

PATIENT CARELINK: GIS ENABLED SEAMLESS REFERRAL COMMUNICATION MODEL

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Introduction

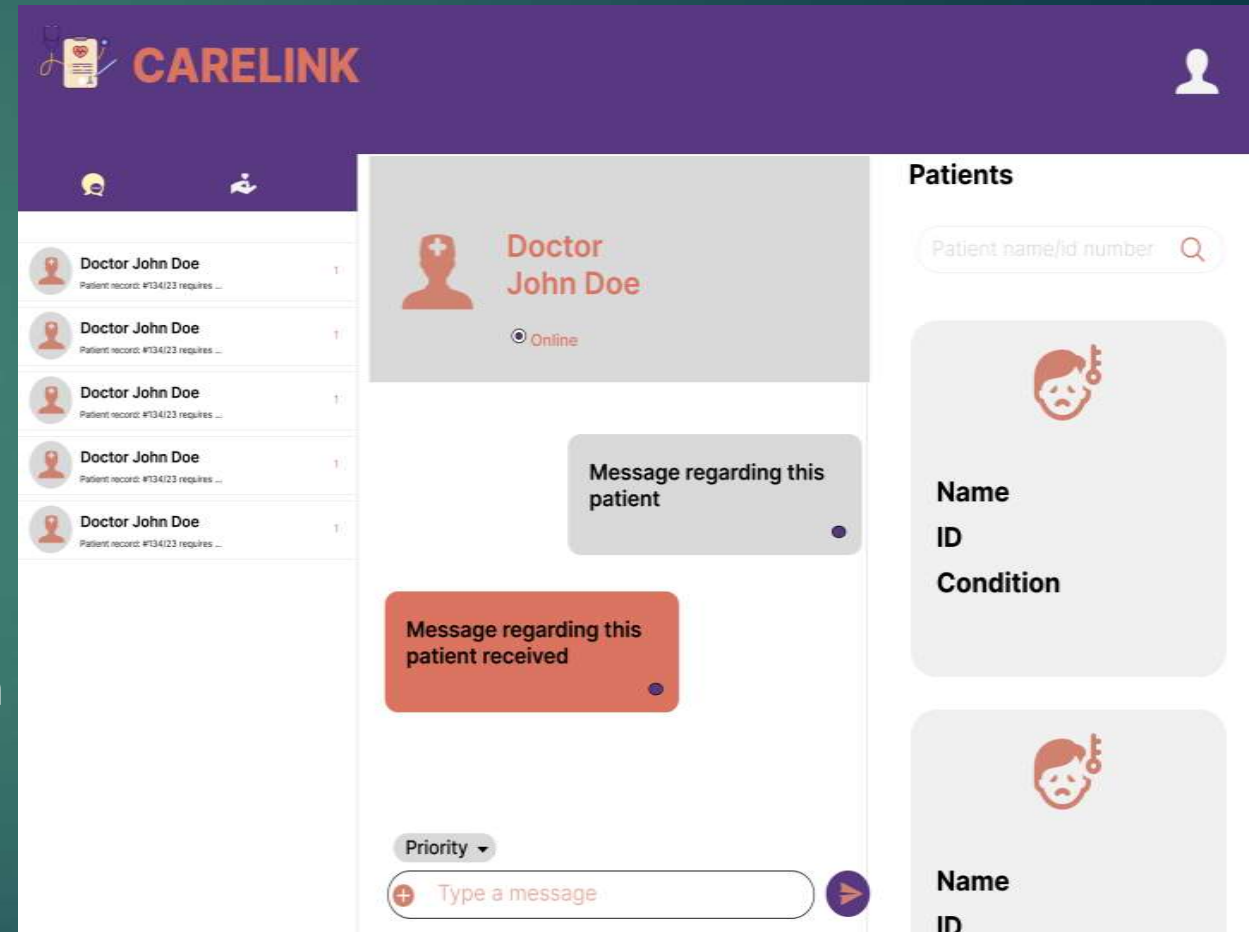
- ▶ **Patient CareLink** represents a significant advancement in healthcare communication and referral systems **already linked 4800 Health facilities, awaiting test run.**
- ▶ Integrates **real-time communication, spatial reporting, and route optimization**, the application addresses critical inefficiencies in the current system.
- ▶ Implementation of **Patient CareLink** has the potential to improve patient outcomes, reduce costs, and enhance the overall efficiency of healthcare providers.
- ▶ As the healthcare landscape continues to evolve, **Patient CareLink** stands as a testament to the power of innovative technology in transforming patient care.

