

Building Diagnostic Centers On Cloud

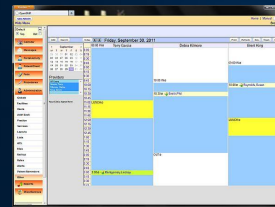
Advanced Diagnostic Imaging Orders Management & Results Delivery System to Streamline Workflows for Hospitals and Diagnostic Centers



When Order will be placed then **AUTOMATICALLY**

- Appointment will be created on Calendar.
- EMR Calendar Sync with Apple/Google Calendar.
- SMS and Email alerts will be send to Patient.
- Worklists will be generated and send to WL Server.
- Modalities will Query their relative Worklists.
- Images with data will be saved to PACS Server.
- Order Status will be updated in EMR automatically.
- Results Link will be send to patient to download.
- Doctors can login and view Patient's Dicom images.
- *Doctors can attach Reports in EMR Order results.*

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EMR / EHR



- PACS Server
- Work List Server



Local or Remote
Medical Modalities



MRI / CT Scan



Ultrasound

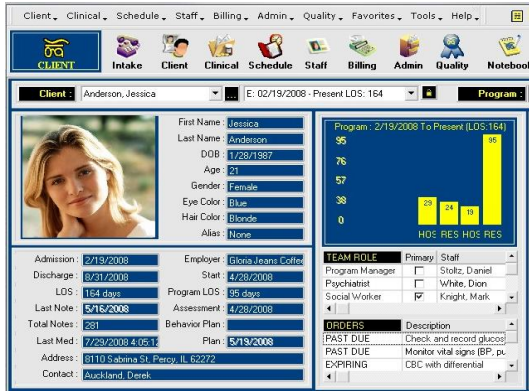


Memo



**EMR/EHR Front Desk
Software + Integrated RIS
Order Form will be saved in DB**

**Auto create Appointment, send SMS
Email alerts to patient automatically**



Updated Order Status View

EHR DB Server



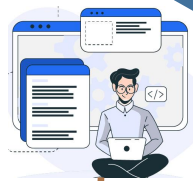
Will update Order Status in Database

Fetch Data from Database

KFTECH Router Script



KFTECH Update Script



DICOM Print Server Software



CD/DVD Burner Software with Dicom images View Utility



Worklist Server

Script will generate .wl files from data and save into worklist server

Note : All Setup can be on-premises or on-cloud.

INTERNET

Patient will see his dicom images using specific expireable shared link



Doctor Login and View images using cloud Dicom Viewer



After Scan work complete, Modalities send images + data to DICOM PACS Server

Cloud PACS

MEDICAL MODALITIES



CTScan, MRI



X-Ray



Ultrasound

Modalities do Query Worklists from Worklist Server

FEATURES - Radiology Imaging Orders Processing Automation System

The Automatic Radiology Imaging Order Processing System is a unique and comprehensive solution designed to streamline and automate the workflow of radiology services within healthcare facilities like Hospitals and Diagnostic Centers. By integrating Radiology Imaging Order taking Forms directly into the Electronic Health Record (EHR) system, this innovative approach eliminates the inefficiencies of managing separate, disconnected systems.

Key Features :

Seamless Order Management :

When a medical imaging order is placed in the EHR, system automatically generates appointments and notifies clients via email.

Effortless Worklist Creation:

Imaging orders are retrieved from the database, converted into worklist files, and sent directly to the worklist server, allowing modalities to access their tasks without manual intervention.

Real-Time Updates:

After imaging scans are completed, results are automatically uploaded to the PACS server. An integrated script then updates the EHR database with the current status of Imaging Scans, enabling providers to view real-time status.

Benefits :

This system significantly :

- ✓ *Reduces Manual Processes.*
- ✓ *Saves Efforts Cost and Time.*
- ✓ *Minimizes Errors & Bugs.*
- ✓ *Enhances Workflow Efficiency.*

By automating order processing and facilitating seamless communication between various components of the healthcare system, it ultimately improves patient care and speeds up the diagnostic process.

