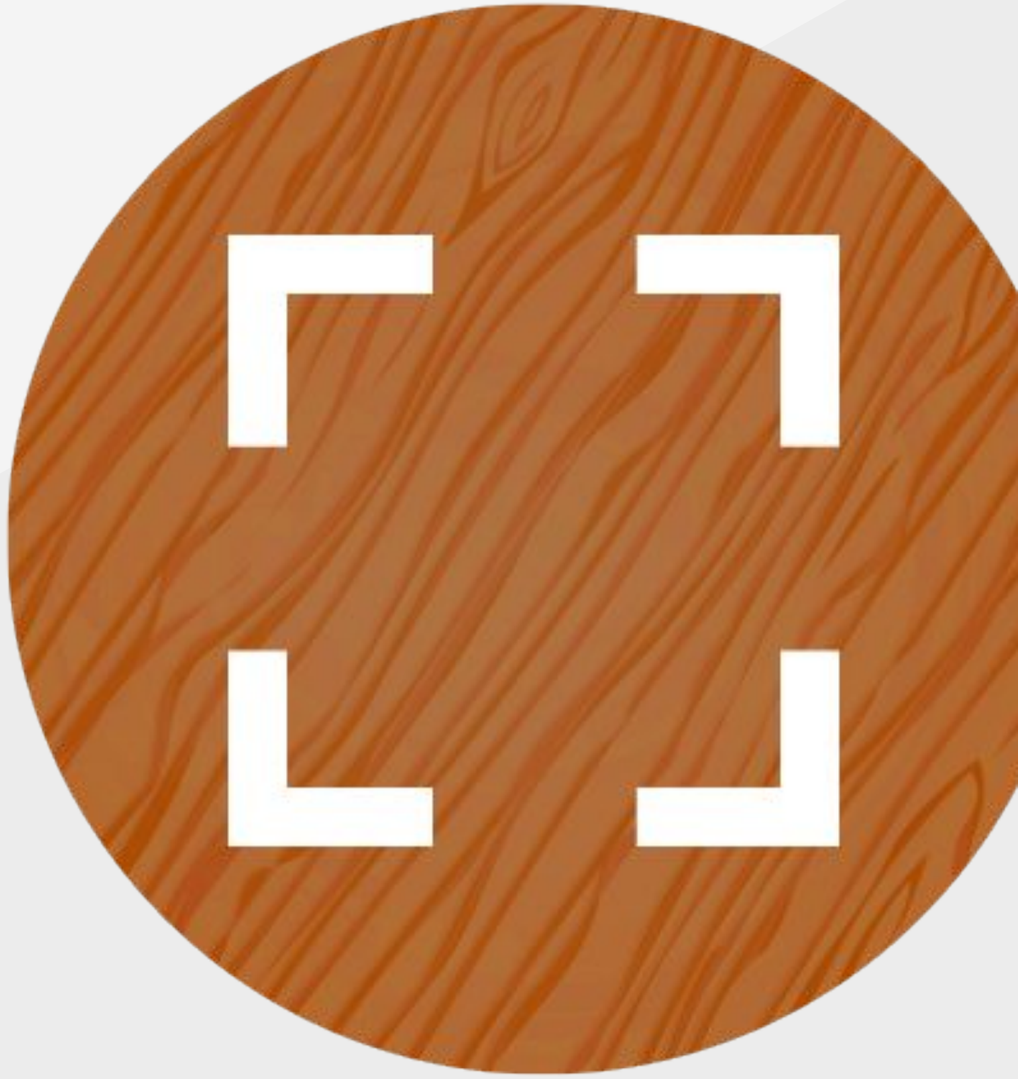
WOODID



ID TEAM : C22-PC418

TEAM MEMBERS

Machine Learning

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Cloud Computing

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Mobile Development

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Overview

Wood is one of the major commodities in Indonesia. Wood is used in various things, such as cooking, building construction, making household furniture, and musical instruments. Each wood has its own characteristics. Each type of wood has a different function, to maximize this function knowledge of wood selection is needed. This application is designed to make it easier for the public to identify the wood.

