Parag Havaldar and Gérard Medioni

Multimedia Systems
Algorithms, Standards, and Industry Practices

Chapter 1

Introduction to Multimedia : Past, Present and Future

Mohd Saufy Rohmad

EE UiTM

1. Multimedia: Historical Perspectives

- 3 things that alter our ways of communication are:
  - Availability of low-cost capture devices, rendering devices, smarter software to create content.
  - Larger and less expensive storage devices along with research in better compression of media content.
  - Technological advances in digital networks and standardization of distributed protocols.

1. Multimedia: Historical Perspectives

- From Prehistoric to modern times and era, information is being created, stored and distributed in own ways. (refer page 3 of parag textbook).

2. Multimedia Data and Multimedia Systems

- Multimedia Information can be defined as information that consists of one or more different media types.

- However, media types also changing with new media such as holographs and haptics.

2.1 Inherent Qualities of Multimedia Data

- This inherent qualities of multimedia data define the multimedia nature.
  - Digital
  - Valuminous
  - Interactive
  - Real Time and Synchronization

2.2 Different Media Types Used Today

- Text
- Images, can be characterized depending on:
  - Bit Depth
  - Formats
  - Dimensionality
- Video - can be classified based on:
  - Aspect Ratio
  - Scanning Format
- Audio – discribed with below properties:
  - Dimensionality : number of channel - mono,stereo,5.1 surround system,etc
  - Frequency Range : narrow band, wide band.
- 2D Graphics
- 3D Graphics – for high end movies, computer games,etc.

2.3 Classification of Multimedia Systems

- Static vs. Dynamics

- Real-time vs. Orchestrated

- Linear vs. Non-linear

- Person to machine vs. Person to person

- Single user,peer to peer, peer to multipeer and broadcast.

3. Multimedia Systems Today

- Static vs. Dynamics

- Real-time vs. Orchestrated

- Linear vs. Non-linear

- Person to machine vs. Person to person

- Single user,peer to peer, peer to multipeer and broadcast.

3. Multimedia Systems Today
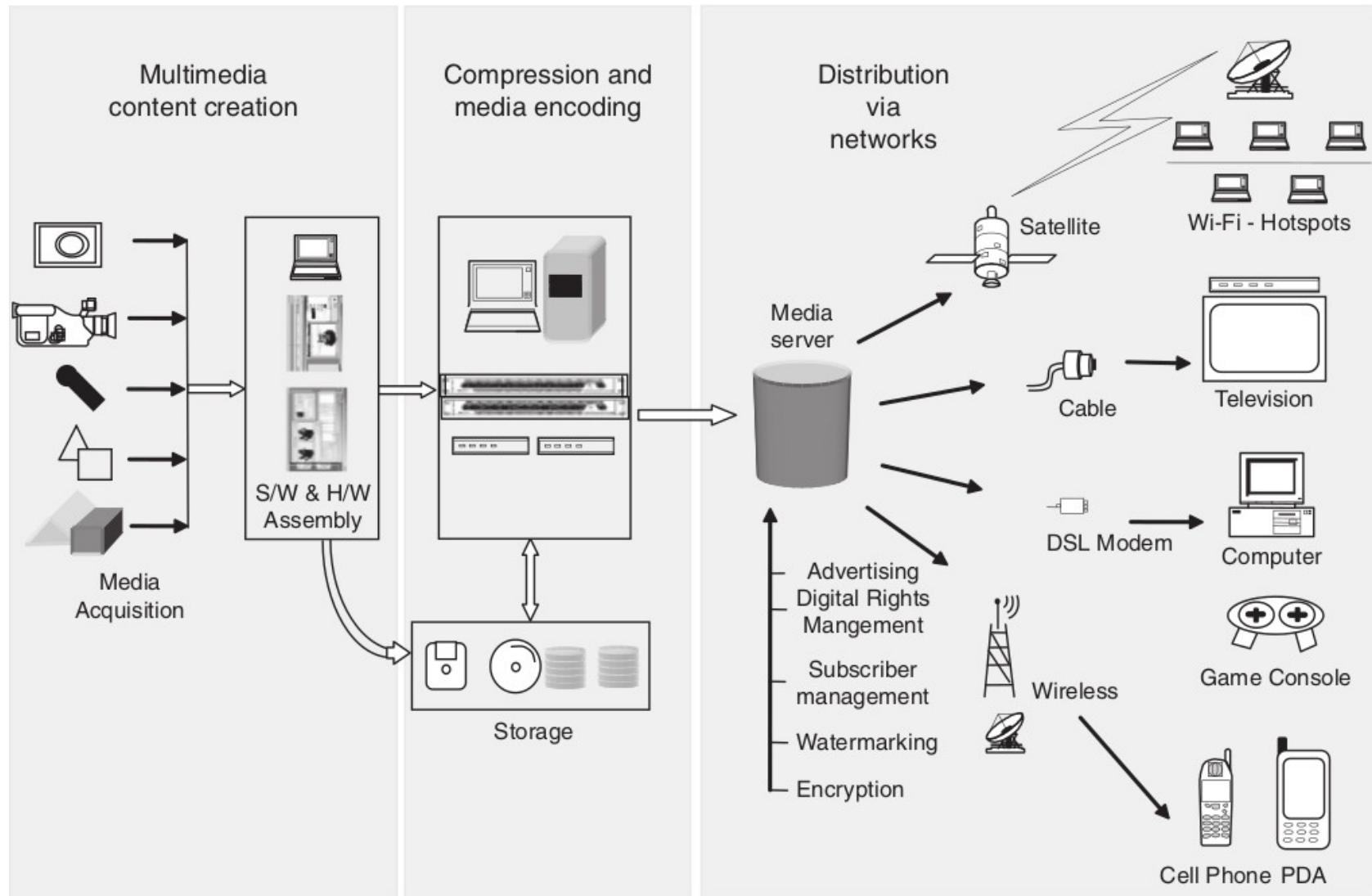
5. Multimedia Revolution

- Digitization of Virtually any and every devices

- Digitization of Libraries and Information

- Evolution of communication and data networks

- New algorithms for compression

- Better hardware performance

- Smarter user interface paradigms to view/interact with multimedia information on a variety of terminals

Conclusion

- Future is Multimedia

- We not only can search text. But audio, images and videos.

- Digital rights management issues.