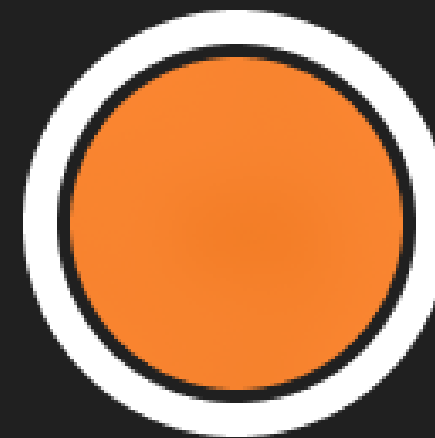
SYSTEM ICON DESIGN

The icons are staying neutral and colourless in terms of styles to emphasize the content of albums instead of distracting. Just like exhibitions.

NOTICE

Lift your device to allow the app scan a target object. If you have a preference choice within multiple available objects, please tap the one you like!

Notification Banner

1x

Zoom Button

Capture Button

Play Button

Toggle Music On/Off

DEPLOYMENT ON IOS FROM WINDOWS

After consultation with Jadd, I set off to continue my learning with Unreal Engine. I need a macOS machine to build it because I only have iPhones in mine. After searching hard on the Internet, I have figured out the way and successfully installed tokens on Windows end capable of installing .ipa on iOS. The method involves with installing a macOS in VM as an agent to generate a certificate and token and to build this using Remote Login in macOS. (Forgive me for this third-person template because I did this for the testing)
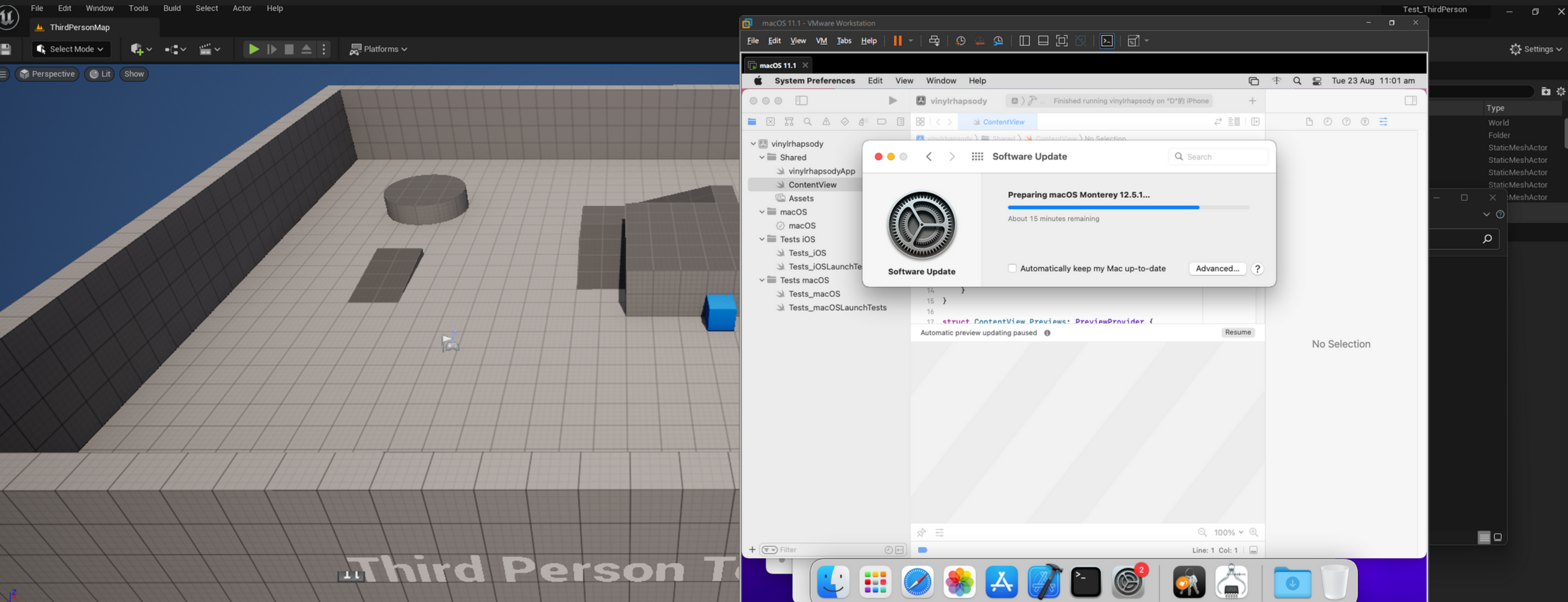
It turns out that developing in iOS requires two materials - Developer Certificate; Provisioning Profile for the SPECIFIC PROJECT. Rest assured, these two are free of charge but with a bit of time to fetch.

1. To acquire a Developer Certificate, you need to upgrade your Apple ID at https://developer.apple.com/ to a developer account. Download XCode on your Mac, we can do this on Mac Pros in our Studio.
2. Create a blank app project in XCode in the name of "App", and entitle its name "com. your name. project name", this step is to create a placeholder for your UE5 project, so make sure you entitle the same project name and bundle name as in UE5. Make sure you run this blank app on your Apple devices, and then we can acquire two of these materials that UE5 demands.
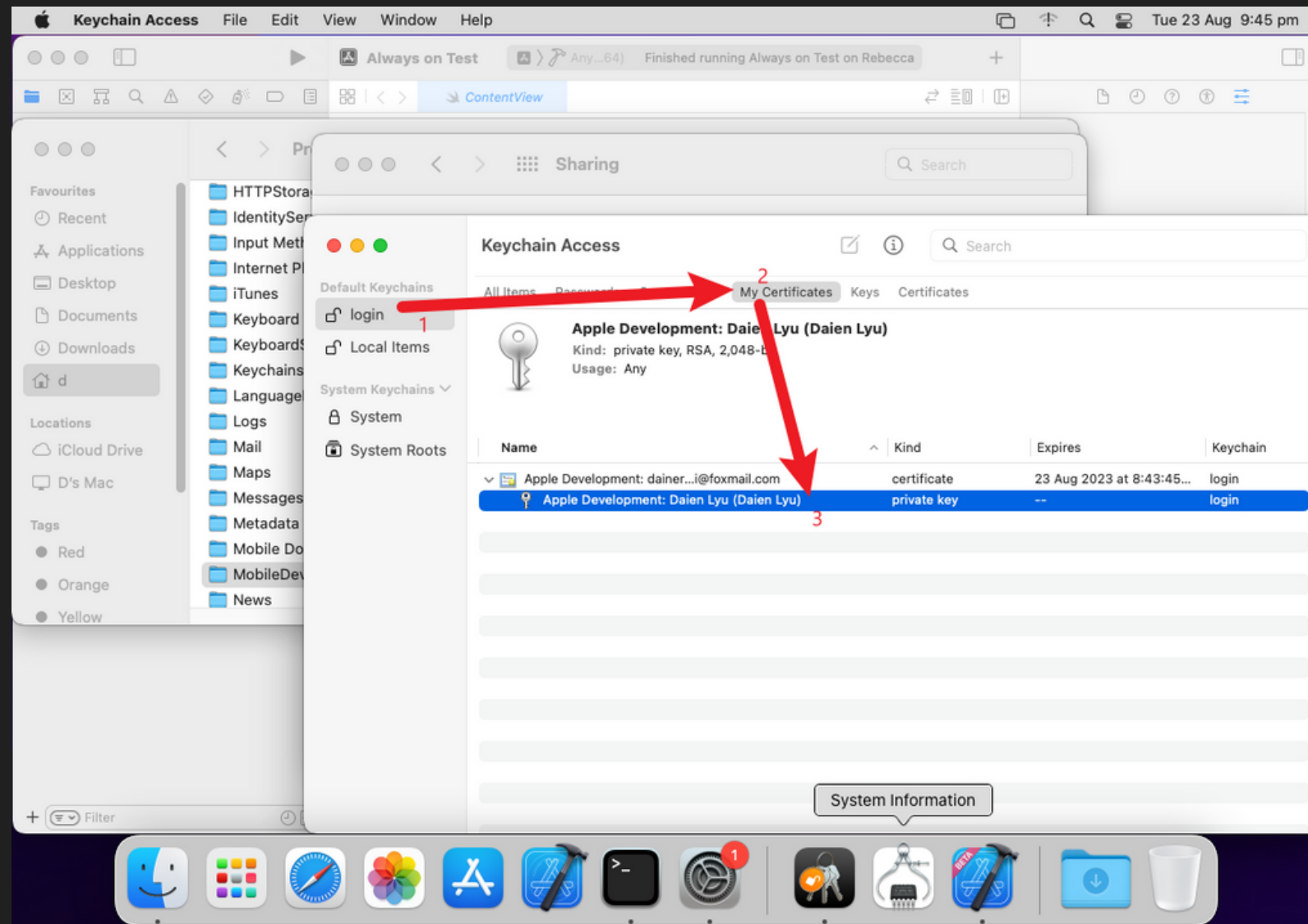
i. Developer Certificate: Open Keychain Access on Mac, click "Login" on the sidebar, click the "My Certificates" tab, and then expand the first certificate which is approx. named "Apple Development: YourName"

