FINAL YEAR PROJECT REPORT

MART NAVIGATION SYSTEM

In fulfillment of the requirement
For degree of
BS (COMPUTER SCIENCES)

By

MUHAMMAD WASSAY SULTAN	59998 (BSCS)
MALIK HAMZA ALI NASIR	60038 (BSCS)
MUHAMMAD HUZAIFAH	59980(BSCS)

SUPERVISED

BY

MR.MUHAMMAD MAROUF

BAHRIA UNIVERSITY (KARACHI CAMPUS)

FALL-2022

DECLARATION

We hereby declare that this project report is based on our original work except for citations and quotations which have been duly acknowledged. We also declare that it has not been previously and concurrently submitted for any other degree or award at Bahria University or other institutions.

Signature : _____

Name : Muhammad Huzaifah

Reg No. : 59980

Signature : _____

Name : Muhammad Wassay Sultan

Reg No. : 59998

Signature : _____

Name : Malik Hamza Ali Nasir

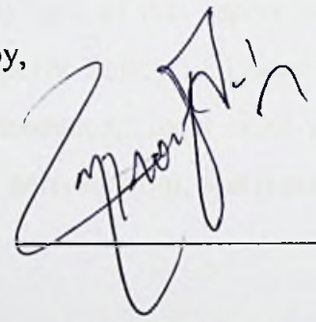
Reg No. : 60038

Date : 12/01/23

APPROVAL FOR SUBMISSION

We certify that this project report entitled **"MART NAVIGATION SYSTEM"** was prepared by **MALIK HAMZA ALI NASIR, MUHAMMAD HUZAIFAH, MUHAMMAD WASSAY SULTAN** has met the required standard for submission in partial fulfilment of the requirements for the award of Bachelor of **Computer Sciences** at Bahria University.

Approved by,

Signature : 

Supervisor : Mr. MUHAMMAD MAROUF

Date : 12/01/23

ACKNOWLEDGEMENT

We would like to thank everyone who had contributed to the successful completion of this project. We would like to express our gratitude to our research supervisor, **Mr Muhammad Marouf** for his invaluable advice, guidance and enormous, patience throughout the development of the research.

In addition, we would also like to express our gratitude to our loving parents and friends who had helped and given me encouragement.

MART NAVIGATION SYSTEM

ABSTRACT

The objective of this project is to navigate a user from their approximated location to a point in an indoor environment. This user location is estimated using the Bluetooth Low Energy (BLE) reference beacons. The indoor environment of a mart is modelled as a map using a 3d modelling software. A user is provided with an intuitive user interface which they can use interact with the application and to select a point to navigate to. An informed search algorithm is applied to the graph which internally represents the environment as a set of nodes. The algorithm finds the shortest path to the destination which is then rendered to the application interface. This aids a user's shopping experience where they can seamlessly navigate to their desired products hassle-free.

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