ABSTRACT

Since DS CDMA (Direct Sequence Code Multiple Access) capacity in interference limited, power approach method is required to determine cell capacity. The optimum utilization and performance can be achieved using CAC (Call Admission Control) that control number of user directly. CAC should be guarantee GoS (Grade of Service) i.e. blocking probability.

With optimum capacity utilization will be expected by the system requirement of user of communication service can be completed. So that be expected through process of the optimum capacity utilization will be got by an efficient and reliable system. Problem of optimum capacity utilization is a complex problem. Because of the optimum capacity utilization earn to guarantee good performance system. Therefore, emerge method of solving problem to give solution. One of them is by using genetic algorithm.

In this Final Project, capacities of reverse link DS-CDMA determined by using genetic algorithm with population amount as much 500 and 100 times looping to get better fitness. Fuzzy logic used to make decision may or not an user to make a new call. Two gathering fuzzy, that is total of interference (I) and load factor (L) used to determine fuzzy decision (z) by value from the second of gathering. If $z > 0$ hence user will make a new call, on the contrary if $z < 0$ hence the user will be refused by system. System will be able to defend the quality of capacities. With optimal capacities equal to 3128 user, system able to defend blocking probability of 1,5025 % with final capacities equal to 3081 user. System will be able to do admission control better to defending good performance.

Keywords: DS CDMA, CAC, GOS, genetic algorithm, capacities, fuzzy logic, total of interference, load factor