

**Guidebook for submission of**

**Project, Dissertation and other reports under NTCC For Undergraduate/Postgraduate Programs**

**SAGE University, Indore**

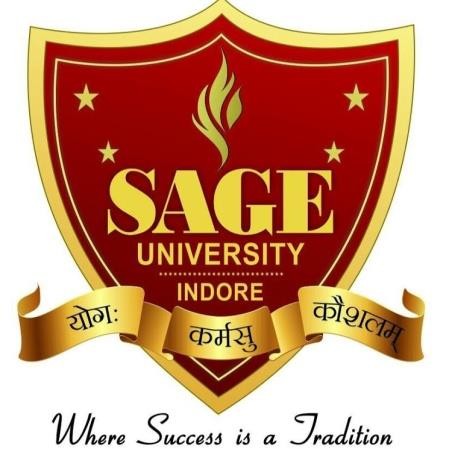
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**General Instructions**

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| ***Spine of the dissertation*** | The spine of the dissertation must be printed with current year on the top and followed by the title of the dissertation in the following manner: |
| ***Paper size*** | International standard paper size A4 (297 x 210 mm). |
| ***Typing*** | On one side of the paper only. |
| ***Margins*** | Margins - left-3.0cm, Right-2.0 cm, Top-2.5 cm, Bottom-2.5 cm, Gutter-0 |
| ***For Main Text:*** | * **Font type:** Times New Roman * **Font size:** 12 points * ***Line spacing:*** *1.5 Lines* * ***Character spacing:*** *Normal* |
| ***For Foot Notes:*** | * **Font type:** Same as the main text (Times New Roman) * **Font size:** 10 points. * ***Line spacing:*** *Single* |
| ***Numbering*** | * Numbering should be in continuation from first chapter to the last * Contents prior to the first chapter shall be numbered in Roman (I,II, III, IV,… ) * Contents after last chapter should also be numbered in Roman (I,II, III, IV,… ) * Appendix (if any) should not be numbered at all.   **Example**  **Chapter Title** (e.g. **CHAPTER 1 - INTRODUCTION**) bold upper case font size 16  **1.1 INTRODUCTION (**Chapter heading in upper case bold 12 font size. Every chapter should have an ‘Introduction’  in the beginning and at the end a ‘Conclusion’ - Font size 12 |
|  | for main text/paragraphs as given here.  **1.1.1 First Sub-Sub Heading**: upper and lower case of 12 font size.  Line spacing must be 1.5 for both main and sub headings. |
| **Header** | It will contain title of the Dissertation/ project & Chapter No. |
| **Footer** | Institute Name & Page number at the centre. All pages before main contents i.e. chapters should be number in roman (i, ii,  iii,… ) |
| **Minimum pages** | Must be 40 pages and above |

## Cloud Based Railway Reservation System



**A Major Project Report Submitted to**

### SAGE University, Indore

**towards Partial fulfillment for the award of** BCA **degree with specialization in** Cloud Technology & Information Security**.**

##### Supervised by Submitted by

Dr. Asif Ali Chirag Darekar,

Manav Makhija,

Purvesh Pandey.

**Department of Computer Application**

**Institute of Computer Application** [**www.sageuniversity.in**](http://www.sageuniversity.in)

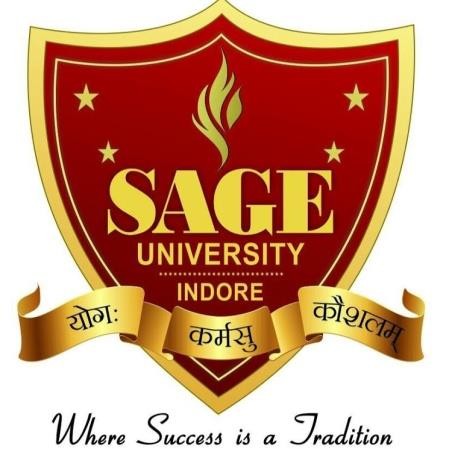
**Approval Sheet**

The project entitled **“Cloud Based Railway Reservation System ”** submitted by **Chirag Darekar , Manav Makhija , Purvesh Pandey** approved as partial fulfillment for the award of the **BCA** degree by SAGE University, Indore.

