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# A Real-Time Tracking System using RFID in Mecca

A Thesis Submitted in partial fulfilment of the requirements for the

degree of

## Master of Engineering

In

Electronics and Computer Systems Engineering

By

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## **ABSTRACT**

Muslims from all over the world visit the holy city of Mecca in Saudi Arabia every year to perform the Hajj, which is the largest annual pilgrimage in the world. Ministry of Hajj statistics have shown that the number of pilgrims is increasing annually. The continuous increase has made the Hajj more difficult for the pilgrims and the authorities. Many pilgrims die and get injured every year due the congestion. Therefore, new technologies have become critical to control the crowds. Recently a few projects have been conducted in Mecca. However, the need for more practical and economical solutions is still required.

The aim of this project is to track missing people and determine their current location on a map during the season of the Hajj. This project is mainly aimed at children and elderly. However, the system can also be implemented in many different places including airports, shopping malls, parks, offices and industrial fields, and it also can monitor assets as well as people.

“ This thesis is dedicated to all of those  
who have died in the Hajj and their families ”

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