



UTM
UNIVERSITI TEKNOLOGI MALAYSIA



temadigital

UNIVERSITI TEKNOLOGI MALAYSIA

INDUSTRIAL TRAINING PRESENTATION

TEMADIGITAL SDN BHD

MALLEYLENE PENEH
A21EC0052

Industrial Supervisor: Mr. Chong Vun Hung
Faculty Supervisor: Dr. Nurfazrina binti Mohd Zamry

Innovating Solutions

TEMADIGITAL SDN BHD (TDSB)



Located at Penampang, Sabah Malaysia.

Established in 2019 with a focus on geospatial solution development, evidence-based analysis, and multi-perspective visualization.

Services offered:

- Consulting & Advisory
- Support & Training
- Application Development
- Geospatial Data Management

Solution Provided:



Feature Manipulation Engine
(FME) Platform by Safe Software



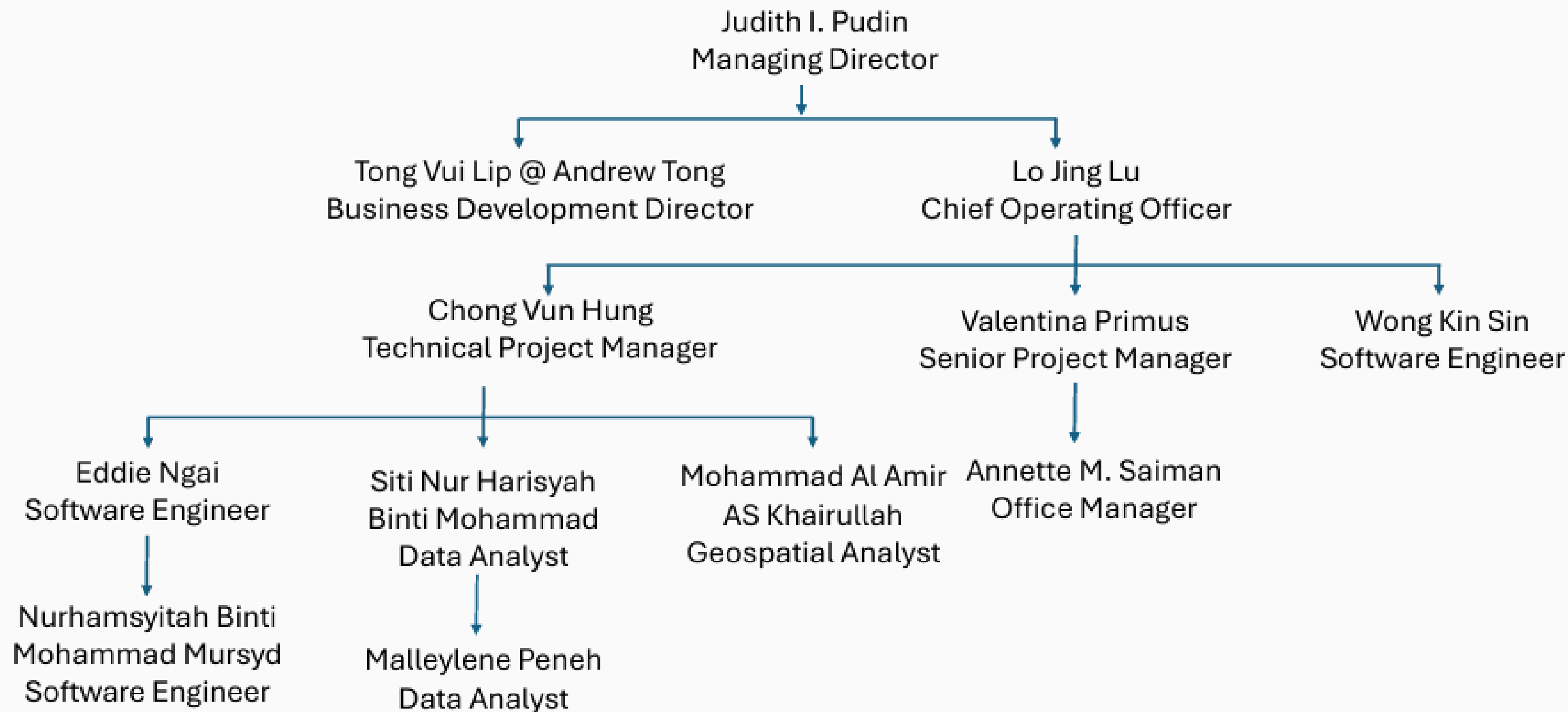
Hexagon Geospatial
Solution



Free and Open Source Software
for Geospatial



ORGANIZATIONAL CHART STRUCTURE



TRAINING OBJECTIVES



Skill Development



Project Exposure



Problem-Solving

MAIN INTERNSHIP TASK: AGROBIZ DASHBOARD

PROJECT OBJECTIVES

01

Data Handling

To gain hands-on experience in data collection, processing, and ensuring data consistency.

02

Dashboard Automation

To develop and automate dashboards for efficient reporting and decision-making.

03

Technical Skills

To advance programming skills, API integration, and data analysis capabilities.

04

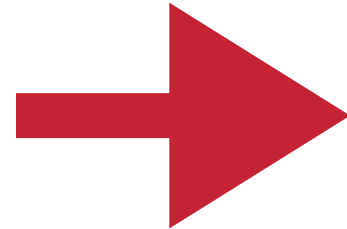
Theoretical Application

To apply theoretical concepts from Computer Science to solve real life industry challenges.



Agrobiz Sabah Website - e-Commerce Portal by Department of Agriculture (DOA) Sabah

- **Project Focus:** Enhance workflows of dashboard and improve efficiency in project deliverables for TDSB.
- **Project Scope:** Develop and automate the Agrobiz Dashboard, which integrates data from Google Analytics (GA) and WooCommerce API to provide a real-time insights into agricultural business operations.
- **Software Used:**
 - FME
 - VSCode
 - M.APP HEXAGON PLATFORM



Smart Tani Portal Sabah

Dashboard Purpose:

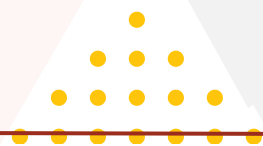
- Visualize key metrics such as transaction counts, customer behavior, and sales trends.
- Give stakeholders useful information that will help in decision-making.

