Capstone Term 7 Interim Presentation

S08 Ecoplus – Customer Experience Management

Agenda

1. Introduction to the Team

2. Project Overview

3. Start of Customer Journey

4. Office Customers

5. Site Customers

6. Interfaces

7. AI Models

8. Project Budget and Timeline

Introduction to the Team

ECOPLUS INTERNATIONAL PTE LTD

Kelvin Teo
General Manager

Serene Tan
HR Manager

SINGAPORE UNIVERSITY OF TECHNOLOGY AND DESIGN

Dileepa Fernando
Lecturer

Sean Peh
ESD
Project Management

Marianne Lim
ESD
Customer Experience

Everlyn Lim
ESD
Data Visualisation

Saniyah Haider
CSD
Frontend

Stavya Sharma
CSD
Backend,
System Integration

Celest Teng
CSD
Backend/Data,
AI/ML/NLP

Edward Tang
DAI
AI/ML/NLP

ESD = Engineering Systems and Design, CSD = Computer Science and Design, DAI = Design and Artificial Intelligence
AI = Artificial Intelligence, ML = Machine Learning, NLP = Natural Language Processing

3

Project Overview

Project Background

Ecoplus International Pte Ltd

- Integrated pipe systems provider for construction and maritime industries

- Most revenue comes from repeat orders
  - Hence, maintaining a good customer experience is crucial

- However, Ecoplus lacks insight into the customer experience today
  - No formal system to collect and follow up on customer feedback
  - Issues are only flagged when customers complain
  - Unable to accurately assess severity of customer complaints
  - Unable to measure effectiveness of service recovery

Information Gathering

- Meetings with Ecoplus management
  - Project sourcing (Nov'24 - Feb'25)
  - Weekly meetings (Oct'25 - Nov'25)

- Site Visit (30 Oct 2025, 9am-5.30pm)
  - Toured Ecoplus facilities
  - Presented to sales team
  - Shadowed Account Managers and Outbound Supervisor
  - Interacted directly with Ecoplus customers

- Literature Review
  - AI models (11 papers)
  - Backend databases (5 papers)
  - Customer experience / satisfaction (15 papers)
  - Data visualisation (8 papers)
  - Feedback gathering / survey methods (15 papers)
  - Project management (10 papers)
  - UI / UX Frontend (23 papers)

Customer Experience

- Customer experience – the **holistic, cumulative effect of all a customer's interactions** with a company **throughout their entire purchase journey**
  - Purchase journey stages – pre-purchase, purchase, post-purchase

- Three outcomes of quality customer experience[1]:

Satisfaction
Overall and attribute-level
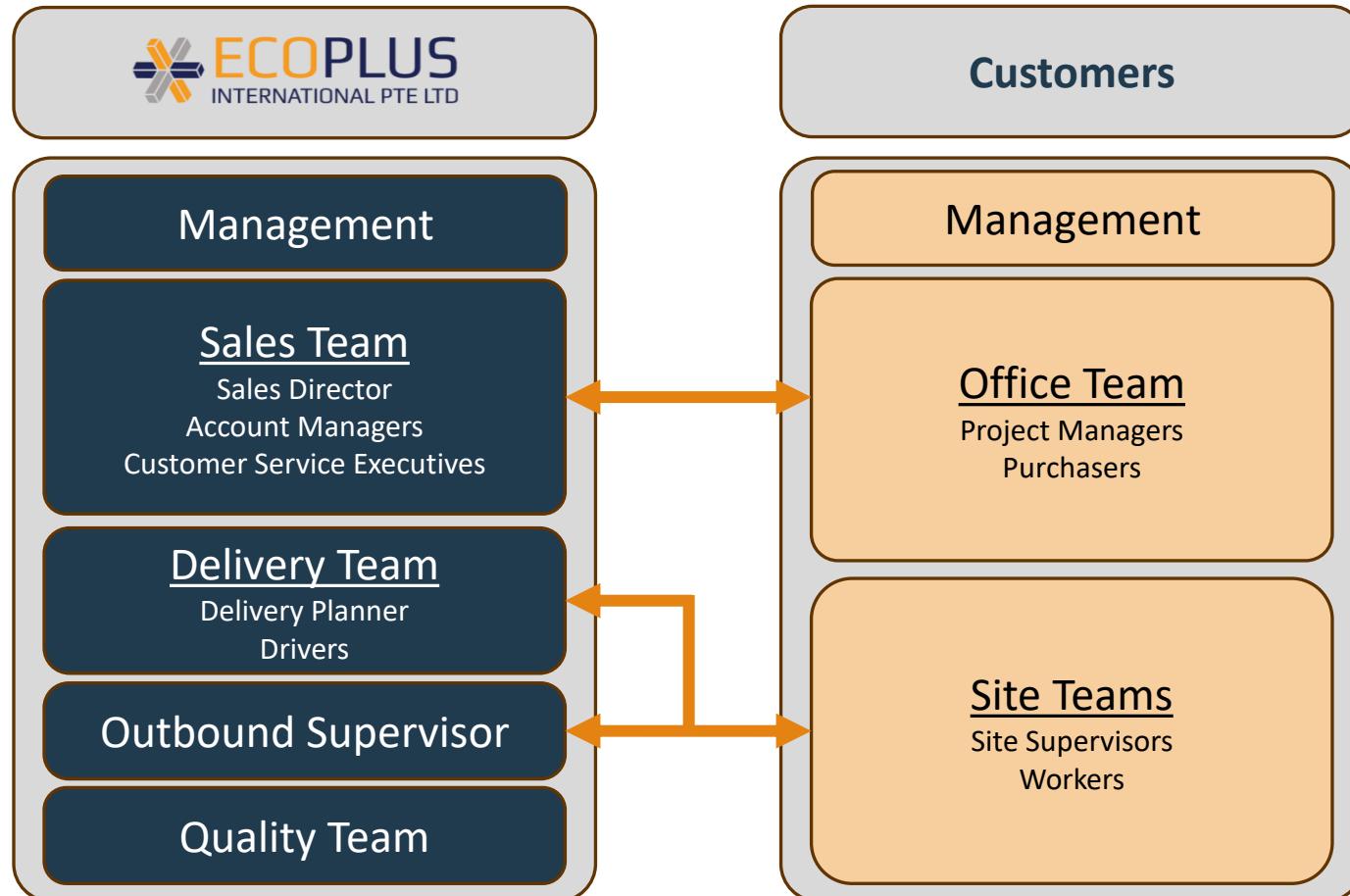
Positive word-of-mouth intention
Measured using Net Promoter Score (NPS)
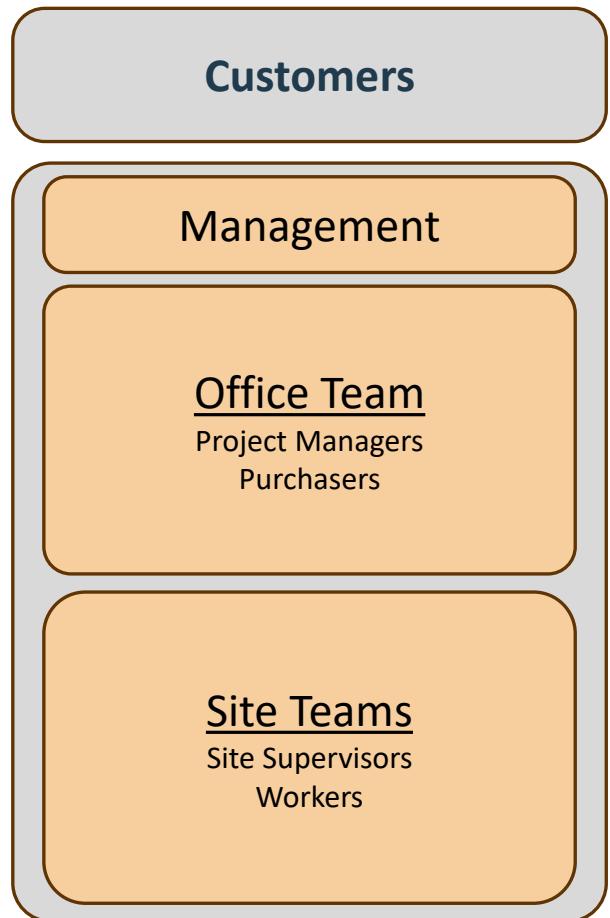
Loyalty
Repurchasing behaviour

1 Maklan, S., & Klaus, P. (2011). Customer Experience: Are We Measuring the Right Things? International Journal of Market Research, 53(6), 771-772. https://doi.org/10.2501/IJMR-53-6-771-792 (Original work published 2011)

