



Sri Lanka Institute of Information Technology

Information Technology Project

Year2, Semester 2 - 2024

Project Charter

Title of the Project :	Electrical and Service Management System	
Campus & Batch :	Malabe Weekday Batch 10.1	Group No: T141
Development Technology :	MERN Stack – Mongo DB, Express Js, React Js, Node Js	

Description of the Project:

Client and the current business:

Newton Electrical, No. 17/A Avissawella Road, Kaduwela
Newton Electrical, a prominent dealer in electrical goods and electrical installation contractor.

Current Problem:

The current problem in society is the significant challenge faced by customers in locating and reaching out to electrical businesses that offer essential services like scheduling wiring, A/C repairs, and security camera installations and more. Presently, there is a noticeable absence of a centralized system that allows customers to easily find and contact these service providers. Without a dedicated platform, customers are left without the convenience of booking services online through a web application. This not only causes frustration for customers but also leads to delays in securing timely and essential electrical services. The need for a suitable Electrical and Service Management System is evident to address these challenges and provide a user-friendly solution for customers seeking electrical services.

Innovative solution you are planning to provide:

Newton Electrical is an innovative Electrical and Service Management System made to simplify tasks for clients, service teams, and administrative staff. This user-friendly web-based application ensures smooth interactions for all users. Clients can easily register and access a wide range of services such as scheduling wiring, A/C repairs, and security camera installations and more. Our skilled service teams then conduct home visits for scheduled repairs and installations. Clients can also sign up for annual service packages where our team performs services accordingly. To show our past projects, we have a section for client satisfaction. A special feature is that job seekers can visit the career section, apply for jobs on-site, and check the status of their applications. Clients can also explore and securely purchase electronic items through our integrated online store, using various payment methods.

On the administrative side, our staff can log in to perform various tasks. Admins can review and approve service requests, manage user accounts, and handle online transactions through an interactive dashboard. Advanced Analytics tools help understand user behavior, service trends, and popular products, making decision-making easier.



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

	Name with Initials (Surname first)	Registration Number	Contact Phone Number	Email
1.	Jayasinghe J A D T S	IT22028464	0761207101	it22028464@my.sliit.lk
2.	Wimalarathna B P K	IT22059604	0718427062	it22059604@my.sliit.lk
3.	Gimsara W T G	IT22898098	0773479865	it22898098@my.sliit.lk
4.	Galappaththi A G R S	IT22345578	0710798661	it22345578@my.sliit.lk
5.	Reid P R	IT22575944	0711201115	it22575944@my.sliit.lk
6.	Dayarathne R D T N	IT22578396	0775160412	it22578396@my.sliit.lk
7.	Perera M M D	IT22581716	0760031024	it22581716@my.sliit.lk
8.	Madhubhashana M D H P	IT22322876	0766803068	it22322876@my.sliit.lk

List of Functions Developed by the Group Members:

	Name with Initials	Description of the Function
1.	Jayasinghe J A D T S	<p>User Management</p> <p>User management handles various tasks related to user interactions in the system. It lets users sign up by giving needed information and log in using their details. and admins take care of managing all user accounts. Additionally, all employee registration and employee accounts are also handled under this section. A unique feature enhancing user engagement is the system's progressive leveling-up mechanism for users (Platinum, Gold, Silver). Based on their activity and points This feature unlocks special perks, enhancing user engagement.</p> <p>Users have the freedom to modify their accounts and profiles, and any modifications to details will also be notified to users through emails, enhancing the system's security. Additionally, users can view their activity history. Admins can generate user reports, providing details on user information and activities.</p> <p>Users have the freedom to modify their accounts and profiles, and any modifications to details will also be notified to users through emails, enhancing the system's security. Additionally, users can view their activity history. Admins can generate user reports, providing details on user information and activities.</p> <p>Users can easily check and download these reports, maintaining transparency and encouraging them to stay active on the platform. Furthermore, both admins and users have the ability to delete their accounts when necessary.</p>



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2.	Wimalarathna B P K	Career Management Career management system in an electrical service management system entails establishing a streamlined and effective procedure for staff members to investigate opportunities, send their resumes, and for clients to evaluate and choose qualified applicants. Employees would begin by registering for an account on the website. To create an extensive profile, they would provide their contact information, employment history, education, talents, and any other pertinent data. The system ought to provide a specific area with a list of available jobs for any open positions. Within the electrical service management system, there must be a special component of the system that lists open positions which can be seen by the employees and the managers.. The technology allows employees to upload their resumes. A personal statement, certifications, professional experience, and educational background should all be included on the CV. Several file formats should be supported by the system when uploading CVs. Clients looking for electrical services can access the staff resumes through the interface for available positions. Based on their unique criteria and needs, they can look for qualified applicants and book the appointments via HR manager and manager must approve the booking by checking the selected employee's schedule. Clients can browse the list of applicants and their corresponding resumes, as well as follow the progress of their service requests. Through the system, they should be able to send emails and phone numbers to applicants and set up interviews. Notifications concerning new applications or updates on service requests should be sent by the system to customers as well as staff regarding the progress of their applications. And once the assigned task is done, employees mark that in the system and the HR manager calculates the total and generates the report about their salary increments.
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3.	Gimsara W T G	Feedback Management The function of feedback management, also known as customer relationship management, enables customers to give feedback on the services received from the business and it will be displayed in the feedback section where later users can modify it if necessary. Also this feature enables the users to inquire about any problem easily through contacting the business. Additionally, it has a feature where customers can rate the service that they have received. The function of feedback management is to increase customer satisfaction and develop good communication with the users. By doing so, businesses can enhance customer satisfaction, loyalty, and overall success in the marketplace.
4.	Galappaththi A G R S	Inventory Management Inventory management in an electrical service management system involves tracking and organizing electrical components, tools, and equipment. Key functions include real-time inventory tracking to prevent stockouts and identifying surplus or obsolete items. The system also categorizes items for easier management, integrates with accounting and project management modules, and generates reports on inventory status and cost analysis. Overall, it streamlines operations, reduces costs, and enhances productivity in electrical service management.
5.	Reid P R	Service Schedule Management The Service Schedule Management in the electrical service company enhances the customer experience by facilitating seamless scheduling. With a comprehensive list of services, including inspections, installations, and repairs, users can efficiently make informed decisions using filters and sorting options. The system allows for customizable selections, empowering users to choose specific time slots. Moreover, users can receive notifications about their bookings, ensuring timely updates. Additionally, the feature incorporates flexibility by allowing easy rescheduling or cancelation of appointments. The user-friendly interface extends to the 'My Booking' section, where customers can view their booked appointments. This comprehensive approach prioritizes customer convenience, promoting satisfaction through efficient scheduling and accessible booking management.



