

Project Report - Waste Management System

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1 INTRODUCTION

The Waste Management System is a comprehensive solution designed to streamline and optimize waste disposal processes. This report provides an overview of the system's architecture, core functionalities, modules, and the underlying principles that govern its development.

2 OBJECTIVE

The primary objective of the Waste Management System is to provide an efficient and user-friendly platform for administrators to manage various entities involved in waste disposal, including Storage/Inventory (bins and trucks), Employees, Regions, and Cities.

3 METHODOLOGY

The goal of the project is to design and implement the resource management system that is specialized for the waste management system. The entities included in the system are chosen to be a separate module for each team member. Each team member was responsible for their chosen module. The UI design is implemented partially either using Figma or using only pen and paper. During the software development, team members are met weekly by using a set of

channels like Discord, Zoom, WhatsApp, and Google Meet. Also, pair programming is done in separate parts of the project.

Development constraints are followed by using only a set of languages and a library which are HTML, CSS, JavaScript, jQuery, PHP, and SQL with MySQL. MVC pattern is experimented with throughout the development by using PHP. HTML syntax is used in PHP files to manage elements that are shown to the end user, CSS is used for the styling and JavaScript is used for adding interactivity. SQL is for building statements to manipulate the data received from a client or server. The statements are executed in PHP to update the database that runs on top of MySQL.

4 SYSTEM ARCHITECTURE

The system follows a modular architecture, with distinct modules dedicated to specific entities and functionalities. Core functionalities include creating, updating, removing entities, and displaying relevant data. The modular structure allows for the addition of custom features to enhance specific modules as needed.

5 MODULES

5.1 STORAGE/INVENTORY MODULE

- Create and manage bins and garbage collection trucks.
- Maintain key attributes such as capacity, location, waste type, and assigned employees.

5.2 EMPLOYEES MODULE

- Create and manage employee profiles.
- Capture personal information, work description, and employee role.

5.3 REGIONS MODULE

- Organize collection intervals and waste thresholds for regions.

5.4 CITIES MODULE

- Create and manage cities to distribute resources efficiently.
- Transfer storage objects and employees between cities.
- Adjust resource capacity and budget for each city.

5.5 REPORTING MODULE

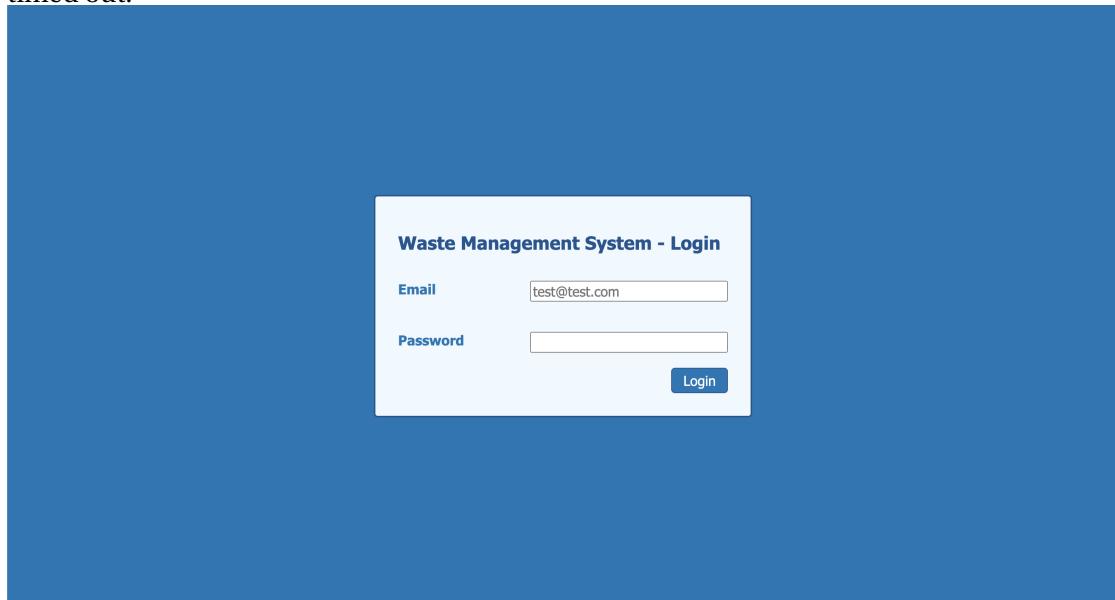
- Generate detailed reports for specific districts or storage objects.
- Flexible filtering options for customizing reports based on user requirements.