DATA COLLECTION

Goal: Gather the necessary data from GA and WooCommerce API.

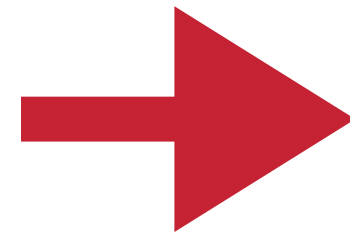
Tasks:

- Collect data from relevant sources.
- Ensure that the data collected is relevant to the analysis goals.



DATA COLLECTION

```
[{"job_id":"1","product_id":"613","order_id":"4638","order_number":"DOA2406130279","job_status":"Completed","completion_date":"2024-06-27","job_location":"Stesen Kompleks Pertanian Inanam","product_name":"Mangga Harumanis (MA128)", "order_quantity":"1","order_total":"20.00","completed_quantity":"1","order_note":"","pickup_date":"2024-06-27","pickup_time":"09:00:00","pickup_status":"Pickup Completed/Delivered","pickup_note":"Pick up stesen inanam","created_date":"2024-06-13 15:47:02","updated_date":"2024-07-03 14:15:04"}, {"job_id":"3","product_id":"625","order_id":"4673","order_number":"DOA2406190285","job_status":"Completed","completion_date":"2024-07-03","job_location":"Stesen Pertanian Batu 15, Tawau","product_name":"Durian \"Sabah Big Thorn\" (QDZ1)", "order_quantity":"3","order_total":"90.00","completed_quantity":"3","order_note":"","pickup_date":"2024-06-21","pickup_time":"09:00:00","pickup_status":"Pickup Completed/Delivered","pickup_note":"","created_date":"2024-06-19 09:00:18","updated_date":"2024-06-28 14:52:28"}, {"job_id":"4","product_id":"627","order_id":"4722","order_number":"DOA2406200286","job_status":"Completed","completion_date":"2024-07-04","job_location":"Stesen Pertanian Gum-Gum Bt16 Sandakan","product_name":"Avokado", "order_quantity":"5","order_total":"175.00","completed_quantity":"5","order_note":"","pickup_date":"2024-06-24","pickup_time":"09:00:00","pickup_status":"Pickup Completed/Delivered","pickup_note":"Pelanggan boleh ambil bahan tanaman pada masa dan tarikh yang telah di tetapkan di dalam sistem","created_date":"2024-06-20 10:21:45","updated_date":"2024-06-27 14:50:17"}, {"job_id":"5","product_id":"628","order_id":"4722","order_number":"DOA2406200286","job_status":"Completed","completion_date":"2024-07-04","job_location":"Stesen Pertanian Gum-Gum Bt16 Sandakan","product_name":"Durian Musang King (D197)", "order_quantity":"5","order_total":"150.00","completed_quantity":"5","order_note":"","pickup_date":"2024-06-24","pickup_time":"09:00:00","pickup_status":"Pickup Completed/Delivered","pickup_note":"Pelanggan boleh ambil bahan tanaman pada masa dan tarikh yang telah di tetapkan di dalam sistem","created_date":"2024-06-20 10:21:45","updated_date":"2024-06-27 14:50:17"}, {"job_id":"6","product_id":"629","order_id":"4722","order_number":"DOA2406200286","job_status":"Completed","completion_date":"2024-07-04","job_location":"Stesen Pertanian Gum-Gum Bt16 Sandakan","product_name":"Mangga Chokanan (MA224)", "order_quantity":"5","order_total":"100.00","completed_quantity":"5","order_note":"","pickup_date":"2024-06-24","pickup_time":"09:00:00","pickup_status":"Pickup Completed/Delivered","pickup_note":"Pelanggan boleh ambil bahan tanaman pada masa dan tarikh yang telah ditetapkan didalam sistem","created_date":"2024-06-20 10:21:45","updated_date":"2024-06-27 14:49:16"}, {"job_id":"7","product_id":"631","order_id":"4723","order_number":"DOA2406200287","job_status":"Completed","completion_date":"2024-07-04","job_location":"Stesen Pertanian Gum-Gum Bt16 Sandakan","product_name":"Avokado", "order_quantity":"2","order_total":"70.00","completed_quantity":"2","order_note":"","pickup_date":"2024-06-21","pickup_time":"10:30:00","pickup_status":"Pickup Completed/Delivered","pickup_note":"Pelanggan boleh pick up pada tarikh dan masa yang telah di tetapkan dalam sistem","created_date":"2024-06-20 12:41:33","updated_date":"2024-06-27 14:50:17"}, {"job_id":"8","product_id":"632","order_id":"4723","order_number":"DOA2406200287","job_status":"Completed","completion_date":"2024-07-04","job_location":"Stesen Pertanian Gum-Gum Bt16 Sandakan","product_name":"Mangga Chokanan (MA224)", "order_quantity":"1","order_total":"20.00","completed_quantity":"1","order_note":"","pickup_date":"2024-06-21","pickup_time":"10:30:00","pickup_status":"Pickup Completed/Delivered","pickup_note":"Pelanggan boleh pick up bahan tanaman mengikut masa yang telah di tetapkan di dalam sistem","created_date":"2024-06-20 12:41:33","updated_date":"2024-06-27 14:49:16"}, {"job_id":"9","product_id":"636","order_id":"4728","order_number":"DOA2406220289","job_status":"Completed","completion_date":"2024-07-06","job_location":"Stesen Kompleks Pertanian Inanam","product_name":"Mangga Harumanis (MA128)", "order_quantity":"3","order_total":"60.00","completed_quantity":"3","order_note":"","pickup_date":"2024-07-10","pickup_time":"10:00:00","pickup_status":"Pickup Completed/Delivered","pickup_note":"Tanaman telah dihantar","created_date":"2024-06-22 10:10:13","updated_date":"2024-07-10 10:10:13"}]
```



```
[ {
  {
    "completed_quantity": "1",
    "completion_date": "2024-06-27",
    "created_date": "2024-06-13 15:47:02",
    "job_id": "1",
    "job_location": "Stesen Kompleks Pertanian Inanam",
    "job_status": "Completed",
    "order_id": "4638",
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    "order_number": "DOA2406130279",
    "order_quantity": "1",
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    "pickup_date": "2024-06-27",
    "pickup_note": "Pick up stesen inanam",
    "pickup_status": "Pickup Completed/Delivered",
    "pickup_time": "09:00:00",
    "product_id": "613",
    "product_name": "Mangga Harumanis (MA128) ",
    "updated_date": "2024-07-03 14:15:04"
  },
  {
    "completed_quantity": "3",
    "completion_date": "2024-07-03",
    "created_date": "2024-06-19 09:00:18",
    "job_id": "3",
    "job_location": "Stesen Pertanian Batu 15, Tawau",
    "job_status": "Completed",
    "order_id": "4673",
    "order_note": "",
    "order_number": "DOA2406190285",
    "order_quantity": "3",
    "order_total": "90.00",
    "pickup_date": "2024-06-21",
    "pickup_note": "",
    "pickup_status": "Pickup Completed/Delivered",
    "pickup_time": "09:00:00",
    "product_id": "625",
    "product_name": "Durian \"Sabah Big Thorn\" (QDZ1) ",
    "updated_date": "2024-06-28 14:52:28"
  },
}
```