In essence, the Automatic Radiology Imaging Order Processing System transforms the radiology landscape by

- ✓ *fostering integration.*
- ✓ *improving accuracy. and*
- ✓ *enhancing collaboration across teams.*

Radiology Imaging Orders Processing Automation System

The Problem and Our Solution :

Many hospitals face challenges due to having separate systems for Electronic Health Records (EHR), Radiology Information Systems (RIS), imaging order processing, PACS, and worklist management. This fragmentation often results in manual handling of radiology imaging orders, leading to inefficiencies and delays.

To address this issue, KFTECH have developed an integrated Imaging Ordering Form within the EHR system. This solution automates the entire process of managing medical imaging orders. When a medical imaging order is placed in the EHR, the system automatically generates an appointment and sends the order via email to the client. The imaging order details are then retrieved from the database, converted into a worklist file, and transmitted to the worklist server. Modalities can access their worklists seamlessly, perform imaging scans, and upload the results directly to the PACS server.

Additionally, an automated script retrieves information from the PACS server and updates the EHR database with the current status of the imaging orders. This allows doctors and providers to view real-time updates directly within the EHR software. As a result, the entire process is streamlined and automated, effectively solving the previous challenges associated with fragmented systems.

Importance for Diagnostic Centers and Hospitals

Efficiency : Automating the order processing reduces manual errors and speeds up the workflow effectively.

Improved Patient Care : Quick and accurate processing of imaging orders ensures timely diagnoses & treatments.

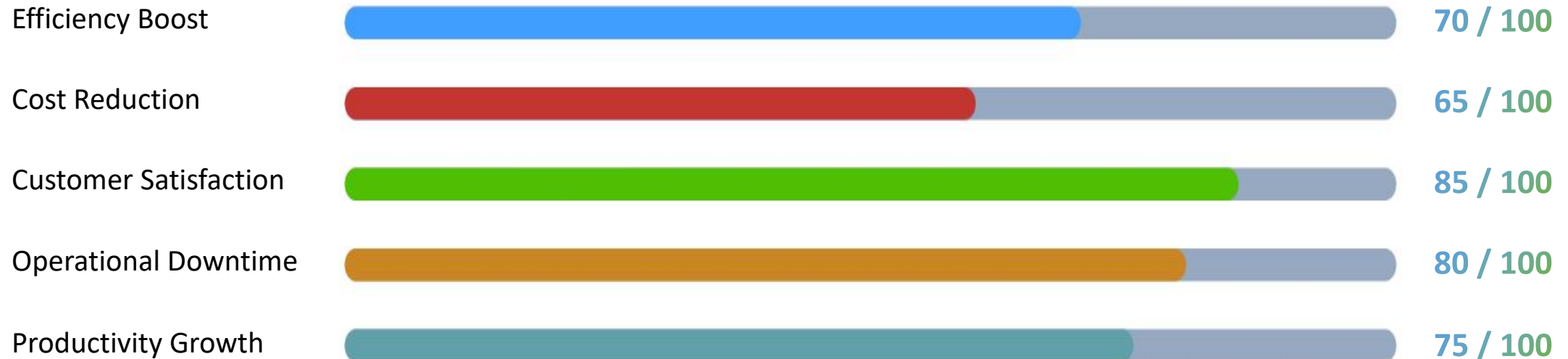
Data Management : It centralizes patient info, making it easily accessible for radiologists and referring physicians, which improves collaboration and decision-making.

Cost Reduction: By minimizing administrative overhead and reducing errors, hospitals can cut costs and allocate resources more effectively.

Radiology Imaging Orders Processing Automation System

Key Point Indicators

after deployment of Automated Radiology Imaging Orders Processing Solution



Whole System Package Includes :

Patient Management System :

- OpenEMR / EHR Software.
- Custom Image Ordering Form.
- Integrated RIS System.
- Reporting + Voice Dictation.
- Client Digital Signature.