5.6 TASK MODULE

- Enable field employees to submit real-time updates about truck availability and bin status.
- Regularly collect and update information from the field to keep the system data up-to-date.

6 USER INTERFACE

The system features an intuitive and user-friendly interface, allowing administrators to navigate seamlessly between modules. The design prioritizes clarity and ease of use to enhance the overall user experience. Users can log in if they have never logged in or their session is timed out:



The test credentials regarding the submitted dump are as follows:

Email: test@test.com

Password: 1234

Delete options open an alert module to double-check whether the user is sure about deleting the selected entity. An example is as follows:

The screenshot shows the WMS Employees module. On the left is a sidebar with navigation items: Storage, Regions, Cities, Employees (which is selected and highlighted in blue), Reports, and Tasks. At the bottom of the sidebar is a Logout button. The main content area has a header "EMPLOYEE I" and a sub-header "Last Modification Date: 2024-01-03". A modal dialog box is centered, asking "Are you sure you want to delete?", with "Cancel" and "OK" buttons. Below the modal is a table with 15 rows of employee data. The table has columns: Team, First Name, Last Name, E-Mail, Phone, Salary, Modification Date, and Actions. Each row contains an employee's information and edit/delete buttons. The last row is incomplete, showing only "Team", "Jane", and "Smith".

Also, navigation items are aligned left side of the screen. It consists of six buttons that redirect to different modules and a log-out button. Log out terminates sessions directly without opening an alert dialog. Besides, cities and regions links open a dropdown when the mouse enters their related box. An example is as follows:

The screenshot shows the WMS Storage module. The sidebar includes: Storage, Regions, Cities, Overview (selected and highlighted in blue), Add a City, Employees, Reports, and Tasks. A URL "localhost:8888/view/cities.php" is visible at the bottom. The main content area has a header "PLACEHOLDER'S INVENTORY" and a sub-header "Last Modification Date 2023-12-29". A "Create Record" button is in the top right. Below is a "Summary" section with four groups of statistics: Storage Objects (4), Active Storage Objects (2), Inactive Storage Objects (2); Transportation Objects (4), Active Transportation Objects (0), Inactive Transportation Objects (4); Total Inventory Objects (8), Total Capacity (3122), Assets Value (26438). At the bottom is a table of storage objects with columns: ID, Category, Volume, Type, Status, Modification Date, and Actions. The table lists 7 rows of objects, each with edit/delete buttons.

7 STORAGE/INVENTORY MODULE

7.1 STORAGE ENTITY CREATION PAGE

WMS
Add Record

Storage
Regions
Cities
Employees
Reports
Tasks

Logout

PLACEHOLDER'S INVENTORY

Category: Please Select

Storage Volume: 10 Please Select

Type: Please Select

Initial Status: Please Select

Purchase Value: 2000 Please Select

Auto-notifier:

Quantity: 1

Estimated Lifetime: 5 Please Select

Reset Create Record

Users can add a new inventory object by clicking on the "Create Record"-Button on the Storage Overview Page. Here, users can input information about a new inventory object (category, storage volume, type, initial status, purchase value, auto-notifier, quantity, estimated lifetime) and save it by clicking on the "Create Record" button or users can delete the information by pressing the Reset button.

7.2 STORAGE ENTITY EDIT PAGE

The screenshot shows the 'Inventory Record - Item#26' edit page. The left sidebar lists 'WMS Edit Record' with links for Storage, Regions, Cities, Employees, Reports, and Tasks. The main area has a placeholder text: 'Lorem ipsum dolor sit amet consectetur adipisicing elit. Illo laborum vitae eveniet iusto et. Unde non officiis omnis. Explicabo nemo provident accusantium quisquam, officiis maiores facere? Perferendis volutatum impedit nam!'. Below it is a form with the following fields:

Category	Bin
Storage Volume	1 Liter
Type	Smart
Initial Status	Passive
Purchase Value	1000 Euro
Auto-notifier	<input type="checkbox"/>
Quantity	1
Estimated Lifetime	1 Year

At the bottom are 'Delete' and 'Update' buttons. A small preview window shows the current record details.

Users can edit an inventory object by clicking the pencil symbol in the action section on the Storage Page. Within the Edit Page, the fields are automatically filled with existing inventory object information, allowing users to make modifications easily. When the "Update" button is selected, changes made to the inventory object details will be saved, or when the "Delete" button is selected, the inventory object will be deleted. The user will be directed to the Storage Page.

