MedLockr- A Digi locker for healthcare

Batch Number: CAI-G07

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Introduction

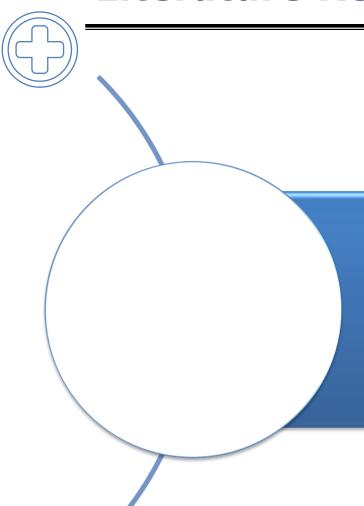




MedLockr presents a revolutionary solution through its centralized digital repository, offering seamless access to medical records. The platform eradicates reliance on physical documents, ensuring prompt and comprehensive data access for healthcare providers. Its user-friendly interface empowers patients to actively manage their health information, fostering engagement. Additionally, the QR code integration enhances accessibility, providing swift access to crucial medical data during emergencies. MedLockr's innovative features position it at the forefront of technological advancements, addressing challenges in traditional recordkeeping and promising a more efficient healthcare future.

Literature Review





This review explores the transformative impact of digital solutions in healthcare, focusing on challenges in medical document management and the groundbreaking MedLockr project. Emphasizing accessibility, security, and operational efficiency, MedLockr pioneers a patient-centric paradigm shift in healthcare. The subsequent sections provide a concise understanding of MedLockr's innovative approach and contributions to reshaping healthcare dynamics.

Research Gaps Of Existing Methods



Inefficiencies in Paper-Based Systems

Limitations of Digital Health Records

Patient Empowerment and Engagement

Security and Privacy Concerns

Efficiency in Emergency Medical Responses

Interoperability and Integration

User-Centric Approach



Proposed Method



User Registration and Login **Session Management HTTPS** Usage **User Registration Flow Document Upload and Download Document Storage QR Code Feature** Library and CDN **OR Code Usage Best Practices** Live Server and PHP **PHP Security Best Practices Security Considerations**

User Feedback Handling Analytics Mobile-Friendly Design **Accessibility Usability Testing Clear Navigation Performance Optimization Backup and Recovery Disaster Recovery Plan Components** Compliance Testing **Documentation**



Objectives



Enhanced User Experience

Secure Document Handling

Quick and Secure Access to Medical Information

Interoperability and Collaboration

Reduction of Administrative Burden

Compliance with Healthcare Regulations

Continuous Improvement and Innovation

Contribution to Digital Transformation in Healthcare

Education and User Empowerment

Scalability and Reliability



Timeline of Project



Task	Start Date	End Date	Duration
Brainstorming and Title Selection	Sep 14	Sep 20	1 week
Literature Survey	Sep 21	Oct 4	2 weeks
Data Collection	Oct 5	Oct 18	2 weeks
Data Segregation	Oct 19	Nov 1	2 weeks
Started with Implementation (Web Designing)	Nov 2	Nov 15	2 weeks
Initial Stages & Planning Solution	Nov 16	Nov 29	2 weeks
Coding & Implementation Stage	Nov 30	Dec 13	2 weeks
Creating Live Server	Dec 14	Dec 27	2 weeks
QR Code Implementation	Dec 28	Jan 10	2 weeks
Examining the Results	Jan 11	Jan 12	1 day
Final Review	Ion 11	Jan 12	1 day
rmai Keview	Jan 11	Jan 12	1 day
Submission	Jan 11	Jan 12	1 day



GANTT CHART



ID	Name	Sep,	2023			Oct, 2023				Nov, 2	023		Dec, 2023				Jan, 2024				
טו	Name	0	10 Sep	17 Sep	24 Sep	01 Oct	08 Oct	15 Oct	22 Oct	29 Oct	05 Nov	12 Nov	19 Nov	26 Nov	03 Dec	10 Dec	17 Dec	24 Dec	31 Dec	07 Jan	14 Jan
2	Coding & Implementation Stage																				
1	Initial Stages & Planning Solution																				
3	Creating Live Server																				
4	QR Code Implementation																				
5	Examining the Results																				
6	Final Review and Submission																				
7	Brainstorming and Title Selection																				
8	Literature Survey																				
9	Data Collection																				
10	Data Segregation																				
11	Started with Implementation (Web Designing)																				



