



**KOMISI
PEMILIHAN
UMUM**



PRECISION ONLINE VOTER REGISTRATION USING GPS MAPPING

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INDONESIA

17
April 2019



Voter Registration in Indonesia

1. Voters are grouped in some area based on numbers of voter and distance from (future) polling station
2. Processed by officials who come to the place (house) of the voter, meet the voter, and fill in the information
3. Information written in paper based
4. Voter's information will be collected in office or district or village and sent to Sidalih (*Sistem Informasi Data Pemilih*, Information System of Voter's Data) via Web
5. Sidalih is centralized and running by General Elections Commission of Indonesia.



Problems in Voter Registration

1. Get accurate and up-to-date Voter's Data
2. Detect changed residence, new citizens, and the young who is age eligible
3. Citizen registration with electronic citizen identity card (KTP-EI) project is still in progress not 100% of citizen.
4. Get precision location of the voter
5. Double data because of the changed residence or input error



Internet in Indonesia

1. As in January 2018, Internet penetration in Indonesia reached 50% of population (53% worldwide)
(wearesocial),
2. Another number of 54.68% Internet users of population (143.26 million of 262 million population). Almost 58.08% in Java **(APJII)**
3. The number of population which has smartphone reached 50.08% of population and rising **(APJII)**



Internet in Indonesia

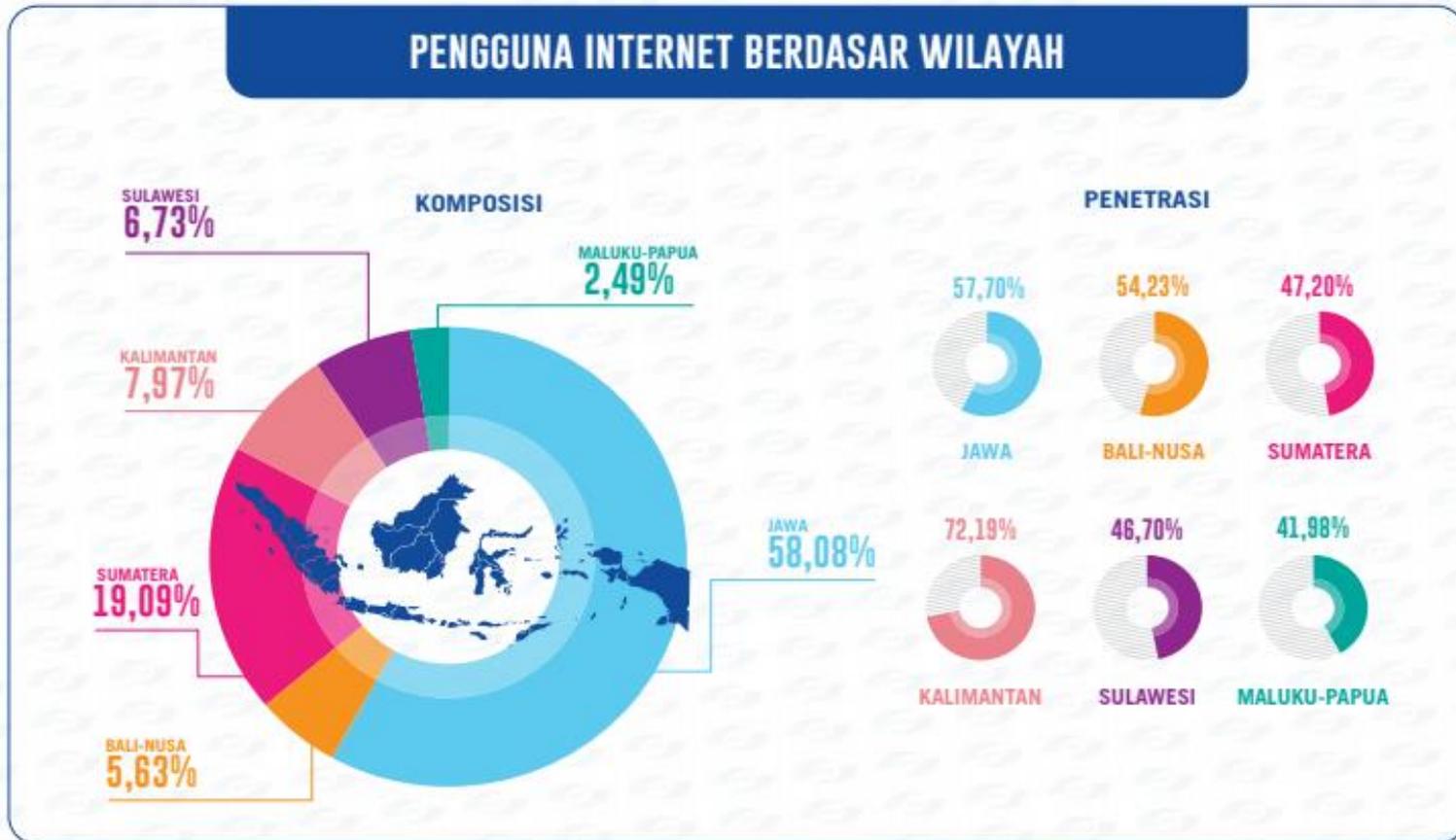
INFOGRAFIS

HASIL SURVEY 2017

TEKNOPRENEUR
www.teknopreneur.com

APJII
Asosiasi Penyelenggara Jasa Internet Indonesia
INDONESIAN INTERNET SERVICE PROVIDER ASSOCIATION

PENGGUNA INTERNET BERDASAR WILAYAH



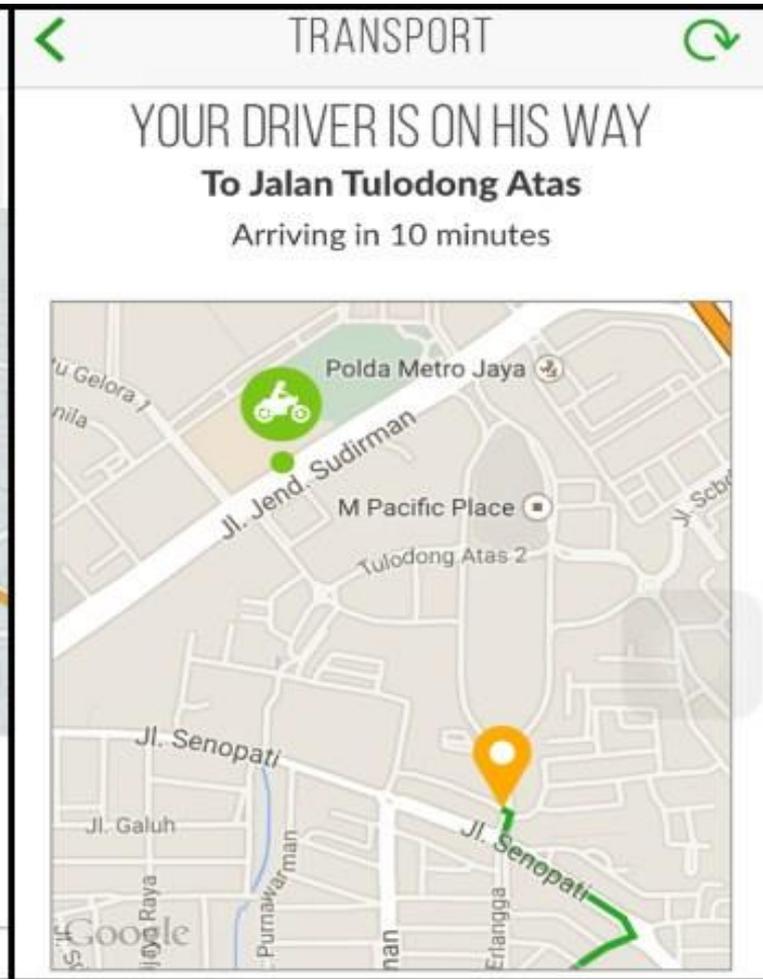
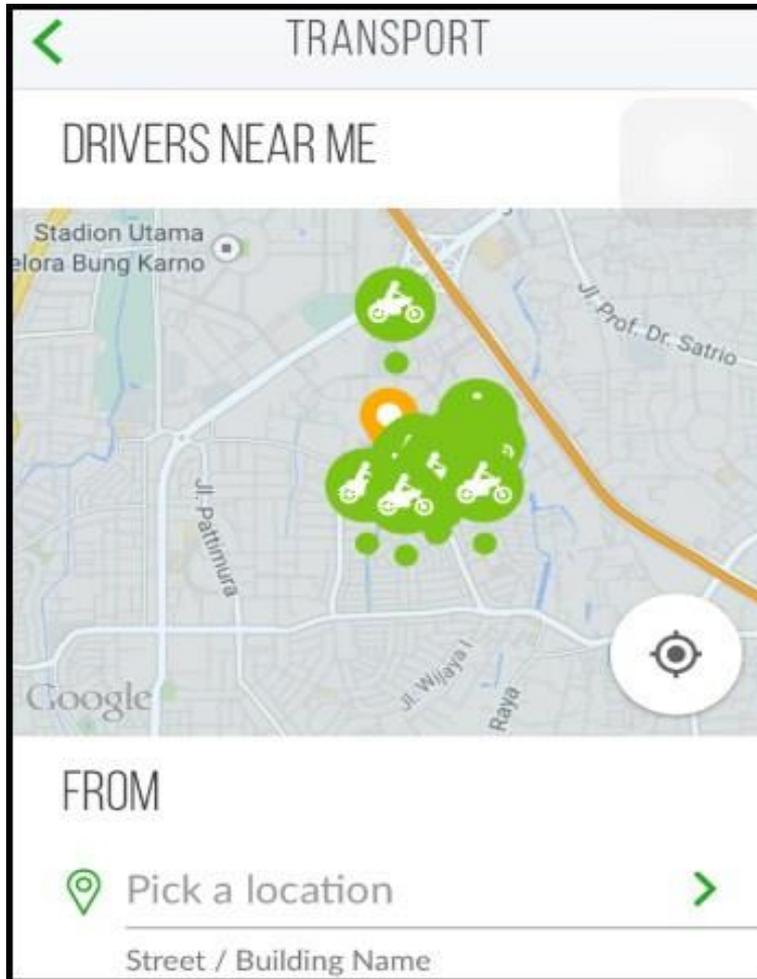