DICOM SERVERS :

- Routing Server.
- DICOM Worklist Server.
- DICOM PACS Server.
- PrintSCP Server (optional).
- CD/DVD Burner Server (optional).

Integrations :

- Google Calendar Synchronization.
- Apple iCalendar Syn (Optional).
- EMAIL Alerts Notifications.
- SMS Alerts Notifications.
- Image View Expireable Link.

DICOM Viewer (Optional) :

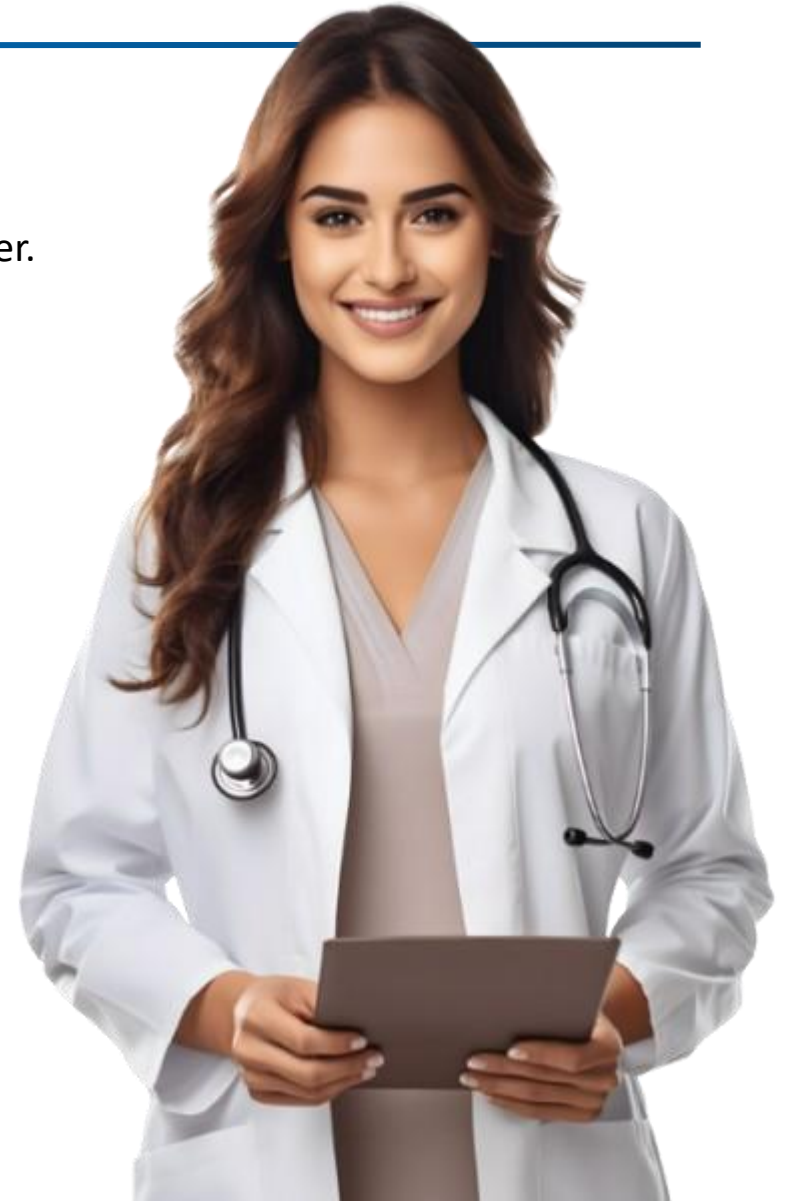
- Cloud Based OHIF DICOM Viewer.
- Desktop Based MicroDICOM Viewer.
- DICOM Nodes Monitoring System.

