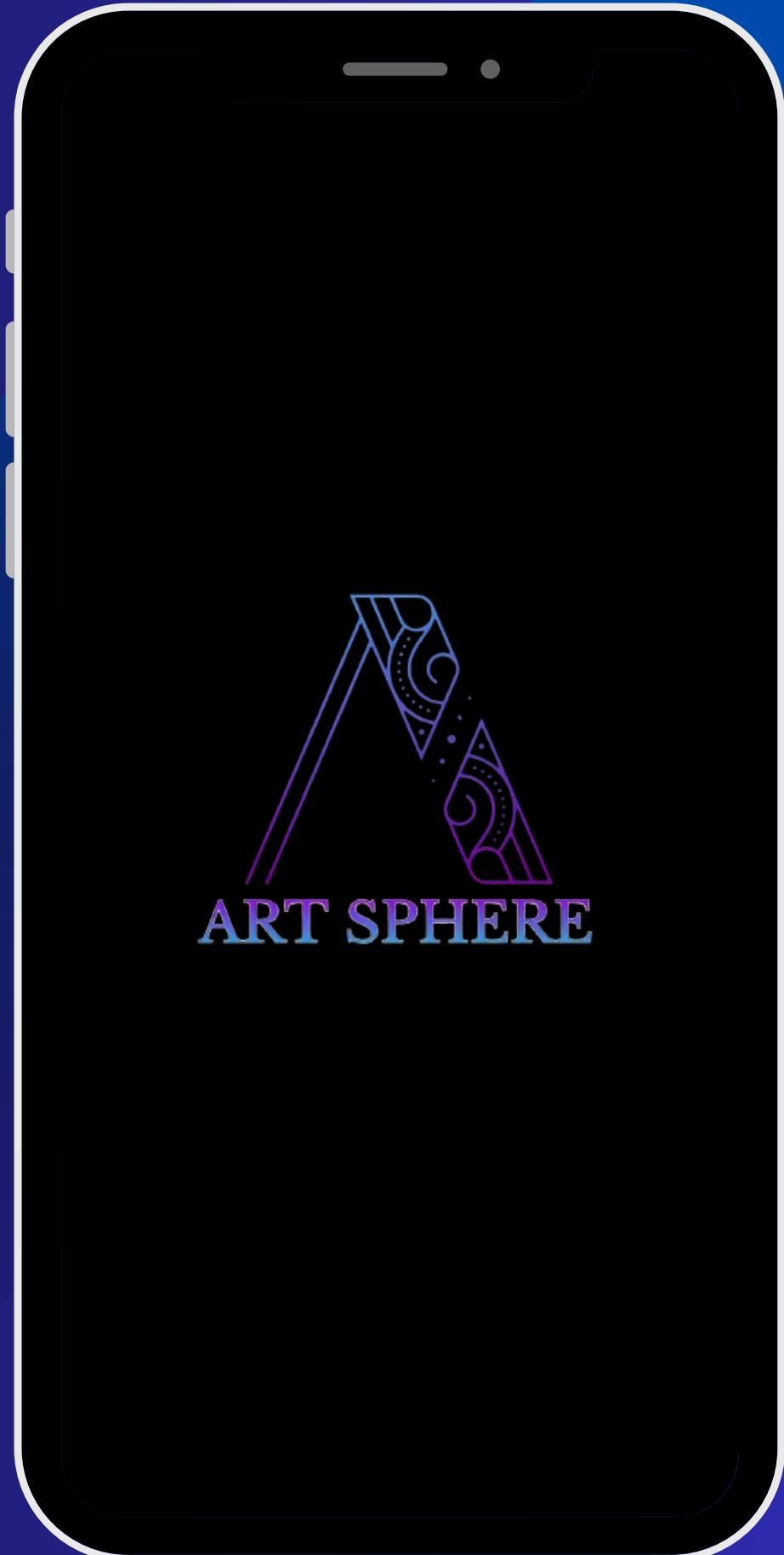
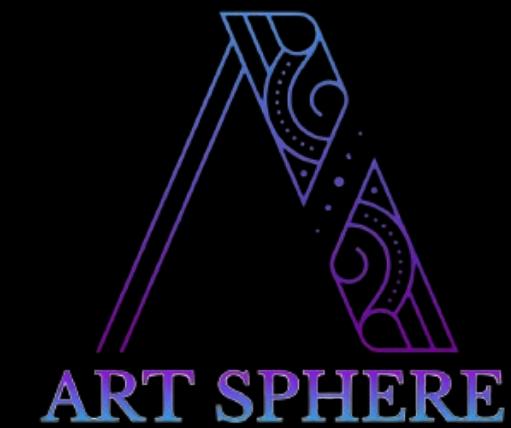




TEAM ID  
C241-PS168

# ART SPHERE

Inspiring Through Art, Building Global and Connecting the Universe



# TEAM MEMBER



Kampus  
Merdeka  
INDONESIA JAYA



Riezky Arif Fadhilah  
(CC) – C009D4KY0016



Rifki Alfares  
(CC) – C200D4KY0144



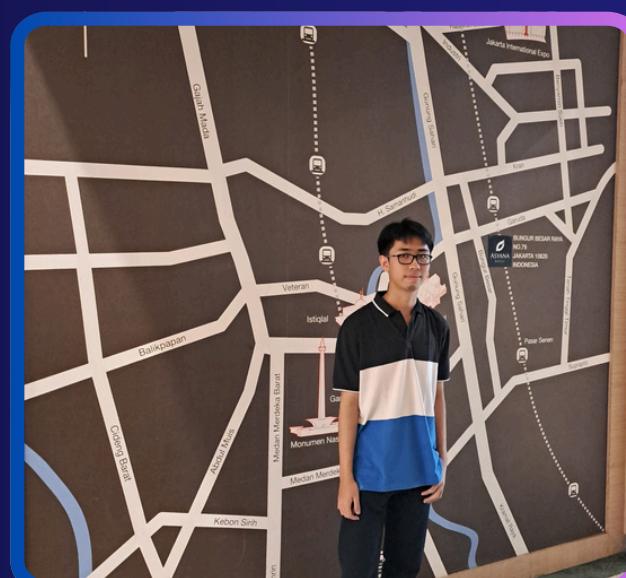
Fahri Zaki Mubarok  
(MD) – A009D4KY4067



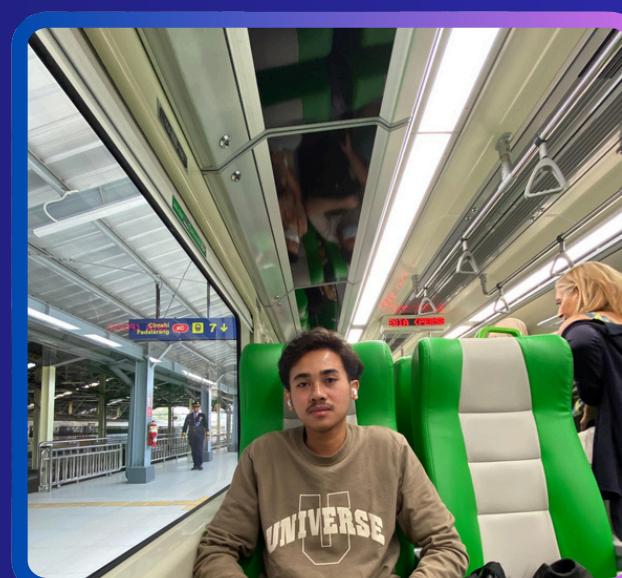
Gilang Adi Sutanto  
(MD) – A009D4KY4079



Firman Aji Ardiansyah  
(ML) – M262D4KY2253



Mohammad Bagus Chalil Akbar  
(ML) – MO05D4KY3042



Muhammad Khatami  
(ML) – M118D4KY2861

# ART SPHERE **BACKGROUND**



Art is a creative expression involving the use of various media to convey ideas, emotions, or experiences, creating visual or auditory beauty, and offering new perspectives on the world. Throughout history, art has served as a powerful tool for communication, cultural expression, and even social transformation, enriching everyday life with entertainment, inspiration, and opportunities for self-reflection. The Ministry of Education and Culture (Kemendikbud) noted that as of 2020, 1,239 cultural works have been designated as intangible cultural heritage of Indonesia, including performing arts, oral traditions and expressions, customs, natural knowledge, crafts, and celebrations.

# ART SPHERE **REASON**



The problem we aim to address is the lack of platforms capable of accommodating and promoting various forms of art, both local and international, and providing due recognition to lesser-known artists.

Our solution is to create ArtSphere, a platform that offers space for diverse forms of art, from modern to traditional art. By focusing on user interests and effective marketing strategies, we aim to increase public awareness of the art world. Through ArtSphere, we envision building a dynamic community that not only broadens the understanding and appreciation of art among the general public but also provides the necessary recognition and support for dedicated artists.

