

# **City Waste Collection & Complaint App**

Exam submission- 18 December 2025

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- Academic Year:2025-2029
- Project Title- City Waste Collection & Complaint App

## **Problem Statement**

A municipal body wants to track garbage collection points, schedules, vehicles, and complaints.

## **Data Design (Sheets Used)**

### Sheet 1- Collection Points

	A	B	C	D	E	F	G	H	I	J	K	L
1	PointID	PointName	Area	AreaPriority	LastCollectedDate							
2	PT001	Point 1	Area 2	Medium	2025-02-02							
3	PT002	Point 2	Area 3	High	2025-02-03							
4	PT003	Point 3	Area 4	Low	2025-02-04							
5	PT004	Point 4	Area 5	Medium	2025-02-05							
6	PT005	Point 5	Area 6	High	2025-02-06							
7	PT006	Point 6	Area 1	Low	2025-02-07							
8	PT007	Point 7	Area 2	Medium	2025-02-08							
9	PT008	Point 8	Area 3	High	2025-02-09							
10	PT009	Point 9	Area 4	Low	2025-02-10							
11	PT010	Point 10	Area 5	Medium	2025-02-11							
12	PT011	Point 11	Area 6	High	2025-02-12							
13	PT012	Point 12	Area 1	Low	2025-02-13							
14	PT013	Point 13	Area 2	Medium	2025-02-14							
15	PT014	Point 14	Area 3	High	2025-02-15							
16	PT015	Point 15	Area 4	Low	2025-02-16							
17	PT016	Point 16	Area 5	Medium	2025-02-17							
18	PT017	Point 17	Area 6	High	2025-02-18							
19	PT018	Point 18	Area 1	Low	2025-02-19							
20	PT019	Point 19	Area 2	Medium	2025-02-20							
21	PT020	Point 20	Area 3	High	2025-02-21							
22												
23												
24												
25												
26												
27												
28												
29												

RobloxPla

## Sheet 2 - Vehicles

## Sheet 3- Complaints

City Waste Collection								
	ComplaintID	ResidentName	Phone	Area	IssueType	Status	PointID	CreatedDate
1	CP001	Resident 1	9877000001	Area 2	Overflowing Bin	In Progress	PT001	2025-02-02
2	CP002	Resident 2	9877000002	Area 3	Smell	Closed	PT002	2025-02-03
3	CP003	Resident 3	9877000003	Area 4	Garbage Not Collected	Open	PT003	2025-02-04
4	CP004	Resident 4	9877000004	Area 5	Overflowing Bin	In Progress	PT004	2025-02-05
5	CP005	Resident 5	9877000005	Area 6	Smell	Closed	PT005	2025-02-06
6	CP006	Resident 6	9877000006	Area 1	Garbage Not Collected	Open	PT006	2025-02-07
7	CP007	Resident 7	9877000007	Area 2	Overflowing Bin	In Progress	PT007	2025-02-08
8	CP008	Resident 8	9877000008	Area 3	Smell	Closed	PT008	2025-02-09
9	CP009	Resident 9	9877000009	Area 4	Garbage Not Collected	Open	PT009	2025-02-10
10	CP010	Resident 10	9877000010	Area 5	Overflowing Bin	In Progress	PT010	2025-02-11
11	CP011	Resident 11	9877000011	Area 6	Smell	Closed	PT011	2025-02-12
12	CP012	Resident 12	9877000012	Area 1	Garbage Not Collected	Open	PT012	2025-02-13
13	CP013	Resident 13	9877000013	Area 2	Overflowing Bin	In Progress	PT013	2025-02-14
14	CP014	Resident 14	9877000014	Area 3	Smell	Closed	PT014	2025-02-15
15	CP015	Resident 15	9877000015	Area 4	Garbage Not Collected	Open	PT015	2025-02-16
16	CP016	Resident 16	9877000016	Area 5	Overflowing Bin	In Progress	PT016	2025-02-17
17	CP017	Resident 17	9877000017	Area 6	Smell	Closed	PT017	2025-02-18
18	CP018	Resident 18	9877000018	Area 1	Garbage Not Collected	Open	PT018	2025-02-19
19	CP019	Resident 19	9877000019	Area 2	Overflowing Bin	In Progress	PT019	2025-02-20
20	CP020	Resident 20	9877000020	Area 3	Smell	Closed	PT020	2025-02-21
21								
22								
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24								
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29								

## App Views Created

View Name	Table	Purpose
Collection Points View	Collection	Display collection locations.