JSON Format

Raw Data from WooCommerce API

DATA PROCESSING

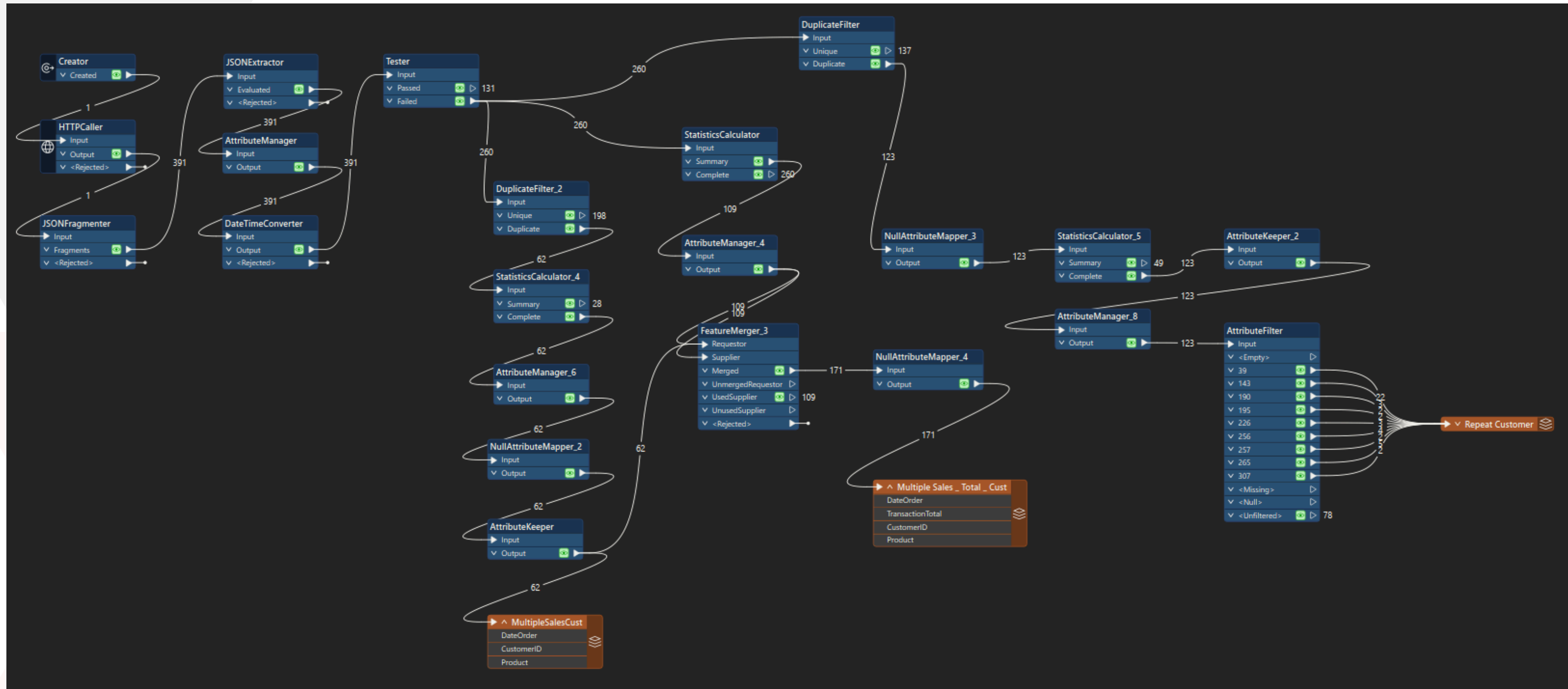
Goal: Prepare the data for analysis by resolving the inconsistencies, missing values, or errors in dataset.

Tasks:

- Remove and handle missing values.
- Filter out errors or inconsistencies in data.
- Normalize and standardize the data.
- Format the data into a usable structure.



