

QUEUE MANAGEMENT SYSTEM AT TEMPLE

#1Akanksha P Bhimale, #2Siddhi A Gavali, #3Abhishek S Jagtap, #4Pooja S Mane, #5Prof.S. S Hajare, #6Prof Sharad S Jagtap

^{#1,2,3,4}Student of B.E E&TC, APCOER, Savitribai Phule PuneUniversity, Maharashtra, India.

Abstract- Our aim of project is to manage the queues at temple to avoid stamped at temple, so we have created a system which manages a queue in a systematic way to avoid stamped and every have privilege to book their darshan slots as per preferred time slot and date. In the development of this system, Adapting Raspberry Pi 3 as a server, this queue system expected to solve the problem before.

In addition, to build the webpage, this queue system is using HTML, JAVA Script, CSS, PHP, MySQL as the language and Visual studio code IDE, Xampp, PhpMyAdmin, Apache friends.

Keywords- Raspberry Pi 3b+, Raspicam v2, Power Supply

1. INTRODUCTION

For this project, we proposed the system with the main objective to create an online ticket booking website and offline queue where people can access and reserve their queue remotely. Queue Management system is a project to eliminate the traditional physical queue and replace it with convenient management system.

This project is designed to help the devotee who suffers from long queues in temple. The main system functionalities which are constructed online ticket booking from online platform. The system allows people to monitor their queue status with Queue Management System, customers can get SMS or email notifications with reminders of their appointments, information about how to prepare for their appointment and even self-check-in links. With messaging through for example digital signage, it is possible to share details such as the number of open counters, services offered, current waiting, and transaction times.

2. LITERATURE REVIEW

[1] T Hari Narayana purpose of this paper is an efficient way of Darshan of the Lord Venkateshwara of Tirupati Balaji Temple, this paper was published in the year 2014 at Journal of Business Management & Social Sciences Research, By-T Hari Narayana purpose of this paper is, many temples in India are not well organized for the general public. The temples located in south India are much better compared to the northern part of the temples. Although south Indian temples, in general, are better organized there is still a vast scope for improvement. In this paper, the queue system kept in Tirupati Balaji temple is analytically tested and an innovative procedure is suggested considering the safety [a6nd comfort of the visitors to the temple.

[2] Md Nasir Uddin, Mg Mostafa purpose of this paper is, all Automated Queue Management System this paper published in 2016 at Global Journal of Management and Business Research, the system can ease the customer flow management which is useful for the manager of the service provider. The purpose of this project is to develop an Automated Queue Management System for organizing queuing systems that can analyze the queue status and take a decision on which customer to be served first. This project focuses more on the bank queuing system, different queuing algorithm approaches which are used in banks to serve the customers, and the average waiting time. This queuing architecture model can switch between different schedule algorithms according to the testing result i.e., the average waiting time by using two different queue control systems, which has developed there are several processes undergo, which controlled by intel Galileo Microcontroller that is software/compatible with the Arduino software development environment. Finally, the systems have been tested under different conditions to evaluate their performance.

[3] Jeff Rassle, Srikant K purpose of this paper is Efficient Queue Management for Cluster Scheduling this paper was published in 2016 at Proceedings of the Eleventh European Conference on Computer Systems, By-Jeff Rasley Job scheduling in Big Data clusters is crucial both for cluster operator's return on investment and for overall user experience. In this context, we observe several anomalies in how modern cluster schedulers manage queues and argue that maintaining queues of tasks at worker nodes has significant benefits, on one hand, centralized approaches do not use worker-side queues. Given the inherent feedback delays that these systems incur, they achieve suboptimal cluster utilization, particularly for workloads dominated by short tasks. On the other hand, distributed schedulers typically do employ worker-side queuing, and achieve higher cluster utilization.

[4] Radoslaw Klimek purpose of this paper is Pro-Active Queue Management System in Intelligent Environments, By-

Radoslaw Klimek, this paper was published in 2020 at Sensors IEEE, from this, we understood Queue systems are practically used in various institutions and commercial enterprises constituting a challenge for the intelligent environments in smart cities. The management of the flow of customers guarantees the elimination or reduction of the queues as well as the economic benefits which follow the client's satisfaction of a better quality of service.

[5] Summit Soman, Sudeep Rai, Amarjit Singh purpose of this paper is Mobile Augmented Smart Queue System for Hospitals this paper was published in 2020 at IEEE 33rd International Symposium on Computer-Based Medical Systems (CBMS), By- Md Nasir Uddin, we understood that Management of high patient loads at tertiary hospitals presents a significant challenge in streamlining healthcare service delivery. Patients often need to queue up at various service areas in hospitals such as at registration, laboratory test, and bill payment counters. Queue Management systems present a viable solution for patient management in such scenarios.

