BATTERY MANAGEMENT SYSTEM

A PROJECT REPORT

Submitted by,

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Under the guidance of,

Dr.SHARMASTH VALI Y

in partial fulfillment for the award of the degree of

BACHELOR OF TECHNOLOGY

IN

COMPUTER SCIENCE AND ENGINEERING, INTERNET OF THINGS

At

GAIN MORE KNOWLEDGE
REACH GREATER HEIGHTS

PRESIDENCY UNIVERSITY

BENGALURU

JANUARY 2025

CERTIFICATE

This is to certify that the Project report **"Battery Management System"** being submitted by **"Tummasi Jashwanth, Monish Kumar V, Reddy Manoj, M Sandeep, Pruthvi R Patel"** bearing roll number(s) **"20211CIT0018, 20211CIT0063, 20211CIT0071, 20211CIT0165, 20211CIT0176"** in partial fulfillment of the requirement for the award of the degree of Bachelor of Technology in Computer Science and Engineering is a bonafide work carried out under my supervision.

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DECLARATION

We hereby declare that the work, which is being presented in the project report entitled **Battery Management System** in partial fulfillment for the award of Degree of **Bachelor of Technology** in **Computer Science and Engineering.** is a record of our own investigations carried under the guidance of **Dr.SHARMASTH VALI Y, Associate Professor, School of Computer Science and Engineering , Presidency University, Bengaluru.**

We have not submitted the matter presented in this report anywhere for the award of any other Degree.

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ABSTRACT

Battery management is key to ensuring device longevity and optimization. This project discusses the development of a Battery Management App using React Native, a popular framework for developing cross-platform mobile applications. As dependence on electronic devices on the rise, proper battery monitoring and management have become vital to maintain a device's performance and prolong battery life. The app aims to monitor and showcase important battery parameters like current battery status, charging status, temperature, and overall battery health. Such features are intended to aid users in understanding the battery status of their devices and guaranteeing that the necessary precautions are taken to maintain its health. Using the power of React Native, the app will ensure consistent performance on both Android and iOS platforms, bringing it within reach of a wider audience. One of the app's key features is its capability to switch off the charger once the battery is charged to 100%. Overcharging is a widespread problem with its organizers resulting in battery overheating, reduced capacity, and even safety issues. This functionality not only adds to user conveniences but also promotes battery safety by overcoming potential dangers associated with overcharging. Additionally, the app comes with an overheating detection and alert system. Such a feature is essential to prevent battery failure and guarantee the safety of users, especially in high-temperature environments or under intense usage circumstances. To further improve the user experience, the app provides real-time notifications if it detects any battery degradation. This option allows users to take immediate actions like choosing to change the battery or altering their usage habits to restore the optimum performance of their devices. The app's proactive battery management reflects its intent to elevate the user experience as well as promote device safety. In conclusion, the project showcases how a potential app can combat common battery management issues. By incorporating advanced monitoring capabilities, automated functions, and real-time notifications, the Battery Management App provides a complete method to maintain battery health and achieve device longevity. The adoption of React Native for the development ensures a smooth and effective implementation across different platforms, consequently making the app an essential utility for users of modern mobile devices.

ACKNOWLEDGEMENT

First of all, we indebted to the **GOD ALMIGHTY** for giving me an opportunity to excel in our efforts to complete this project on time.

We express our sincere thanks to our respected dean **Dr. Md. Sameeruddin Khan,** Pro-VC, School of Engineering and Dean, School of Computer Science Engineering & Information Science, Presidency University for getting us permission to undergo the project.

We express our heartfelt gratitude to our beloved Associate Deans **Dr. Shakkeera L and Dr. Mydhili Nair,** School of Computer Science Engineering & Information Science, Presidency University, and **Dr.Anandraj S P,**Head of the Department, School of Computer Science Engineering & Information Science, Presidency University, for rendering timely help in completing this project successfully.

We are greatly indebted to our guide **Dr.Sharmasth Vali Y** and Reviewer **Mr.Sakthivel E,** Assistant professor School of Computer Science Engineering & Information Science, Presidency University for his inspirational guidance, and valuable suggestions and for providing us a chance to express our technical capabilities in every respect for the completion of the project work.

We would like to convey our gratitude and heartfelt thanks to the PIP2001 Capstone Project Coordinators **Dr. Sampath A K, Dr. Abdul Khadar A and Mr. Md Zia Ur Rahman,** department Project Coordinators **Dr. Sharmasth Vali Y** and Git hub coordinator **Mr. Muthuraj.**

We thank our family and friends for the strong support and inspiration they have provided us in bringing out this project.

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