UI / UX DESIGN

An Industrial Internship Report

Submitted in partial fulfillment for the award of the degree of

B.Tech

in

Information Technology

by

VIKRAM ST **21BIT0235**

April 2024

DECLARATION BY THE CANDIDATE

I hereby declare that the internship report entitled "**UI / UX DESIGN**" submitted by me to **School of Computer Science Engineering and Information Systems (SCORE)** Vellore Institute of Technology, Vellore in partial fulfillment of the requirement for the award of the degree of **B.Tech (Information Technology)** is a record of bonafide **Industrial Internship – (BITE399J)** work carried out by me. I further declare that the work reported in this **Industrial Internship report** has not been submitted and will not be submitted, either in part or in full, for the award of any other degree or diploma in this institute or any other institute or university.

Place: Vellore

Signature of the Candidate

Date:

VIKRAM ST

VIT®

Vellore Institute of Technology

(Deemed to be University under section 3 of UGC Act, 1956)

School of Information Technology & Engineering [SITE]

CERTIFICATE

This is to certify that the Industrial Internship report entitled **"UI / UX DESIGN"** submitted by **VIKRAM ST 21BIT0235** to School of Information Technology & Engineering, Vellore Institute of Technology, Vellore in partial fulfillment of the requirement for the award of the degree of **B.Tech (Information Technology)** is a record of bonafide **Industrial Internship – (BITE399J)** work carried out by **MR. SATHEESH KUMAR** in **MALLOW TECHNOLOGIES** . The **Industrial Internship** project fulfills the requirements as per the regulations of this Institute.

Examiner – Panel In-Charge **Date**

(Name and Signature)

COPY TO BE ENCLOSED HERE

MALLOW TECHNOLOGIES
PRIVATE LIMITED

Certificate of Internship

Wednesday, 4th Oct 2023

To Whomsoever It May Concern

This is to certify that **VIKRAM ST** has attended the Design(UI/UX) platform internship program from 1st Sep 2023 to 30th Sep 2023 at Mallow Technologies Private Limited.

We wish his every success in his life and career.

Warm Regards,

MALLOW TECHNOLOGIES PRIVATE LIMITED KARUR-1

Authorised Signature
Mallow Technologies Private Limited.

Regd.Office : S.F. No : 535, Salem Bypass Road, Semmadai, Karur-639006.

Admin. Office : No.62, Vivekananda Nagar Main Road, Senguntthapuram, Karur - 639001.

CIN : U72900TN2010PTC077262

Website : www.mallow-tech.com / E-mail : contact@mallow-tech.com

ACKNOWLEDGEMENT

I would like to extend my heartfelt gratitude to **Vellore Institute of Technology** And **Mallow Technologies** for providing me with invaluable opportunities and timefor growth and learning.

To the team at **Mallow Technologies**, I am immensely grateful for the opportunity to be part of your organization. Your mentorship, feedback, and encouragement have significantly contributed to my professional development.

I would also like to express my appreciation to all the members **Mallow Technologies**. Your expertise, camaraderie, and collaborative spirit have made my internship experience enriching and fulfilling.

Thank you for believing in my potential and for being instrumental in my growth both academically and professionally.

With sincere gratitude,

VIKRAM ST

TABLE OF CONTENTS

The contents of the table may vary from ONE REPORT to ANOTHER REPORT. However it has to be covered in a broader view.

TABLE FORMAT

1. Starting with UI / UX Design (Introduction) :

UI (User Interface) design focuses on the visual elements of a digital product, such as buttons, icons, and layout, to create an attractive and intuitive interface.

UX (User Experience) design concentrates on optimizing the overall experience users have with the product by understanding their needs and behaviors, ensuring ease of use and satisfaction.

Both UI and UX design are crucial for creating successful digital products that meet user needs and expectations.

1.1 Sketching

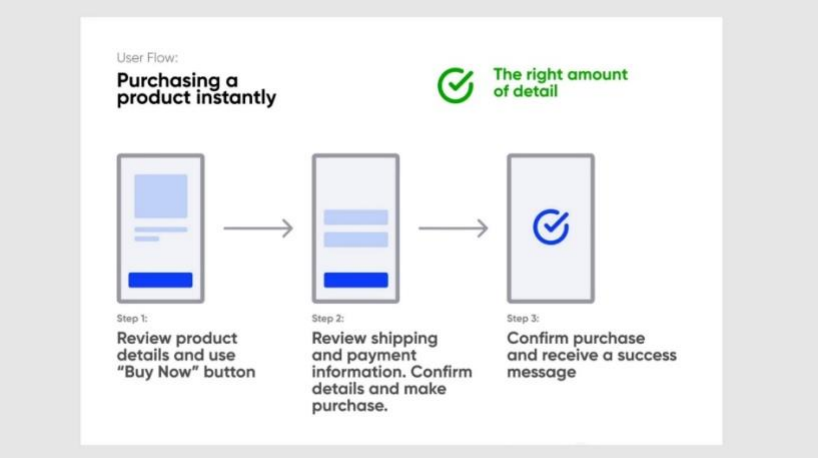
In UI/UX design, sketching is a process of drawing out user interface ideas before moving into the design process. It can be done with a pen and paper or with online tools.

1.2 Inspiration

- Talk to your peers and the people you work with. This can spark ideas and help you figure out design challenges.
- Study how other designers work and get to their solutions. Start a collection of great techniques to build your projects off of.
- Keep inspiration around you by surrounding yourself with great design.
- Your desk and computer screen can help or hurt your work flow depending on how you have it set up. Make it work best for you.
- Read a variety of topics to keep educated in your field. Knowing about other areas can sometimes help you to approach a problem from a different perspective.

1.3 User flows

A user flow shows the steps a user takes to achieve a goal. Sketching these flows is intended to communicate the steps the user takes through different screens and actions. They should include a name, step number, and type of user for each flow.



2. Explore and iterate your ideas

2.1 Wireframes

Wireframes provide a blueprint to your product by detailing information that is displayed on each page, providing an outline and structure to the product, and describing the direction and message of your product. It is a way to use everything you've created up to this point to really start putting the site together.

Wireframes will help you better understand how users will navigate through your product and make sure there are efficient pathways. This always uncovers pain points and places where you can improve the user experience of your product. Wireframes are also a great way to get feedback from clients. The earlier you can find and fix issues, the easier it will be once we get to the final product.

2.2 Prototyping

This is the stage where you can start to bring the product to life. Even when you don't have full designs yet! Using a tool like Figma you can join together the screens mapped out in your user flows so that you can easily communicate with your team and/or your client how the design has evolved and how different actions may affect the design.

For example, if you design a landing page with a sign up flow, how could the landing page change to show that the user has signed up? Ideally you should think about these possibilities earlier in the design process but this is when they'll become easier to fully demonstrate.

2.3 Get feedback

Getting feedback throughout the design process is a great way to help find potential issues. Finding these issues earlier in the process can make the whole project be more efficient and better for users in the long run.

There are two types of feedback that can impact your design, constructive and destructive.

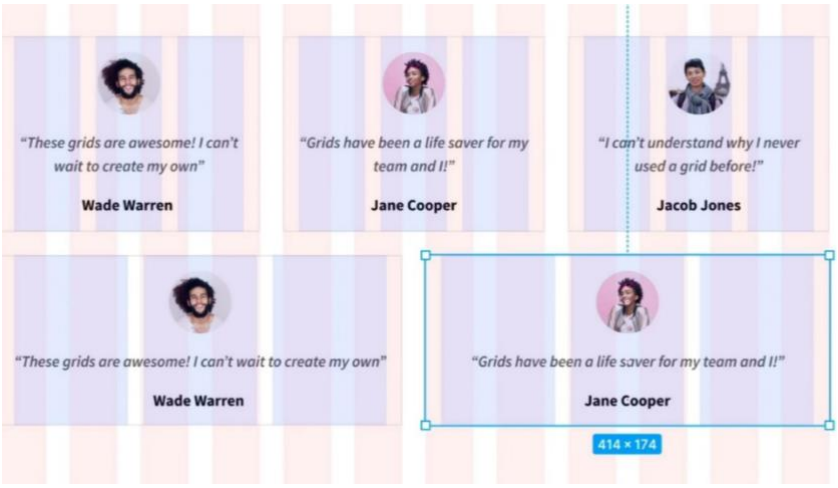
Constructive feedback can be positive or negative, but will still aid in the design process.

