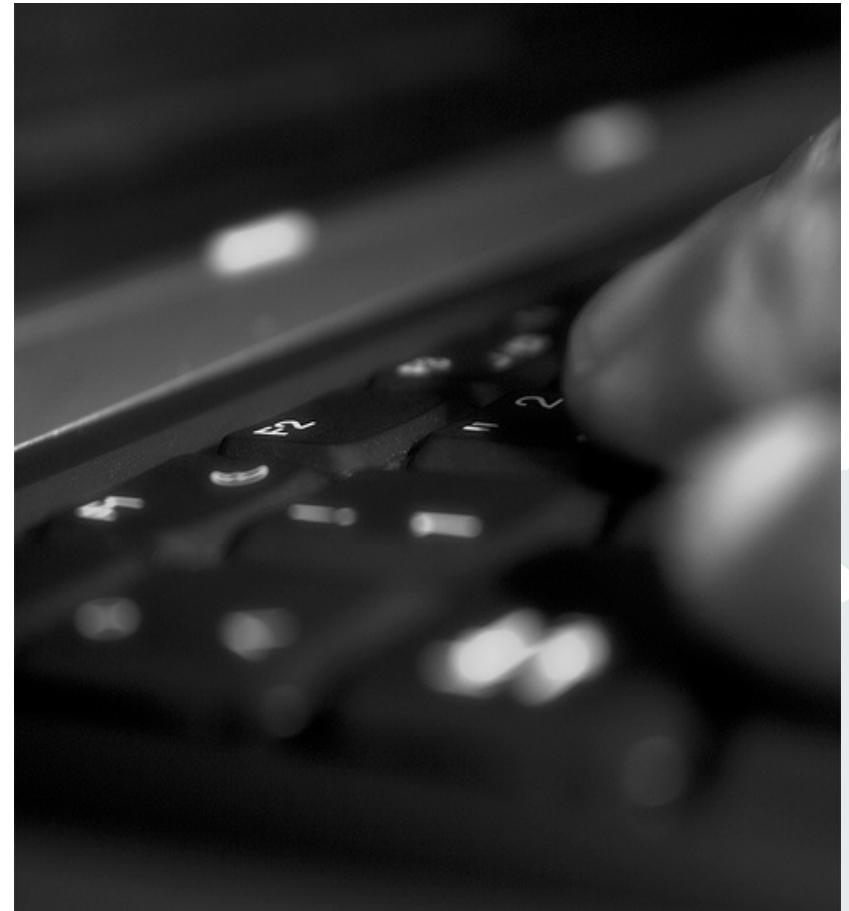


Mentorium
Business Informatics 2 (PWIN)

Information Systems II, III
WS 2019

Ann-Kristin Lieberknecht
www.m-chair.de



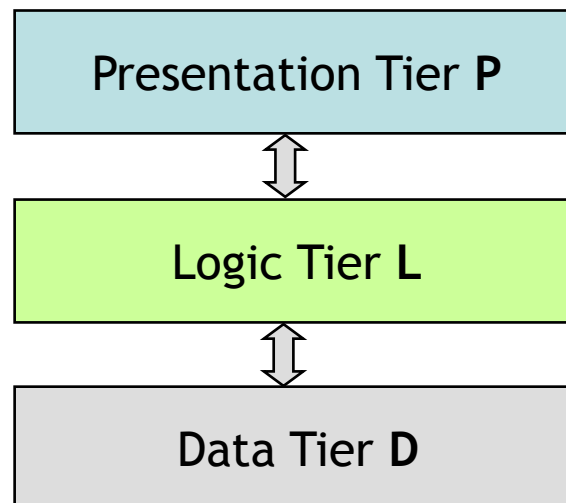
Jenser (Flickr.com)

- Exercise 1: Models for the architecture of Information Systems
- Exercise 2: Mobile Infrastructure and Ecosystem - Types of Apps
- Exercise 3: Mobile Infrastructure and Ecosystem - GSM
- Exercise 4: Mobile Information Systems - General
- Exercise 5: Mobile Information Systems - Platform markets

Exercise 1: Architecture Models

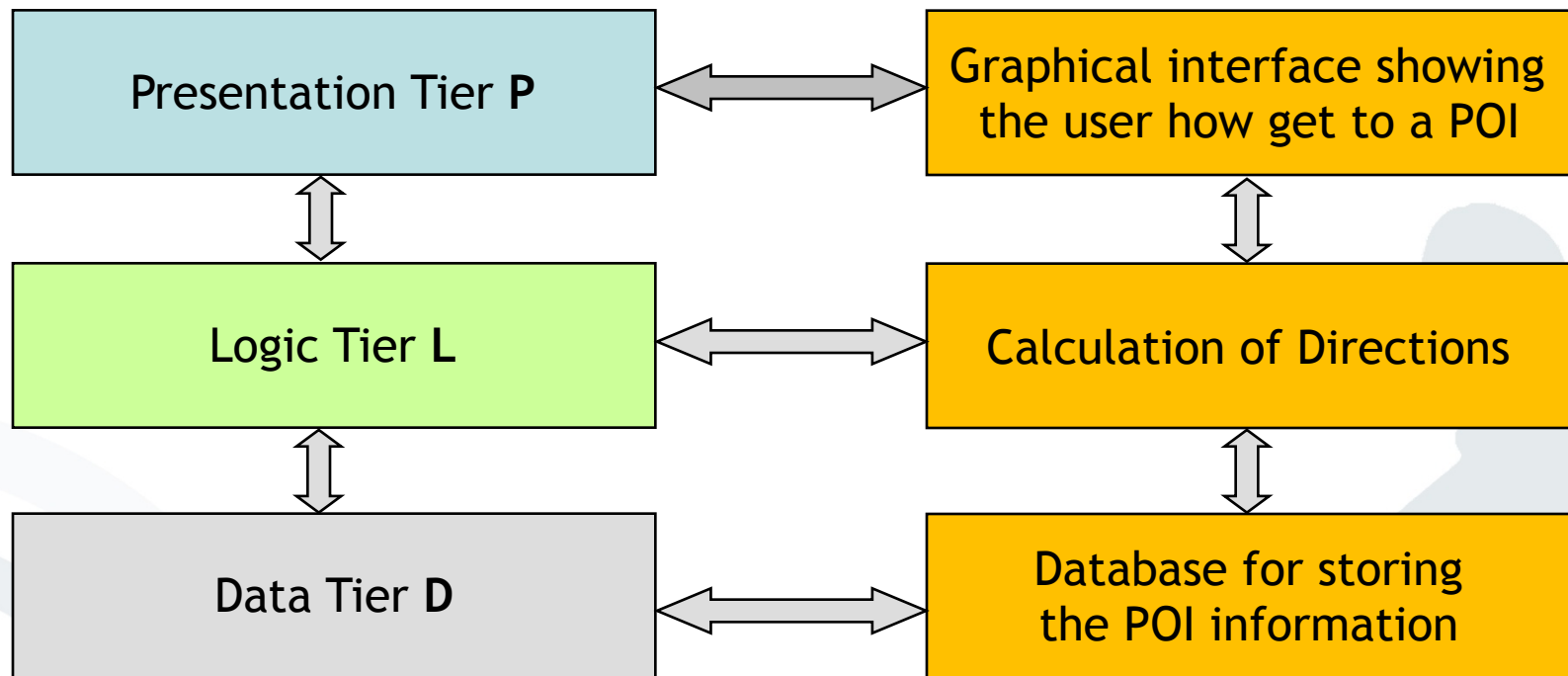
Please determine to which component the following MyPlace elements belong in the three-tier concept:

- The database for storing the POI information
- The graphical interface showing the user how get to a POI
- The software module calculating the directions from the location of the user to the POI.



