Actors at the telecom market

- There are many types of actors at the market and many actors within each type of actors
- We will run a small exercise on market actors that you can identify
- What actors will an end-user "be aware of"
  if we consider the two cases
  - A user of a smartphone using a
    mobile phone subscription
  - A user with a WLAN enabled laptop
    using a hot spot where you need to pay

Exercise on actors and roles

- What actors will an end-user "be aware of" for the two cases
  - A user of a smartphone using a mobile phone subscription
  - A user with a WLAN enabled laptop using a hot spot
    where you need to pay

WHAT TO DO
- Step 1:
  Identify as many actors as possible
- Step 2:
  Group actors according to different types of actors
- Step 3:
  List the roles that each type of actor can take
- Step 4:
  Prepare a 5 minute presentation of your findings

Exercise: Group Work on markets, actors and roles

Course: IK2514

By: Mickael Edbor, Christian Said, Diana Pamela Gonzales Sanches, Erica Soltanieh, Fredrik Östling

Exercise description

- *To identify as many actors as possible and describe their role from a user perspective that is using a smartphone with a phone subscription.*

Result: Actors and their roles

- Network vendors: Huawei and ericsson
- MNOs Service providers: Telenor, Telia, 3, Tele2(Comviq), Halebop
- Network equipment providers: Samsung, Nokia, Blackberry, Sony Ericsson, Apple, HTC, Nokia, LG, Motora, ZTE, Huawei, Nortel, IBM
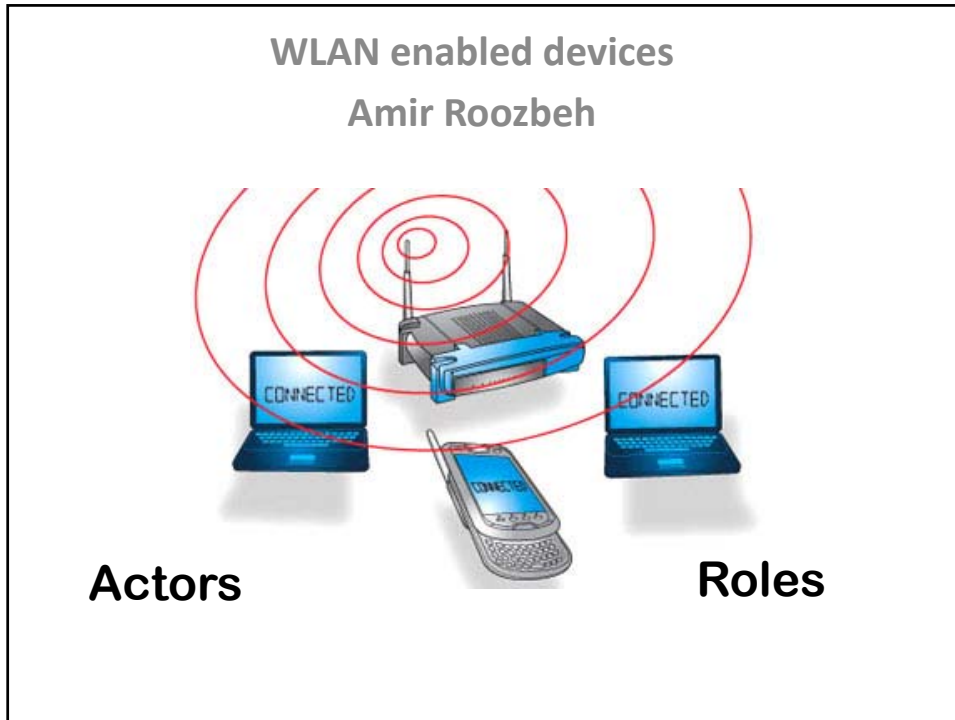- Connection types: WiFi, 2g, 3g, 4g and their standards e.g. EDGE, UMTS

Actors and their roles(Con't)

- App providers: Res I Sthlm(SL), Enrio, Google etc. All operators who distribute mobile apps, which is a huge amout.
- Operative system providers: iOS(Apple), Android(Google), Symbian(Symbian Foundation), MeeGo(Linux foundation), Windows Phone(Microsoft), Blackberry OS, HP webOS

Jin Huang, Tafzeel Ur Rehman Ahsin <tafzeel@kth.se

SP	Eduroam	Wi-Fi roaming SP for campus network
	Tele2	Payment, Cellular network SP
	SL	Transport SP
Vendor	Nokia	UE device vendor
	Huawei	Radio, Core, Transport network vendor; Network management service provider.
	Ericsson	Radio, Core, Transport network vendor; Network management service provider.