PROBLEM

- ▶ Patient – not informed on where - advanced care- increased morbidity, disability & mortality -lack of effective and seamless referral system & communication to patients and among healthcare providers within the **OpenMRS 3.X platform from community – health facility – community care** .
- ▶ Lack of a messaging system that allows clinicians to efficiently and securely share critical information in real-time.
- ▶ Delays in decision-making, potential oversights in patient care, and a lack of coordination among different service providers involved in a patient's treatment continuum.
- ▶ Lack -structured notification system and audit trail - exacerbates the challenge by hindering timely alerts and comprehensive tracking of user activities.
- ▶ Improved referral communication - data security - fostering collaboration among healthcare professionals through the implementation of a robust, secure, and user-friendly messaging system within the OpenMRS 3.X platform.

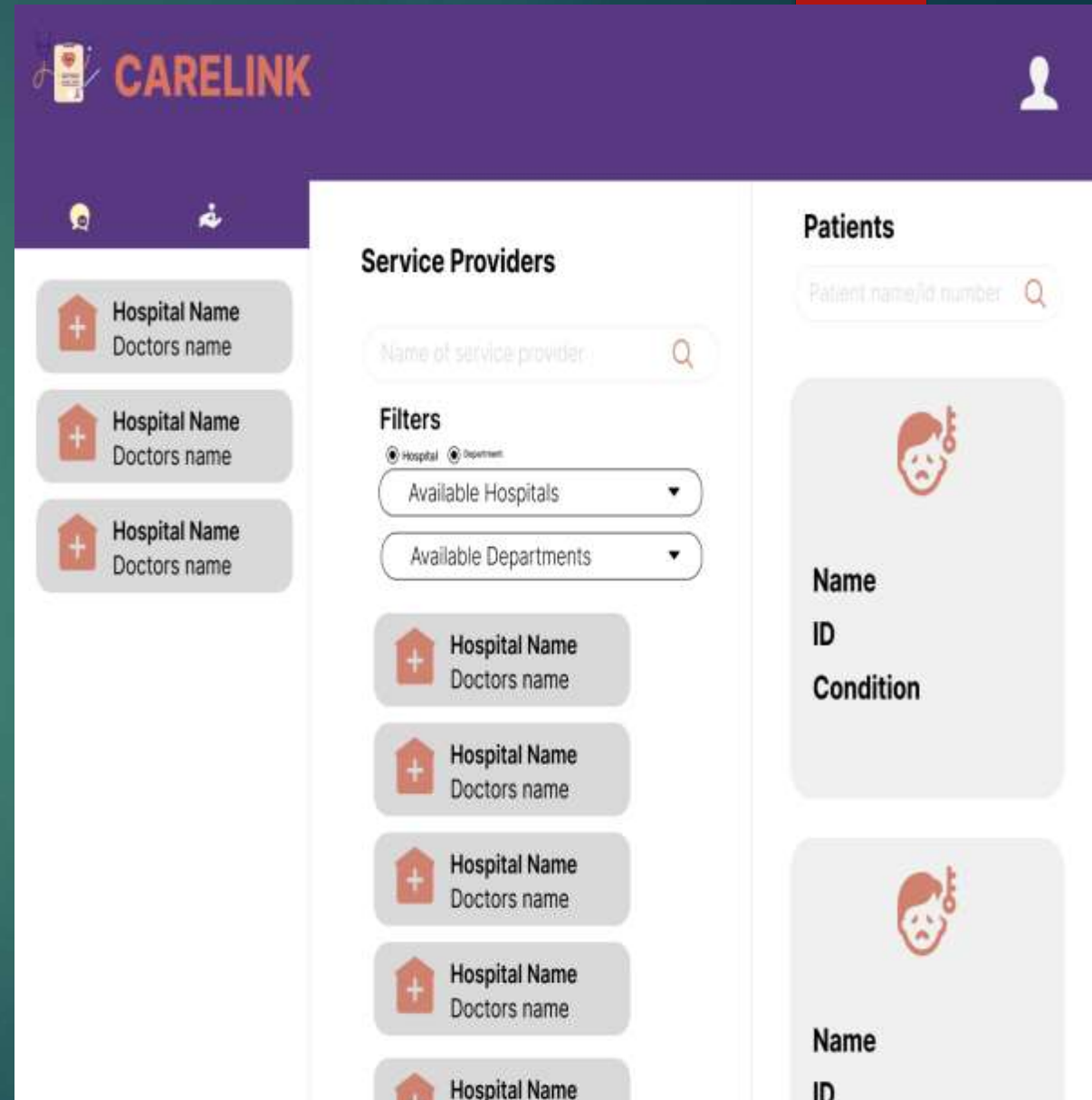
Key features

- User Friendly and easy to navigate and friendly user interface for faster communication
- Secure real-time messaging interface within the **OpenMRS 3.X** platform.
- Ability for one provider to highlight client issues for another service provider.
- Clinician's capability to draw attention to a pharmacist regarding client concerns.
- Seamless communication for Point of Care (PoC) management of clients.
- Integration with the digital health application for efficient provider communication
- Integration with Patient Records.
- Customizable notification System.



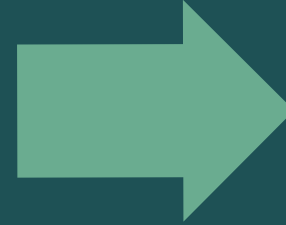
Key features

- Secure Communication: end-to-end encryption to safeguard patient information during transmission.
- File attachment support
- Message history search
- User roles and permission
- Audit trail for accountability
- Mobile accessibility to enhance responsiveness and flexibility
- Integrated with other systems e.g. Queuing system



Realtime communication process

Healthcare provider 1 e.g.. Clinician to patient



Healthcare provider 2 e.g.. Lab technician to clinician

- Identification of issue
- Assessing the messaging system
- Composing the message (text, attachments)
- Priority marking
- Sending message
- Receipt confirmation

- Notification alerts
- Message review
- Assessment and action
- Replying to the message
- Sending the response
- acknowledgment

Realtime communication process

- ▶ Communication to patients and between the healthcare providers - facilitated by integrated messaging system within the openMRS 3.0 platform
- ▶ Messages are composed, sent, and received in real-time, allowing for timely collaboration and decision-making in patient care.
- ▶ Priority marking, confirmation of receipt, and acknowledgment features ensure-urgent issues are promptly addressed, and all parties are informed of the status of the communication.

Product overview

New healthcare providers create their accounts



CARELINK



Already have an account, [login](#)

[register](#)