Exercise 1: Architecture Models

Three-tier concept



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Exercise 2: Types of Apps

Please name three reasons why MyPlace should go for a native app instead of a web app.

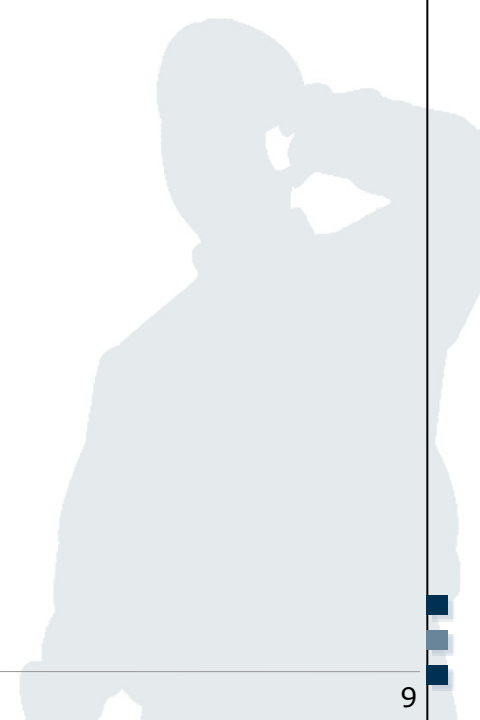
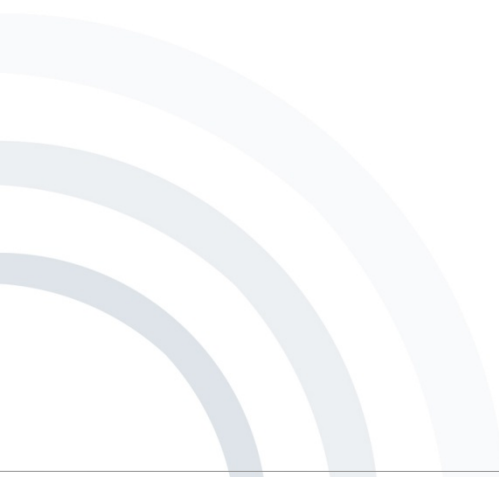
Exercise 2: Types of Apps

Mobile app (“native App”)	Mobile web app
Supports offline use	Needs constant internet connectivity (network coverage)
Can be found easily in app store(s)	Distribution via URL, e.g. QR-codes
Business model: Sold in app store(s)	Difficult to implement payment and authentication system
Can make use of all OS and device functions	Cannot access OS core functions (e.g. 3D graphic processing or access to locally protected storage)
Needs to be platform-specific (native code)	Using web browser of the device, hence manufacturer-independent multi-platform support possible; also porting to other devices/platforms is less expensive
Based on Objective-C, C#.Net, Java	Based on HTML5, CSS, Javascript
Updates/versioning through app stores	Easy updates as they are done on the server, not on every client device

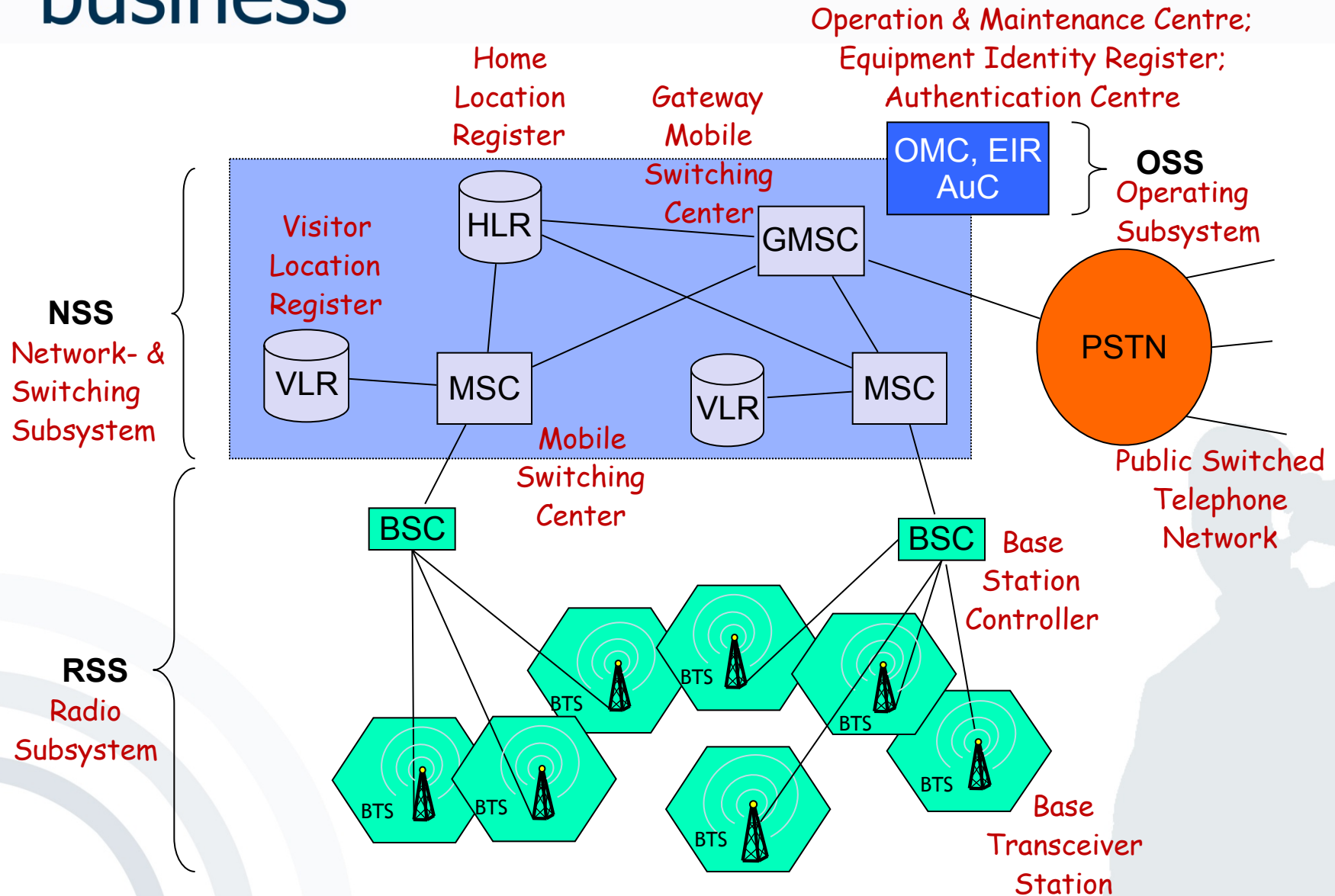
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Exercise 3: GSM

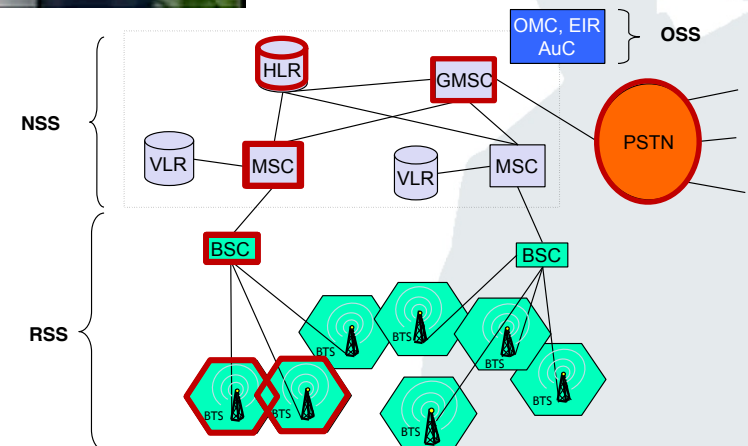
Briefly explain how a phone call in GSM (Global System for Mobile Communications) networks works.



