

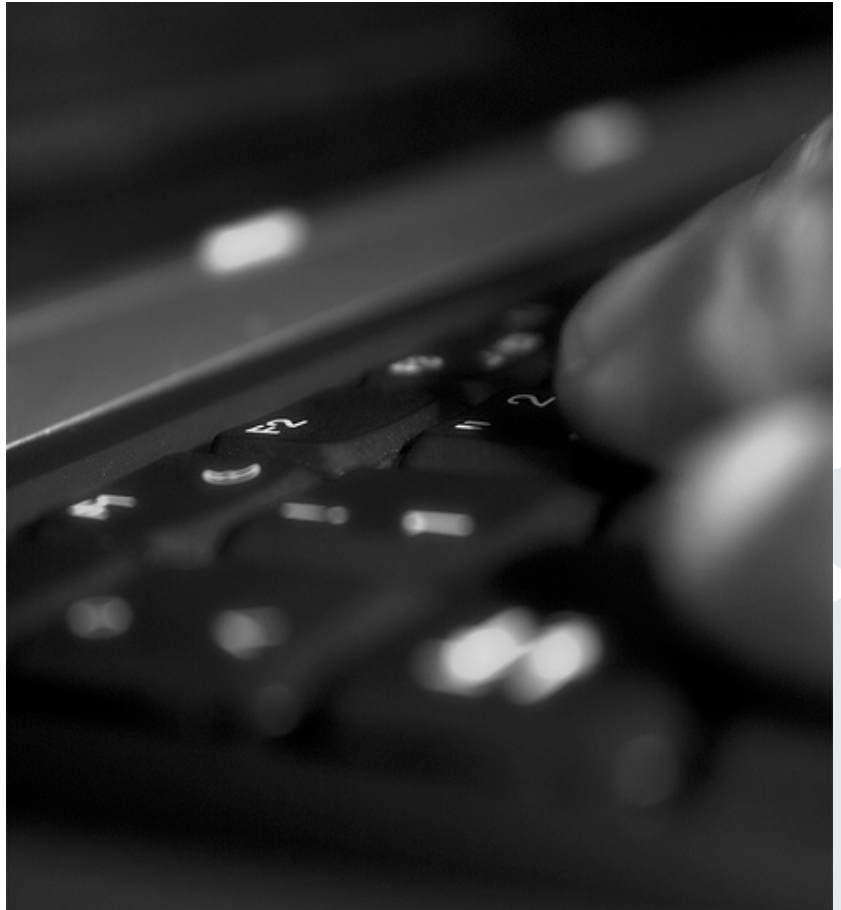
Mentorium

Business Informatics 2 (PWIN)

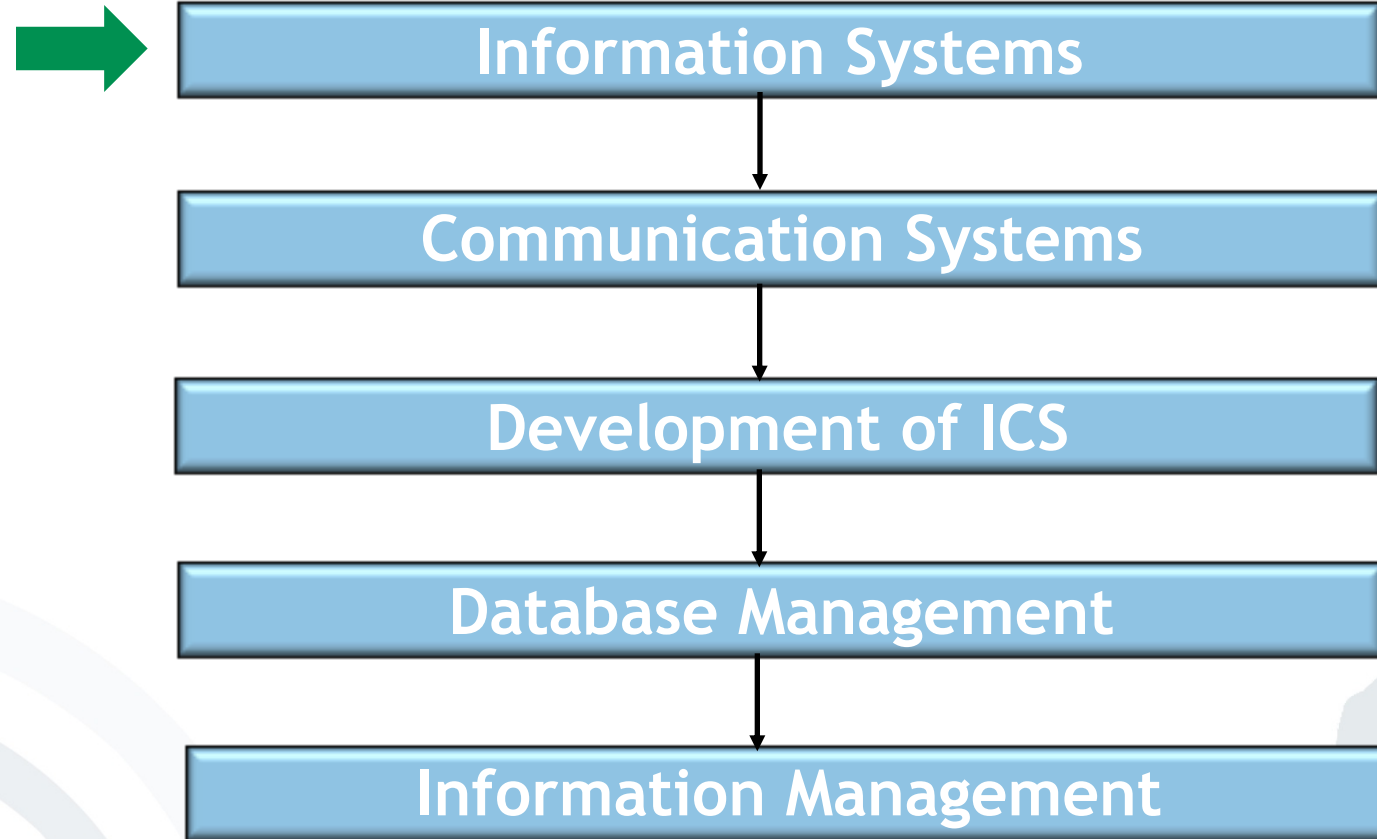
Information Systems II, III
SS 2021

Frédéric Tronnier

www.m-chair.de



Jenser (Flickr.com)



