ONE FOR ALL. THE CENTRAXX® PATIENT-APP

CENTRAXX®

GOOD MORNING MARC EDEN. WHAT WOULD YOU LIKE TO DO?

View your patient records

View your studies

Home | Patient record | Research | Messages
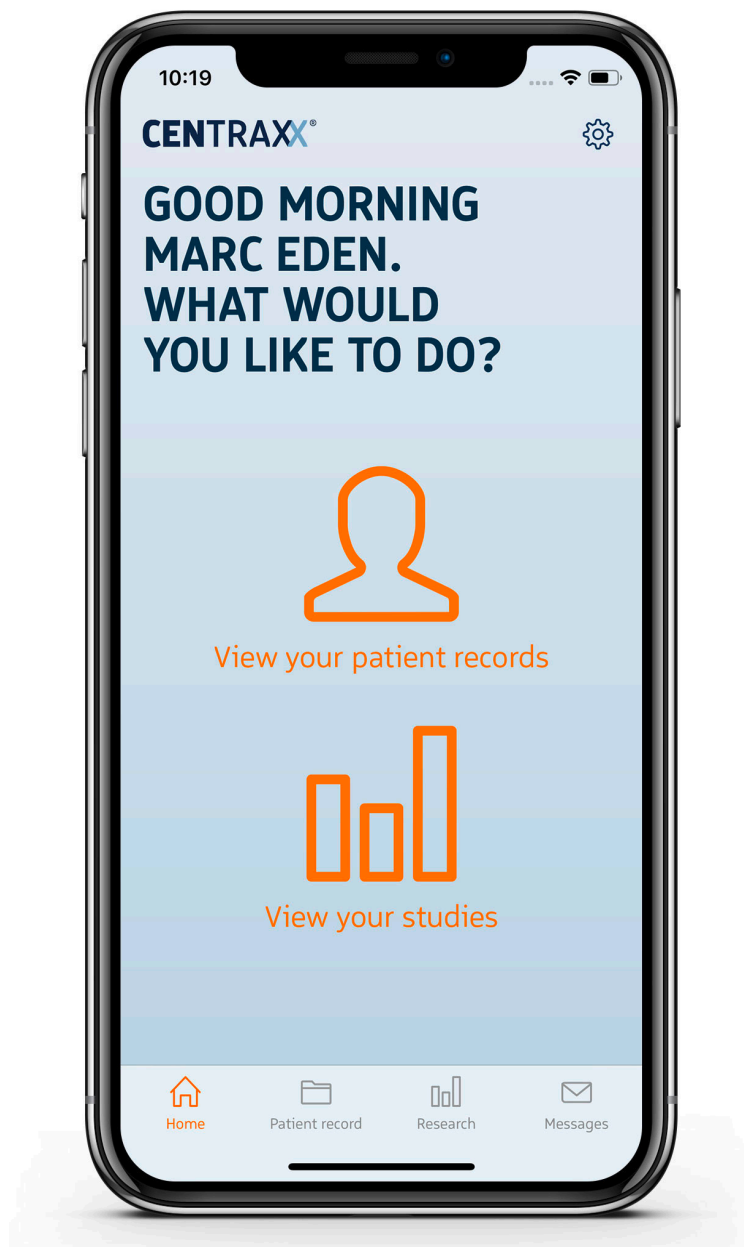
With the CentraXX Patient App, both medical care and research already have a new, additional instrument at their disposal to significantly increase effectiveness.

The improvement of communication between doctor/patient, researcher/ proband fulfils the applicable legal requirements, which result from §630g BGB (inspection of the patient file) and Art. 20 DSGVO (right to data transfer in a structured, common, machine-readable form).

The CentraXX Patient App complements the existing CentraXX product family. While physicians and researchers have been the user target group in the sense of an expert system, the app has also been developed for simple and uncomplicated use by patients.

CENTRAXX® PATIENT-APP

The CentraXX Patient App is the technical platform for the collection and exchange of personal patient/proband data. It can be used, for example, to provide detailed or generally valid declarations of consent or patient reported outcomes. The application enables patients to submit their own assessments and evaluations of their own state of health directly to the clinic digitally on a regular, timely (24/7) and independent basis.

Both individually created questionnaires (eCRFs) and, for example, ICHOM* standard sets can be used to structure the information.

(*The International Consortium for Health Outcomes Measurement (ICHOM) in Boston is an independent non-profit institute that, together with patients, physicians and quality experts, has developed standard sets (STS) for medical outcome measurement that can be used free of charge.)