Destructive feedback impedes the design moving forward. It is mostly caused by asking users the wrong questions or by misleading them. Clients can even go off on a tangent that is not relevant to the current stage of the design process.

3. Design and fundamental Theory

3.1 Grids

Always start with the basics. In this case, base units. The base units are going to define what every other unit is based off of. They make the whole design easier to scale and handoff. The base unit that is the most recommended is 8px because most screen sizes are divisible by 8 and its divisible itself. All other UI elements should be in increments of the base unit.



Grids are made up of 3 elements :

Columns:

Refers to the vertical divisions within a layout, organizing content into separate sections or areas.

Gutters:

Spaces between columns or elements, providing visual separation and improving readability.

Margins:

The spaces around the outer edges of a layout or between elements, creating breathing room and visual balance.

3.2 Layouts

Using multiple types of grids together can help balance and visually enhance your design, but once you get your grids on a page, there are still more choices to make.

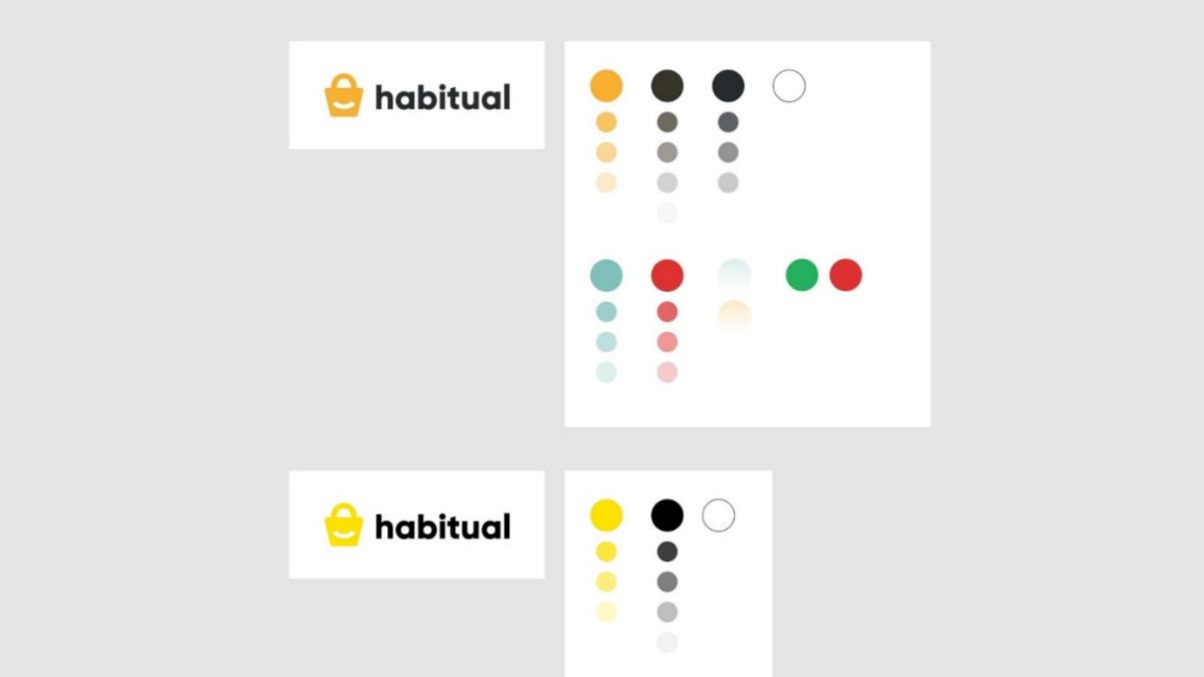
The responsive part of the grid comes with choosing between fixed, fluid, and adaptive grids. Fixed layouts will stay the same no matter what the screen size. Fluid layouts will stretch and shrink with your content. Adaptive layouts will change to use different grids depending on the screen size it is at. By using breakpoints, you are able to change the design of the page for different screen sizes.

3.3 Color

Before choosing colors, ask yourself what message does the brand want to communicate or what problem is it trying to solve. Colors can really influence the personality of the brand.

Another thing to look at is who the target users are. Knowing the demographic of the users and if there are cultural influences can really help in choosing the right colors. Think about what the colors mean to you as well. The psychology of color is a powerful tool that shapes how we perceive the world.

Colors should be able to be scaled or added to, by having a mini monochromatic palette within each color. You can add depth to your blacks and greys by adding in hints of the brand colors. Sometimes black comes off as too harsh if left untouched.



3.4 Color Schemes

Color schemes help us to create harmony and evoke feeling in our design.

- **Monochromatic** schemes pull from one primary color and use different shades of that color. It is the simplest and least distracting color scheme.
- **Analogous** takes three adjacent colors from the color wheel to comprise it. This creates a very blended, simple color palette.
- **Complementary** schemes use colors that are directly across from each other on the color wheel. This gives high contrast and can make a design feel brighter and more prominent.

- **Split-complementary** starts with one color and takes the two colors adjacent to the color opposite the first. It's similar to complementary in that it's bright, but gives more versatility.
- **Triadic** creates a triangle on the color wheel where each color is exactly 120° from each other. It is a little less contrast than complementary, making it more versatile. The palettes are bold and vibrant.
- **Tetradic** is the last color scheme. It uses four colors that are evenly spaced on the color wheel, but can be difficult to get right. More colors makes it harder to balance, sticking with three or less is usually the best option.

3.5 Typography

Typography means the style and appearance of our text. There are a few types to choose from and combining these together correctly can be a great way to enhance your design. Serif is a traditional typeface with serifs, or tails, at the edges of the letters. Serifs have many different types just within that style. Here are just 4 of them:

- Display typefaces are the broadest and include the most variation between them. They are typically used only in headlines or shorter copy to draw attention to it.
- Script typefaces can resemble handwriting in the cursive style. They are very fluid and have two basic classifications, formal and casual.
- Mono is the final typeface style. It is a fixed-pitch, or fixed-width, font where each letter takes up the same amount of space. Typically used for code blocks or places where the content needs to look more technical.

3.6 Choosing a Typeface

- When working for a client, you may have a limited choice of fonts you can use. Thinking about adjusting the line height, increasing the spacing of the letters, or using different font weights can really change the look and feel of a single font.

- There is also the possibility of too many choices. When presented with lots of options, try to narrow down your options by thinking about the brand it is representing. What are the goals of the product? Are they more traditional or more modern? What platform is it centred on?

- A good tip is to go to Google Fonts and type in a heading and just visually see what looks the best. Choose a few that you think look good, download them, and try them out with some mockups.

4. Types of Accessibilities

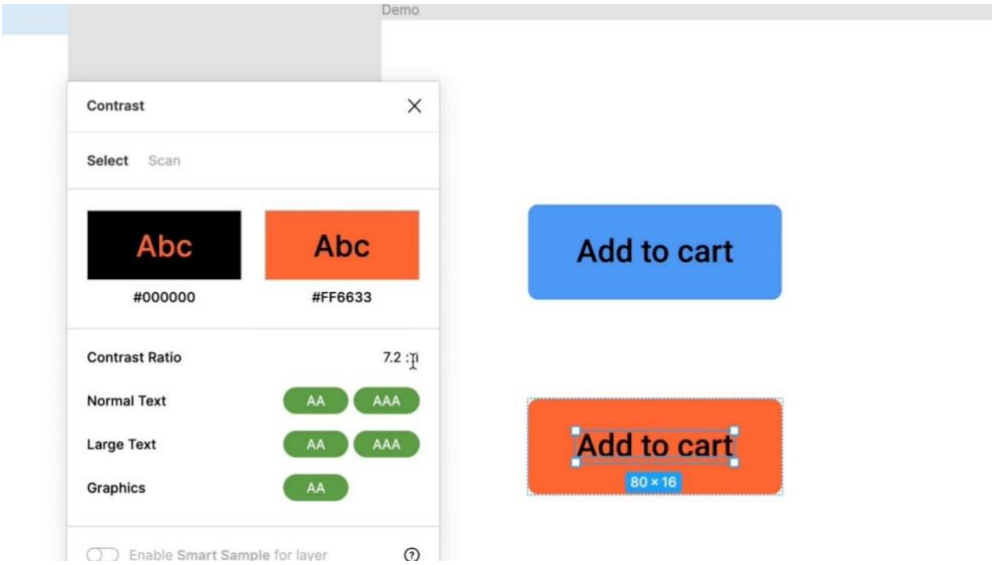
As designers, the products that we create should be usable by everyone. If just one person can't use your design, then you have failed them in a sense. This is the process of accessibility, making things accessible to all people.