**Internal Examiner External Examiner**

**Date: Date:**

**SAGE University, Indore**



**CERTIFICATE**

This is to certify that the project work entitled **“Cloud Based Railway Reservation System ”** has been carried out jointly by **Chirag Darekar , Manav Makhija , Purvesh Pandey** students of **BCA 3rd Year** under our supervision and guidance. They have submitted this project report towards partial fulfillment for the award of the **BCA degree in Cloud Technology and Information Security by SAGE University, Indore during the academic year 2021-2023.**

##### (HOD) (Supervisor)

**Recommendation**

The project entitled **“Cloud Based Railway Reservation System ”** submitted by **Chirag Darekar , Manav Makhija , Purvesh Pandey**  is a satisfactory account of the bona fide work done under our supervision is recommended towards partial fulfillment for the award of the **BCA degree in in Cloud Technology And Information Security by SAGE University, Indore during the academic year 2021-2023.**

### Date:

##### (HOD ) (Supervisor )

**Acknowledgements**

First and foremost we would like to express our thankfulness towards **Dr. Asif Ali**

**Professor of**  Department of **Computer Application** for extending all the facilities needed to carry out this work, we take pride in saying that we have successfully completed our Dissertation/ project work under his able guidance. He was a major support to us throughout projects, being available at odd hours with his ideas, inspiration and encouragement. It is a through his masterful guidance that we have been able to complete our Dissertation/ project work.

We are also thankful to **<HOD >** for giving their guidance throughout the Dissertation/project phase.

We are also thankful to **<HOI Name>** SAGE University, Indore for extending all the facilities needed to carry out this work.

# (Chirag Darekar)

**Candidate Declaration**

I hereby declare that the work which is being presented in this project report entitled **“Cloud Based Railway Reservation System ”** in partial fulfillment for the award of **BCA degree** is an authentic record of my own work carried out under the supervision and guidance of

**Dr. Asif Ali** (Professor), **SAGE University, Indore.**

I am fully responsible for the matter embodied in this report and it has not been submitted elsewhere for the award of any other degree.

##### Chirag Darekar,

##### Manav Makhija,

##### Purvesh Pandey.

**Date: Place:**

**Abstract**

1. **Statement of the Problem :**

The need to build this website was the technological development of almost everything around us. The user needs all the tasks to be accomplished in an effective and relaxed manner. In such a time, there was a desperate need to construct a website for the convenience of the user. Also, this website will aim to solve the tiresome task of managing the crowd easy, without confusion, during ticket booking times. Cloud Technology will help to add flexibility and scalability.

1. **Procedure / Methods :**
2. *Registration* :This module is meant to record user details on the website database.
3. *Sign-in and Authentication* : This module facilitates the user to sign-in on to the website. It collects user information, such as email address and password, and compares the information against the entries in the database.
4. *Booking & Allocation* :  This module is available once the user has signed-in onto the website.



1. *Transaction* : This module displays a confirmation message that the user has successfully booked the ticket.
2. **Results :**

The web application home page displays the most travelled railway routes as recommendations .

The Website shows the Various Navbar Components such as The Home page , Train , Contact Us , About US with login and signup Sections if Have not done before.

If You have Done the Signup It will Show the Profile option at the same place.

Now talking about the other component which is the most important one (Train) Section Where you will find the Train searching facility according to you .

1. **Conclusions :**

There are many issues in existing railways ticket booking system , To deal over this issue, we are working towards a web-based platform. We have identified the loopholes and started our systematic investigation. Our investigation focuses on these major issues and have put forward a desired result for the same. We have introduced an application on how to make an easy looking website with no hotch-potch , everything necessary for a passenger to book the ticket is given to the customers by the means of this application , With this experimental analysis, there will be an increased usage of public transport systems, as everything can be done independently.

# Table of Content

* It is numbered in lower-case Roman numerals and counted.
* The Table of Contents must include corresponding page numbers referencing each section.
* Only pages that come after the Table of Contents are listed.