Product overview

Easy login with username and password

9



CARELINK

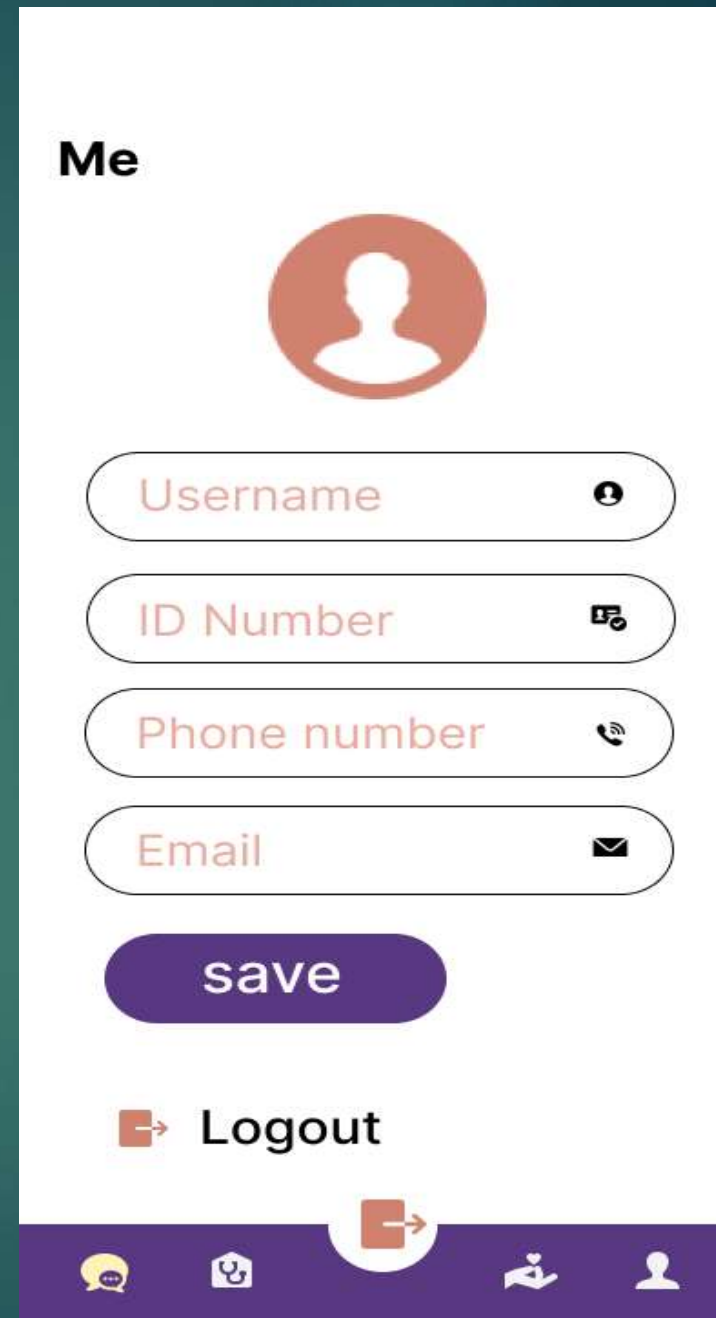


Don't have an account, [register](#)

login

Product overview

Provides user friendly interface and allows healthcare provider customization to there preference



Product overview


Allows search for healthcare providers in other healthcare centers through filtering