Key Stakeholders

ECOPLUS INTERNATIONAL PTE LTD

Management

Sales Team
Sales Director
Account Managers
Customer Service Executives

Delivery Team
Delivery Planner
Drivers

Outbound Supervisor

Quality Team

Customers

Management

Office Team
Project Managers
Purchasers

Site Teams
Site Supervisors
Workers

Customer Experience Metrics

Customers

Management

Office Team
Project Managers
Purchasers

Site Teams
Site Supervisors
Workers

Satisfaction
Overall and attribute-level

Net Promoter Score (NPS)
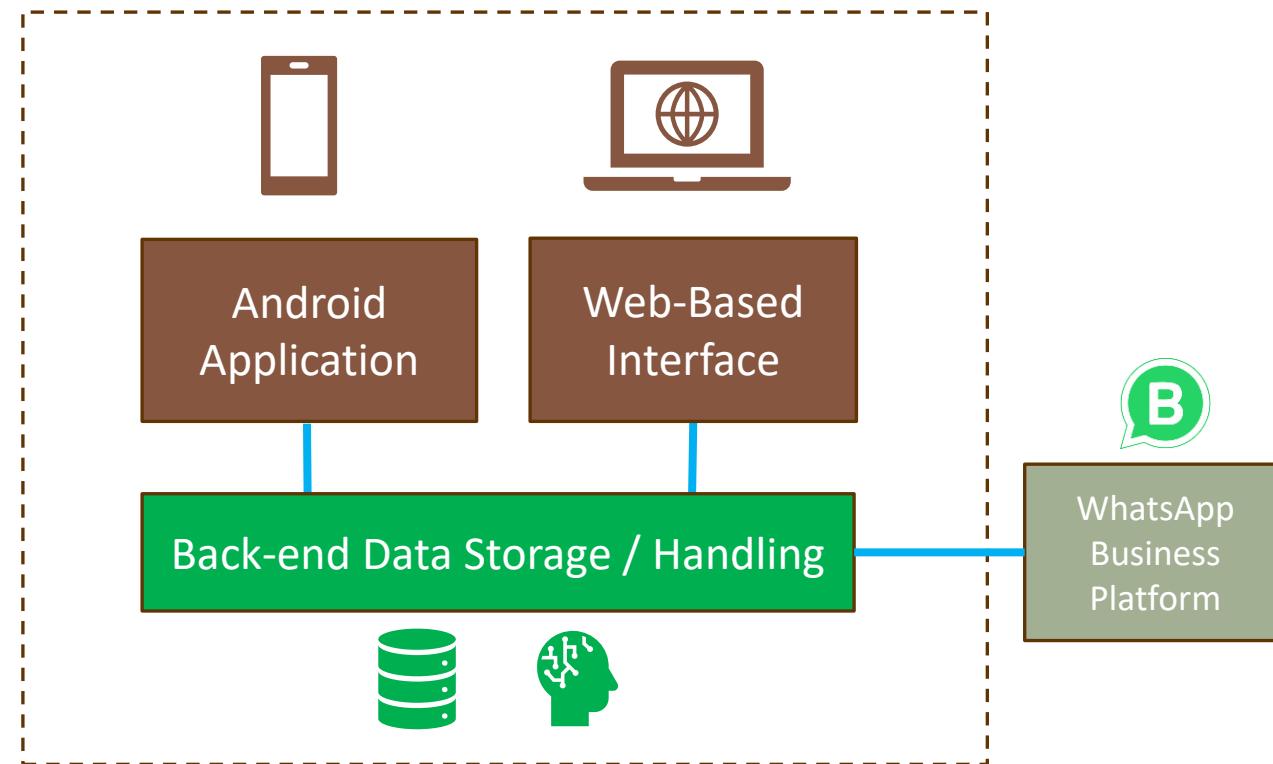
Satisfaction
Overall

Final Problem Statement
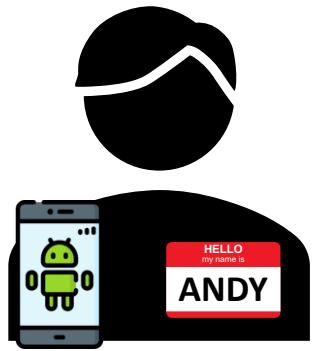
How might we deliver a solution to generate **timely, accurate** customer experience insights and follow-up actions in a way that **seamlessly integrates** with existing Ecoplus workflows?

System Overview

Start of Customer Journey

# Customer Journey: On-boarding

**Account Manager**
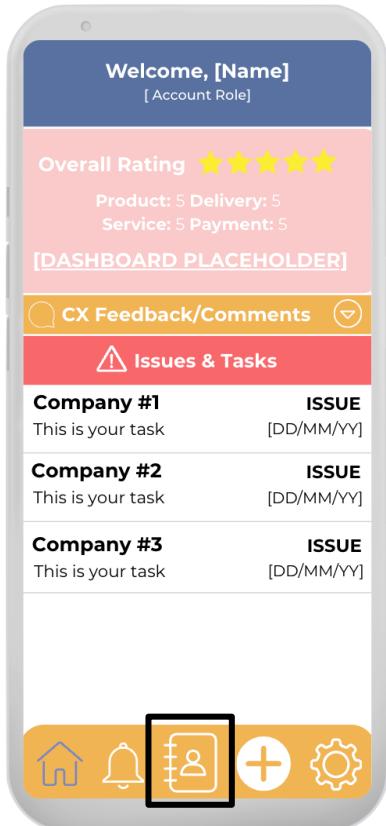
Office Customer
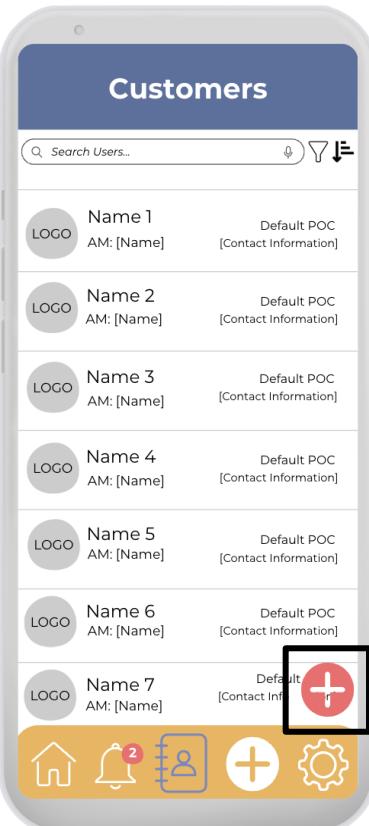
Site Customer
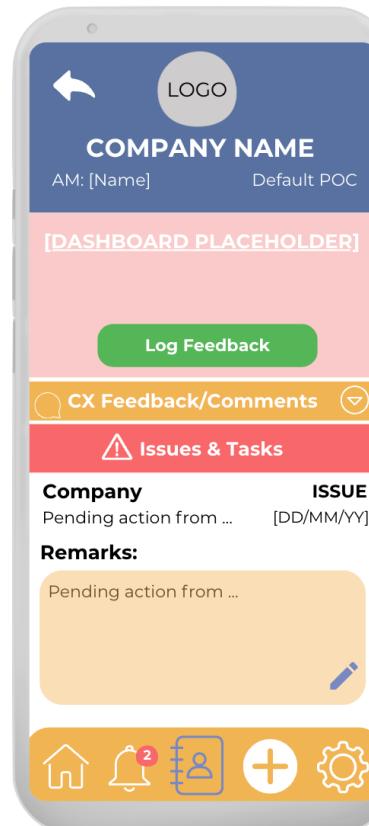
Customer Journey: On-boarding

Homepage

Customer List
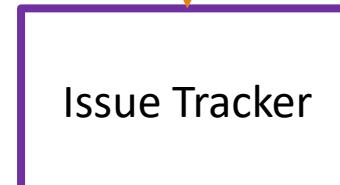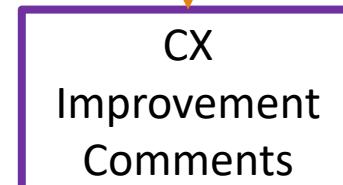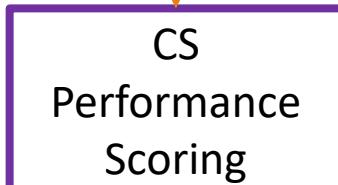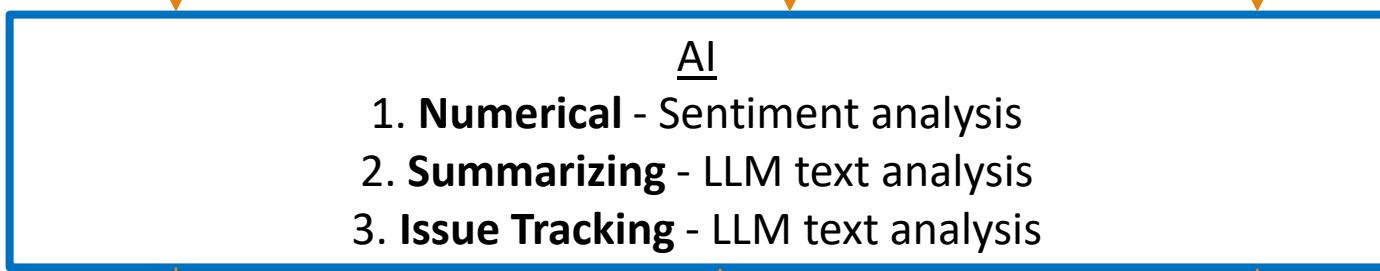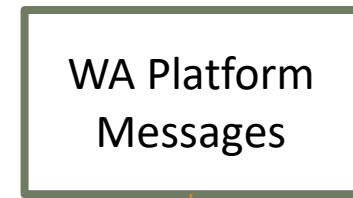
Customer Profile