Right, Click to export it to your desktop so you can then copy it to your Windows Machine. There has to be a password, so type one that you see fit, and remember that until you import in UE5.

ii. Provisioning of this app: Remember that I mentioned "Running this blank app in your Apple Devices"? That's because XCode won't generate provisioning files until you run it. So once we have run the blank app on our device, we can rotate it to our mac.

Here are two steps before you navigate to the directory: In Finder: First. In Finder Preference, tick this home icon section to show your user directory

Second, show the Library folder. To do this, do navigate: Home Icon -> Show View Options -> Show Library Folder
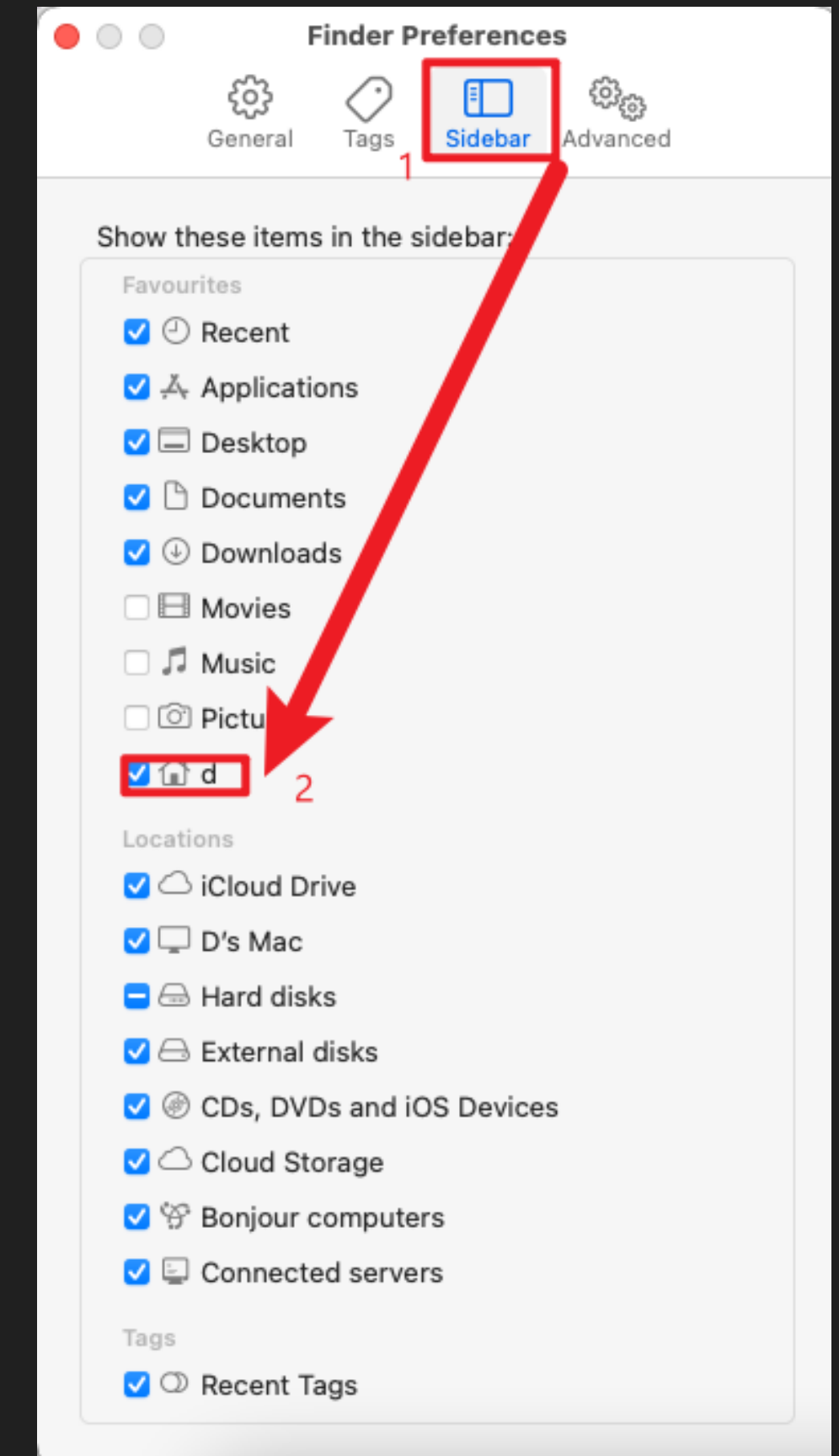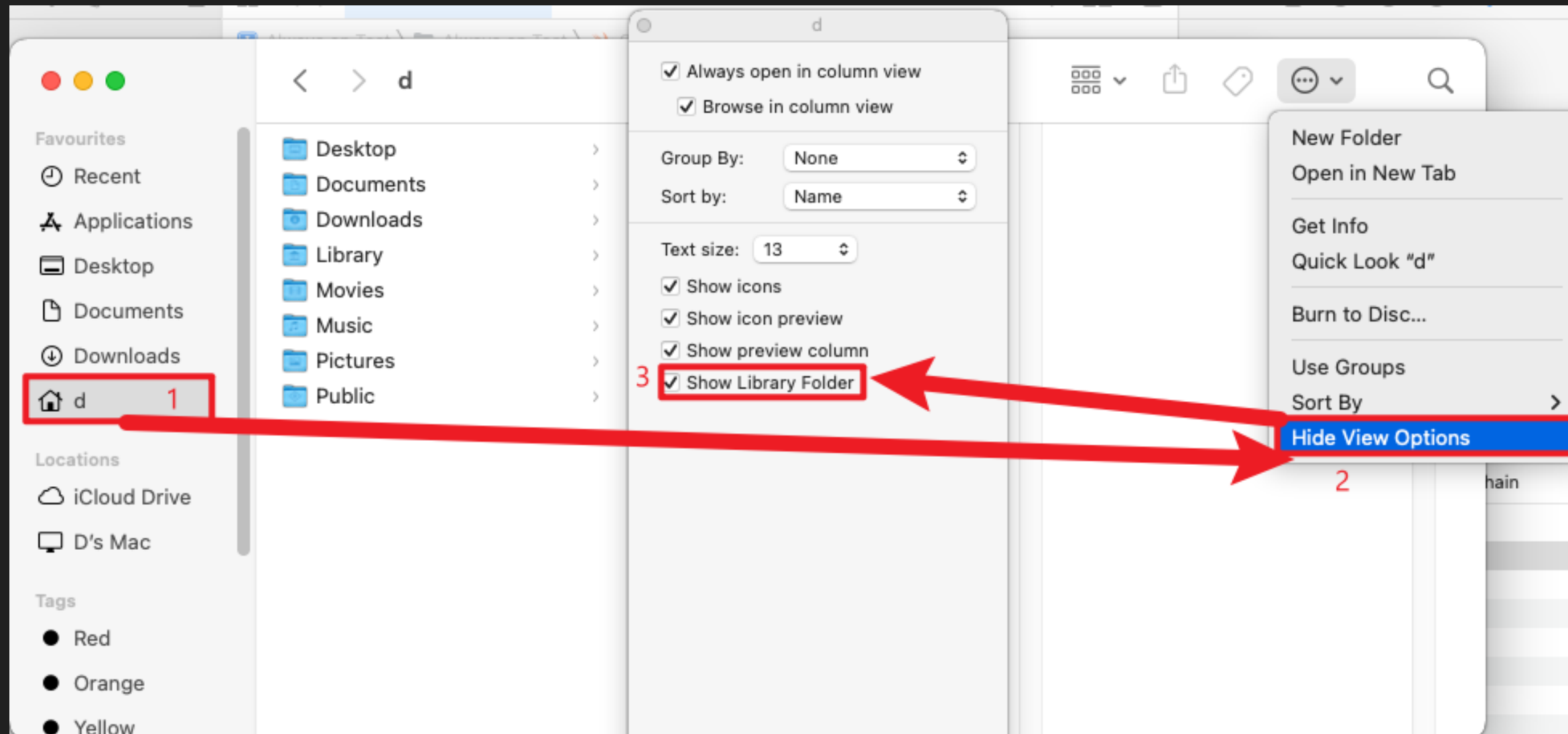
When we are all set, go to "Library\MobileDevice\Provisioning Profiles" and copy all files to your Windows Machine. And I hereby announce that you have successfully fetched two materials.
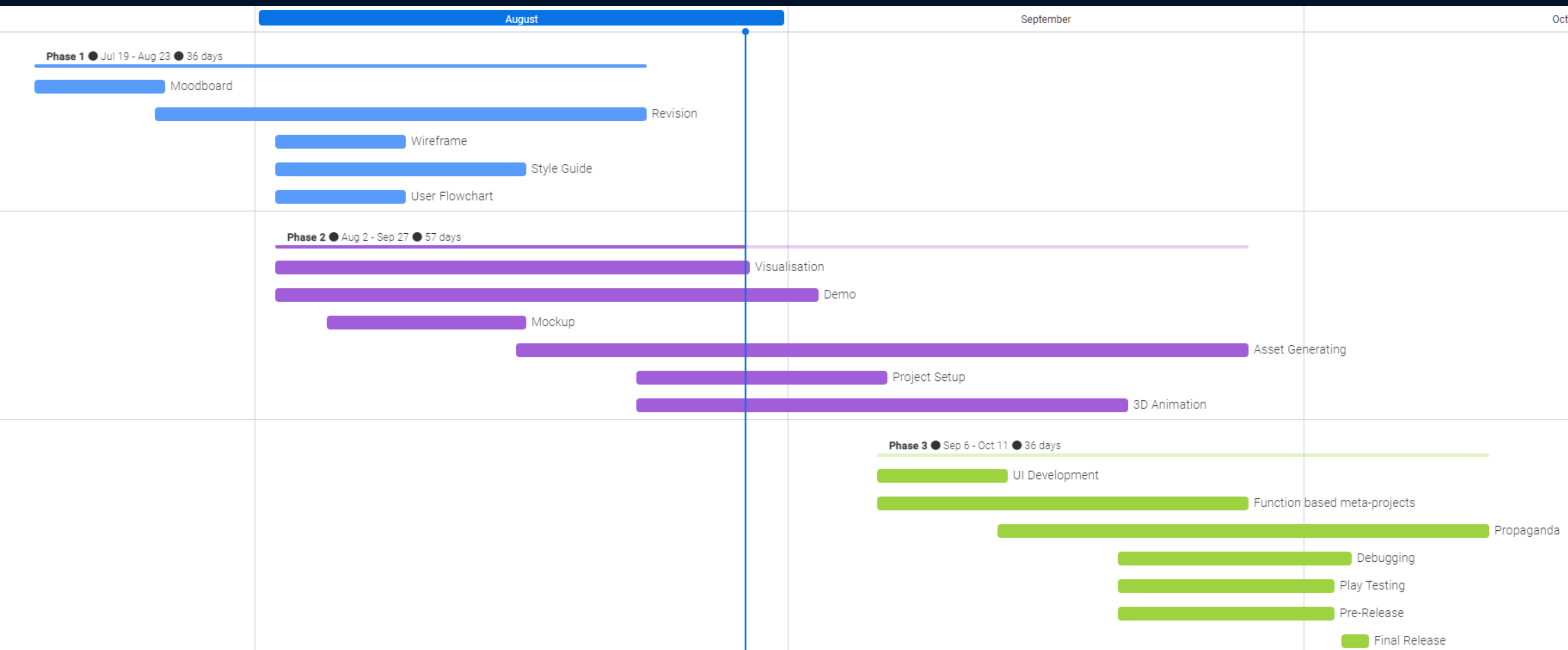
Finally, to make this work, go to Project Settings in UE5. Navigate "Platform -> iOS" on the sidebar, and you can see two import buttons on this page, meaning that you can import them respectively.
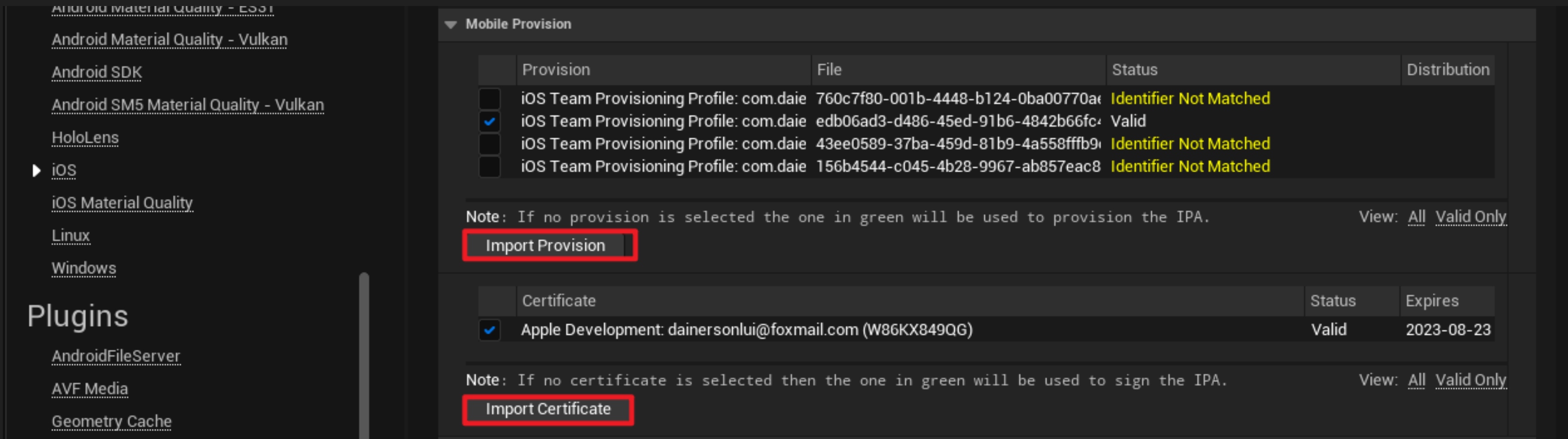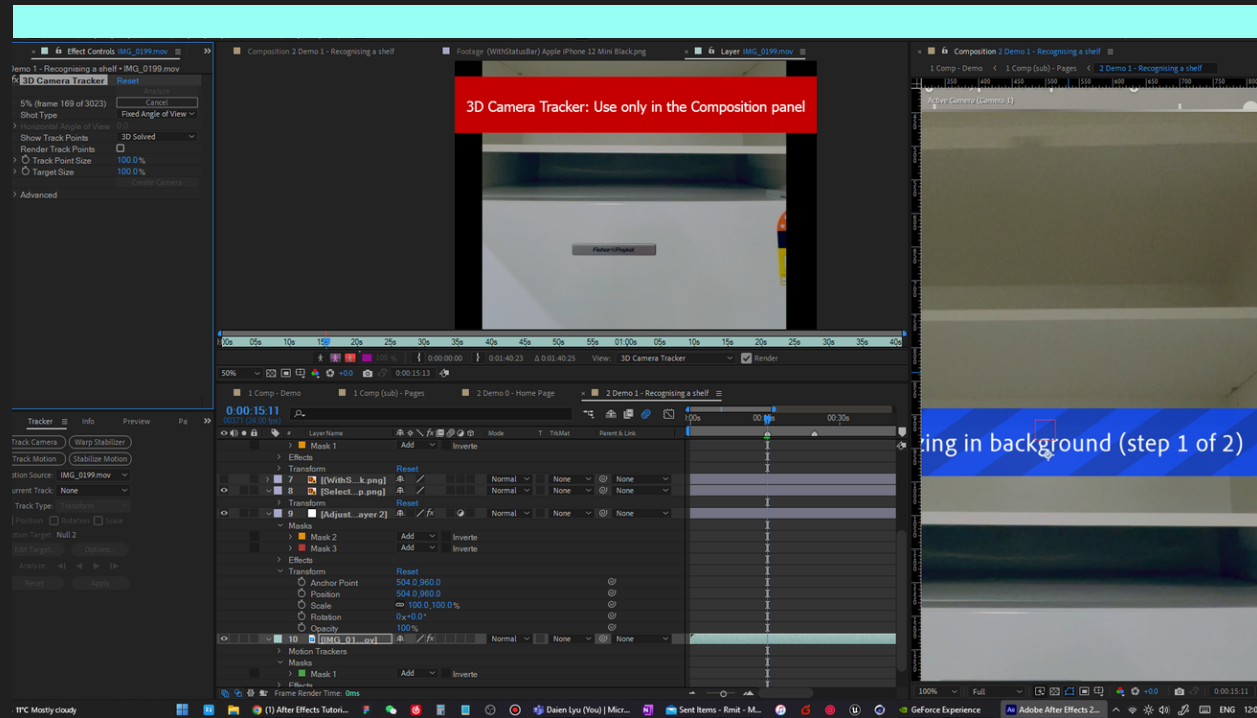

