Data analysis – Two stories

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How Apple uses Analytics

- iCloud Analytics collects small bits of information on your iPhone, including text from your text messages and emails. This allows Apple to improve services such as Siri by making it more intelligent.

- For example, you may receive personalized suggestions when asking Siri where you should get dinner tonight.

- Some timely suggestions like Alarm or Call suggestions are all Apple Analytics.

- There are other analytics too such as Screentime and Downtime and keyboard and Emoji suggestions when you are typing a message

Apple Privacy

- According to Apple's Privacy policy, none of the information your iOS device collects to send to Apple can identify you personally.

- The device will only send the analytics after you've given your explicit consent and you can easily opt out.

- Your personal information is removed before Apple receives it, or it's protected by something called Differential Privacy, which lets Apple improve its services and devices without overstepping any boundaries when it comes to your privacy.

- Differential Privacy inserts random information into your data before it's sent off to Apple. Apple looks for patterns when it combines your data with that of other users.

Apple Privacy

- The green text bubbles on your iphone also mean the text messages are *not* encrypted — unlike the blue ones, which are encrypted when you text within two apple devices. You could instead use whatsapp, which operates with end-to-end encryption and works on both iPhone and Android.

- The first step Apple takes is to privatize the information using local differential privacy on the user's device. The final stage is aggregation, where the privatized records are processed to compute the relevant statistics and the aggregate statistics are then shared with relevant Apple teams.
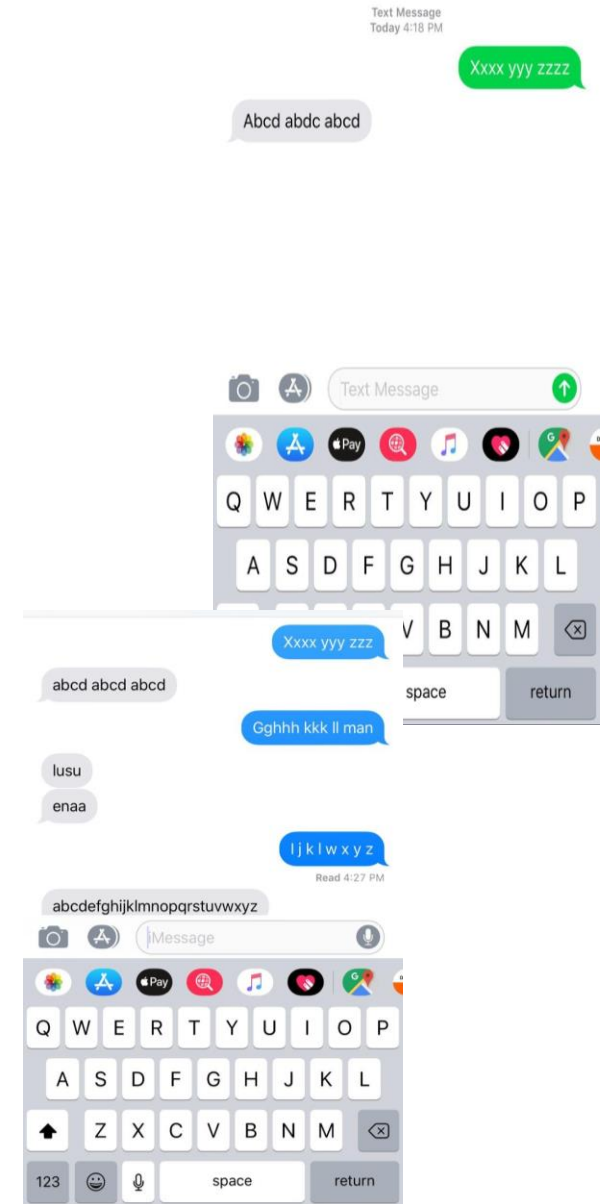
Apple Privacy Policy

This is how we protect your privacy.

