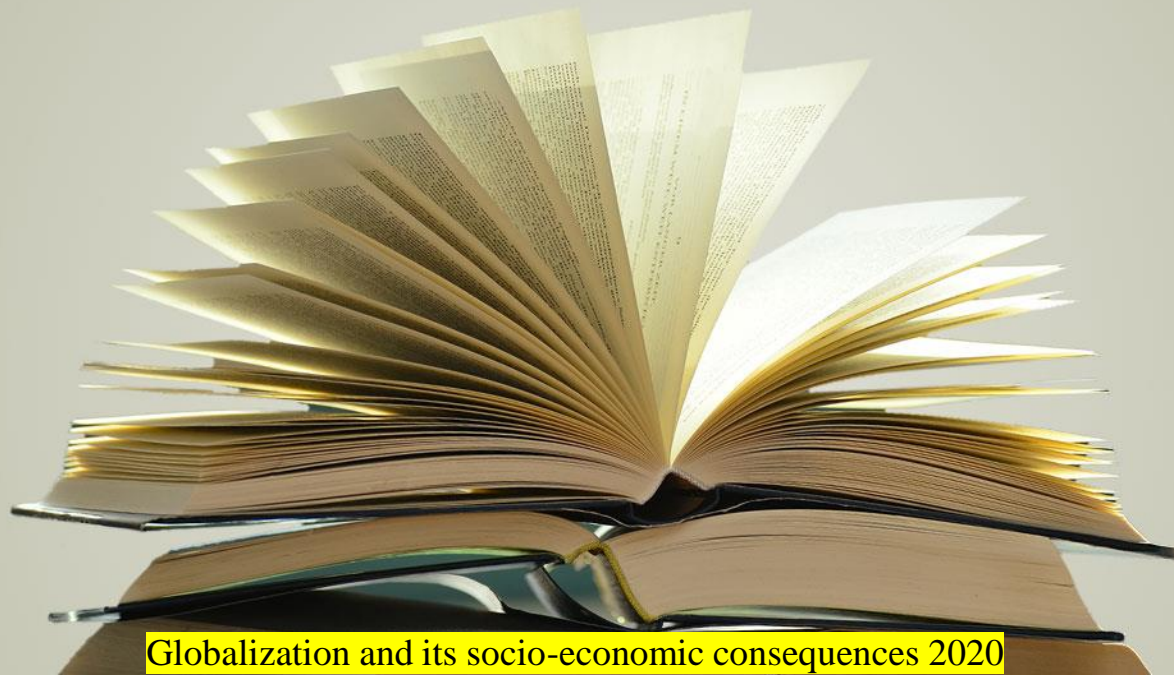


Network Routing Issues in Global Geographic Information System

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Globalization and its socio-economic consequences 2020

Agenda Style



1

Overview

Overview of Geographic Information Systems (GIS) .

2

Introduction of mobile adhoc networks (MANET)

Features and challenges.

3

Routing Protocols Of MANET

Easy to change colors, photos and Text.