DATA PROCESSING



FME Workbench for Paying Customer

DATA PROCESSING

Tester Parameters

Transformer Name:

Test Clauses

Logic	Left Value	Operator	Right Value
	☐ OrderStatus	=	☐ cancelled

Comparison Mode:

Advanced

Help Presets OK Cancel

DuplicateFilter Parameters

Transformer Name:

General

Key Attributes:

Input is Ordered:

Advanced

Help Presets OK Cancel

AttributeManager Parameters

Transformer Name:

Advanced - Attribute Value Handling

Attribute Actions

Input Attribute	Output Attribute	Value	Type	Action
DateOrder	DateOrder	<Enter value (opt...	buffer	Do Nothing
_creation_instance	_creation_instance		uint64	Remove
_response_body	_response_body		buffer	Remove
_http_status_code	_http_status_code		buffer	Remove
json_type	json_type		buffer	Remove
json_index	json_index		uint32	Remove
orderNumber	orderNumber	<Enter value (opt...	varchar(200)	Do Nothing
City	City	<Enter value (opt...	varchar(200)	Do Nothing
Email	Email	<Enter value (opt...	varchar(200)	Do Nothing
TransactionID	TransactionID	<Enter value (opt...	varchar(200)	Do Nothing
OrderStatus	OrderStatus	<Enter value (opt...	varchar(200)	Do Nothing
CustomerID	CustomerID	<Enter value (opt...	varchar(200)	Do Nothing
Product	Product	<Enter value (opt...	varchar(200)	Do Nothing
Email.total_count	MultipleSales	<Enter new value...	uint64	Rename

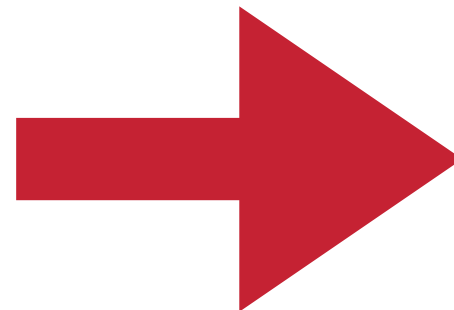
Filter Import OK Cancel

Used FME Transformers

DATA PROCESSING

	Email	TransactionID	OrderStatus	CustomerID	DateOrder	City	Product	orderNumbe
0	cao5575@mai...		cancelled	325	2025-01-18T11:...	Lahad datu	Durian Musang...	DOA2501180
1	cao5575@mai...		cancelled	325	2025-01-18T09:...	Lahad datu	Durian Musang...	DOA2501180
2	cao5575@mai...		cancelled	325	2025-01-18T09:...	Lahad datu	Durian Musang...	DOA2501180
3	nang0313@gm...		cancelled	326	2025-01-18T06:...	Sandakan	Durian "Sabah ...	DOA2501170
4	selescap@mai...	SP1302275072	completed	331	2025-01-15T15:...	Tuaran	null	DOA2501150
5	sal@gmail.com	SP9967684608	processing	330	2025-01-15T13:...	Sandakan	Durian Musang...	DOA2501150
6	mamaxbabazx...	SP8601682944	processing	329	2025-01-14T12:...	Sandakan	Durian "Sabah ...	DOA2501140
7	mamaxbabazx...		cancelled	329	2025-01-14T12:...	Sandakan	Mangga Harum...	DOA2501140
8	mamaxbabazx...		cancelled	329	2025-01-14T12:...	Sandakan	Mangga Harum...	DOA2501140
9	nang0313@gm...	SP8950441984	cancelled	326	2025-01-14T08:...	Sandakan	Durian Musang...	DOA2501140
10	nang0313@gm...		cancelled	326	2025-01-14T07:...	Sandakan	Durian Musang...	DOA2501130
11	nang0313@gm...		cancelled	326	2025-01-14T07:...	Sandakan	Durian Musang...	DOA2501130

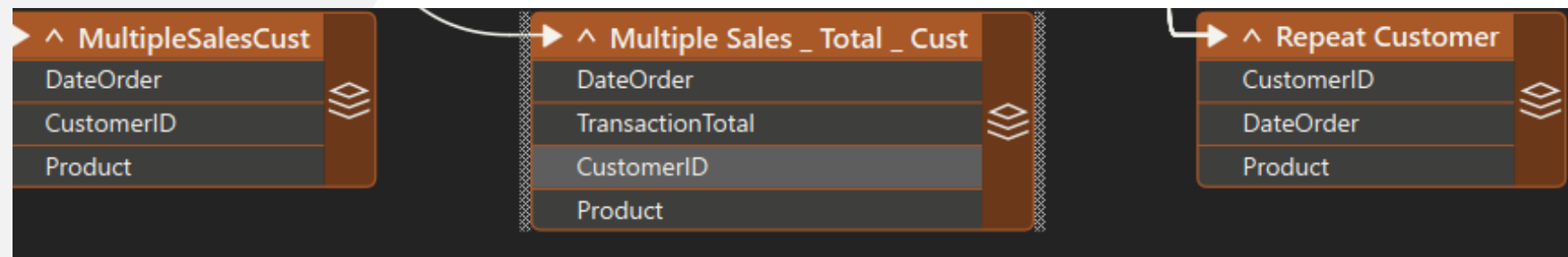
Inconsistencies and missing values in dataset



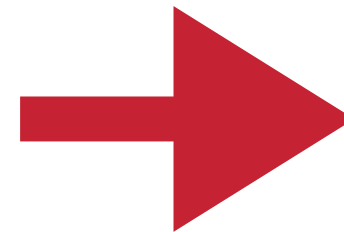
orderNumber	City	Email	TransactionID	OrderStatus	CustomerID	Product
DOA2407230346	Tawau	ooichoonhock0...	SP3416651776	completed	159	Avokado
DOA2409080450	Beluran	natilahrasid_89...	SP5452041216	completed	236	Avokado
DOA2410090526	Penampang	ksgroup92@g...	SP4003601408	completed	276	Avokado
DOA2410130539	Kota Kinabalu	kelvinen@gmai...	SP2087025664	completed	281	Avokado
DOA2410130541	Sandakan	lintan9104@g...	SP6520734720	completed	282	Avokado
DOA2410130542	Sandakan	lintan9104@g...	SP6629115904	completed	282	Avokado
DOA2411300620	Kota Kinabalu	rumagus16@g...	SP2140005376	completed	298	Avokado
DOA2501020652	Sandakan	alingchai13@g...	SP9366512640	processing	139	Avokado
DOA2407230344	Sandakan	thaqifahamrin...	SP4719324160	completed	157	AvokadoDurian...
DOA2412070626	Beluran	nuraqilahgusm...	SP8007537664	completed	280	AvokadoDurian...
DOA2409030425	Tawau	budakbotakje@...	SP1469423616	completed	230	AvokadoDurian...
DOA2406200286	Sandakan	jamayah6630@...	SP5832267776	completed	114	AvokadoDurian...
DOA2406200287	Sandakan	nasirsemporna...	SP9763521536	completed	115	AvokadoMangg...
DOA2406190285	Ranau	merick870@ya...	SP6412328960	completed	109	Durian "Sabah ...
DOA2407180329	Sandakan	alingchai13@g...	SP2226930688	completed	139	Durian "Sabah ...
DOA2408080374	Semporna	mazharmusa19...	SP8625311744	completed	185	Durian "Sabah ...
DOA2408260406	Kota Kinabalu	sauffi168@gma...	SP4809948160	completed	217	Durian "Sabah ...
DOA2409300509	Tawau	Yee5682@gmai...	SP7172329472	completed	264	Durian "Sabah ...
DOA2410070520	Tawau	juwitaningsih92...	SP4377688064	completed	274	Durian "Sabah ...
DOA2410110533	Sandakan	chongketwing...	SP6065249280	completed	237	Durian "Sabah ...