Name of Actor	Group	Role
Google	Apps/Content Provider	Search Engine
Skype	Apps Provider	Messenger/Billing Services
Facebook	Apps/Content Provider	Social Networking
Mecenat	Payment Service	Discounts for Student Billing
Tele2	Service Provider	Telecom Operator

WLAN enabled devices
Amir Roozbeh

Actors   **Roles**

Laptops

Role
Provide a device enable to connect to network via WIFI

acer.png	amd.png	amd v2.png	apple.png	asus.png	ati.png
ati v2.png	compaq.png	dell.png	hp.png	ibm.png	intel.png
nec.png	nvidia.png	nvidia v2.png	sony.png	toshiba.png	vaio.png

Cellphones and smart phones

- Iphone
- Samsung
- HTC
- Blackbery
- etc

Role
Provide a device enable to connect to network via WIFI

WIFI card
Role
Provide a connectivity for devices

- Brands: Dell Verizon Wireless Att Netgear Sprint

Access point

Role
Provide a connectivity to WIFI enable devices

- Brands: Linksys Cisco Netgear Belkin D-Link

Backbone (invisible to user)

- 3G and 4G network (like in SJ train)
- ISP's (Algonet, Dataphone, Bahnhof, Bredbandsbolaget)
- Broadband cable (Com Hem)
- etc

Role
Provide conectivity to internet

Accounting

- Via SMS (like in SJ traine)
- Credit card (Master , Visa)
- Via Student help desk (for KTH open or Edurom)
- Voucher (Pressbyrån, 7-Eleven – for arlanda)

Role
Charging of user and provide benefit for network owners

IK2514
Wireless Infrastructure Deployment &
Economics

Exercise 1:
Group Work on Markets, Actors & Roles

Laili Aidi
Abdullah Al-Basra

Study Case:
A user of a smartphone using a mobile phone subscription

Possible Actors:
- ❑ Telecom Regulator
- ❑ Network Operator
- ❑ Virtual Network Operator
- ❑ Virtual Network Enabler
- ❑ Phone Company
- ❑ Network Equipment Vendor
- ❑ Outsourcing Company
- ❑ Card Vendor
- ❑ Software Provider

Swedish Telecom Regulator

- ❑ Post & Telecom Agency or Post- och telestyrelsen (PTS),

Under :
- ❑ Swedish Business Development Agency or Verket för näringslivsutveckling (NUTEK)
- ❑ Ministry of Industry, Employment and Communications

Mobile Network Operator

Provide services for mobile-phone subscribers and SIM Card

Have specific radio spectrum license and network infrastructure to provide the service

Example in Sweden:
- ❑ Telia, owned by TeliaSonera
- ❑ Tele2, owned by Tele2
- ❑ Telenor, owned by Telenor Sverige AB
- ❑ Net4Mobility, owned by Telenor Sverige AB & Tele2
- ❑ 3, owned by Hutchison Whampoa & Inverstor
- ❑ Net1, owned by Access Industries

References:
http://en.wikipedia.org/wiki/List_of_mobile_network_operators_of_Europe

---

Mobile Virtual Network Operator

Provide services for mobile-phone subscribers and SIM Card

Doesn't have specific radio spectrum license nor network infrastructure to provide the service

Example in Sweden:
- ❑ Operate in Telenor network:
  Devicom Mobile, Easy Telecom, GT Mobile, Lebara Mobile, LycaMobile, Superstar Mobile

- ❑ Operate in TeliaSonera network:
  DuVialla

References:
http://www.prepaidmvno.com/mvno-companies/eu-mvno-companies/sweden-mvno-companies/

Mobile Virtual Network Enabler

Provide back-end operation services to MVNO/MSP
   to provide service to end-user customers

Example in Sweden:
❑ Spinbox AB
   Owned by Alltele AB, operate in TeliaSonera

References:
http://www.prepaidmvno.com/mvno-companies/eu-mvno-companies/sweden-mvno-companies/
http://en.wikipedia.org/wiki/Mobile_Virtual_Network_Enabler

Mobile Phone Company

Manufacture mobile phone and/or provide the
   mobile OS

Example in Sweden:
❑ Sony Ericson
❑ HTC
❑ Nokia
❑ Iphone
❑ Samsung
❑ Motorola
❑ Siemens
❑ Spectronic
❑ Neonode

Network Equipment Vendor

Provides and maintains telecommunication equipment and network for MNO

Example in Sweden:
- Ericson
- Nokia Siemens Network
- ZTE
- Huawai
- AT&T

Telecom Outsourcing Company

Provide services for telecommunication companies (Charging/Billing, network operation / maintenance, marketing & sales, customer service, etc)

Example in Sweden:
- Accenture
- Doro
- SUNAB, Amdocs
- Symsoft
- Telelogic, TerraNet
- Ericson
- Gemalto

2011-10-27

Mobile Software Provider

Provide specific mobile OS / application to be used
by mobile user subscriber

Example in Sweden:
- Apple, Android, Microsoft, Teleca
  Provide mobile OS / software
- Spiderboss
  Develop sms / mms based services/products
- RangeRoamer, Clay Telecom
  Connect user to the strongest/suitable cellular
  network service with their SIM card
- IZetle
  Provide smart card reader and application for
  electronic payment