

Analysis of Grab Posisi Data

Presented by BZAthletes

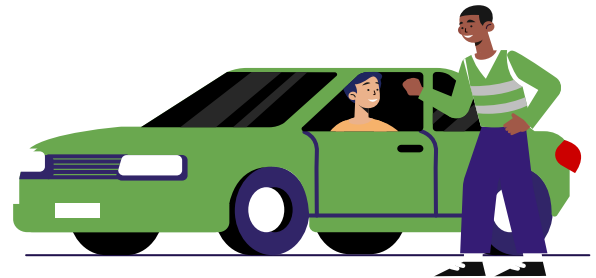


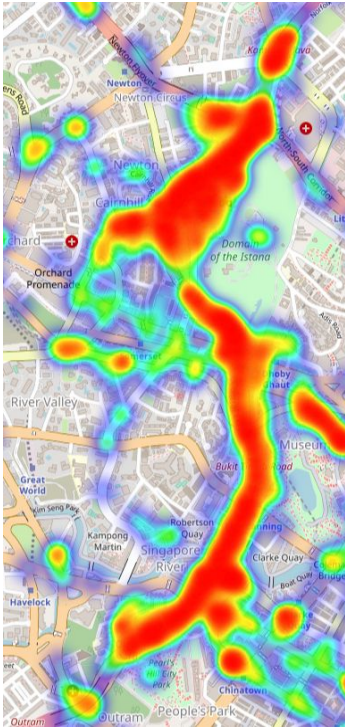
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 Singapore

Tunnels Affecting Location Accuracy





CTE



**KPE -
MCE**

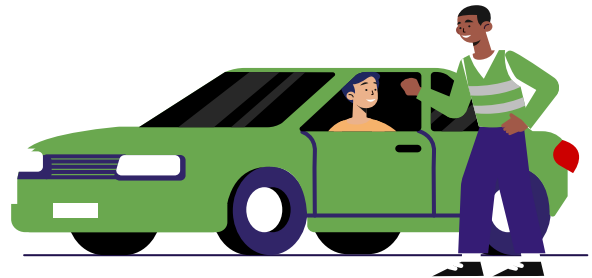
Filtered dataset according to poor accuracy GPS pings

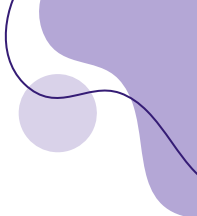
Discovery: Most pings with low accuracy point to the tunnels on the highways (CTE, KPE, MCE) which have poor signals.

Conclusion: Inaccurate ETA prediction for the users may have been due to drivers in tunnels, sending inaccurate GPS pings of their location.

 Singapore

Operating Systems Affecting Accuracy





	count	mean	std	min	25%	50%	75%	max
osname								
android	16114701.0	5.310217	3.269387	1.0	3.9	4.0	6.0	127.785
ios	14214984.0	9.378674	56.548758	1.0	8.0	8.0	10.0	149000.000

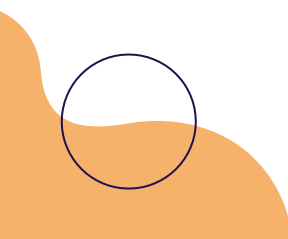
WHY?

Statistics on accuracy after grouping dataset by operating system

Discovery: Although android has slightly more users than ios, ios is nearly twice as inaccurate compared to android; ios also has a larger std dev (17x) than android.

Reason: Iphones have stricter privacy rules

Conclusion: In general, ios as an operating system is worse at sending out accurate gps pings compared to android



Singapore Solution



Suggested Solution:

Improving GPS accuracy with Beacon

Beacon is a system which comprises of a Global Navigation Satellite System(GNSS) & Inertial Measurement units(IMU)

Compensates shortcoming of IOS system's (lack of signal-to-noise ratio)

Improve accuracy as Beacon is a fixed device that is attached to the vehicle

Fusion of IMU system allows location of vehicle to remain accurate even during GNSS outage when vehicle is in the tunnel



 Jakarta

Busier Roads



Jakarta is ranked 14th in Traffic Inefficiency Index



PESAN GRABBIKE DIJAMIN PASTI DAPAT!

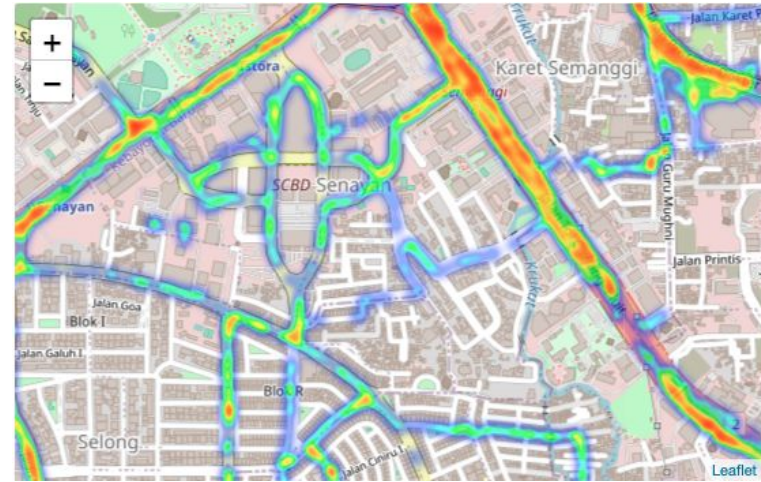
Atau GRATIS 5x perjalanan



Grab



Motorcycle Traffic
Conditions During Peak
Hour (1000Hrs)



Traffic conditions For
Car During Peak Hour
(1000Hrs)

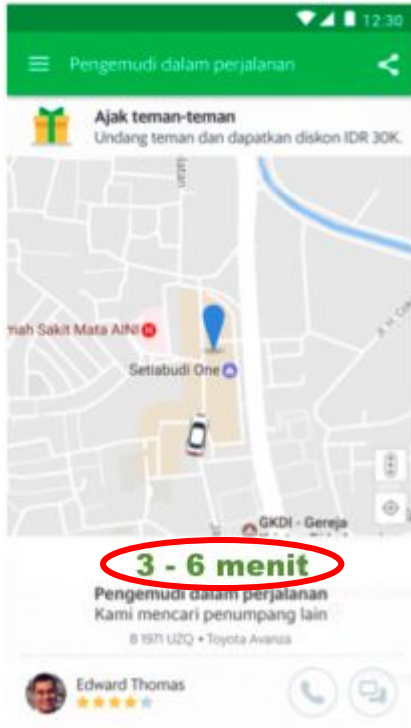
There are more instances of Cars having slower speed, higher accuracy as compared to Motorcycles during Peak Hour (1000Hrs)



 Jakarta

Solution





After

A new look which calculates estimated time of arrival

How to better predict the range of ETA

- Complement the ETA provided by navigational tools with the help of historical data. Extract data that reflects on average, the duration that drivers took to arrive at the pickup point when taking a particular route
- Partner with other navigational applications, such as Waze.



**Thank You For
Your Kind
Attention**