We're committed to keeping your personal information safe. That's why we innovate ways to safeguard your privacy on your device, why we're up front about how we personalize your experience, and why we equip developers with the best tools to protect your data.
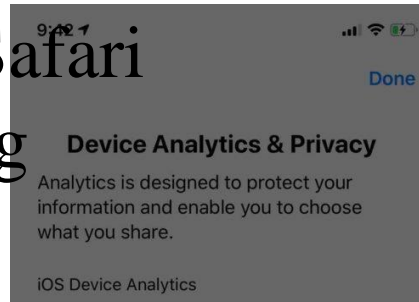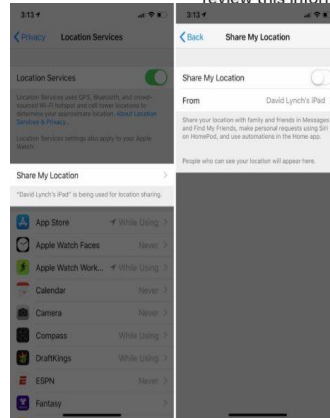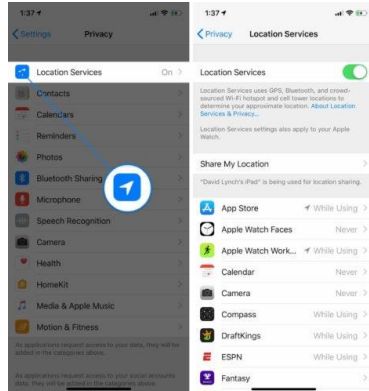
We protect your information on our products

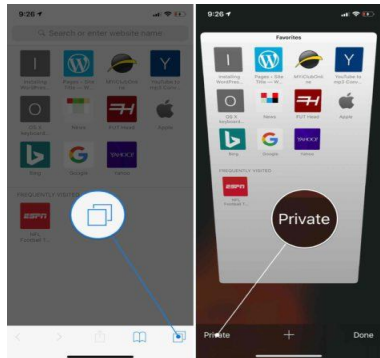We can create personalized experiences without using personal information

We give developers tools to meet our strict guidelines

- Apple's Privacy policy is very clear to it's customers and public – The official website has all the information apple does with your data and information.
- When it comes to apple, Apple itself states on official website that your IOS device can collect analytics about your IOS device and any paired device and send it to apple for analysis. The collected information does not identify you personally and can only be sent to apple with your explicit consent that you can always say no when you feel like not to share.
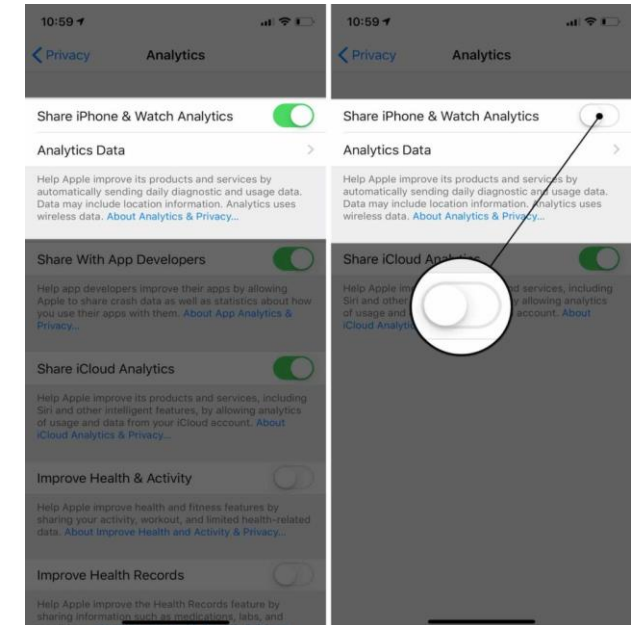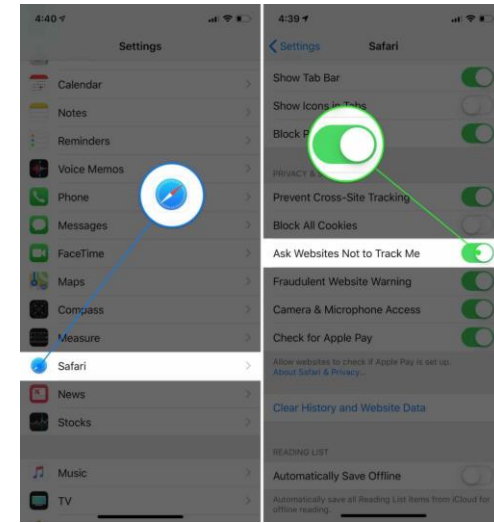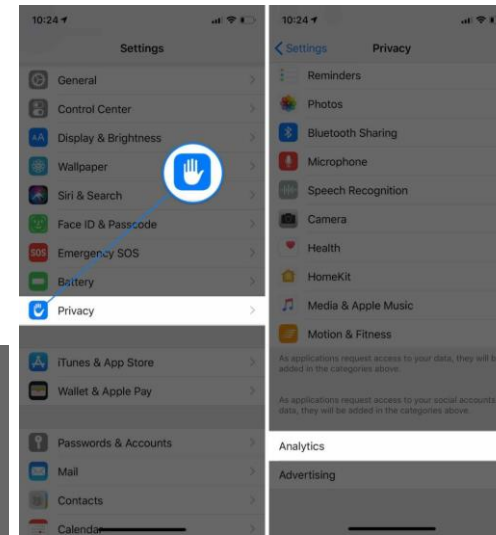
Apple Analytics Protection