# List of Figures (If any)

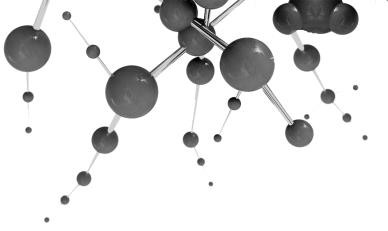
* The list must include the figure number, title, and corresponding page number for each table.
* It is numbered in lower-case Roman numerals and counted.
* The list of figures must appear in the Table of Contents

# List of Tables (If any)

* A page with a list of tables is required if tables are included in the dissertation/Project.
* The list must include the table number, title, and corresponding page number for each table.
* It is numbered in lower-case Roman numerals and counted.
* The list must appear in the Table of Contents

##### LIST OF ABBREVIATIONS

If other pages are included with preliminary page (e.g. List of Abbreviations, List of Notations, etc.), they must be numbered in lowercase Roman numerals and counted as well as appear in the Table of Contents. Abbreviations should be alphabetically



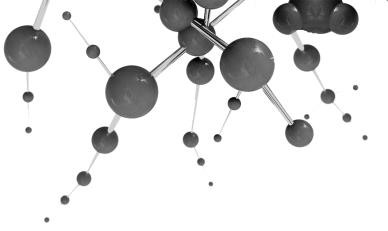
 1. Introduction

##### 1.1 Introduction

There has been no advancement in Indian public transport system particularly railways , still follows the regular old pattern of ticket booking and checking. With the growing population, the number of travellers ready to travel day by day is expanding abruptly and now the circumstances are deteriorating that individuals don’t bother whether they have a ticket or not, they knowingly or sometimes because of some issue they are entered in the train without a ticket. Indian public transport system and IT are loosely bounded. Presently the use of Information Technology is only limited to online checking of schedules and fares of public transport. The main motive of this web-application is to ease the process of ticket booking by avoiding the hectic process to stand in long queues and book the ticket for the short distance travelling in the train . Users can purchase the ticket over the Internet, 24 hours a day throughout the year, this solves the issue of ticket being misplaced or stolen in a real-life scenario. The application may get overloaded due to a huge number of users visiting at once. Thus to solve the issue this system is built up using cloud infrastructure for improved performance.

Cloud Computing is a form of distributed computing which has been evolving recently. Typically, the cloud symbol is used to represent the Internet. Cloud computing is now widely used to describe the delivery of software, infrastructure and storage services over the internet. Cloud computing provides tools and technologies for various parallel applications with far more affordable prices compared to traditional parallel computing techniques.

The main purpose of cloud computing is to profit from all of these technologies without the necessity for deep knowledge or expertise with each of them. At present, whether large or small, all companies depend on public cloud platforms to host and implement applications because they supply flexibility, mobility, scalability, sustainability and it is cost-effective. Cloud Computing Service Models can be mainly placed into three types: SaaS (Software as a Service), IaaS (Infrastructure as a Service) and PaaS (Platform as a Service). Each of the cloud models has its collection of benefits that will meet the wants of assorted companies.



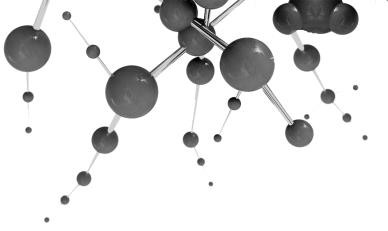
 2. Literature Survey

**2.1 Survey**

We Have Analysed a lot of different railway reservation website available today on the internet and according to the analytics and information we have about the certain applications for train booking we found some issues and problems , so we decided to make a website for the same purpose but without these problems .

We visited some major Indian railway reservation web applications . Some web applications were having issues with there user – interfaces , some were having response issues , another leading website having complexity issues specially for new users , one other website which also have a large amount of visitors having issue with not proper information display for the users .

After looking at the problems with these web applications we came up with solution and implemented onto our website .



 3.Proposed Method

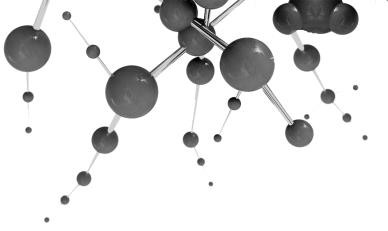
**User Trainin.Cloud Booking System :**User can buy our ticket with the help of a mobile phone or a laptop or any other device which can access a web- application where your tickets are transported on your computer. Firstly, the user has to set up an account to book a ticket. After an account has been established, the user can sign-in using his or her credential. Our application shows the users the train for his desired destination . The user has to enter his desired source and destination address. For train, In our system user has to input whether he has to book a ticket for first class, second class. Enter the date of checking-in . After that our system displays the fares. User has to confirm all the details and then he is forwarded to payment gateway. Once the payment process is completed our system prints a ticket and that will be uploaded on the cloud in users account.

