

VIET NAM NATIONAL UNIVERSITY HO CHI MINH CITY
HO CHI MINH UNIVERSITY OF TECHNOLOGY



SOFTWARE ENGINEERING
ASSIGNMENT – TASK 4

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Ho Chi Minh city, 11/2022

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4.1. Online repository

In order to aid in the development of UWC 2.0, our team has created a github repository that contains the finished design and architectural files as well as future code implementation of UWC 2.0. The git repository has folders for task 1, 2, 3 and 4 respectively:

The screenshot shows a GitHub repository page for 'namkha1032 / SoftwareEngineering-Assignment'. The 'Code' tab is selected. The main branch is 'main'. There is 1 branch and 0 tags. Recent commits include:

- namkha1032 add task4 holder temp file (1a45a33, 10 minutes ago)
- task1 add more task 1, 2, 3 files (13 minutes ago)
- task2 add more task 1, 2, 3 files (13 minutes ago)
- task3 add more task 1, 2, 3 files (13 minutes ago)
- task4 add task4 holder temp file (10 minutes ago)

The repository has 1 watch, 0 forks, and 0 stars. It has 1 watching and 0 forks. No releases or packages have been published.

4.2. Adding materials

Task 1 folder includes the 2 task assignment and UWC 2.0 use-case diagrams with the task 1's overall report.

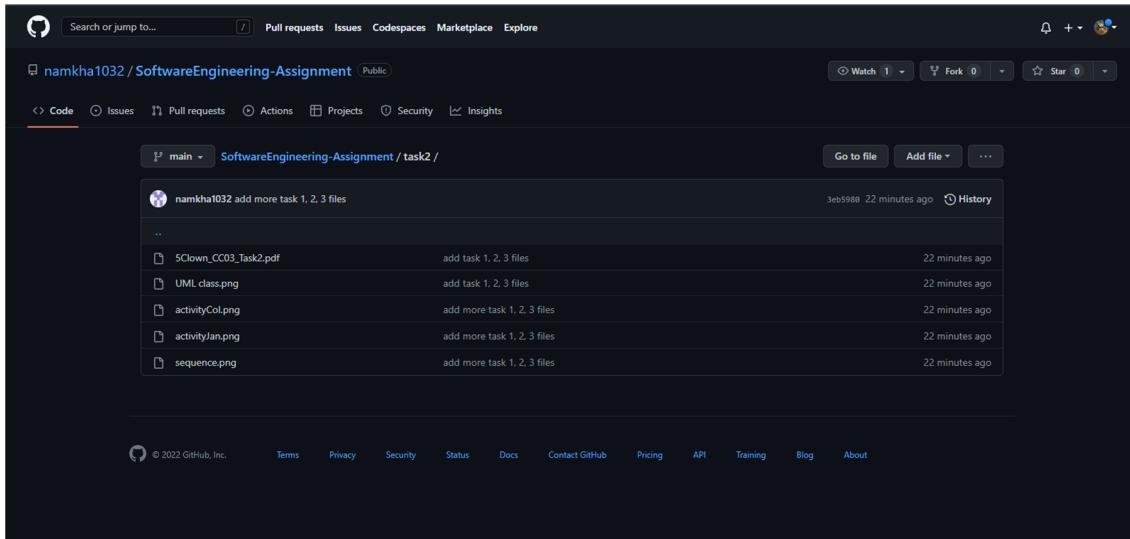
The screenshot shows a GitHub repository page for 'namkha1032 / SoftwareEngineering-Assignment'. The 'Code' tab is selected. The path is 'SoftwareEngineering-Assignment / task1/'. The 'main' branch is selected. Recent commits include:

- namkha1032 add more task 1, 2, 3 files (3eb5988, 17 minutes ago)
- 5Clown_CC03_Task1.pdf add task 1, 2, 3 files (17 minutes ago)
- UWC 2.png add more task 1, 2, 3 files (17 minutes ago)
- task assignment.png add more task 1, 2, 3 files (17 minutes ago)

