Medical Record Gallery

*A Project Based Learning Report Submitted in partial fulfilment of the requirements for the award of the degree*

*of*

**Bachelor of Technology**

**in The Department of CSE**

**OBJECT ORIENTED PROGRAMMING / 24SC2006A**

Submitted by

**2410030140: CHELLAMLLA JASWANTH REDDY**

**2410030337: KASARLA MANI VARDHAN REDDY**

**2410030339: BADDAM KARTHIK REDDY**

**2410030143: TEEGA DIPAK REDDY**

**2410030148: SIRIPURAM VEERA VENKAKA RITHVIK**

Under the guidance of

**Pavan Kumar sir**



Department of Computer Science Engineering

Koneru Lakshmaiah Education Foundation, Aziz Nagar

Aziz Nagar – 500075

FEB - 2025.

**Introduction**

*(Minimum 200 words)*

* In most, if not all, healthcare facilities, patient medical records—diagnostic reports, X-ray scans, and prescriptions, for example—are kept in paper format. Staff members have to manually pull out, sort, and deal with paper documents, which is time-consuming and prone to errors, and the possibility of losing or damaging them. To mechanize this, our project will create a code-based system that sorts out automatically scanned copies of these paper records. The records of all patients are scanned and kept in a designated folder with their unique identifier.

* Our system's main component is a Java program that uses the patient ID as input, finds the relevant folder, and searches through its contents for picture files. The images are then loaded, given a scrollable gallery in the user interface, and undergo basic resizing to standardize display dimensions. The solution avoids the complexity of databases or network services by depending only on simple file-I/O operations and widely used image-handling libraries.
* This method makes it easy for healthcare workers to quickly see all of a patient's scanned documents without having to open each one by hand. Error-handling routines let users know if folders are missing or don't have any valid images, which stops confusion and delays. The project's focus on reliable folder conventions, clear code structure, and few external dependencies makes it easy to set up in clinics and hospitals. This leads to better document management and better patient care.

**\*Novelty of Developed Methodology:**

* Integrates database backend with file-based storage for optimal performance and scalability.
* Combines thumbnail grid view with full-size image enlargement for efficient medical image review.
* Implements intelligent duplicate file handling with automatic renaming during upload process.
* Provides cross-platform compatibility using Java Swing for universal hospital deployment.
* Novelty lies in combining lightweight desktop architecture + database synchronization + medical imaging workflow in one unified platform.

**\*Adaptability of Methodology:**

* Can be adapted to different hospital management systems using configurable database connections.
* Flexible for small clinics to large hospitals, with scalable folder structure and database schema.
* Easily customizable for various medical specialties (radiology, pathology, cardiology).
* Supports multiple image formats (JPG, JPEG, PNG) with extensible file type filtering.
* Integrable with existing hospital information systems and PACS infrastructure.

**\*Methodology Evaluation:**

* Usability testing: assess ease of use, interface simplicity, and accessibility for medical staff of different technical backgrounds.
* Performance metrics: evaluate image loading speed, database query response time, and upload processing efficiency.
* User feedback: collect real-time feedback from hospital staff to validate workflow integration and feature relevance.
* Effectiveness: measure reduction in patient record retrieval time and improvement in document organization.
* Comparative study: benchmark against existing medical record systems to highlight improved accessibility and user experience.

**\*Key Features:**

* Patient ID lookup: automatic retrieval of all medical documents associated with a specific patient identifier.
* Grid gallery display: organized thumbnail view showing multiple medical images with captions for quick overview.
* Image enlargement: double-click functionality to view full-size medical images with scroll support for detailed examination.
* File upload system: drag-and-drop or browse-based upload with automatic patient folder organization.
* Database integration: synchronized metadata storage for efficient querying and record management.
* Cross-platform support: Java-based architecture ensuring compatibility across Windows, macOS, and Linux systems.
* Error handling: comprehensive validation and user-friendly error messages for missing files or invalid patient IDs.
* Duplicate management: intelligent file renaming system to prevent overwriting existing medical documents.

**\*Conclusion:**

* The Medical Record Gallery project offers a practical solution to enhance access to patient medical documents by automating the retrieval and display of scanned images associated with unique patient IDs. By leveraging straightforward Java programming and file management techniques, the system streamlines document review, reduces search times, and minimizes errors associated with manual file handling. The design focuses on being simple, reliable, and easy to set up, which makes it a good choice for healthcare settings that want to improve record management without making big changes to their infrastructure. Future updates can add more features, such as database integration, more image formats, and better search tools, all of which will help with patient care.