Office Customers
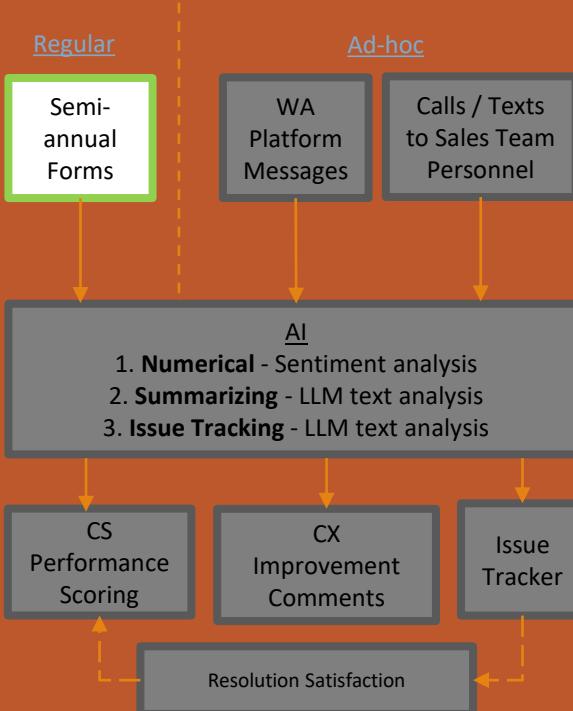
Data flow (Office)

Regular Customer Feedback Channels

Regular
- Semi-annual Forms

Ad-hoc
- WA Platform Messages
- Calls / Texts to Sales Team Personnel

AI
1. **Numerical** - Sentiment analysis
2. **Summarizing** - LLM text analysis
3. **Issue Tracking** - LLM text analysis

- CS Performance Scoring
- CX Improvement Comments
- Issue Tracker
- Resolution Satisfaction
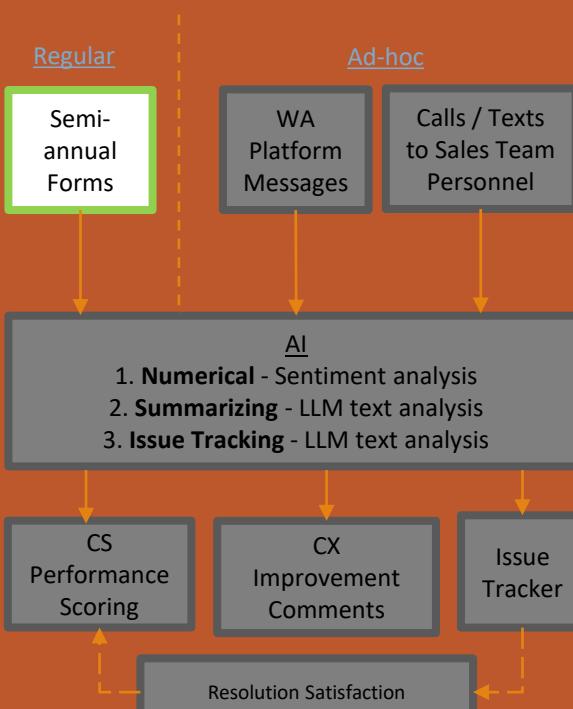
Format	Semi-annual external (web) form
Questions Asked	1. Which organisation do you represent? 2. Which best describes your current role? 3. How satisfied are you with Ecoplus' performance on _____ (1-5 scale) • Product, Service, Delivery, Payment 4. [If rating is 1 or 2] What attributes of _____ did not meet your expectations? 5. How satisfied are you with Ecoplus' overall performance? (1-5 scale) 6. On a scale of 0-10, how likely are you to recommend Ecoplus to a friend, family member, or colleague? 7. Do you have any other comments or suggestions for improvement?
Data Collection Method	External form sent via WhatsApp Business Platform
Data Processing Models	1. Linear regression model 2. Summariser AI Model

Regular Customer Feedback Channels

Regular

Semi-annual Forms

Ad-hoc

WA Platform Messages

Calls / Texts to Sales Team Personnel

AI
1. **Numerical** - Sentiment analysis
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CS Performance Scoring

CX Improvement Comments

Issue Tracker

Resolution Satisfaction

- Current Data Collected
  - Form was sent in October 2025 to understand customer experience today

    Chong Cheong Foundry Works Customer Experience Survey (2025)

    Which organisation do you represent? *

    Which best describes your current role? *

    - A Management
    - B Project engineer / manager
    - C Purchaser

  - Synthetic data was also generated with expert approval
    - "Boss say the price too high, ask me to get quote from other supplier also. But honestly CC quality more reliable. Can review pricing?"

- Net Promoter Score (NPS)[1]
  - % Promoters (recommendation likelihood = 9-10) – % Detractors (recommendation likelihood = 0-6)
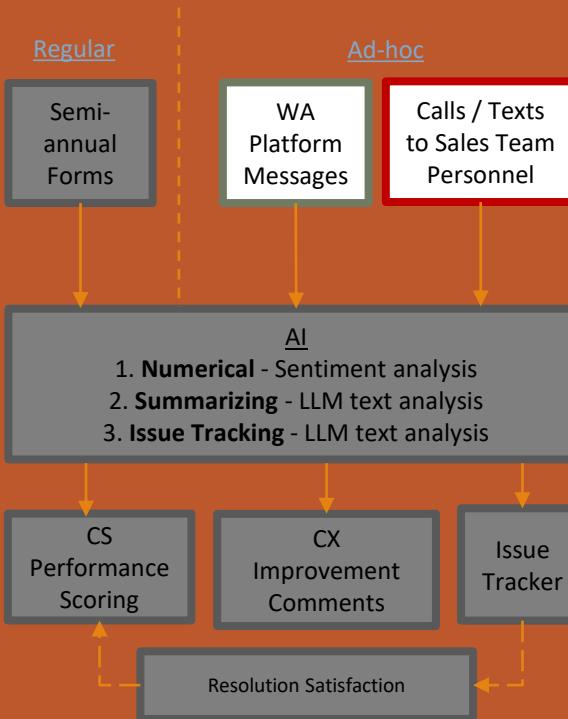
- Linear regression model
  - $y = \beta_0 + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3 + \beta_4 x_4$
  - Attributes: Product, Service, Delivery, Payment
  - Best-fit line for overall satisfaction score:
    - Overall = 0.740 + 0.106 * Product + 0.173 * Service + 0.339 * Delivery + 0.217 * Payment
  - Attribute scores will be progressively updated

Ad-hoc Customer Feedback Channels

Regular

Ad-hoc

Semi-annual Forms

WA Platform Messages

Calls / Texts to Sales Team Personnel

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1. **Numerical** - Sentiment analysis
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CS Performance Scoring

CX Improvement Comments

Issue Tracker

Resolution Satisfaction
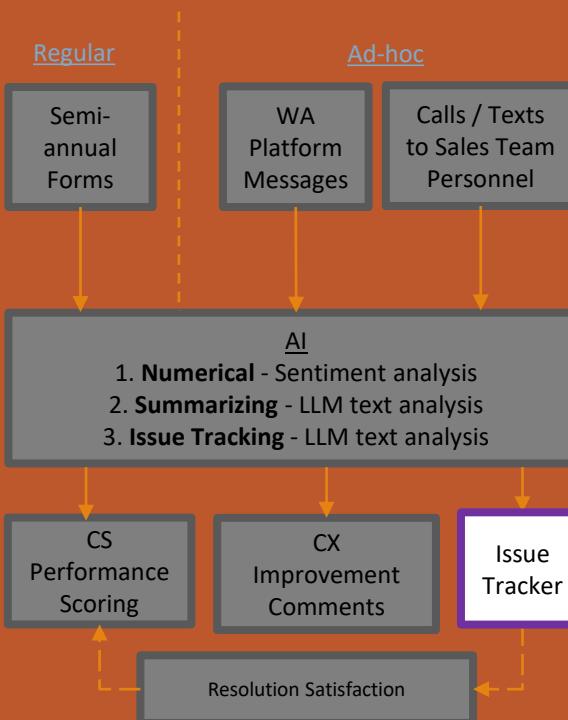
	Calls and Texts to Sales Team Personnel	WhatsApp Business Platform Messages
Data Collection Method	1. Voice recording features • Available in the Android application • Recorded by sales team 2. Manual Input • Available in both interfaces • Recorded by sales team	1. WhatsApp Business Platform • Automatically extracted via API
Data Processing Models	1. Numerical AI Model 2. Issue Tracking AI Model	1. Numerical AI Model 2. Summariser AI Model 3. Issue Tracking AI Model

HELLO my name is OSCAR

19

Ad-hoc Customer Feedback Channels

Issue and task tracker

S/N	Issue	Created by	Created at	To Inform	Assigned to	Resolved At	Status to Close	Closed At	Resolution Score
E.g.	Delivery Delay	Andy	14 Nov 1045h	Andy Cust Svc Darren	Darren Cust Svc		Andy		