# EXISTING RESULT

THERE ARE SEVERAL SIMILAR APPLICATIONS



iWareBatik



Pinterest

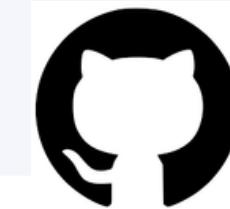
DISADVANTAGES: LACK OF HYPE REGARDING SOCIAL MEDIA CONTENT,  
BUT ARTSPHERE WILL HAVE IT

# DEPLOYMENT TOOLS

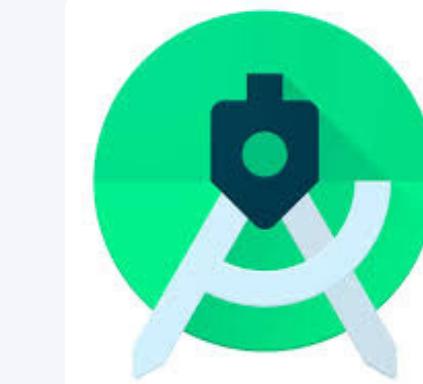
Machine  
Learning



Cloud  
Computing



Mobile  
Development



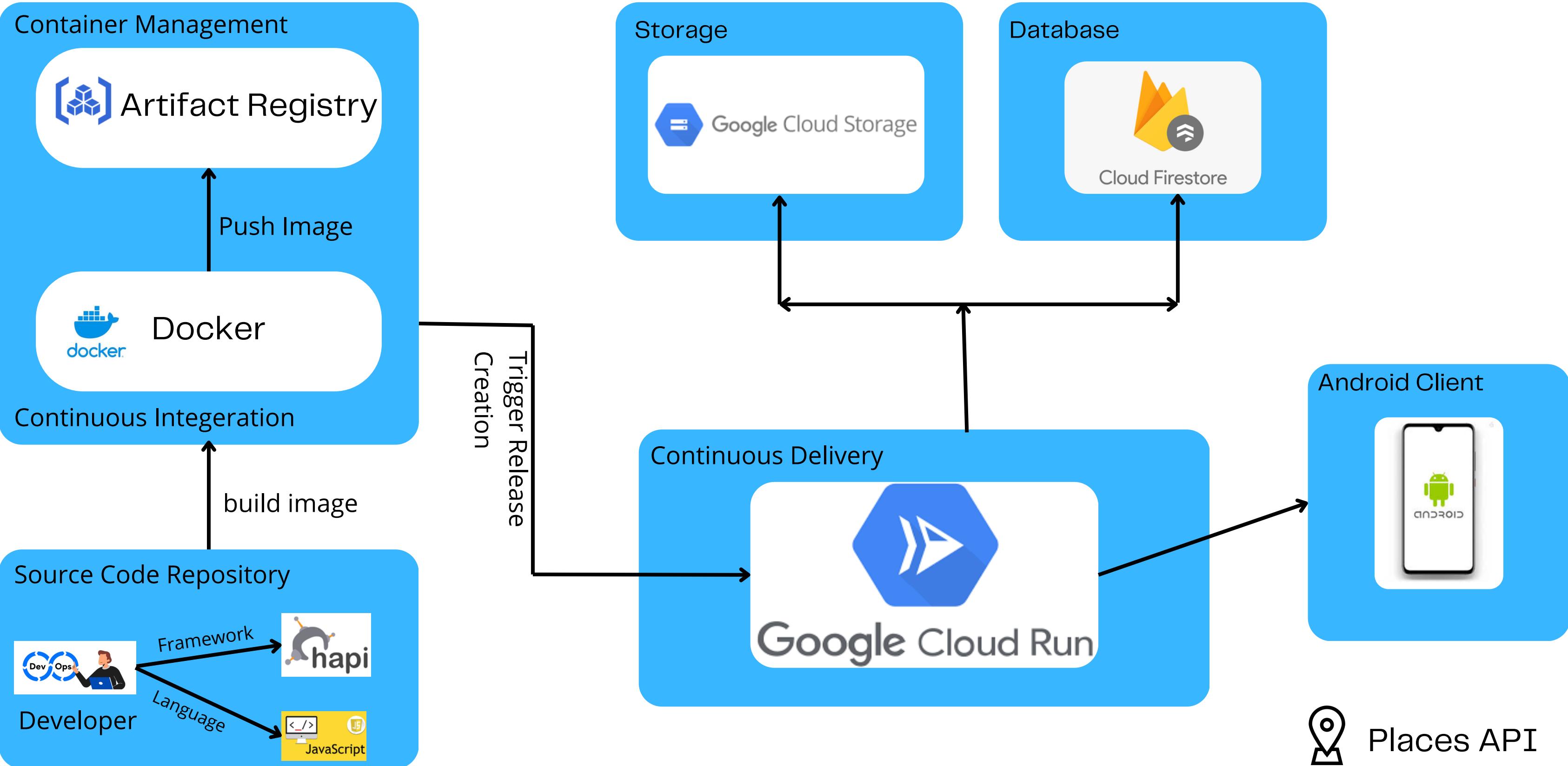


# THE RESULT CLOUD COMPUTING

## Backend

- Authorization (register, login, refresh and logout).
- Feeds Content (show content, future dev: like, comment share, rate).
- Upload for photo/video (anonymous, future dev: upload by id user).
- API for scanning art, ex: batik (for the feature the API that will be developed, a feature API that can recognize original art made by the artist from fake or duplicate art).
- Future feature art auction based on the type of art, rank by type of art, rank by artist popularity.

# Cloud Architecture



# Cloud Billing

## Latest Bill

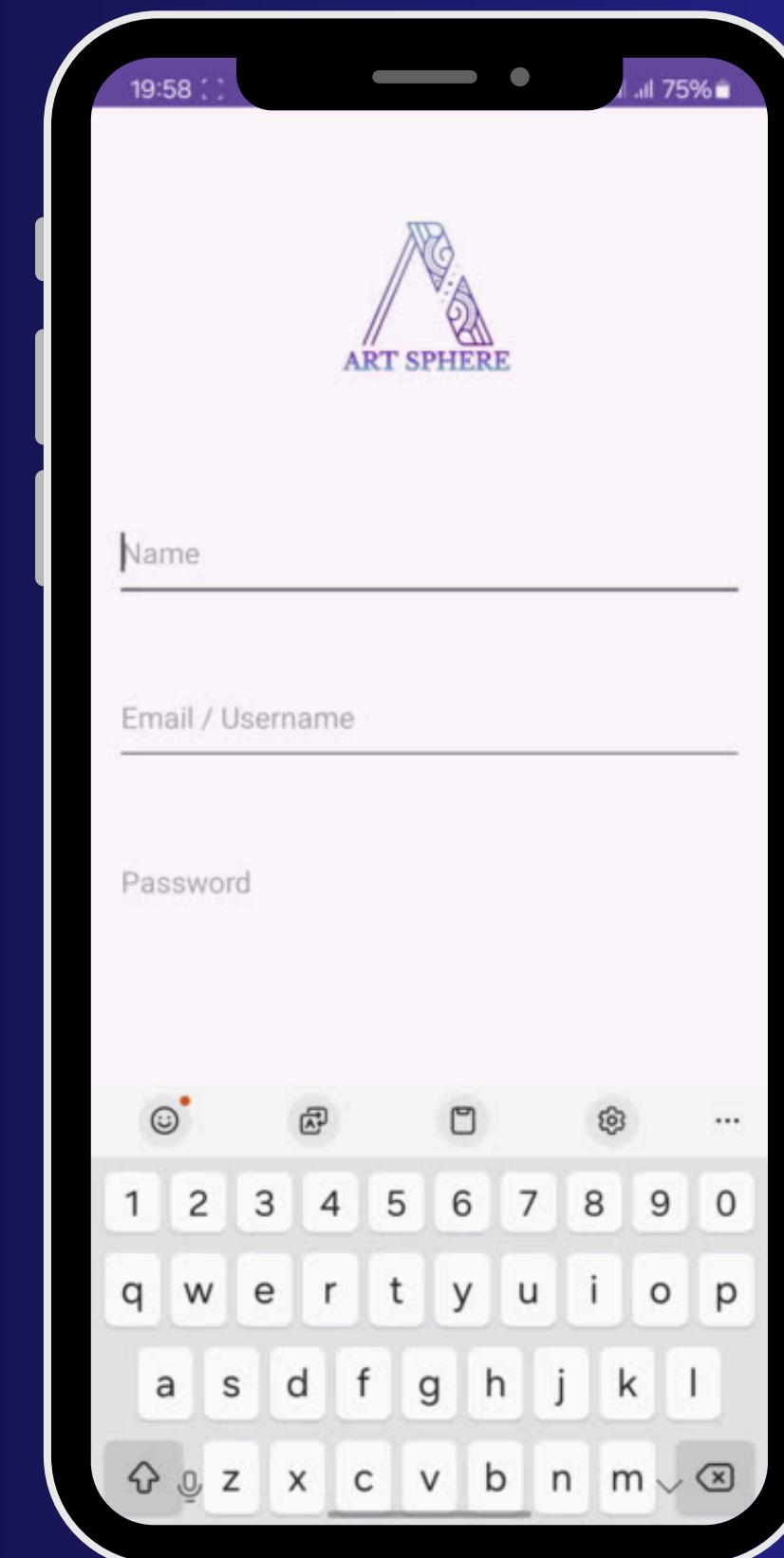
●	Artifact Registry	\$0.00	\$0.00	\$0.00	\$0.00
■	Cloud Storage	\$0.00	\$0.00	\$0.00	\$0.00
◆	App Engine	\$0.00	\$0.00	\$0.00	\$0.00
▼	Cloud Run	\$1.34	-\$1.34	\$0.00	\$0.00