Expected Outcomes



Improved Patient Experience

Efficient Healthcare Services

Enhanced Emergency Response

Digital Transformation in Healthcare

Increased Patient Empowerment

Security and Privacy Measures

Collaboration Across Healthcare Facilities

Adoption and Usage Metrics

Positive Feedback and Testimonials

Seamless Interoperability

Data Analytics for Improved Insights

Empowering Healthcare Literacy



Pseudocode



```
1. User Registration
function registerUser(username, password, email):
  if userExists(username):
    return "Username already exists"
    hashedPassword = hashPassword(password)
    saveUserToDatabase(username, hashedPassword, email)
  return "Registration successful"
2. User Login
function loginUser(username, password):
  if !userExists(username):
    return "User not found"
  storedPassword = getPasswordFromDatabase(username)
  if !verifyPassword(password, storedPassword):
    return "Incorrect password"
  createSession(username)
  return "Login successful"
3. Upload Document
function uploadDocument(username, document):
  if !userExists(username):
    return "User not found"
  saveDocumentToStorage(username, document)
  saveDocumentToDatabase(username, document)
  return "Document uploaded successfully"
```





```
4. Generate QR Code
function generateQRCode(username):
 if !userExists(username):
    return "User not found"
 patientDetails = getPatientDetails(username)
 qrCode = generateQRCodeFromDetails(patientDetails)
 return qrCode
5. Retrieve Patient Details from QR Code
function\ retrieve Details From QRCode (qrCode):
 patientDetails = decodeQRCode(qrCode)
 return patientDetails
6. Retrieve Medical Documents
function retrieveMedicalDocuments(username):
 if !userExists(username):
    return "User not found"
 documents = getDocumentsFromDatabase(username)
 return documents
```



```
7. Main Program
while true:
  displayMenu()
  userChoice = getUserChoice()
  if userChoice == "1": # User Registration
    getUsernameAndPassword()
    registerUser(username, password, email)
  elif userChoice == "2": # User Login
    getUsernameAndPassword()
    loginUser(username, password)
  elif userChoice == "3": # Upload Document
    getUsernameAndDocument()
    uploadDocument(username, document)
  elif userChoice == "4": # Generate QR Code
    getUsername()
    qrCode = generateQRCode(username)
    displayQRCode(qrCode)
  elif userChoice == "5": # Retrieve Medical Documents
    getUsername()
    documents = retrieveMedicalDocuments(username)
    displayDocuments(documents)
  elif userChoice == "6": # Exit
    break
  else:
    displayInvalidChoiceMessage()
```



8. Live Server

- Download 'packetriot' for our system architecture.
- Extract and add path to environment variables of the runnable file.
- The following steps are performed in the windows powershell:

```
PS C:\Users\joelp> pktriot.exe
Usage:
   pktriot [flags]
   pktriot [command]
```

```
available Commands:
              Performs client and networks checks to help diagnose issues
  check
  configure
             Setup account, tunnel, network, and keys
              Update tunnel properties
  edit
  gateway
              Manage the local HTTP/S serving gateway
              Help about any command
  help
              HTTP traffic service (non-persistent)
              Prints information about the tunnel and client
  info
              Inspect HTTP traffic service (non-persistent)
              Manage policy for traffic rules
  ports
              Map local ports to distributed services
              Manage proxies listeners
  proxies
              Starts tunnel and routes traffic to local servers
  start
              TCP traffic relay (non-persistent)
  tcp
              Terminate will destroy the tunnel and remove client configuration
  terminate
              Edit persistent HTTP/TCP traffic rules
  tunnel
             Unmanaged (self-hosted) client configuration
  unmanaged
             Check and manage software updates to the client program Prints version of the client
  update
  version
  windows
              Manage Windows services
Flags:
      --config string
                             path to configuration file
                             help for pktriot
                             address <host:port> for SOCKSv5 proxy
      --socks5 string
      --socks5-auth string credentials <user:pass> for SOCKSv5 proxy
      --tls-insecure
                             disable TLS certificate verification
Use "pktriot [command] --help" for more information about a command.
PS C:\Users\joelp> pktriot.exe configure
Choose a path to the configuration file:
[1] C:\Users\joelp\.pktriot\config.json
Input selection [#]: 1
Authenticate client with login credentials. Created account w/Google SSO? Use --url with 'configure'
Email: joelpremsherin@gmail.com
Password: Login failure:
Email: joelpremsherin@gmail.com
```