7.3 STORAGE ENTITY LISTING PAGE

The screenshot shows a user interface for managing storage entities. On the left is a sidebar with a blue header "WMS Storage" and a list of navigation items: Storage, Regions, Cities, Employees, Reports, Tasks, and Logout.

The main content area has a title "PLACEHOLDER'S INVENTORY". It includes a timestamp "Last Modification Date 2023-12-29" and a "Create Record" button. Below this is a "Summary" section with statistics:

Storage Objects: 4	Active Storage Objects: 2	Inactive Storage Objects: 2
Transportation Objects: 4	Active Transportation Objects: 0	Inactive Transportation Objects: 4
Total Inventory Objects: 8	Total Capacity: 3122	Assets Value: 26438

Below the summary is a table listing individual inventory objects:

ID	Category	Volume	Type	Status	Modification Date	Actions
26	bin	1 L	smart	passive	2023-12-29	
25	truck	3 L	smart	passive	2023-12-29	
24	bin	1 L	smart	active	2023-12-12	
21	truck	2 M ³	regular	maintenance	2023-12-07	
19	bin	5 KG	smart	passive	2023-11-26	
18	truck	100 M ³	smart	passive	2023-11-26	
17	bin	3000 KG	regular	active	2023-11-26	

This page provides users with an overview of all available inventory objects, providing a gateway to access more detailed information about each inventory object. Users have the option to remove an inventory object, and change or view details with the actions section. Additionally, users can see a summary of available inventory objects in the summary table.

7.4 STORAGE ENTITY VIEW PAGE

The screenshot shows a user interface for viewing a specific storage entity. The sidebar is identical to the previous page, with a blue header "WMS View Record" and a list of navigation items: Storage, Regions, Cities, Employees, Reports, Tasks, and Logout.

The main content area has a title "Inventory Record - Item#26". It includes a descriptive text block:

Lorem ipsum dolor sit amet consectetur adipisicing elit. Illo laborum vitae eveniet iusto et. Unde non officiis omnis. Explicabo nemo provident accusantium quisquam, officiis maiores facere? Perferendis voluptatum impedit nam!

Below this is a form for editing the inventory record:

Category	<input type="text" value="Bin"/>
Storage Volume	<input type="text" value="1"/> Liter
Type	<input type="text" value="Smart"/>
Initial Status	<input type="text" value="Passive"/>
Purchase Value	<input type="text" value="1000"/> Euro
Auto-notifier	<input type="checkbox"/>
Quantity	<input type="text" value="1"/>
Estimated Lifetime	<input type="text" value="1"/> Year

Users can list an inventory object by clicking on the rightmost symbol in the action section on the Storage Page, thus accessing detailed information not visible in the table. They can change

the information by clicking on one of the pencil symbols on the page. When the "Update" button is selected, changes made to the inventory object details will be saved, or when the "Delete" button is selected, the inventory object will be deleted. The user will be directed to the Storage Page.

8 EMPLOYEES MODULE

8.1 EMPLOYEE INVENTORY PAGE

EMPLOYEE INVENTORY

Last Modification Date: 2024-01-03

Add Employee

Total number of employees: 23

Sort by: Last Name ▾ Descending □

Team	First Name	Last Name	E-Mail	Phone	Salary	Modification Date	Actions
8	Mia	Ferguson	mia.ferguson@email.com	98765432	70000	2023-12-29	<button>Edit</button> <button>Delete</button>
0	James	Fisher	james.fisher@email.com	5552345	60000	2023-12-14	<button>Edit</button> <button>Delete</button>
1	Ryan	Hall	ryan.hall@email.com	5550123	55000	2024-01-03	<button>Edit</button> <button>Delete</button>
0	Logan	Harrison	logan.harrison@email.com	5554567	65000	2023-12-16	<button>Edit</button> <button>Delete</button>
0	Ava	Hill	ava.hill@email.com	5552345	60000	2023-12-16	<button>Edit</button> <button>Delete</button>
1	Addison	Hudson	addison.hudson@email.com	5556789	70001	2023-12-29	<button>Edit</button> <button>Delete</button>
0	Robert	Johnson	robert.johnson@email.com	5559012	70000	2023-12-16	<button>Edit</button> <button>Delete</button>
0	Megan	Jones	megan.jones@email.com	5550123	55000	2023-12-18	<button>Edit</button> <button>Delete</button>
7	Emma	Lewis	emma.lewis@email.com	5554567	65000	2024-01-03	<button>Edit</button> <button>Delete</button>
0	Caleb	Mason	caleb.mason@email.com	5552345	60000		<button>Edit</button> <button>Delete</button>
0	Daniel	Miller	daniel.miller@email.com	5556789	70000		<button>Edit</button> <button>Delete</button>
0	Ashley	Moore	ashley.moore@email.com	5558901	70000	2023-12-08	<button>Edit</button> <button>Delete</button>
0	Jackson	Russell	jackson.russell@email.com	5556789	70000	2023-12-18	<button>Edit</button> <button>Delete</button>
0	William	Scott	william.scott@email.com	5558901	70000	2023-12-16	<button>Edit</button> <button>Delete</button>
0	Iano	Smith	iano.smith@email.com	5556678	60000	2023-12-11	<button>Edit</button> <button>Delete</button>