With regard to recruitment for clinical studies, the use of the CentraXX patient app leads to genuine win-win situations: On the one hand, the clinic can directly and specifically inform persons identified in its research IT who are suitable for studies and with whom it is permanently networked via the CentraXX Patient App about the possibility of participating in a suitable study.

On the other hand, the patient/proband also benefits from this always up-to-date information transfer and the associated opportunity to participate in planned or current studies for which he or she is suitable.

Finally, the quality and success of studies as a whole are significantly improved by this effective recruitment opportunity for the largest possible number of suitable participants.

The app thus becomes a matching platform ¬- the interface between doctor/patient, researcher/proband and/or third parties, such as the pharmaceutical industry.

Would you like to learn more about the CentraXX Patient App? Or are you already a CentraXX user and would like to integrate this module into your CentraXX architecture?

Then please contact KAIROS >info@kairos.us

NOW IS THE TIME. **> kairos.us**

FUNCTIONAL CONCEPTION
OF THE CENTRAXX®-PATIENT-APP

The CentraXX Patient App is the only module in the CentraXX product family that has been developed not only for use by physicians/researchers, but also for the broad target group of patients and test persons. Its simple, intuitive handling is the basic prerequisite for successful doctor-patient, researcher-proband communication and its acceptance in the entire field of Patient Reported Outcomes (PRO). The information gained from the patient's personal assessments of their state of health and course of therapy serves not only to improve individual therapy, but also for studies.
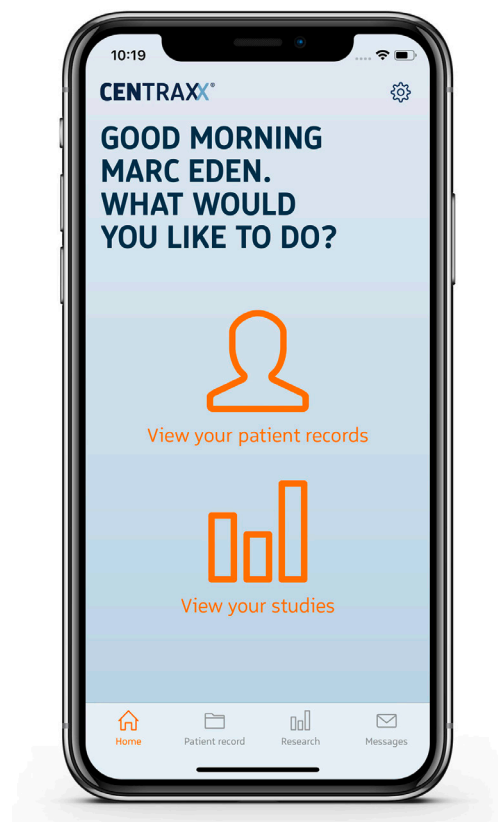
By using the patient app on the patient's personal smartphone or tablet, the app can be used at any time and from any location to transmit or retrieve data.

Patients/test persons who do not possess a smartphone or tablet can still use the app via a web interface.

Data that provides the physician with important additional information as additional decision-making aids.

Data that is also of great importance for the patient in terms of patient empowerment and decision support models.

The CentraXX patient app is functionally divided into three large application areas:

> **Personal patient record**
> **Recruitment for and execution of studies / data capturing**
> **Communication**

PERSONAL PATIENT RECORD

By using the CentraXX Patient App, the patient gains access to all data that is stored about them in a corresponding CentraXX instance. The data is divided into different areas, such as episodes, diagnoses, measurement results, etc. and it can only be viewed and read by the patient, i.e. protected from processing by the patient.

The data is synchronized automatically and at regular intervals. It is possible to retrieve the most current data at any time. The exchange of patient data takes place via a FHIR protocol. In addition, it is possible to pass on this structured data in XML format to third parties.
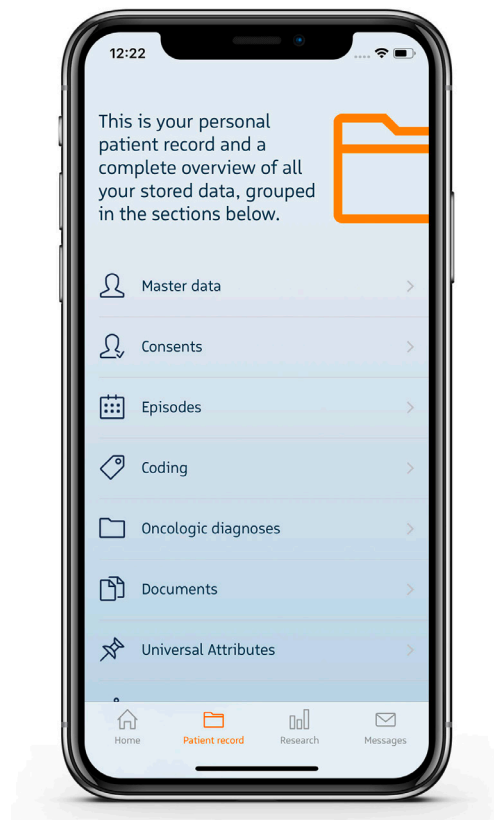
Execution of Studies/ Data Capturing

Capturing of eCRFs and ICHOM

In the study area of the CentraXX Patient App, the user receives a display structured according to participation, participation option or an overall overview of all studies.

