



SNS COLLEGE OF ALLIED HEALTH SCIENCES- COIMBATORE 35



DEPARTMENT : RADIOGRAPHY AND IMAGNG TECHNOLOGY

**SUBJECT : GENERAL PHYSICS, RADIATION PHYSICS AND PHYSICS OF
DIAGNOSTIC RADIOLOGY**

PAPER : PAPER II

TOPIC : 5.1 FILM ARCHIVING SYSTEM



FILM ARCHIVING SYSTEM (PACS)



DIGITAL ACQUISITION DEVICES

- The devices that are the sources of the images. Digital angiography, fluoroscopy and mammography are the newcomers to PACS

THE NETWORK

- Ties the PACS components together.

DATABASE SERVER

- High speed and robust central computer to process information

ARCHIVAL SERVER

- Responsible for storing images. A server enables short term (fast retrieval) and long term (slower retrieval) storage

RADIOLOGY INFORMATION SYSTEM (RIS)

- System that maintains patient demographics, scheduling, billing information and interpretations

WORKSTATION OR SOFT COPY DISPLAY

- Contains the software and hardware to access the PACS.
- Replaces the standard light box or view box



FILM ARCHIVING SYSTEM (DICOM)



- The Digital Imaging and Communications in Medicine (DICOM) Standard specifies a non-proprietary data interchange protocol, digital image format, and file structure for biomedical images and image-related information.

WHAT IS DICOM AND PACS ?

- While PACS and DICOM are often used together, they are different.
- PACS refers to the overall system used to manage medical images,
- while DICOM refers to the specific standard encoded and transmitted images and data.
- In other words, PACS is a system that uses the DICOM standard to store and communicate medical images.



FILM ARCHIVING SYSTEM (MOD)



- A magneto-optical disk is a removable, rewritable disk that can store several gigabytes of data.
- Magneto- optical disks are available in different physical sizes, but are typically the same size as CDs or DVDs (5.25 inches).
- Unlike CDs and DVDs, magneto optical disks are contained in a cartridge broadly similar to the casings used for floppy disks Magneto-optical disks are somewhat of a "niche" technology and relatively expensive.
- Magneto-optical disks are mostly used for long-term jukebox storage because like most removable media, access might take be up to a minute, depending on the time it takes to retrieve the platter, load it into the drive, and spin up the disk Magneto-optical disks were also frequently used by digital modalities such as CT, MRI and ultrasound, because of their robustness, especially compared to DVDs, and their greater tolerance for numerous read/writes.
- In the DICOM standard, "MOD" is used as the standard abbreviation for magneto-optical disk In general usage, "MOD" is more frequently used as the abbreviation for magneto-optical drive



FILM ARCHIVING SYSTEM (STORAGE DISC)



- Storage media for PACS can be divided into online, near line, and offline storage.
- Online storage allows immediate access to data. It refers to hard discs (or hard disc drive) that uses the principle of magnetic discs to store data.
- Hard disc drives can be connected together to resemble the function of a hard disc with large storage capacity, known as redundant array of inexpensive discs, (RAID).
- Data that does not require immediate access can be stored in near line storage, namely magnetic tapes and optical jukeboxes.
- Offline storage refers to magnetic tapes and optical discs that are useful for long-term storage and data backup.
- However, it would be more time consuming to access the data located in the offline storage.



INTERROGATIONS



1. What is DICOM ?
2. What is PACS ?
3. What is the difference between DICOM and PACS ?



REFERENCES

1. Radiographic latent image processing – W. E. J McKinney
2. Diagnostic Radiography – A concise practical Manual – Glenda J. Bryan (4th edn),
Churchill Livingstone



THANK YOU