Service Providers

Name of service provider 

Filters

Hospital Department

Available Hospitals 

Available Departments 



Hospital Name
Doctors name



Hospital Name
Doctors name

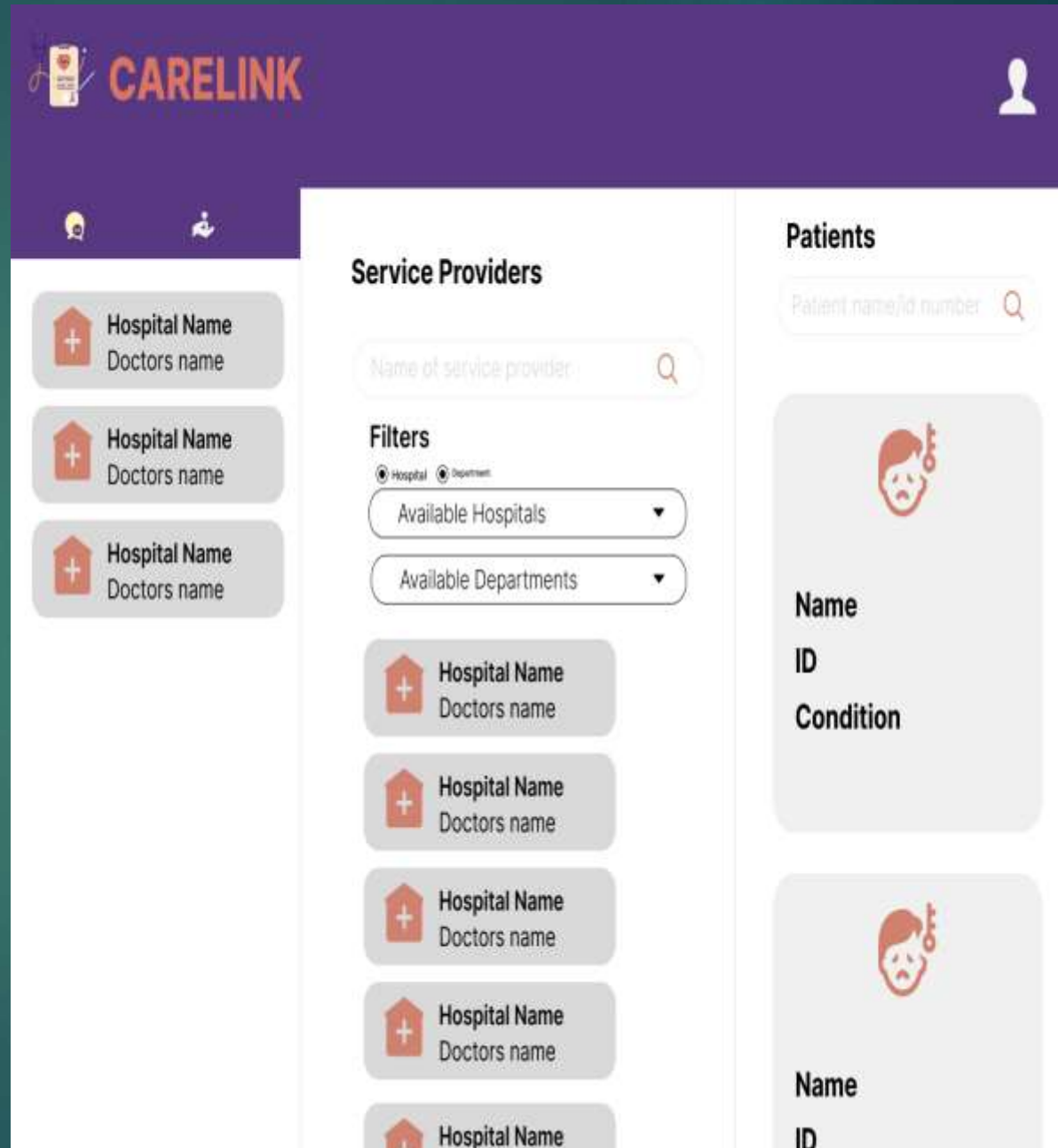


Hospital Name
Doctors name



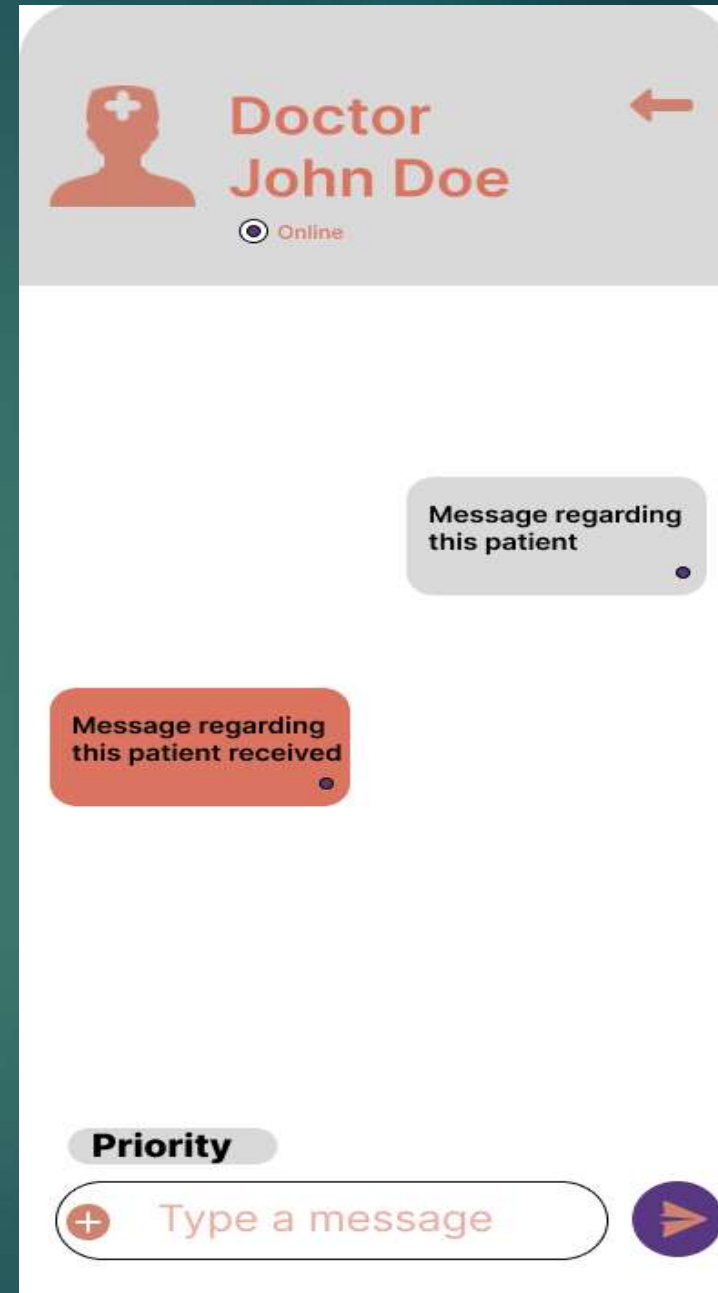
Product overview

Allows search for healthcare providers in other healthcare centers through filtering