> Participation
In the study area of the CentraXX Patient App, the user receives a display structured according to participation, participation option or an overall overview of all studies.

> Possibility of participation
Overview of all studies/surveys in which the patient/proband can participate on the basis of previously defined inclusion and exclusion criteria.

> Overview
Presentation of all studies/surveys listed in the study register.

Data capturing makes it possible to fill in eCRFs in studies that were previously only recorded in paper form. The eCRFs are automatically generated from the CentraXX instance and are thus not only used for regular use, but are also used directly and without further adjustments in the patient app.
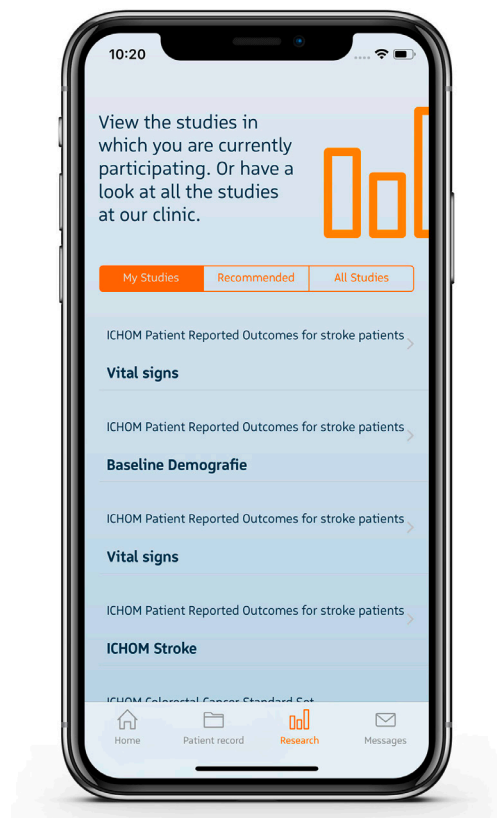
Wearables > Apple Health + Google Fit <

The user has the option of releasing data from both the Apple Health and the Google Fit repositories on his smartphone or tablet for the CentraXX patient app (opt-in). All information collected by the patient/ proband via other healthcare apps (e.g. dietary information, sleep monitoring, etc.) is also transferred to the patient app and thus to the connected CentraXX infrastructure. Fitness information, such as number of steps, distance run, sports workouts or physiotherapeutic applications, can also actively support the course of therapy in the sense of „shared decision support" or permit further assessments.
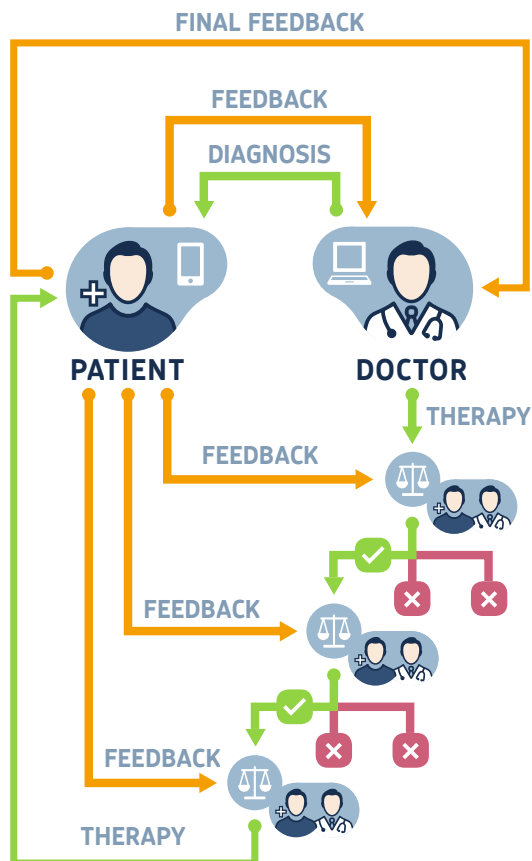
Communication

The CentraXX Patient App has an internal messaging system for direct and targeted communication between species/patient, researcher/proband. Appointments, new – for the user relevant – eCRFs or invitations to participate in new studies are possible. Releases of already stored samples or existing findings can be queried, issued or obtained at any time.