Authenticate client with login credentials. Created account w/Google SSO? Use --url with 'configure' Email: joelpremsherin@gmail.com Password: Login failure: Email: joelpremsherin@gmail.com Password: Login failure: Email: joelpremsherin@gmail.com Password: Authenticated! Choose the region for the edge server to connect to: # | Region 1 | us-west 2 | us-east 3 | eu-central 4 | asia-southeast 5 | australia 6 | us-south 7 | asia-south 8 | africa-south

Authenticate client with login credentials. Created account w/Google SSO? Use --url with 'configure'. Email: joelpremsherin@gmail.com Password: Login failure: Email: joelpremsherin@gmail.com Password: Login failure: Email: joelpremsherin@gmail.com Password: Authenticated! Choose the region for the edge server to connect to: # | Region 1 | us-west 2 | us-east 3 | eu-central 4 | asia-southeast 5 | australia 6 | us-south 7 | asia-south 8 | africa-south





```
tailed help and step-by-step tutorials
https://docs.packetriot.com
https://packetriot.com/tutorials.
         ed more support?
        Email: support@packetriot.com
Twitter: @packetriot (please follow us, we like new friends :)
          nel name updated
C:\Users\joelp> pktriot.exe tunnel http add --domain^C
        t C. Wasers Joseph - C. C. Wasers Joseph - C. C. Wasers Joseph - C. Wasers Joseph - C. Wasers Joseph - C. Wasers Joseph - Pktriot.exe tunnel http add --domain lively-morning-57195.pktriot.net --destination localhost -http 80 --letsencrypt ror: unknown shorthand flag: 't' in -ttp
        age:
pktriot tunnel http add [flags]
                                                              restrict traffic using HTTP basic-auth (prompt for credentials)
restrict traffic using HTTP basic-auth (user:password)
fullchain certificate authority (cA) for custom certificate
path to document that is loaded on 404 (static-sites only, e.g. /default.html)
destination IP address or hostname
destination IP address or hostname
enable 2PA (requires password
help for add
rewrite the host field in the HTP header to a new value
HTTP port on destination host
HTTP port on destination for the HTP header to a new value
enable 2PA (requires password)
private key for custom certificate
uses Lets Encrypt for setting up certificates
protect website with password (session cookies)
redirect HTPP requests to HTTPS (default trust-/original-path-
HTPP port on destination host (transparent TLS proxy)
upstream URL for destination host (transparent TLS proxy)
upstream URL for destination host (transparent TLS proxy)
serve static assets from directory path
              :
--basic-auth
--basic-auth-inline string
--ca string
--default-doc string
                --destination string
               --destination string
--domain string
--enable2FA
--help
--host-header string
--http int
                --insecure-upstream
                --key string
--letsencrypt
--password
--redirect
                --redirect-url string
--tls int
                 -upstream-url string
-webroot string
         sbal Flags:
--corfig string path to configuration file
--corfig string address <nost;port> for SOCKSV5 proxy
--socks5-auth string credentials <user:pass> for SOCKSV5 proxy
--tls-insecure disable TLS certificate verification
        C:\Users\joelp> pktriot.exe tunnel http add --domain lively-morning-57195.pktriot.net --destination localhost --http 80 --letsencrypt
       TTP/S traffic rule added
         C:\Users\joelp> pktriot.exe info
        :\Users\joelp> pktriot.exe info
              Hostname: lively-morning-57195.pktriot.net
Server: asia-southeast-48343.packetriot.net
IPv4: 206.189.80.59
IPv6: 2400:6180:0:d1::7a9:1
 HTTP services:
                                                                        | Destination | HTTP | TLS | Secure | Protect | Site Root
   Domain
   lively-morning-57195.pktriot.net | localhost | 80 | 0
                                                                                                                                         | true
 PS C:\Users\joelp>
 PS C:\Users\joelp>
PS C:\Users\joelp>
 PS C:\Users\joelp>
 PS C:\Users\ioelp>
 PS C:\Users\joelp>
 PS C:\Users\joelp>
PS C:\Users\joelp> pktriot.exe start
Connected to asia-southeast-48343.packetriot.net...
  Running HTTP services:
   Domain
   lively-morning-57195.pktriot.net | localhost | 80 | 0 | true
 Certificates from LetsEncrypt:
   Certificate Domain
                                                                        | Status | Expiration
   lively-morning-57195.pktriot.net | --
                                                                                         | Jan 1 00:00 0001
 Tunnel session has expired on server, tearing down tunnel..
 Tunnel connection was severed Jan 8, 2024 @ 11:13, reconnecting (attempt #1) in 30 seconds...
Tunnel session has expired on server, tearing down tunnel.
Connected to asia-southeast-48343.packetriot.net...
Running HTTP services:
```