Vehicles View	Vehicles	Track vehicle status.
Complaints View	Complaints	Manage submitted complaints.
Dashboard	All	Summarize key operations

The screenshot shows the Oracle APEX application builder interface. On the left, the 'PRIMARY NAVIGATION' sidebar includes 'Dashboard', 'Vehicles', and 'Collection Points' (which is selected). Below it are 'Statistics', 'Complaints', and 'REFERENCE VIEWS'. Under 'SYSTEM GENERATED', there are four views: 'City Waste Collection', 'City Waste Collection\_Detail', 'City Waste Collection\_Form', and two unnamed spreadsheet forms. The main workspace is titled 'Collection Points' and contains the following configuration fields:

- View name:** Collection Points
- For this data:** City Waste Collection
- View type:** deck
- Position:** middle

On the right, a preview window displays a list of collection points:

Point	ID
Point 1	PT001
Point 2	PT002
Point 3	PT003
Point 4	PT004

At the bottom of the preview window, there are tabs for 'Dashboard', 'Vehicles', 'Collection Points' (which is active), 'Statistics', and 'Complaints'.

## App Views

## Dashboard Components

Component	Description

Complaints by area	Shows complaint distribution geographically.
Collection status	Indicates the current state of collection operations.
Missed pickups	Lists or counts pickups that were not completed.

City Waste Collection

Views ① Dashboard

PRIMARY NAVIGATION

- Dashboard
- Vehicles
- Collection Points
- Statistics
- Complaints

MENU NAVIGATION

REFERENCE VIEWS

SYSTEM GENERATED

- City Waste Collection (4)
- City Waste Collection\_Detail
- City Waste Collection\_Form
- Untitled spreadsheet\_Detail
- Untitled spreadsheet\_Form

Dashboard

View name: Dashboard

For this data: City Waste Collection

View type: table

Position: first

PointName	PointID	Collection Status
Point 6	PT006	Area 1
Point 12	PT012	Area 1
Point 18	PT018	Area 1
Point 1	PT001	Area 2
Point 7	PT007	Area 2
Point 13	PT013	Area 2
Point 19	PT019	Area 2
Point 2	PT002	Area 3
Point 8	PT008	Area 3

## Dashboard View

### Slices Used

OpenComplaintsSlice

→ [Status] = "Open"

Purpose: Tracking currently open complaints

## MissedCollectionSlice

→ [LastCollectedDate] < (TODAY()) - 2

Purpose: Alerting about overdue collections

## HighPriorityAreaSlice

→ [AreaPriority] = "High"

Purpose: Prioritizing work in high-priority areas

The screenshot shows the Slice configuration interface for 'OpenComplaintsSlice'. On the left, there's a sidebar with icons for Data, City Waste Collection, Complaints, and Vehicles. Under 'City Waste Collection', 'HighPriorityAreaSlice' and 'MissedCollectionSlice' are listed. Under 'Complaints', 'OpenComplaintsSlice' is selected. The main panel has sections for 'Slice Name' (set to 'OpenComplaintsSlice'), 'Source Table' (set to 'Complaints'), and 'Row filter condition' (set to '= [Status] = "Open"'). Below these are 'Slice Columns' (listing '\_RowNumber', 'ComplaintID', 'ResidentName', 'Phone', 'Area', 'IssueType', and 'Status') and 'OPTIONS' (with 'User settings'). On the right, there's a preview table showing collection points with columns for PointName, PointID, and Collection Status. The table lists points from Point 6 to Point 19 across three areas: Area 1, Area 2, and Area 3. A blue '+' button is at the bottom right of the table.

## Slice Configuration

## Actions Implemented

Action Name	Table	Function
Assign Vehicle	Complaints	AssignVehicleForm

Close Complaint	Complaints	"Resolved"
Call Resident	Complaints	start a phone call
Mark Collection Done	Complaints	"Collected"

The image shows a mobile application interface. On the right is a list of collection points:

PointName	PointID	Collection Status
Point 6	PT006	Area 1
Point 12	PT012	Area 1
Point 18	PT018	Area 1
Point 1	PT001	Area 2
Point 7	PT007	Area 2
Point 13	PT013	Area 2
Point 19	PT019	Area 2
Point 2	PT002	Area 3
Point 8	PT008	Area 3

On the left is a configuration screen for an action named "Mark Collection Done". The effect is "Data: set the values of some columns in this row". The action name is "Mark Collection Done". The "For a record of this table" dropdown is set to "Complaints". The "Do this" dropdown is set to "Data: set the values of some columns in this row". Under "Set these columns", there is a field with "PointID" and a value of "Collect". The "Position" dropdown is set to "Prominent".

