

1. What is the task of GeoNetworking?
2. List some properties of GeoNetworking
3. List the functions provided by GeoNetworking
4. What distinguishes geographical addressing?
5. List the state-of-the-art addressing modes and provide a brief definition of each
6. Explain briefly how geographical addressing works
7. Explain briefly how geographical forwarding works
8. What is GeoNetworking beaconing?
9. Describe how the location table is built through GeoNetworking beacons
10. What is the motivation behind the Single-Hop Broadcast (SHB)?
11. What is the goal of Topological Scoped Broadcast (TSB)?
12. How does TSB deal with duplicate packets?
13. Describe how GeoUnicast works. Draw a scenario where GeoUnicast could be applied
14. List the steps performed by GeoUnicast until the packet reaches the destination node
15. Outline the difference between a sender-based and a receiver-based forwarding approach
16. Describe how Greedy Forwarding (GF) algorithm works
17. Draw two scenarios with GF reaching a local minimum as well as a local maximum
18. Describe briefly the function of Contention-based Forwarding (CBF)
19. List the steps performed by the CBF
20. How does the CBF avoid packet duplications?
21. Provide a brief comparison of GF and CBF
22. What is the role of the Location Service (LS)?
23. Describe briefly two mechanisms used by LS
24. What is the task of GeoBroadcast? Draw a scenario where GeoBroadcast could be applied
25. Why is the location service not required for GeoBroadcast?
26. List two GeoBroadcast forwarding algorithms and describe their functions
27. What is the task of GeoAnycast?

28. What is the role of packet data rate control?
29. Consider the following vehicular network topology shown in Figure 1. A GeoUnicast packet is sent from the originating vehicle S to the destination vehicle Z. The distance between Z and each vehicles in the network is given in table 1. The circles are representing the communication range.

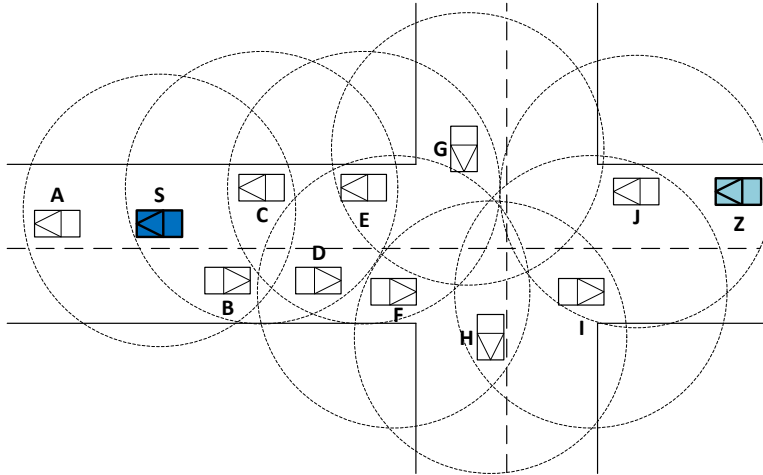


Figure 1: GeoUnicast Scenario

	S	A	B	C	D	E	F	G	H	I	J
Distance to Z [meter]	95	105	85	80	75	70	65	55	50	30	20

Table 1: Distances from vehicles to the destination vehicle Z

- Use the Greedy forwarding algorithm (GF) to compute the path from vehicle S to destination Z.
- Use the contention-based forwarding algorithm (CBF) to compute the path from vehicle S to destination Z.
- What is the packet latency needed to disseminate the packet from the originating vehicle S to the destination Z using both algorithms? Consider following assumptions:
 - An additional packet latency per hop of 1 ms
 - The minimum and maximum timeout for CBF are 0 ms and 20 ms, respectively
 - The maximum communication range $d_{\max} = 200$ m

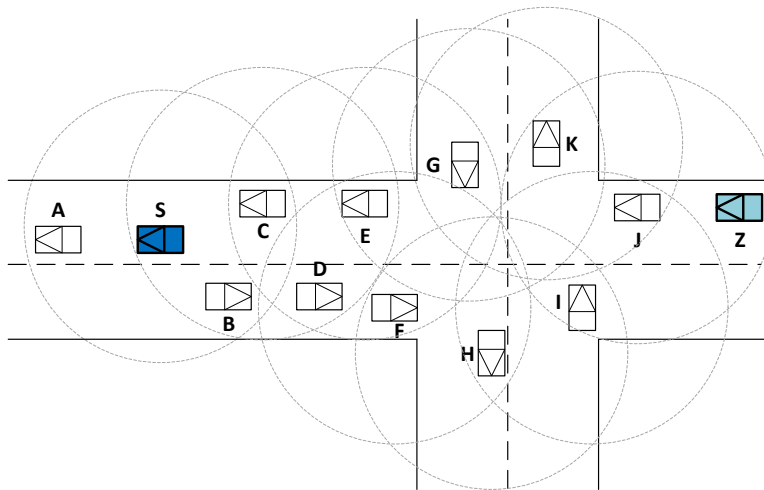


Figure 2: Updated GeoUnicast Scenario

- (d) Now suppose a new vehicle K is added in the network as shown in Figure 2. The distance between vehicle K and vehicle Z is 40 meter. Calculate again the path as well as the packet latency when sending a GeoUnicast packet from S to Z using both forwarding algorithms.