

emorphis  
Innovation in Motion

Solution for  
**HealthTech Device**



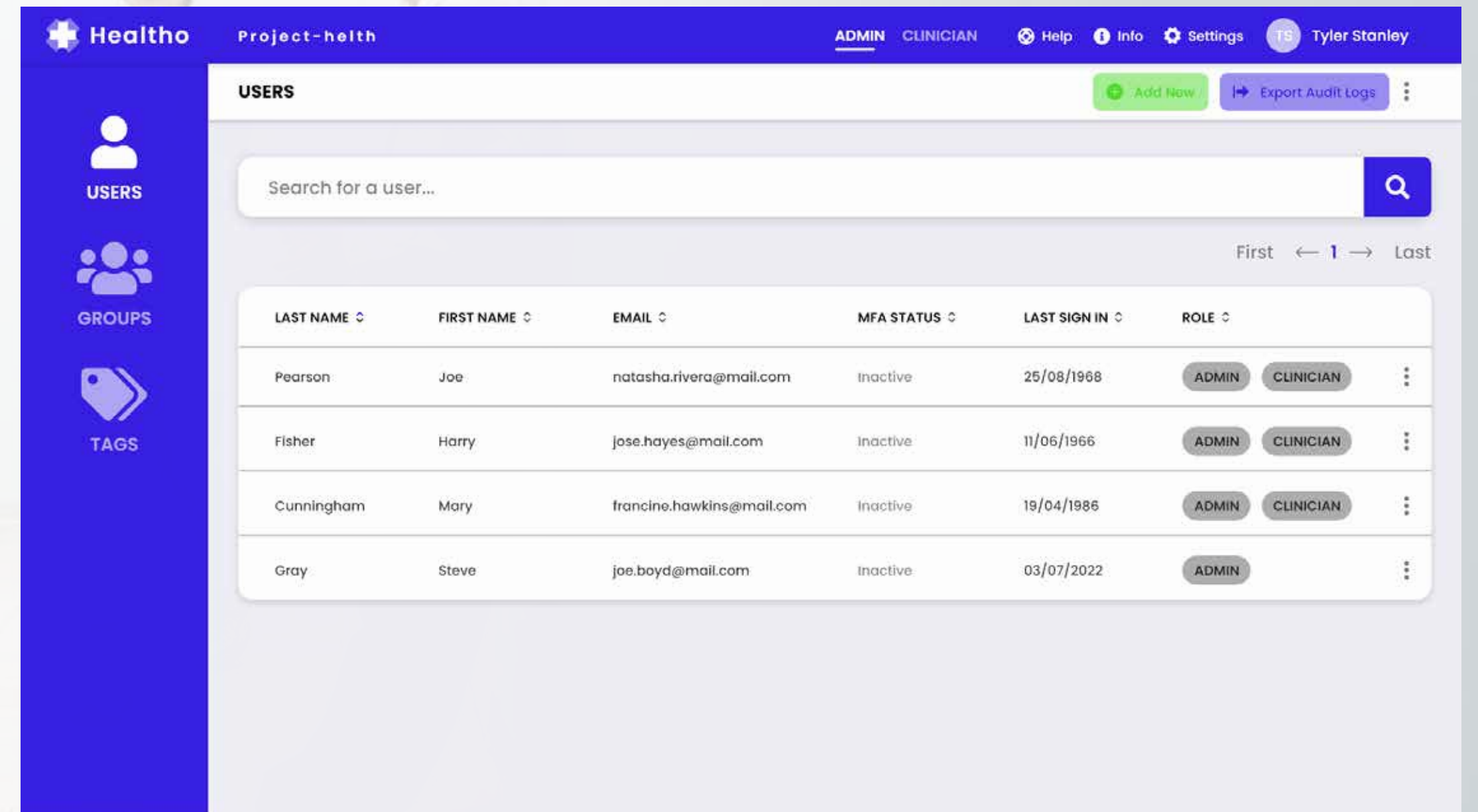
## Case Study

# | Healthcare Device Solutions

# Solution for HealthTech Device

## Client

The client is a leading manufacturer of health tech devices, involved in research, clinical trials for early detection of irreversible chronic diseases. In such diseases like lymphedema (a side effect of cancer treatment), post-cancer rehabilitation, and heart failure, prevention is possible only if detected early.