Necessary information in dataset that used for Agrobiz Dashboard

DATA PROCESSING OUTPUT



Writer tools in FME to produce output



Repeat Customer - Excel

	A	B	C	D	E	F	G	H	I	J
1	CustomerID	DateOrder	Product							
2		39 12-09-24	Penerbitan Buku							
3		39 11-18-2024	Durian Merah							
4		39 11-18-2024	Durian Merah							
5		39 11-18-2024	Durian Merah							
6		39 11-18-2024	Durian MerahDurian "Sabah Big Thorn" (QDZ1)Nangka J33							
7		39 11-18-2024	Durian "Sabah Big Thorn" (QDZ1)Durian MerahDurian Musang King (D197)Nangka J33Limau Kasturi							
8		39 10-09-24	Nangka J33							
9		39 10-09-24	Durian "Sabah Big Thorn" (QDZ1)Durian Musang King (D197)Durian MerahNangka J33							
10		39 09-19-2024	Mangga Chokanan (MA224)Nangka J33							
11		39 09-06-24	Mangga Harumanis (MA128)							
12		39 09-06-24	Mangga Harumanis (MA128)							
13		39 09-06-24	Mangga Harumanis (MA128)							
14		39 09-06-24	Mangga Harumanis (MA128)							
15		39 09-06-24	Nangka J33Mangga Harumanis (MA128)							
16		39 09-06-24	Nangka J33Mangga Harumanis (MA128)							
17		39 09-04-24	Durian "Sabah Big Thorn" (QDZ1)Durian MerahMangga Harumanis (MA128)							
18		39 09-04-24	Durian MerahDurian "Sabah Big Thorn" (QDZ1)Mangga Harumanis (MA128)Mangga Chokanan (MA224)							
19		39 09-04-24	Durian MerahDurian Musang King (D197)Mangga Chokanan (MA224)Mangga Harumanis (MA128)							
20		39 09-04-24	Durian "Sabah Big Thorn" (QDZ1)Durian MerahMangga Chokanan (MA224)							
21		39 09-04-24	Durian "Sabah Big Thorn" (QDZ1)Durian Musang King (D197)Durian MerahMangga Chokanan (MA224)Mangga Harumanis (MA128)Nangka J33							
22		39 09-04-24	Durian "Sabah Big Thorn" (QDZ1)Durian Musang King (D197)							
23		39 08-27-2024	Mangga Chokanan (MA224)Durian Musang King (D197)							
24		226 09-20-2024	Durian Musang King (D197)Limau Kasturi							
25		226 09-09-24	Durian Musang King (D197)DURIAN DURI HITAM (D200)Limau KasturiAvokado							
26		226 08-27-2024	DURIAN DURI HITAM (D200)Durian Musang King (D197)Mangga Chokanan (MA224)							
27		307 11-14-2024	Durian Musang King (D197)Durian "Sabah Big Thorn" (QDZ1)							
28		307 11-07-24	Mangga Chokanan (MA224)							
29		257 09-26-2024	Durian Musang King (D197)							
30		257 09-25-2024	Durian Musang King (D197)							
31		195 09-13-2024	Durian Merah							

Output of data processing in Excel Form

DASHBOARD DEVELOPMENT

Goal: Prepare an automated and interactive dashboard for real-time data visualization.

Tasks:

- Built the Agrobiz Dashboard using the M.App Hexagon platform.
- Designed interactive features.



