SMART SECURITY

Arjun Ahuja

PROBLEMS ADDRESSED

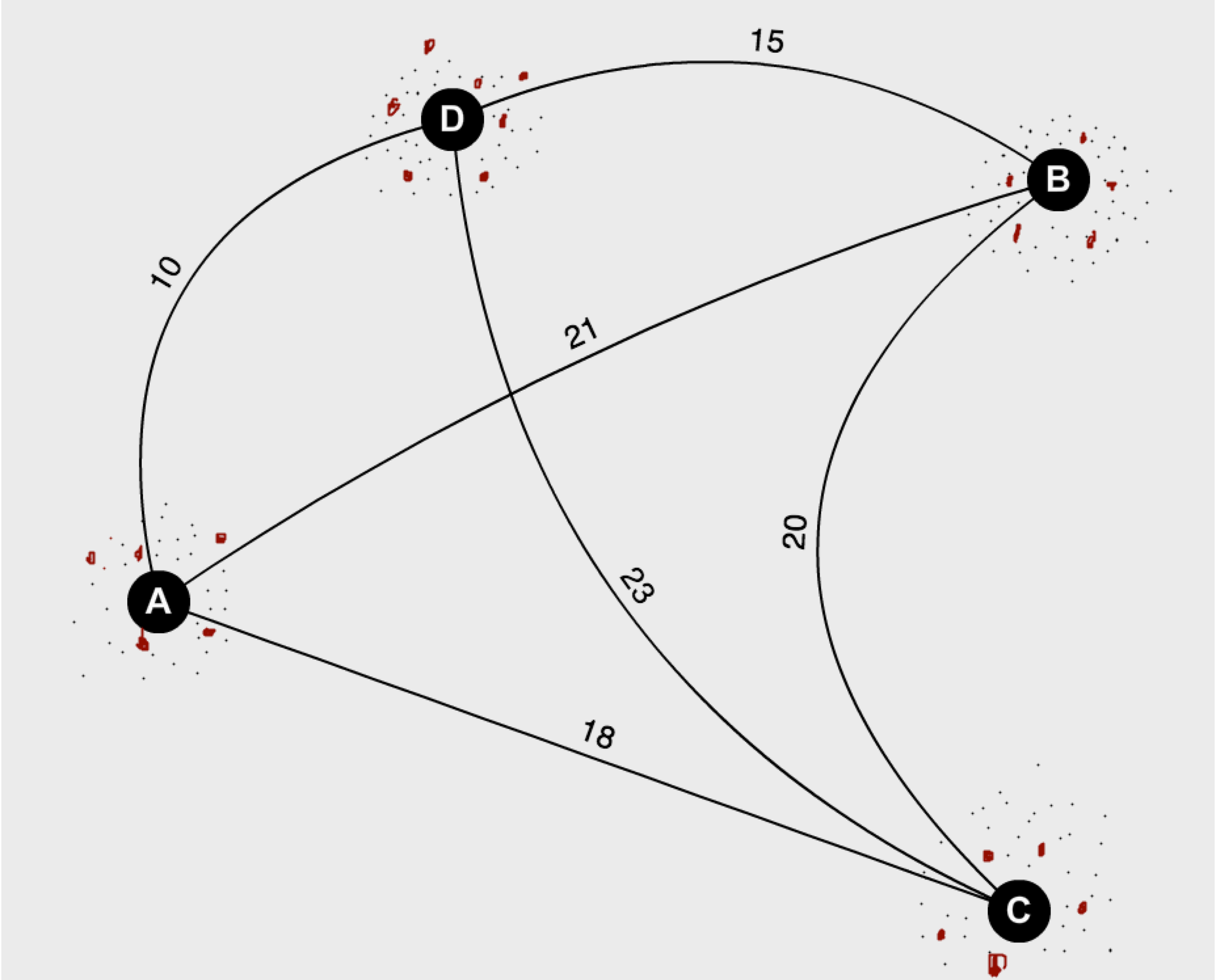
- Managing Crowd.
- Improving security in these places