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6.	Dayarathne R D T N	Offer Package Management Offering customers a variety of service packages including services that customers want to receive more frequently is the responsibility of offer package management in the electrical service system. These packages provide customers the option to choose the length of their commitment with monthly and annual subscription plans. A range of services, including maintenance, replacement, and repair of electronic components, are included in each package. After choosing a package, customers have the option of monthly or annual billing cycles. The total cost will be discounted according to the length of the subscription that is selected. This strategy encourages longer-term commitments and fosters consumer loyalty by making the process easier for users. Users may also conveniently manage their subscriptions
7.	Perera M M D	Project Management The Project Management function in an electrical service management system seamlessly integrates past and ongoing projects. The tasks related to this section are mainly handled by a project manager who can add new projects, update the project status to different categories such as completed projects, ongoing projects, and future projects. It systematically showcases detailed insights into previous projects, including outcomes, challenges, and key metrics under the project section. Simultaneously, it provides real-time updates on ongoing projects, offering transparency and facilitating effective decision-making to users of the system. This comprehensive approach ensures that historical data informs current initiatives, optimizing resource allocation, timelines and client communication. The integration of past and ongoing project details enhances overall efficiency, enabling the delivery of high-quality electrical services in a dynamic and informed manner. Additionally, the project manager can calculate different projects done or projects which are in progress, visible to users through the web application and incremented based on the projects completed by the company. The project manager is responsible for managing all users in the system and has the ability to create, edit and manage the projects done by the company.



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		<p>Also, project manager can remove projects if required, so after removal, they will not be visible to users. Additionally, the project manager can generate project reports which include details such as the number of projects completed, projects which are ongoing and detailed reports of the projects handled by the company.</p>
8.	Madhubhashana M D H P	<p>Order Management</p> <p>Users have given the opportunity to browse thousands of products from various categories and they are provided with a well-implemented order management component which greatly enhances customer satisfaction. Although orders and inventory depend on each other, they are handled by two different components for easier management. Cart and payment functionalities are also managed by this component and all order-related activities are only allowed to users after logging into the system.</p> <p>When a user visits a product description page and if he/she chooses to buy the item, he/she is provided with two options: 'Add to Cart' or 'Buy Now'. Adding to the cart provides the users with several benefits: they can continue browsing products rather than individually placing orders for every interested product, and while browsing, if they become interested in another product, they can add those items to the cart and order all of them using 'Checkout' option. Also before selecting 'Checkout', they have the option to review the cart and make necessary changes to the items in their cart, including quantity and variation adjustments and item removal. Once everything looks good, the customer can select 'Checkout' to continue and the system will process all items in a single order.</p> <p>Users can select 'Buy Now' to directly order from product description page. This can be useful if the item is a hot-selling item and its quantity drops significantly faster, so the user wants to order it as quickly as possible or the user just wants to purchase only one item which doesn't really require adding to the cart. By placing an order either way, the system will process it and request the user to fill in necessary information. Users can choose between two modes: 'Home Delivery' and 'Store Pickup' mode. 'Home Delivery' mode involves the supplier providing a tracking number after shipping the product and 'Store Pickup' mode involves the buyer visiting a warehouse within the collection due time.</p>



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	<p>After providing required details, the user can select ‘Continue’ to continue with the payment. The system accepts two payment modes: ‘Online Payment’ or ‘Cash on Delivery’. Online payment option supports various payment methods including PayPal, Credit/debit card, Bank transfer, virtual vallets etc. Finally, the user can complete the payment using ‘Place Order’ option. The system processes the payment through a secure payment gateway and notifies the status of the payment. Users are provided with the option to view their order history, categorized under Awaiting Payment, Awaiting Shipment, Processing, Cancelled and Finished.</p> <p>Users can cancel their orders at anytime, but if the order is accepted by the supplier, the system may charge a small amount from the buyer before the cancellation. The system allows the users to raise disputes for orders if they encounter any problems. Supplier can try to help resolve issues with their customers, and if an issue is still unresolved, an order manager will step in to help resolve it and close the dispute. Order managers have the ability to review all orders before they get accepted by the supplier and they can cancel orders if anything looks suspicious. Likewise the order management component contributes to the overall success of the e-commerce part of the electrical and services management system.</p>
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