**3.1 Registration:** This module is meant to record user details on the website database. This module also includes a unique Email Id. and Password that would allow the user to sign-up to the website. The information received by the user is recorded in the 'Register' database. Once the user has given all the information needed for registration, the website redirects the user to the sign-in page.

**3.2 Sign-in and Authentication :** This module facilitates the user to sign-in on to the website. It collects user information, such as email address and password, and compares the information against the entries in the database. If the user entered information that matches the authentication parameters that is email address and password entered during the registration process, the user shall be authenticated and will be redirected to the user homepage. If the user entered information that does not satisfy the requirements for authentication, the user will not be authenticated and cannot access the user homepage and can not even book the tickets .

**3.3 Booking & Allocation :**  This module is available once the user has signed-in onto the website, our application displays the mode of transport to the user that is the train component on the navbar . When the user selects train he is sent to the page prompted with the form where he has to enter his desired selection for booking process, that form includes source station, final destination, train class, train type etc. Once the user selects these parameters the script code accepts the entries and checks for matching entries in the server database and accordingly displays the fare amount. after that user can go forward and proceed to checkout.

**3.4 Transaction :** This module displays a confirmation message that the user has successfully booked the ticket. It also makes an entry in the transaction database and the unique transaction id is allocated to the user in this module. User can print a ticket in the next step.



 4.Results & Discussion

The web application Trainin.Cloud booking system was developed using Hypertext Markup Language (HTML), Cascading Style Sheet (CSS), Bootstrap Theme, JavaScript, Data tables, React JS.

**A. Application Home Page**

The web application home page displays the Navbar at the top with defferent components such as Train component where you will search for your desired train , contact us where you will find a facility to contact the organization etc. It also displays the login/Sign-up component at the top - Right of the application as a path for new users to register quickly onto the application.

If already then will show your Profile option .

**B. User Home Page (after the user has signed in)**

The user home page has the header which is Again a Navbar after the login it will show the same navbar except profile option at the top-right , again it has options such as Train , Contact us , and displays users name and has log out and profile options . The body of user home page has a large train banner , with some popular train route , destinations and hill track recommandations for the visitors.

**C. Checkout Page**

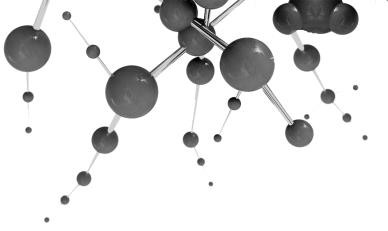
The Checkout page has the header which is similar to that of User Home Page, The body of this page displays the Route and Fare according to user choice, user can check out if he is satisfied by displayed fare. The checkout page also has a Go Back option which will head the user to Train Ticket Booking Page.

**D. Payment Gateway Page**

The Payment Gateway Page has the form where user has to enter his card details to complete the ticket booking process.

**E. Booking Info and Print Ticket Page**

This page is displayed after payment is completed, it show- cases the ticket booking information that the user has selected and allocates a unique transaction id which is known as Booking Id.



 5.Conclusion

There are many issues in existing railway Ticket booking system, To deal over this issue, we are working towards a web-based platform. We have identified the loopholes and started our systematic investigation. Our investigation focuses on these major issues and have put forward a desired result for the same. We have introduced an application on how to secure passenger information. With this experimental analysis, there will be an increased usage of public transport systems, as everything can be done independently. There is no need of any dependence for collecting the ticket, all that we need to do is get a digital ticket by using the web application available in the mobile device and verify it by using users Booking Id or other credentials. This would eventually boost the will of the people and people will use the transport very often. We can visualize that Trainin.Cloud system will have an application portfolio with a mix of cloud-based services delivered across a combination of private, hybrid, and public cloud-based infrastructure deployment models. Thus, using cloud computing technology in train and bus system is the most efficient, cost-saving, time-saving and sterilisable technique for waiting ticket holders.