Customizations :

- Customize EMR.
 - Logo and Favicon.
 - Title Lines.
 - Top Menu Navigation.
 - 5 Custom Forms.

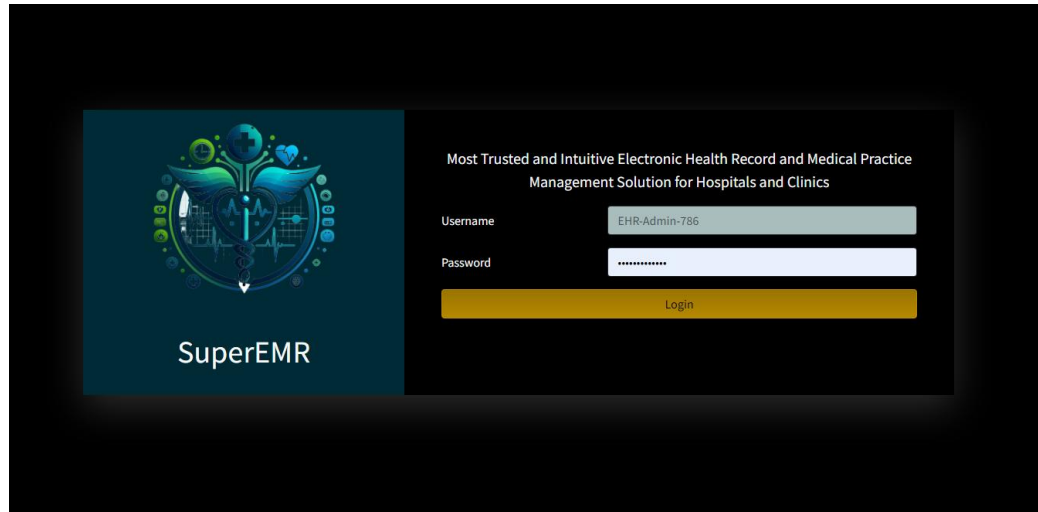
Connectivity :

- EMR + RIS with Worklist Server.
- Worklist Server with Modalities.
- Modalities with PACS Server.
- PACS Server with EMR.
- PACS Server with PrintSCP Server.
- PACS Server with DICOM Viewer.
- PACS Server with CD/DVD Burner.

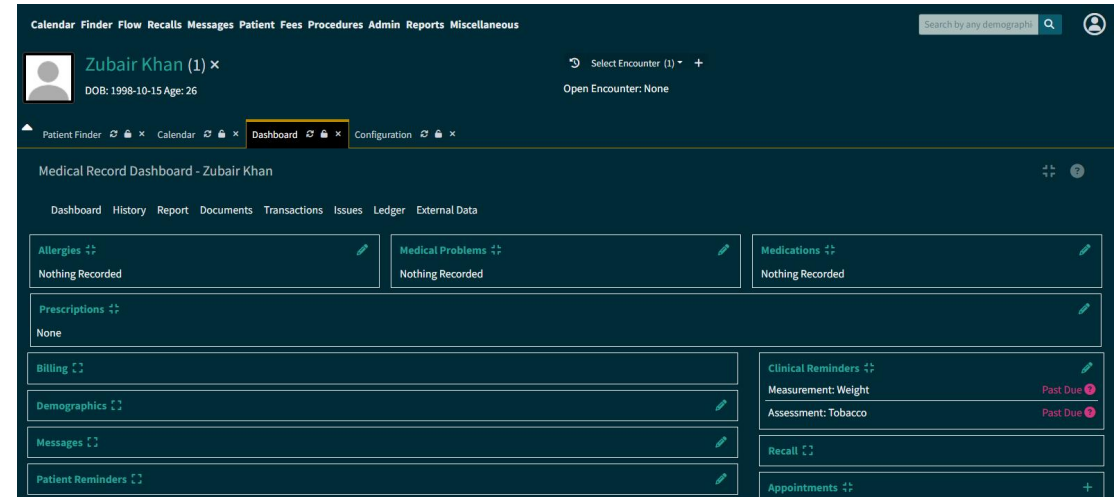


Customized EMR with Integrated RIS system :