4.1 Assistive technologies

- **Screen readers:** A program that reads the content of a web page created for visually impaired users.
- **Screen magnifier:** Enlarges a portion of the screen that the user hovers over.
- **Alternate Input Devices & Software:** These include voice and push buttons that control the actions on the computer.

4.2 Visual patterns

Color Safe is a great place to start for picking accessible colors if you have not chosen a color palette. However, if you already have brand colors you need to work with, Colorable is a great site to ensure they are compliant to the contrast ratios. Google has a tool as well called the Color Contrast Analyzer that you can run the website through to test.

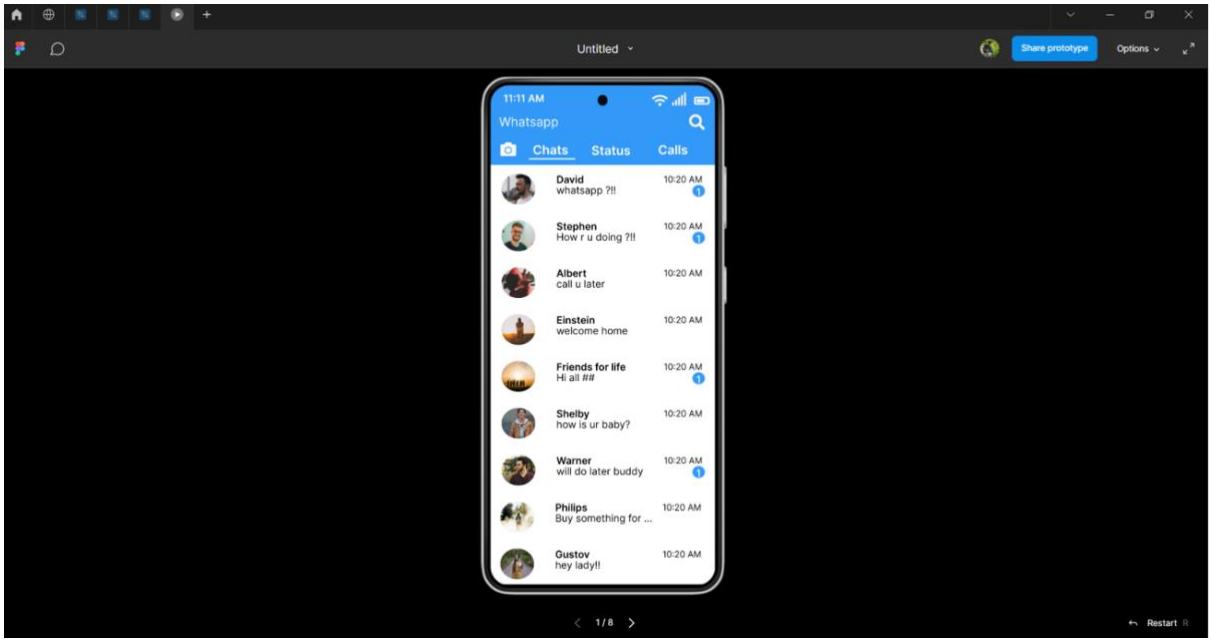


4.3 Mobile Design

Having a great user experience in an app is key to having a successful product. You want to make sure users don't have to think too much to use the product. If areas of the app are too hard to use or understand, customers may give up.

One way to do this is to declutter the unnecessary content and make sure only the important information remains. Keep the interface clean and minimal and break longer content and tasks into chunks.

When designing forms you can really help users by pre-formatting input fields for better readability, implementing auto-completion, and displaying correctly placed hints throughout the task.



5. Atomic Design

Atomic design is a design system that breaks down a design into five stages: Atoms, Molecules, Organisms, Templates, Pages.

- In Figma, you can use symbols called components to build objects that can be combined in any way. Changes made at the atomic level will propagate to all molecules and organisms.
- For example, an empty button is an atom in design. It's a simple rectangle with rounded corners.

5.1 Stages in Atomic Design

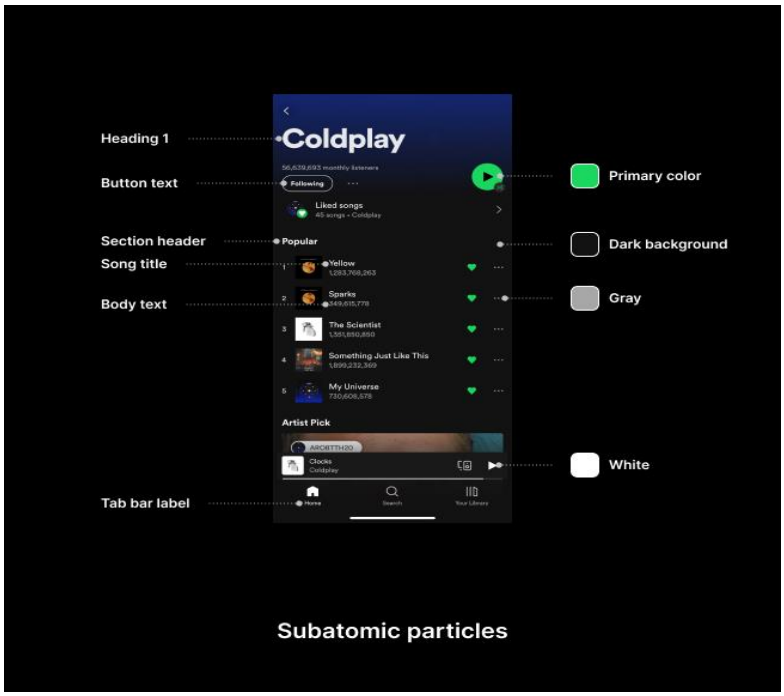
The five stages of atomic design are: Sub-Atomic, Atoms, Molecules, Organisms, Templates, Pages.
The Atomic Design methodology works by separating design systems into these six stages.

1. Subatomic particles
2. Atoms
3. Molecules

4. Organisms
5. Templates
6. Pages

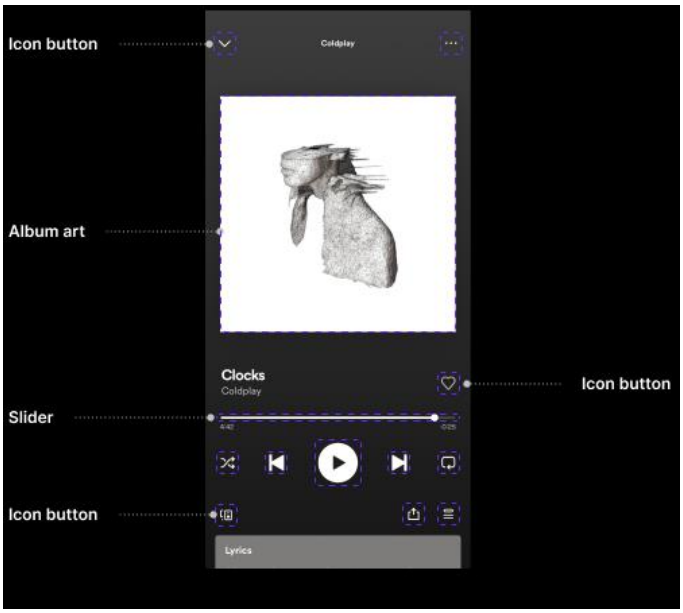
5.2 Subatomic particles

The subatomic particles would be the bare-minimum foundational elements you'd need for all your components. These consists of elements like your color palette, typography, shadows, and spacing. If you're familiar with the Lightning design system by Salesforce, you can think of these as design tokens created by Anjali. I reference her quote here in which she explains these tokens, sub-atomic particles, style guides, or whatever you prefer.



