



SIMATS

Saveetha Institute of Medical And Technical Sciences
(Declared as Deemed to be University under Section 3 of UGC Act 1956)



SIMATS


ENGINEERING

Course Name: Mobile Computing for Modern App Development

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iPhone 13 mini - 1



Wireless adhoc Network

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iPhone 13 mini - 2



Wireless Adhoc Network

Wireless adhoc networks:

- 1.Shared physical medium
- 2.Energy constrained medium
- 3.Limited security
- 4.Less Human intervention



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iPhone 13 mini - 3

Challenges in Wireless Ad Hoc Networks

1. Limited Bandwidth
 - Wireless links have lower data rates.
 - Traffic overload can easily cause congestion.
2. Dynamic Topology
 - Nodes move frequently → links break often.
 - Routing becomes unstable and needs constant updates.
3. Energy Constraints
 - Devices run on battery.
 - Continuous communication drains power quickly.
 - Nodes may die unexpectedly → network breaks.

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Frame 1

4. Security Vulnerabilities
 - No fixed infrastructure = easier to attack.
 - Risks include:
 - Node impersonation
 - Eavesdropping
 - Denial of Service (DoS)
 - Data tampering
5. Routing Challenges
 - Many routing protocols may fail when:
 - Nodes move fast
 - Network grows large
 - Links drop suddenly
6. Limited Range
 - Each node has a small transmission range.
 - Network becomes fragmented when nodes are too far.

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iPhone 13 mini - 5

8. Scalability Issues
 - Difficult to manage when number of nodes increases.
 - Routing tables become large.
 - More collisions and delays.
9. Quality of Service (QoS) Problems
 - Hard to guarantee:
 - Low latency
 - Bandwidth
 - Reliable delivery
 - Especially during mobility or congestion.
10. Lack of Centralized Control
 - No access point or base station.
 - Hard to coordinate:
 - Security
 - Resource allocation
 - Network management

