

ABSTRACT

Recently we have seen that telecommunication has becoming a lifestyle in the society. It began from human demand to shortening time and space dimension. The needs of communication system in society become really important. Unfortunately not all area can use that telecommunications technology. There are still a lot of areas that cannot be reached by telecommunication infrastructure, and commonly we call it blank spot area.

In this Final Project, blank spot area caused by telecommunication system cannot reached certain area that caused by lack of telecommunication infrastructure. Okumura-Hatta Propagation Model used to define blank spot area that will give the radius of coverage area for the transceiver.

The objective of this final project is make an information system that can answer the question of which area that becoming blank spot caused by lack of telecommunication system, and how to define the appropriate technology to implemented in that blank spot areas. The information system used in this final project based on GIS. GIS is a tools that used to save, viewing, analyze and manipulate geographical information, so how to define blank spot area, and analyze the appropriate technology to vanishing blank spot especially in East Java will be rapidly knows.

The output of this research is there are still a lot of blank spot areas in Malang. Blitar and Kediri, there are 614 areas. It caused by that there are only 12 BTS and 2 repeaters that covering the areas. It suggested adding 18 BTS and 1 repeater to vanish the blank spot areas in all of 3 residents.

Keywords: *GIS, blank spot, BTS, GSM, coverage area, Okumura-Hatta.*