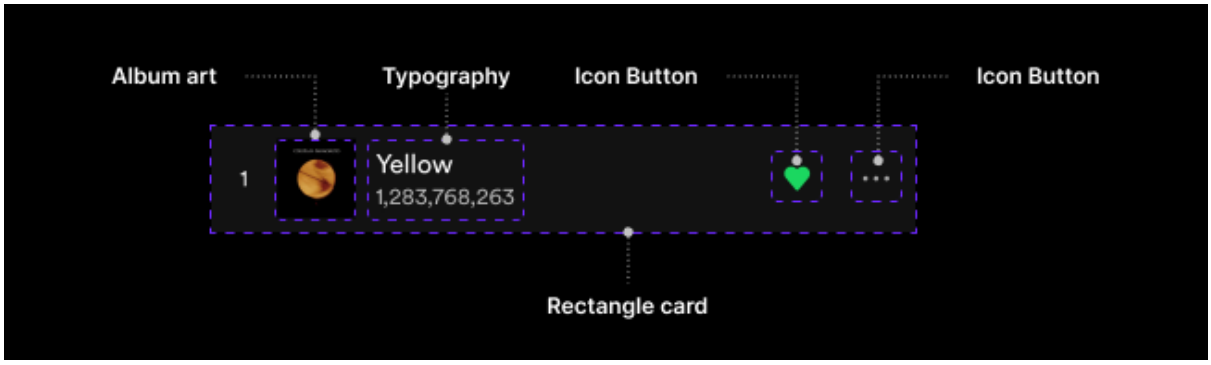
5.3 Atoms

Now that you've laid down the foundation, it's time to focus on the Lego blocks of your interfaces. Like chemistry, atoms in design systems are the smallest elements that cannot be broken down further. These include things like buttons, input fields, switches, etc. Like legos, you can combine these components to build bigger, better things.



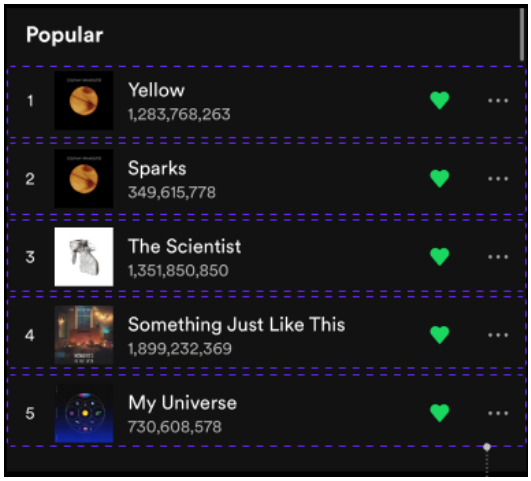
5.4 Molecules

Molecules that are combinations of multiple atoms. A great example I can think of in this case would be the card element; it usually would consist of an image block, some text, and a call-to-action button. The atoms that these cards consist of, exist independently, but when combined, we get a molecule that is slightly more advanced and has more layers of complexity.



5.5 Organisms

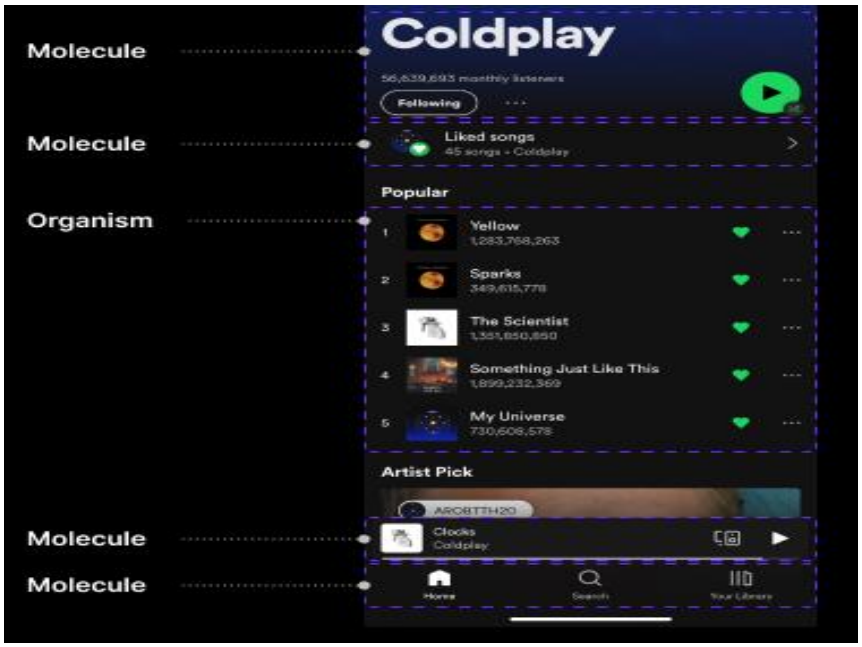
These are the highest complexity levels of any given interface component. Organisms can be tricky to identify because they consist of multiple molecules; sometimes, these are entirely different, and sometimes the same molecules are repeated multiple times. The header, menu bar, data grids commonly defined organisms in most design systems I've interacted with. In the case of Spotify, we can see how the popular section consists of multiple music title molecules.



5.6 Templates

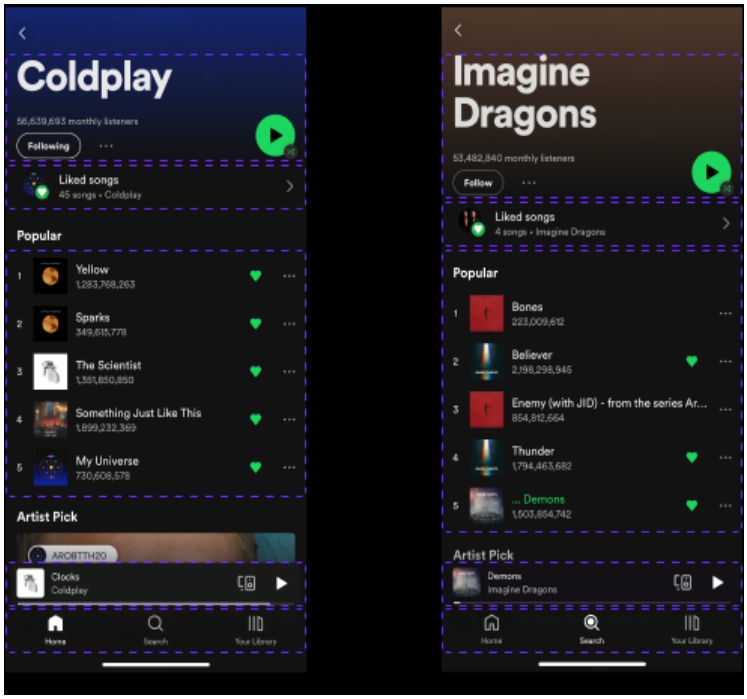
Now that we've defined all our components, it's time to specify the structural layout of the interface itself. Templates in design systems help define a standard page layout across multiple pages with similar functionality. Put simply,

templates are standardized layouts for organizing atoms, molecules, and organisms across your product.



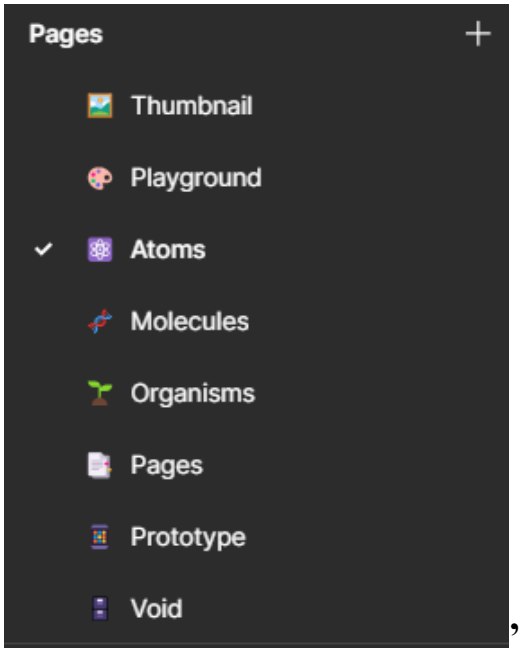
5.7 Pages

I like to think of templates as the skeletal structure and pages as the flesh on top. Pages in atomic design are instances of templates in your user interface but in high fidelity. Pages are what your users will see in the finished product. Pages take on multiple template forms and help designers think about the different states our base atoms and molecules would acquire. Using Spotify's example again, let me illustrate how that happens.