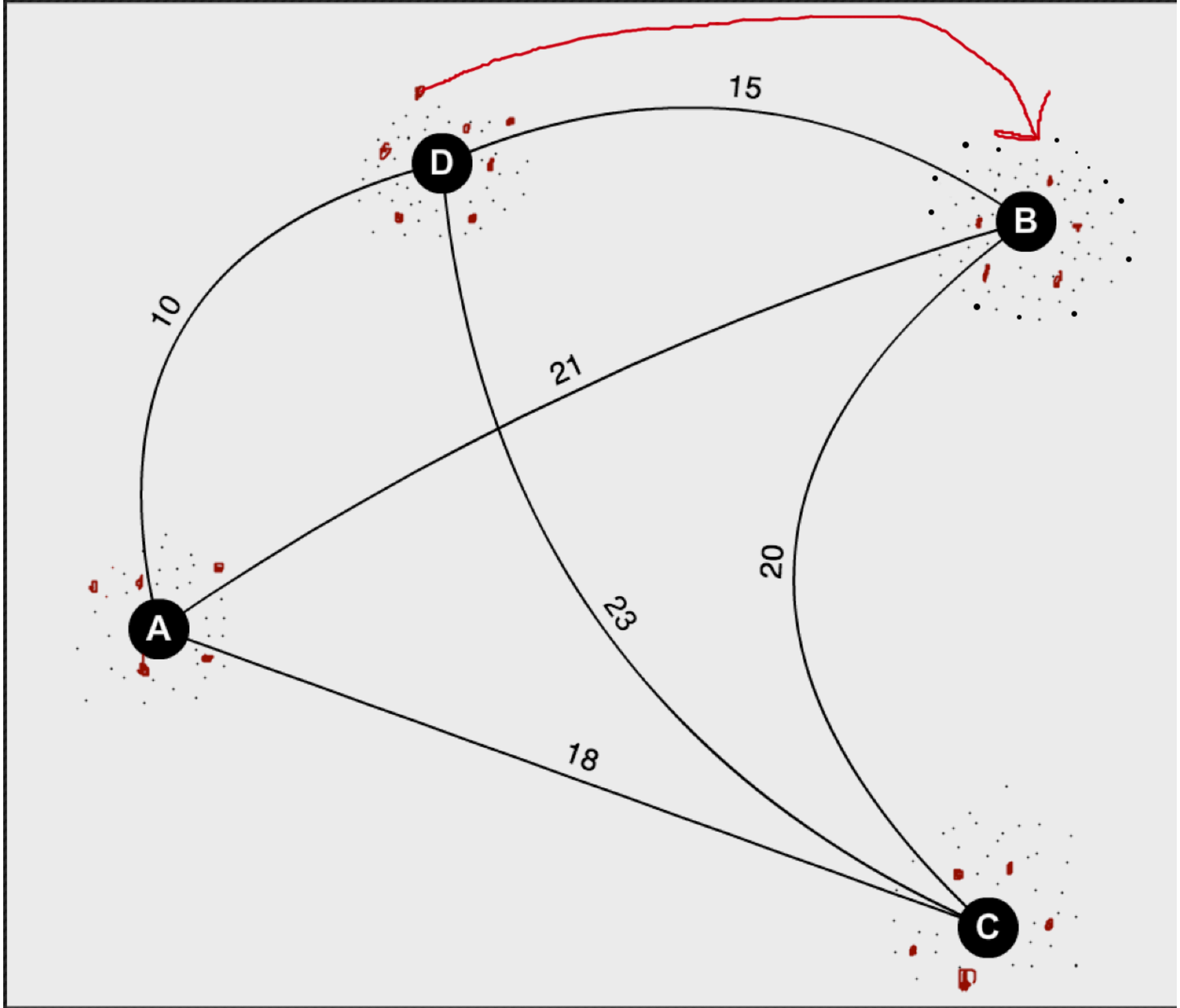
KEY IDEA

- To distribute security personnel in public spaces on the basis of crowd density(people/node) in that area.
- Main Challenges:
  - To distribute security according to distribution of people in that area.

APPROACH

- Mark the area in form of nodes.
- Make a fully connected graph and give edgeWeights on the basis of distance between the nodes.And make a sorted adjacency list on the basis of distances.
- Each node has a state information of the current position of the policemen under it and the density.
- Lets say if the number of people/node in a particular node increases suddenly, traverse the nearest node having (people/node) ratio less than the density more that required, notify some of the policeman to shift there.