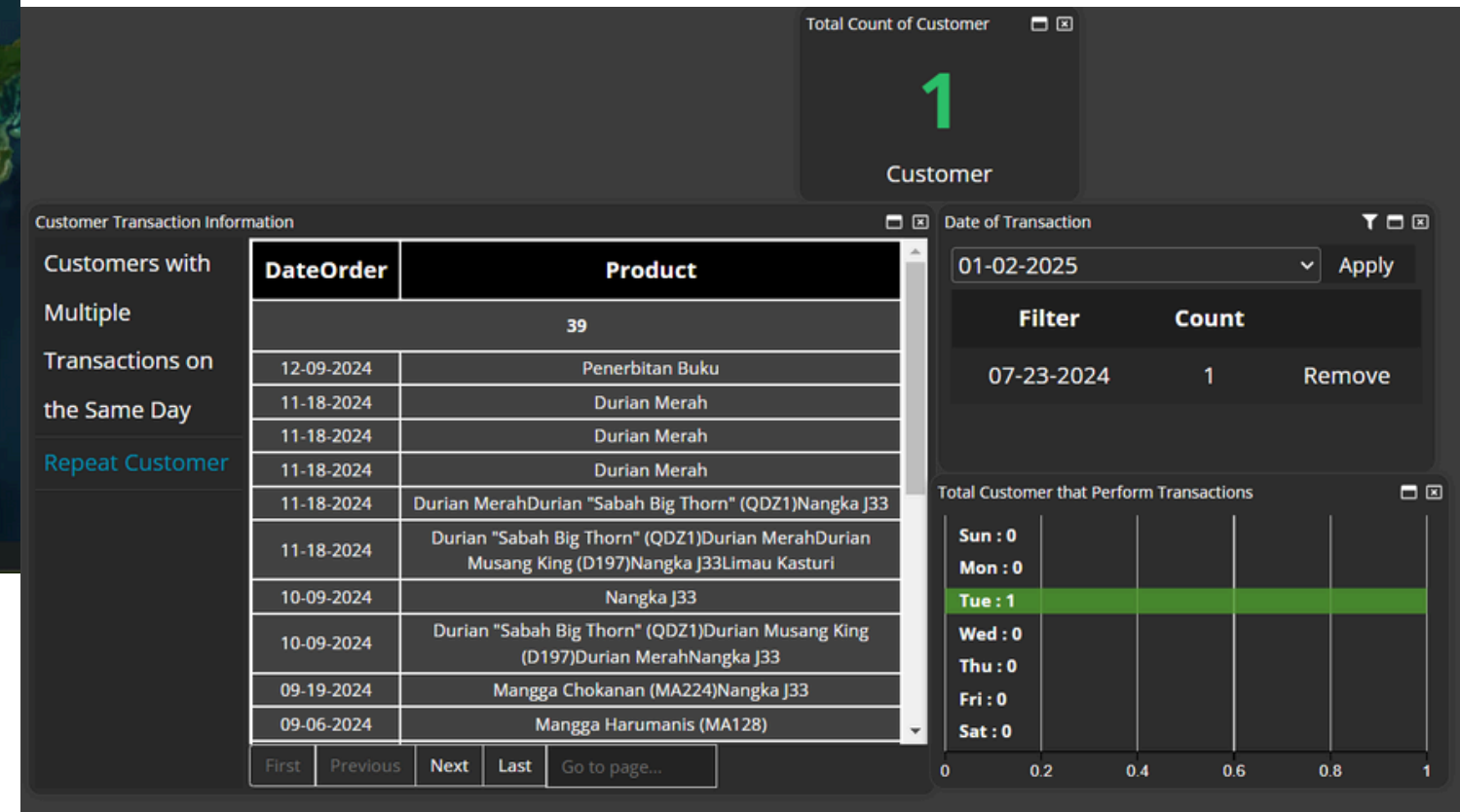
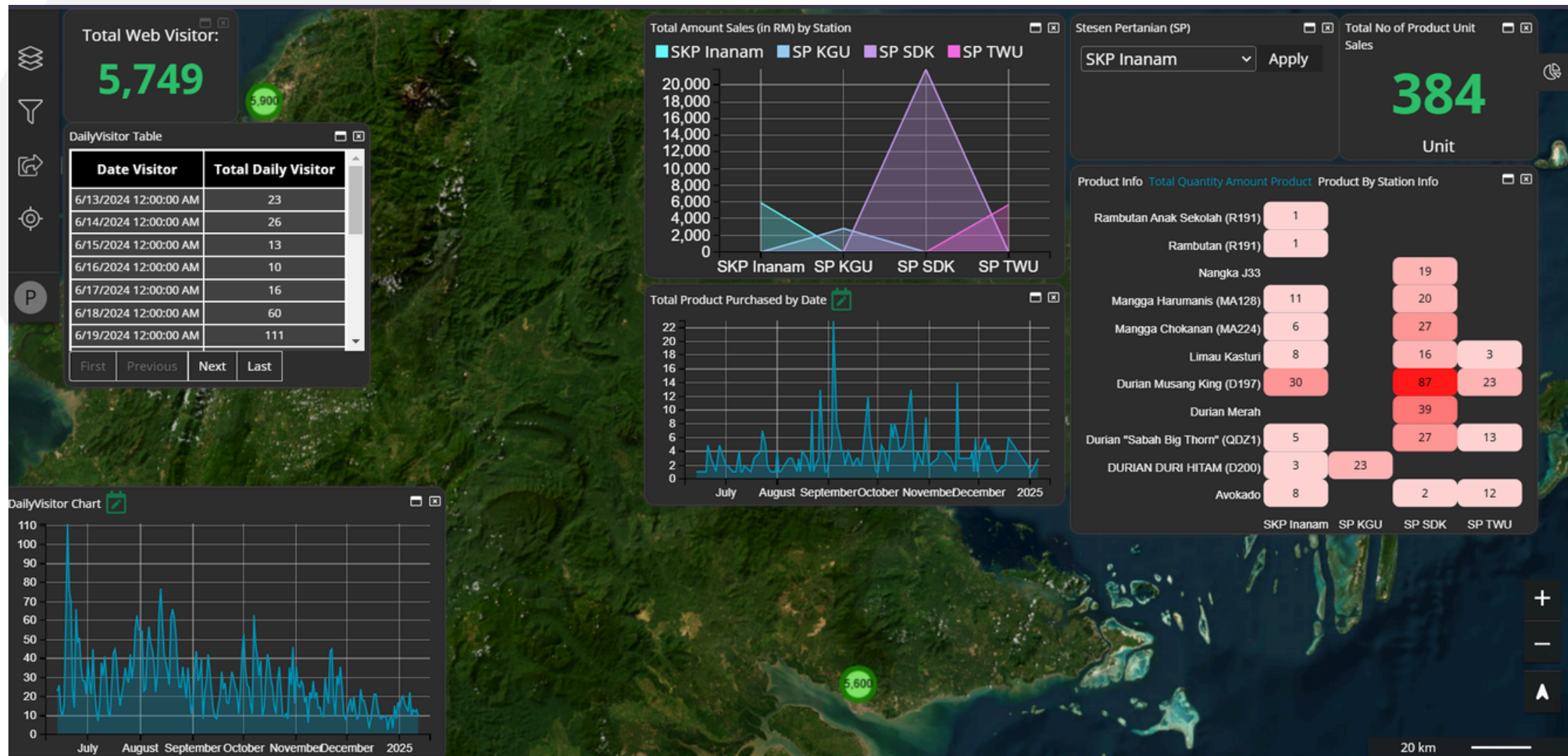
DASHBOARD DEVELOPMENT