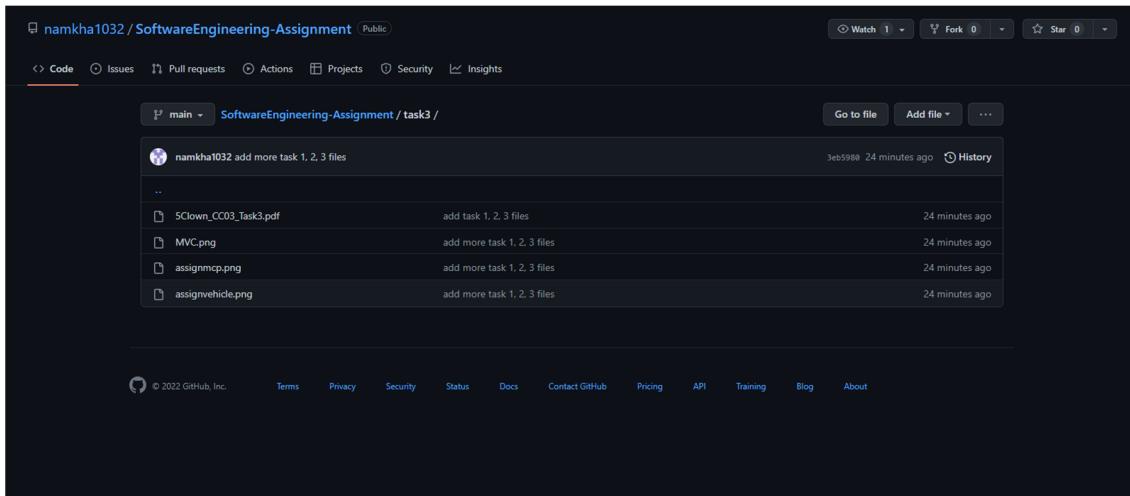
The repository has 1 watch, 0 forks, and 0 stars. It has 1 watching and 0 forks. No releases or packages have been published.



Task 2 folder comprises 5 items: class diagram of the task assignment module, activity diagrams of task assignment for janitors as well as collectors, sequence diagram of the route planning task and the overall report of the task.



Task 3 folder encloses 4 files: a MVC architecture diagram, implementation diagrams for assigning MCPs and assigning vehicles and the task's report.

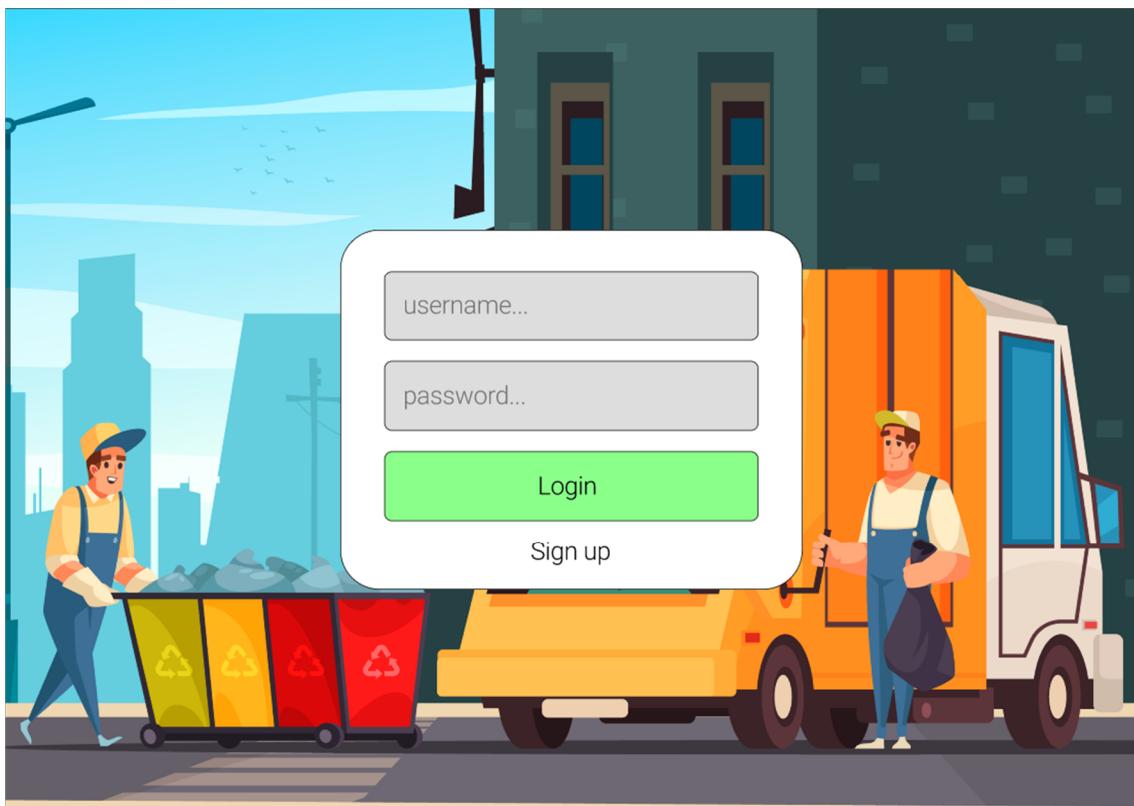


Task 4 folder has the task's report and the link to the Figma interface

4.3. Interface designed by Figma

When we startup the app, we will be brought to the login interface. This is the starting point as the app needs to identify the users.