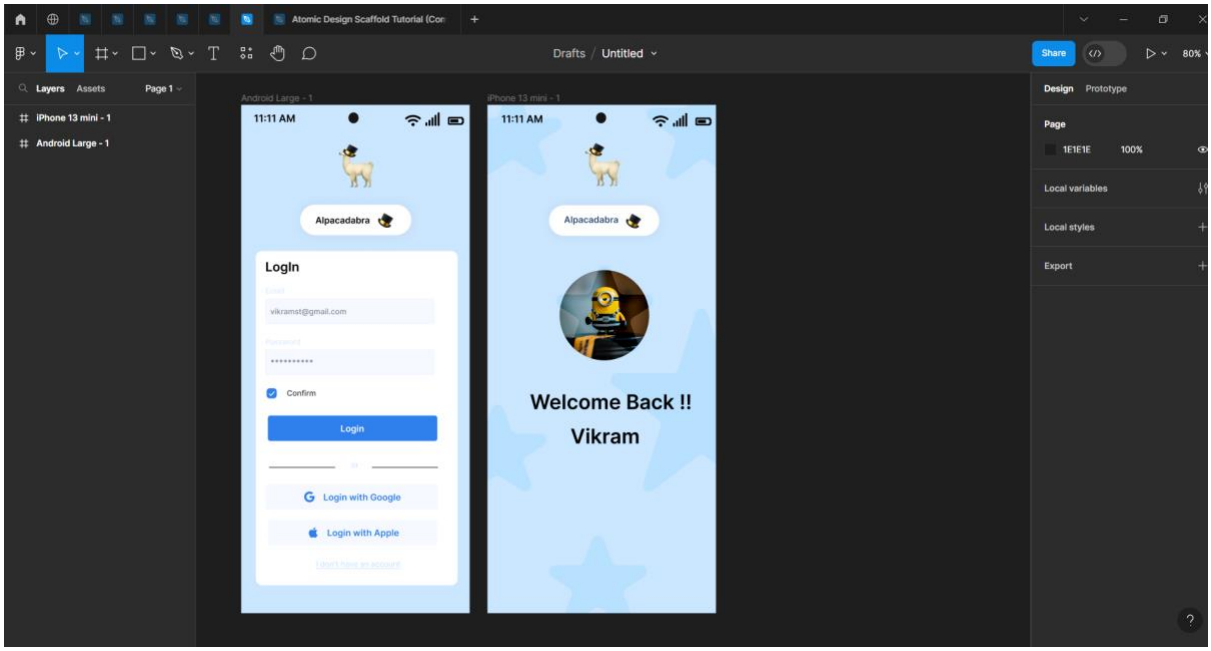


6. Projects done Atomic Design Models :

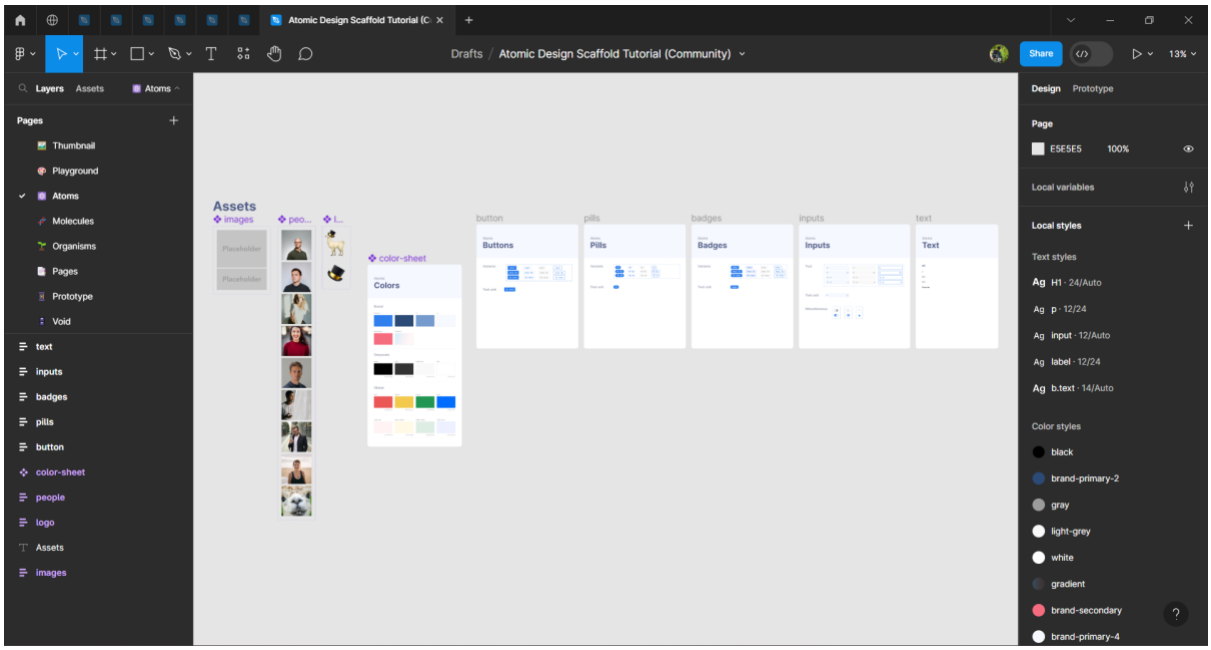
6.1 Pages



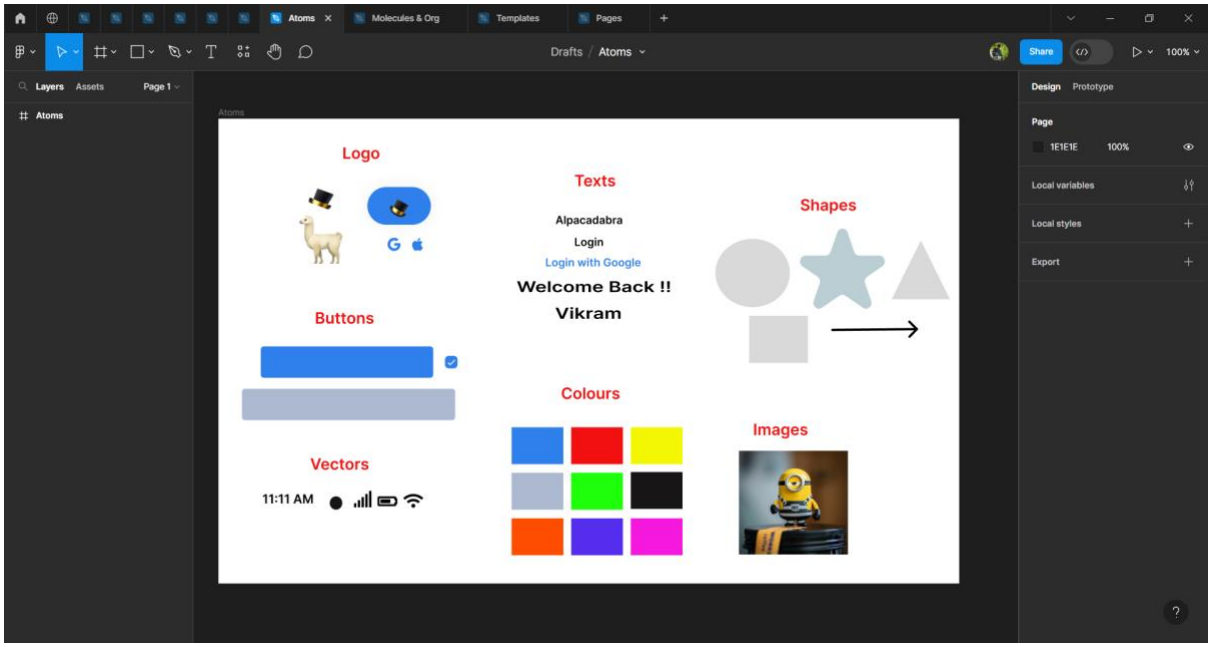
,



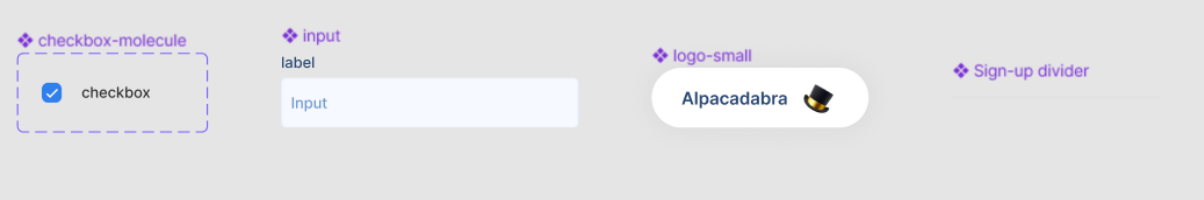
6.2 Atoms or Sub – Atomic Particles :