The screenshot displays the 'Healtho' user management interface. The top navigation bar includes the 'Healtho' logo, the project name 'Project-health', and user roles 'ADMIN' and 'CLINICIAN'. A user profile for 'Tyler Stanley' is visible in the top right. The main content area is titled 'USERS' and features a search bar, an 'Add New' button, and an 'Export Audit Logs' button. A table lists four users with columns for Last Name, First Name, Email, MFA Status, Last Sign In, and Role. The roles are 'ADMIN' and 'CLINICIAN'.

LAST NAME	FIRST NAME	EMAIL	MFA STATUS	LAST SIGN IN	ROLE
Pearson	Joe	natasha.rivera@mail.com	Inactive	25/08/1968	ADMIN CLINICIAN
Fisher	Harry	jose.hayes@mail.com	Inactive	11/06/1966	ADMIN CLINICIAN
Cunningham	Mary	francine.hawkins@mail.com	Inactive	19/04/1986	ADMIN CLINICIAN
Gray	Steve	joe.boyd@mail.com	Inactive	03/07/2022	ADMIN



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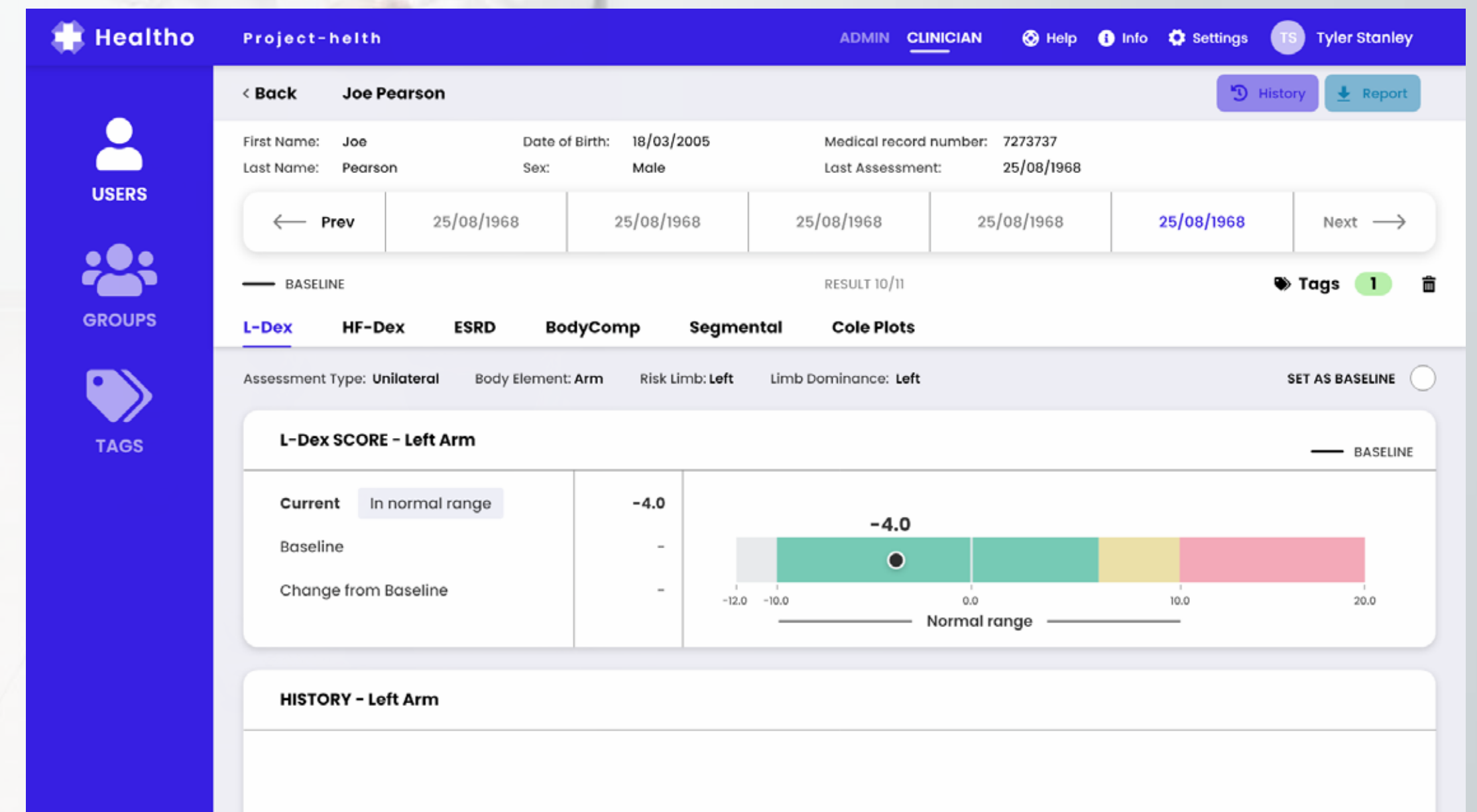
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## Project Description