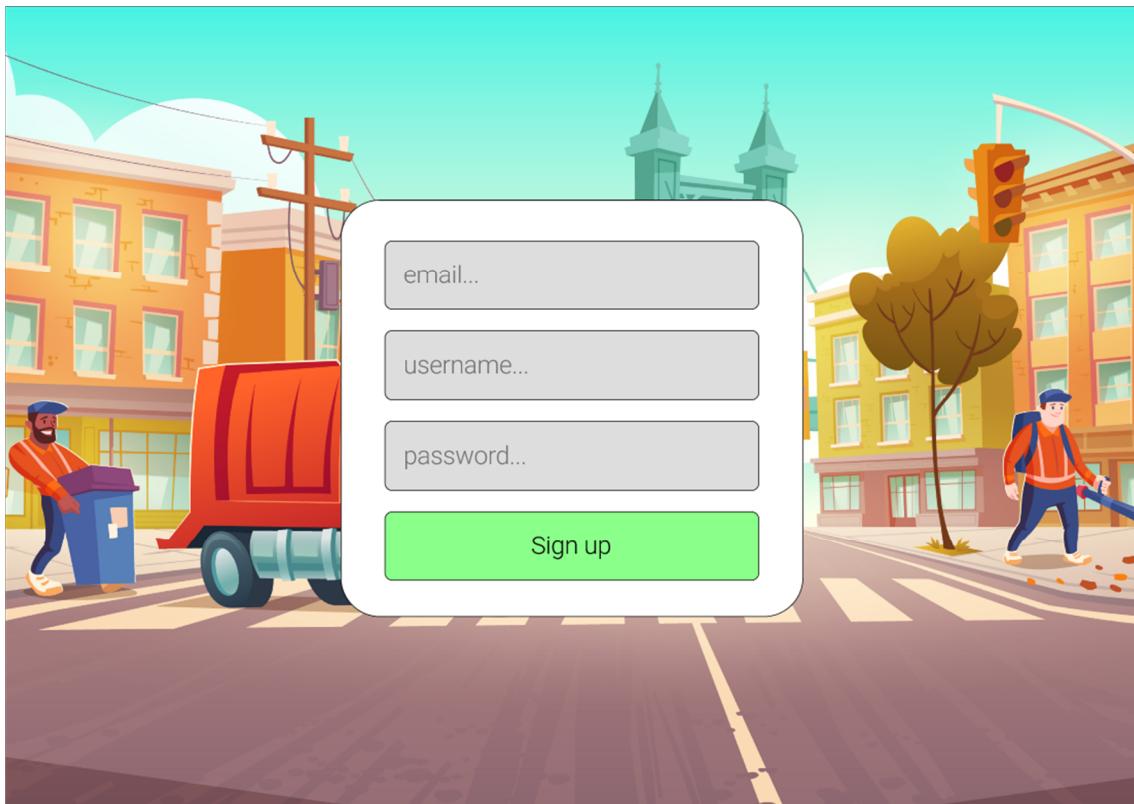
Login Interface:



To login, users need to enter their username and password which have been registered. Once the user clicks on the login button, the app will verify the username and password and identify the user as well as their authority.

If the users did not have an account on the system, they can click the sign up button and be transferred to the sign up interface.

Sign up Interface:



To sign up, an email, a username and a password are required. Both email and username must not be identical to others. Entered password will be encrypted before saving the data to a database.

After successful login confirmation, the home interface will be displayed. For back officers specifically, the home interface shall also be the janitor interface.

Home interface – Janitor Interface:



UWC	Janitors	<input type="button" value="Logout"/>																						
<ul style="list-style-type: none"> Janitors Collectors Areas MCPs Trolleys Vehicles	<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th>ID</th><th>Name</th></tr></thead><tbody><tr><td>jan1</td><td>Worker Janitor A</td></tr><tr><td>jan2</td><td>Worker Janitor B</td></tr><tr><td>jan3</td><td>Worker Janitor C</td></tr><tr><td>jan4</td><td>Worker Janitor D</td></tr><tr><td>jan5</td><td>Worker Janitor E</td></tr><tr><td>jan6</td><td>Worker Janitor F</td></tr><tr><td>jan7</td><td>Worker Janitor G</td></tr><tr><td>jan8</td><td>Worker Janitor H</td></tr><tr><td>jan9</td><td>Worker Janitor I</td></tr><tr><td>jan10</td><td>Worker Janitor J</td></tr></tbody></table>	ID	Name	jan1	Worker Janitor A	jan2	Worker Janitor B	jan3	Worker Janitor C	jan4	Worker Janitor D	jan5	Worker Janitor E	jan6	Worker Janitor F	jan7	Worker Janitor G	jan8	Worker Janitor H	jan9	Worker Janitor I	jan10	Worker Janitor J	
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In the Janitor interface, back officers can see a list of Janitors with detailed information (ID, Name, etc.).