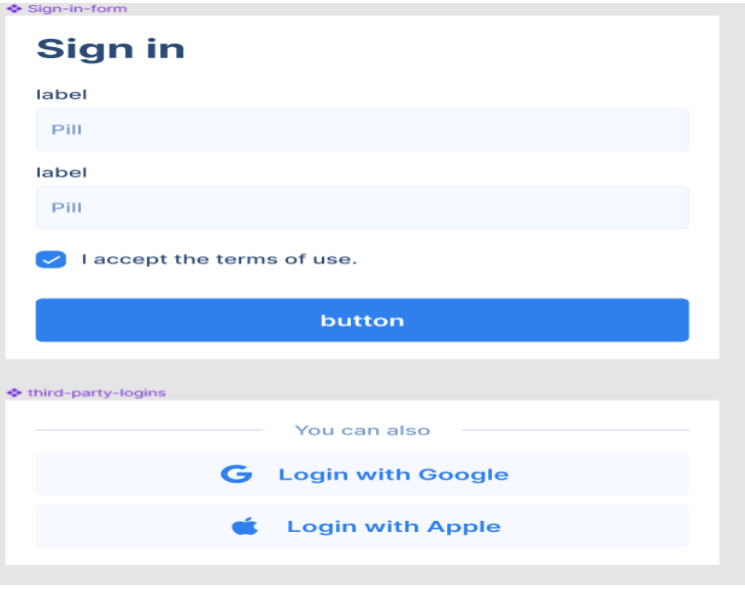
6.3 Layers



6.4 Molecules



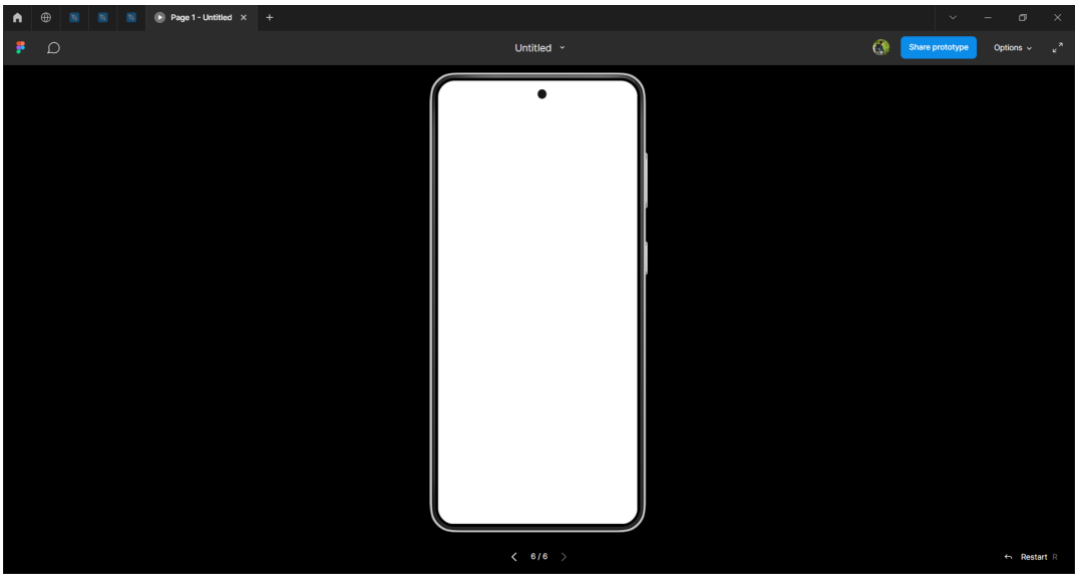
6.5 Organisms :



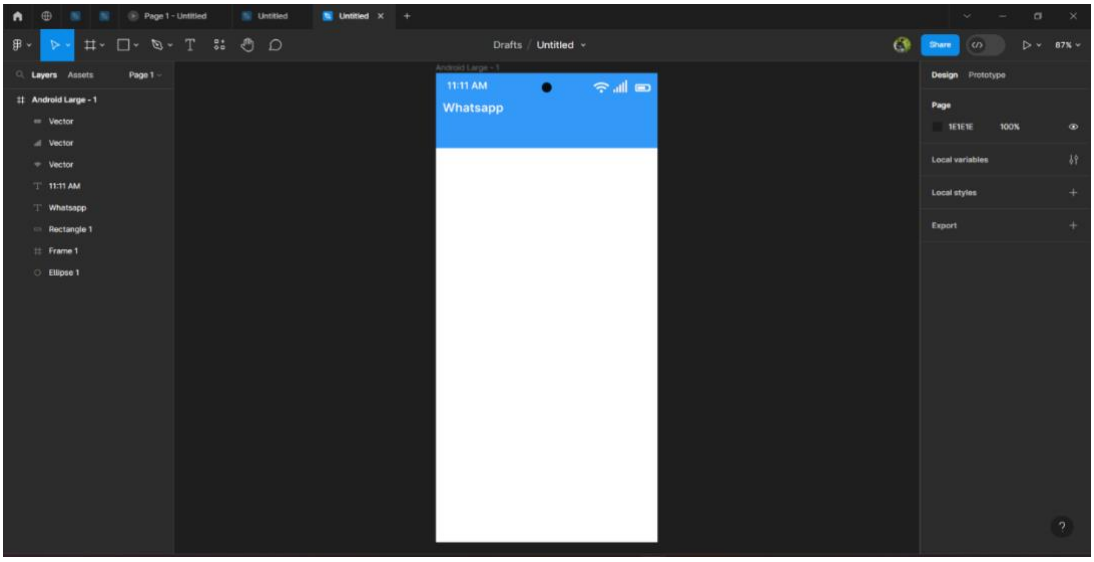
7. Projects done using UI / UX Design :

7.1 Project – 1 : WhatsApp UI

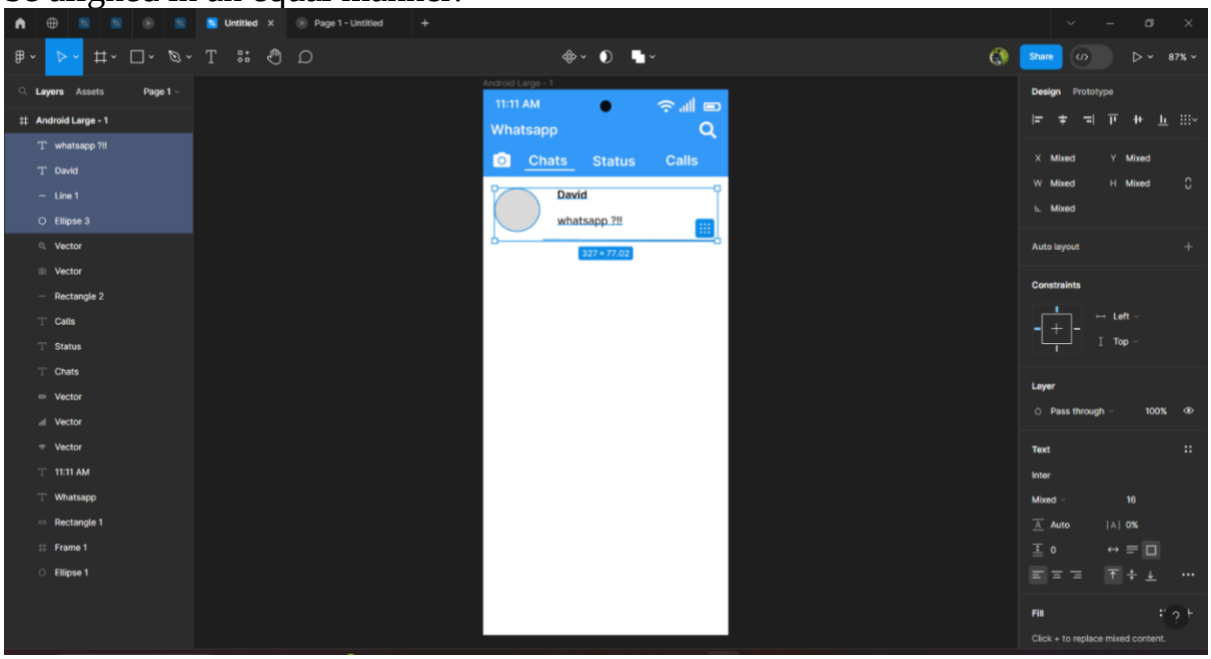
Step : 1
Creating a frame i.e choosing the Device model