Subtotal	\$0.00
Tax ?	—
Total ?	\$0.00



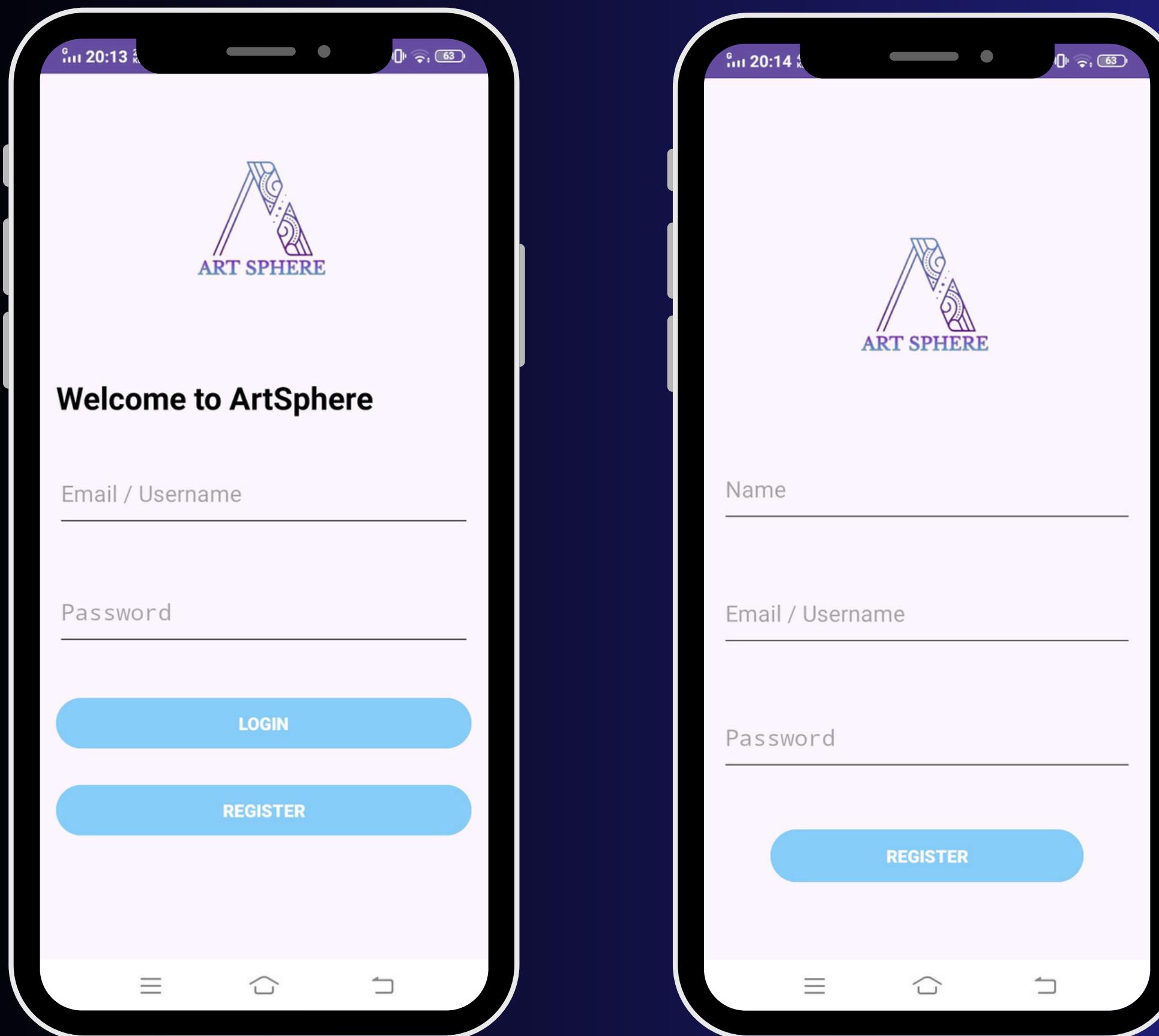
# Result Mobile Development

**APP DEMO**  
<https://youtu.be/qRrCDtNCQ9g>

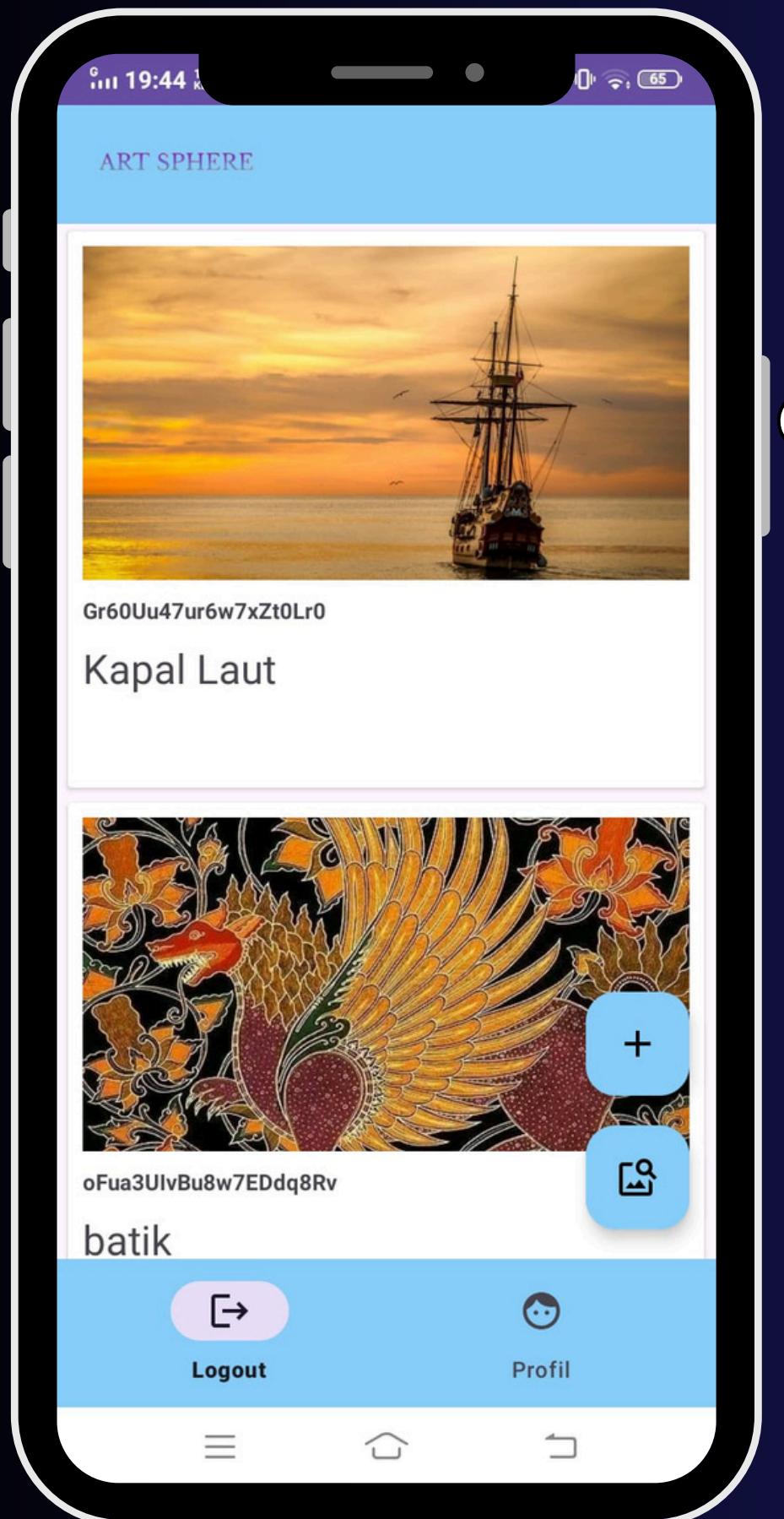


**ARTSPHERE**





**LOGIN AND  
REGISTER PAGE  
ARE CONNECTED  
TO API FROM  
CLOUD  
COMPUTING**

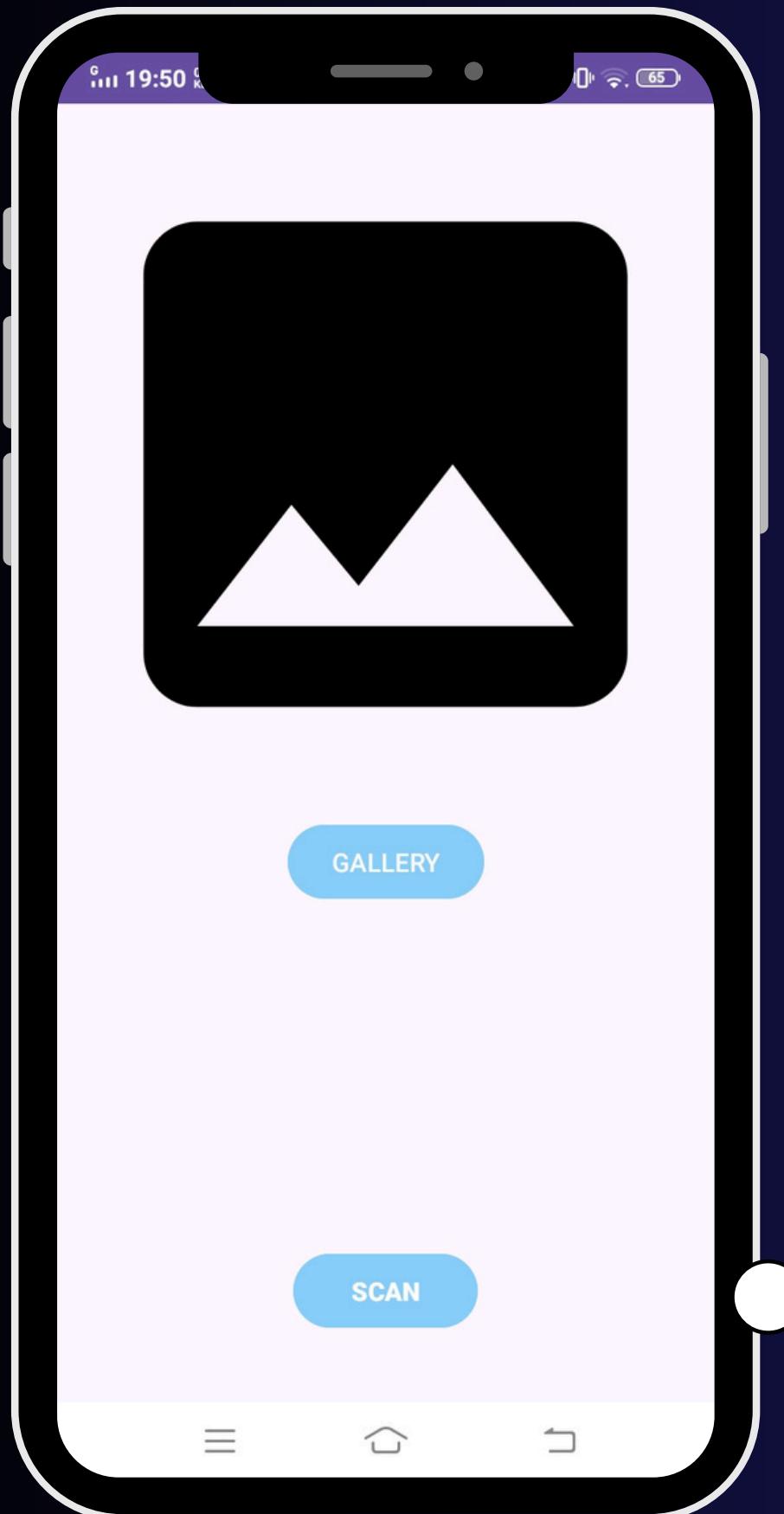


ARTSPHERE FEEDS