On the left bar, there are multiple options which consist of Janitors, Collectors, Areas, MCPs, Trolleys, Vehicles. Each options lead to one interface respectively:

Collector Interface:



UWC	Collectors	Logout																						
<ul style="list-style-type: none"> Janitors Collectors Areas MCPs Trolleys Vehicles	<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th>ID</th><th>Name</th></tr></thead><tbody><tr><td>col1</td><td>Worker Collector A</td></tr><tr><td>col2</td><td>Worker Collector B</td></tr><tr><td>col3</td><td>Worker Collector C</td></tr><tr><td>col4</td><td>Worker Collector D</td></tr><tr><td>col5</td><td>Worker Collector E</td></tr><tr><td>col6</td><td>Worker Collector F</td></tr><tr><td>col7</td><td>Worker Collector G</td></tr><tr><td>col8</td><td>Worker Collector H</td></tr><tr><td>col9</td><td>Worker Collector I</td></tr><tr><td>col10</td><td>Worker Collector J</td></tr></tbody></table>	ID	Name	col1	Worker Collector A	col2	Worker Collector B	col3	Worker Collector C	col4	Worker Collector D	col5	Worker Collector E	col6	Worker Collector F	col7	Worker Collector G	col8	Worker Collector H	col9	Worker Collector I	col10	Worker Collector J	
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col9	Worker Collector I																							
col10	Worker Collector J																							

Similar to Janitors interface, here shows the list of Collectors along with their detailed information.

Areas Interface:



UWC	Areas	<input type="button" value="Logout"/>																																	
<input type="button" value="Janitors"/>	Janitors																																		
<input type="button" value="Collectors"/>	Collectors																																		
<input type="button" value="Areas"/>	Areas																																		
<input type="button" value="MCPs"/>	MCPs																																		
<input type="button" value="Trolleys"/>	Trolleys																																		
<input type="button" value="Vehicles"/>	Vehicles																																		
	<table border="1"><thead><tr><th>ID</th><th>Name</th><th>Coordinates</th></tr></thead><tbody><tr><td>area1</td><td>Ward A</td><td>x</td></tr><tr><td>area2</td><td>Ward B</td><td>x</td></tr><tr><td>area3</td><td>Ward C</td><td>x</td></tr><tr><td>area4</td><td>Ward D</td><td>x</td></tr><tr><td>area5</td><td>Ward E</td><td>x</td></tr><tr><td>area6</td><td>Ward F</td><td>x</td></tr><tr><td>area7</td><td>Ward G</td><td>x</td></tr><tr><td>area8</td><td>Ward H</td><td>x</td></tr><tr><td>area9</td><td>Ward I</td><td>x</td></tr><tr><td>area10</td><td>Ward J</td><td>x</td></tr></tbody></table>	ID	Name	Coordinates	area1	Ward A	x	area2	Ward B	x	area3	Ward C	x	area4	Ward D	x	area5	Ward E	x	area6	Ward F	x	area7	Ward G	x	area8	Ward H	x	area9	Ward I	x	area10	Ward J	x	
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area6	Ward F	x																																	
area7	Ward G	x																																	
area8	Ward H	x																																	
area9	Ward I	x																																	
area10	Ward J	x																																	

Area interface contains a list of areas with detailed information. We assign each area by individual wards and coordinates, which will be used to create an optimized route when assigning tasks to janitors.

MCPs Interface:



UWC	MCPs	<input type="button" value="Logout"/>																																	
<ul style="list-style-type: none"><input type="button" value="Janitors"/><input type="button" value="Collectors"/><input type="button" value="Areas"/><input type="button" value="MCPs"/><input type="button" value="Trolleys"/><input type="button" value="Vehicles"/>	<table border="1"><thead><tr><th>ID</th><th>Name</th><th>Coordinates</th></tr></thead><tbody><tr><td>mcp1</td><td>MCP A</td><td>x</td></tr><tr><td>mcp2</td><td>MCP B</td><td>x</td></tr><tr><td>mcp3</td><td>MCP C</td><td>x</td></tr><tr><td>mcp4</td><td>MCP D</td><td>x</td></tr><tr><td>mcp5</td><td>MCP E</td><td>x</td></tr><tr><td>mcp6</td><td>MCP F</td><td>x</td></tr><tr><td>mcp7</td><td>MCP G</td><td>x</td></tr><tr><td>mcp8</td><td>MCP H</td><td>x</td></tr><tr><td>mcp9</td><td>MCP I</td><td>x</td></tr><tr><td>mcp10</td><td>MCP J</td><td>x</td></tr></tbody></table>	ID	Name	Coordinates	mcp1	MCP A	x	mcp2	MCP B	x	mcp3	MCP C	x	mcp4	MCP D	x	mcp5	MCP E	x	mcp6	MCP F	x	mcp7	MCP G	x	mcp8	MCP H	x	mcp9	MCP I	x	mcp10	MCP J	x	
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mcp7	MCP G	x																																	
mcp8	MCP H	x																																	
mcp9	MCP I	x																																	
mcp10	MCP J	x																																	

Similar to areas interface, MCPs interface describes each MCPs, which will be used to assign tasks to workers.