there is indeed one thing to mention in Provisioning Files, all provisioning files cannot be VALID if your bundle name doesn't match the one you created in your XCode blank app project, plz rename your UE5 project on the same panel here by just scrolling down here.
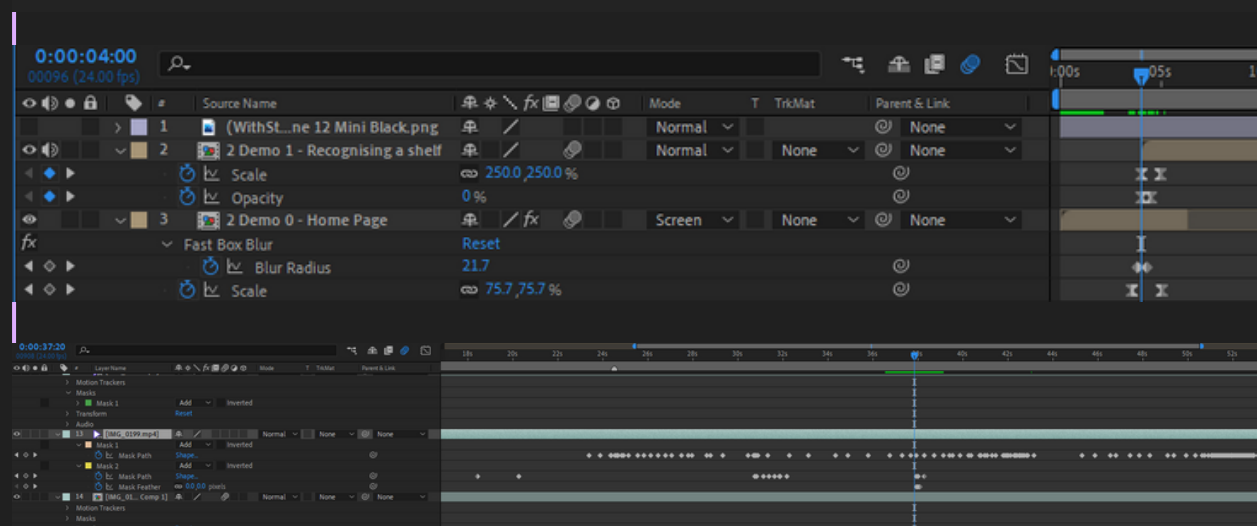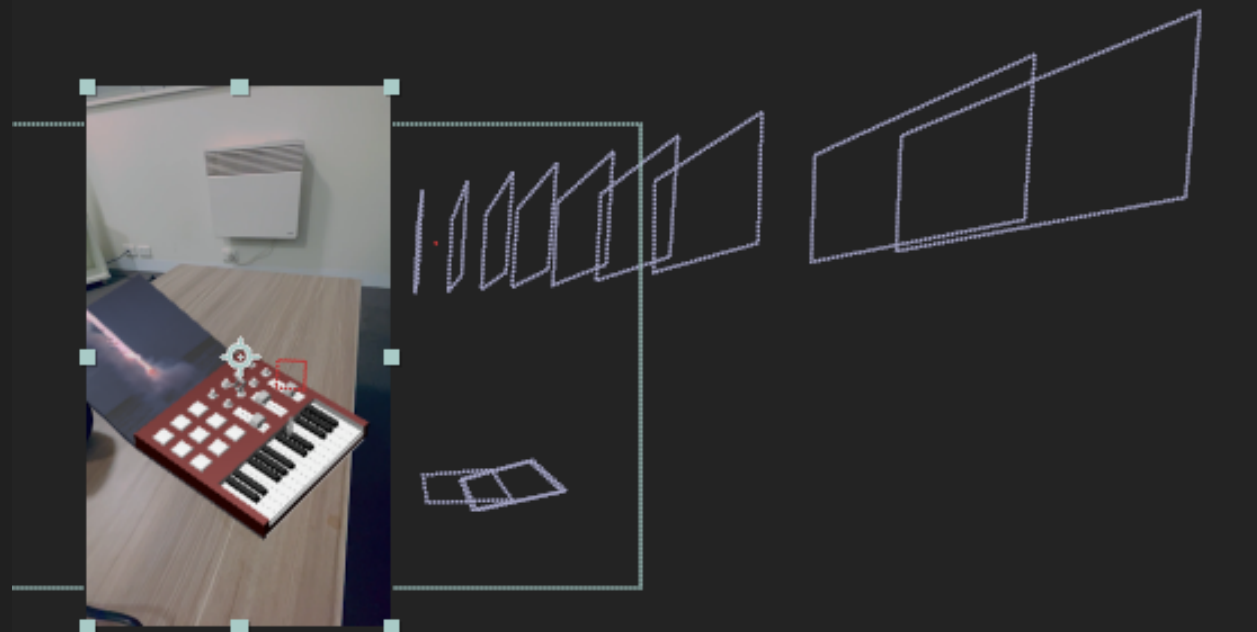
GANTT CHART

	August	September	Oct

Phase 1 ● Jul 19 - Aug 23 ● 36 days

- Moodboard
- Revision
- Wireframe
- Style Guide
- User Flowchart

Phase 2 ● Aug 2 - Sep 27 ● 57 days

- Visualisation
- Demo
- Mockup
- Asset Generating
- Project Setup
- 3D Animation

