# DUTCHESS COUNTY BUS TRANSPORTATION SYSTEM

## MSCS_542L_256_23S

**The Four-Ce**



Marist College School of Computer Science and Mathematics

Submitted To:

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# PROJECT REPORT OF DUTCHESS COUNTY BUS TRANSPORTATION SYSTEM

## Team Name
The Four-Ce

## Team Members

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4. Katipally Chanakya Vardhan Reddy      ChanakyaVardhanReddy.Katipally1@marist.edu (Team member)

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# DESCRIPTION OF TEAM MEMBERS

## 1. Sindhuja Ravikanth

I attained my bachelor's degree in computer science from Keshav Memorial Institute of Technology in 2022. I worked as a Software Developer in TCP Wave for 1 year 9 months. I have come to Marist College for my master's degree in computer science. I am proficient in Java, MySQL, and JavaScript. I am here to develop my skills and develop better products.

## 2. Shanmukha Chowdary Nalla

I graduated from the Indian Institute of Technology Design and Manufacturing, Jabalpur in the year 2022. I started working in the software field in the 7th semester at Merkle Company as an Analyst and then as a Salesforce Marketing Cloud Developer till June 2023. I am a Certified Salesforce Marketing Cloud Developer, Email Specialist, and Machine Learning Engineer. I chose this course because it helps me enhance my skillset in data management which is always handy.

## 3. Gaurav Bapurao Sherla

I am an aspiring AWS and ML developer. I want to make the world a better place by empowering technology with the help of AI, especially in the mining sector. Where many lives are lost while mining ore from hundreds of feet beneath the earth, I have worked as an ML developer for a startup where I gained some useful insights With the help of this course I will be able to get in-depth practical knowledge about DBMS and this would help me enhance my knowledge, which can help me boost my skills for my future growth.

## 4. Katipally Chanakya Vardhan Reddy

I am Katipally Chanakya Vardhan Reddy, a Computer Science graduate from Methodist College of Engineering and Technology. Currently, I'm pursuing my Master's in MSCS with a focus on cloud computing at Marist College. I excel in Python, C, and C++ and have a strong background in problem-solving.

# INTRODUCTION

In an era defined by rapid urbanization and increased reliance on public transportation, the Dutchess County Bus Transportation System (DCBTS) stands as a vital lifeline for the residents of Dutchess County, New York. The DCBTS is an essential part of the daily lives of countless commuters, offering a means to connect with their destinations efficiently and sustainably. However, in a world where technological advancements are reshaping how we interact with the world around us, it is imperative that our public transportation system evolves in tandem.

The objective of this project Is to propel the DCBTS Into the future by revolutionizing its digital presence and user experience. With the advent of the Information Age, accessibility to transportation information is crucial, and the current DCBTS app, while functional, requires a comprehensive overhaul to meet the needs and expectations of modern commuters.

The primary aim of this project is to develop a user-friendly DCBTS application that caters to a diverse range of users. This includes commuters seeking to efficiently plan their journeys, tourists exploring the county, and an administrator with specialized privileges to manage and optimize the system.

In this project, we are planning to simplify the process of planning daily commutes via DCPT buses for all individuals which would be user-friendly to the users of all the age groups above 10 years. With the help of our project model, we want to cater our services to our users by providing them with enough data in a simplified format. Our user interface will provide the users with a menu where they can put in their source and destination locations and all the bus routes and buses in respect to their search would be displayed. Which can help them keep track of their bus timings and changes of any kind in the bus schedule. The users can also mark their favorite routes and buses which they mostly use for their commute and can keep track of them without any inconvenience.

# PROJECT OBJECTIVES

**The following should be supported by the system:**

- The application should be able to prompt the commuters for the login details and allow them to change credentials with proper authentication.
- The application should allow the administrator to make changes in the user records.
- The application should provide the capability for the users or administrator to modify their contact information and profile changes with proper authentication.
- Users should be able to access information about their bus routes and buses at any point in time.
- The administrator should have access to the user's credentials through a valid process.
- The administrator should be able to make changes in the commuting-related data.
- The application should have the capability to access separate login databases like commuter login and administrator login. So that they can access their respective data and use the application based on their requirements.

# REVIEW

**Dutchess County Public Transportation (DCPT) [1]**

- This app is based on the whole public transportation system of Dutchess County.
- The app shows the live tracking of buses around Dutchess County.
- The buses are identified by their bus numbers with which people can identify which bus would be comfortable to board based on their schedule.
- The app also shows the user's live location, so that the user can identify which bus is the nearest to them.
- This app shows buses in a map form.

**NYC Transit: MTA Subway & Bus [2]**

- This app is based on the Subways and Buses of New York.
- This app shows the best ways to get from a source to a destination around New York.
- It saves different locations as favorites.

**Moovit [3]**

- This app is based on all types of transport in many countries worldwide.
- It shows directions from one place to another and suggests quicker ways to get from a source to a destination irrespective of the transit type.

# MERITS

- The DCBTS helps everyone to search for a route from source to destination and plan their day based on the time estimation of the buses in Dutchess County.
- This application shows all the stops between the source and destination.
- This application will keep track of days when the buses will not be available like public holidays.
- This application will support multiple users including an Administrator.
- This application will also show the bus fare by taking into consideration the user's age.

# GITHUB REPOSITORY

https://github.com/SindhujaRavikanth2001/DBMS_Project

# REFERENCES

1. Dutchess County Public Transportation Application.
2. NYC Transit: MTA Subway and Bus.
3. Moovit.