Information Systems

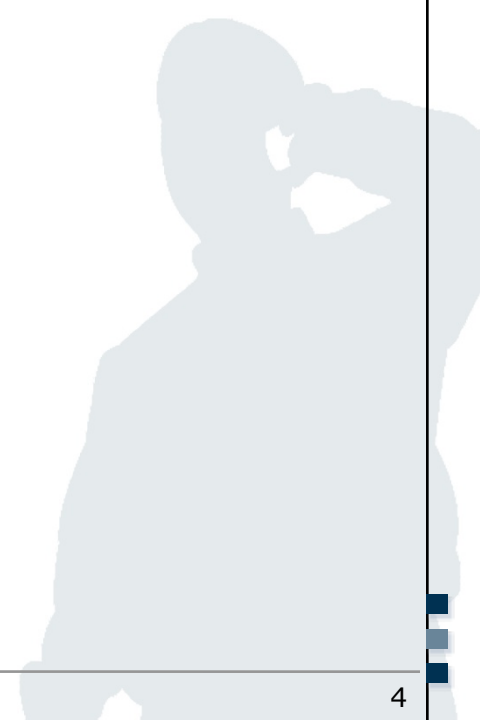
Purpose of and Research on Information Systems ✓

Enterprise Modelling ✓

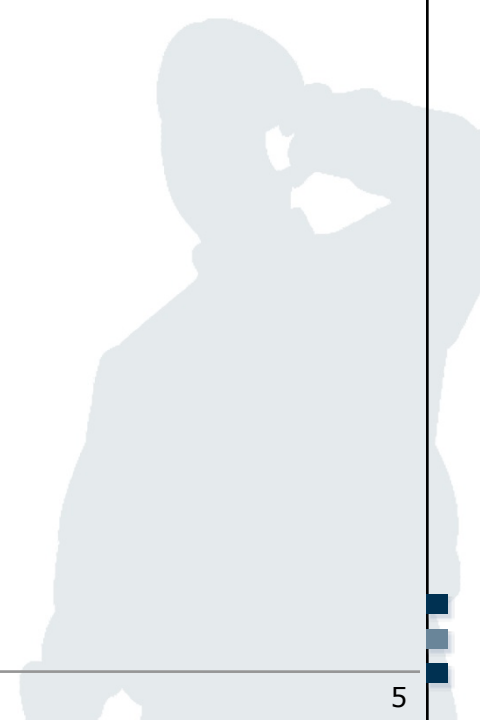
Architectures of Information Systems

Mobile Information Systems

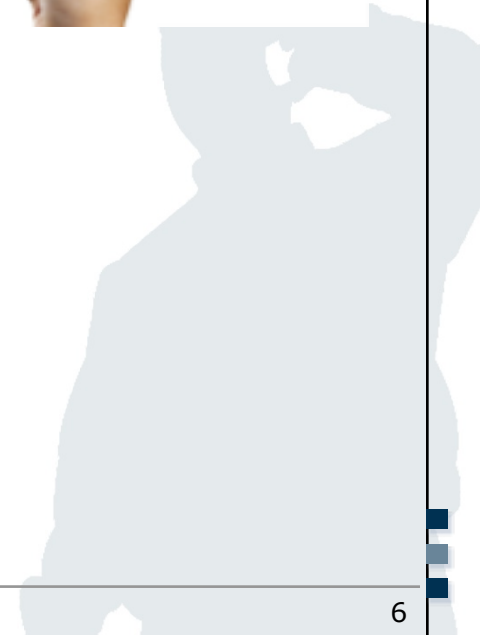
- IS Architecture Concepts
- Mobile Infrastructure and Ecosystem
- Mobile Information Systems



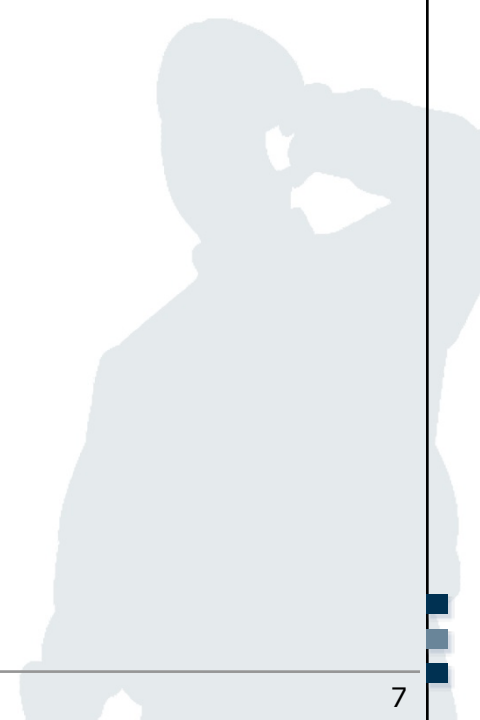
- Please name three main characteristics of cloud computing.



- Main Characteristics
 - Self-Service (via Web or API Access)
 - Elastic Resources (Resources on Demand)
 - Pay-as-you-Go (CAPEX to OPEX)

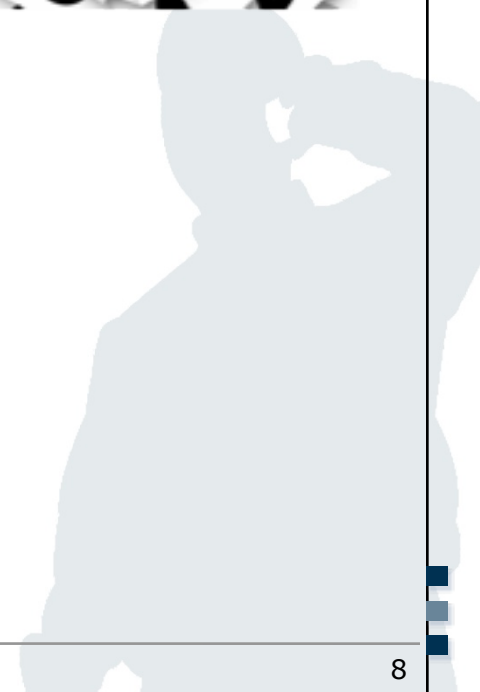


- What are issues to consider when working with cloud computing?

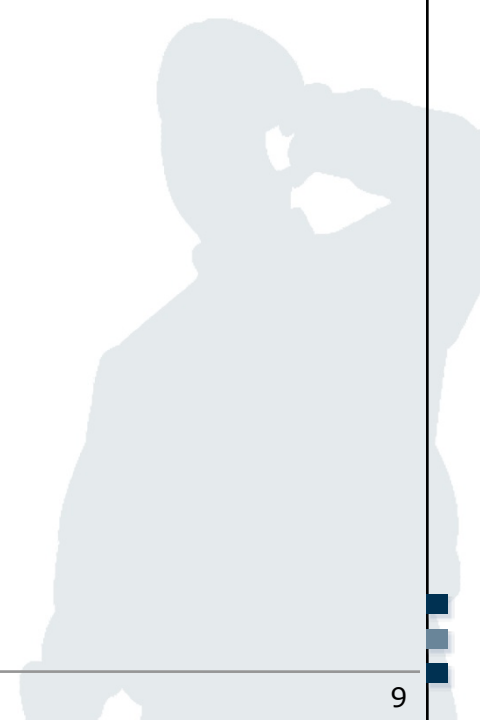


Issues to consider/address:

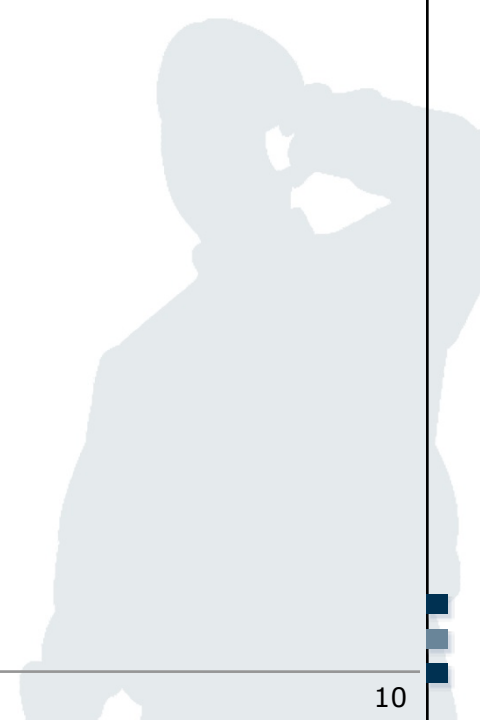
- Data Privacy
- Vendor Lock-in
- Cost Transparency
- Required IT Skills
- Required network connection and bandwidth
- Service Level Agreements & Monitoring
- NSA & Co.
- ...



- IS Architecture Concepts
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- What is an Operating System? Please name its two objectives.



What is a mobile operating system (OS)?

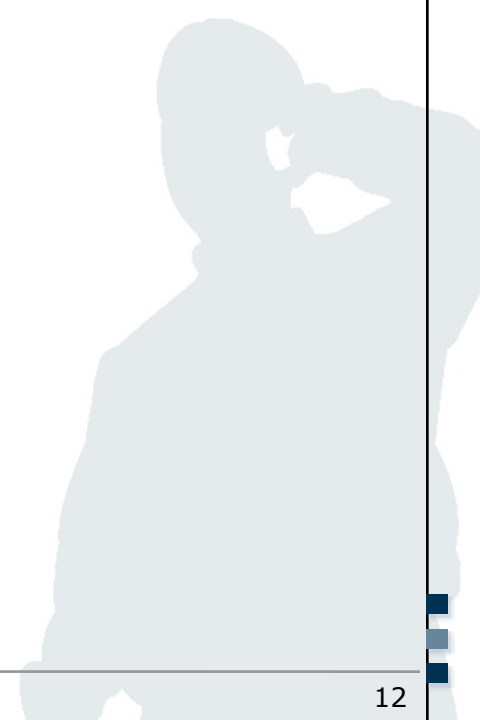
- An OS is a program that serves as a mediator between the user and the hardware.
- It enables the users to execute programs
- *Other properties:* Multi-user, multi-thread, high availability, real-time, ...

- ***Primary goal of an OS:*** Easy usage of the actual hardware
- ***Secondary goal of an OS:*** Efficient usage of the hardware



[Silberschatz, Galvin 1999]

- In some devices the next generation of SIM cards, eSIMS, are already implemented. Why do providers not approve this enhanced technology?



- NextGen SIM cards: eSIM Cards
 - Pre-installed in phone and (maybe) provider independent
 - Credentials are stored on the device.
 - Phone switching requires (more) effort, tracking gets easier



2FF - Mini SIM

Height: 25mm
Width: 15mm
Thickness: 0.76mm



3FF - Micro SIM

Height: 15mm
Width: 12mm
Thickness: 0.76mm



4FF - Nano SIM

Height: 12.3mm
Width: 8.8mm
Thickness: 0.67mm



MFF2 - M2M Form Factor (eSIM)

Height: 6.0mm
Width: 5.0mm
Thickness: 0.67mm



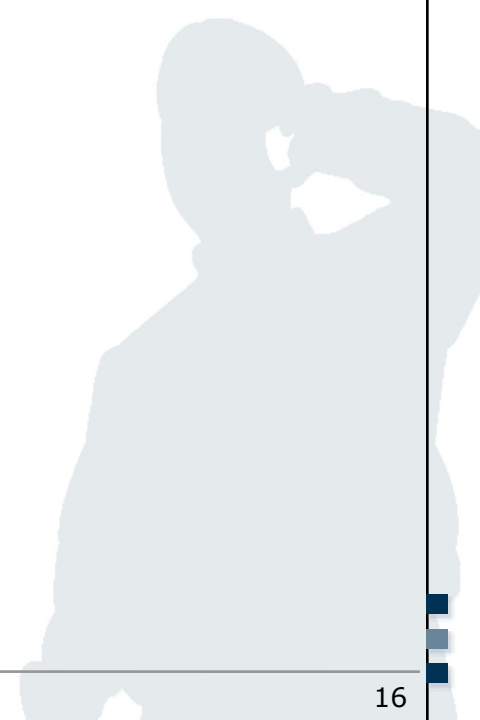
Native apps vs. web apps

- What are the differences between native mobile apps and web mobile apps in terms of updates, platform specificity, revenue model, distribution and offline support?
- Do you recommend myPlace to implement a native app or a web app? Why?