Exercise 3: GSM



Based on [Schiller2003]




Source: https://www.youtube.com/watch?v=kno6nx_1ID8

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- a) Please explain the following characteristics of Mobile Tech and why they do or do not matter for myPlace:
- Time and Location Independence
 - Location Awareness
 - Personal Nature
 - Always On
 - Limited I/O Capabilities
- b) How is Contextual targeting related to MyPlace? Discuss the area of conflict between the benefit of the MyPlace service collecting context information about users and the demand of users to maintain their privacy.

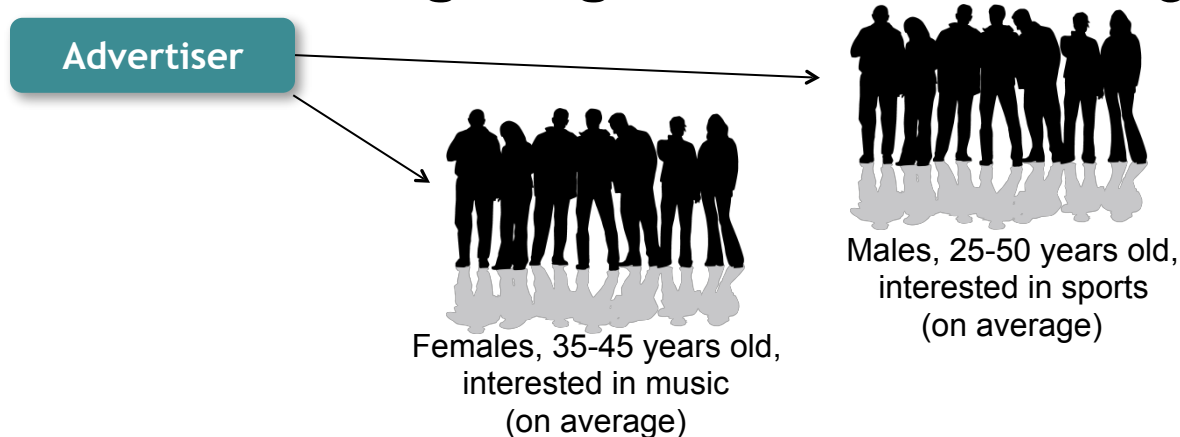
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- Time and Location Independence
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 I/O = Input/Output

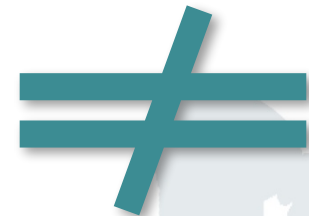
- b) How is Contextual targeting related to MyPlace? Discuss the area of conflict between the benefit of the MyPlace service collecting context information about users and the demand of users to maintain their privacy.

Traditional targeting of mobile marketing campaigns

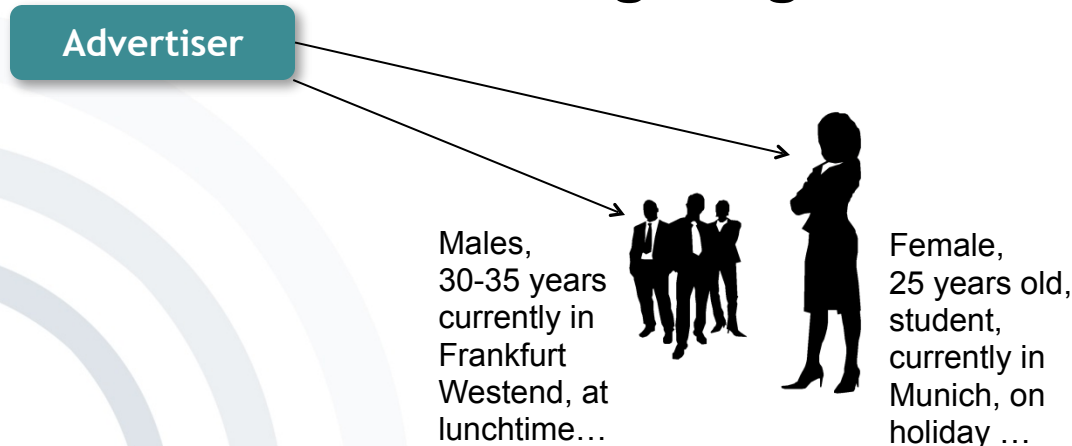


Traditional Information

- Implicit information about preferences of mobile users
- Typically acquired without mobile user's knowledge



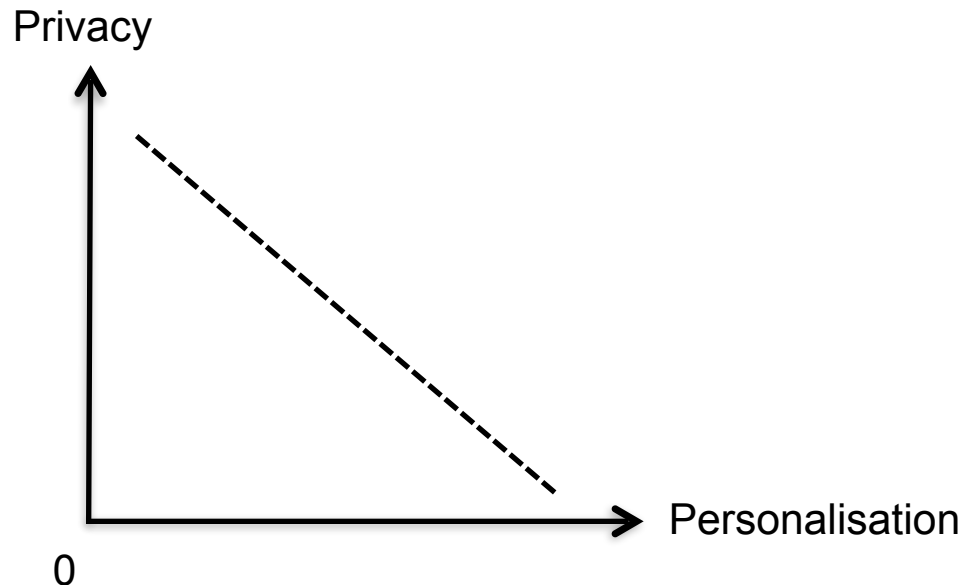
Context-sensitive targeting of mobile marketing campaigns