SCAN BUTTON

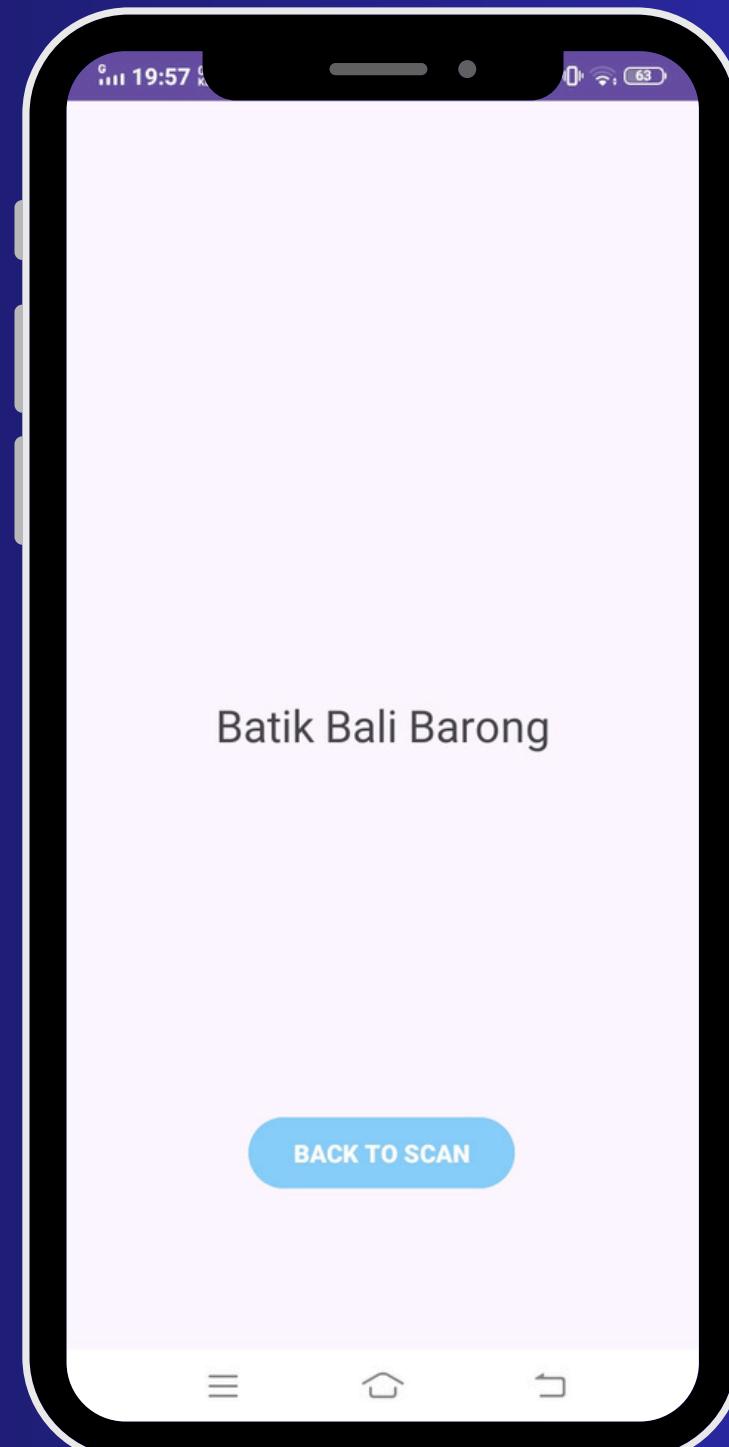
SCAN BUTTON

ON HOME PAGE  
YOU CAN SEE  
FEEDS FROM  
USER  
AND OFCOURSE ON  
ARTSPHERE YOU  
CAN UPLOAD FEEDS  
AND SCAN BATIK  
TOO

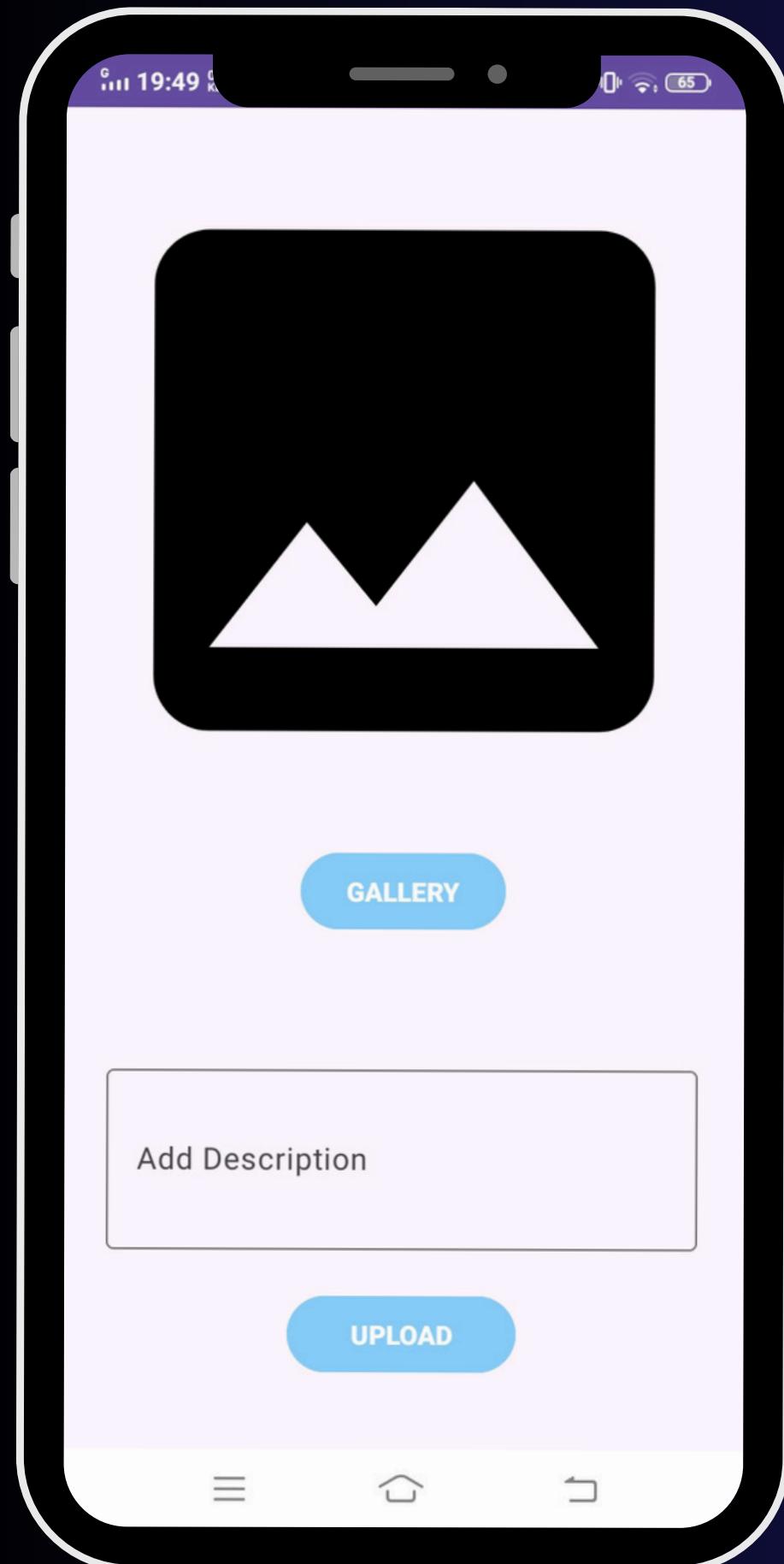


**HOW TO SCAN  
BATIK ON  
ARTSPHERE**  
**OPEN YOUR  
GALLERY  
CHOOSE BATIK  
PICTURE**  
**AND CLICK**  
↓ ↓  
**SCAN BATIK**

