**Objective**: Simulate a basic wireless network using NS-2.

1] Create a wireless network with a few nodes.

2] Set up basic parameters like the propagation model, channel type, and network interface. 3]Simulate node movement and communication.

Code :

# Create a new simulator instance

set ns [new Simulator]

# Open NAM file for animation

set namf [open wireless\_network.nam w]

$ns namtrace-all $namf

# Open TR file for tracing

set tracef [open wireless\_network.tr w]

$ns trace-all $tracef

# Define simulation parameters

set num\_nodes 3

# Create nodes

for {set i 0} {$i < $num\_nodes} {incr i} {

set node($i) [$ns node]

}

# Configure wireless channel and propagation model

$ns node-config -propagation-model Propagation/TwoRayGround \

-antenna-model Antenna/OmniAntenna \

-channel-type Channel/WirelessChannel \

-random-motion 0 \

-initial-energy 100.0

# Set up wireless link between nodes

for {set i 0} {$i < $num\_nodes} {incr i} {

for {set j [expr $i+1]} {$j < $num\_nodes} {incr j} {

$ns duplex-link $node($i) $node($j) 2Mb 50ms DropTail

}

}

# Create TCP source and sink

set tcp [new Agent/TCP]

set sink [new Agent/TCPSink]

$ns attach-agent $node(0) $tcp

$ns attach-agent $node(1) $sink

$ns connect $tcp $sink

# Create FTP application

set ftp [new Application/FTP]

$ftp attach-agent $tcp

$ns at 0.5 "$ftp start"

# Define node movements using RandomWayPoint model

for {set i 0} {$i < $num\_nodes} {incr i} {

set node\_movement [$ns at 0.0 "$node($i) set X\_ [expr rand()\*500]; $node($i) set Y\_ [expr rand()\*500];"]

}

# End of simulation

$ns at 2.0 "finish"

# Define finish procedure

proc finish {} {

global ns namf tracef

$ns flush-trace

close $namf

close $tracef

exec nam wireless\_network.nam &

exit 0

}

# Run the simulation

$ns run

A screenshot of a computer program

Description automatically generated

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