Project Charter

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| **Title of the Project :** | Garbage Management System | |
| **Campus & Batch :** | Malabe Y2S2 | Group No: TW23 |
| **Development Technology :** | MERN Stack | |

**Description of the Project:**

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| Our client is responsible for waste management and currently faces in efficiently handling and monitoring garbage disposal activities. Currently, they face inefficiency in a lack of real-time monitoring, staff coordination, and customer interactions. The current waste management process suffers from insufficiencies in-vehicle deployment, staff management, and customer engagement. Our client seeks a solution that addresses these weak points, enhancing operational efficiency and customer satisfaction.    To overcome this situation our waste management system proposes a solution introducing a user-friendly web application with vehicle, task, staff, customer, payment and route management. As well as it capable to publishing articles about researches on collected waste. This web application approach optimizes route planning, enhances staff coordination, and improves overall waste management operations. The system offers dynamic task allocation, real-time tracking, and transparent financial transactions. |

**Details of the Group Members:** *(Provide the details of the group leader in the first row)*

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|  | **Name with Initials**  **(Surname first)** | **Registration Number** | **Contact Phone Number** | **Email** |
|  | Fonseka W D C | IT22341518 | 076 292 7764 | it22341518@my.sliit.lk |
|  | Ganepola G A S S | IT22321022 | 070 229 7844 | it22321022@my.sliit.lk |
|  | Chandrasekara N K D R | IT22052988 | 071 632 5865 | it22052988@my.sliit.lk |
|  | Aluvihare W B W M R K | IT22304506 | 077 160 3864 | it22304506@my.sliit.lk |
|  | Shehara I G D S | IT22338334 | 077 526 5486 | it22338334@my.sliit.lk |
|  | Samarasinghe R T | IT22032942 | 077 442 0669 | it22032942@my.sliit.lk |
|  | Rashmika S E S | IT22584854 | 076 436 2185 | it22584854@my.sliit.lk |
|  | Wijesuriya M W A D | IT22369574 | 071 993 1314 | it22369574@my.sliit.lk |

**List of Functions Developed by the Group Members:**

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|  | **Name with Initials** | **Description of the Function** |
|  | Fonseka W D C | **Task Management** – This interface takes the user’s desire into account. Subsequentially, submit requests to the staff, vehicle, and route to designate a staff member, vehicle, and route. After everything is ready and the vehicle is in motion, customers can use maps to follow it. The admin can create a report, edit and remove requests. Additionally, this interface designates transfer stations and waste management equipment to handle the waste in the designated area. |
|  | Ganepola G A S S | **Staff Management** - The system enables administrators to input details for new staff members, facilitating their integration into the system. Staff are then allocated diverse tasks based on their experience, and the system facilitates their association with vehicles. Additionally, staff members have the ability to contribute feedback on their work experiences. Administrators retain the flexibility to generate reports whenever necessary. |
|  | Chandrasekara N K D R | **Financial Management** - In the online garbage management system's financial management function, it handles all the money-related aspects such as staff salaries, maintenance expenses, and user payments. The system indicates that the payments made by clients are valid and accounted for. The admin of the system has the ability to generate detailed reports regarding all the financial transactions within the interface. Essentially, this feature helps in keeping track of and managing the financial aspects of the garbage management system efficiently. |
|  | Aluvihare W B W M R K | **Research & Development Management -** The system features a comprehensive set of functions to facilitate efficient management and interaction within the research platform. Users can employ the "View and Update Research Post" function to review and modify their research posts, submitting updates for admin approval to ensure validated content publication. Admins, on the other hand, utilize the "Add Research Products for Sale" function to seamlessly integrate new research products into the system's marketplace, providing essential details like product name, description, research link, initial stock quantity, and price. The "Update Stock and Other Details" function empowers administrators to manage product information by supplying admin ID, product ID, new quantity, and price. The system also offers tools for financial analysis, with admins using the "Generate Income Report" function and the broader "Generate Report" function to assess income and obtain insights into research product details for inventory management and pricing strategies. Additionally, users benefit from enhanced accessibility through the "Search Research Articles" function, enabling them to efficiently locate valuable research articles based on keywords, authors, or categories. |
|  | Shehara I G D S | **Customer Management** - In our online garbage management system, customers play a crucial role by logging in to the system. If a customer is new to the system, they need to sign up by sharing their information. Once logged in, users can ask for their waste to be collected and make payments. They also have the ability to edit or remove their requests whenever needed and even generate reports summarizing their requests. |
|  | Samarasinghe R T | **Route Management** - In this interface, managing the vehicles' routes is the primary purpose. Admin must first view user requests and determine the town areas. When a route is formed, the administrator assigns a vehicle to it. Requests can be updated or deleted by the admin, and routes can be updated or deleted by the admin. |
|  | Rashmika S E S | **Waste Management** - store and manage the waste data collected from the other subsystems. And admin is allowed to visualize and analyze waste data. such as the amount and type of waste collected, the revenue and cost of the service. And also, admin can generate reports of collected waste. such as the amount and type of waste collected, the products or byproducts of the waste processing and recycling, total revenue etc.. |
|  | M W A D Wijesuriya | **Vehicle Management** - Manage all vehicle registrations like vehicle number, chassis number, fuel type, and weight reduction through this interface. Each vehicle will be assigned a specific task depending on the vehicle's performance and type of task. A report can be generated containing all the details of the vehicle. |