[6] Hamoud purpose of this paper is Performance evaluation of active queue management algorithms in the large network this paper was published in 2018 at the IEEE 4th International Symposium on Telecommunication Technologies (ISTT), By- Mustafa Maad Hamdi from that, the large network architecture of today consists of thousands of computers connected through many interconnecting router and switches. As many of them communicate concurrently, congestion over the channels may increase.



3. METHODLOGY

To make the System easier Raspberry Pi should be used. Raspberry Pi with its camera will scan QR codes, the scanned information will be passed to the webserver and it will give a response. This system can be used in real-time application authentication of people is verified. While person entrance authentication is done the person will take darshan. This queue management system would be providing track of all the services in one place which can thus be managed with immense ease.

3.1 AREA OF STUDY

The study has been conducted on the basis of Temples for their management and security.

3.2 TOOLS USED

Raspberry pi 3b+ :-

Raspberry Pi is a small size module like a small computer. The image captured by the camera is sent to the Raspberry Pi. Using open CV library, the image is processed and detected by the Raspberry Pi. We are using the Raspberry Pi B+.

Raspicam v2:- Raspberry Pi Board has CSI (Camera Serial Interface) interface to which we can attach Pi Camera module directly. This Pi Camera module can attach to the Raspberry Pi's CSI port using 15-pin ribbon cable.

Power Supply: -

This system requires 5V, 1A power supply. The raspberry pi model B+ has a special connection provided. Using that USB connection, the power supply can be provided.

Visual studio code IDE:-

It aims to provide just the tools a developer needs for a quick code-build-debug cycle and leaves more complex workflows to fuller featured IDEs, such as Visual Studio IDE.

Xampp :-

XAMPP has the ability to serve web pages on the World Wide Web. A special tool is provided to password-protect the most important parts of the package. The XAMPP open-source package has been set up to be incredibly easy to install and to use.

PhpMyAdmin:-

phpMyAdmin is a free software tool written in PHP that is intended to handle the administration of a MySQL or MariaDB database server. You can use phpMyAdmin to perform most administration tasks, including creating a database, running queries, and adding user accounts.

Apache friends: -

Apache Friends is a non-profit project that promotes the Apache web server and develops XAMPP, a free and cross-platform software package containing the Apache web server, MySQL database, and necessary tools to use the PHP and Perl programming languages.

4. WORKING

Our project includes Raspberry Pi with Raspicam v2 with its camera will scan the QR Code to authenticate person's Information. <u>https://shrivitthalrukhminii.000webhostapp.com/</u>. This is our online ticket booking website for the system. The system generates a ticket that will show the complete details of the user. System captures the QR code and processes it ahead using an online and offline process, which further recognizes the presence of person-time slotting for darshan scanner at the entrance detects the information and sends a signal when the user enters. Similarly, the module attached to the interface for security, and all the configuration settings are done remotely from the server.

The cloud platform unit is portable so it can be fixed as per the need.

5. SYSTEM BLOCK DIAGRAM



Fig.(a) Block Diagram

Above Fig.(a) shows that block diagram of queue management system. Raspberry Pi interfacing with peripherals as like Raspicam v2 and LCD display. After online registration User will go the temple for darshan and scan their QR code at check point of temple with help of Raspicam v2. If user identification is correct then user allow to take darshan. Otherwise, user should be registration again.

5.1 FLOWCHART of SYSTEM



Fig.(b) Flowchart of System



6. RESULT

6.1 Initial Website



Fig.(c) Initial Website

Above fig.(c). shows that online ticket booking website created by us with the help Visual studio code IDE, Xampp, PhpMyAdmin, Apache friends. Firstly, click on website, When the home page will open, then booking process will take place. After that, the booking confirmation message will be sent and the registration will be successful with QR code.

6.2 Booking Conformation



Fig.(d) Devotee's booking confirmation

6.3 DATABASE AT ADMIN SIDE

Book ID 11	Book By	Contact	Address	Departure Date	
28e1ddd98245	Akanksha Bhimale	8380929381	Pune	2022-05-27	Gano
28e3d#e5637	Abhishek	1234	Pune	2022-05-26	Gano
28e42adee464	Glashgf	87878	Khgajhsóg	2022-05-12	Gan
28e471238t2a	Abhishek	8149803131	Pune City	2022-05-26	Gano
28F41c586b6e	Akanksha	8380929381	Pune	2022-05-27	Cano
28156780d144	Abhi	8149	Ylyt	2022-05-27	Gant
28f952caf1cb	Fardeen	9373506379	Sav No 79 Vikas Nagar Ghorpade Gaon Pune	2022-05-27	Can



6.4 HARDWARE MODULE





7. CONCLUSION

The Project will maintain hygiene methods for entrance which is entirely based on temples safety and security. It provides ecofriendly service and avoids the crowd of people. It prevents any public accident and theft. It provides a calm, relaxed experience and saves much more time than crowd management. The purpose of this system is going to provide a track of all the services in place which can be managed with immense ease.