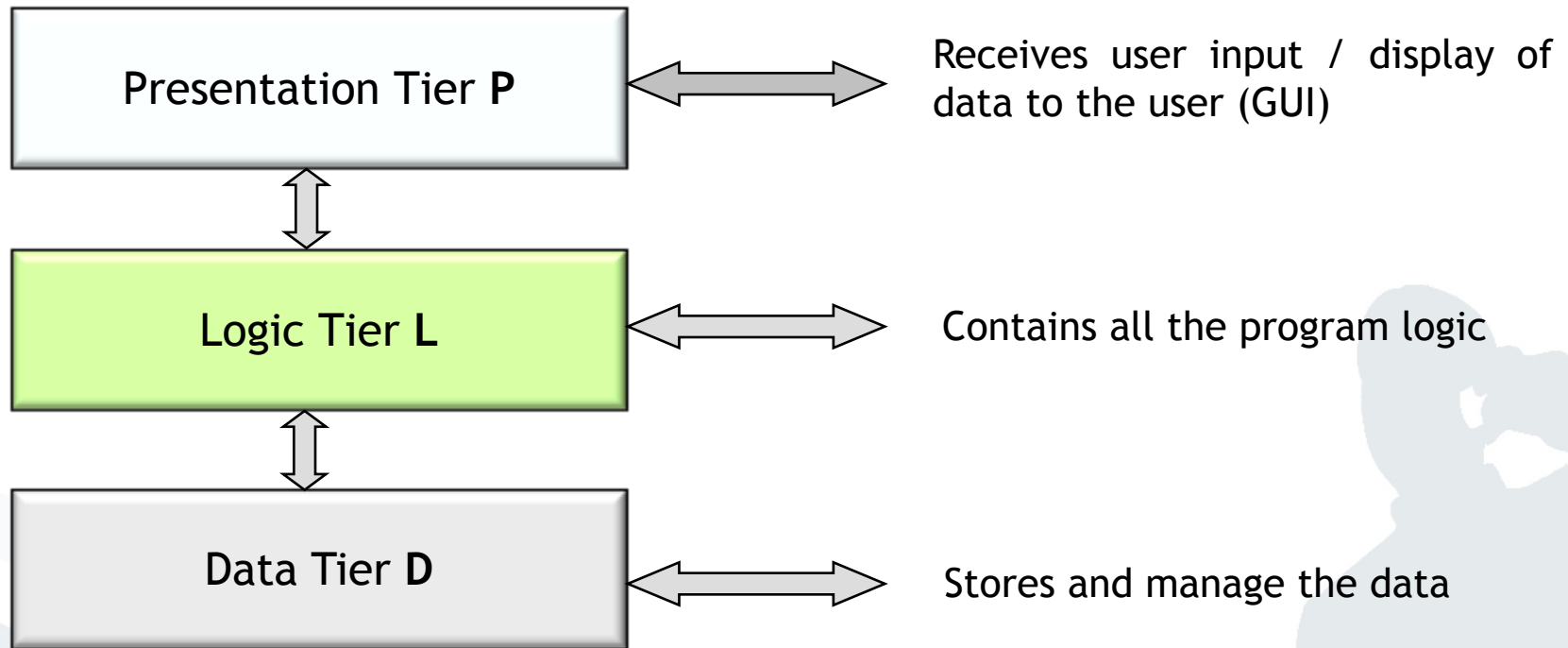
Native apps vs. web apps

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

- How are the presentation, logic and data tier distributed among the user and provider in
 - Mobile web apps
 - Mobile native apps?



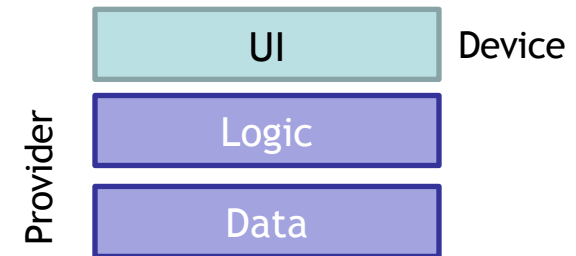
Three-Tier Concept in Apps



Three-Tier Concept in Apps

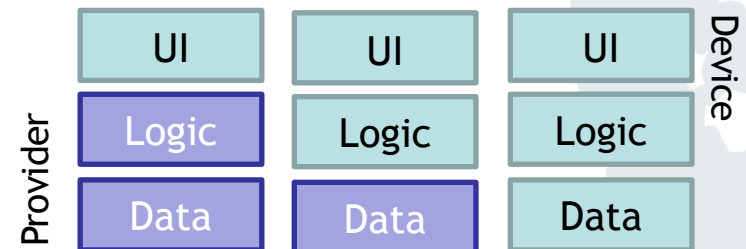
Mobile Web App

- App not installed on the device - UI runs in web browser
- Data & Logic of App runs at Provider



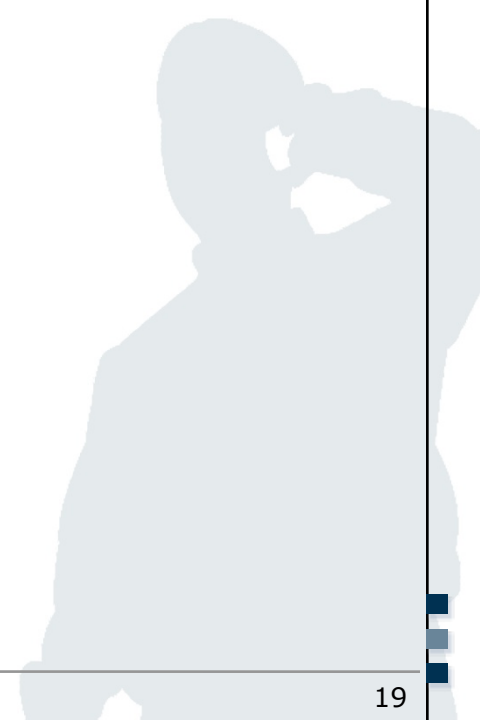
Mobile App (“Native App”)

- App is downloaded and installed
- Data & Logic on device (and/or in the cloud)



Native apps vs. web apps

- What are typical relationships between classic websites and apps? How is it for myPlace?



Native apps vs. web apps

- Simple Copies of classic Websites as App
- Apps extending current website or offline offerings
- Genuine Mobile Apps, which cannot live on a PC or Mac

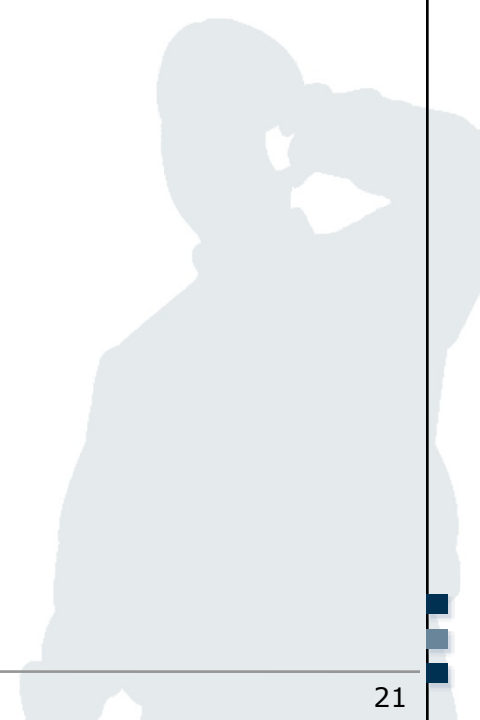
Web apps



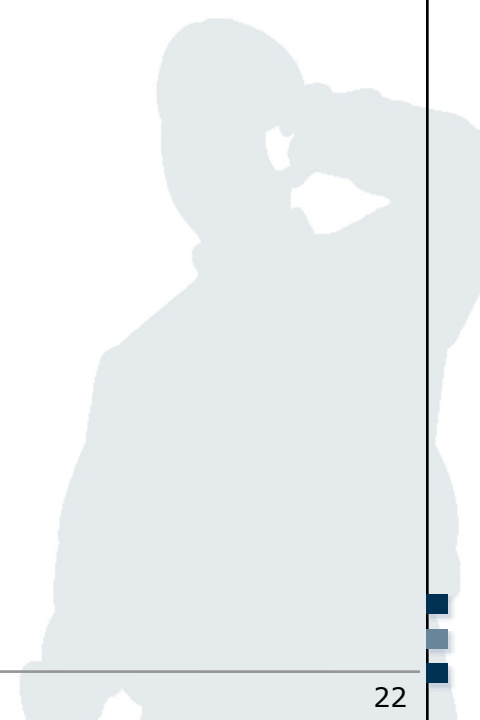
Native apps



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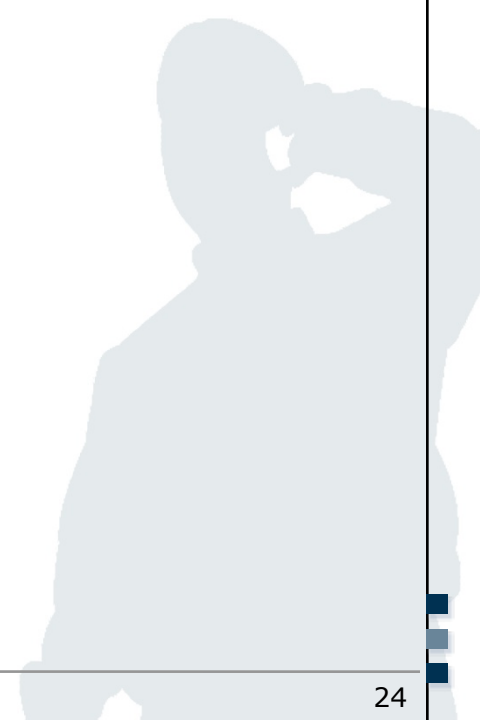