Trolleys Interface:

UWC	Trolleys	<input type="button" value="Logout"/>																						
<ul style="list-style-type: none"><input type="button" value="Janitors"/><input type="button" value="Collectors"/><input type="button" value="Areas"/><input type="button" value="MCPs"/><input type="button" value="Trolleys"/><input type="button" value="Vehicles"/>	<table border="1"><thead><tr><th>ID</th><th>Name</th></tr></thead><tbody><tr><td>trolley1</td><td>Trolley A</td></tr><tr><td>trolley2</td><td>Trolley B</td></tr><tr><td>trolley3</td><td>Trolley C</td></tr><tr><td>trolley4</td><td>Trolley D</td></tr><tr><td>trolley5</td><td>Trolley E</td></tr><tr><td>trolley6</td><td>Trolley F</td></tr><tr><td>trolley7</td><td>Trolley G</td></tr><tr><td>trolley8</td><td>Trolley H</td></tr><tr><td>trolley9</td><td>Trolley I</td></tr><tr><td>trolley10</td><td>Trolley J</td></tr></tbody></table>	ID	Name	trolley1	Trolley A	trolley2	Trolley B	trolley3	Trolley C	trolley4	Trolley D	trolley5	Trolley E	trolley6	Trolley F	trolley7	Trolley G	trolley8	Trolley H	trolley9	Trolley I	trolley10	Trolley J	
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Vehicles Interface:

UWC	Vehicles	<input type="button" value="Logout"/>																																	
<ul style="list-style-type: none"><input type="button" value="Janitors"/><input type="button" value="Collectors"/><input type="button" value="Areas"/><input type="button" value="MCPs"/><input type="button" value="Trolleys"/><input type="button" value="Vehicles"/>	<table border="1"><thead><tr><th>ID</th><th>Name</th><th>Status</th></tr></thead><tbody><tr><td>vehic1</td><td>Vehicle A</td><td>Out of fuel</td></tr><tr><td>vehic2</td><td>Vehicle B</td><td>Broken</td></tr><tr><td>vehic3</td><td>Vehicle C</td><td>Ready to use</td></tr><tr><td>vehic4</td><td>Vehicle D</td><td>Out of fuel</td></tr><tr><td>vehic5</td><td>Vehicle E</td><td>Broken</td></tr><tr><td>vehic6</td><td>Vehicle F</td><td>Ready to use</td></tr><tr><td>vehic7</td><td>Vehicle G</td><td>Out of fuel</td></tr><tr><td>vehic8</td><td>Vehicle H</td><td>Broken</td></tr><tr><td>vehic9</td><td>Vehicle I</td><td>Ready to use</td></tr><tr><td>vehic10</td><td>Vehicle J</td><td>Out of fuel</td></tr></tbody></table>	ID	Name	Status	vehic1	Vehicle A	Out of fuel	vehic2	Vehicle B	Broken	vehic3	Vehicle C	Ready to use	vehic4	Vehicle D	Out of fuel	vehic5	Vehicle E	Broken	vehic6	Vehicle F	Ready to use	vehic7	Vehicle G	Out of fuel	vehic8	Vehicle H	Broken	vehic9	Vehicle I	Ready to use	vehic10	Vehicle J	Out of fuel	
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vehic10	Vehicle J	Out of fuel																																	

Trolleys and Vehicles Interface provides transport devices information for workers (Trolleys for Janitors and Vehicles for Collectors), giving an overview to back officers.

Assign Task Interface:



To begin assigning tasks, we go back to the workers' list and click on any worker we want to choose.