4

Simulation Methodology

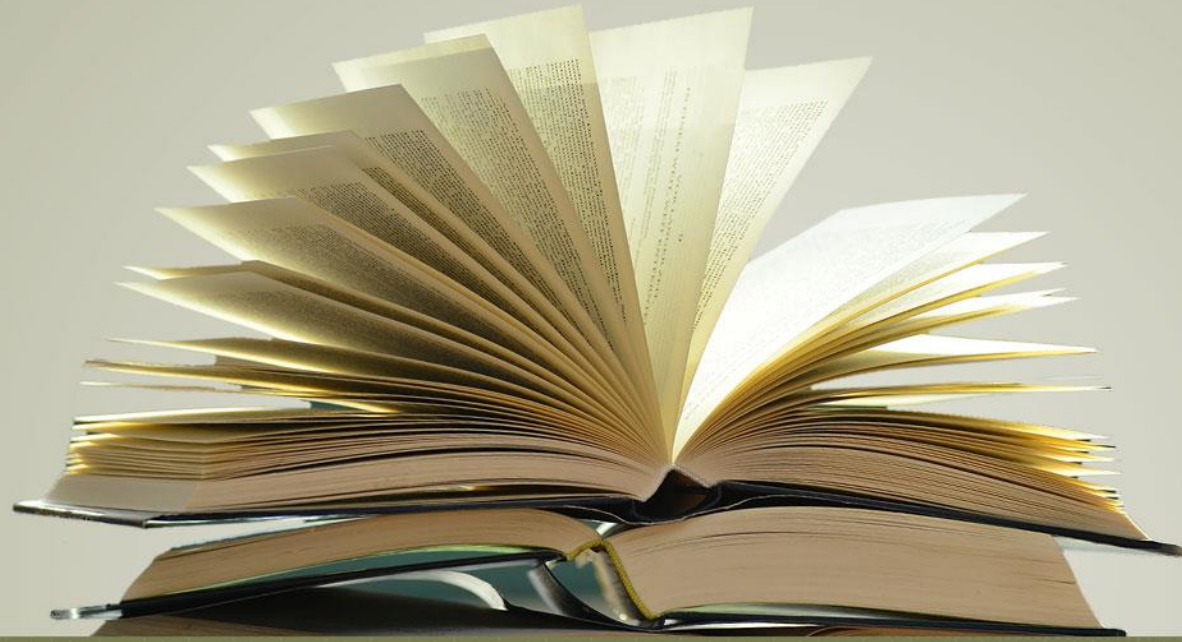
Easy to change colors, photos and Text.