The central page of this module provides users with a list of all employee entries, including their personal information and their assignment to working teams. It further enables sorting the entries according to a specific attribute, supporting both ascending and descending sorting options. Starting from here, one can either choose to create a new employee entry, delete an existing one, or update an employee's stored information.

8.2 EMPLOYEE CREATION PAGE

WMS
Add Employee

Storage
Regions
Cities
Employees
Reports
Tasks

Logout

ADD A NEW EMPLOYEE

First Name	<input type="text"/>
Last Name	<input type="text"/>
E-Mail	<input type="text"/>
Phone Number	<input type="text"/>
Monthly Salary	<input type="text"/> ₦ <input type="button" value="▼"/>
Team	<input type="text"/> 1 <input type="button" value="▼"/>

Reset Add Employee

Users can add a new employee by providing relevant information within the input fields. A reset option can be used to clear the given inputs effectively. Upon submitting the information, all fields are checked for being filled, prompting the user to provide further information upon missing data. After successful submission, the new entry is added to the database and the user is redirected to the employee inventory.

8.3 EMPLOYEE UPDATE PAGE

WMS
Employee

Storage
Regions
Cities
Employees
Reports
Tasks

Logout

Employee Information - Mia Ferguson

First Name	Mia
Last Name	Ferguson
E-Mail	mia.ferguson@email.com
Phone Number	98765432
Monthly Salary	70000 ₦ <input type="button" value="▼"/>
Team	1 <input type="button" value="▼"/>

Delete Update

This page gives the option to update user information by changing the input fields and sub-

mitting by clicking the update button. Users can also choose to delete the entry by clicking the delete button.

9 REGIONS MODULE

9.1 REGIONS LISTING PAGE

The screenshot shows the 'Regions Overview' section of the WMS Storage application. On the left, there is a vertical sidebar with a blue header 'WMS Storage' containing icons for Storage, Regions, Cities, Employees, Reports, and Tasks. Below this is a 'Logout' link. The main content area has a title 'Regions Overview' and a table with two rows of data. The table columns are 'ID', 'Name', 'Location', 'Interval', 'Modification Date', and 'Actions'. The first row contains ID 4, Name 'qwe', Location '123 123', Interval 'biweekly', Modification Date '2023-12-19', and Actions (trash, edit, checkmark). The second row contains ID 2, Name 'testt', Location '13 12', Interval 'weekly', Modification Date '2023-12-19', and Actions (trash, edit, checkmark).

ID	Name	Location	Interval	Modification Date	Actions
4	qwe	123 123	biweekly	2023-12-19	
2	testt	13 12	weekly	2023-12-19	

This page provides users with an overview of all available regions, providing a gateway to access more detailed information about each region. Users have the option to remove a region, change a region, or view details with the actions section.

9.2 REGIONS EDIT PAGE

Region Review

Region Name: qwe

Location (Lat., Lon.): 123, 123

Collection Interval: Biweekly

Threshold: 12

Allocated Max Budget: 1424124

Logout

Users can edit a region by clicking the pencil symbol in the action section on the Regions Overview Page. Within the Edit Page, the fields are automatically filled with existing region information, allowing users to make modifications easily. When the "Update" button is selected, changes made to the region details will be saved and the user will be directed to the Regions Overview Page.