- Do not Track Request in Safari
- Prevent Cross-site Tracking
- Private browser
- Turn off Location Services
- Icloud Analytics
- Privacy Settings

Apple Suggestions

- Siri can intelligently make suggestions for notifications based on a number of factors including things like your location. For example, it will suggest putting your phone in to Do Not Disturb mode if it thinks you're at the cinema or driving mode if it detects you driving or keyboard or emoji suggestions.

- There are situations where Apple can improve the user experience by getting insight from what many of our users are doing, for example: What new words are trending and might make the most relevant suggestions? What websites have problems that could affect battery life? Which emoji are chosen most often?

- Apple uses Count Mean Algorithm and Predictive Analysis for such suggestions.

Apple Suggestions
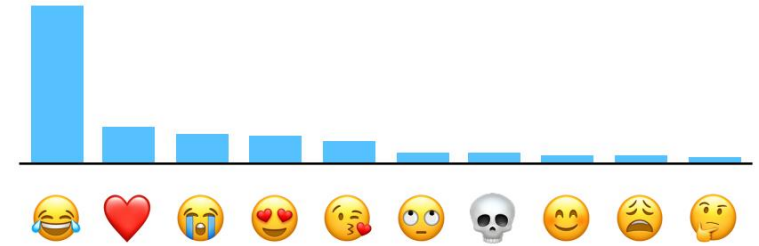
- Analytics may include details about hardware and operating system specifications, performance statistics and data about how you use your devices and applications. When it is collected, personal data is either not logged at all, or removed from reports before sending to apple by differential privacy.
- The information they gather from Differential Privacy helps them improve their services without compromising on your personal data. For example, Quicktype and emoji suggestions, lookup hints in Notes, alarm suggestions, driving mode or Donot disturb mode suggestions.
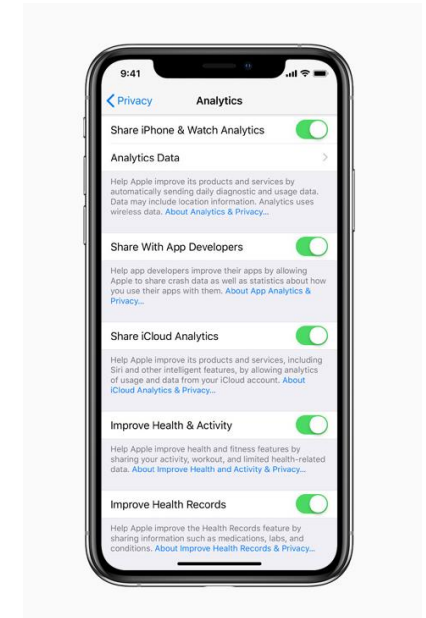
Apple Screen time

- This feature of Apple monitors the way you use your device, telling you everything from how long you've spent on certain app categories to specific apps. It will even tell you how many times you've picked up your apple device in a given hour.
- Once the data is collected you can then view it in a handy chart to see how much you really use your device.
- At the end of the week, you'll get a report sent to you via a notification, so you can see exactly what you've been doing and just how much time you wasted in certain apps.

Apple Screen time

- Apple is able to break down the apps using the categories from the App Store so you can see whether you play a lot of games, or spend time on social media, or if you're a utilities person.