UWC	Janitors	<input type="checkbox"/> Logout																						
<ul style="list-style-type: none"> Janitors Collectors Areas MCPs Trolleys Vehicles	<table border="1"><thead><tr><th>ID</th><th>Name</th></tr></thead><tbody><tr><td>jan1</td><td>Worker Janitor A</td></tr><tr><td>jan2</td><td>Worker Janitor B</td></tr><tr><td>jan3</td><td>Worker Janitor C</td></tr><tr><td>jan4</td><td>Worker Janitor D</td></tr><tr><td>jan5</td><td>Worker Janitor E</td></tr><tr><td>jan6</td><td>Worker Janitor F</td></tr><tr><td>jan7</td><td>Worker Janitor G</td></tr><tr><td>jan8</td><td>Worker Janitor H</td></tr><tr><td>jan9</td><td>Worker Janitor I</td></tr><tr><td>jan10</td><td>Worker Janitor J</td></tr></tbody></table>	ID	Name	jan1	Worker Janitor A	jan2	Worker Janitor B	jan3	Worker Janitor C	jan4	Worker Janitor D	jan5	Worker Janitor E	jan6	Worker Janitor F	jan7	Worker Janitor G	jan8	Worker Janitor H	jan9	Worker Janitor I	jan10	Worker Janitor J	
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Specific Janitor Interface:



UWC	Janitors >> Janitor A	 Logout																																												
<ul style="list-style-type: none"> Janitors Collectors Areas MCPs Trolleys Vehicles	<div style="display: flex; justify-content: space-between; align-items: flex-start;"><div style="border: 1px solid #ccc; padding: 5px; width: 45%;"><p style="margin: 0;">Information</p><table border="1" style="width: 100%; border-collapse: collapse;"><tr><td style="padding: 2px;">Name:</td><td style="padding: 2px;">Janitor A</td></tr><tr><td style="padding: 2px;">ID:</td><td style="padding: 2px;">jan1</td></tr></table></div><div style="border: 1px solid #ccc; padding: 5px; width: 45%;"><p style="margin: 0;">Today task</p><table border="1" style="width: 100%; border-collapse: collapse;"><tr><td style="padding: 2px;">Area</td><td style="padding: 2px;">District 10</td></tr><tr><td style="padding: 2px;">MCP</td><td style="padding: 2px;">Diem tap ket rac so 2</td></tr><tr><td style="padding: 2px;">Trolley</td><td style="padding: 2px;">trolley1</td></tr></table></div></div> <div style="border: 1px solid #ccc; padding: 5px; margin-top: 10px;"><p style="margin: 0;">February</p><table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="padding: 2px;">Mon</th><th style="padding: 2px;">Tue</th><th style="padding: 2px;">Wed</th><th style="padding: 2px;">Thu</th><th style="padding: 2px;">Fri</th><th style="padding: 2px;">Sat</th><th style="padding: 2px;">Sun</th></tr></thead><tbody><tr><td style="padding: 2px;">1</td><td style="padding: 2px;">2</td><td style="padding: 2px;">3</td><td style="padding: 2px;">4</td><td style="padding: 2px;">5</td><td style="padding: 2px;">6</td><td style="padding: 2px;">7</td></tr><tr><td style="padding: 2px;">8</td><td style="padding: 2px;">9</td><td style="padding: 2px;">10</td><td style="padding: 2px;">11</td><td style="padding: 2px;">12</td><td style="padding: 2px;">13</td><td style="padding: 2px;">14</td></tr><tr><td style="padding: 2px;">15</td><td style="padding: 2px;">16</td><td style="padding: 2px;">17</td><td style="padding: 2px;">18</td><td style="padding: 2px;">19</td><td style="padding: 2px;">20</td><td style="padding: 2px;">21</td></tr><tr><td style="padding: 2px;">22</td><td style="padding: 2px;">23</td><td style="padding: 2px;">24</td><td style="padding: 2px;">25</td><td style="padding: 2px;">26</td><td style="padding: 2px;">27</td><td style="padding: 2px;">28</td></tr></tbody></table></div>	Name:	Janitor A	ID:	jan1	Area	District 10	MCP	Diem tap ket rac so 2	Trolley	trolley1	Mon	Tue	Wed	Thu	Fri	Sat	Sun	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
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22	23	24	25	26	27	28																																								

Information, today's tasks and work calendar will be displayed here. If back officers have not assigned tasks, today tasks will show unassigned information.

Back officers can click on any day to assign or to modify tasks on that day.



UWC	Janitors >> Janitor A >> February 1st	 Logout								
<ul style="list-style-type: none"> Janitors Collectors Areas MCPs Trolleys Vehicles	<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th colspan="2" style="text-align: left; padding: 2px;">February 1st Task</th></tr></thead><tbody><tr><td style="width: 10%;">Area</td><td style="padding: 2px;">District 10</td></tr><tr><td>MCP</td><td style="padding: 2px;">Diem tap ket rac so 2</td></tr><tr><td>Trolley</td><td style="padding: 2px;">trolley1</td></tr></tbody></table> <div style="border: 1px solid #ccc; border-radius: 10px; padding: 5px; margin-top: 10px; width: fit-content; display: inline-block;">Assign task</div>	February 1st Task		Area	District 10	MCP	Diem tap ket rac so 2	Trolley	trolley1	
February 1st Task										
Area	District 10									
MCP	Diem tap ket rac so 2									
Trolley	trolley1									
<p style="margin: 0;">Optimized route</p> <div style="border: 1px solid #ccc; border-radius: 10px; height: 150px; width: 100%;"></div>										

Back Officers' assigned tasks will be displayed here. Optimized route will always be generated automatically once MCPs and areas are chosen.