The client's Healthtech device works on the principle of measuring impedance on various frequencies and provide the resultant data on Bluetooth. Only contact of bare palm and foot with the conductive surface of the device is required for the measurement process to conduct.

BIS is the most advanced method of using bioimpedance measurements to assess fluid levels and tissue composition. Bioimpedance measurements are taken by sending a painless electrical current through the body and measuring the body's resistance and reactance to this electrical current. BIS technology uses these signals to quickly and non-invasively assess fluid and tissue status of patients to manage chronic disease.

Bioimpedance spectroscopy (BIS) is the only noninvasive, low-cost technology that can accurately measure a patient's total body water, extracellular and intracellular fluid volumes in a clinical setting. This detailed data can help healthcare professionals with early detection, assessment, and interventions for chronic conditions.



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### Challenges:

Interactive mobile iOS app was to be developed with a very complex algorithm and features. Whole activity was to be carried out with respect to SaaS based offering of the client.

Maintaining high data security, user friendly interface, multiple reports were some of the few challenges.

### Solutions:

#### Overview:

Client's health tech device along with Emorphis mobile the app provides a solution to measure a patient's total body water, extracellular, and intracellular fluid volumes to aid in the assessment and interventions for chronic diseases. Various descriptive reports, charts, and graphs in the application help decide on further medication to patient and intensive research on the subject.





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### Features:

- Manages users, groups, and tags under SaaS-based application
- Secured user registration with high password security
- Configurable in-activity-based sign-out
- Multi-factor authentication
- “Single sign-on” login
- Multiple assessments auto-captured within 30 seconds including right arm, left arm, right leg, left leg
- Saving of various findings (more than 8 parameters) in % and scores along with baseline
- Consolidated Graphs, pie-charts for representing patient condition over some time, with the help of periodic assessments
- Reports generation from six different perspectives and their downloads
- Data transfer to EHR





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### Benefits:

- SaaS-based application with centralized control with device manufacturer.
- A very deep analysis within no time.
- No need for any surgical or invasive procedure
- Early detection of disease, even before the symptoms appear help to decide the medication and prevent patient from chronic illness.

### Tech Stack

- i. Application implemented for iOS and Android both to be available on iPad & tablet.
- ii. Bluetooth V4.0 Classic Encryption Standard (V2.1+EDR) based communication of the Android Tablet with the Device.
- iii. Bluetooth V4.1 BLE-based communication of the iOS Tablet with the Device.
- iv. Java language used for Android app development.
- v. SWIFT language used for iOS app development.





A close-up photograph of two people in business attire shaking hands. The person on the left is wearing a blue and white checkered suit jacket, and the person on the right is wearing a dark brown suit jacket. The background is blurred, showing other people in a professional setting.

# emorphís

## Let's Connect!

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