Internet & GPS Mapping Service

1. Some application provider (Uber, Grab, Gojek) use location of their user to give transportation service
2. They are not using or making their own map service, instead they use services from third party like Google or OpenMapStreet with high accuracy
3. User's location could be calculated by smartphone with location based service (LBS) feature of the cellular provider and A-GPS (Assisted Global Positioning System) which uses the power of GPS Satellite System



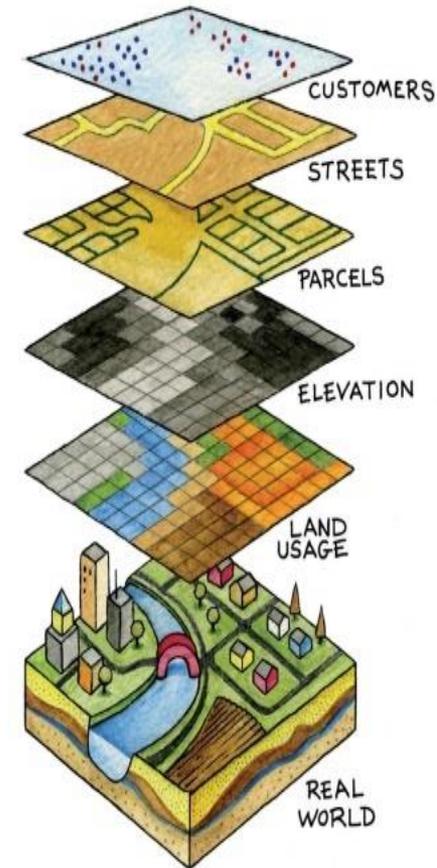
Internet & GPS Mapping Service





Online GIS Web Processing

1. Using combination of webpage, result of GPS and geo-location usually based on layer of the area for displaying data or information
2. Other than just showing number and text, with GIS website, it will show the location based on map with layering for specific information
3. The map will be shown in all kind of devices, from personal computer, notebook, or smartphone.





Online Voter Registration

1. Voters could initiate a self-registration process with their smartphone
2. Voters connect to registration web and fill in the form on the web page
3. Voters' smartphone could send information of their location or they could pick the right position of their house in the shown map in the form
4. Voters also can take the picture of their ID card for verification



Processing Information of Voter

1. Sidalih as the main system of voter registration and built another system for collecting submission online from voters with a validation system
2. The submission will be checked if the form is right and the location is true and the ID is the same as the form.
3. If needed, there will be a manual system for an on-site verification conducted by officials
4. If all are clear, the data will go into Sidalih with the geo-location tagging information and the pictures.



Online Registration Conducted by Officials

1. Online system will be a substitute for manual/conventional system where the officials come to house of voters.
2. it will be no hassle to fill in the voters data to the system offline in officials' smartphone and will be sent later.
3. Even, in the area without connection to Internet, the data could be collected offline and will be sent when the smartphone get the signal



Previewing & Get Comprehensive Information

1. With GIS website, officials could see the house or area with no or less voter registration then expected..
2. If there is a question about the number of voters, officials could go there and find the non-registered voters.
3. Every voter will be precisely located and counted based on some criterias



Conclusion

1. It is possible to build a system for online voter registration using the power of Internet and GPS mapping provided by third parties
2. Online voter registration with a built in geo-tagging feature will give two main benefits to the registration process: simplicity of process & precise location of voters will give a comprehensive view of voters



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