- Please explain the following characteristics of Mobile Tech and why they do or do not matter for myPlace:
 - Time and Location Independence
 - Location Awareness
 - Personal Nature
 - Always On
 - Limited I/O Capabilities

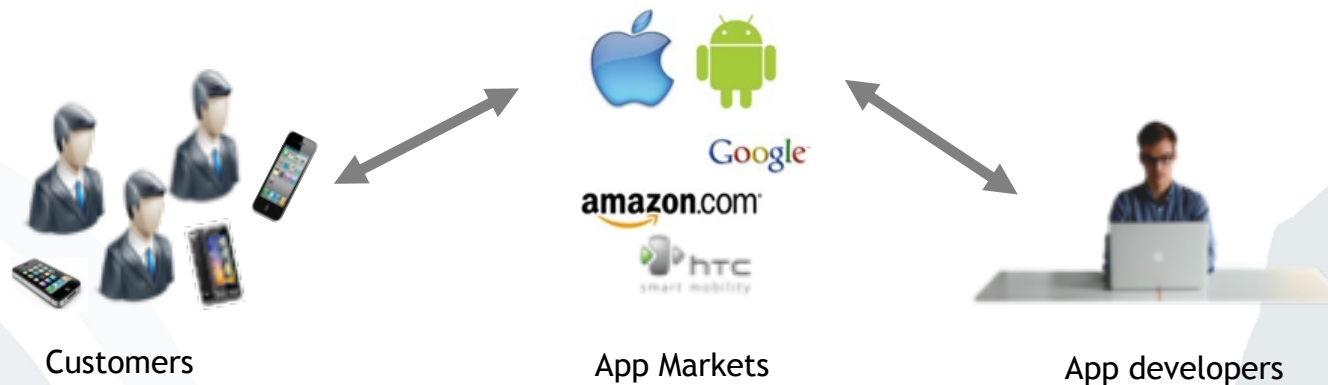


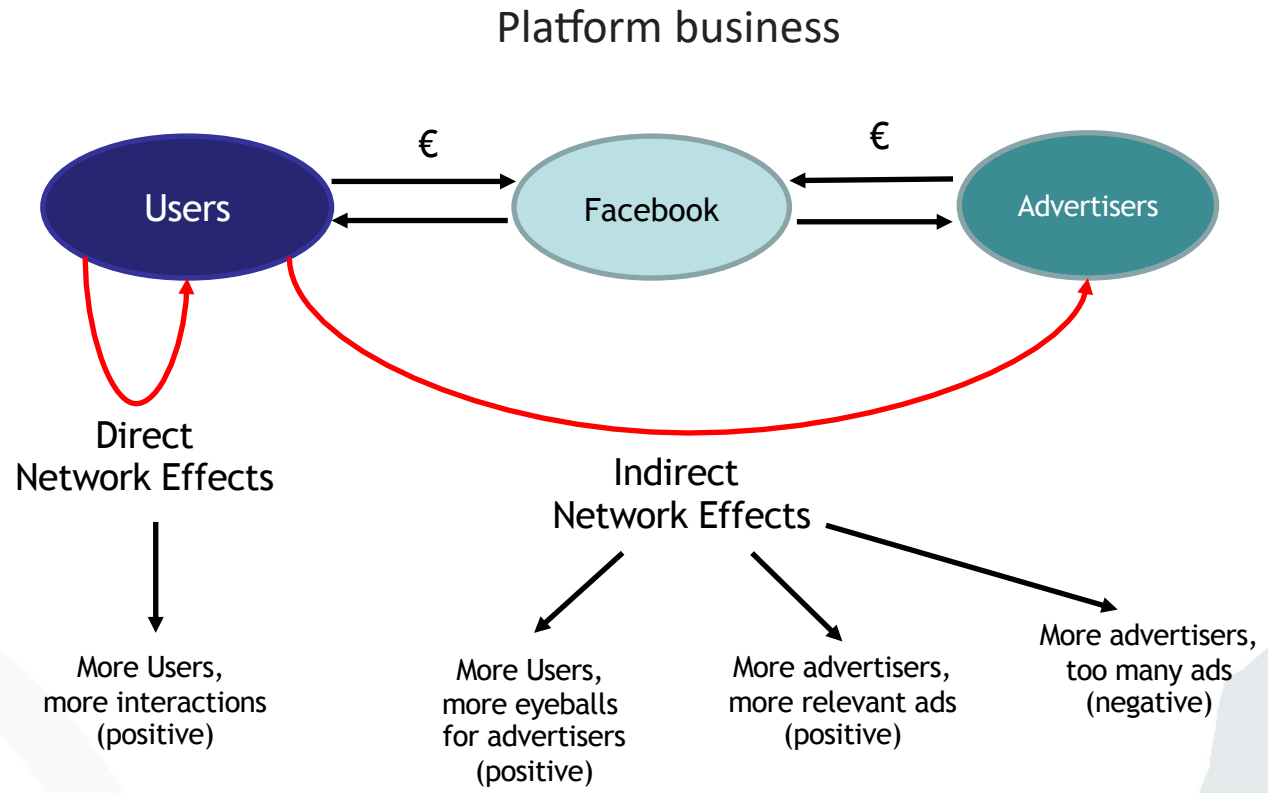
- Please explain the following characteristics of Mobile Tech and why they do or do not matter for myPlace:
 - Time and Location Independence → Essential
 - Location Awareness → Essential
 - Personal Nature → Important
 - Always On → To consider
 - Limited I/O Capabilities → To consider

- Use the example of app marketplaces to explain platform markets and the underlying principle they build on.

