VISVESVARAYA TECHNOLOGICAL UNIVERSITY

"Jnana Sangama", Belagavi-560014, Karnataka

CGV MINI PROJECT REPORT

ON

"City Cycle Simulation"

SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE CGV LAB

BACHELOR OF ENGINEERING

IN

COMPUTER SCIENCE & ENGINEERING

Submitted By

VENKATESH DALAWAI [1SV20CS056]

Under the guidance of

Mr.Renukaradhya P.C B.E., M.Tech.,

Assistant Professor, Dept. of CSE.

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SHRIDEVI INSTITUTE OF ENGINEERING AND TECHNOLOGY

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Sira Road, Tumakuru – 572106, Karnataka.

2022-23

Sri Shridevi Charitable Trust (R.)
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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

CERTIFICATE

This is to certify that, Computer Graphics and Visualization Mini-Project of entitled "City Cycle Simulation" has been successfully carried out by Venkatesh Dalawai [1SV20CS056], 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.

Signature of Guide

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

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4/7/23

Signature of H.O.D

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

Name of the **Examiners**

1 .....

2 Renukaradhya P.C

Signature with date

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DECLARATION

I,9Venkatesh Dalawai [1SV20CS056], 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 **"City Cycle 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: 05/07/23

Student Name & Signature
VENKATESH
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[1SV20CS056]
Venkat

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ABSTRACT:

The City Cycle Simulation is an immersive and dynamic virtual environment that allows users to explore and interact with a simulated cityscape using GLUT32, a powerful and versatile graphics library. This project aims to provide a realistic cycling experience within a bustling city, enabling users to navigate through streets, encounter traffic scenarios, and witness the vibrant urban life.

Through the integration of GLUT32, the simulation achieves lifelike graphics, real-time rendering, and responsive user input. The environment incorporates various features such as realistic vehicle and pedestrian movement, traffic signals, and environmental elements like weather conditions and day-night cycles. These aspects contribute to an engaging and authentic city cycling experience.

The simulation encourages users to explore the city, discover different routes, and adapt to the ever-changing urban landscape. Additionally, it offers customization options, allowing users to select their preferred bicycles, adjust cycling speeds, and even choose specific weather conditions to enhance their immersive experience.

This project serves as a valuable tool for urban planners, transportation researchers, and cycling enthusiasts to gain insights into city dynamics, traffic patterns, and the challenges faced by cyclists. Furthermore, it provides a platform for users to promote sustainable transportation choices and understand the benefits of cycling within a safe and controlled virtual environment.

The City Cycle Simulation with GLUT32 showcases the potential of interactive graphics libraries in creating realistic and engaging urban simulations. It offers an exciting and educational experience, fostering a deeper understanding of city cycling and its impact on urban environments.

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.

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