Add
Primary Cluster
Order
Multiple Sales _ Total _ Cust <i>Primary</i>
MultipleSalesCust <i>Primary</i>
Repeat Customer <i>Primary</i>
ProductbyStationInfo <i>Primary</i>
dailyVisitor <i>Primary</i>
Cluster Total Amount by Product (in RM) <i>Cluster</i>

Widgets used in M.APP Hexagon Platform

× dailyVisitor ⓘ + Date Visitor Total Daily Visitor	× Multiple Sales _ Total _ Cust ⓘ + DateOrder TransactionTotal CustomerID Product	× MultipleSalesCust ⓘ + DateOrder CustomerID Product	× ProductbyStationInfo ⓘ + Date Order Number Station Product Qty Total Amount (RM) x y
	× Repeat Customer ⓘ + CustomerID DateOrder Product		

Dataset used for Agrobiz Dashboard



LINK AGROBIZ DASHBOARD

Agrobiz Dashboard

SIDE TASK

Point of Interest (POI) Sabah Data Collection

- Worked with colleagues to do a data collection of longitude and latitude for POI Sabah, such as the Police Station for each district.
- Ensured all relevant data was captured and organized for analysis.
- Enhanced skills in data handling and attention to detail to maintain the data quality.

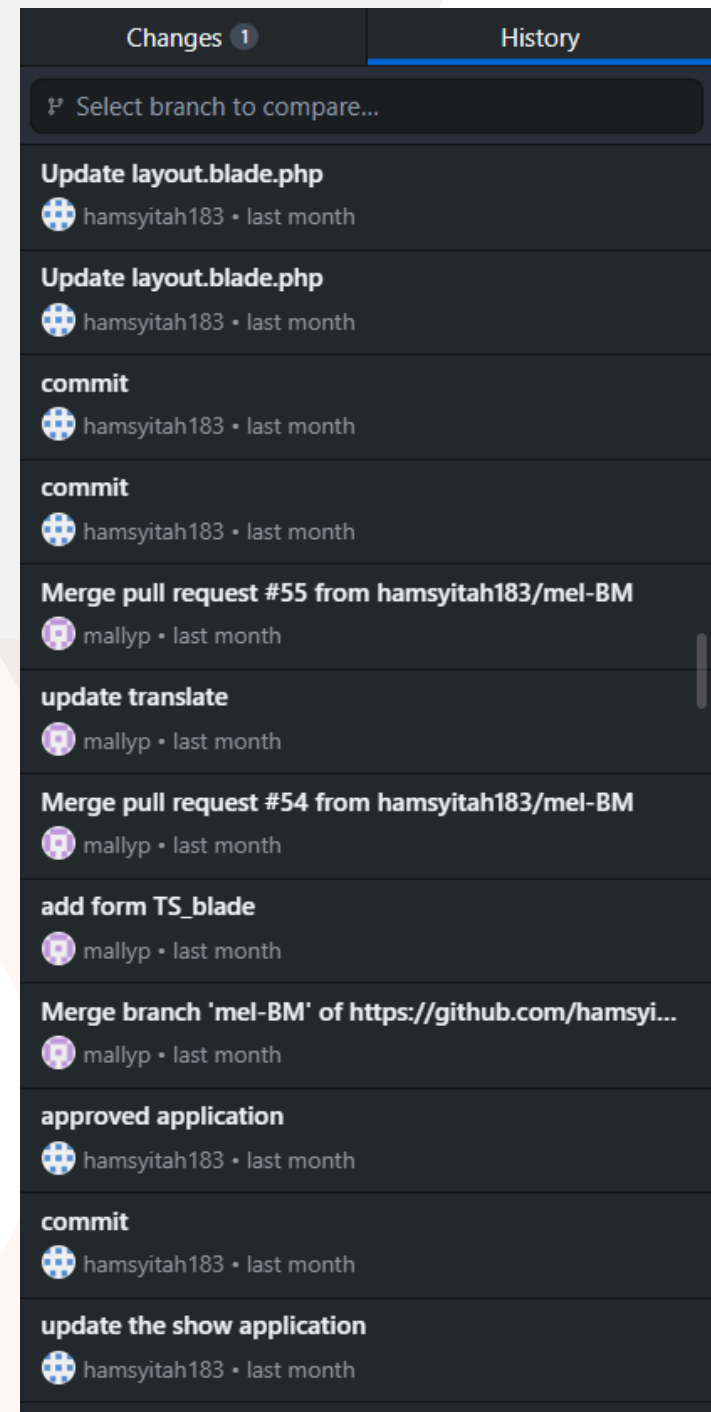


ASSISTING WITH THE DEVELOPMENT OF LAIRA WEBSITE

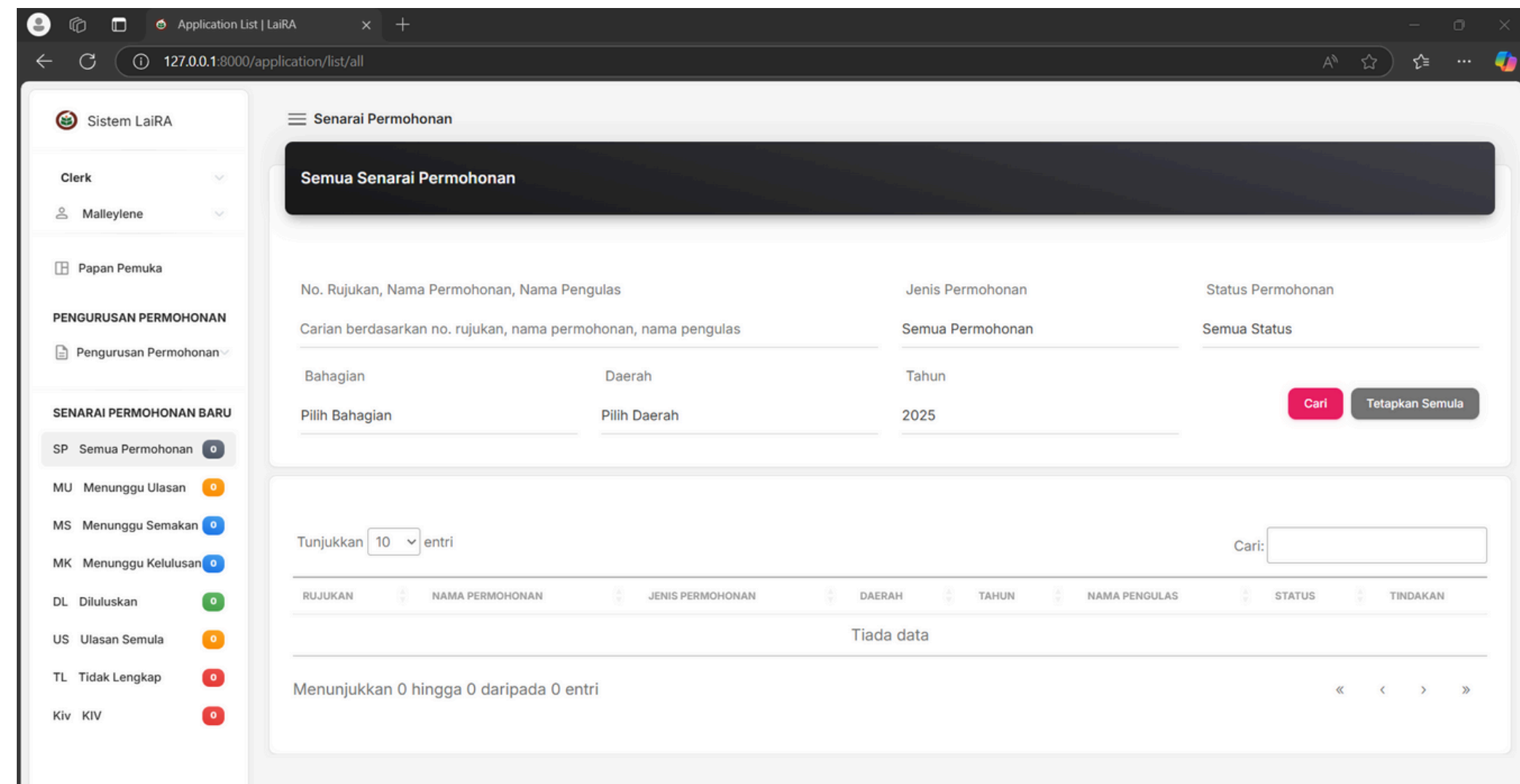
- Assist and collaborated with colleagues to address issues, implement improvements, and contribute to the website's ongoing development.
- Utilized GitHub for version control and collaborative work.
- Gained knowledge and practical experience with the Laravel framework.
- Provided BM-translation services to support website accessibility and usability.
- Developed technical and collaborative abilities while helping to the improvement of the LaiRa website.