- The idea is that by understanding how you're interacting with your phone you can then take much greater control, either by taking drastic action like removing the app completely, or by limiting how you use it by setting App Limits within iOS. The problem, of course, is that you've got to decide to make that change.

Apple Down time

- This feature in apple gives you the ability to schedule a block of time whereby only apps that you choose will work

- While the feature is likely to be used by parents to control the apps available to their children in the run-up to bedtime, for example, we could easily see it working to stop you from using your work email after hours or social media during work.

- You'll also be able to whitelist certain apps so you can still use the phone or messaging features.
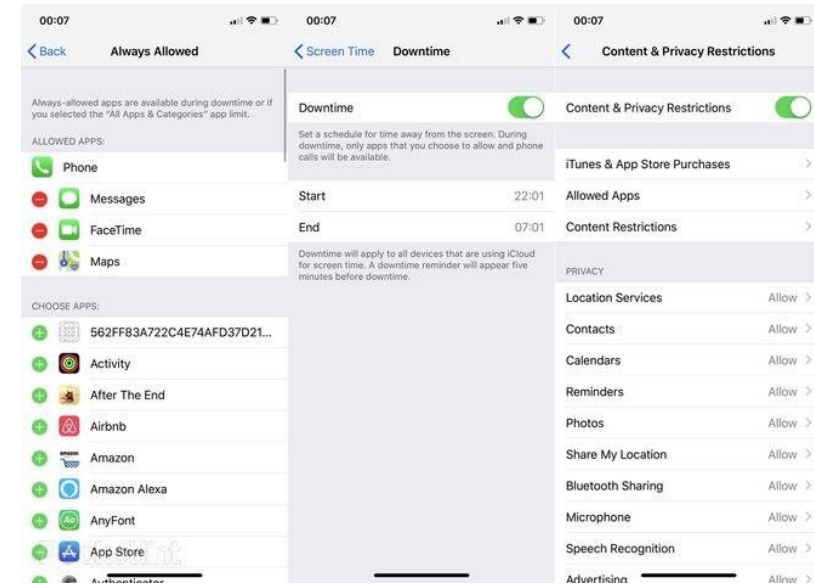
Facebook Analytics

- Facebook mainly serves as a business platform for many companies. It's impressive that what started as a social media platform has evolved into a complex business infrastructure.

- Facebook builds its business by learning about its users and packaging their data for advertisers. It then reinvests this money into offering us new, useful functionality – currently video and shopping - which it also uses to learn even more about us.

- It's hard to conclude whether Facebook is still a social media platform after taking into consideration the sheer number of tools that are offered to its users. From targeted advertisements, a video platform and recently an e-commerce platform is built in for its users.

Facebook Analytics

- It enables communication and conversation between people has proven to be hugely valuable to us, it has become a magnet for a huge amount of data about us – who we are, where we spend our time and what we like.

