VISVESVARAYA TECHNOLOGICAL UNIVERSITY
"Jnana Sangama", Belagavi-560014, Karnataka

<u>CGV MINI PROJECT REPORT</u>
<u>ON</u>

"Moving Bus Simulation"

SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE CGV LAB

BACHELOR OF ENGINEERING
IN
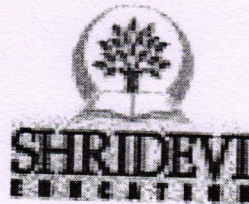## COMPUTER SCIENCE & ENGINEERING

<u>**Submitted By**</u>

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<u>Under the guidance of</u>
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2022-23

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

<u>CERTIFICATE</u>

This is to certify that, Computer Graphics and Visualization Mini-Project of entitled "Moving Bus Simulation" has been successfully carried out by Sushmitha K [1SV20CS050], in partial fulfillment for the CGV Lab of **Bachelor of Engineering** in **Computer Science & Engineering** of the **Visvesvaraya Technological University, Belagavi** during the academic year **2022-23**. It is certified that all the corrections/suggestions indicated for internal assessments have been incorporated in the report. The Mini- Project report has been approved as it certifies the academic requirements in respect of Mini-Project work prescribed for the Bachelor of Engineering Degree.

<u>Signature of Guide</u>

Mr. Renukaradhya P .C B.E., M.Tech.,
Assistant Professor,
Dept. of CSE,
SIET, Tumakuru.

PRINCIPAL
SIET. TUMKUR.

--------------------------------------- 4/2/23

<u>Signature of H.O.D</u>

Dr. Basavesha D M.Tech,Phd
Associate Professor & HOD
Dept. of CSE,
SIET, Tumakuru.

Name of the Examiners   **Signature with date**

1 ......Hari M.....

2 ....Renukaradhya P. C

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

DECLARATION

I, Sushmitha K [1SV20CS050], student of VI semester **B.E** in Computer Science & Engineering, at Shridevi Institute of Engineering & Technology, Tumakuru, hereby declare that, the Mini-Project work entitled **"Moving Bus Simulation"**, embodies the report of our Mini-Project work carried out under the guidance of **Mr. Renukaradhya P.C**, **Assistant Professor, Department of CSE**, SIET, Tumakuru as partial fulfillment of requirements for the CGV Lab in **Bachelor of Engineering in Computer Science & Engineering of Visvesvaraya Technological University, Belagavi**, during the academic year **2022-23**. The Mini- Project has been approved as it satisfies the academic requirements in respect to the Mini-Project work.

Place: Tumakuru

Date: 4.7.23

Sushmitha·k

Student Name & Signature

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ABSTRACT:

Moving Bus Simulation is a computer-based modeling and simulation technique that replicates the behavior and dynamics of a bus while it is in motion. This simulation tool enables researchers, engineers, and transportation professionals to analyze and evaluate various aspects of bus operations, such as passenger flow, vehicle performance, and traffic interactions, in a controlled and virtual environment.

The objective of this abstract to provide an overview of the key components and functionalities of a mobbing bus simulation, highlighting its importance in transportation planning, vehicle design, and route optimization. The abstract will outline the main features of the simulation, the benefits it offers, and potential applications in the field of transportation engineering.

The simulation captures the intricate details of a moving bus, including its physical characteristics, engine performance, and driver behavior, by incorporating mathematical models and algorithms. It considers variables such as acceleration, deceleration, steering, and braking, to accurately replicate the real-world dynamics of a bus. Additionally, the simulation can simulate different weather conditions, road types ,and traffic scenarios to assess the impact on bus operations and performance.

Moving Bus Simulation provides several advantages for transportation professionals and researchers.it allows for cost-effective and efficient evaluation of bus systems, enabling decision-makers to assess the feasibility of proposed routes, vehicle configurations, and operational strategies before implantation. The simulation can aid in optimizing bus schedules, improving service reliability, and minimizing delays and congestion, leading to enhanced efficiency and customer satisfaction.

Technology used

Graphics Software: various software packages are available for creating computer graphics, including 3D modeling and animation software,
Computer Hardware: A powerful computer with a good graphics card and sufficient storage capacity is required to run graphics software, C++ and python languages are used in graphics.