1. Issue Creation

Using data collected from Ad-hoc customer feedback channels

2. Issue Resolution

Those in "assigned to" to handle and ensure issue is fixed before marking as resolved
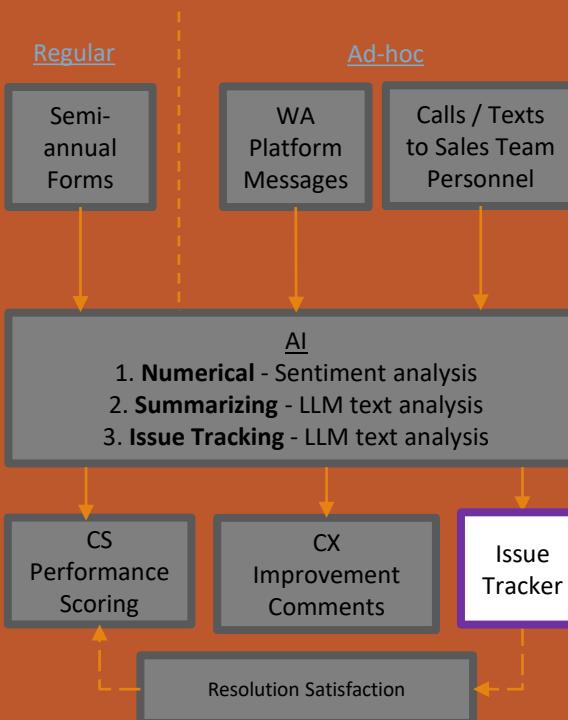
3. Issue Closure

Those in "status to close" to inform customers of resolution before marking as closed
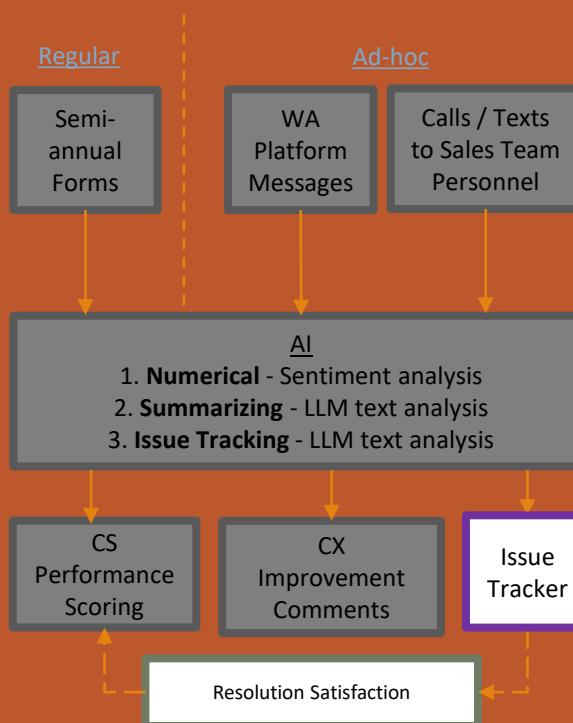
---

Regular

Semi-annual Forms

Ad-hoc

WA Platform Messages

Calls / Texts to Sales Team Personnel

AI
1. **Numerical** - Sentiment analysis
2. **Summarizing** - LLM text analysis
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CS Performance Scoring

CX Improvement Comments

Issue Tracker

Resolution Satisfaction

HELLO my name is OSCAR

Ad-hoc Customer Feedback Channels

Issue and task tracker

S/N	Issue	Created by	Created at	To Inform	Assigned to	Resolved At	Status to Close	Closed At	Resolution Score
E.g.	Delivery Delay	Andy	14 Nov 1045h	Andy Cust Svc Darren	Darren Cust Svc		Andy		

Notification System in Interfaces

- Alerts those in "to inform" when an issue is created

- Alerts those in "status to close" when an issue is marked as resolved
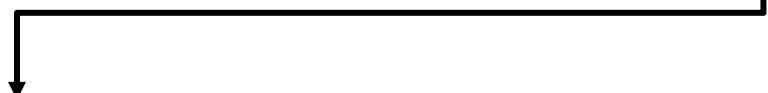
Regular
- Semi-annual Forms

Ad-hoc
- WA Platform Messages
- Calls / Texts to Sales Team Personnel

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- CS Performance Scoring
- CX Improvement Comments
- Issue Tracker

- Resolution Satisfaction

Resolution and Score Updating

Regular

Semi-annual Forms

Ad-hoc

WA Platform Messages

Calls / Texts to Sales Team Personnel

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1. **Numerical** - Sentiment analysis
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CS Performance Scoring

CX Improvement Comments

Issue Tracker

Resolution Satisfaction

✓≡ Issue and task tracker

S/N	Issue	Created by	Created at	To Inform	Assigned to	Resolved At	Status to Close	Closed At	Resolution Score
E.g.	Delivery Delay	Andy	14 Nov 1045h	Andy Cust Svc Darren	Darren Cust Svc	16 Nov 1735h	Andy	17 Nov 10355h	Neutral

Resolution and Score Updating

Customers to give score based on satisfaction with Ecoplus' resolution of the issue

☹️ Not Satisfied 😐 Neutral 🙂 Satisfied

OSCAR

Resolution and Score Updating

Regular

| Semi-annual Forms |

Ad-hoc

| WA Platform Messages | | Calls / Texts to Sales Team Personnel |

AI
1. **Numerical** - Sentiment analysis
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3. **Issue Tracking** - LLM text analysis

| CS Performance Scoring | | CX Improvement Comments | | Issue Tracker |
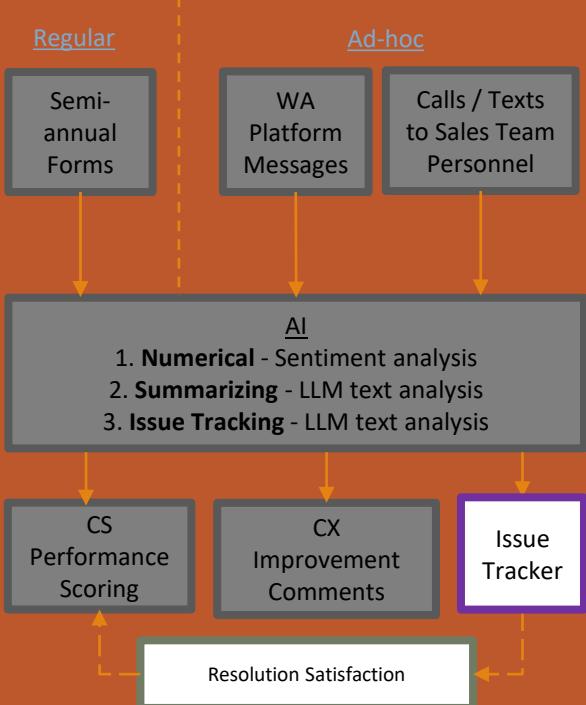
Resolution Satisfaction

The resolution score is obtained at time period t. To calculate the new total score of i-th attribute at time period $t + 1$,

$$x_{i,t+1} = \alpha x_{i,t} + \boxed{k(1-\alpha)\Omega_{i,t+1}}$$

Ad-hoc function

Decision Variables

- $x_{i,t}$: Total score of i-th attribute at time period t

- α : Pre-assigned weight

- $\Omega_{i,t+1}$: Score of ad-hoc feedback under i-th attribute given at time period $t+1$

- $$k = \begin{cases} 1 & \text{if not satisfied} \\ \frac{x_{i,t}+\Omega_{i,t+1}}{2\Omega_{i,t+1}} & \text{if neutral} \\ \frac{x_{i,t}}{\Omega_{i,t+1}} & \text{if satisfied} \end{cases}$$
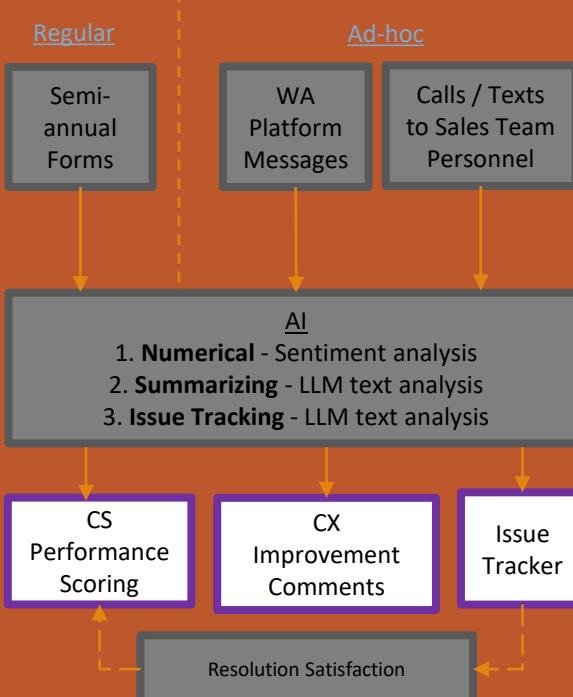
If not satisfied → Ad-hoc function unchanged
If neutral → Ad-hoc function is halved
If satisfied → Ad-hoc function is removed