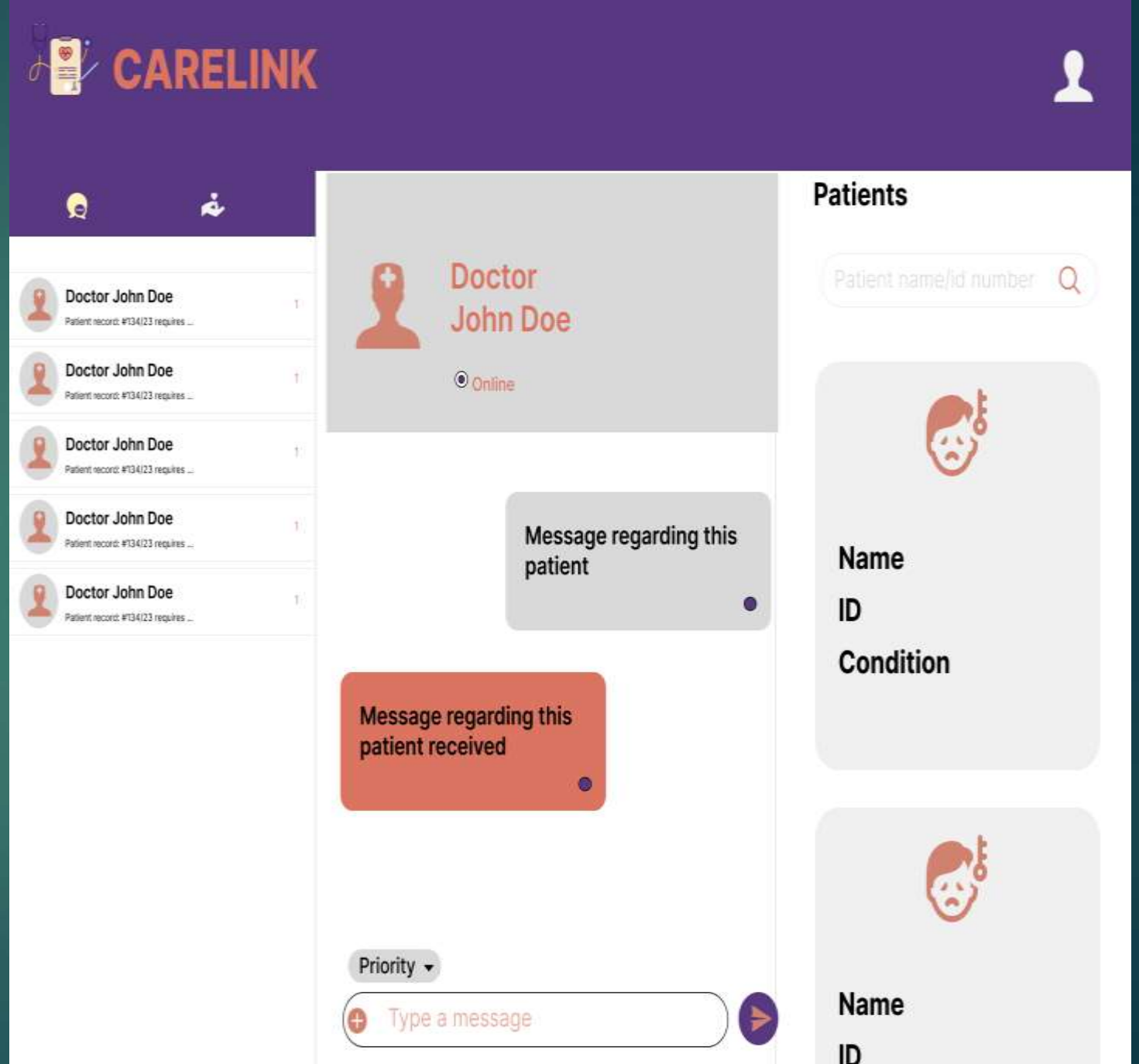
Product overview

Simple messaging interface where you can mark the message priority



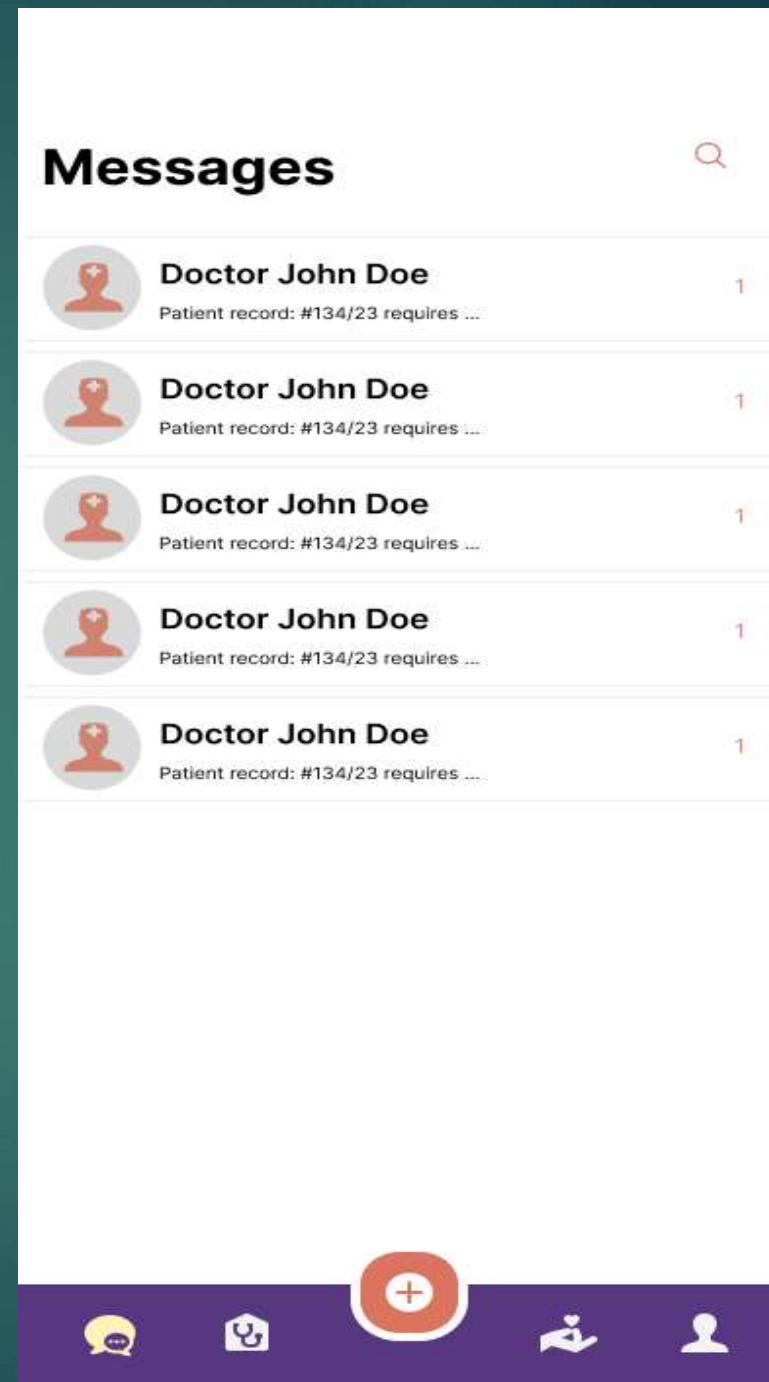
Product overview

Simple messaging interface where you can mark the message priority



Product overview

Allows healthcare provider to view the communication history



Product overview

Generates report about healthcare providers activities e.g. their message response, to admin

The screenshot shows the CARELINK user profile page. At the top, there is a purple header with the CARELINK logo on the left and a user profile icon on the right. Below the header, the page is titled "Me". On the left side, there are four input fields for "Username", "ID Number", "Phone number", and "Email", each with a corresponding icon (lock, ID card, phone, and envelope). Below these fields is a "save" button. On the right side, there is a large orange circular profile picture placeholder. Below the profile picture are two buttons: "Upload" (with a cloud and arrow icon) and "View" (with an eye icon). At the bottom right, there is a "Logout" button (with a red square and arrow icon). At the bottom left, there is a "Generate Report" button (with a document icon).

GIS Enabled

- ▶ Spatial reports: generates detailed spatial reports that can highlight patient locations, healthcare facility capacities & locations, and other critical data.
- ▶ Route optimization: provides the shortest route options between healthcare facilities, reducing travel time and improving logistical efficiency.
- ▶ Priority messaging: enables users to mark messages as high, medium, or normal priority, ensuring that critical issues are addressed promptly.
- ▶ User-friendly interface: designed to be intuitive and accessible, minimizing the learning curve for healthcare providers.
- ▶ Provide capability to be linked with other health care application i.e. queuing system, health education system etc.