9.3 ADDING A NEW REGION

Create Region

Region Name: Silahtaraaga

Location (Lat., Lon.): 40.98549605, 29.03533319

Collection Interval: Please Select

Threshold: 1000

Allocated Max Budget: 100000

Create

Users can add a new region by clicking on “Create Region” in the Side Navigation Bar. Here,

users can input information about a new region (region name, location, collection interval, threshold, allocated max budget) and save it by clicking on the "Create" button.

9.4 REGIONS ENTITY VIEW PAGE

The screenshot shows the WMS Storage application interface. On the left is a sidebar with the title 'WMS Storage' and a list of navigation items: Storage, Regions (selected), Cities, Employees, Reports, and Tasks. At the bottom of the sidebar is a 'Logout' link. The main content area is titled 'Region Review' and contains a placeholder text: 'Lorem ipsum dolor sit amet consectetur adipisicing elit. Illo laborum vitae eveniet iusto et. Unde non officiis omnis. Explicabo nemo provident accusantium quisquam, officiis maiores facere? Perferendis voluptatum impedit nam!'. Below this is a form with five fields, each with a pencil icon for editing:

Region Name	qwe		
Location (Lat., Lon.)	123	123	
Collection Interval	Biweekly		
Threshold	12		
Allocated Max Budget	1424124		

Users can view a region by clicking on the rightmost symbol in the action section on the Regions Page. They can change the information by clicking on one of the pencil symbols on the page. When the "Update" button is selected, changes made to the region details will be saved.

10 CITIES MODULE

10.1 CITIES OVERVIEW PAGE

The screenshot shows the 'Welcome to City Module: Overview' page. On the left is a sidebar with 'WMS Storage' and links for Storage, Regions, Cities, Employees, Reports, and Tasks. At the bottom is a 'Logout' button. The main area has a heading 'Cities you can check:' and a table with one row:

Name	Delete	Edit
asddf_updated	Delete	Edit

A small 'Add a new City' button is located in the top right corner of the main area.

This page provides users with an overview of all available cities, offering a gateway to access more detailed information about each city. Furthermore, users have the option to modify details or remove a city.

10.2 CITY DETAIL PAGE

The screenshot shows the 'Welcome to City Module: Details on asddf_updated' page. On the left is a sidebar with 'WMS Storage' and links for Storage, Regions, Cities, Employees, Reports, and Tasks. At the bottom is a 'Logout' button. The main area displays a table of city details:

Name:	asdf_updated
Amount of Inhabitans:	19
Amount of Employees:	646464
Coordinates:	akjsfhj
Amount of Objects:	1
Region:	0

Users can access the City Detail Page by clicking on the name of the city in the Cities Overview

Page. Here, additional information is presented, including the city's name, number of inhabitants, number of employees, coordinates, number of objects, and the region. Population, number of employees, and quantity of objects must be a numerical value. Users can return to the overview page by utilizing the built-in "back" arrow in the browser.

10.3 ADDING A NEW CITY

The screenshot shows a user interface for adding a new city. On the left, a vertical sidebar titled 'WMS Storage' contains icons for Storage, Regions, Cities, Employees, Reports, and Tasks, with 'Cities' being the active tab. At the bottom of the sidebar is a 'Logout' button. The main content area has a title 'Welcome to City Module: Add a City' and a subtitle 'Here you can add a new city.' Below this is a form with six input fields: 'Name:' (input field), 'Amount of Inhabitans:' (input field), 'Amount of Employees:' (input field), 'Coordinates:' (input field), 'Amount of Objects:' (input field), and 'Region:' (input field). To the right of the 'Region:' field is a 'Create City' button. In the bottom right corner of the main area, there is a small preview window showing a similar form.

Users can add a new city by clicking on the "Add"-Button in the Cities Overview Page or on "Add a City" in the Side Navigation Bar. Here, users can input information about a new city (city's name, number of inhabitants, number of employees, coordinates, number of objects, and the region) and save it by clicking the "Create City" button.

10.4 EDITING A CITY

The screenshot shows the 'WMS Storage' application interface. On the left, a sidebar menu lists 'Storage', 'Regions', 'Cities', 'Employees', 'Reports', and 'Tasks'. At the bottom of the sidebar is a 'Logout' button. The main content area has a title 'Welcome to City Module: Edit a City' and a subtitle 'Here you can edit a City.' Below this is a form with the following fields:

Name:	asddf_updated
Amount of Inhabitans:	19
Amount of Employees:	646464
Coordinates:	akjsfhj
Amount of Objects:	1
Region:	0

At the bottom right of the form is a 'Update City' button.