Context Information

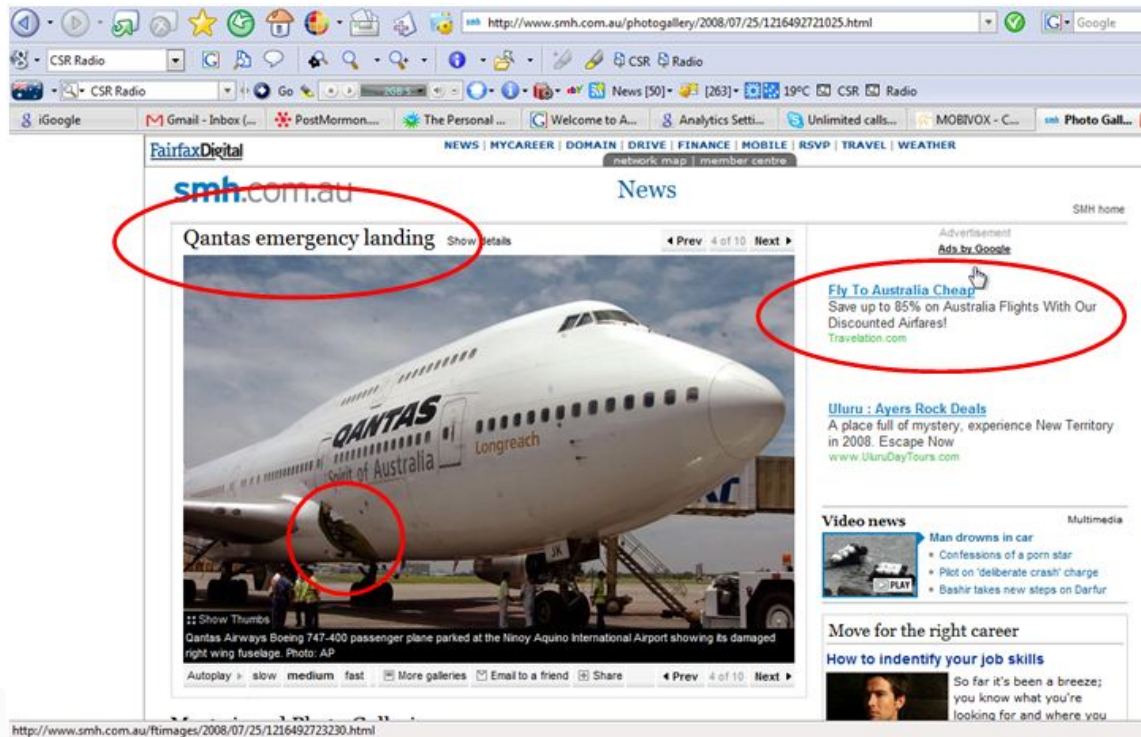
- Explicit information about the usage situation of mobile users
- To be actively disclosed by mobile users

- Trade-Off between Service Personalisation and User Privacy



- User should be in control of his data: Identity Management.

Targeted Ads gone wrong



Source: <http://propr.ca/wp-content/uploads/2009/01/qantas-090120.jpg>

Targeted Ads gone wrong (2)

Shooting reported at Holocaust Museum in Washington


updated 7 minutes ago

STORY HIGHLIGHTS

- Police say there is one suspect in shooting, who is contained
- Fire official says at least two people were wounded
- Incident occurred at or near Holocaust Memorial Museum in Washington

[Next Article in Crime >](#)

WASHINGTON (CNN) -- Gunfire at or around the U.S. Holocaust Memorial Museum on Wednesday wounded at least one person, a D.C. Fire department official said.



Gunfire was reported near the Holocaust Museum in Washington on Wednesday.

Allen Etter, the fire department spokesman, said another person also was injured, but it wasn't clear whether that was from gunfire.

Emergency vehicles converged on the scene near the Capitol Mall.

According to U.S. Park Police spokesman David Schlosser, there is one shooting suspect, and he thinks this person is contained.

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50	\$45.06	\$38.06
55	\$77.00	\$56.88

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Most Popular on CNN

Source: <http://www.divinecaroline.com/>

Targeted Ads gone wrong (3)



Source: http://purethinking.typepad.com/pure_thinking_a_streamofc/2009/08/targeted-ads-gone-bad.html

Targeted Ads gone wrong (4)

The screenshot shows a Yahoo! News page with the headline "Body parts delivered to Michigan home" circled in red. The article text describes how two packages containing human body parts (a liver and a head) were mistakenly delivered to a home in Cascade Township, Michigan, instead of a medical research lab. A handwritten note on the UPS shipping label, also circled in red, reads: "It's UPS early morning delivery." and "« Rollover for video." The source is cited as Yahoo.com.

YAHOO! NEWS Welcome, [Name] [Sign Out] [My Account] [News Home](#) [Help](#)

Home U.S. Business World Entertainment Sports Tech Politics Science Health Travel Most Popular

Photos Opinion Local News Odd News Comics Weather Full Coverage Video/Audio You Witness News Site Index

Search: All News Search Advanced

Body parts delivered to Michigan home **AP** Associated Press

ELSEWHERE ON THE WEB 1 hour, 22 minutes ago

CNN.COM
Roadside bombs target Iraqi police, officials say

ABC NEWS
In Wealthy Santa Barbara, Some Call a Parking Lot 'Home'

THE CHRISTIAN SCIENCE MONITOR
Need barbed wire? Try the concierge.

CNN.COM
Offbeat News
Get the latest news, photos and video of the funky, and weird.
» More at CNN.com

USATODAY.COM
Offbeat Digest
Latest news on the strange, quirky and just plain odd.
» More at USATODAY.com

CASCADE TOWNSHIP, Mich. - Two packages containing human body parts — including a liver and part of a head — meant for a medical research lab instead were delivered to a home.

The body parts, sent from China, were mistakenly dropped off Thursday at Franck and Ludvine Larmande's home by a DHL express driver who believed the bubble-wrapped items were pieces to a table.

"My husband started to unwrap one and said, 'This is strange, it looks like a liver,'" Ludvine Larmande said. "He started the second one, but stopped as soon as we saw the ear."

"Something wasn't right. It was scary, and I'm glad I didn't open them."

The couple called Kent County sheriff's deputies, who determined the preserved body parts were for medical research, Lt. Roger Parent said.

Authorities believe 28 more bubble-wrapped human organs and body parts could be dispersed across the country, The Grand Rapids Press reported. Two of five packages headed to the northern Michigan lab broke open, scattering their contents.

"There will definitely be a shock to people if they see these things, but there is no hazard to health," Parent said.