ASSISTING WITH THE DEVELOPMENT OF LAIRA WEBSITE



Collaborate
through Github
Desktop



LaiRa Website Dashboard

BOOTH ASSISTANCE AT THE 8TH SABAH INTERNATIONAL SURVEYORS CONGRESS

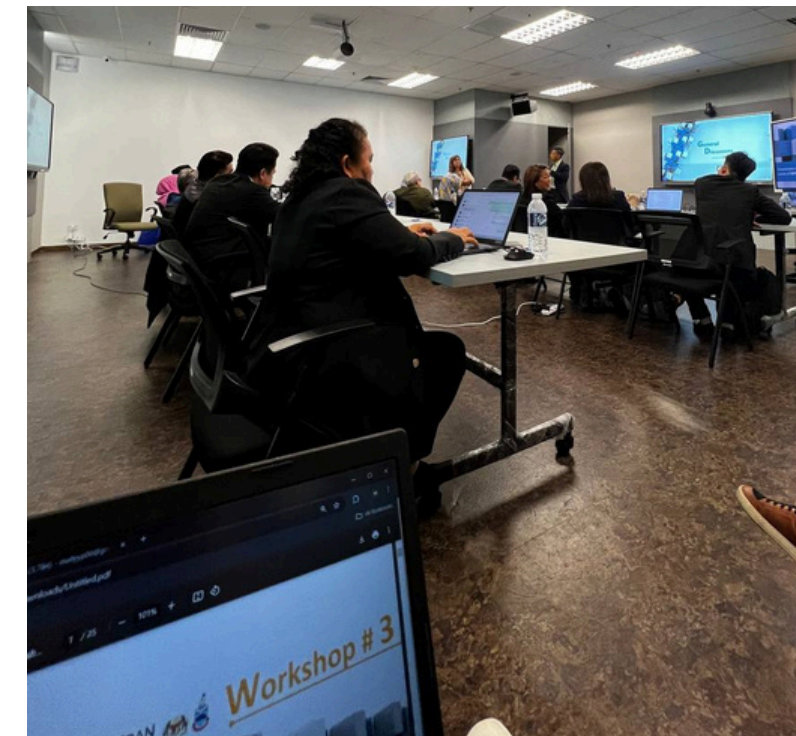
- Assisted in setting up and managing the booth at the Surveyor Congress event.
- Represented the company by interacting with visitors and explaining its services and projects.
- Improved communication and presentation skills through direct interaction.
- Learned about industry trends and expanded professional connections.



**TDSB Exhibition Booth at
the Surveyors Congress**

ATTENDED THE DATA POLICY WORKSHOP AT DIGITAL GOVERNMENT DIVISION (DGD) SABAH

- Attended workshop at DGD Sabah on Data User Policy as part of the TDSB project.
- Role as a note taker, capturing the key insights and discussions of the workshop.
- Focus on understanding the data usage policies that are relevant to the project.
- Worked with colleagues to record and ensure compliance with project objectives.
- Gained insight into the importance of data governance and compliance within the project.



Attended the data policy workshop

TECHNICAL SKILLS GAINED

- 01 Data Collection & Analysis**
- 02 Data Processing & Automation**
- 03 Programming & API Integration**
- 04 Dashboard Development & Visualization**

SOFT SKILLS GAINED

- 01 Attention to Detail**
- 02 Project Management**
- 03 Problem-Solving & Critical Thinking**
- 04 Team Collaboration & Communication Skills**

THANK YOU



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Menginovasi Penyelesaian



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