Product overview

Generates report about healthcare service overview providers to admin

Weekly Report ▼

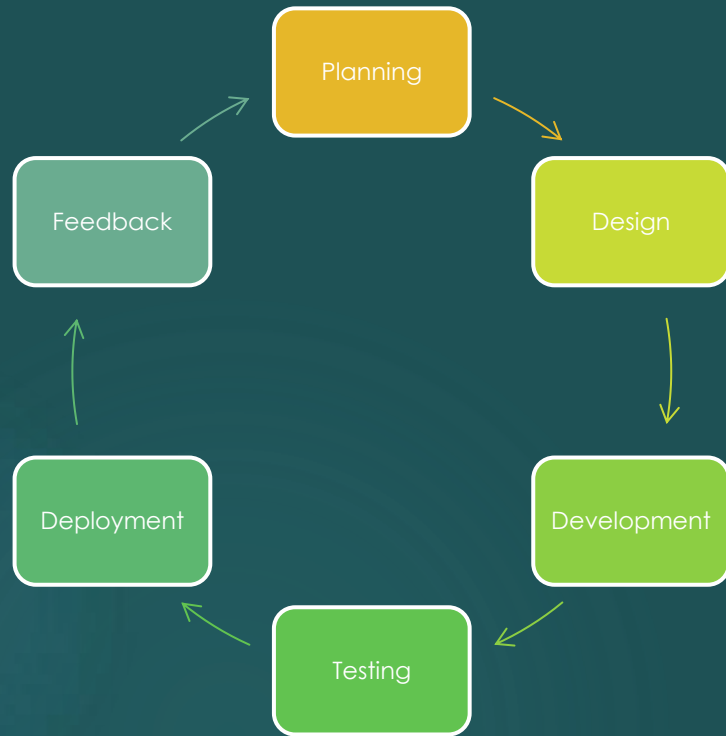
Patient Name	Date	Primary Provider	Check-Up Details	Referral Provider	Referral Reason	Referred To	Referred From
John Doe	3/6/2024	Dr. Emily Wilson	Annual physical, BP high	Dr. Michael Chen (Cardiologist)	Elevated blood pressure, cardiac evaluation	Cardiologist	Primary Care
Jane Smith	3/7/2024	Dr. Robert Lee	Follow-up after surgery	Dr. Sarah Thompson (Physical Therapist)	Post-op rehabilitation	Physical Therapist	General Surgery
Michael Johnson	3/8/2024	Dr. Jessica Kim	Routine check-up	N/A	No referral needed	N/A	N/A
Emily Davis	3/9/2024	Dr. David Brown	Persistent headaches	Dr. Amit Patel (Neurologist)	Neurological evaluation for headaches	Neurologist	Primary Care

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 Save report

Conclusion



App connected to **4800** health facilities in Kenya

Next steps- Conduct user testing and surveys to identify pain points and optimize the user experience. Our team of experienced developers and designers will work closely with our medical partners to ensure that the app meets all necessary safety and privacy standards.

Risk and success factors

20



➤ Integration with OpenMRS 3.X Platform:

Risk: Ensuring smooth integration with OpenMRS 3.X may face technical challenges.

Success Factor: Close collaboration with OpenMRS developers to overcome integration barriers and ensure secure access to client data for real-time communication.

➤ User Acceptance:

Risk: Providers may be hesitant to adopt real-time referral messaging due to technology unfamiliarity.

Success Factor: Designed intuitive interfaces, provide clear instructions, and offer training to enhance user acceptance. Continuous feedback incorporation to improve user experience and engagement.



➤ **Security/Privacy Concerns:**

- **Risk:** Potential data breaches and loss of patient privacy could result in significant harm to users.
- **Success Factor:**
 - Robust security measures will be implemented at all stages of application development and operation to ensure the confidentiality and integrity of user data. This includes encryption of sensitive information, adherence to best practices in data handling, and regular security audits.

Way forward

22



- **Ready to dry run.....partnerships & collaboration**
- The Carelink app is a game-changer for health care providers real-time communication, providing a safe, convenient, and discreet way to send and receive multimedia messages. Our team is committed to delivering a high-quality, user-friendly app that meets the needs of healthcare providers and partners.
- With Carelink, we aim to make a positive impact on the lives of patients and the community at large, while also promoting innovation and technological advancement in healthcare.



Thank you