Phase 3 ● Sep 6 - Oct 11 ● 36 days

- UI Development
- Function based meta-projects
- Propaganda
- Debugging
- Play Testing
- Pre-Release
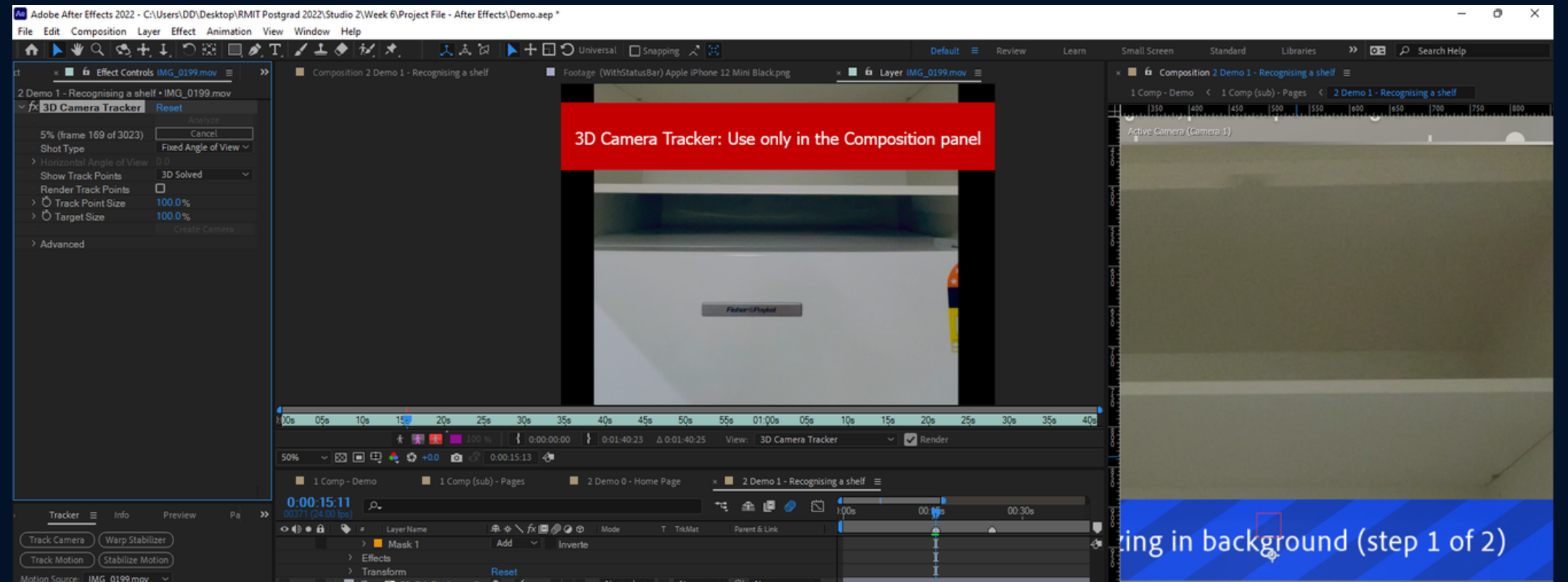- Final Release

VERTICAL SLICE

IN AFTER EFFECTS

3D Layers & Track Cameras 1

Masking 2

Achievements 3

Challenges 4

VINYL RHAPSODY

3D LAYERS

To realise an AR effect on a post-production software needs to revive the same camera angle as the video source. Therefore, I chose camera tracking to fetch the 3D position data and sync it with the 3D images as shown (toggle 2D layer to 3D).

The most important thing to remember is to attach the orientation to a master layer and the rest can be children of the master (parent).

CAMERA TRACKING ON 3D IMAGES

MASKING
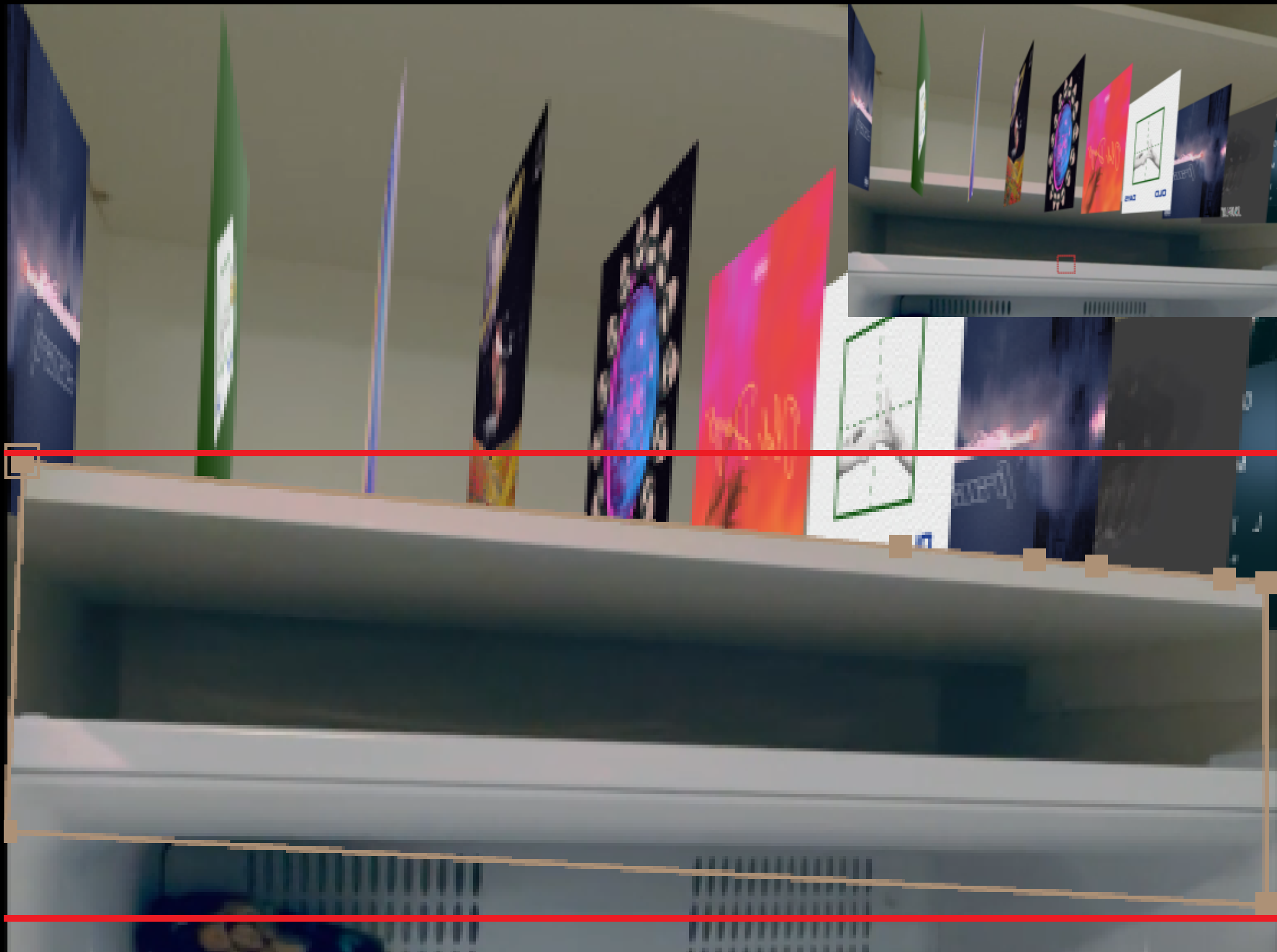
As the essential purpose of Vertical Slice, demonstrating realistic AR experience is the key, so to emphasise the overlaying hierarchy between the albums and the shelf, I intended to create scenes with various camera angles, and in After Effects, I masked them frame by frame.

The method is to duplicate the same video layer on top, set the opacity lower to align horizontally and vertically, and use the pen tool to crop a custom shape from the shelf that will overlap the vinyl albums. Then press PageDown for the next frames to adjust the mask shape each time you progress.

IMMERSE AR WITH MASKING

FUTURE FOLIO 2 PLANS

MAJOR

•**Sweeteners**: Ability to show animations, visual effects
•**Album Availability**: More albums to inspect and interact, which means more collaborations!
•**User Interface**: More interactivity on elements for a more playful experience
•**Localisation**: Tailored various themes for different albums

MINOR

•Responsive Design: More platforms to join
•Social Media Sharing: Ability to record custom demos in a form of .mp4 or gif