Users can edit a city by clicking on "edit" on the Cities Overview Page. Within the Edit Page, the fields are automatically filled with existing city information, allowing users to make modifications easily. By selecting the "Update" button, the changes to the city details will be saved and the User will be redirected to the Overview Page.

10.5 DELETING A CITY

The screenshot shows the 'WMS Storage' application interface. On the left, a sidebar menu lists 'Storage', 'Regions', 'Cities', 'Employees', 'Reports', and 'Tasks'. At the bottom of the sidebar is a 'Logout' button. The main content area has a title 'Welcome to City Module' and a subtitle 'Cities you can check:'. A modal dialog box is displayed with the text 'Are you sure you want to delete?' and two buttons: 'Cancel' and 'OK'. Below the dialog is a table:

Name	Delete	Edit
asddf_updated	Delete	Edit

At the bottom right of the content area is a small screenshot of the application interface.

Users can delete a city by clicking the "Delete"-Button on the Cities Overview Page. This should be used carefully and only if users are sure the city is not needed anymore. Therefore, the User

will be asked if he or she wants to delete the city.

11 REPORTING MODULE

Through this page, users can briefly access the information they want. Users can report by selecting the category they want to report from at the top of the page.

11.1 STORAGE LISTING PAGE

The screenshot shows the 'WMS Storage Report' interface. On the left is a sidebar with icons for Storage, Regions, Cities, Employees, Reports, Tasks, and Logout. The main area has tabs for Storage, Regions, Cities, and Employees, with 'Storage' selected. Below the tabs is a search form with dropdowns for Category (Please Select), Storage Volume (100), Type (Please Select), Status (Please Select), Purchase Value (1000), Auto-notifier (checkbox), Quantity (1), Estimated Lifetime (5), and a 'Search' button. To the right is a table with columns: ID, Category, Volume, Type, Status, and Modification Date. The table contains five rows of data:

ID	Category	Volume	Type	Status	Modification Date
26	bin	1	smart	passive	2023-12-29
24	bin	1	smart	active	2023-12-12
19	bin	5	smart	passive	2023-11-26
17	bin	3000	regular	active	2023-11-26

Users can report by clicking the "Search" button after filling in the category, storage volume, type, status, purchase value, auto-notifier, quantity, and estimated lifetime sections on the storage report page according to what they want to report.

11.2 EMPLOYEE LISTING PAGE

The screenshot shows the 'Employees' tab selected in the top navigation bar. Below it is a search form with fields for First Name (John), Last Name (Doe), E-Mail (john.doe@wms.com), Phone Number (5554443322), and Monthly Salary (50123). A 'Search' button is to the right. Below the search form is a table with columns: First Name, Last Name, E-Mail, Phone Number, Monthly Salary, and Modification Date. The table contains one row with data: Mia, Ferguson, mia.ferguson@email.com, 98765432, 70000, and 2023-12-29.

Users can report by clicking the "Search" button after filling in the first name, last name, e-mail, phone number, and monthly salary sections on the employees report page according to what they want to report.

11.3 REGION LISTING PAGE

The screenshot shows the 'Regions' tab selected in the top navigation bar. Below it is a search form with fields for Name (Silahtaraga), Lat (12.123), Lon (12.123), Interval (Please Select), Threshold (1000), and Budget (20000). A 'Search' button is to the right. Below the search form is a table with columns: Name, Lat, Lon, Interval, Threshold, Budget, and Modification Date. The table contains one row with data: testt, 13, 12, weekly, 12, 12, and 2023-12-19.

Users can report by clicking the "Search" button after filling in the name, lat, lon, interval, threshold and budget sections on the regions report page according to what they want to report.

11.4 CITY LISTING PAGE

The screenshot shows the 'WMS Cities Report' interface. On the left is a sidebar with links for Storage, Regions, Cities, Employees, Reports, and Tasks, along with a Logout button. The main area has tabs for Storage, Regions, Cities (which is selected), and Employees. Below the tabs is a search form with fields for City Name (Istanbul), Amount of Inhabitants (20400600), Amount of Employees (10300), Coordinates (12.2312, 32.123), Amount of Objects (85750), and Region (Silahtaraga). A 'Search' button is to the right. Below the search form is a table with columns: City Name, Amount of Inhabitants, Amount of Employees, Coordinates, Amount of Objects, and Region. One row is shown for Istanbul.