Constraints

- $0 < \alpha < 1$

- $\Omega_{i,t+1}, x_{i,t} \in [0, 5]$
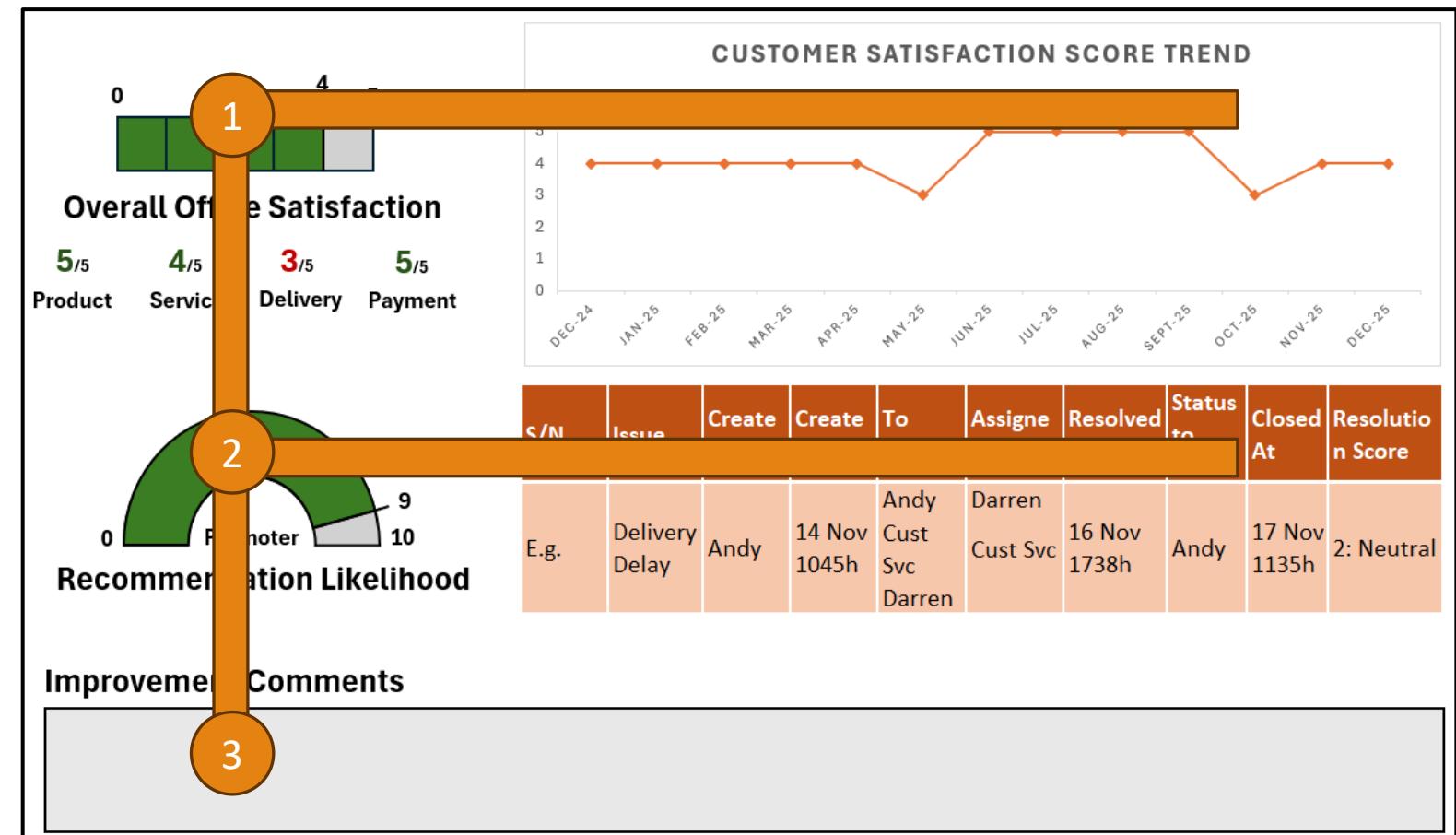
Displaying Customer Satisfaction
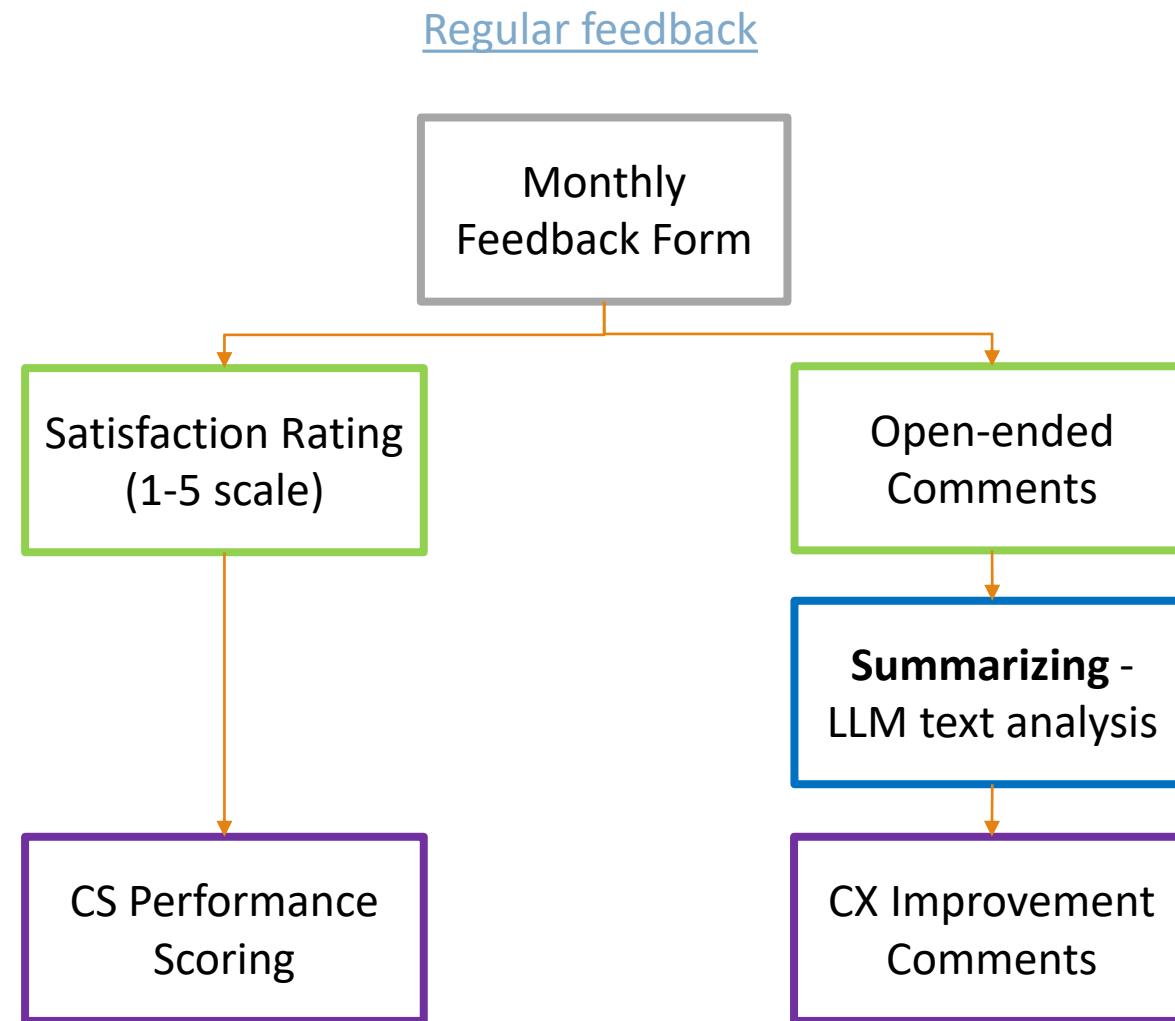
Design follows the visual hierarchy using the F-pattern

- Designs following the visual hierarchy are regarded as good designs[2]

Regular
- Semi-annual Forms

Ad-hoc
- WA Platform Messages
- Calls / Texts to Sales Team Personnel

AI
1. **Numerical** - Sentiment analysis
2. **Summarizing** - LLM text analysis
3. **Issue Tracking** - LLM text analysis

- CS Performance Scoring
- CX Improvement Comments
- Issue Tracker

- Resolution Satisfaction

CUSTOMER SATISFACTION SCORE TREND

Overall Office Satisfaction

5/5	**4**/5	**3**/5	**5**/5
Product	Service	Delivery	Payment

Recommendation Likelihood

S/N	Issue	Create	Create	To	Assigne	Resolved	Status to	Closed At	Resolution Score
E.g.	Delivery Delay	Andy	14 Nov 1045h	Andy Cust Svc Darren	Darren Cust Svc	16 Nov 1738h	Andy	17 Nov 1135h	2: Neutral

Improvement Comments

2 Urano, Yoko & Kurosu, Aaron & Henselman-Petrusek, Gregory & Todorov, Alexander. (2021). Visual Hierarchy Relates to Impressions of Good Design. 10.31234/osf.io/hksf9.