Tunnel session has expired on server, tearing down tunnel...

Connected to asia-southeast-48343.packetriot.net...

Running HTTP services:

Domain	Destination				Site Root
lively-morning-57195.pktriot.net	localhost	88	0	true	
+					+

Certificates from LetsEncrypt:

Certificate Domain	Status	Expi	r	ation		
lively-morning-57195.pktriot.net		Jan		00:00	0001	

Tunnel session has expired on server, tearing down tunnel...

Tunnel connection was severed Jan 8, 2024 @ 13:46, reconnecting (attempt #2) in 30 seconds... Connected to asia-southeast-48343.packetriot.net...

Running HTTP services:

+ Domain 	Destination	HTTP	TLS	Secure	Protect Site Root	
lively-morning-57195.pktriot.net		80	e	true		

Certificates from LetsEncrypt:

Certificate Domain		Expiration	
lively-morning-57195.pktriot.net		Jan 1 00:00	0001

Tunnel session has expired on server, tearing down tunnel...

Tunnel connection was severed Jan 8, 2024 \emptyset 14:03, reconnecting (attempt #3) in 30 seconds... Connected to asia-southeast-48343.packetriot.net...

Running HTTP services:

+					-+
Domain	Destination				
lively-morning-57195.pktriot.net		80	true	 I	ī



Running HTTP services:							
Domain	Destinatio	n НТТР	TLS	S	ecure	Protect	Site Root
lively-morning-57195.pktriot.net	localhost	80	θ	t	rue		l
Tunnel session has expired on server	, tearing dow	n tunnel					
Tunnel connection was severed Jan 8, Certificates from LetsEncrypt:	2024 @ 14:04	, reconnec	ting (att	empt :	#4) in 30	seconds	
Certificate Domain	Status	Expiratio	n	į			
lively-morning-57195.pktriot.net	I I	Jan 1 00:	00 0001	İ			
Connected to asia-southeast-48343.pa	cketriot.net.						
Domain	Destinatio	n HTTP	TLS	S	ecure	Protect	Site Root
lively-morning-57195.pktriot.net	localhost	80	θ	tı	rue		l
Certificates from LetsEncrypt:							
Certificate Domain	Status	Expiratio	n	į			
lively-morning-57195.pktriot.net	I I	Jan 1 00:	00 0001	į			
Tunnel session has expired on server	, tearing dow	n tunnel					
Tunnel connection was severed Jan 8, Connected to asia-southeast-48343.pa			ting (att	empt :	#5) in 30	seconds	
Running HTTP services:							
Domain	Destinatio	n HTTP	TLS	S	ecure	Protect	Site Root
lively-morning-57195.pktriot.net	localhost	80	θ	t	rue		
 							



Certificate Domain Status Expiration
lively-morning-57195.pktriot.net Jan 1 00:00 0001