**AND HERE  
THE RESULT**  
↓ ↓



**CONNECTED  
TO MACHINE  
LEARNING  
AND CLOUD  
COMPUTING**

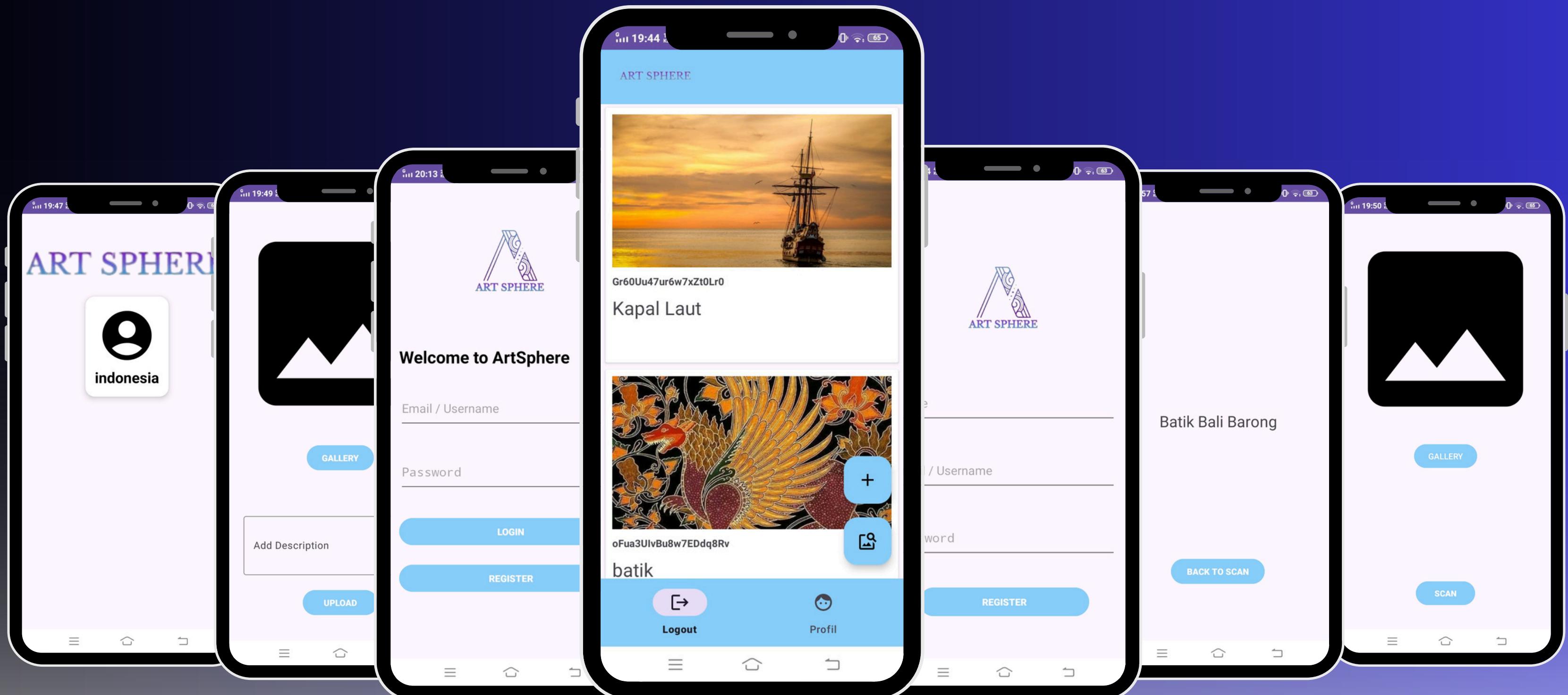


**YOU CAN  
UPLOAD FEEDS  
ON ARTSPHERE  
WITH INTERESTING IMAGE  
DESCRIPTIONS**

● **DESCRIPTION**

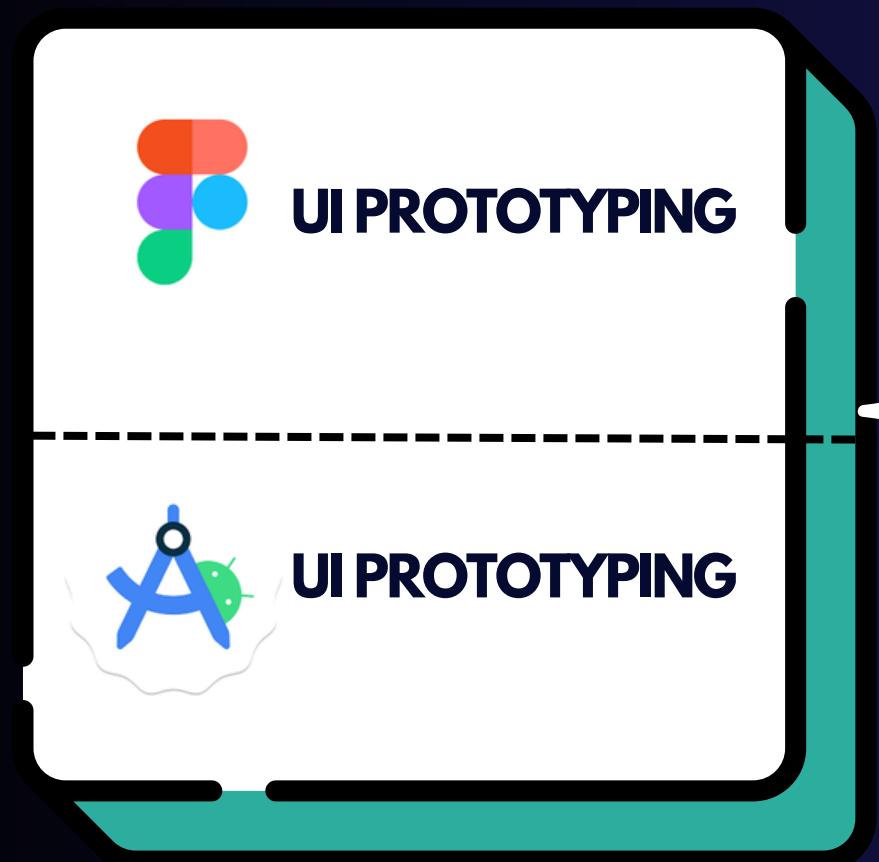
● **UPLOAD**

# COME AND JOIN WITH ARTSPHERE

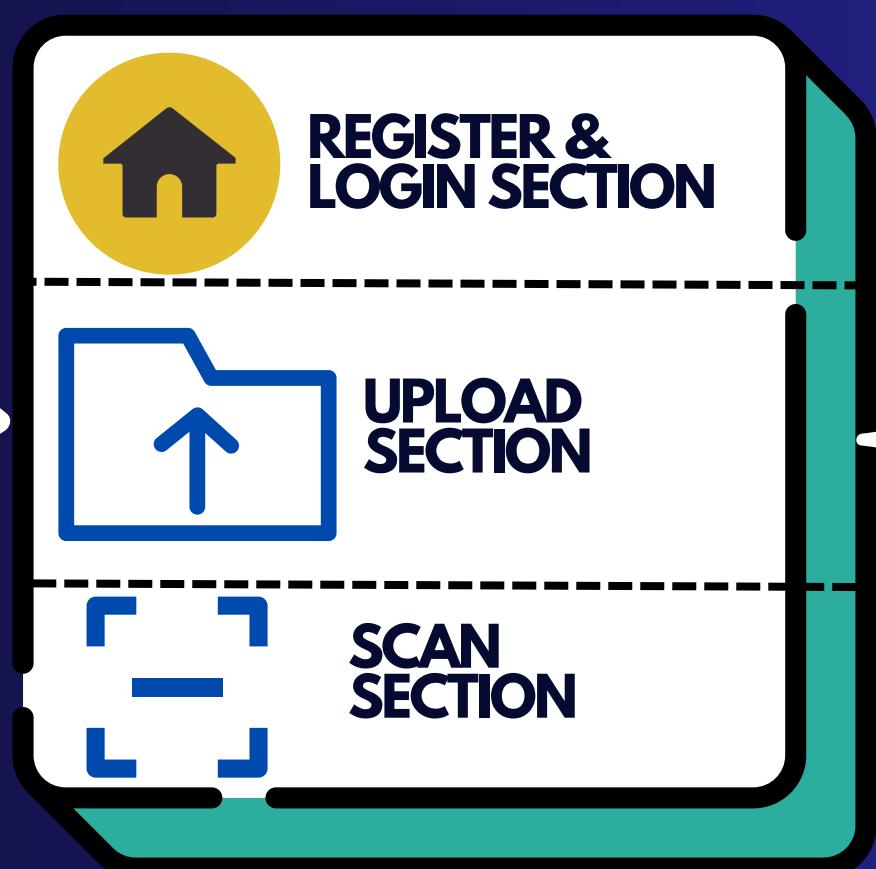


# MOBILE APP DEVELOPMENT

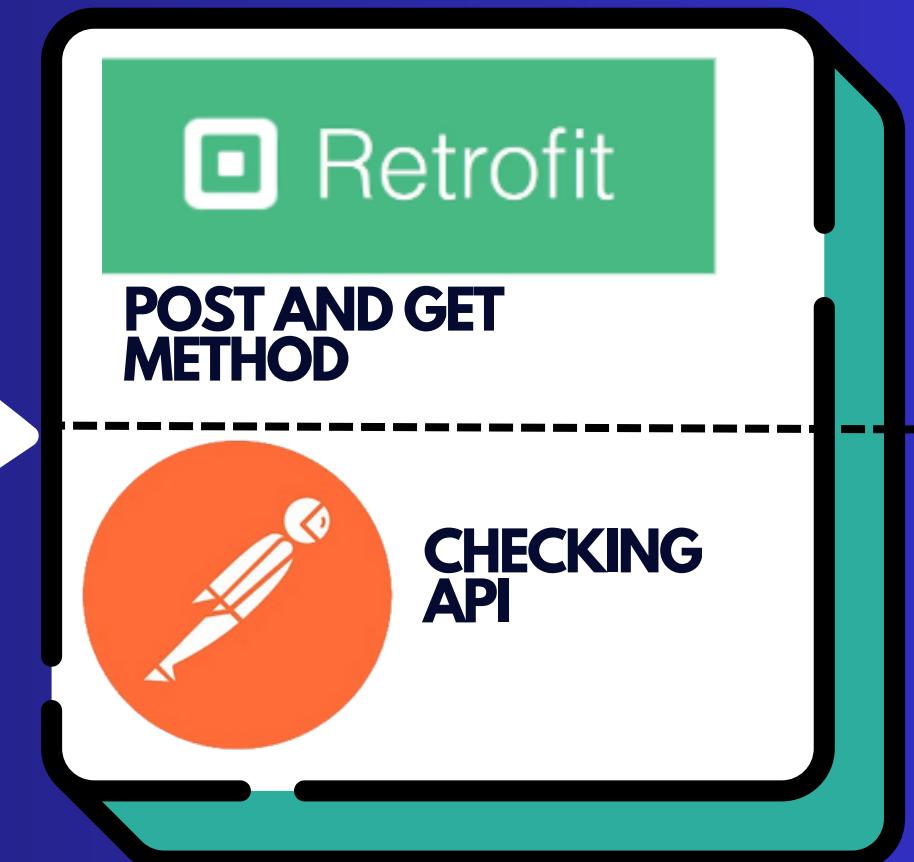
## UI DESIGN



## ACTIVITY DEVELOPMENT



## API INTEGRATION





# DATASET

## Batik Nusantara (Batik Indonesia) Dataset

Batik Nusantara (Batik Indonesia) Dataset images @ a fine resolution of 224x224



Data Card   Code (6)   Discussion (0)   Suggestions (0)



### About Dataset

#### Batik Background

Indonesian textile craftsmanship has evolved over millennia, transitioning from basic utilitarian weaving techniques around 2500 BC to more intricate patterns and religious symbolism and social and culture during the time, with production hubs across regions like Sumatra, Borneo, Java, Celebes, Nusa Tenggara, and Bali. These textiles evolved from utilitarian items to carriers of sacred meanings, divided into secular and sacred cloths, both renowned for their aesthetic beauty. They