RELATED WORK
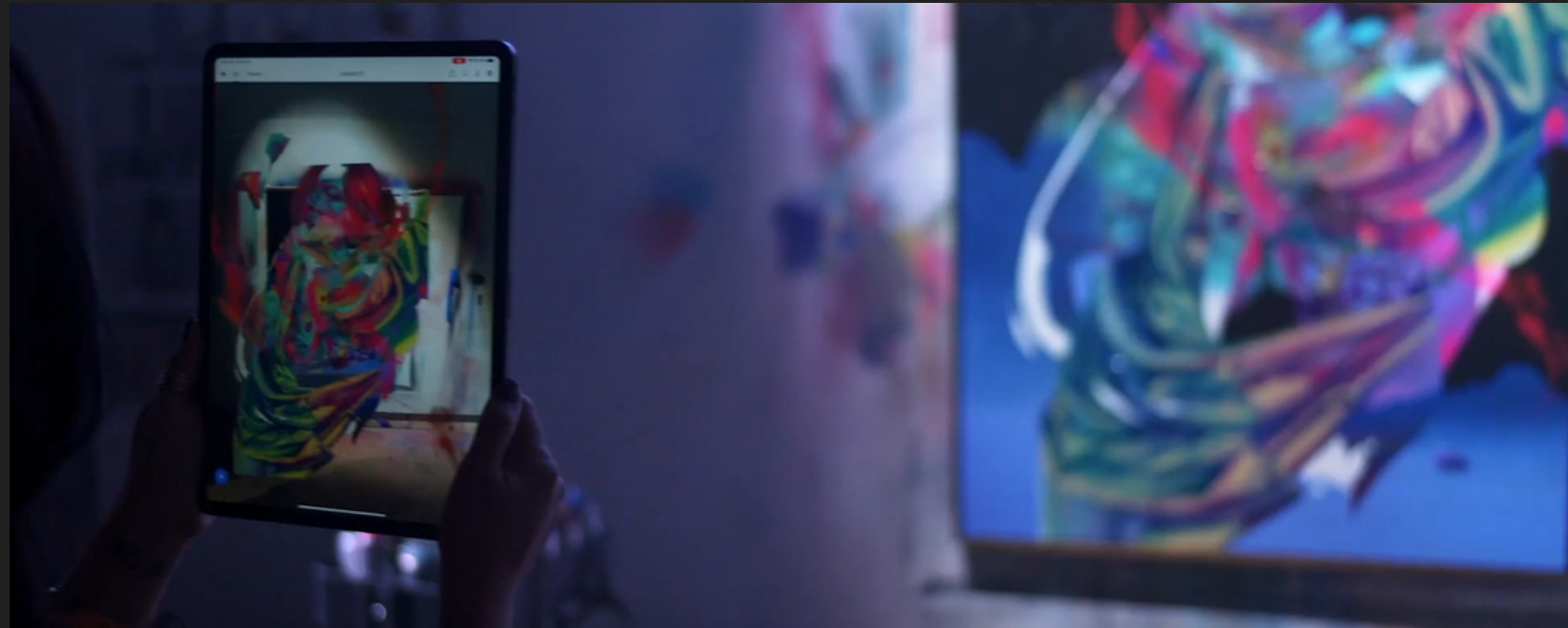
ALLISON "HUEMAN" TORNEROS

 She is a muralist who is famous for her colourful and abstract artworks. With AR, she turns her brushstrokes to 3D models, extending the z-axis to the audience to show how she constructs the artwork with layers like a Photoshop file, but more intuitive. The most exciting of this project is that it doesn't need to pre-build a field physically, there is just a flat mural and a device that deploys the program. It informs us that it is more efficient to express more about the work and implies that the work can be deployed in any place rather than limited to an area.


IPOD'S COVERFLOW

With an ambitious attitude of ditching the instruction manual, Apple remastered and designed a similar interaction with our library - Coverflow. The interactions are: covers display and prioritize through flickers in a horizontal stack; tap the album cover to view the tracklist. To conclude, the gestural pattern is simplified and designed to be more intuitive when compared to the original way of finding a music record in a physical library.
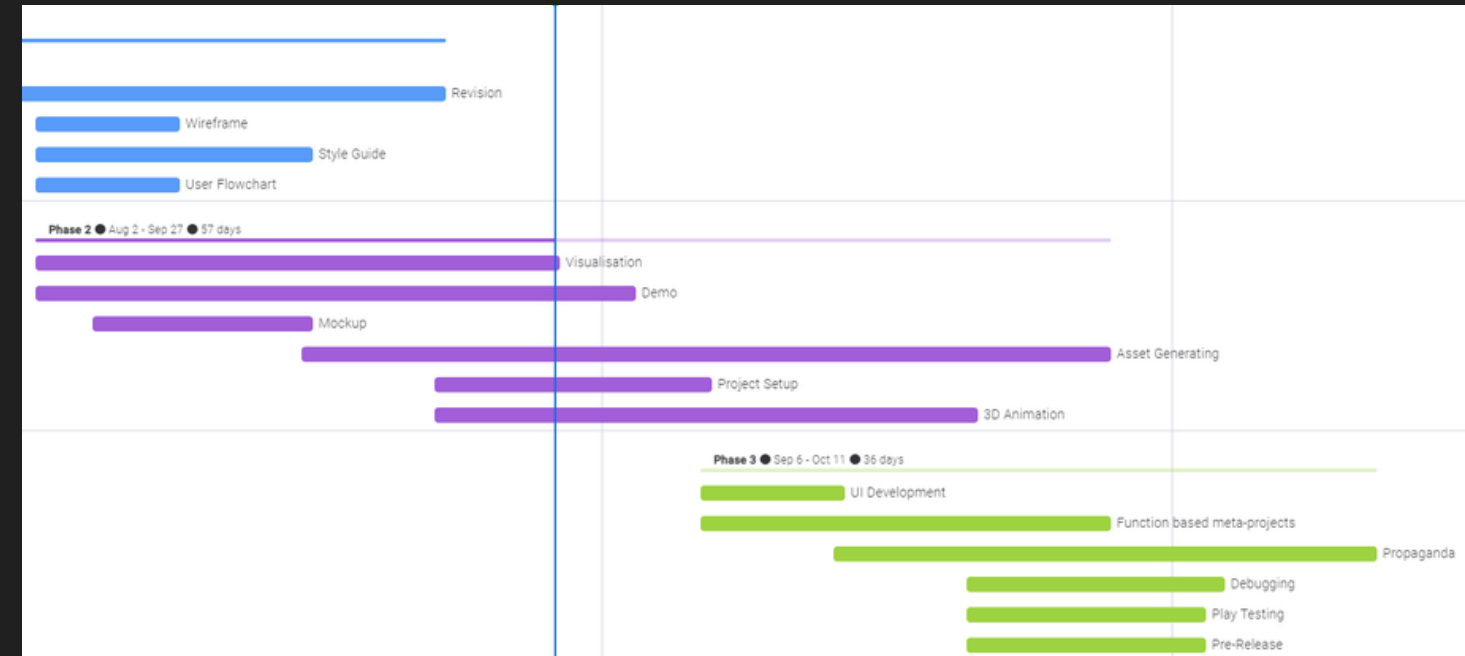
WEEKLY PROGRESS

CONSOLIDATING THE CONCEPT
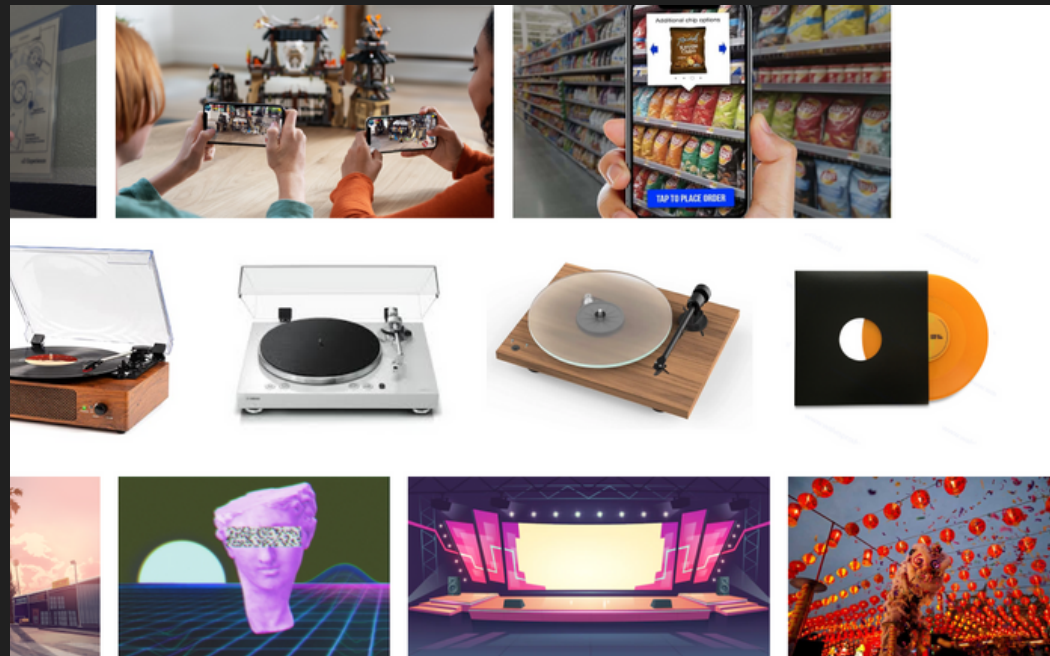
WEEK 1

Achievement:

Finished the mood board
Introducing & imagining operations

Challenge:

Brainstorm & forming the concept with certain instances, stuck at "bringing back the vintage feel to young people"
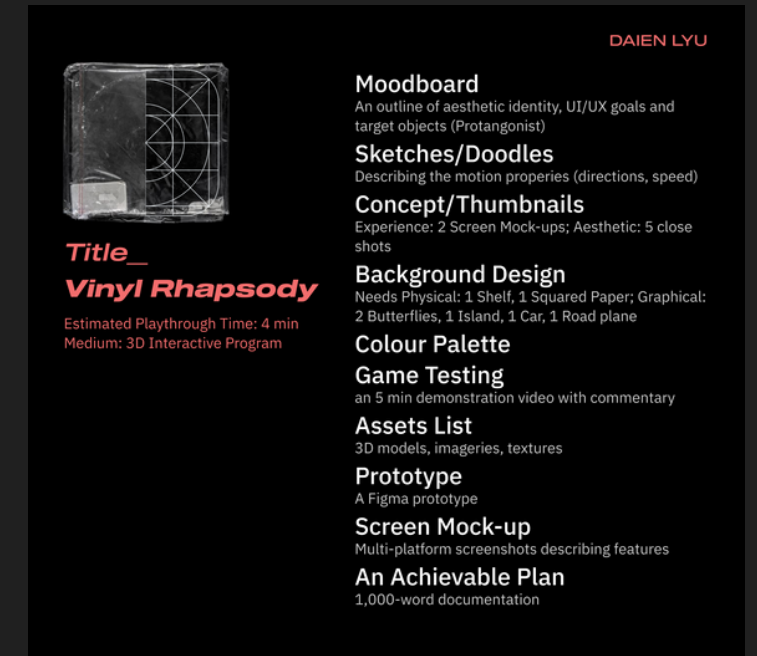
WEEK 2

Achievement:

Revised & consolidated the concept
Detailed implementation - Software choice, interactive type
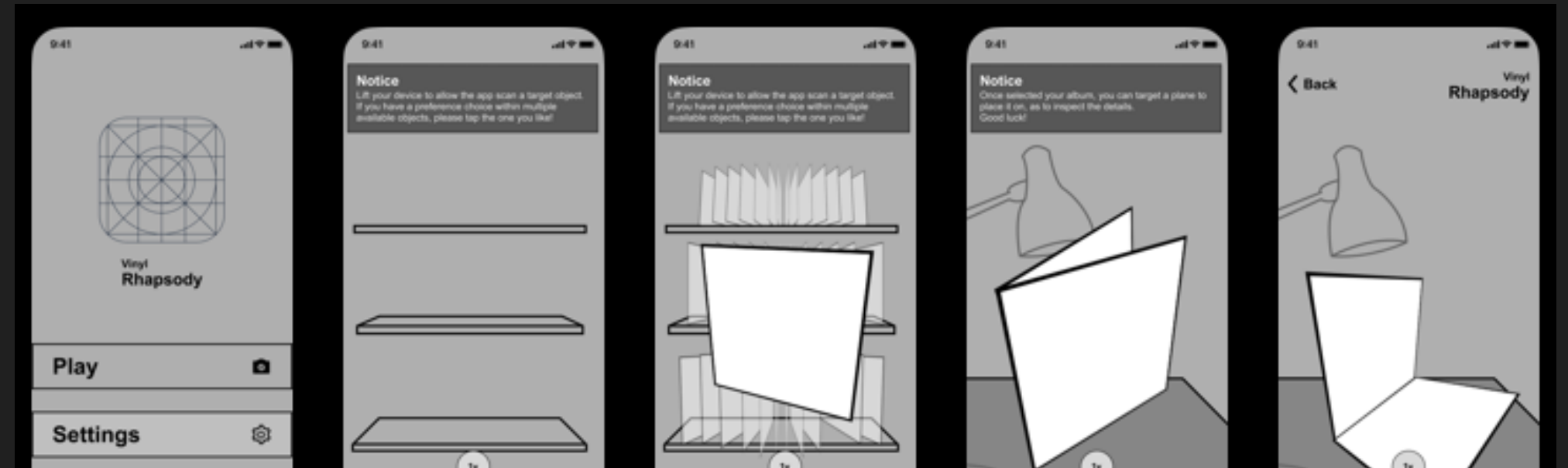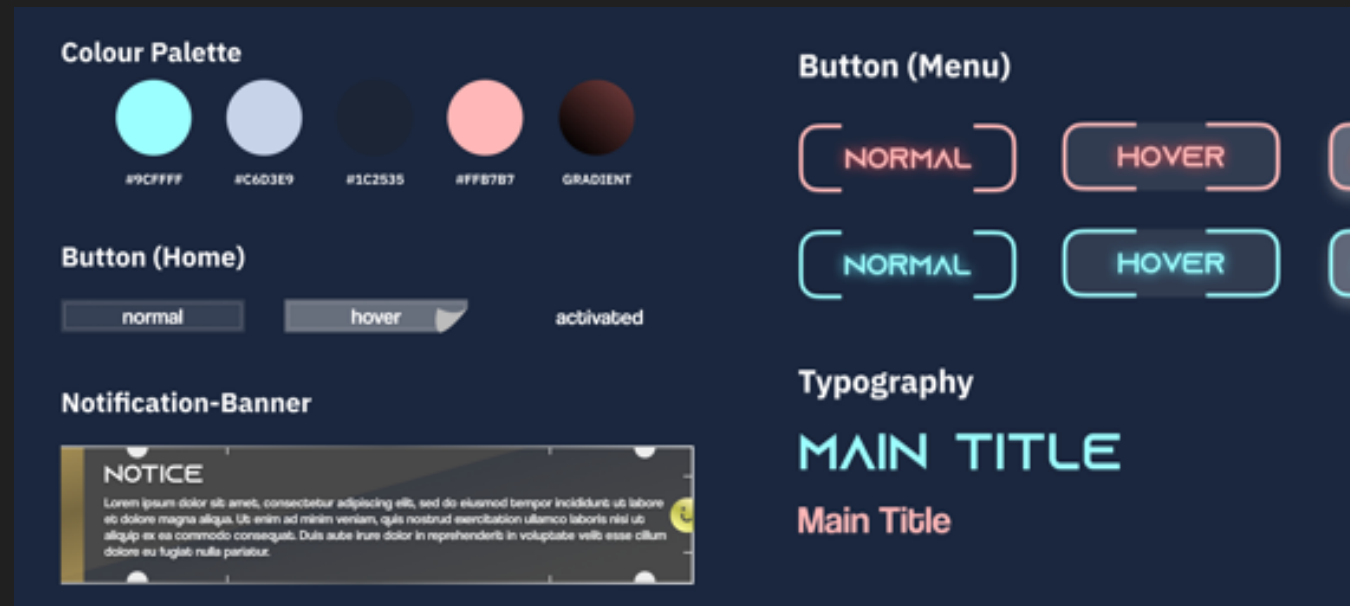Further research on user experience in terms of icons and market performance

Challenge:

Checking feasibility as I expanded the plan too much
Locating one perspective to deeply feature

WEEKLY PROGRESS

ASSETS, PREPARATION AND IMPLEMENTATION ON AR

WEEK 3

Achievement:

Finished style guide to define the specs of future UI
Built an interactive flowchart, explaining the
operation of the AR app.

