

# Smartphones and mobile market

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# History in mobile phones

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- First mobile telephoning in the 1960s
- Beginning of cell phone era in the 80s
- Heavy devices with much weight
- Very expensive
- Less functionality:
  - Low battery capacity
  - restricted to use in a special network
- High radiation
- main feature: doing phone calls!



# History - mobile phones in the 90s

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- Reduced device dimensions
  - Acceptable stand-by and call endurances
  - SMS became a famous service
  - Games find the way into mobile phones
- Popular game: “Snake”



# Histroy - mobile phones since 2000

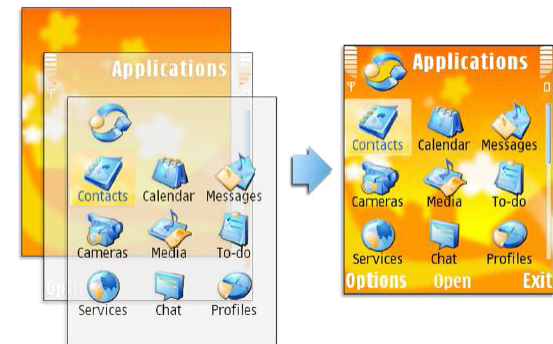
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- EMS (Enhanced Messaging Service)
- MMS (Multimedia Messaging Service)
- First color displays with higher resolutions
  - More games and applications
  - Surfing the internet using GPRS or EDGE
  - Using cell phones as modem for personal computers
- Sharing contents via Bluetooth



# Revolution of smartphones

- Smartphones entrance in the mid of 2000
- High performance cell phones
  - Multimedia capabilities
  - More technological innovations
  - Large development communities
- Customization of user interface
  - Personalized display themes
  - Animations
  - Personalized keys



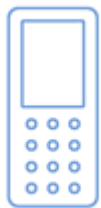
# Variants of mobile phones

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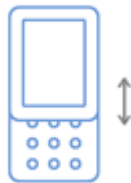
- Every target group is covered

- Ultra Low Cost
- Fashion
- Business and Premium
- High performance
- Resistance

- Different formfactors



Barren



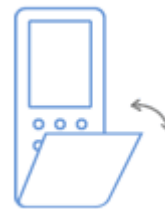
Slider



Clamshell



Swivel



Flip



Lipstick



And more



- Examples of what mobile phones have become:

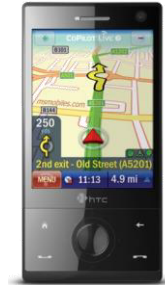




# Innovations and technologies

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- WCDMA (UMTS) > HSDPA > HSDPA+
  - High bandwidth with fast downloads
- Inbuild WLAN support and GPS navigation
- Inbuild TV receivers / TV-output
- Megapixel cameras
- Touchscreens
- Sensors (e.g. ALS, accelerometer, fingerprint)
- More multimedia capabilities
  - Video, Surround sound
  - Graphics acceleration



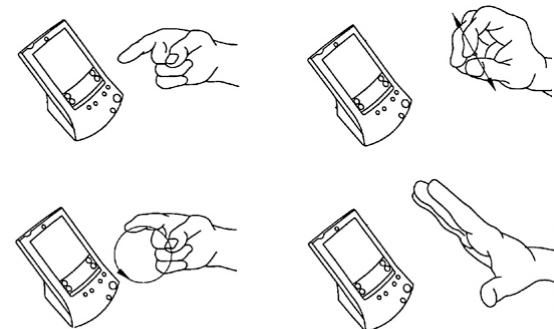
# Services in mobile market

- Many Online Stores
  - Platforms to download and share mobile contents
    - Games and applications, music, photos and videos
    - Due to sinking costs of calls/SMS customers have to pay for
- Apple “AppStore”
- Nokia “Ovi” / “Mosh”
- Samsung “Mobile Applications”
- SonyEricsson “Application Shop”
- Many widgets available:
  - E.g. eBay, eventd, weather info, etc
- Communities provided by the manufacturer



# Forecast into the future

- New network technology LTE with 300MBit downlink
- Expansion of online services
  - Providers aim to get paid for new services
- Personalized ads to mobile phones
- More Open Source platforms
  - Example: Android from Google (first open source platform)
  - Symbian: Largest mobile platform will follow
- New input methods
  - Touchscreen (already spread)
  - Gestures and motion control



# Forecast into the future



# Thank you for your attention



Any questions left?