played a pivotal role in individuals' cultural journeys, symbolizing life stages like maternity, matrimony, and mortality, with designs reflecting religious beliefs and the era's influence. The Batik technique, a hallmark of Indonesian textile artistry, involves creating intricate patterns using a resist wax method. Traditionally, artisans used a tool called a canting to draw patterns on fabric, a process known as batik tulis (drawn batik). Following the drawing phase, the cloth was dyed using natural dyes, and then subjected to the "jorot" process, involving boiling the wax out of the fabric.

#### DKI\_Ondel\_Ondel (32 files)

Usability 

7.50

License

CC0: Public Domain

Expected update frequency

Quarterly

Tags

Data Explorer

Version 2 (106.97 MB)

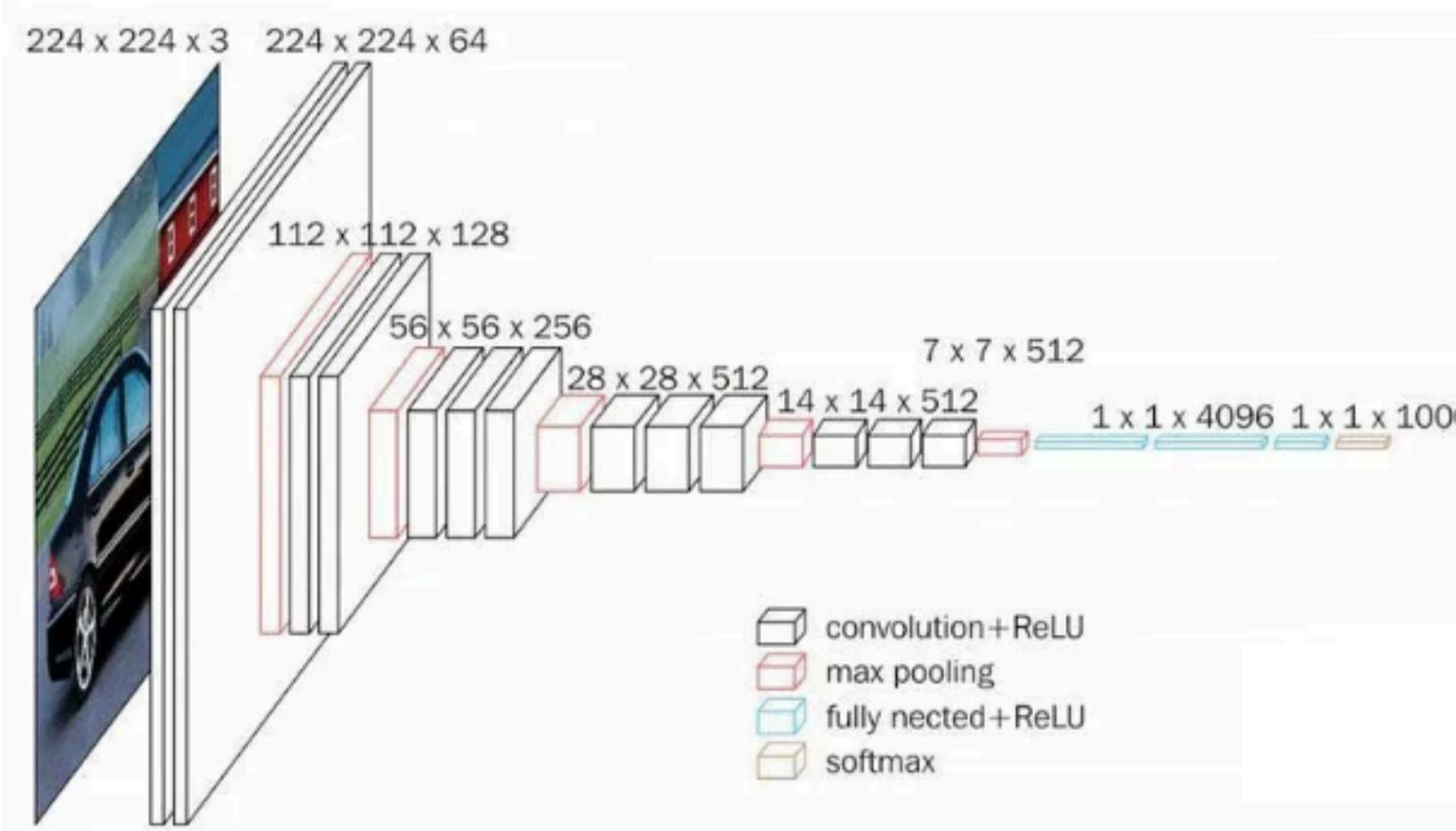
```

    ▾ raw_batik_v2
      ▾ raw_batik_v2
        ▾ test
        ▾ train
          ▾ Aceh_Pintu_Aceh
          ▾ Bali_Barong
          ▾ Bali_Merak
        ▾ DKI_Ondel_Ondel
          ▾ 400010.jpg
          ▾ 400011.jpg
          ▾ 400013.jpg
          ▾ 400014.jpg
          ▾ 400015.jpg
          ▾ 400016.jpg
          ▾ 400017.jpg
          ▾ 400018.jpg
          ▾ 40002.jpg
          ▾ 400020.jpg
          ▾ 400021.ica
  