D
B
A
C
15
10
21
23
20
18

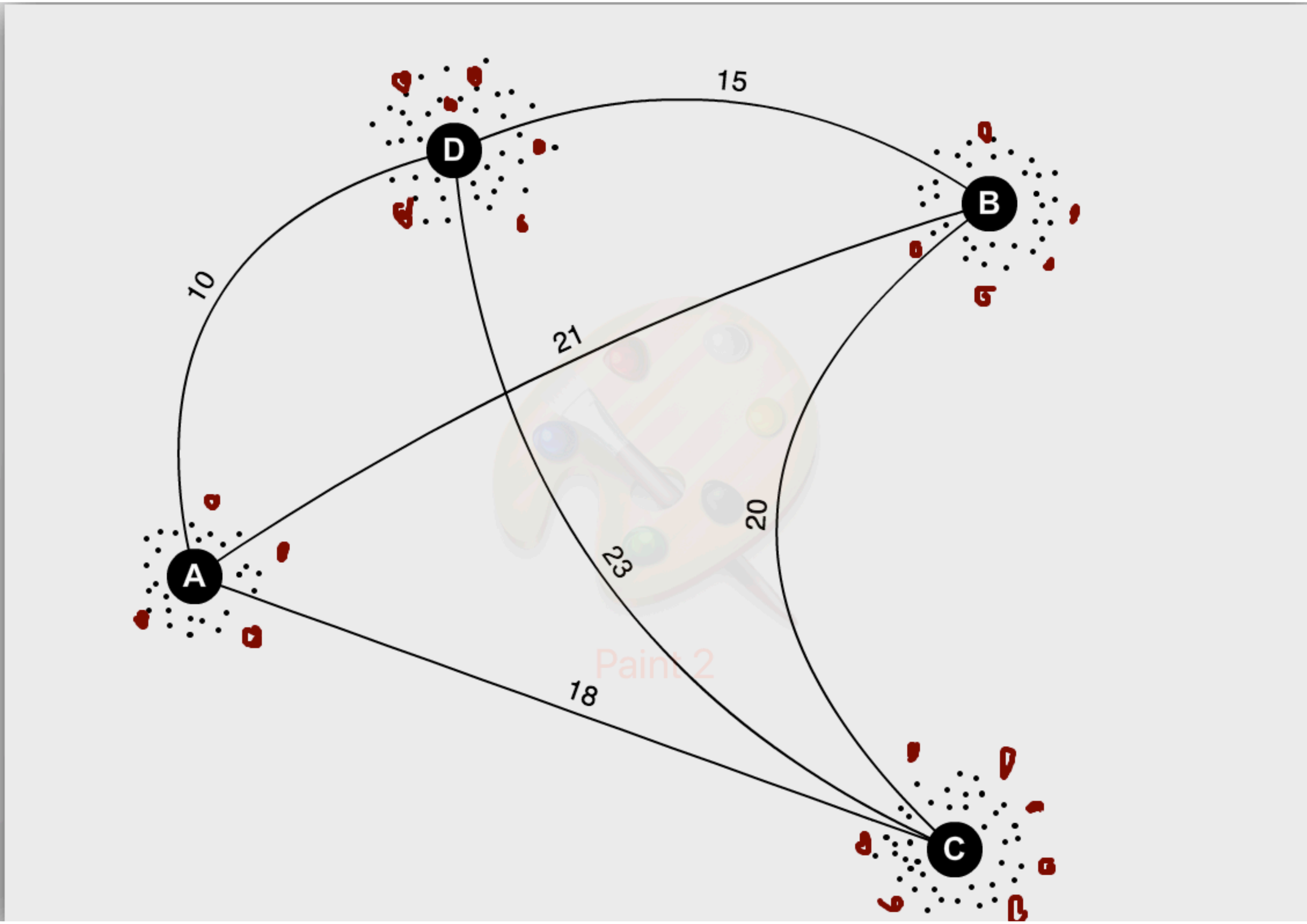

15
D
B
10
21
20
23
18
A
C

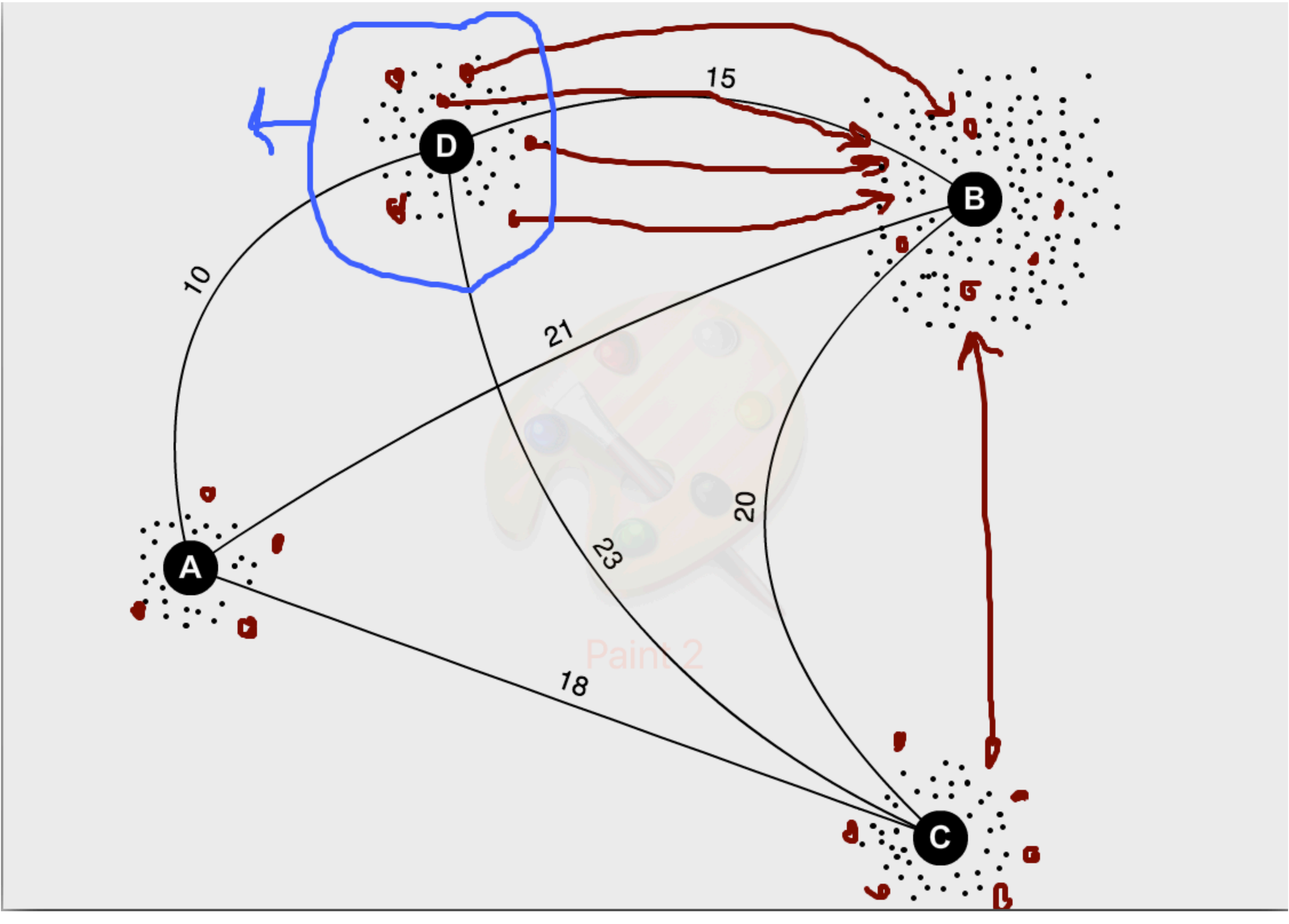
APPROACH TO FIND CROWD DENSITY PER NODE

- Assumption for the project nearly equal area covered by each sensor so approximate it to the number of people in the area the sensor operates
- Now to find number of people in a sensor's/server's area:
  - There are a lot of sensors available that achieve this, one of the example is:
    - Nikkei Tech(MEMS): contactless temperature sensor and detects the radiation temperature of a human.
    - The other option of-course is using GPS tracking!

CURRENT SYSTEM IN PLACE AND HOW IS THIS BETTER

- Current System in place has walkie Talkie's and radio.
- Vulnerabilities of the system:
  - It can be exploited to cause Havoc by people with bad intentions.(For protection one place may lead another place completely vulnerable).
  - Unfair!
- Improvements made by my algorithm:
  - Fair! For all(first one who arrives at a node will leave)
  - Improves security by always having an average people/security personnel ratio present at a place.
  - Has Efficient record system which will help deserving candidates in promotion in force and encourage others to work hard!


D
B
A
C
15
10
21
20
23
18


D
B
A
C
15
10
21
20
23
18