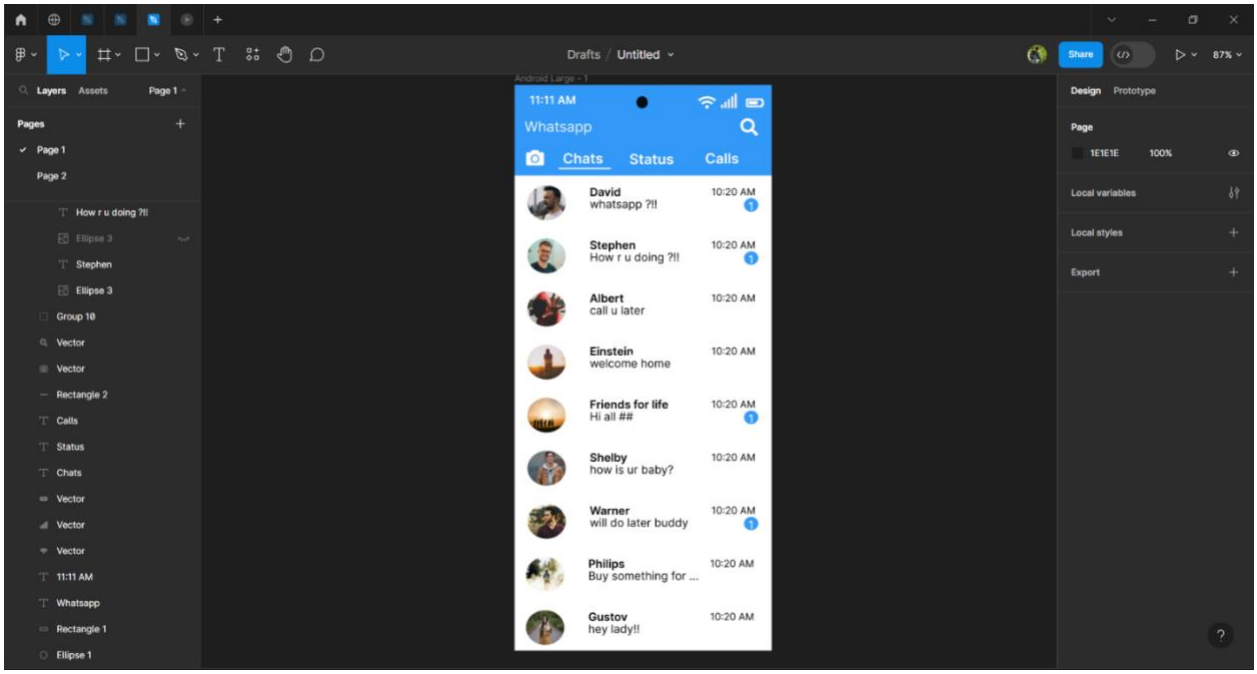


Step : 2
Creating a rectangular frame

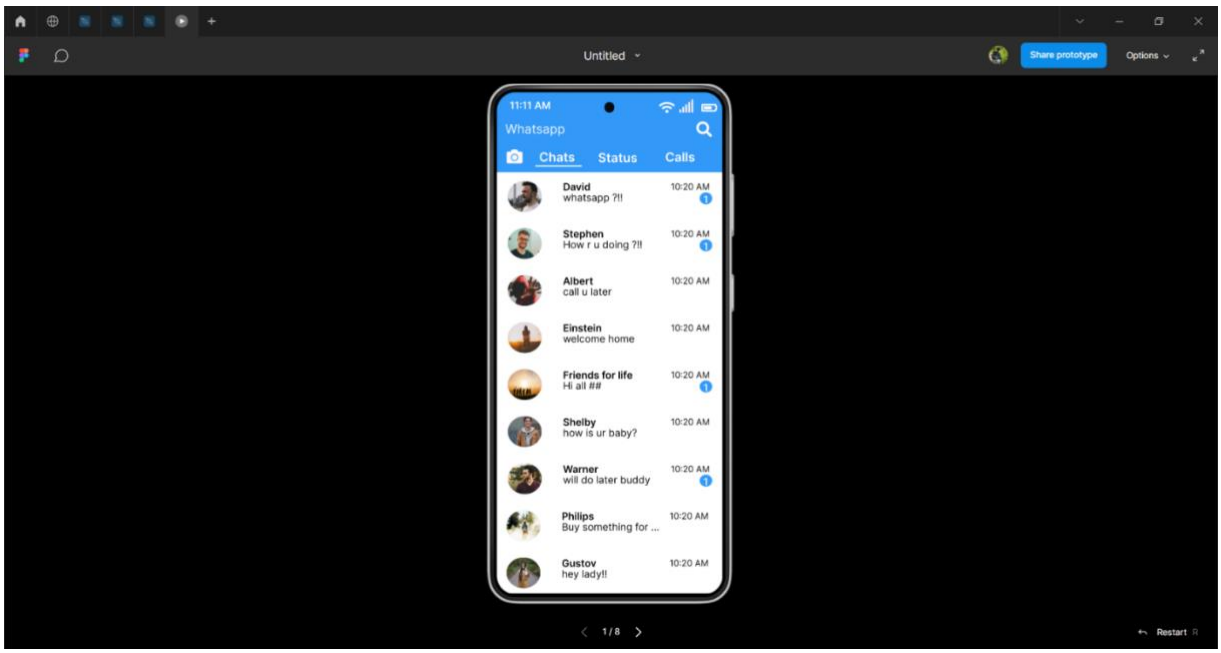


Step 3 :
Contact lists using eclipse , last seen using text , chats and name (text). It should be aligned in an equal manner.



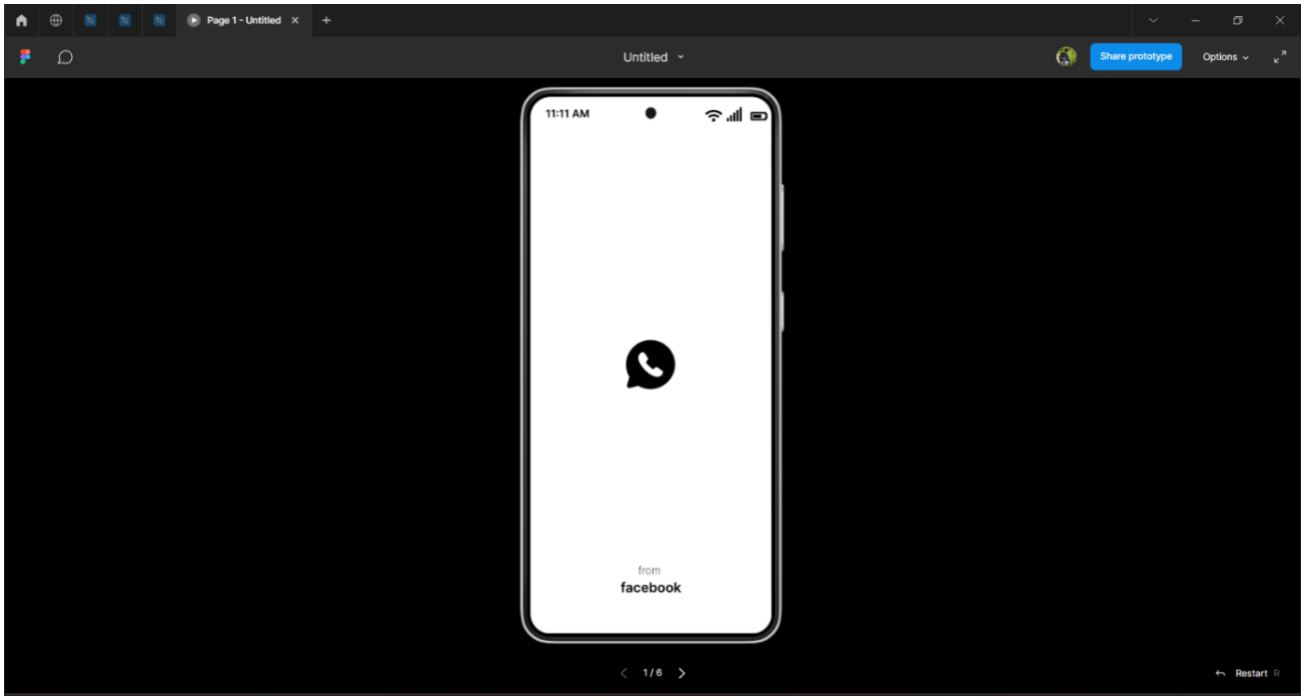


The Final Output :