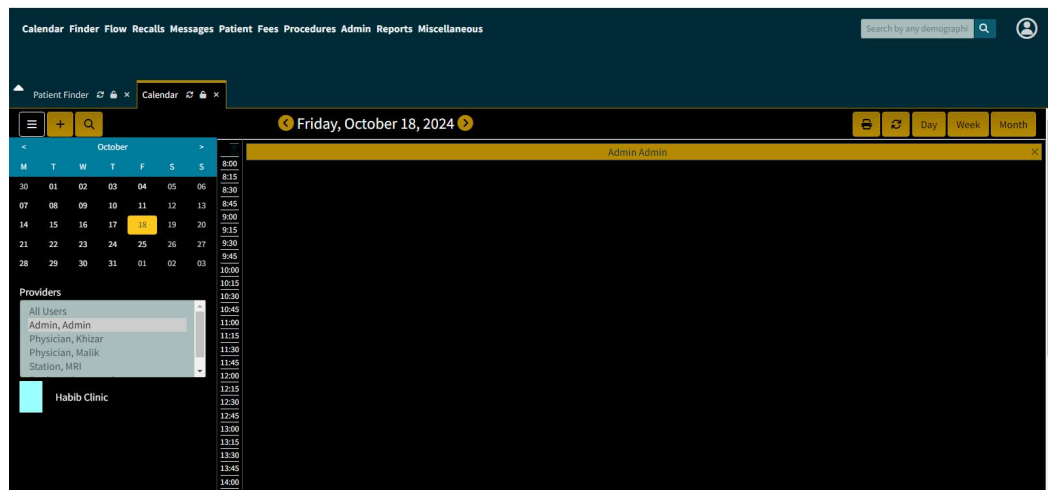
Login Screen with Custom Logo and Theme



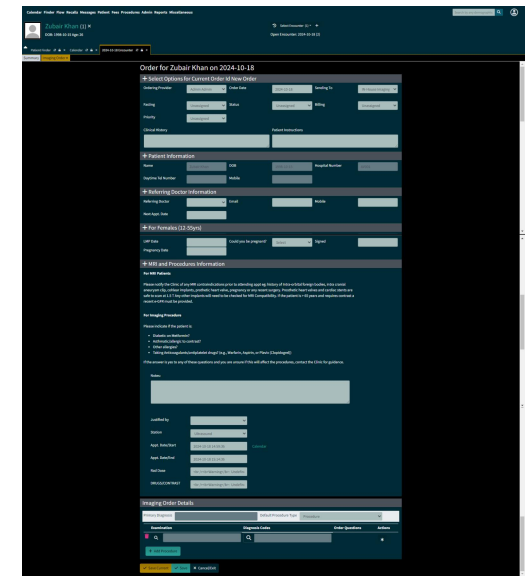
Patient Dashboard with Custom Sections



Calendar - Customized Theme



Customized Radiology Imaging Order Taking Form with Custom Fields which are required to create Worklist Files. Our custom Script take data and generate worklist and send to Worklist Server.



PACS Server + Integrated Worklist Server :

ORT^HANC
MyOrthanc

All local Studies 2 / 2

Upload

Drop files here or

Select Folder

Select Files

Settings

Legacy UI

English ▾

Patient Birth Date	Patient Name	Patient ID	Study Description	Study Date	Modalities in Study	Accession number	# series
<input type="text" value=""/>	<input type="text" value="John^Doe"/>	<input type="text" value="1234"/>	<input type="text" value="Chest"/>	<input type="text" value=""/>	<input type="text" value=""/>	<input type="text" value="1234"/>	
<input type="checkbox"/>	TEST^ASPECTRATIOS	42262654	Test images for measurements on different a...	05/02/2010	OT	A42262654	1

Labels

Labels to add, press Enter to create a new one

Study Date: 20100205	Patient ID: 42262654			
Study Time: 152123	Patient Name: TEST^ASPECTRATIOS			
Study Descripti... Test images for measurements on different aspect...	Patient Birth Date:			
Accession number: A42262654	Patient sex: M			
Study ID: ASPECTRATIOS	Patient Other IDs:			
Study Instance ... 1.3.6.1.4.1.25403.17170403807.3304.201002050...				