Challenge:

Visualisation of both vintage and cyberpunk styles
into UI design
Detailed suffixes such as motion and texture design

WEEK 4

Achievement:

Initial versions of demonstration video via both wireframes and alpha
(mockup) with After Effects
Built wireframes and mockups
Built a prototype based on wireframes
Deeper research on vinyl album knowledge and its community

Challenge:

Post-production in After Effects
Learning Cinema 4D & Unreal Engine as I'm completely new to both

WEEKLY PROGRESS

ASSETS, PREPARATION AND IMPLEMENTATION ON AR
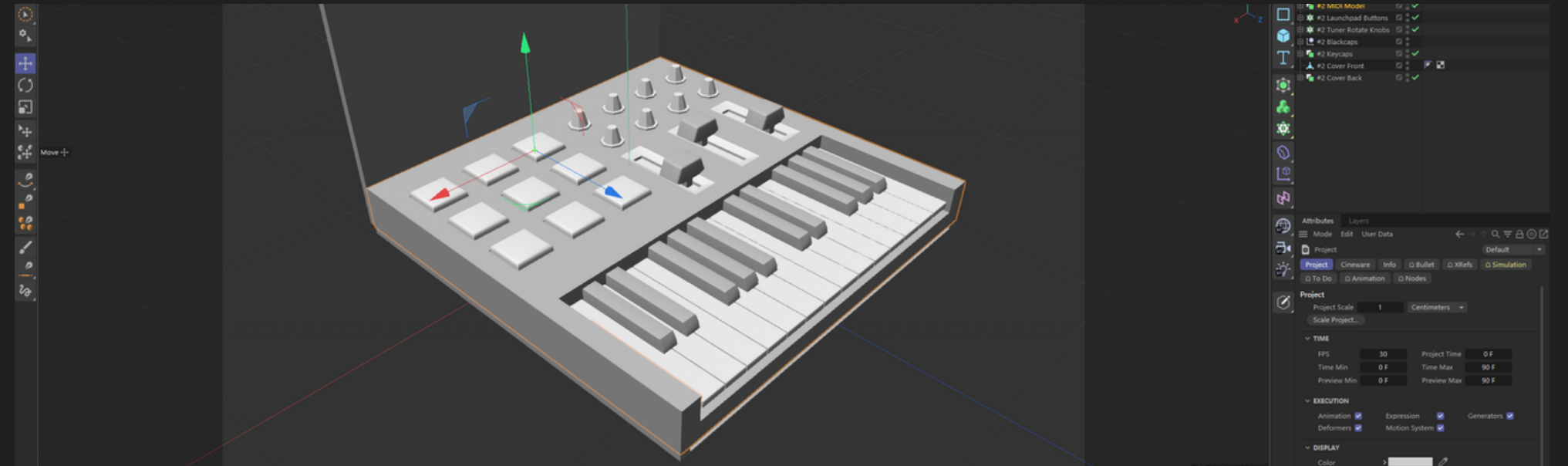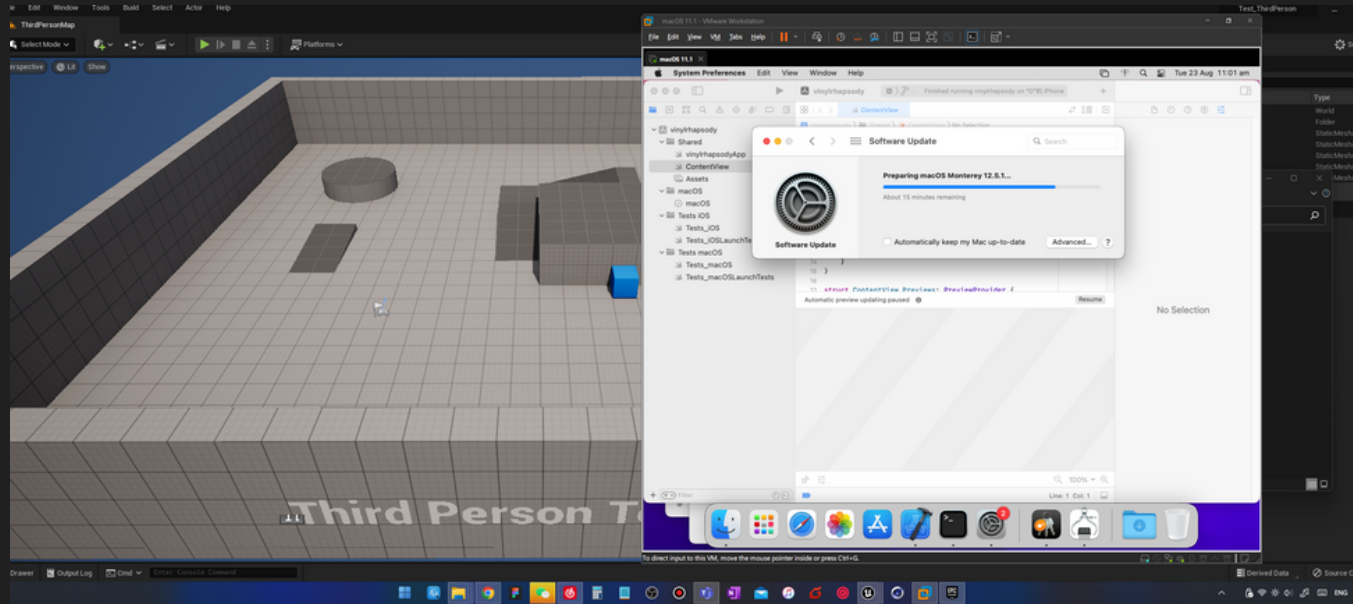
WEEK 5

Achievement:

Built 3 vinyl album variances on Cinema 4D

Checked on iOS build on Unreal Engine

The collaboration formed with Fynn Michlin & PuChengJian

Challenge:

Producing demos on After Effects

WEEK 6

Achievement:

Designed album artworks

UV wrapped the artworks on Cinema 4D

Checked the model and its animation on Adobe Aero

Further refinement on demo videos, cooler UI motions and details

Challenge:

Exporting the animation as .fbx seamlessly onto Unreal
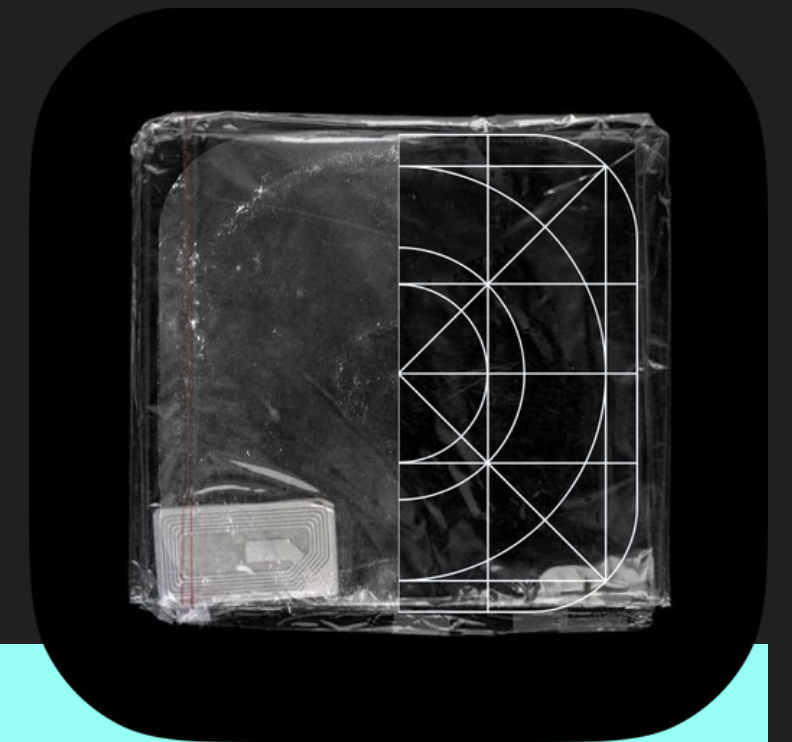
Texturing objects

ÖZKAN PİR, ESRA 2019, 'Nostalgic evolution of marketing: Retro Marketing,' The Journal of Social Science, vol. 3, no. 6, doi:10.30520/tjsosci.616780.

subdesign 2018, "Retro In a Modern Digital World.," Medium website, accessed August 22, 2022. https://subsign.medium.com/retro-in-a-modern-digital-world-c9e48f0429ce (not yet referred)

Scollurio 2019, "The Appeal of 'Retro,'" Medium Website, accessed August 22, 2022. https://scollurio.medium.com/the-appeal-of-retro-e9c6ba38e87d

Garreta Domingo 2020, "Dieter Rams: 10 Timeless Commandments for Good Design.," Interaction Design Foundation website, accessed 22 August, 2022. https://www.interaction-design.org/literature/article/dieter-rams-10-timeless-commandments-for-good-design (not yet referred)

Tremosa 2022. "Top 10 UI Trends Every Designer Should Know," Interactive Design Foundation website, accessed 22 August, 2022. https://www.interaction-design.org/literature/article/top-10-ui-trends-every-designer-should-know (not yet referred)

REFERENCE