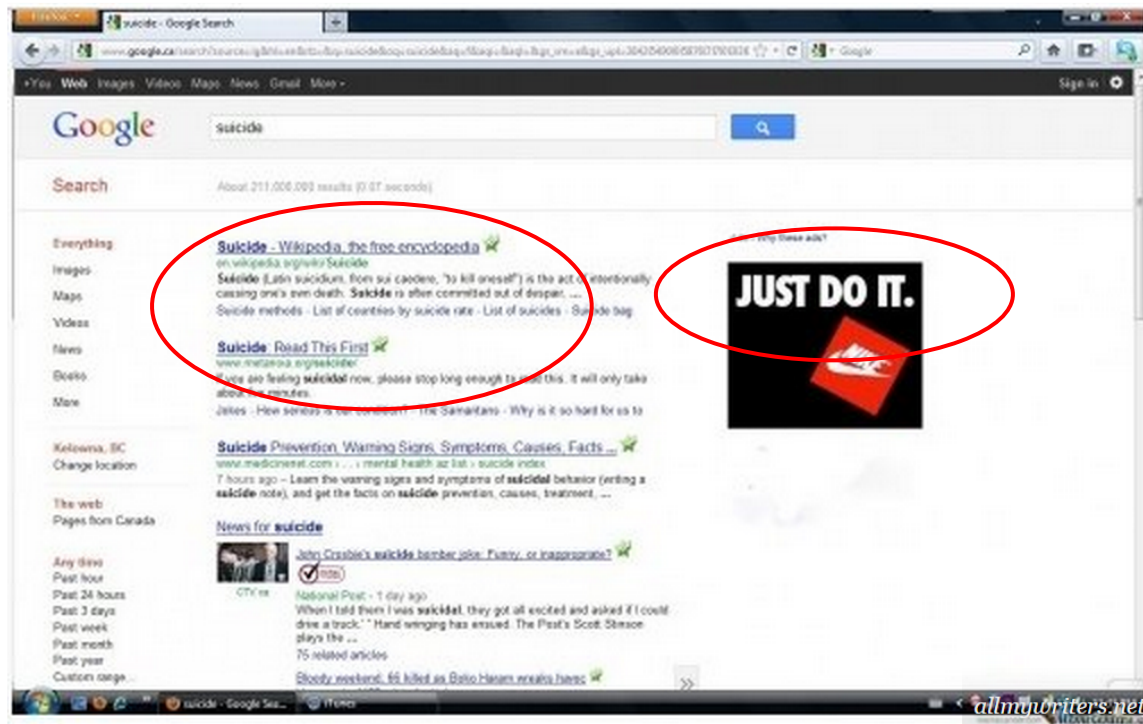
ups

It's UPS early morning delivery.

« Rollover for video.

Source: Yahoo.com

Targeted Ads gone wrong (5)



Source: Google.com

And one more - Targeted Ads gone wrong (6)

<http://www.chicagotribune.com/news/nationworld/chi-0504250109apr25,1,4214950.story?coll=chi-newsnation>

ACROSS THE NATION

**Skydiver dies after
legs severed in
midair**

Items compiled from Tribune news services
Published April 25, 2005

DeLAND, FLORIDA -- A skydiving cinematographer was killed after his legs were severed in a midair collision with the airplane he had jumped from, authorities said.

Albert "Gus" Wing III, 50, had deployed his parachute Saturday when he struck the left wing of the DHC-6 Twin Otter propeller plane at about 600 feet, a witness on the ground told police.

Both of Wing's legs were severed at the knees.

He was airlifted to a hospital, where he died, DeLand Police Cmdr. Randel Henderson said.



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Exercise 5: Platform markets

- a) Use the example of the Apple app store to explain platform markets and the effects taking place.
- b) What is the difficulty in building platform markets and what are possible solutions?
- c) Show why Google can be considered as a platform market.
- d) What is the main difference in the business model of Apple and Google?

Exercise 5: Platform markets

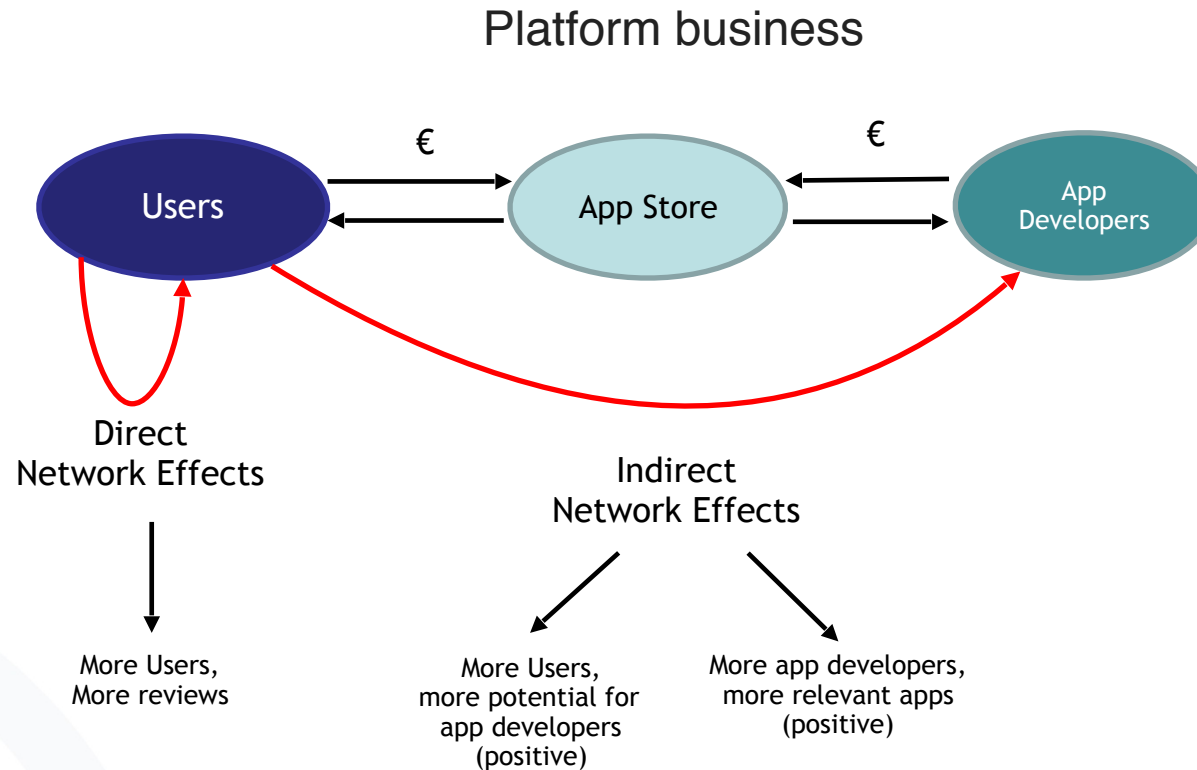
- a) Use the example of the Apple app store to explain platform markets and the effects taking place.

Exercise 5: Platform markets

- Mobile App distribution through **App Marketplaces** (“App Stores”)
- App Markets are two-sided markets - a platform where developers publish their apps and customers/users can buy/download them
- Payment, hosting, maintenance and marketing is conducted by the App Market provider



Exercise 5: Platform markets



Exercise 5: Platform markets

- b) What is the difficulty in building platform markets and what are possible solutions?

Exercise 5: Platform markets

- Chicken & Egg problem
 - Critical mass of participants on one market needed in order to attract participants on other market
 - Chicken & Egg problem
- Ways to address the Chicken & Egg problem
 - Incentivize one side
 - Provide sufficient value to get one side already on-board
 - Make consumers also producers
 - Strategic Partners
 - ...