- The problem for Facebook's data scientists who have to try to make sense of this is that much of this data is very messily unstructured.
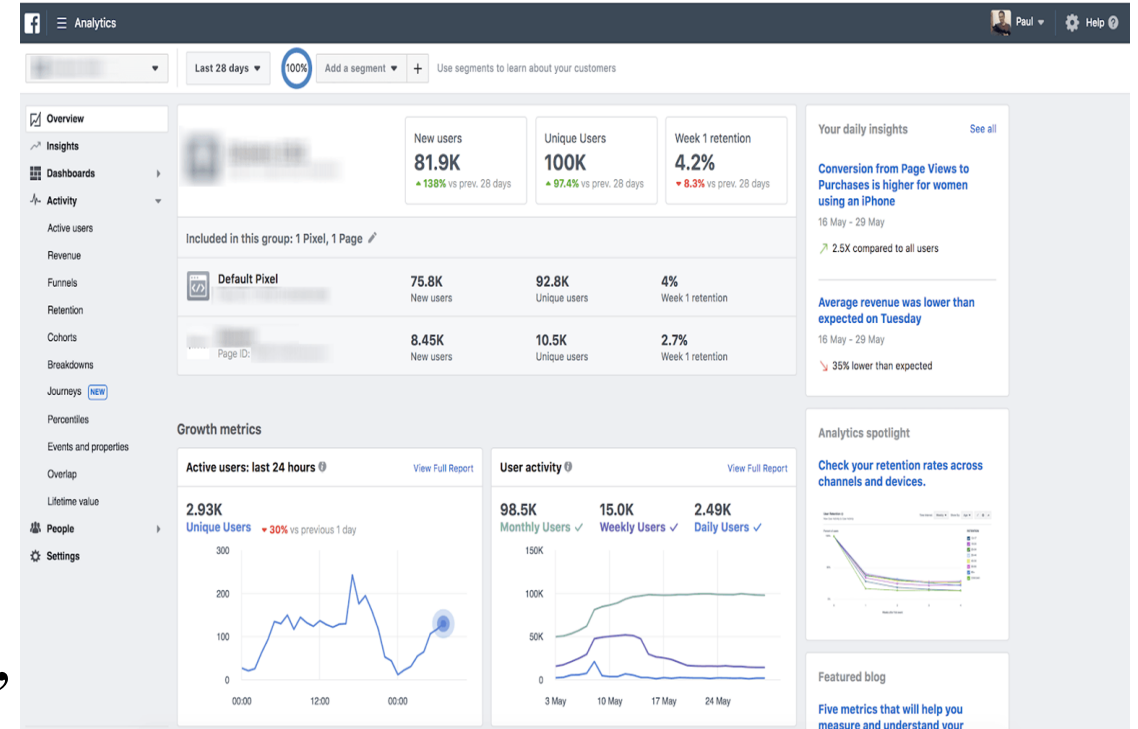
Facebook Analytics

Facebook Analytics

- Facebook basically relies on Bigdata, which often owes frustration of developers to two main problems.
  - They rely too much on one technology, like Hadoop. The analytic process at Facebook begins with a 300 petabyte data analysis warehouse. To answer a specific query, data is often pulled out of the warehouse and placed into a table so that it can be studied.
  - Companies use big data to answer meaningless questions. If you can't imagine how the answer to a question would lead you to change your business practices, the question isn't worth asking.

Facebook Targeted Advertising

- Facebook uses deep neural networks – the foundation stones of deep learning – to decide which adverts to show to which users. This has always been the cornerstone of its business, but by tasking machines themselves to find out as much as they can about us, and to cluster us together in the most insightful ways when serving us ads, it hopes to maintain a competitive edge against other high-tech competitors such as Google who are fighting for supremacy of the same market.

- In social networking, you usually choose to share your feelings and thoughts through posts and that the major data for the company,despite privacy, where they play with your data and sell it for advertising to other companies which pop-up on your newsfeed suggestions.

Facebook Facial Recognition

- Its you who provide data to facebook to bring up tagging suggestions when you post a photo.

- When you happen to tag someone on facebook when you first post their photo, it collects information about the person and saves their face and thus is able to give you suggestions on your next post.

- DeepFace is an inhouse tool built by facebook to recognize faces in photos and auto-tag them with the relevant user on your acceptance about the suggestion it provides you. DeepFace has a higher accuracy rate than humans, beating humans by one percent at 96%.

Facebook Behavioural analysis

- Facebook also traces user's 'behavior' by tracking the user's actions across various sessions and expands to multiple platforms as well.

- Behavior analysis is mainly focused on the e-commerce platform.

- Events such as 'Added to Cart', 'Purchased' etc. are tracked, also providing users with the flexibility of tracking custom defined events.

- This allows the business to identify user behavior patterns such as 'engagement', 'conversion' and 'retention' and pin-point exact places where business conversion is not taking place.

Facebook Privacy

- Due to this massive gold mine of data, advertisers wait like hungry vultures. In fact, the 2015 Social Media Marketing Industry Report stated that Facebook is the #1 social platform for marketers.

- Facebook has always assured its users that information is shared only with their permission and anonymized when sold on to marketers. However, issues still seem to crop up; there have always been high levels of privacy concerns among Facebook users. For example, many users complain that Facebook's privacy settings are not clearly explained or too complex. It is easy for users to share things unintentionally.

Facebook Privacy

- Facebook is basically an open source social media which tempts you to post your personal information without forcing you, collects all your information and stores it for suggesting advertisements on your newsfeed.