```



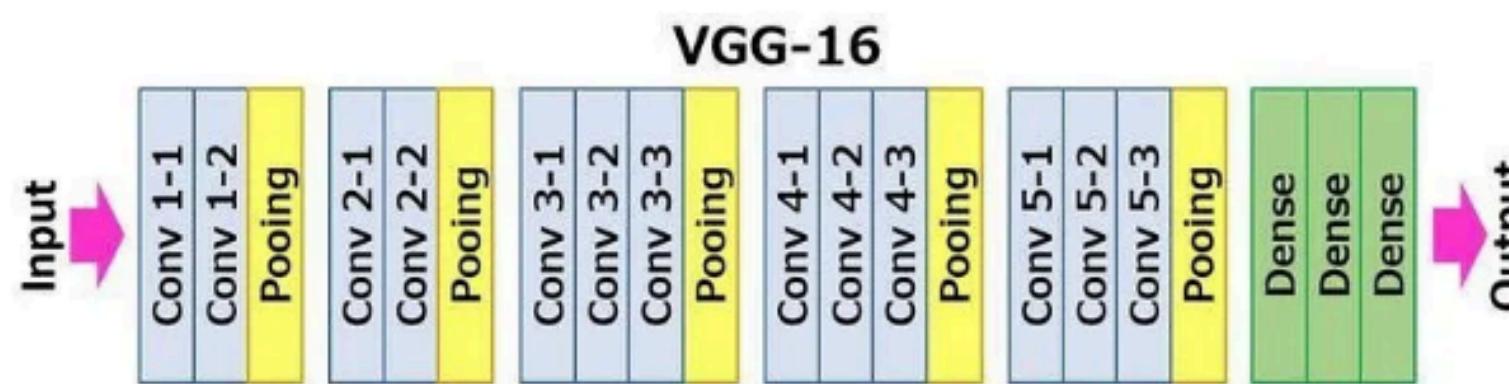
<https://www.kaggle.com/datasets/hendryhb/batik-nusantara-batik-indonesia-dataset>

# VGG16 ARCHITECTURE

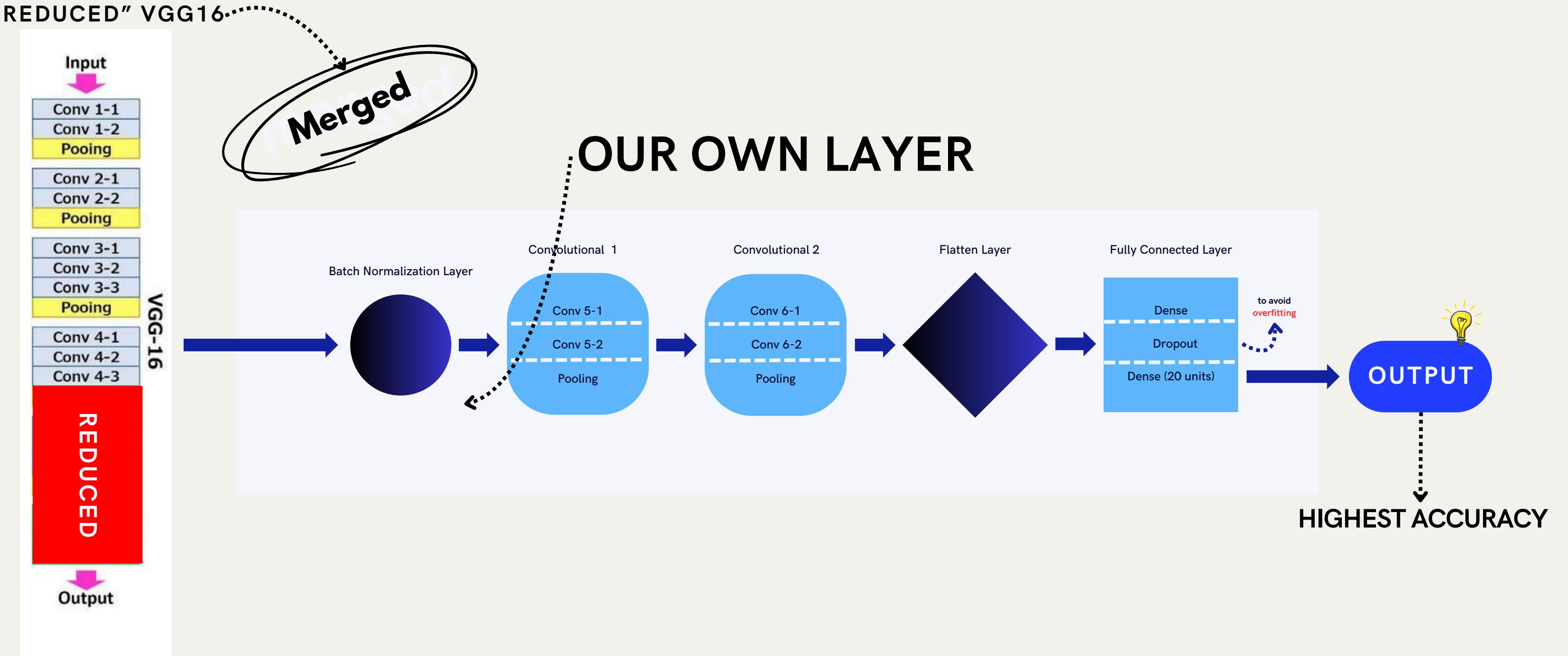


# Why VGG16 ?

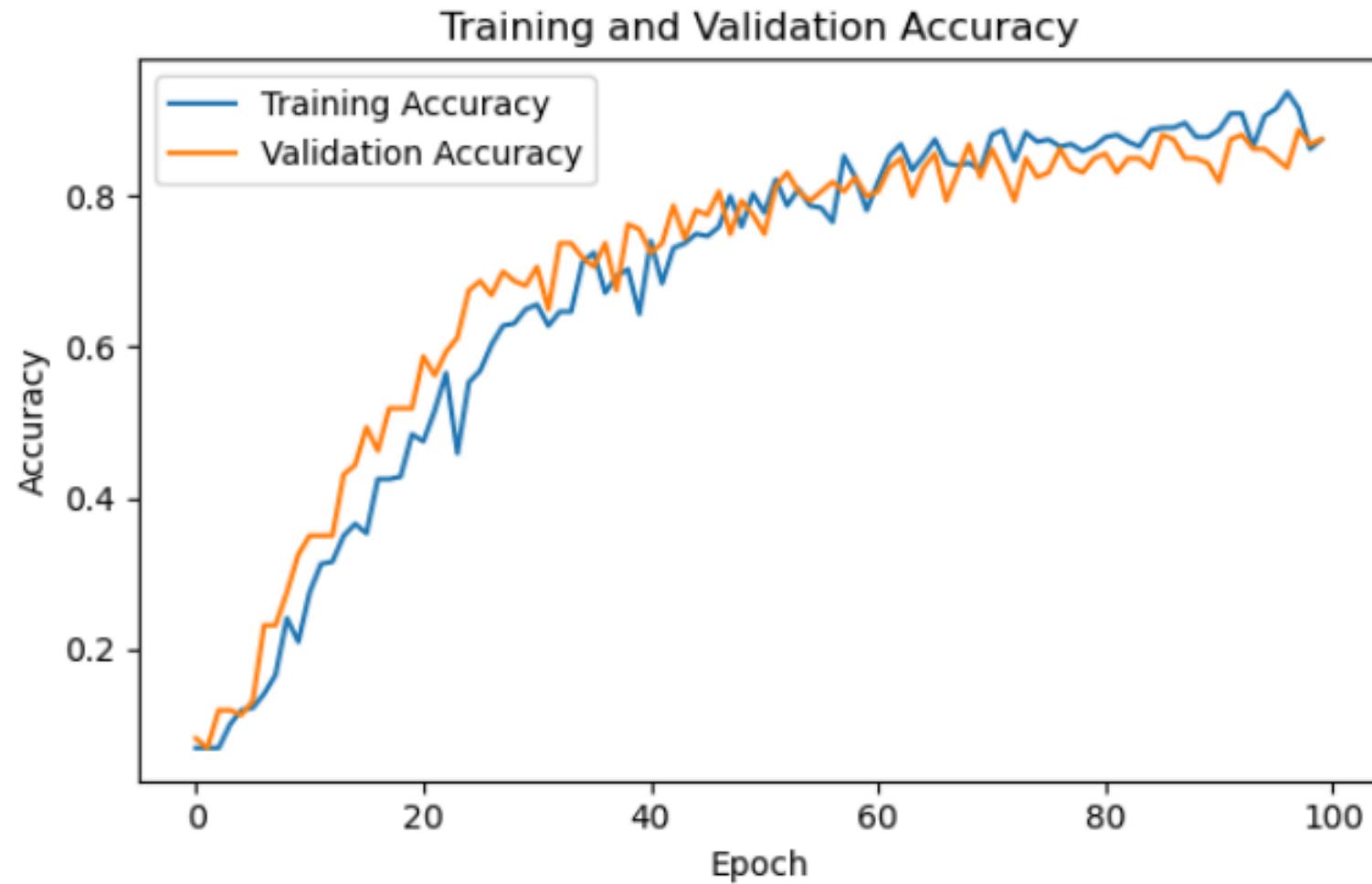
- Simple yet **EFFECTIVE**
- Is **EASY** to understand
- The size is **SMALL**