5

Conclusion

Overview of GIS

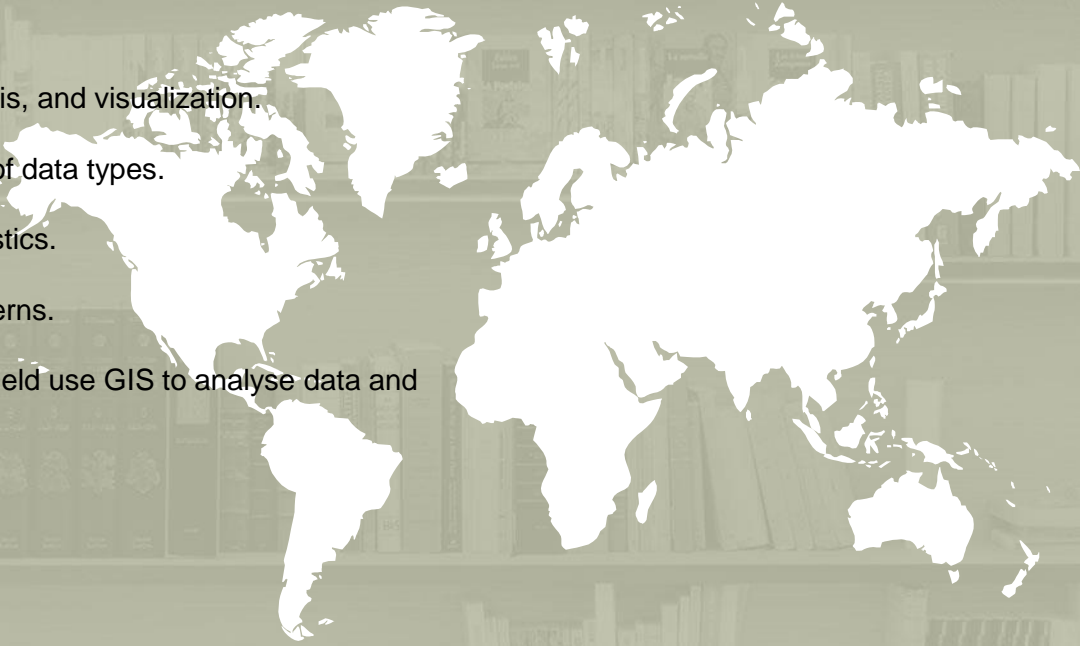




Defining GIS

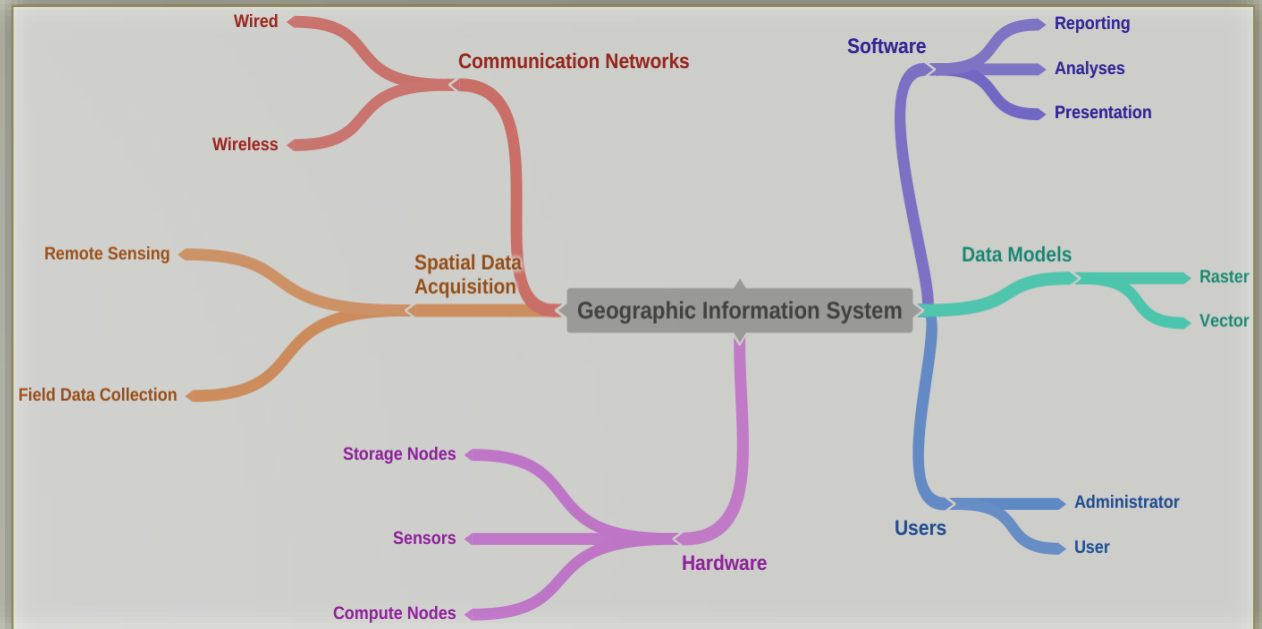
GIS Overview

- A GIS is a system for data collection, management, analysis, and visualization.
- Rooted in geographical science, GIS integrates a variety of data types.
- It analyses spatial location and other geometric characteristics.
- GIS reveals deeper insights into data, such as spatial patterns.
- Hundreds of thousands of organizations in virtually every field use GIS to analyse data and make maps.
- GIS are networked.



Components of GIS

A GIS consists of several components.



Components of GIS



Spatial Data Acquisition

Spatial data acquisition techniques include remote sensing and field data collection.



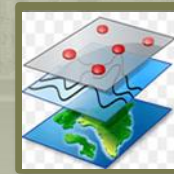
Hardware Components

This includes technology for data collection, data processing and storage.



Communication Networks

Communication networks is basically the backbone of GIS.



