Access points

Let's assume that there are only 11 Wi-Fi channels available for wireless access points to use.[1] Let's also assume that we can set a particular distance for how far a laptop's Wi-Fi radio can reach. If two access points are within range simultaneously from such a laptop, we will assume that a conflict occurs and that neither is usable at that point.

Task

Given a set of positions of wireless access points, write a program to work out the maximum range that guarantees that not more than eleven of the access points are within range. This amounts to finding the largest circle that, no matter where you put it, will not enclose more than eleven points from the given data. Speed and accuracy of your program will be an issue. Write a brief report detailing the method you have used.

Your program should read data from a text file. The first line should be "Access point sites". Each following line will have two numbers on it giving distances (in metres) east and north of a base point.

Example file:

```
Access point sites
 60.41  123.10
 68.17  104.66
107.10   86.17
 83.42  121.16
 72.25   85.75
118.09  101.65
 56.68  103.83
125.13  122.56
```

[1] The real situation is more complicated, involves different overlapping sets for different IEEE 802.11 standards, and also depends on regional regulations...