8. ACKNOWLEDGEMENT

We have taken efforts in this project. However, it would not be workable without the kind support of our guide Prof. Shailesh S. Hajare sir and Prof. Sharad S. Jagtap sir. We would like to extend our thanks to him for his support.

REFERENCE

[1] T. Hari Narayana, Efficient way of Darshan of the Lord Venkateshwara of Tirupati Balaji Temple, IEEE standard. 2014

[2] Md Nasir Uddin, Mg Mostafa, Automated Queue Management System, IEEE standard.2016

[3] Jeff Rassle, Srikant K, Efficient Queue Management for Cluster Scheduling, IEEE standard.2016

[4] Radoslaw Klimek, Pro-Active Queue Management System in Intelligent Environments, IEEE standard.2020

[5] Summit Soman, Sudeep Rai, Amarjit Singh, Mobile Augmented Smart Queue System for Hospitals, IEEE standard 2020

[6] R Hamoud, queue management system for delivering real-time service request updates to client's smartphones in the form of audio and visual feedback, IEEE research.2015

[7] GY Jiu, S Siao, IEEE.2019, Most of the existing queue management systems are based on printed paper tickets with a queue number.

[8] https://www.maavaishnodevi.org/OnlineServices/login.aspx

[9] https://www.ep.ass.mahalaxmikolhapur.com/MahalaxmiEPass



Seva/dbooking/index

[10] Amit Chauhan, ReechaRanjan Singh, Sangeeta Agrawal, Saurabh Kapoor, Sharma., 2011, "SMS based Remote Control System," IJCSMS International Journal of Computer Science and Management Studies.
[11] Hsin-Han Chiang, Wan-Ting You, Shu-Hsuan Lin, WeiChih Shih, Yu-Te Liao, Jin-Shyan Lee, Yen-Lin Chen, "Development of smart shopping carts with customer-oriented service", System Science and Engineering (ICSSE)

2016 International Conference on, pp. 1-2, 2016, ISSN 2325-0925.

[12] Yerlan Berdaliyev, Alex Pappachen James, "RFID-Cloud Cart SmartSystem", International Conference on Advances in Computing,
Communications and Informatics (ICCACI), Vol 3. pp 2346-2352,
September 2016.

 [13] "CROWD AND QUEUE MANAGEMENT INTEMPLES DURING LARGE SCALERELIGIOUS GATHERINGS"P. G. PRASUNAMBA Research Scholar, Department of Political Science Public Administration, S V University, Tirupati. Dr. B. V. MURALIDHAR Professor, Department of Political Science Public Administration, S V University, Tirupati.

[14] The SpiNNaker Project Publisher: IEEE Steve B. Furber; Francesco Galluppi; Steve Temple; Luis A. Plana.

[15] An architecture for integrated networks that guarantees quality of service Aurel A. Lazar, Adam Temple, Rafael Gidron First published: April/June 1990

An operational and performance overview of the IRIDIUM low earth orbit satellite system Publisher: IEEE Stephen R. Pratt; Richard A. Raines; Carl E. Fossa; Michael A.

[16] DIGITAL ENTREPRENEURSHIP: THE TECHNOLOGY DEPLOYMENT IN INTERNATIONALIZATION SPEED IN THE DIGITAL ENTREPRENEURSHIP ERA AND OPPORTUNITIES -TIRUMALA TIRUPATI DEVASATHANAM (TTD)Authors A Venkatesh School of Engineering, Presidency University, Bangalore, IndiaPushkala N

[17] TeraNet: A Multihop Multichannel ATM Lightwave Network Rafael Gidron and Adam T. Temple Department of Electrical Engineering and Centre for Telecommunications Research , Columbia University, New York, NY

[18] Automated Queue Management System February 2016GlobalJournal of Management and Business Research 16(1):51-Authors:SheikhZobairAhmed

[19] Dynamic voltage and frequency scaling for neuromorphic many- core systems Publisher: IEEE Cite This PDF Sebastian Höppner; Yexin Yan; Bernhard Vogginger; Andreas Dixius; Johannes Partzsch; Felix Neumärker; Stephan Hartmann