Software

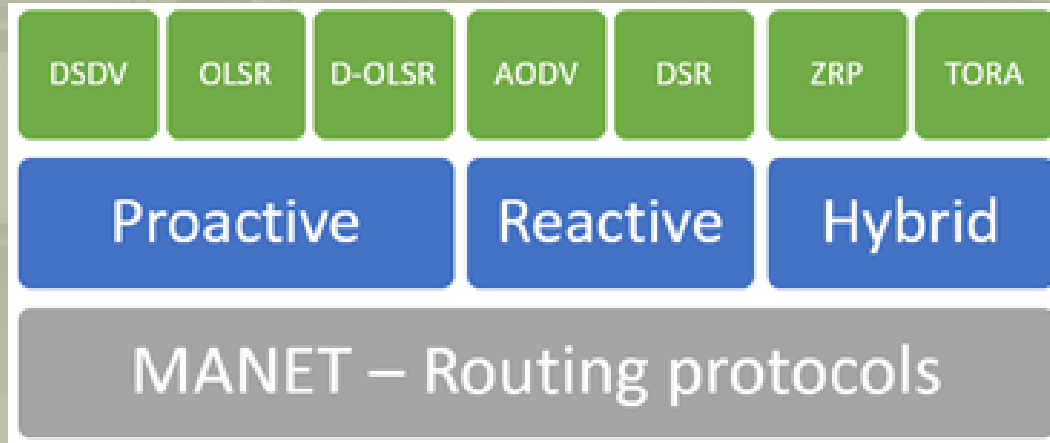
GIS requires software that converts raw spatial data into meaningful insights.

MANET & GIS

- GIS uses different devices such as sensors and cameras for data acquisition and transmission.
- These devices are mounted on mobile nodes.
- Mobile nodes transmit collected information wirelessly.
- This type of network which is formed with the help of mobile nodes is known as MANET.
- MANET is a temporary self-configuring, infrastructure-less network of mobile heterogeneous devices.
- MANET use different types of routing protocols.

Classification of MANET Routing Protocols

MANET routing protocols are classified into three main categories.



Proactive Routing Protocols

Reactive Routing Protocols

Hybrid Routing Protocols

Routing Protocols Used

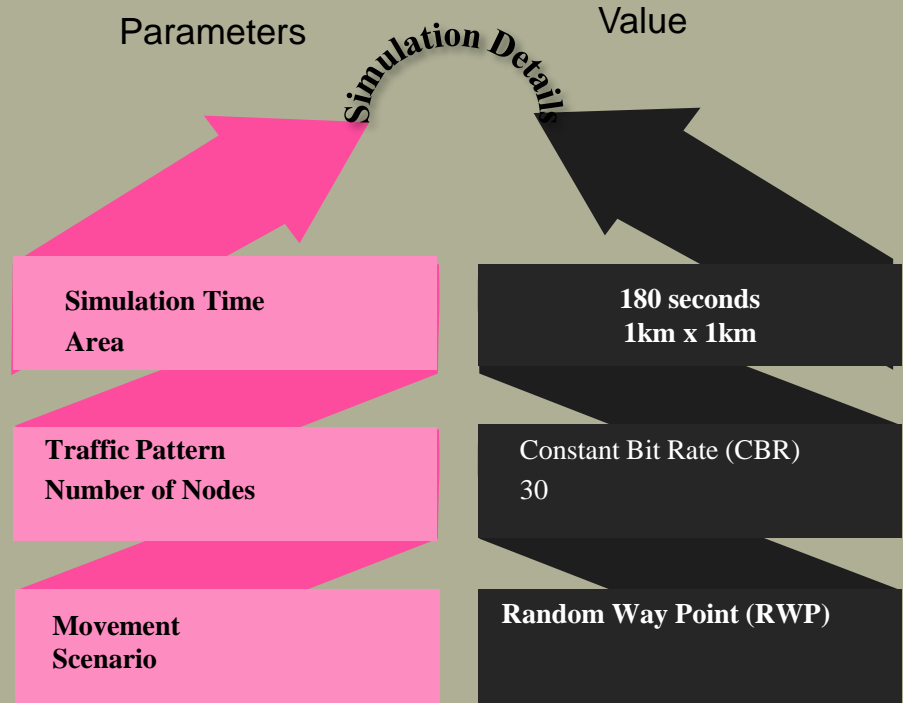
Adhoc On Demand Distance Vector (AODV)
Protocol