Tunnel connection was severed Jan 8, Connected to asia-southeast-48343.pa			onnectir	ng	(attem	pt #6)	in 3	30 s	econds			
Running HTTP services:												
Domain	Destination									S:	ite Root	ĺ
lively-morning-57195.pktriot.net	localhost	I	80	1 (ө ө	true	:	I		l -	-	
Certificates from LetsEncrypt:												
Certificate Domain	Status	Expi	ration									
lively-morning-57195.pktriot.net					01							
Tunnel session has expired on server	, tearing down	tun	nel									
Tunnel connection was severed Jan 8, Connected to asia-southeast-48343.pa			onnectir	ng	(attem	pt #7	in 3	30 s	econds			
Running HTTP services:												
Domain	Destination	1	нттр	1	TLS	Seci	ıre	P	rotect	S:	ite Root	
lively-morning-57195.pktriot.net	localhost	ı	80	1	 Ө	true	:	I		I -	-	
Certificates from LetsEncrypt:												
Certificate Domain												
lively-morning-57195.pktriot.net	l l	Jan :	1 00:00	990	01							
,												



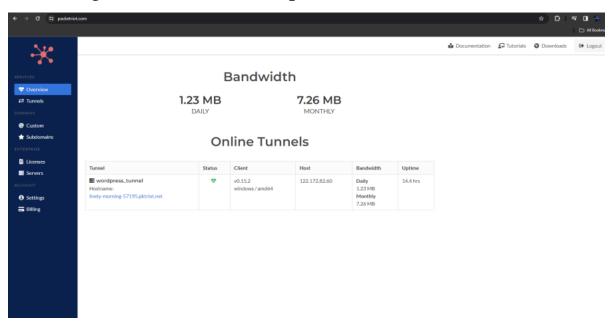
Tunnel connection was severed Jan 8, Connected to asia-southeast-48343.pag		connectin	g (atter	ıpt #6) in 3	80 seconds			
Running HTTP services:								
Domain	Destination	HTTP	TLS	Secure	Protect	Site Root		
lively-morning-57195.pktriot.net						I		
Certificates from LetsEncrypt:								
Certificate Domain	Status Exp	iration						
lively-morning-57195.pktriot.net								
Tunnel session has expired on server, tearing down tunnel Tunnel connection was severed Jan 8, 2024 @ 20:54, reconnecting (attempt #7) in 30 seconds Connected to asia-southeast-48343.packetriot.net								
Running HTTP services:								
+ Domain	Destination	нттр			Protect	Site Root		
lively-morning-57195.pktriot.net	localhost	80	θ	true	l	I		
Certificates from LetsEncrypt:								
Certificate Domain	Status Exp	iration						
lively-morning-57195.pktriot.net	Jar	1 00:00						
,								

These steps are followed to create a free domain online where we can connect our localhost.





Monitoring can be done in the packetriot website.



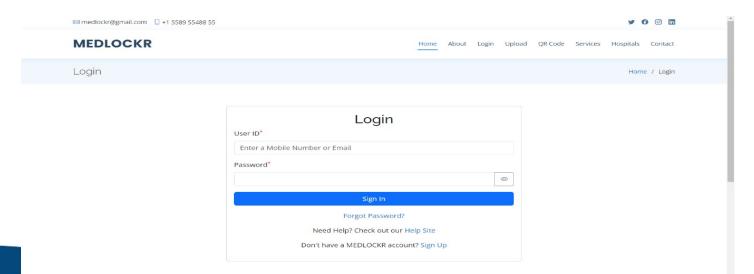
- lively-morning-57195.pktriot.net (Our Domain Name).
- lively-morning-57195.pktriot.net/QR-Code (The link that has been attached to the QR Code Button).