Site Customers

Regular feedback

Monthly
Feedback Form

Satisfaction Rating
(1-5 scale)

Open-ended
Comments

Summarizing -
LLM text analysis

CS Performance
Scoring

CX Improvement
Comments

Data flow (Site)

Regular Customer Feedback Channels

Regular feedback

```
        Monthly
        Feedback
          Form
            │
    ┌───────┴────────┐
    │                │
Satisfaction    Open-ended
Rating (1-5     Comments
  scale)            │
    │          Summarizing
    │          - LLM text
    │            analysis
    │                │
    CS              CX
Performance    Improvement
 Scoring        Comments
```

Format	Monthly Customer Satisfaction Questionnaire
Questions Asked	1. How satisfied are you with Ecoplus' performance? (1-5 scale) 2. Any other feedback?
Data Collection Method	In-app input on Outbound Supervisor's device during site visit
Data Processing Models	1. Summariser AI model

Displaying Customer Satisfaction

Regular feedback

```
Monthly Feedback Form
```

```
Satisfaction Rating (1-5 scale)          Open-ended Comments
```

```
                                          Summarizing
                                          - LLM text analysis
```

```
CS Performance Scoring                    CX Improvement Comments
```

HELLO my name is SAM

Overall Office Satisfaction

0   4   5

5/5   4/5   3/5   5/5
Product   Service   Delivery   Payment

0   5

Overall Site Satisfaction

0   Promoter   9
                10

Recommendation Likelihood

CUSTOMER SATISFACTION SCORE TREND

Office Overall   Site Overall

S/N	Issue	Created by	Created at	To Inform	Assigned to	Resolved At	Status to Close	Closed At	Resolution Score
E.g.	Delivery Delay	Andy	14 Nov 1045h	Andy Cust Svc Darren	Darren Cust Svc	16 Nov 1738h	Andy	17 Nov 1135h	2: Neutral

Improvement Comments

Interfaces

Proof of Concept: Android Application
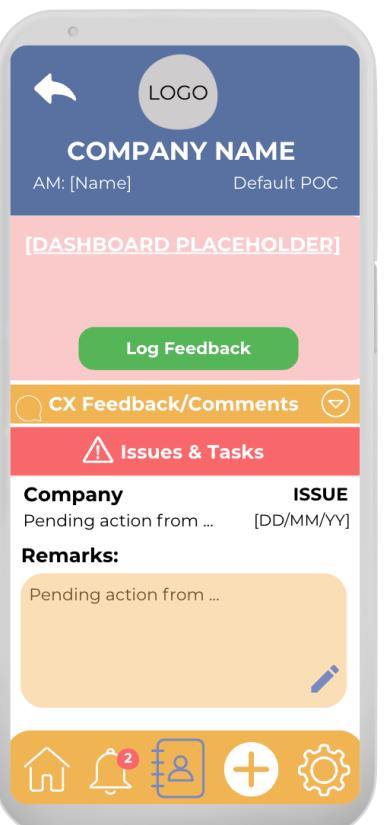
Homepage
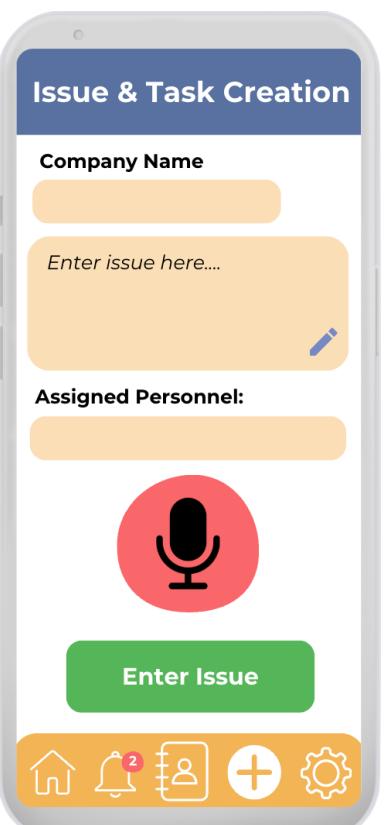
Notifications
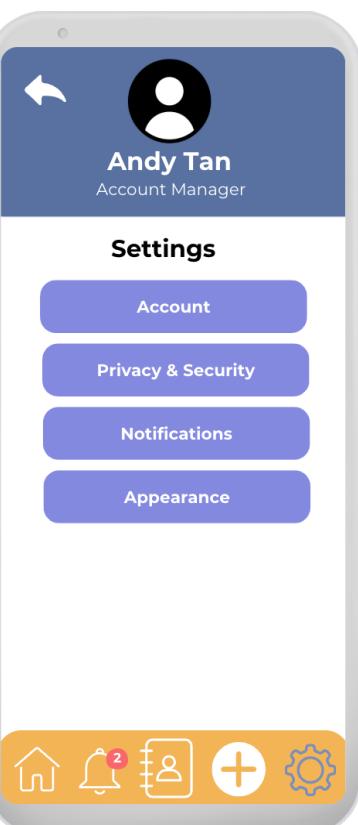
Customer List

Customer Profile

Issue Creation

Settings

Proof of Concept: Web-based Interface

Homepage

Notifications

Customer Profile

Proof of Concept: Web-based Interface

Issue Creation

WhatsApp Business Platform

Settings

Interface Pages Summary

No.*	Pages	Description	Android Application	Web-Based Interface
1	Home	Overview of customer experience data and issue and task tracker	✅	✅
2	Notifications	Compile all notifications of key updates and actions required	✅	✅
3	Customer Profiles	List of individual profiles containing key Customer information	✅	✅
4	Issue and Task Creation	Tool to create issues	✅	✅
5	WhatsApp Business Platform	User friendly front-end to use WhatsApp Business Platform	❌	✅
6	Settings	Manage account information and adjust display preferences	✅	✅

Pages organised by importance and expected frequency of usage

AI Models

AI Models

Artificial Intelligence (AI) Models in our solution are:
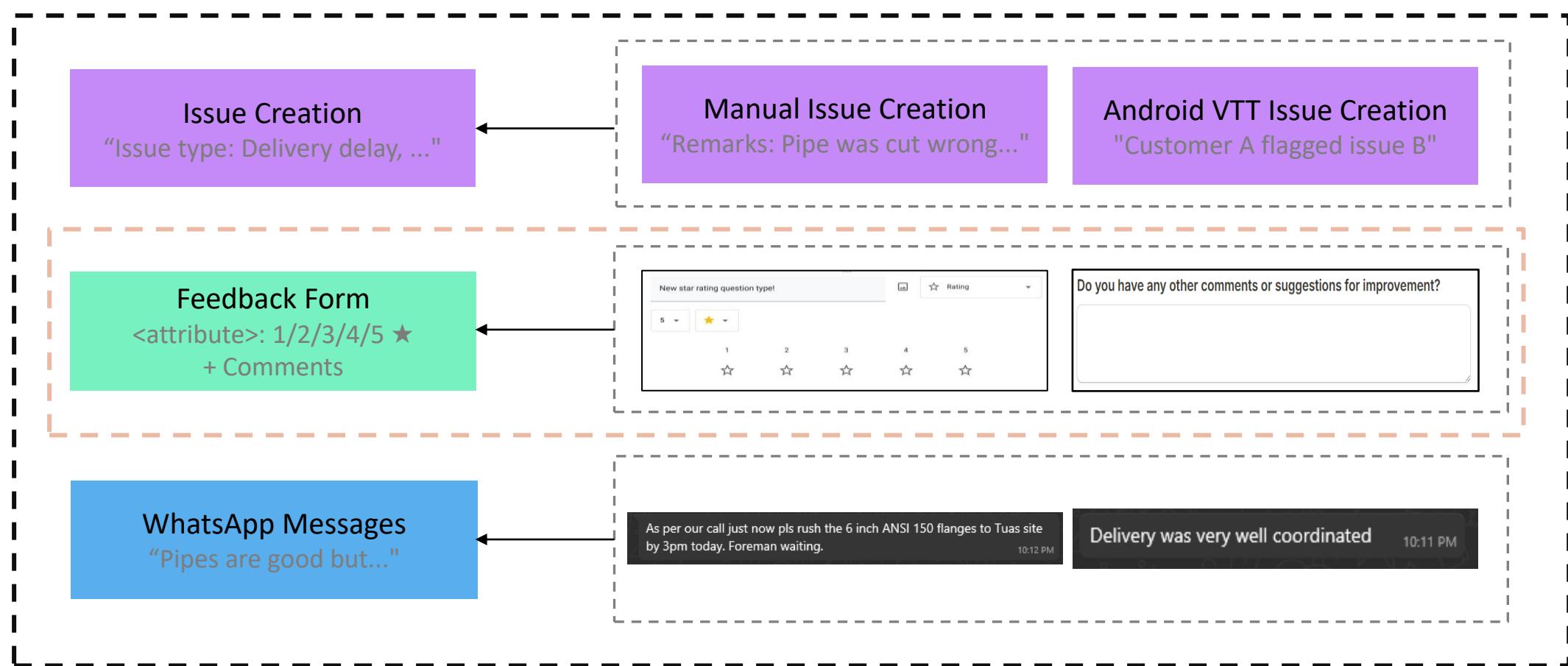
1. Office:
   a. Customer Satisfaction (CS) Scoring Model
   b. Summarizing Model (CX Improvement Comments)
   c. Issue Tracking Model

2. Site:
   a. Customer Satisfaction (CS) Scoring (Direct feedback form scores only)
   b. Summarizing Model (CX Improvement Comments)

Inputs

Issue Creation
"Issue type: Delivery delay, ..."

Manual Issue Creation
"Remarks: Pipe was cut wrong..."