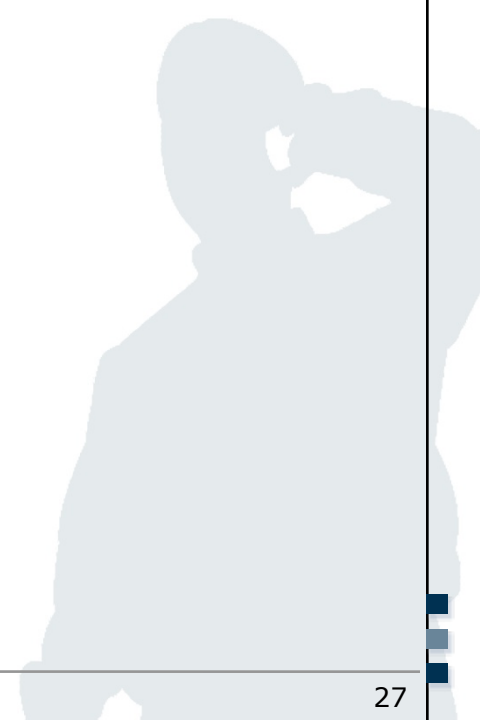


- Mobile App distribution through **App Marketplaces** (“App Stores”)
- App Markets are two-sided markets - a platform where developers publish their apps and customers/users can buy/download them
- Payment, hosting, maintenance and marketing is conducted by the App Market provider





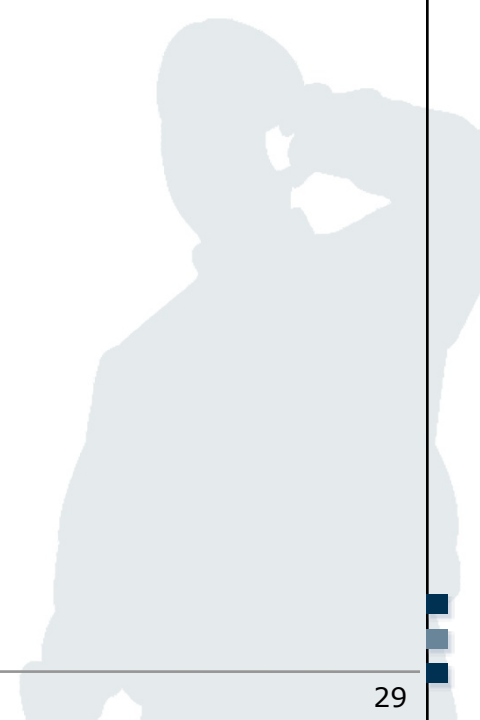
- Please describe the difficulty in building platform markets and possible solutions.



- 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
 - Promotion
 - Strategic Partners
 - ...

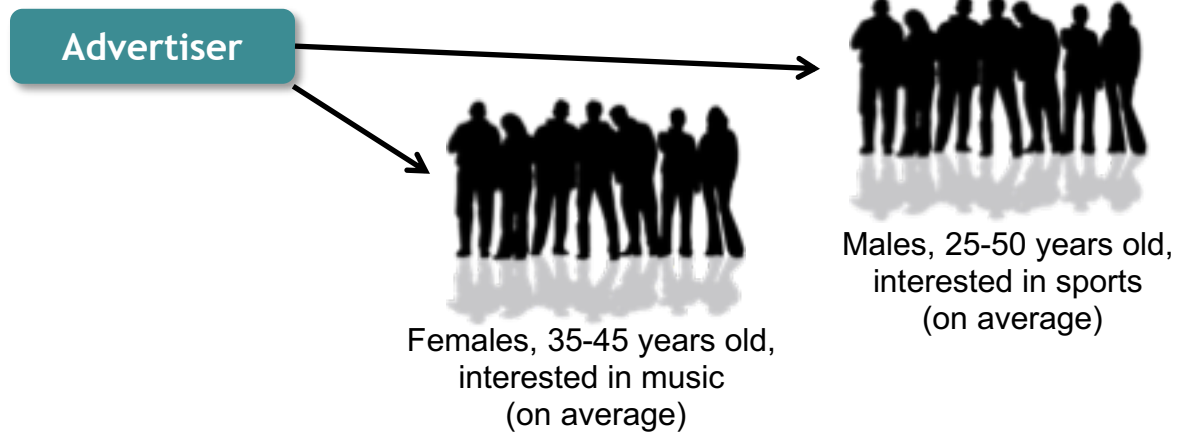


- What is contextual targeting? Please give an example.
- How is it related to myPlace?



Traditional vs. Context-Sensitive Targeting

Traditional targeting of mobile marketing campaigns

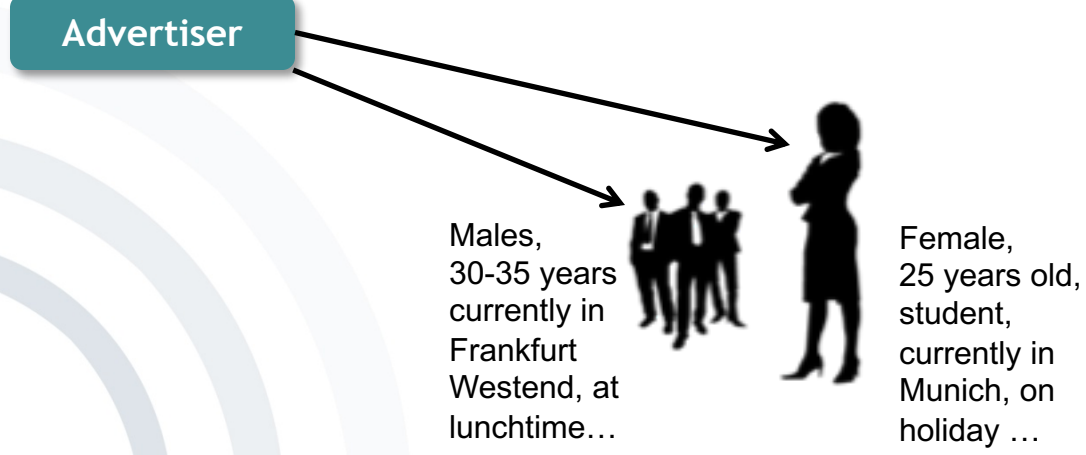


Traditional Information

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



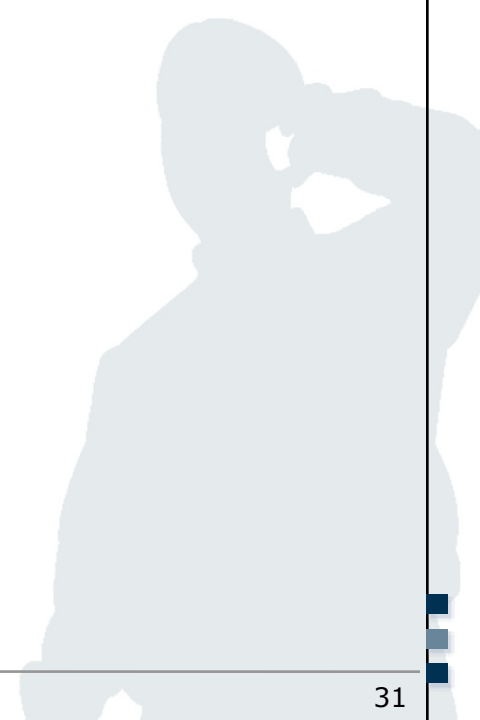
Context-sensitive targeting of mobile marketing campaigns