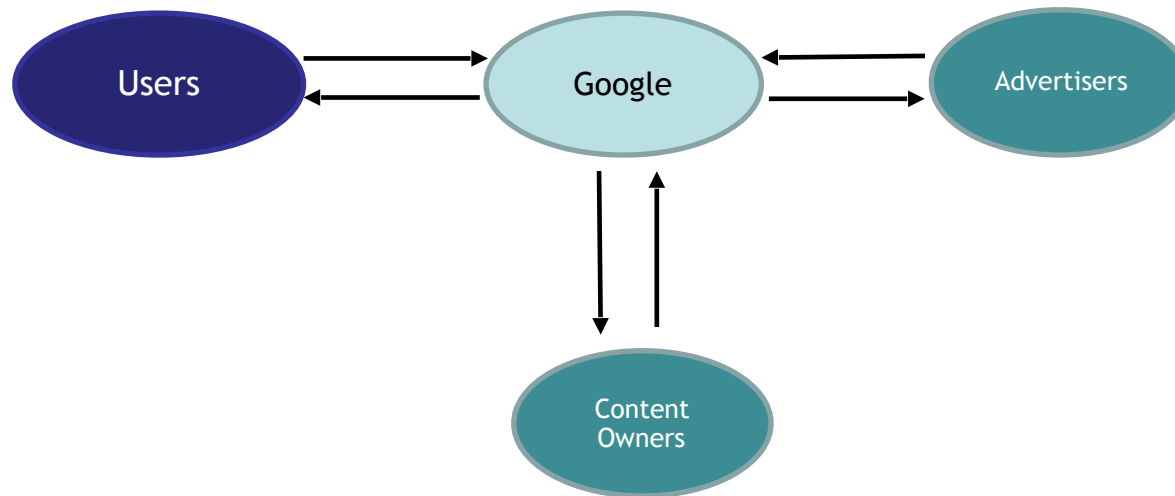


Exercise 5: Platform markets

- c) Show why Google can be considered as a platform market.

Exercise 5: Platform markets

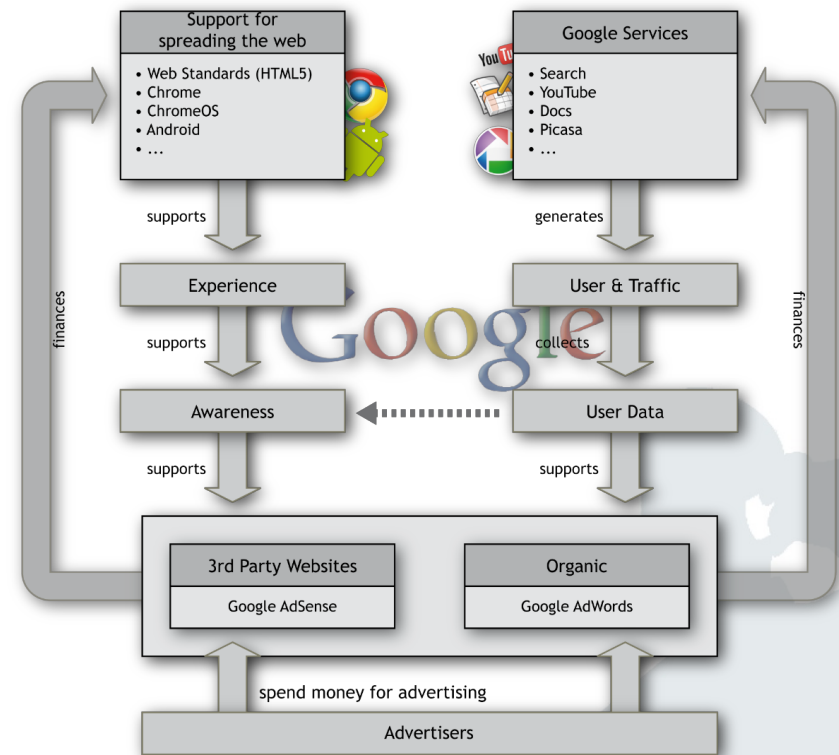
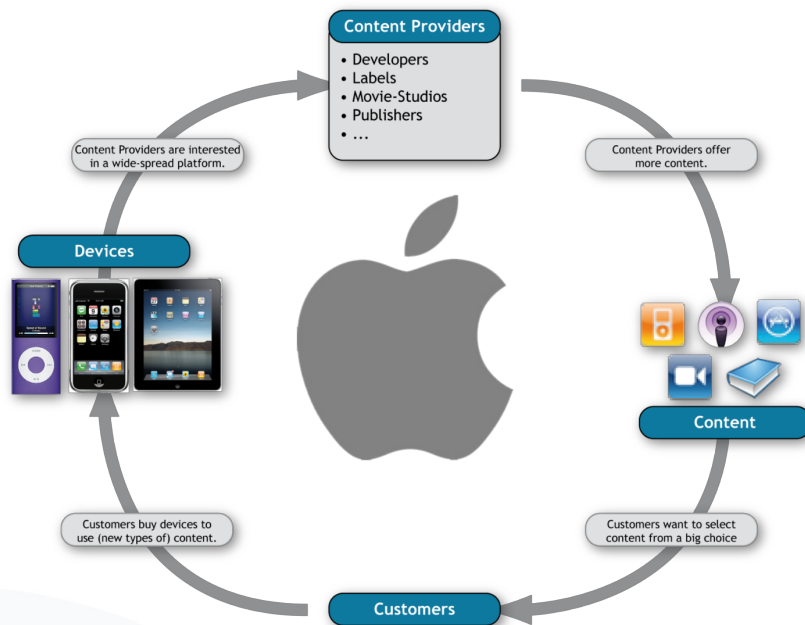
Platform business



Exercise 5: Platform markets

- d) What is the main difference in the business model of Apple and Google?