Android VTT Issue Creation
"Customer A flagged issue B"

Feedback Form
<attribute>: 1/2/3/4/5 ★
+ Comments

New star rating question type! ☆ Rating

5 ▾   ★ ▾

1   2   3   4   5
☆   ☆   ☆   ☆   ☆

Do you have any other comments or suggestions for improvement?

WhatsApp Messages
"Pipes are good but..."

As per our call just now pls rush the 6 inch ANSI 150 flanges to Tuas site by 3pm today. Foreman waiting.   10:12 PM

Delivery was very well coordinated   10:11 PM

CS Scoring (Office)

CS Scoring (Office)

Input

Feedback Form Scores
<attribute>: 1/2/3/4/5 ★

WhatsApp Messages
Comments

Issue Creation

Issue Resolution Score
<resolved?>: 1/2/3/4/5 ★

Model

LLM Preprocessing

Mapping to Attribute Score
<attribute>: 1/2/3/4/5 ★

Linear Regression Model

Output

CS Performance Score
Numerical Score from 1-5

CS Scoring (Office)

Input

Model

Output

Feedback Form Scores
<attribute>: 1/2/3/4/5 ★

CS Performance Score
Numerical Score from 1-5

Attribute scores (Direct from feedback form)

How satisfied are you with Chong Cheong Foundry Works' performance on Delivery? *

| 1 | 2 | 3 | 4 | 5 |

Very unsatisfied   Very satisfied

Overall Performance Score
(Direct from feedback form)

How satisfied are you with Chong Cheong Foundry Works' overall performance? *

| 1 | 2 | 3 | 4 | 5 |

Very unsatisfied   Very satisfied

CS Scoring (Office)

Input

Feedback Form Scores	WhatsApp Messages	Issue Creation	Issue Resolution Score
<attribute>: 1/2/3/4/5 ★	Comments		<resolved?>: 1/2/3/4/5 ★

Model

LLM Preprocessing

Mapping to Attribute Score
<attribute>: 1/2/3/4/5 ★

Linear Regression Model

Output

CS Performance Score
Numerical Score from 1-5

CS Scoring (Office)

Input

WhatsApp Messages
Comments

Issue Creation

→ Text Based Inputs

As per our call just now pls rush the 6 inch ANSI 150 flanges to Tuas site by 3pm today. Foreman waiting.   10:12 PM

Model

LLM Preprocessing

→ Assigns an attribute

Original comment:
Refer to my email dated 15 Oct regarding the manhole covers for Woodlands site. Still no reply from your side?

Detected category: Service

Mapping to Attribute Score
<attribute>: 1/2/3/4/5 ★

Linear Regression Model

→ Attribute scores -> Weighted impact on overall score

$$y = \beta_0$$
$$+\beta_1 \ (0.5 * old \ score + 0.5 \ * new \ score)$$
$$+ \cdots$$

Output

CS Performance Score
Numerical Score from 1-5

→ Overall CS Performance Score from 1-5

AI: Mapping Text -> Attribute

Model 1

Input
- Text
  "Good quality pipes"

Model
- LLM Preprocessing
- Sentiment Analysis
  [0.7, 0.1, 0.2]
- Mapping
  LLM/ Tabularasai

Output
- Attribute Scores
  <attribute>: 1/2/3/4/5 ★

Model 2

Input
- Text
  "Good quality pipes"

Model
- Mapping
  LLM/ Other Seq2Seq

Output
- Attribute Scores
  <attribute>: 1/2/3/4/5 ★

AI: Mapping Text -> Attribute

Model 1

Input

```
Text
"Good quality pipes"
```

Model

```
LLM Preprocessing
```
```
Sentiment Analysis
[ 0.7, 0.1, 0.2 ]
```
```
Mapping
LLM/ Tabularasai
```

Output

```
Attribute Scores
<attribute>: 1/2/3/4/5 ★
```

Model 2

Input

```
Text
"Good quality pipes"
```

Model

```
Mapping
LLM/ Other Seq2Seq
```

Output

```
Attribute Scores
<attribute>: 1/2/3/4/5 ★
```

AI: Mapping Text -> Attribute

Model 1

Input

Text
"Good quality pipes"

Model

LLM Preprocessing

Sentiment Analysis
[0.7, 0.1, 0.2]

Mapping
LLM/ Tabularasai

Output

Attribute Scores
<attribute>: 1/2/3/4/5 ★

Assigns an attribute

```
Original comment:
Refer to my email dated 15 Oct regarding the manhole covers for Woodlands site. Still no reply from your side?

Detected category: Service
```

Sentiment Possibility

sentiment_negative_cardiff	sentiment_neutral_cardiff	sentiment_positive_cardiff
0.012174047	0.650340676	0.337485254

Scales it to 1-5

AI: Mapping Text -> Attribute

Model 1

Input

Text
"Good quality pipes"

Model

LLM Preprocessing

Sentiment Analysis
[0.7, 0.1, 0.2]

Mapping
LLM/ Tabularasai

Output

Attribute Scores
<attribute>: 1/2/3/4/5 ★

Model 2

Input

Text
"Good quality pipes"

Model

Mapping
LLM/ Other Seq2Seq

Output

Attribute Scores
<attribute>: 1/2/3/4/5 ★

AI: Mapping Text -> Attribute

Model 2

Input

Text
"Good quality pipes"

Model

Mapping
Fine Tuned LLM/ Other Seq2Seq

Output

Attribute Scores
<attribute>: 1/2/3/4/5 ★

Training Data (Simplified)

Message: Poor quality and customer service defensive

Output:
```
{
  "product": 2,
  "service": 1
}
```

Model Output

```
- MODEL RAW OUTPUT ---------------------
{"aspects":{"product":2}}
- PARSED PREDICTION (JSON) --------------
{
   "aspects": {
     "product": 2
   }
}
- ASPECT MAPPING TABLE ------------------
ASPECT              TRUE   PRED ABS ERR
-----------------------------------------
product              2      2    0.00
```

AI: Mapping Text -> Attribute

Model 1

Model 2

Input

| Text |
| "Good quality pipes" |

| Text |
| "Good quality pipes" |

Model

| LLM Preprocessing |

| Sentiment Analysis |
| [0.7, 0.1, 0.2] |

| Mapping |
| LLM/ Tabularasai |

| Mapping |
| LLM/ Other Seq2Seq |

Baseline Accuracy: **~80%**[1]

Output

| Attribute Scores |
| <attribute>: 1/2/3/4/5 ★ |

| Attribute Scores |
| <attribute>: 1/2/3/4/5 ★ |

1 Zhang, Lei & Wang, Shuai & Liu, Bing. (2018). Deep Learning for Sentiment Analysis: A Survey. 10.1145/nnnnnnn.

Inputs

Issue Creation
"Issue type: Delivery delay, ..."

Feedback Form
<attribute>: 1/2/3/4/5 ★
+ Comments

WhatsApp Messages
"Pipes are good but..."

- Data Requirements
  - Amount of data needed: **300-500 labelled samples**
  - **Contingency**: Use **synthetic data** (LLM generated, verified by experts)
    - Must be easy to insert real data if it becomes available

| Comment_ID	Comment
1	Status?
2	As per our call just now pls rush the 6 inch ANSI 150 flanges to Tuas site by 3pm today. Foreman waiting.
3	MTC received but cert date shows March 2024, our PO is Feb 2024. Which batch is this? Pls clarify asap.
4	Can faster or not? Client side keep asking me already. Need the DI fittings by COB today if not project delay.
5	Good support from your Katherine during LKG project shutdown last month. Hope can maintain same service level for upcoming Jurong Island works.
6	Wrong item sent again. This is 3rd time already. I ordered PN16 you send PN10. Pls arrange collection and replacement urgent.
7	Refer to my email dated 15 Oct regarding the manhole covers for Woodlands site. Still no reply from your side?
8	Driver cannot find our Pioneer Road location. Can give him my number 9123-4567 so I can guide him in?
9	Hi the valve you quoted is for freshwater system but can use for seawater or not? Our marine application need corrosion resistant.
10	Flanges received yesterday, quality looks good, coating finish is clean. Tks for the fast delivery.
11	Boss asking for update on PO CC-2847. Can advise ETA? Need before CNY shutdown period starts.
12	This one how? Drawing shows JIS 10K but client now says must be ANSI 150. Can still change or need to reorder?
13	Pls send the cert
14	Your Ah Beng say can deliver Monday but your office say Wednesday. Which one correct? Site ready to receive Monday only.
15	Need hydro test cert with third party witness for the 8 inch gate valves. PUB inspector very strict this time round.

CS Scoring (Office)

Input

Feedback Form Scores	WhatsApp Messages	Issue Creation	Issue Resolution Score
<attribute>: 1/2/3/4/5 ★	Comments		<resolved?>: 1/2/3/4/5 ★

Model

LLM Preprocessing

Mapping to Attribute Score
<attribute>: 1/2/3/4/5 ★

Linear Regression Model

Output

CS Performance Score
Numerical Score from 1-5

CS Scoring (Office)

Input

Issue Resolution Score
<resolved?>: 1/2/3/4/5 ★

Model

Linear Regression Model

Issue Resolution Score -> Weighted impact on overall score for specific issue

Output

CS Performance Score
Numerical Score from 1-5

$$x_{i,t+1} = \alpha x_{i,t} + k(1-\alpha)\Omega_{i,t+1}$$

$$k = \begin{cases} 1 & \text{if not satisfied} \\ \frac{x_{i,t}+\Omega_{i,t+1}}{2\Omega_{i,t+1}} & \text{if neutral} \\ \frac{x_{i,t}}{\Omega_{i,t+1}} & \text{if satisfied} \end{cases}$$

Summarizing Model (Office)

Input

Feedback Form Comments	WhatsApp Messages	Issue Creation
"Good quality pipes"	"Bro... I'm still waiting"	

Model

LLM ii – Text Processing

Output

CX Improvement Comments
"Responsiveness can be better."