Back officers can assign new tasks or modify old tasks by clicking on the assign task button.



UWC <ul style="list-style-type: none"> Janitors Collectors Areas MCPs Trolleys Vehicles	<p>Janitors >> Janitor A >> February 1st >> Assigning Logout</p> <div style="border: 1px solid #ccc; padding: 5px; margin-bottom: 10px;">February 1st Task<table border="1" style="width: 100%; border-collapse: collapse;"><tr><td style="width: 33%;">Area</td><td>District 10</td></tr><tr><td>MCP</td><td>Diem tap ket rac so 2</td></tr><tr><td>Trolley</td><td>trolley1</td></tr></table></div> <div style="border: 1px solid #ccc; padding: 10px; border-radius: 10px;"><table style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 33%;">MCPs</th><th style="width: 33%;">Areas</th><th style="width: 33%;">Trolleys</th></tr></thead><tbody><tr><td><input type="radio"/> MCP1</td><td><input type="radio"/> A1</td><td><input type="radio"/> Trolley1</td></tr><tr><td><input type="radio"/> MCP2</td><td><input type="radio"/> A2</td><td><input type="radio"/> Trolley2</td></tr><tr><td><input type="radio"/> MCP3</td><td><input type="radio"/> A3</td><td><input type="radio"/> Trolley3</td></tr><tr><td><input type="radio"/> MCP4</td><td><input type="radio"/> A4</td><td><input type="radio"/> Trolley4</td></tr><tr><td><input type="radio"/> MCP5</td><td><input type="radio"/> A5</td><td><input type="radio"/> Trolley5</td></tr><tr><td><input type="radio"/> MCP6</td><td><input type="radio"/> A6</td><td><input type="radio"/> Trolley6</td></tr><tr><td><input type="radio"/> MCP7</td><td><input type="radio"/> A7</td><td><input type="radio"/> Trolley7</td></tr><tr><td><input type="radio"/> MCP8</td><td><input type="radio"/> A8</td><td><input type="radio"/> Trolley8</td></tr><tr><td><input type="radio"/> MCP9</td><td><input type="radio"/> A9</td><td><input type="radio"/> Trolley9</td></tr><tr><td><input type="radio"/> MCP10</td><td><input type="radio"/> A10</td><td><input type="radio"/> Trolley10</td></tr></tbody></table><p style="text-align: right; margin-top: 10px;">Submit</p></div>	Area	District 10	MCP	Diem tap ket rac so 2	Trolley	trolley1	MCPs	Areas	Trolleys	<input type="radio"/> MCP1	<input type="radio"/> A1	<input type="radio"/> Trolley1	<input type="radio"/> MCP2	<input type="radio"/> A2	<input type="radio"/> Trolley2	<input type="radio"/> MCP3	<input type="radio"/> A3	<input type="radio"/> Trolley3	<input type="radio"/> MCP4	<input type="radio"/> A4	<input type="radio"/> Trolley4	<input type="radio"/> MCP5	<input type="radio"/> A5	<input type="radio"/> Trolley5	<input type="radio"/> MCP6	<input type="radio"/> A6	<input type="radio"/> Trolley6	<input type="radio"/> MCP7	<input type="radio"/> A7	<input type="radio"/> Trolley7	<input type="radio"/> MCP8	<input type="radio"/> A8	<input type="radio"/> Trolley8	<input type="radio"/> MCP9	<input type="radio"/> A9	<input type="radio"/> Trolley9	<input type="radio"/> MCP10	<input type="radio"/> A10	<input type="radio"/> Trolley10
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<input type="radio"/> MCP10	<input type="radio"/> A10	<input type="radio"/> Trolley10																																						

Back officers can check MCP, area and trolley as their choices and click submit to complete assigning tasks. In the future, we will improve to make their information displayed as back officers point to each option.

The above is about assigning tasks to Janitors specifically, assigning tasks to Collectors has similar functionality except tasks' information.