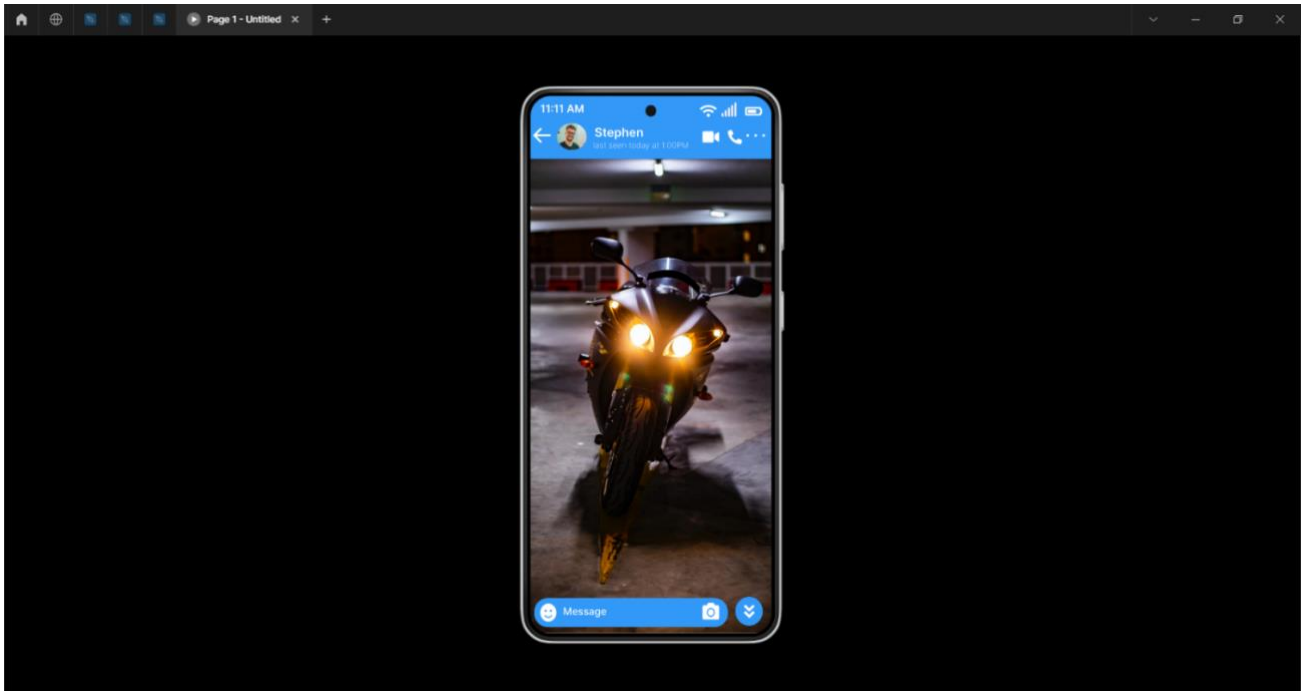


Additional UI pages in WhatApp such as opening , chat page etc …

Welcome Screen :

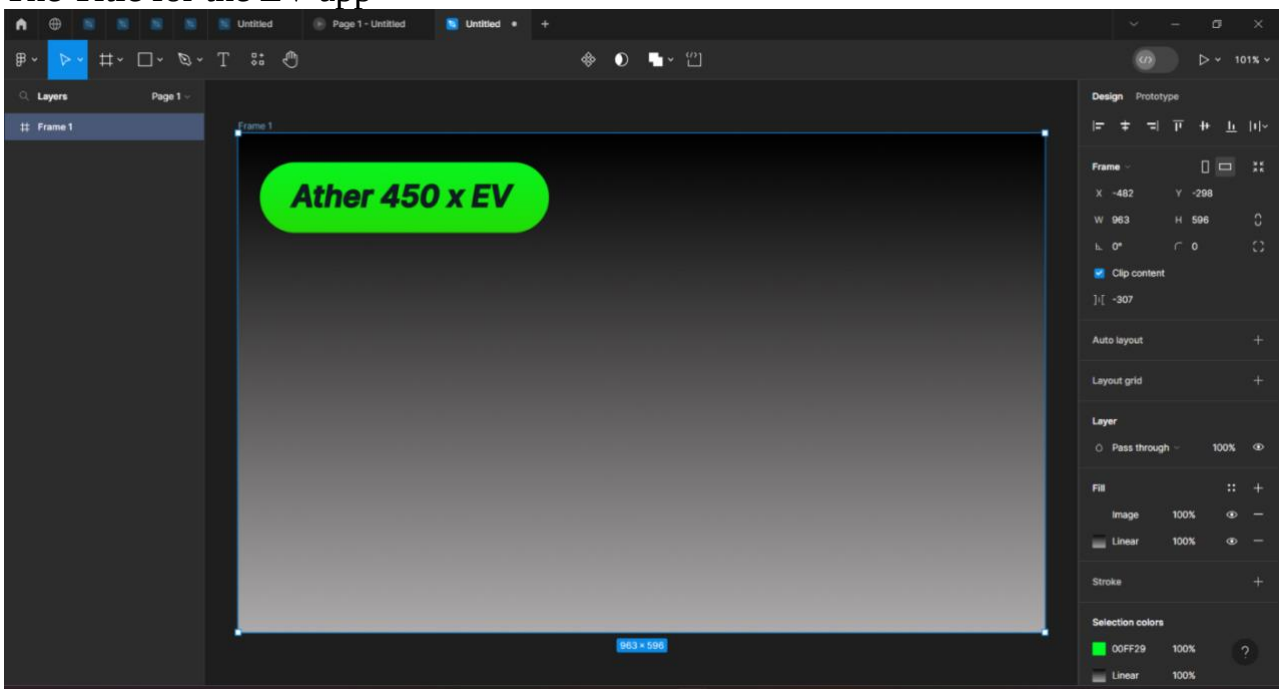


Chat Page :

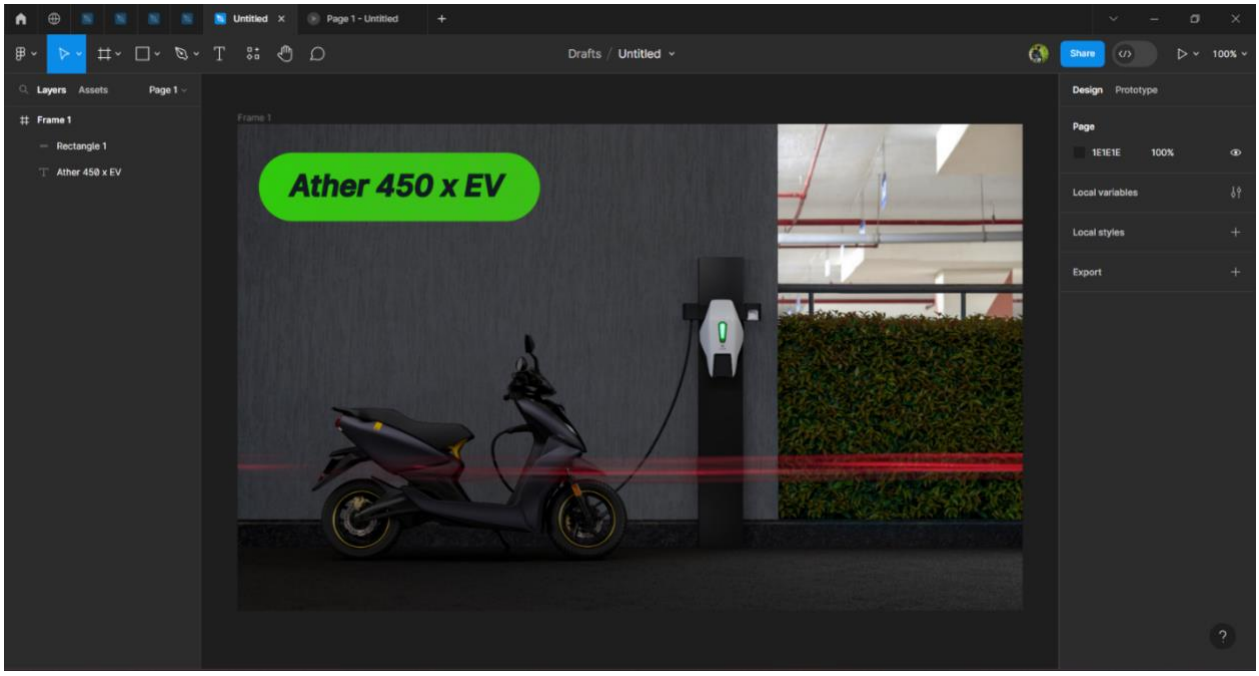


8 . EV Vehicle App :

The Title for the EV app



Paste an Background image :



Giving the quote with Double Gradient colour :