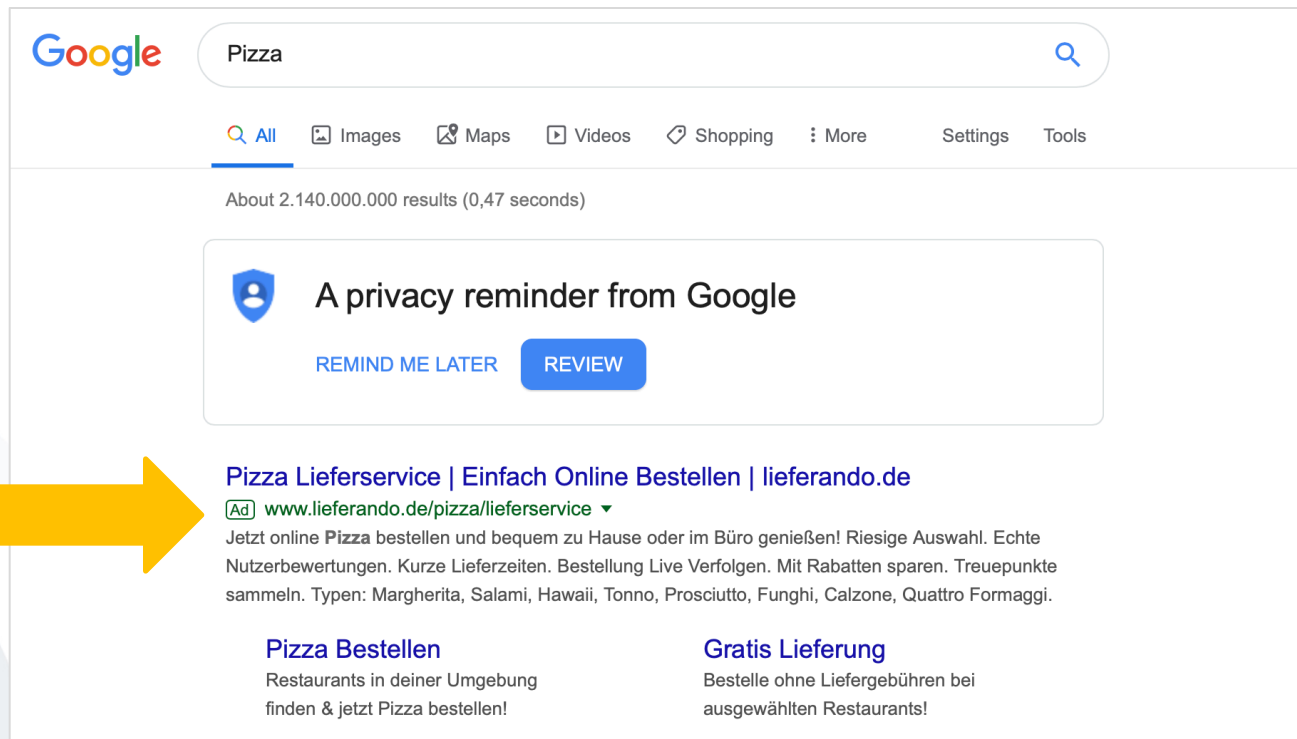
Exercise 5: Platform markets



- Both offer certain services (e.g. icloud, Google Drive)
- Yet, while Google's services are generally for free, Apple often charges customers a certain amount.

Exercise 5: Platform markets

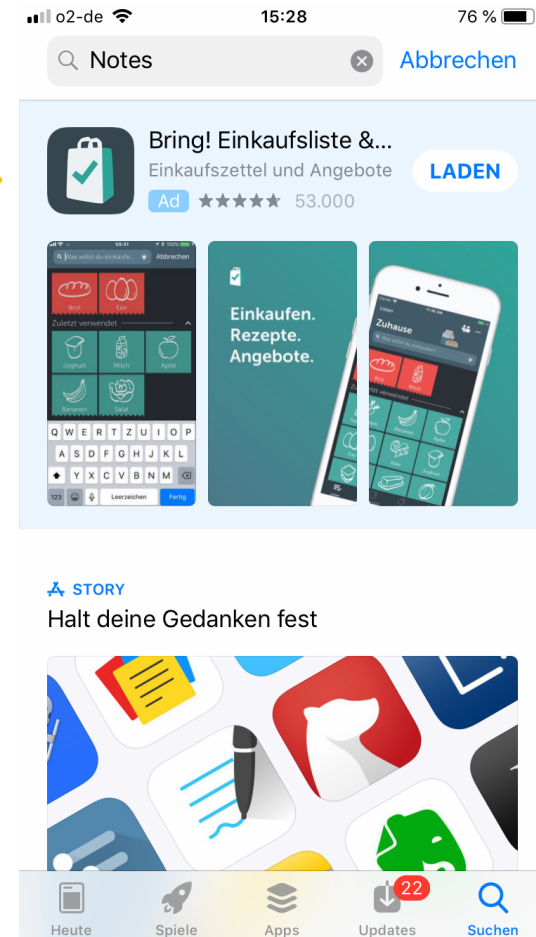
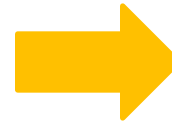
- Google creates the main part of its revenues by providing user information to advertisers and giving them a platform for their ads.



The screenshot shows a Google search interface with the query 'Pizza'. Below the search bar, there are navigation links for All, Images, Maps, Videos, Shopping, More, Settings, and Tools. The search results indicate 'About 2.140.000.000 results (0,47 seconds)'. A privacy reminder from Google is displayed, with buttons for 'REMIND ME LATER' and 'REVIEW'. The main search result is an advertisement for 'Pizza Lieferservice | Einfach Online Bestellen | lieferando.de'. The ad includes the URL 'www.lieferando.de/pizza/lieferservice' and a description: 'Jetzt online Pizza bestellen und bequem zu Hause oder im Büro genießen! Riesige Auswahl. Echte Nutzerbewertungen. Kurze Lieferzeiten. Bestellung Live Verfolgen. Mit Rabatten sparen. Treuepunkte sammeln. Typen: Margherita, Salami, Hawaii, Tonno, Prosciutto, Funghi, Calzone, Quattro Formaggi.' Below the ad, there are two sections: 'Pizza Bestellen' with the text 'Restaurants in deiner Umgebung finden & jetzt Pizza bestellen!' and 'Gratis Lieferung' with the text 'Bestelle ohne Liefergebühren bei ausgewählten Restaurants!'.

Exercise 5: Platform markets

- Apple also creates revenues through advertisement, but not to the same extend.

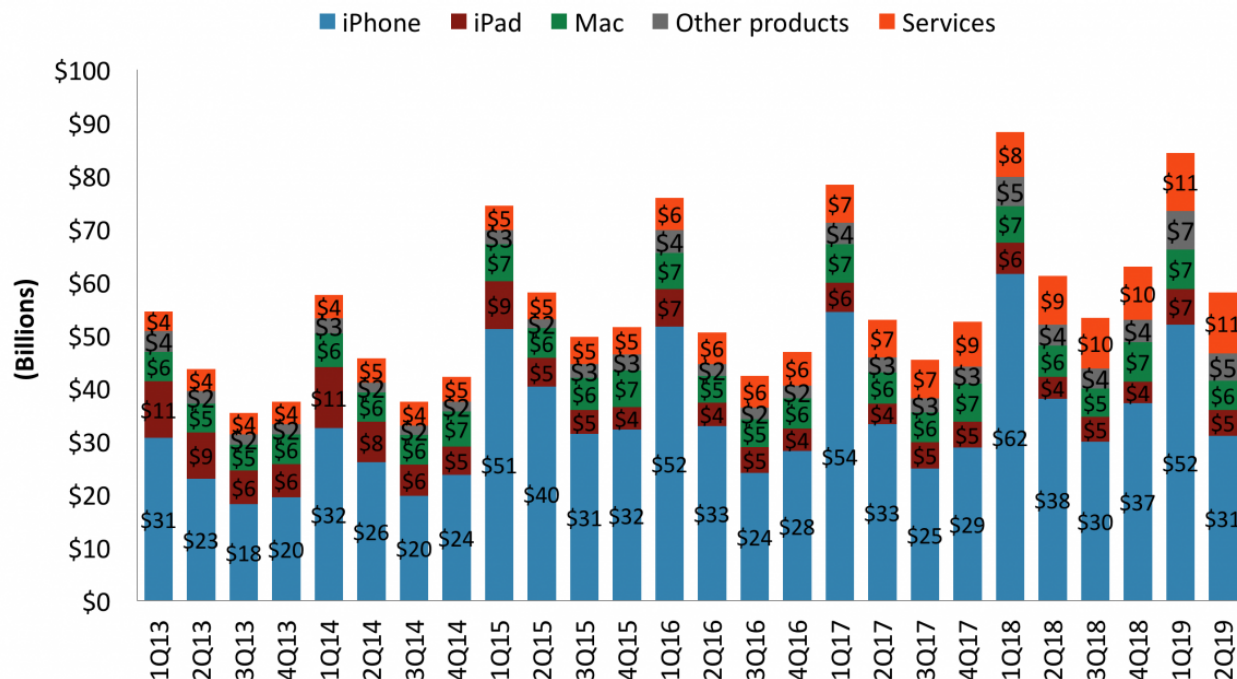


Exercise 5: Platform markets

- Apple creates a major part of its revenues by selling hardware.