# THE MODEL ARCHITECTURE



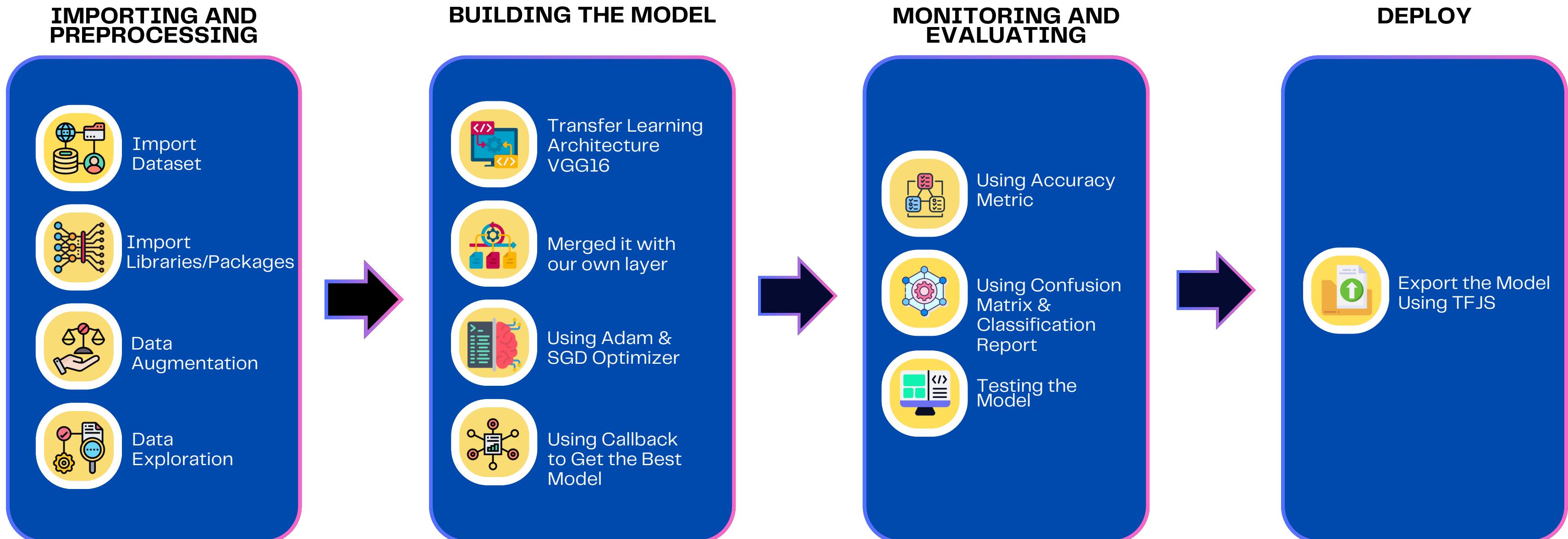
# RESULT



**ACCURACY ALMOST 90%**  
with no sign of **OVERFITTING**

```
10/10 - 5s - loss: 0.3127 - accuracy: 0.8875 - val_loss: 0.5449 - val_accuracy: 0.8188 - 5s/epoch - 547ms/step
Epoch 92/100
10/10 - 5s - loss: 0.3051 - accuracy: 0.9094 - val_loss: 0.4951 - val_accuracy: 0.8750 - 5s/epoch - 544ms/step
Epoch 93/100
10/10 - 5s - loss: 0.3123 - accuracy: 0.9094 - val_loss: 0.4287 - val_accuracy: 0.8813 - 5s/epoch - 544ms/step
Epoch 94/100
10/10 - 5s - loss: 0.3320 - accuracy: 0.8656 - val_loss: 0.6023 - val_accuracy: 0.8625 - 5s/epoch - 543ms/step
Epoch 95/100
10/10 - 5s - loss: 0.2956 - accuracy: 0.9062 - val_loss: 0.5452 - val_accuracy: 0.8625 - 5s/epoch - 546ms/step
Epoch 96/100
10/10 - 5s - loss: 0.2867 - accuracy: 0.9156 - val_loss: 0.5911 - val_accuracy: 0.8500 - 5s/epoch - 542ms/step
Epoch 97/100
10/10 - 5s - loss: 0.2014 - accuracy: 0.9375 - val_loss: 0.5619 - val_accuracy: 0.8375 - 5s/epoch - 544ms/step
Epoch 98/100
10/10 - 5s - loss: 0.3414 - accuracy: 0.9156 - val_loss: 0.5847 - val_accuracy: 0.8875 - 5s/epoch - 546ms/step
Epoch 99/100
10/10 - 5s - loss: 0.3996 - accuracy: 0.8625 - val_loss: 0.5845 - val_accuracy: 0.8687 - 5s/epoch - 544ms/step
Epoch 100/100
10/10 - 5s - loss: 0.4127 - accuracy: 0.8750 - val_loss: 0.4370 - val_accuracy: 0.8750 - 5s/epoch - 545ms/step
```

# MACHINE LEARNING MODEL DEVELOPMENT



# ROADMAP FUTURE DEVELOPMENT

The next phase of development ART SPHERE

## User Experience

Display captivating batik images as part of the homepage, encouraging users to explore further. Implement a comment and like system for batik patterns, fostering interaction and collaboration among users.



## User Interface

A visually appealing and user-friendly user interface (UI) is crucial. Ensure that UI elements such as buttons, icons, and layouts follow good design principles.



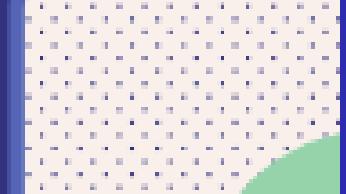
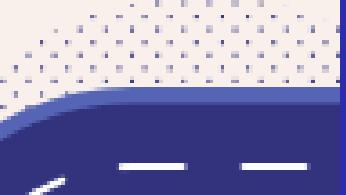
## Recommendation

Leverage AI to personalize content recommendations based on users' preferences and browsing history. For example, suggest related batik patterns or artists they might like.



## Subscription

Implement subscription tiers (free, basic, premium) with varying benefits.



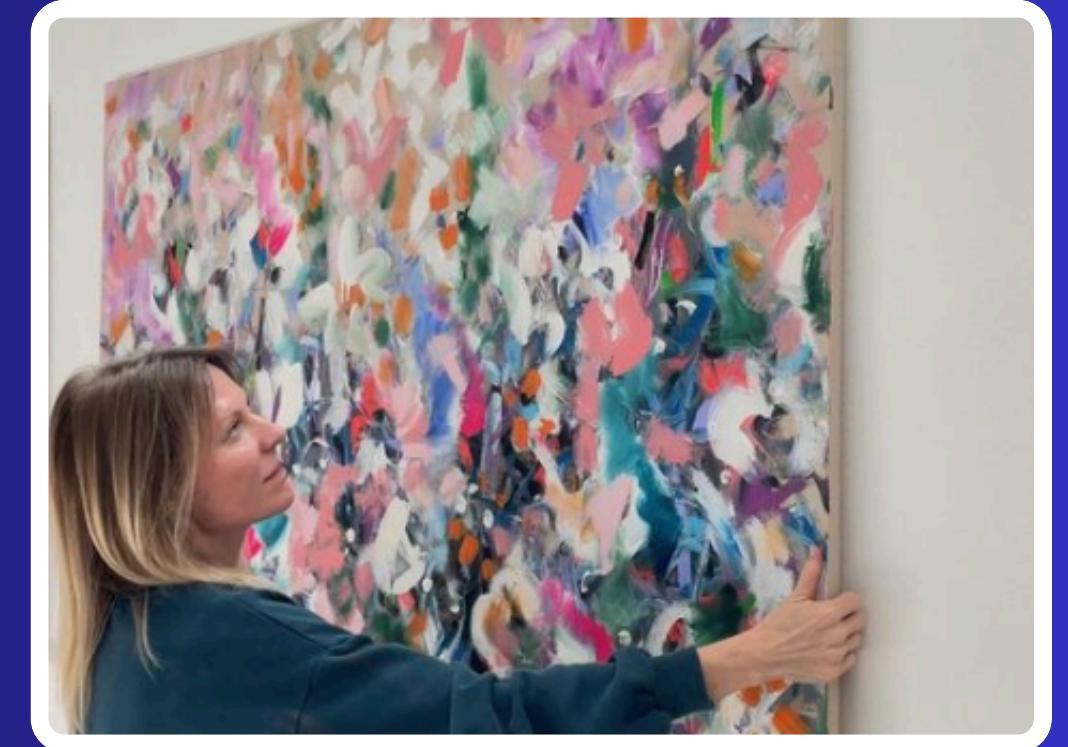
# TARGET MARKET



**Students  
and Academics**



**Tourist**



**Art Enthusiasts**

# BUDGETING PLAN 1

Subject	Budget (\$)
Services	\$ 1 000
Advertising	\$ 300
Operational & Administrative	\$ 2 000
Salary	\$ 1 500
Maintenance	\$ 200
<b>TOTAL</b>	<b>\$ 5 000</b>

# BUDGETING PLAN 2

Category	Propotion	Budget (max) in USD
All aspect covered in Budgeting -1	50%	\$ 5 000
Additional Budget for Maintance	10%	\$ 1 000
Additional Budget For Research	9%	\$ 900
Marketing and Sales	8%	\$ 800
Market research and Competitive Analysis	8%	\$ 800
Future Development	5%	\$ 500
Other Expenses (taxes)	10%	\$ 1 000
<b>TOTAL</b>	<b>100%</b>	<b>\$ 10 000</b>

# THANK YOU