Requesting Physic... This patient has no other studies.

Referring Physicia...

Institution Name:

Series number	Series Description	Modality	# Instances
1	ISOTROPIC (1:1 pixel)	OT	3

<input type="checkbox"/>	BreastDx-01-001	MRI Breast Bilateral with and without Contrast	12/08/2008	MR	5282018218189626	1
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Cloud based DICOM Images Viewer :

The screenshot displays a web browser window with the URL `localhost:3000/viewer?StudyInstanceUIDs=1.3.6.1.4.1.25403.345050719074.3824.20170125095258.1`. The browser's address bar and tabs are visible at the top. The main application window is titled "KFTECH DICOM Viewer" and includes a navigation sidebar on the left and a central image viewer area.

Navigation Sidebar (Left):

- Studies: 25-Mar-2014 (249)
- CT: DFCI CT CHEST W CONTRAST 6023
- Thumbnail 1: S: 1, 2.0
- Thumbnail 2: S: 2, 60, Body 5.0 Lung I+ CE

Central Image Viewer:

- Study ID: 25-Mar-2014 | 2.0
- Dimensions: W: 410 L: 196
- Image: Coronal CT scan of the chest with a yellow line measuring heart width and a green line measuring thorax diameter.
- Orientation: H (Head), R (Right), L (Left)

Measurement Data (Right Panel):

- Heart Width: 130.12mm
- Thorax Diameter: 244.59mm
- Cardiothoracic ratio: 53.20%

An orange arrow points from the measurement data to the corresponding lines on the CT scan image.

System Information (Bottom):

- Windows taskbar: Type here to search, 5:26 PM, 11-Mar-24

DICOM PrintSCP Server :

The image displays two overlapping windows from the DICOM PrintSCP Server software.

Permanent - 10 Modalities (Status Window):

- Printer Active
- Profiles
- Preferences
- About
- Close

Statistics:

- Incoming images : 46
- Active session : MacServer
- Active AE-Title : MacServer
- Print Page : 10 of 14





A donut chart shows 29% completion. A 'LOG' button is visible at the bottom right. A small thumbnail of a medical scan is shown at the bottom center.








ProfileForm (Configuration Window):

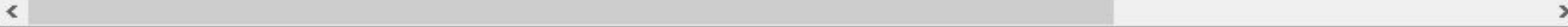
- Profile: Default, MacServer
- AE-Title: Use profile [Default] if your AE-Title = MacServer
- Page: Printer: Print to PDF (Mac Desktop), Paper Size: DMPAPER_A4
- Show Page Header: Select / Unselect, 10
- Page Margins: 10, 10, 10
- Print Header: Show Logo: Select / Unselect, Filename Logo: C:\dev\DCMprinter 5.0\Version 5.1\bin\logo\logo ..., Height Header: 100
- Show Date: Select / Unselect
- Show Time: Select / Unselect
- Show Text: MacServer
- Show Page Nr: Select / Unselect

Buttons: Delete, New Profile, Save, Back

DICOM Node Monitoring :

Status	AE title	IP / Hostname	Port	Description	Echo interval (min)	Echo timeout (sec)
	SERVERAE	188.240.188.142	4108	Avicenna Clear Canvas Server	10	10
	MRAMICRO	202.163.76.73	11112		10	10
	ULTRASOUND	188.240.188.142	4104		10	10
	ORTHANC	172.236.1.29	4242	ORTHANC Cloud Server	10	10



THANKS