Screenshots

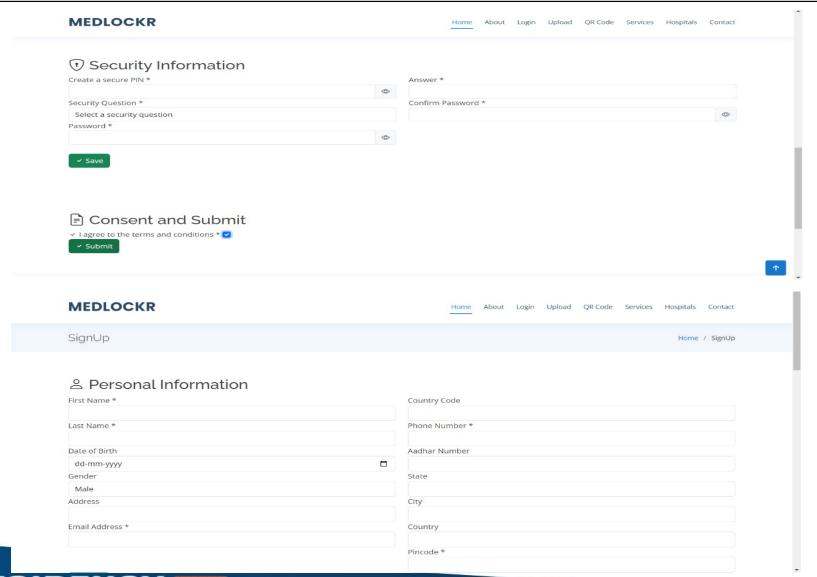












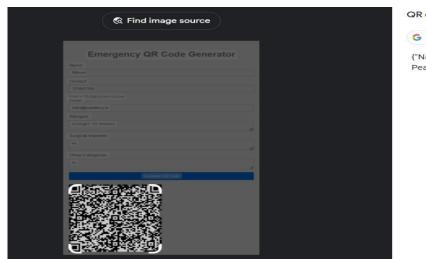




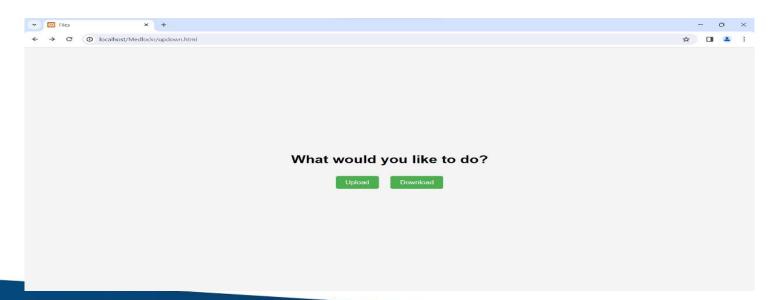
Emergency QR Code Generator

Name:	
Rithesh	
Contact:	
1234567890	
Enter a 10-digit phone number Email:	
hello@presidency.in	
Allergies:	
Allergic TO Peanuts	
Surgical Implants:	
No	1.
Other Categories:	
No	
Generate QR Code	
#-34 PM30 USE \$447 (\$449 M)	













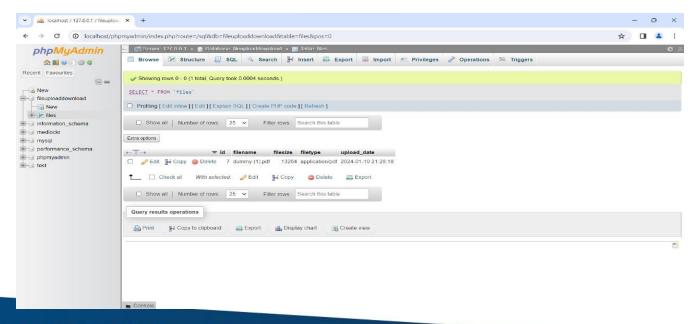




The file dummy (1).pdf has been uploaded and the information has been stored in the database.









Conclusion



In conclusion, MedLockr is a transformative healthcare technology, addressing the challenges of traditional medical record management. The platform's centralized digital repository and user-friendly interface enhance patient experience, streamline healthcare services, and improve emergency responses through QR code integration. MedLockr's multidisciplinary approach in design and agile development methodology ensures adaptability to changing healthcare dynamics. The platform's real-life impact is evident in reduced administrative burdens for patients and swift access to comprehensive medical histories for healthcare providers. MedLockr not only represents a technological advancement but also signifies a paradigm shift towards patient empowerment and improved outcomes in the evolving healthcare landscape.



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Thank You