UWC	<p>Collectors >> Collector A >> February 1st >> Assigning</p> <p style="text-align: right;">Logout</p> <div style="border: 1px solid black; padding: 10px; margin-top: 10px;"><p>February 1st Task</p><table border="1" style="width: 100%;"><tr><td style="width: 15%;">Vehicle</td><td>vehicle1</td></tr><tr><td>MCP</td><td>MCP1 -> MCP2 -> MCP3</td></tr></table></div> <div style="border: 1px solid black; padding: 10px; margin-top: 10px;"><table border="1" style="width: 100%;"><thead><tr><th style="width: 33%;">MCPs</th><th style="width: 33%;">Chosen MCPs</th><th style="width: 33%;">Vehicles</th></tr></thead><tbody><tr><td style="height: 150px; vertical-align: top;">MCP4 MCP5 MCP6 MCP7 MCP8 MCP9 MCP10</td><td style="height: 150px; vertical-align: top;">MCP1 MCP2 MCP3</td><td style="height: 150px; vertical-align: top;"><input type="radio"/> Vehicle1 <input type="radio"/> Vehicle2 <input type="radio"/> Vehicle3 <input type="radio"/> Vehicle4 <input type="radio"/> Vehicle5 <input type="radio"/> Vehicle6 <input type="radio"/> Vehicle7 <input type="radio"/> Vehicle8 <input type="radio"/> Vehicle9 <input type="radio"/> Vehicle10</td></tr></tbody></table><p style="text-align: center;">Submit</p></div>	Vehicle	vehicle1	MCP	MCP1 -> MCP2 -> MCP3	MCPs	Chosen MCPs	Vehicles	MCP4 MCP5 MCP6 MCP7 MCP8 MCP9 MCP10	MCP1 MCP2 MCP3	<input type="radio"/> Vehicle1 <input type="radio"/> Vehicle2 <input type="radio"/> Vehicle3 <input type="radio"/> Vehicle4 <input type="radio"/> Vehicle5 <input type="radio"/> Vehicle6 <input type="radio"/> Vehicle7 <input type="radio"/> Vehicle8 <input type="radio"/> Vehicle9 <input type="radio"/> Vehicle10
Vehicle	vehicle1										
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Collectors' tasks will not consist of areas because they only travel between MCPs mainly. MCPs boxes allow back officers to hold and drop them in any order which provide back officers the ability to rearrange the order in chosen MCPs to designate the priority of each MCPs.

To go to the messages section, we click on the chat symbol on the top right corner, next to the logout button.

Messages Interface:



UWC	Send message	<input type="checkbox"/> Logout
<input type="checkbox"/> Janitors	ID	Name
<input type="checkbox"/> Collectors	jan1	Worker Janitor A
<input type="checkbox"/> Areas	jan2	Worker Janitor B
<input type="checkbox"/> MCPs	jan3	Worker Janitor C
<input type="checkbox"/> Trolleys	jan4	Worker Janitor D
<input type="checkbox"/> Vehicles	jan5	Worker Janitor E
	jan6	Worker Janitor F
	jan7	Worker Janitor G
	jan8	Worker Janitor H
	jan9	Worker Janitor I
	jan10	Worker Janitor J
	<input type="checkbox"/> col1	Worker Collector A
	col2	Worker Collector B
	col3	Worker Collector C
	col4	Worker Collector D
	col5	Worker Collector E
	col6	Worker Collector F
	col7	Worker Collector G
	col8	Worker Collector H
	col9	Worker Collector I
	col10	Worker Collector J

Back officers can click on any workers to open a chat box. The chat box has the basic functionalities which are sending messages and storing old conversation.



UWC	Send message > jan1	<input type="checkbox"/> Logout
<ul style="list-style-type: none"> Janitors Collectors Areas MCPs Trolleys Vehicles	<div style="border: 1px solid black; height: 40px; width: 100%;"></div> <div style="background-color: #90EE90; height: 40px; width: 100%; margin-top: 10px;"></div> <div style="background-color: #90EE90; height: 80px; width: 100%; margin-top: 10px;"></div> <div style="border: 1px solid black; height: 40px; width: 100%; margin-top: 10px;"></div> <div style="border: 1px solid black; height: 40px; width: 100%; margin-top: 10px;"></div>	<div style="background-color: #90EE90; height: 20px; width: 40px; margin-bottom: 5px;"></div> <div style="border: 1px solid black; height: 20px; width: 40px; background-color: #F0F0F0;"></div>
	<div style="border: 1px solid black; height: 20px; width: 100%; background-color: #F0F0F0; position: relative;"><div style="position: absolute; bottom: -5px; left: 0; width: 100%; height: 5px; background-color: inherit;"></div><div style="position: absolute; bottom: 0; left: 50%; width: 0; height: 0; border-left: 10px solid transparent; border-right: 10px solid transparent; border-top: 20px solid #F0F0F0;"></div></div>	<div style="border: 1px solid black; height: 20px; width: 40px; background-color: #F0F0F0; text-align: center; line-height: 20px;">Send</div>

Finally, back officers can log out whenever they want by clicking on the logout button in the top right corner.