- In Business perspective, Investors are likely to invest their time and money on Facebook Pages and all the content that goes there in the Server.

- Facebook is an advertising platform which doesn't assure you the privacy of your personal information. It collect information from other websites and apps to advertise and shares your information with them for business.

Apple and Facebook

- Apple is a Multinational technology company.

- Facebook is an Online Social media and Social networking service company.

- Apple has made a point of trying to differentiate its approach to consumers' information. It notes that it collects less data about us than the other big tech companies and then bumps up the security by scrambling it so it doesn't identify who it comes from. Additionally, it says it keeps most of the data on our devices, as opposed to Apple servers, and it's encrypted on those devices and only accessible via your passcode.

Apple and Facebook

- Apple's Privacy policies are more stronger to benefit its customers compared to Social Media such as Facebook.

- With Facebook and Google, we are the engines that enable the companies to sell advertising. When we like a post, check in to a restaurant, ask for directions to a business or search for a hotel to visit, Facebook and Google learn more about us, and coupled with our demographic and location information, can help advertisers to reach us — making the two companies the juggernauts of digital advertising.

- Apple insists that it "doesn't gather your personal information to sell to advertisers or other organizations."

Apple and Facebook

- As for Apple, our iPhones gather up a lot of information, too. The GPS describes where we are, when we ask Siri for directions or a recipe, that request goes to Apple. Apple says it doesn't share that info with outside companies. It does, however, allow advertisers to target users based on their history in the App Store and News app.

- Unlike Facebook and Google, Apple says it scrambles this information and looks at patterns of usage, not at who it's coming from.

- You can request to see the data collected by apple and facebook officially for their Analytics and check your privacy levels surprising.

Article

- I read an article in the internet stating his experience with data collected in Apple and Facebook.

- It was stated that Apple's information collected from the user contained spreadsheets at just 5MB and that from social media like facebook, google and twitter took hours to send him all the data stored – from few hundred megabytes to a couple of gigabytes in size.

- When you search in walmart and other apps such as youtube, your facebook wall replicates your searches from other apps and browsers. This is meant to steal your personal information on the social media. Everybody's newsfeed is different according to their searches and likes. It advertises your interest to open other apps from facebook.

- But on the other side, the data apple collects about you is not your personal information and is restricted only to your current device.

Article

Apple Confidential
IDS iMessage Capability Query Logs*
Timezone: PST/PDT

source handle	lookup handle	count of lookup devices	osv
[tel:+1-646-120-0102	tel:+447932123456	tel:+1512-123-765	iPho
[tel:+1-646-120-0102	tel:+1-646-123-456	tel:+1-5129211145	iPho
[tel:+1-646-120-0102	tel:+1516-778-123	tel:+1-512-123-765	Wat
[tel:+1-646-120-0102	tel:+1516-589-1234	tel:+1516-589-1234	Ma
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[tel:+1-646-120-0102	tel:+1-646-120-0102	tel:+1-512-123-765	iPh
[tel:+1-646-120-0102	tel:+1512-921-4321	tel:+1-646-120-0102	iPh
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Apple Confidential
FaceTime Call Invitation Logs*
Timezone: PST/PDT

*These logs do not indicate that any
communication between users actually took place.
 These logs indicate that the source
handle initiated a FaceTime call to the
recipient handle which was routed to
Apple's servers. Apple has no information
as to whether the FaceTime call was
successfully established or information regarding duration of a FaceTime call.
 FaceTime call invitation logs where the calling device and the receiving device are both running iOS 10 or higher will not include
instances of Invitation Accept and Invitation Reject.

Req Type:
II = Invitation Initiate
IC = Invitation Cancel
IA = Invitation Accept
IR = Invitation Reject

logs	_time	natip	source handle	recipient handle	req	hwv
*	2018-04-11 08:56:12.228 PDT	▮	E:▮	P:▮	II	iPad2_1
*	2018-04-11 09:19:46.288 PDT	▮	P:▮	E:▮	II	MacBook10_1
*	2018-04-14 12:38:31.266 PDT	▮	P:▮	E:▮	II	iPhone9_1
*	2018-04-14 12:39:19.302 PDT	▮	P:▮	E:▮	II	iPhone9_1

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