City Name	Amount of Inhabitants	Amount of Employees	Coordinates	Amount of Objects	Region
Istanbul	12	12	12,12	12	12

Users can report by clicking the "Search" button after filling in the city name, amount of inhabitants, amount of employees, coordinates, amount of objects, and region sections on the cities report page according to what they want to report.

12 TASK MODULE

12.1 TASK INVENTORY PAGE

The screenshot shows the 'WMS Tasks' interface. The sidebar includes links for Storage, Regions, Cities, Employees, Reports, and Tasks, with a Logout button. The main area features a 'TASK INVENTORY' section with a message about the last modification date (2024-01-03) and a blue 'Add Task' button. Below is a table with 15 rows of task data. The table has columns: Title, Team Number, Status, Bin, Truck, Modification Date, and Actions. The 'Actions' column contains 'View' buttons for most tasks and a 'View/Done' button for Task 11. The status column indicates task completion: 'done' for most, and 'in progress' for Task 11.

Title	Team Number	Status	Bin	Truck	Modification Date	Actions
hellooo	1	done	26	25	2024-01-03	View
ce	1	done	26	25	2023-12-29	View
TEST	1	done	19	14	2024-01-03	View
Task 20	7	done	60	88	2023-12-21	View
Task 19	3	done	40	75	2023-12-21	View
Task 18	6	done	80	11	2023-12-21	View
Task 17	8	done	95	67	2023-12-21	View
Task 16	1	done	25	44	2023-12-21	View
Task 15	4	done	35	9	2023-12-21	View
Task 14	5	done	68	87	2024-01-03	View
Task 13	9	done	42	56	2024-01-03	View
Task 12	2	done	5	23	2023-12-21	View
Task 11	7	in progress	50	99	2023-12-21	View Done
Task 10	3	done	30	78	2023-12-20	View

This page offers an overview of all created tasks. Users can filter the view to display either only

finished, active, or all tasks. Tasks that are in progress can be marked as done, resulting in setting used resources as available for future tasks. Users can access specific task information from here and start creating a new task.

12.2 TASK CREATION PAGE

The screenshot shows the 'WMS Tasks' interface. On the left is a sidebar with icons for Storage, Regions, Cities, Employees, Reports, and Tasks. At the bottom of the sidebar is a 'Logout' button. The main area is titled 'ADD A NEW TASK'. It contains fields for 'Title' (with an input field), 'Team' (with a dropdown menu showing '1'), 'Available Bins' (with two radio buttons: 'Bin 19 - Volume 5 kilogram' and 'Bin 26 - Volume 1 liter'), 'Available Trucks' (with three radio buttons: 'Truck 14 - Volume 10 liter', 'Truck 18 - Volume 100 cubicmeter', and 'Truck 25 - Volume 3 liter'). Below the form are 'Reset' and 'Create Task' buttons.

Users can add a new task by assigning it to one of the existing teams and providing a title. They get an overview of available bins and trucks that can be utilized for finishing the task. Given information can be cleared by pressing the reset button. Upon submitting, all fields are checked and if all of them are filled properly, a new task is created, blocking the assigned resources until the task is marked as finished.

12.3 TASK VIEW PAGE

The screenshot shows a web-based application interface for a Waste Management System (WMS). On the left, a vertical sidebar titled 'WMS Tasks' contains links for Storage, Regions, Cities, Employees, Reports, and Tasks. At the bottom of the sidebar is a 'Logout' button. The main content area has a header 'heloooo'. Below the header is a table with three rows: 'Team' (value: 1), 'Bin' (value: Bin 26), and 'Truck' (value: Truck 25). To the right of the table is a red 'Delete' button. In the bottom right corner of the main area, there is a small icon of a computer monitor.

This page displays the allocated resources belonging to a task. Users can access the assigned truck, bin, and team information by clicking on the bolded links. Furthermore, clicking the delete button will remove the task from the database.

13 CONCLUSION

The Waste Management System represents a robust solution for organizing and optimizing waste disposal processes. With its modular architecture, core functionalities, and customizable features, the system provides a scalable and adaptable platform to meet the evolving needs of waste management. Approximately 120 hours are spent to build this version of the project.

14 CREDITS

Icons used in this project are retrieved from "<https://fonts.google.com/icons>". Also, the development version of the jQuery library is used throughout the development. Regarding library is retrieved from "<https://jquery.com>".