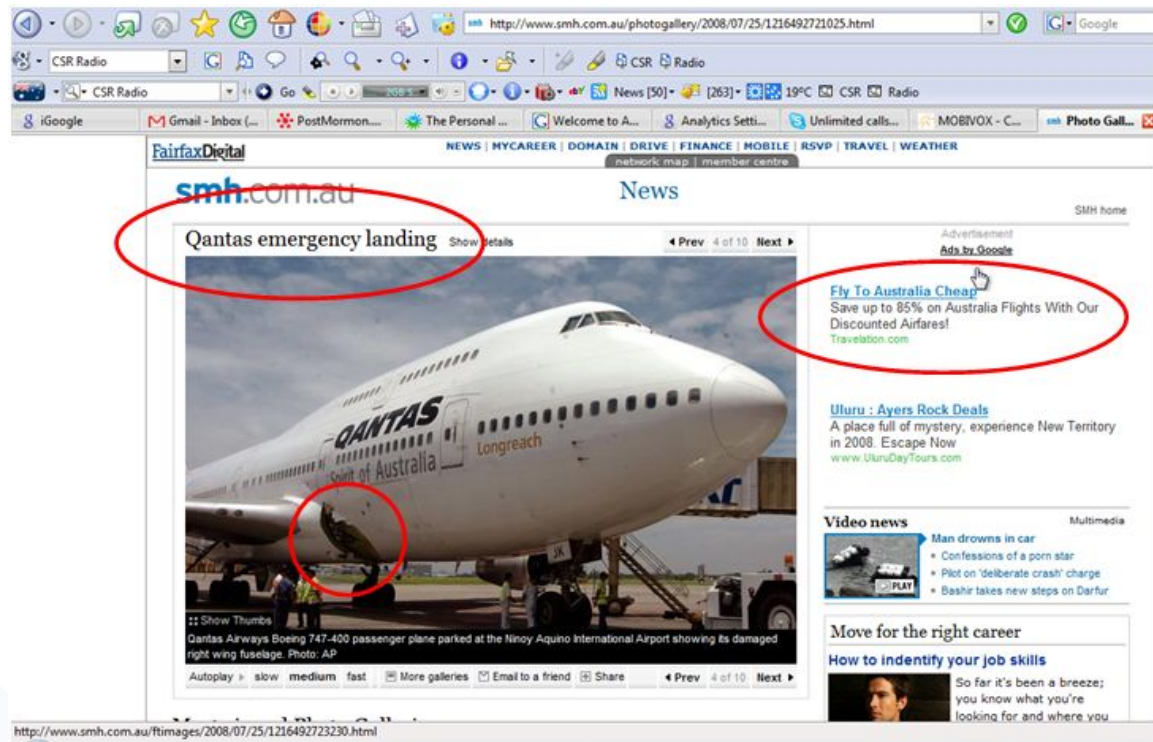
Context Information

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

- Please discuss the advantages and disadvantages of contextual targeting.



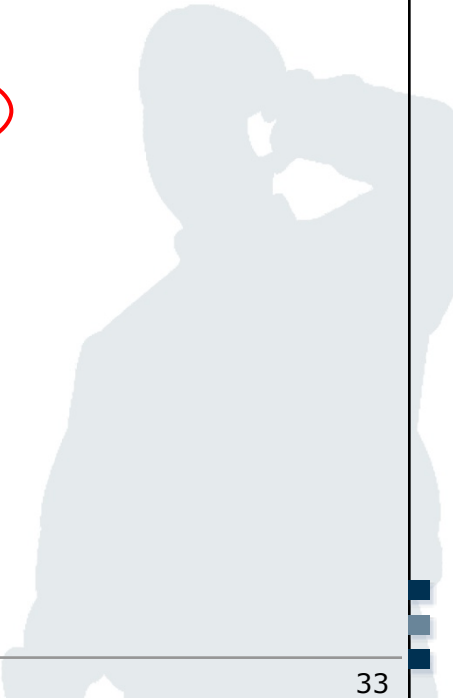
Targeted Ads gone wrong



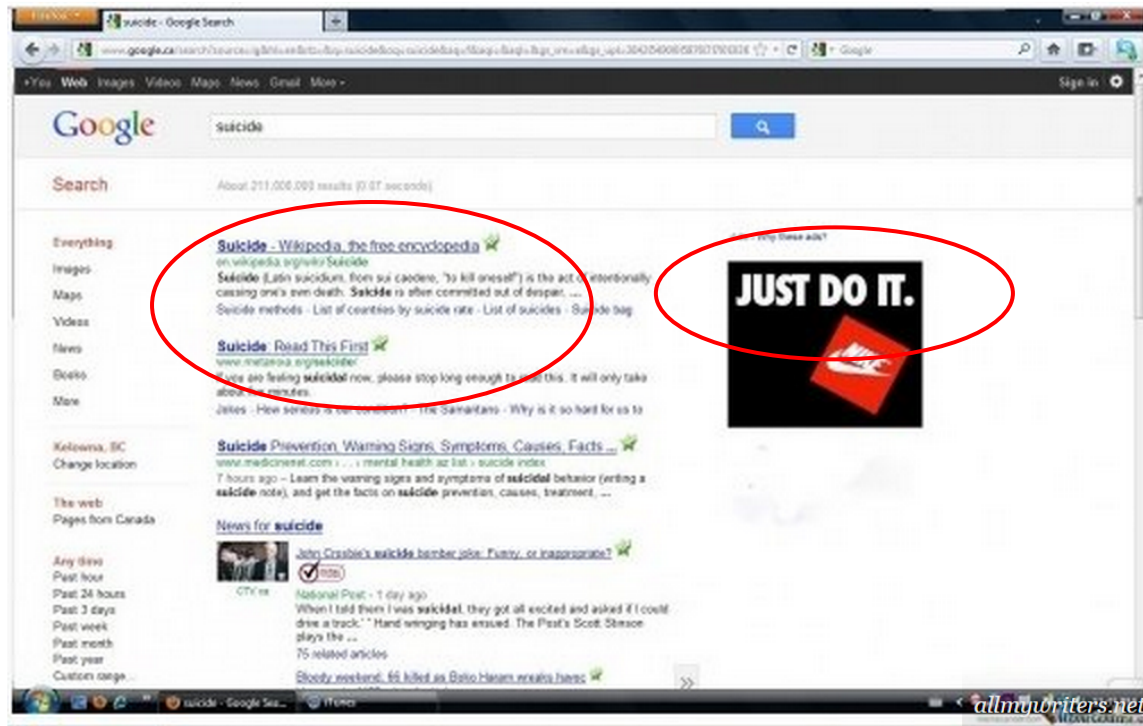
Source: <http://propr.ca/wp-content/uploads/2009/01/qantas-090120.jpg>

Targeted Ads gone wrong (2)

The screenshot shows a Yahoo! News page with the headline "Body parts delivered to Michigan home" circled in red. The article text describes a medical research lab's packages being mistakenly delivered to a home. A targeted advertisement for UPS is overlaid on the article, featuring the UPS logo and the handwritten text "It's UPS early morning delivery." and "« Rollover for video." This advertisement is also circled in red. The source is cited as Yahoo.com.