## Action Buttons

## Format Rules Applied

Condition	Color
High priority areas with open complaints	Red

Resolved complaints	Green
Missed collections	Orange

City Waste Collection

Format rules

Resolved complaints

Rule name: Resolved complaints

For this data: City Waste Collection

If this condition is true: = [PointID] = "Resolved"

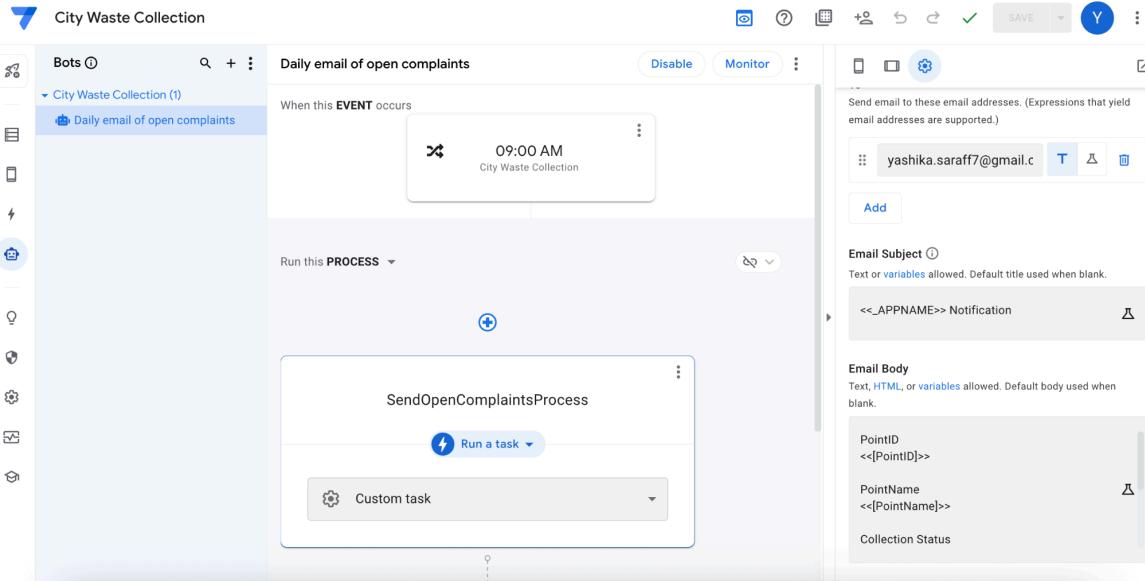
Format these columns and actions: Missed Pickups, PointID, PointName, Collection Status, AreaPriority

Visual Format

PointName	PointID	Collection Status
Point 6	PT006	Area 1
Point 12	PT012	Area 1
Point 18	PT018	Area 1
Point 1	PT001	Area 2
Point 7	PT007	Area 2
Point 13	PT013	Area 2
Point 19	PT019	Area 2
Point 2	PT002	Area 3
Point 8	PT008	Area 3

## Format rules

## Automation (Bot)



## App Workflow Explanation

This application manages a City Waste Collection & Complaint system for a municipal body. The workflow involves tracking key operational elements like collection points, vehicles, and complaints through dedicated views. Users can perform actions such as Approving/Rejecting Loans (potentially indicating a related financial process) and Adding Repayments. The system uses various data slices to filter and prioritize tasks, such as tracking Open Complaints and identifying Missed Collections. The Dashboard provides an operational overview, including metrics like Collection Status and Complaints by Area. And in the actions its for the warning to the complaints section .Automation is implemented through a daily bot that sends an email of open complaints to the area supervisor.

## Challenges Faced & Learning

1. Managing waste services and loan features together was challenging, so the app needs clear separate modules.

2. Tracking large amounts of complaints, collections, and repayments was difficult, so filters and actions are needed.
3. Quick monitoring was required, so dashboards and status colors help in faster decisions.

## **Conclusion**

The application is a complete dashboard that helps management see all municipal services and financial details in one place. It uses clear views, filters, actions, and automatic daily emails to make work faster, focus on important tasks, and ensure everyone is responsible for their work.

## **Declaration**

I declare that this project is my original work and has not been copied from any source.

Student Signature: Yashika Saraf

Date:16-12-2025

### **FINAL LINK**

### **EXCEL SHEET-**

[https://docs.google.com/spreadsheets/d/1KdE5RUQ4R9h3XbaMPQZkZcoU9KuVjhIAZeW\\_5VfdqUY/edit?usp=sharing](https://docs.google.com/spreadsheets/d/1KdE5RUQ4R9h3XbaMPQZkZcoU9KuVjhIAZeW_5VfdqUY/edit?usp=sharing)

### **APP SHEET**

[https://www.appsheet.com/Template/AppDef?appName=Untitledspreadsheet-602522115-25-12-12&utm\\_source=share\\_app\\_link](https://www.appsheet.com/Template/AppDef?appName=Untitledspreadsheet-602522115-25-12-12&utm_source=share_app_link)