BACKGROUND

83,6%

of people say they cannot identify wood directly

85,2%

of people say it is important to know wood identification

*Based on our survey of 61 people

Exciting Result

Application		
Affordable	✓	✓
User Friendy	✓	✓
Detect wood pattern using camera	✓	✓
Information about wood species	✓	✓
Detect wood pattern without microscope tools	✓	
Purchasing Types of Wood	✓	

ML Implementation

Data Preparation

Prepare the wood dataset that will be used

Data Preprocessing

Labeling wood type datasets, applying augmentation data with an image data generator

Build Model Architecture

Applying the CNN method

Training Model

Using Optimizer 'ADAM', using loss accuracy categorical_crossentropy with number of epochs = 10

Testing Model

The stages of testing this model use the confusion matrix and f1-score to calculate accuracy, precision and recall

Mobile Programming Implementation

Using Retrofit

API Calling Using Retrofit

Using Camera X

Use camera x to capture wood images

Using Paging

Load a lot and display data bit by bit

Cloud Implementation

Using Google Cloud Storage

Used for storing and showing image

Using Google App Engine

Used for deploy endpoint for uploads image

Using Google Compute Engine

Used for deploy nodejs app for wood type api

Using Google Cloud SQL

Used for store data to database

Cloud Implementation - Result

```
root@vm-instance-2:/home/c7319f2778/C22-PC418# pm2 start server.js
[PM2] Applying action restartProcessId on app [server](ids: [ 0 ])
[PM2] [server](0) ✓
[PM2] Process successfully started
```

id	name	mode	↺	status	cpu	memory
0	server	fork	0	online	0%	4.5mb

```
root@vm-instance-2:/home/c7319f2778/C22-PC418# pm2 logs
[TAILING] Tailing last 15 lines for [all] processes (change the value with --lines option)
/root/.pm2/pm2.log last 15 lines:
PM2        | 2022-06-12T23:21:48: PM2 log: RPC socket file      : /root/.pm2/rpc.sock
PM2        | 2022-06-12T23:21:48: PM2 log: BUS socket file      : /root/.pm2/pub.sock
PM2        | 2022-06-12T23:21:48: PM2 log: Application log path : /root/.pm2/logs
PM2        | 2022-06-12T23:21:48: PM2 log: Worker Interval      : 30000
PM2        | 2022-06-12T23:21:48: PM2 log: Process dump file    : /root/.pm2/dump.pm2
PM2        | 2022-06-12T23:21:48: PM2 log: Concurrent actions   : 2
PM2        | 2022-06-12T23:21:48: PM2 log: SIGTERM timeout      : 1600
PM2        | 2022-06-12T23:21:48: PM2 log: ================================================================
==========
PM2        | 2022-06-12T23:21:48: PM2 log: App [server:0] starting in -fork mode-
PM2        | 2022-06-12T23:21:48: PM2 log: App [server:0] online
PM2        | 2022-06-13T02:25:25: PM2 log: Stopping app:server id:0
PM2        | 2022-06-13T02:25:25: PM2 log: App [server:0] exited with code [0] via signal [SIGINT]
PM2        | 2022-06-13T02:25:25: PM2 log: pid=14145 msg=process killed
PM2        | 2022-06-13T02:25:31: PM2 log: App [server:0] starting in -fork mode-
PM2        | 2022-06-13T02:25:31: PM2 log: App [server:0] online

/root/.pm2/logs/server-error.log last 15 lines:
/root/.pm2/logs/server-out.log last 15 lines:
0|server  |   RowDataPacket {
0|server  |     id: 2,
0|server  |     name: 'Mahoni 2',
0|server  |     description: 'some description...',
0|server  |     imageUrl: ''
0|server  |   },
0|server  |   RowDataPacket {
0|server  |     id: 3,
0|server  |     name: 'Mahoni 3',
0|server  |     description: 'some descriptio3n...',
0|server  |     imageUrl: ''
0|server  |   }
0|server  | ]
0|server  | Server is running on port 8080.
0|server  | Successfully connected to the database.
```