Apple Quarterly Revenue, By Product Segment

Global, in billions



Source: <https://www.businessinsider.com.au/apple-stock-on-a-327-billion-rally-after-iphone-sales-2019-5>

Components of the Course

Information Systems

Purpose of and Research on Information Systems ✓

Enterprise Modelling ✓

Architectures of Information Systems ✓

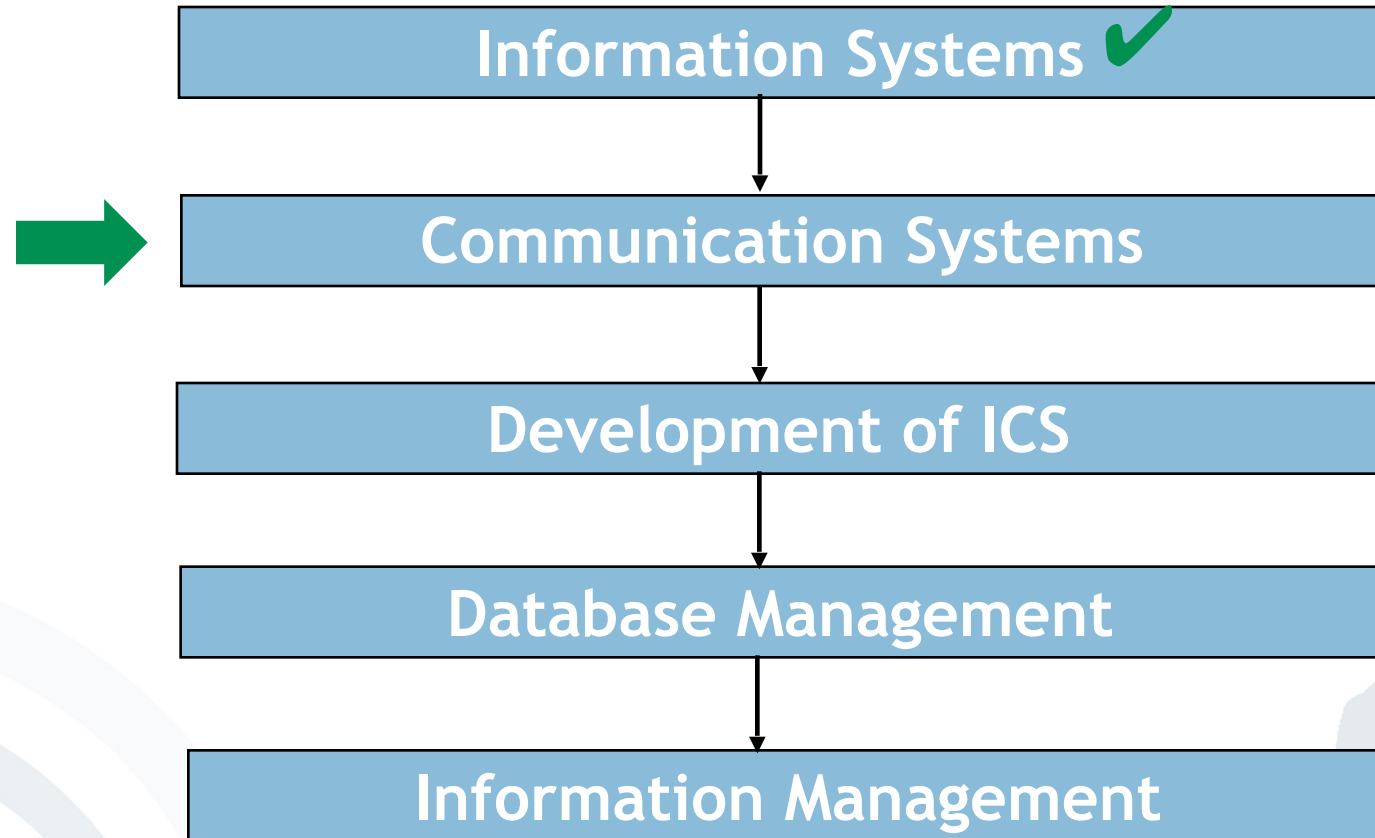
Mobile Information Systems ✓

By now you should be able to:

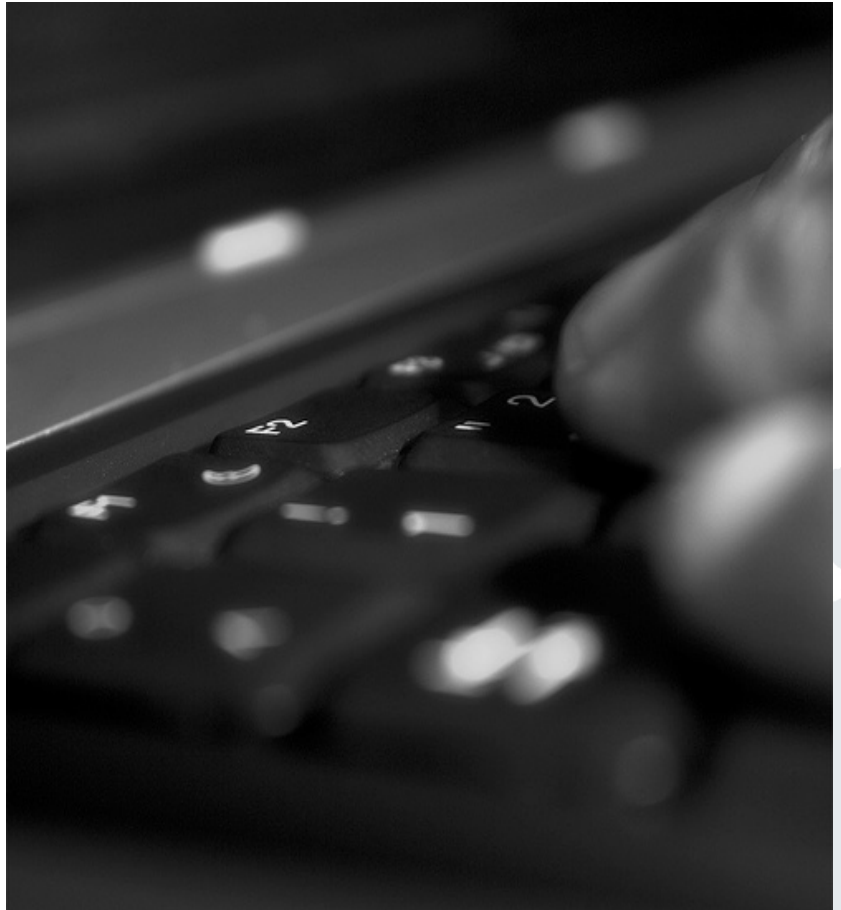
- Explain the structural models for IS Architecture (three-tier and model view controller)
- Describe the characteristics of the IS architecture concepts (central server, cloud, etc.) and how they work
- Understand the mobile information system, infrastructure and ecosystem

→ Apply your knowledge!





Thank you!



Jenser (Flickr.com)