Optimized Link State Routing (OLSR) Protocol

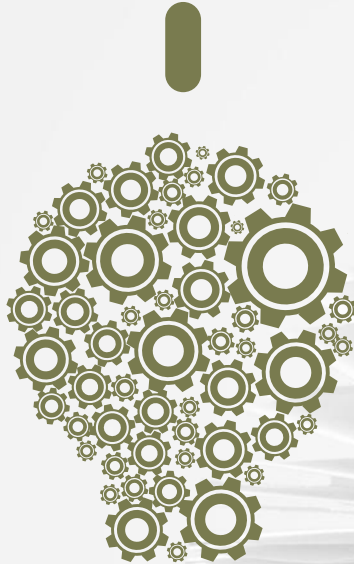
Temporally Ordered Routing Algorithm (TORA)
Protocol

Simulation Methodology



Evaluation Parameters

The following parameters are considered to study, and their impact and results are presented in this slide.



01

Packet Drop Count (PDC)

This metric is equal to the number of packets not received divided by the total number of packets sent.

03

Packet Received Ratio (PRR)

It is to show how many packets are sent by the sender.

02

Throughput

The average data rate of the successful data packets.

04

Average End to End Delay

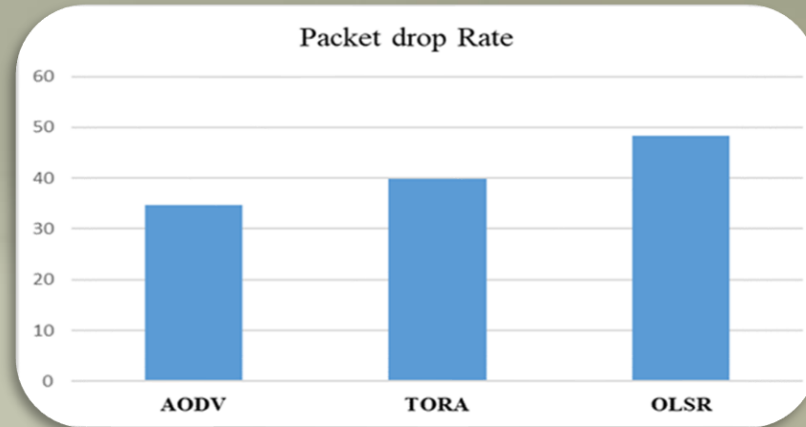
It is the total time that need packet from sender to receiver.

Results

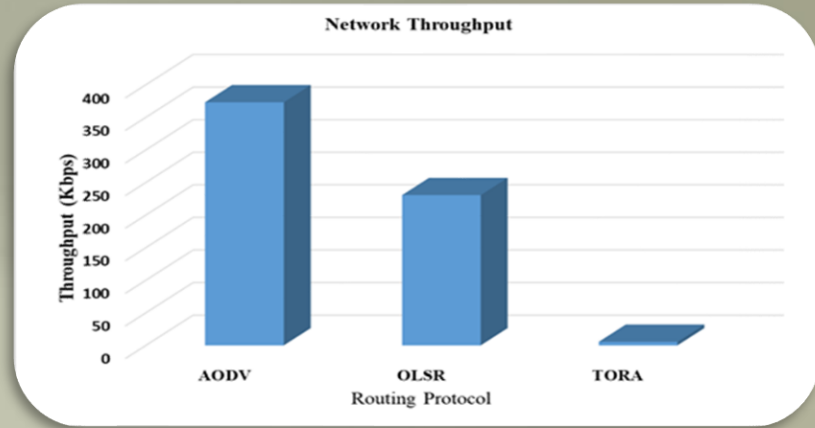


The following slide presents the results of our simulation.

