I have a limited set of "occupied" cicula aeas o a 2D-aea ( ad aes). These cicles ae defied b a cete poit (\_,\_), with ad a commo fied adius . Those values ae kow.

Fo a game I’m makig, I wat to fid the closest poit to the use’s locatio (\_u,\_u) that is ot withi the cicles. I thik this meas I wat to fid the ad such that



is miimized, while fo each ,



Note: I case the optimal solutio diffes fom a fast oe, I do ot eed to fid the optimal solutio eve time, but a fast algoithm that gives me a easoabl good esult. (Reasoabl meaig that a use will ot istatl eact ad see that it is wog).

I guess this has bee alead solved somewhee but I could ot fid whee. Poites to questio/aswe ae welcome.

P.S. Mabe makig "guesses" o a spial out fom the use locatio could wok, but I thik thee ae much bette solutios.

\*\*Update to claif 1\*\*: All cicles ae occupied aea. I wat to fid a locatio outside all cicles.

\*\*Update 2\*\*: Sometimes the use locatio itself ca be the solutio. If outside of all cicles.

\*\*Update 3\*\*: Cicles ca be awhee, ovelap etc.

Eample image whe use is iside cicle(s). The the task is to fid the closest o-coloed aea ea the sta(the use). Note that itesectios ae maked also as I thik the ae elevat.

[![Eample image whe use is iside cicle(s), itesectios maked also as I thik the ae elevat][1]][1]

[1]: https://i.stack.imgu.com/8vUVd.pg

\*\*Update 4\*\* Moe ifo based o a commet about optimizatio: The cicles will sta ad the use ma move, whe et calculatio is doe. Whe a spot is foud aothe cicle ma be added thee (based o use actios).