Implementing a Method for Stampede Detection and Safety of Pilgrims using Stampede Detection and Pilgrim Tracking

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Abstract - *Presently, There are many problems related to the crowd controls security issues, identification and tracking of the pilgrims. In this system camera is used to monitor continuously and to find high density with the help of image processing. The communication with base station is done through Global system for mobile communication (GSM). As soon as pre-stamped starts, people around pre-stamped, camera detect the picture and compare the density and message is send to the police if very high density is found. Monitoring of stampede scenario is monitored using image processing (MatLab) in stampede detection unit. The software takes snapshot at every 10 second and analyze with that scenario with the stampede threshold. This project will help to develop a turbulent pedestrian flow prediction and risk management system in pilgrimage.*

Key Words: **crowd control, pilgrims tracking, Global positioning system, global system for mobile communication, MatLab, android application.**

1. INTRODUCTION

At present, there are many problems related to the crowd control, medical emergencies, security issues, identification and tracking of the pilgrims in the holy areas. Pilgrimage has a great importance in India. Each pilgrimage session attracts a huge crowd. Such a setup poses a real challenge to the authorities in managing the crowd, and tracking/identifying People. Pilgrims moving at the same time and to the same places makes it more challenging. The following are some of the common difficulties faced by the pilgrims and the authorities like Identification of pilgrims (lost, dead, or injured), Medical emergencies, Guiding lost pilgrims to their respective camps, Congestion management. So there is need of the robust tracking system for the pilgrims.

The GPS/GSM Based System is one of the most important systems, which integrate both GSM and GPS technologies. It is necessary due to the many of applications of both GSM and GPS systems and the wide usage of them by millions of people throughout the world.

Thus, in order to identify, track and monitor pilgrims a system is needed. In this system camera is used to monitor continuously and to find high density with the help of

image processing. The communication with base station is done through Global system for mobile communication (GSM). As soon as pre-stamped starts, people around pre-stamped, camera detect the picture and compare the density and message is send to the.
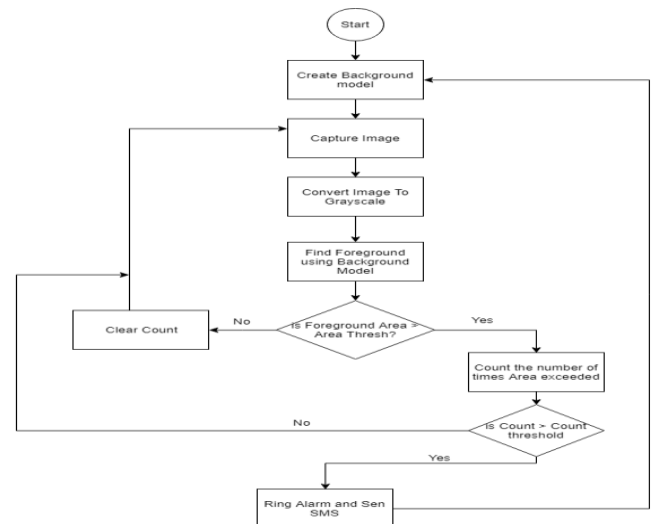
2. Block Diagram
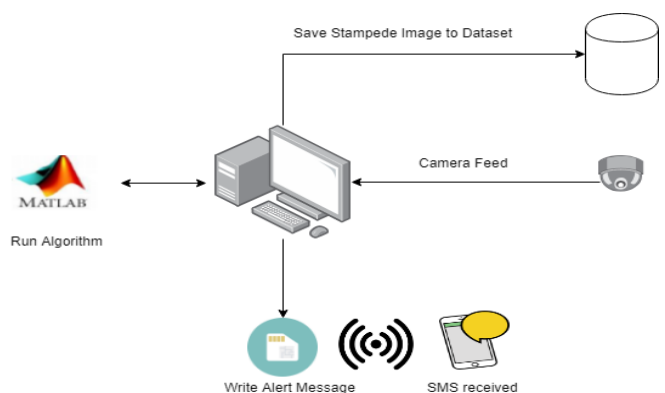

Fig-Block Diagram:

Fig – System Architecture

not use abbreviations in the title or heads unless they are unavoidable.

3. CONCLUSION

The proposed architecture uses the single GPS /GSM modem which provide exact location of pilgrims and high speed communication instead of using separate GSM and GPS modems. Stampede conditions can be detected beforehand to take necessary action in time to prevent it and thus provide security to pilgrims. Apart from tracking and detecting stampede detection, the proposed system has a great advantage. It presents an option for a pilgrim in case of medical emergency. The developed system automatically monitors the body conditions of the pilgrim which helps in getting medical aid in no time. Thus the system can satisfy the need of pilgrim without any objection.

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