Packet Drop Count



Throughput

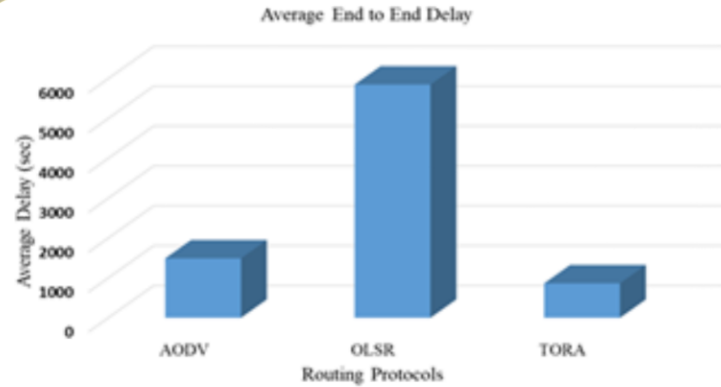


Packet Received Ratio

Your Text Here	AODV	OLSR	TORA
	32.14%	19.87%	0.47%

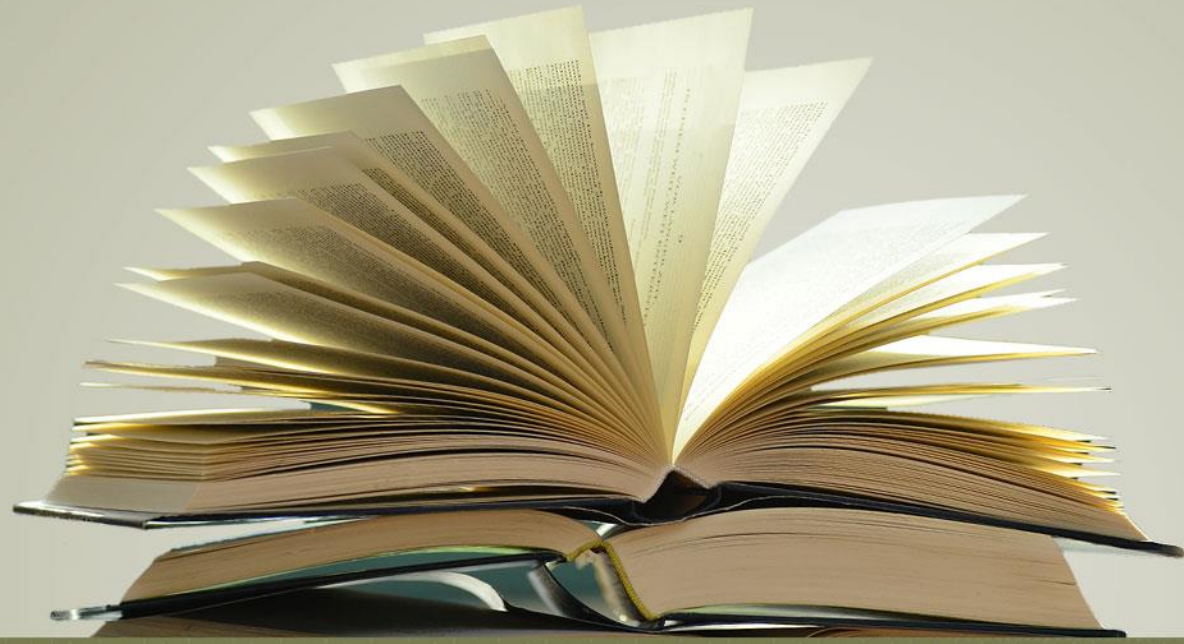
Packet Received Ratio in Percentage.

Average End to End Delay



Conclusions

- GIS is a software tool that gathers, manages, analyses, and finally visualizes geographic information in a graphic form.
 - GIS uses MANET through the process of collecting and manipulating data.
 - MANET has several types of routing protocols.
 - We chose AODV, OLSR, and TORA routing protocols.
 - Results showed that the AODV performed better in several areas as compared to OLSR and TORA.
- 



Thank you for reading my presentation.