Targeted Ads gone wrong (3)



Source: Google.com

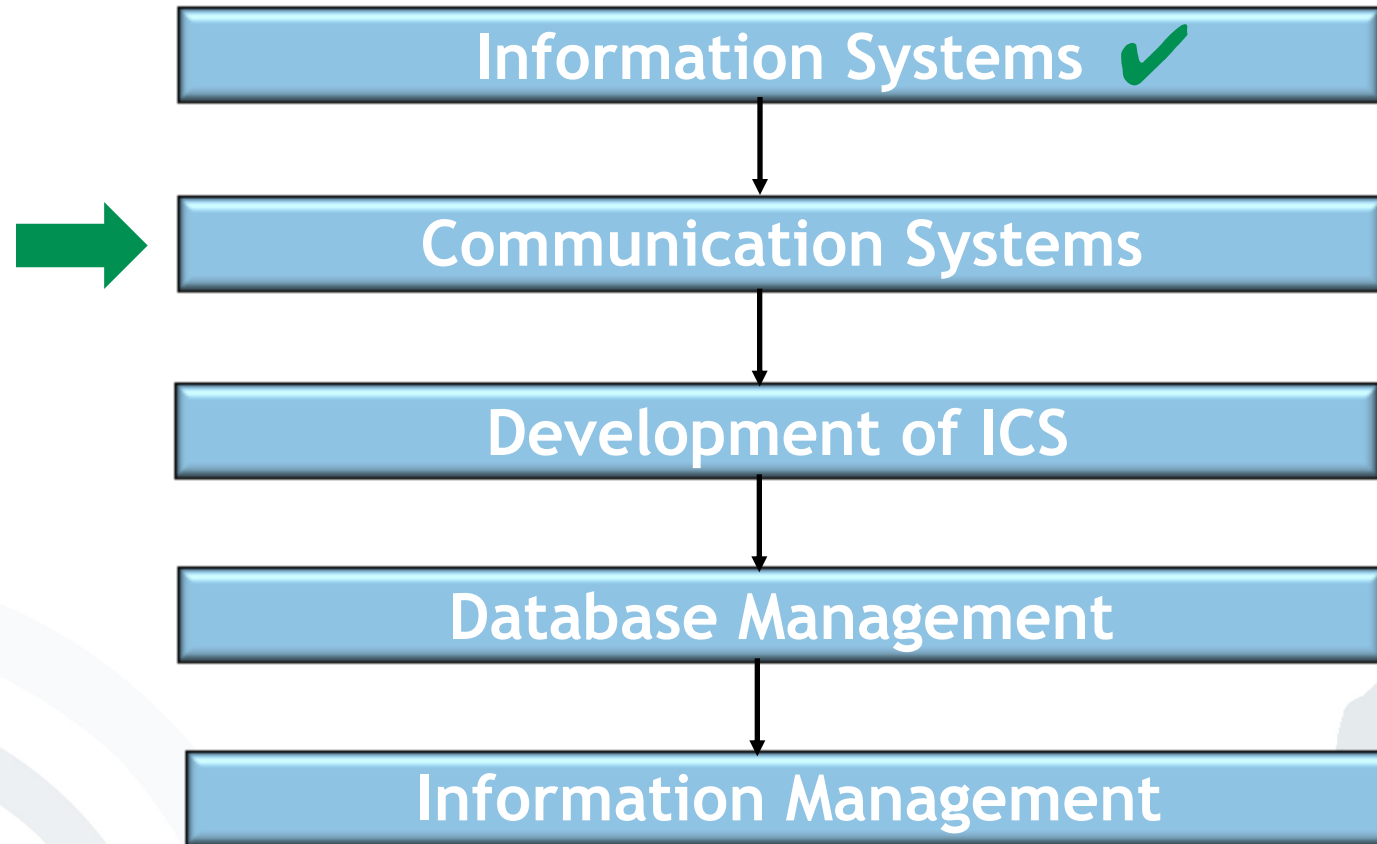
Information Systems

Purpose of and Research on Information Systems ✓

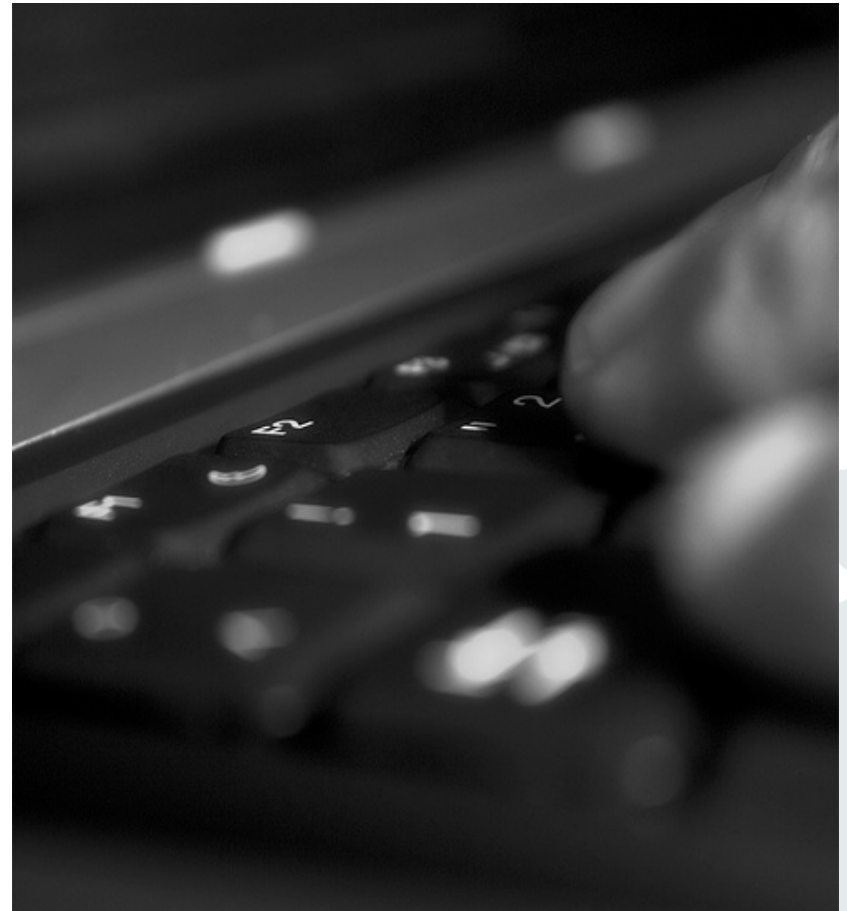
Enterprise Modelling ✓

Architectures of Information Systems ✓

Mobile Information Systems ✓



Thank you!



Jenser (Flickr.com)