The patient/proband does not have to actively retrieve his new messages but is informed (according to consent given/Opt In) by push notifications and is therefore reachable even if the application is not in use. This is especially important for patients who do not use the app regularly after completion of studies or therapies. This increases the number of potential study participants and leads to better recruitment results.

Safety and security

Since all data visible in the app is extremely sensitive information that must be protected from any misuse, a strict security concept is essential for the CentraXX Patient App.

The application is effectively protected against unauthorized access by third parties by a personally assigned password and/ or biometric authentication (fingerprint,

„Face-ID"). Since the data can also be used offline, i.e. also without connection to the CentraXX server, it is stored on the smartphone/tablet „hardware-encrypted". The patient data is only decrypted when the app is started and unlocked. Even in device backups, only encrypted data is recorded.

CLINIC NETWORK

COMMUNICATION SERVER

CENTRAXX SERVER   FIREWALL   DMZ   FIREWALL   WEB   CENTRAXX PATIENT-APP
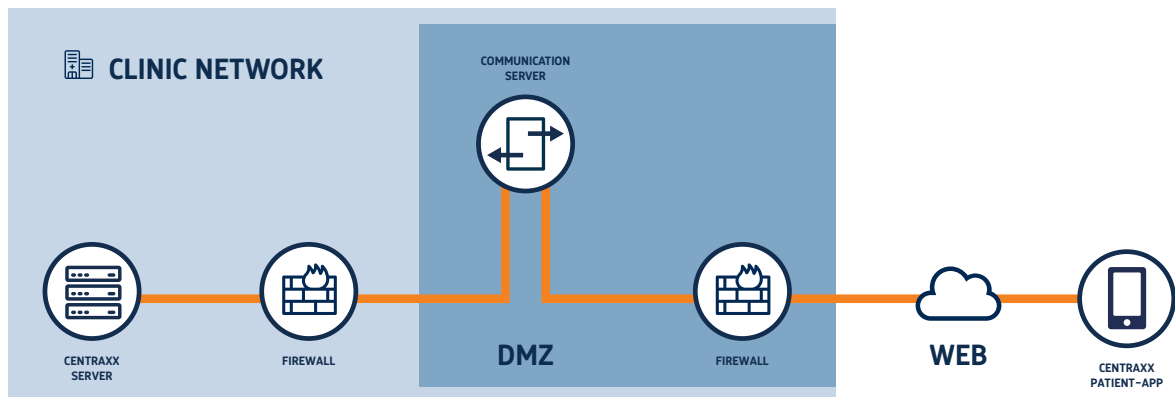
The connection to the CentraXX server is established through two-factor authentication (username/password and unique API key) to ensure that only the user themselves can access their data.

A wide variety of infrastructure solutions are possible to integrate the CentraXX Patient App.

For example, the connection to a CentraXX instance via a security gateway or a communication server in a demilitarized zone (DMZ) is possible in order to protect the instance against access outside the institute or clinic. Only TLS-encrypted connections that can also be secured with client certificates can be used

Design / User Experience

With regard to the optimization of acceptance, useful life and user experience, various paradigms were followed in the design of the CentraXX Patient App.

> **Clear and comprehensible structure and information architecture**

> **Simple, natural language**

> **Onboarding at first start, to introduce the user to the operating concept and functions of the app**

> **Following the Human Interface Guidelines of smartphone manufacturers to benefit from learned operating concepts and conventions**
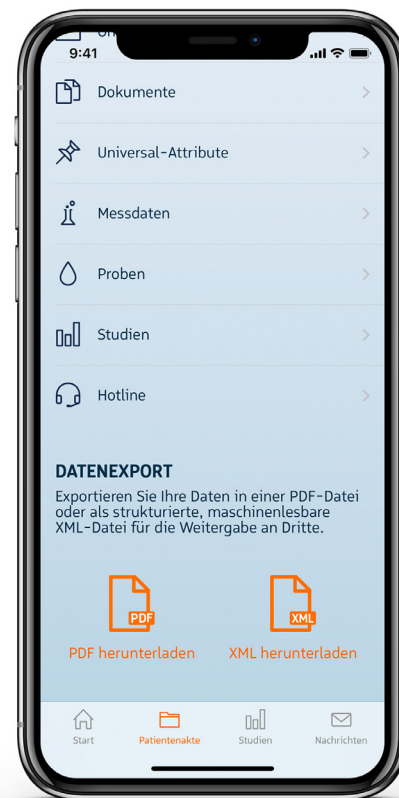
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