Summarizing Model (Office)

Input

Feedback Form Comments	WhatsApp Messages	Issue Creation
"Good quality pipes"	"Bro... I'm still waiting"	

Model

LLM ii – Text Processing

Output

CX Improvement Comments
"Responsiveness can be better."

Summarizing Model (Office)

Input

Textual Input
"Bro... I'm still waiting"

Feedback form comments/ WhatsApp Messages/ Issue Creation

1	Status?
2	As per our call just now pls rush the 6 inch ANSI 150 flanges to Tuas site by 3pm today. Foreman waiting.
3	MTC received but cert date shows March 2024, our PO is Feb 2024. Which batch is this? Pls clarify asap.

Model

LLM ii – Text Processing

Model Output

```
{
  "Comment_ID": 1,
  "Comment": "Status?",
  "model_output": {
    "improvement_comment": "Provide regular status updates to keep customers informed."
  }
}
```

Output

CX Improvement Comments
"Responsiveness can be better."

Issue Tracking (Office)

Input

WhatsApp Messages
Comments

Android VTT Issue Creation
Comments

Manual Issue Creation
Flagged tasks from issues

Issue Type:
Customer:
Created By:
Notify:
Assign To:
Closer:
Remarks:

Model

LLM ii – Text Processing

Output

Issues to send to Issue Tracker

Issue Type:
Customer:
Created By:
Notify:
Assign To:
Closer:
Remarks:

Issue Tracking (Office)

Input

WhatsApp Messages
Comments

Android VTT Issue Creation
Comments

Manual Issue Creation
Flagged tasks from issues

Issue Type:
Customer:
Created By:
Notify:
Assign To:
Closer:
Remarks:

Model

LLM ii – Text Processing

Output

Issues to send to Issue Tracker

Issue Type:
Customer:
Created By:
Notify:
Assign To:
Closer:
Remarks:

Issue Tracking (Office)

| S/N	Issue	Created By	Created At	To Inform:	Assigned to:	Resolved At:	Status to Close	Closed At:
1	Del Delay	Cust Svc		AM	Darren		AM	
		Anyone		Cust Svc	Cust Svc			
				Darren				
2	Product Quality	Cust Svc		AM	Mukesh		AM	
		Anyone		Cust Svc	Cust Svc			
				Mukesh				
3	Stock Issues	Cust Svc		AM	Purchase		AM	
		Anyone		Cust Svc	Cust Svc			
				Purchase				
4	Service Issues	Cust Svc		AM	AM		Sales Director	
		Anyone		Cust Svc	Cust Svc			
5	Fulfillment Error	Cust Svc		AM	Cust Svc		AM	
		Anyone		Cust Svc	Prabu			
					AM			
	Payments							

- Issue Tracking Fields
  - Issue (Currently 6 types, as shown)
  - Created By
  - Created At
  - To Inform:
  - Assigned to:
  - Resolved At:
  - Status to Close:
  - Closed At:
 - **Remarks** (added for further analysis)

Issue Tracking (Office)

Input

WhatsApp Messages	Android VTT Issue Creation	Manual Issue Creation
Comments	Comments	Flagged tasks from issues

Issue Type:
Customer:
Created By:
Notify:
Assign To:
Closer:
Remarks:

Model

LLM ii – Text Processing

Output

Issues to send to Issue Tracker

Issue Type:
Customer:
Created By:
Notify:
Assign To:
Closer:
Remarks:

Issue Tracking (Office)

Input

WhatsApp Messages
Comments

Android VTT Issue Creation
Comments

Manual Issue Creation
Flagged tasks from issues

Issue Type:
Customer:
Created By:
Notify:
Assign To:
Closer:
Remarks:

Model

LLM ii – Text Processing

Output

Issues to send to Issue Tracker

Issue Type:
Customer:
Created By:
Notify:
Assign To:
Closer:
Remarks:

AI Models (Site)

Input	Feedback Form Scores Overall: 1/2/3/4/5 ★	Feedback Form Comments "Great pipes!"
Model		LLM ii – Text Processing
Output	CS Performance Score Numerical Score from 1-5	CX Improvement Comments "Great pipes!"

AI Models (Site)

Input	Feedback Form Scores Overall: 1/2/3/4/5 ★	Feedback Form Comments "Great pipes!"
Model		LLM ii – Text Processing
Output	CS Performance Score Numerical Score from 1-5	CX Improvement Comments "Great pipes!"

AI Models (Site)

Input

Feedback Form Scores
Overall: 1/2/3/4/5 ★

Feedback Form Comments
"Great pipes!"

Model

LLM ii – Text Processing

Output

CS Performance Score
Numerical Score from 1-5

CX Improvement Comments
"Great pipes!"

AI Models (Site)

Input

Feedback Form Scores	Feedback Form Comments
Overall: 1/2/3/4/5 ★	"Great pipes!"

Only uses Feedback Form

Model

LLM ii – Text Processing

Output

CS Performance Score	CX Improvement Comments
Numerical Score from 1-5	"Great pipes!"

System Overview

Project Budget and Timeline

Budget

We have allocated the **$4000** as follows:

- **$3000 – Cloud Hosted Services**

- **$500 – Transport**
  - To / from Ecoplus premises for project meetings
  - $31.80 used for 30 Oct 2025 site visit

- **$500 – Miscellaneous**
  - Printing and other expenses
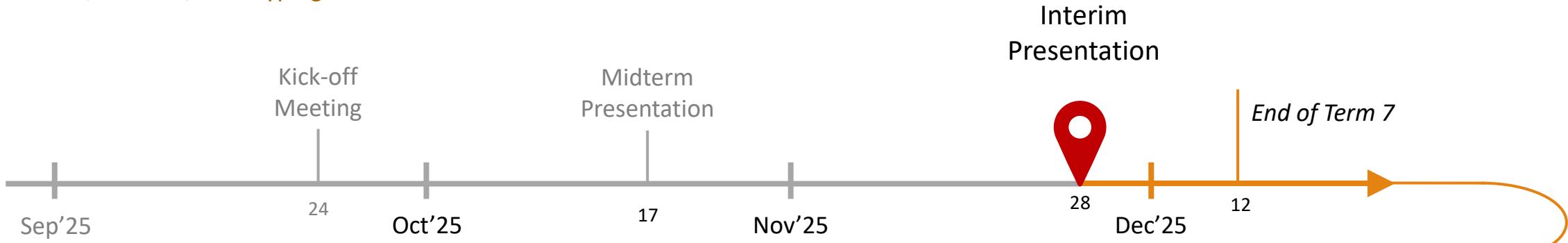
Operational expenditures associated with our solution:

- AI

- WhatsApp Business

Pie chart:
- 3,000 — 75%
- 500 — 12%
- 500 — 13%

Legend: ■ Cloud Hosted Services ■ Transport ■ Miscellaneous
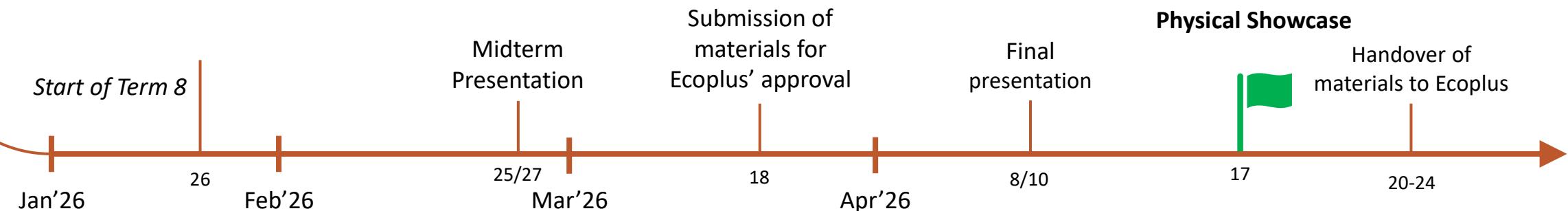
Term 7 (15 Sep - 12 Dec 2025)
Research, Ideation, Prototyping

Interim
Presentation

Kick-off
Meeting

Midterm
Presentation

End of Term 7

24

Sep'25

Oct'25

17

Nov'25

28

Dec'25

12

Term 8 (26 Jan - 24 Apr 2025)
Developing, Integrating, Delivering

Submission of
materials for
Ecoplus' approval

Physical Showcase

Midterm
Presentation

Final
presentation

Handover of
materials to Ecoplus

Start of Term 8

26

25/27

18

8/10

17

20-24

Jan'26

Feb'26

Mar'26

Apr'26

Proposed Work Schedule

Thank you!