

**SIMULASI PEMILIHAN SEKOLAH MENENGAH ATAS (SMA)
BERDASARKAN ZONASI BERBASIS SISTEM INFORMASI
GEOGRAFIS (STUDI KASUS DI CABANG DINAS PENDIDIKAN
PROVINSI JAWA TIMUR WILAYAH JEMBER)** (*Simulation Of Selection
Of High School Based On Zonation Based On Geographic Information Systems
(Case Study In The Branch Of Education Department Of East Java Province,
Jember Region)*)

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ABSTRACT

The proposed system implements distance calculations using the Haversine formula and implements one of the decision support methods using the Technique for Order of Preference by Similarity to Ideal Solution (TOPSIS). In order to prevent fraud in determining the location of the house, this system uses Reverse Geocoding technology from ESRI Leaflet Geocoder. Reverse Geocoding is a method to change the longitude and latitude of the GPS address to the address of the user's home location. The results of the User Acceptance Testing (UAT) test show that this system can be accepted by users with a value of 86%. The results of the system validation test show that the precision of the results of data processing in Excel with the processing results from the system in calculating distances with the haversine formula is 99.99999998%, while the processing of decision support results using TOPSIS is 99.999999771%. The results of the functionality test using black-box testing show that the system passes the test with a value of 100%. The results of the precision test show that the accuracy test that has been tested on 15 respondents produces an accuracy value of 40%.

Kata words: TOPSIS, Haversine Formula, SIG