Welcome – Cap | Reports – Billing | Service account | API/Service Det | Browser – Cloud | Dashboard – AI

console.cloud.google.com/iam-admin/serviceaccounts?organizationId=112315058424&orgonly=true&project=capstone-proj

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Google Cloud Platform | Capstone Project C22-PC418 | Search Products, resources, docs (/)

CLOUD SHELL

Terminal (capstone-project-c22-pc418) | Open Edit

```
-rw-r--r--   1 c7319f2778 c7319f2778   528 Jun 11 07:06 .gcloudignore
drwxr-xr-x   8 c7319f2778 c7319f2778  4096 Jun 11 07:00 .git
-rw-r--r--   1 c7319f2778 c7319f2778    21 Jun 11 06:57 .gitignore
-rw-r--r--   1 c7319f2778 c7319f2778  2355 Jun 11 07:02 key.json
drwxr-xr-x 125 c7319f2778 c7319f2778  4096 Jun 11 07:02 node_modules
-rw-r--r--   1 c7319f2778 c7319f2778   646 Jun 11 06:57 package.json
-rw-r--r--   1 c7319f2778 c7319f2778 95930 Jun 11 07:02 package-lock.json
-rw-r--r--   1 c7319f2778 c7319f2778    64 Jun 11 06:55 README.md
-rw-r--r--   1 c7319f2778 c7319f2778   384 Jun 11 06:57 server.js
drwxr-xr-x   5 c7319f2778 c7319f2778  4096 Jun 11 06:57 src
c7319f2778@cloudshell:~/C22-PC418 (capstone-project-c22-pc418)$ gcloud app deploy
Services to deploy:

descriptor:                  [/home/c7319f2778/C22-PC418/app.yaml]
source:                      [/home/c7319f2778/C22-PC418]
target project:              [capstone-project-c22-pc418]
target service:              [default]
target version:              [20220611t072031]
target url:                  [https://capstone-project-c22-pc418.et.r.appspot.com]
target service account:      [App Engine default service account]


Do you want to continue (Y/n)?  Y

Beginning deployment of service [default]...
Uploading 0 files to Google Cloud Storage
100%
File upload done.
Updating service [default]...done.
Setting traffic split for service [default]...done.
Deployed service [default] to [https://capstone-project-c22-pc418.et.r.appspot.com]

You can stream logs from the command line by running:
  $ gcloud app logs tail -s default

To view your application in the web browser run:
  $ gcloud app browse
c7319f2778@cloudshell:~/C22-PC418 (capstone-project-c22-pc418)$
```

Documentation

Git Repository :

https://github.com/HarleyQs/C22-PC418

Local Deployment

July

UI/UX Improvement

Application Launch

August

Marketing and Sales

September

Bug Fixes and Additional Features

October

Bug Fixes and Additional Features

November

Promotion to Wood/Wooden company especially in Indonesia

December

Make MOU with wood/wooden company

BUSINESS MODEL

Regular Member

10 wood request/day and cannot access history menu

Premium Member

Infinite wood request and can access history menu

Cooperation with Wood Company

Premium member privilege
+
Data

5K BUDGETING

Category	Proportions	Budget	
		USD	Rp
Team Salary	30%	$1,500	Rp22.000.000
Research / Operational	70%	$3.50	Rp48.000.000
Google Cloud Platform			
Internet Connection			
Prototyping			
Transportation Expenses			
Data Collections			
Play Store Publish			
Legalities, Patent / Copyright Registration, Product Certification			

10K BUDGETING

Category	Proportions	Budget	
		USD	Rp
All aspects covered in 5K Budgeting	50%	$5.000	Rp70.000.000
Additional Budget for Team Salary	10%	$1000	Rp14.000.000
Additional Budget for Research/Ops	5%	$500	Rp7.000.000
Marketing and Sales	15%	$1.500	Rp21.000.000
Market research and competitive analysis	5%	$500	Rp7.000.000
Future Development / R&D	5%	$500	Rp7.000.000
Other Expenses (taxes, reserves)	10%	$1.000	Rp14.000.000

THANK YOU