Product information

zScanner secured by SeaCat

Content

Introduction

zScanner is a mobile application for clinical and medical photo documentation. zScanner enables doctors to take photos of patient medical records, and of injuries of the patients, and upload them to a hospital information system. zScanner is an open source application developed and used by IKEM, a major Czech hospital, and the largest center of clinical and experimental medicine in the Czech Republic.

SeaCat is a cyber-security platform for mobile healthcare applications, developed by TeskaLabs. SeaCat enables businesses to operate their applications in reliable, scalable and secure way. It provides valuable insights into an app operation combined with a strong protection of a data. Visibility and security are two key building blocks of a professional app. SeaCat enables detect, resolve, and mitigate all kinds of availability and security incidents before they impact the business.

TeskaLabs offers an out-of-box product consisting of zScanner application, secured by SeaCat cyber-security platform. TeskaLabs also offers professional implementation and support services for the application.

zScanner

zScanner is a mobile application for clinical and medical photo documentation. zScanner enables doctors to take photos of patient medical records, and of injuries of the patients, and upload them to a hospital information system.

zScanner is easy to use for the doctors, secure and compliant with health care regulations, and compatible with hospital information systems. zScanner fully supports Bring-Your-Own-Device policy, and can be installed on personal devices of doctors, as well as on the devices owned by the hospital/clinic.

zScanner functionalities

Log in

zScanner enables the doctor to log in using name and password, or, by using a biometrical authentication, such as finger print.

Select patient

After the doctor is logged in, he selects the relevant patient either by scanning his bar code, or, by searching the patient in the hospital information system database.

Insert validity of the examination

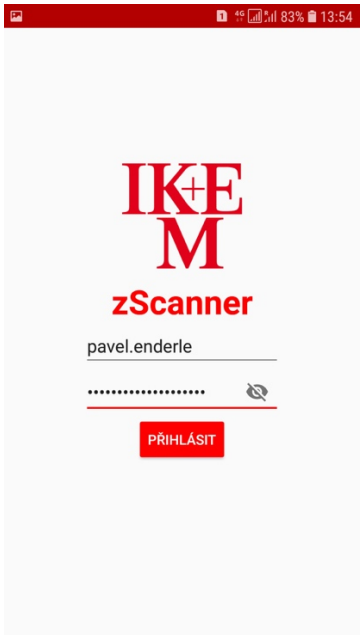
Doctor can fastly insert a date of validity of examination, which is then inscribed into the relevant photo record.

Select type of examination, or, document

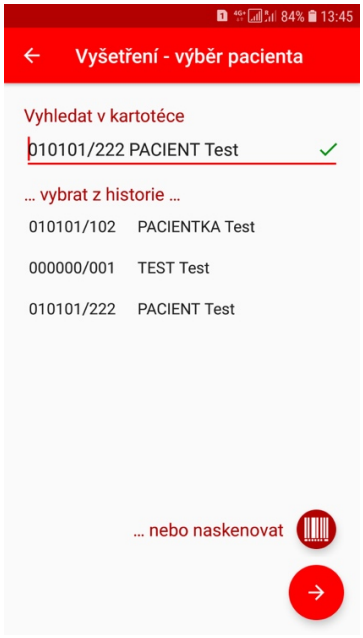
zScanner enables the doctor to choose a type of examination from pre-defined list, without spending any time on creating a written specification. Doctor can also add his own notes, which will be then linked to the relevant photo documentation.

Take photos, and upload the document

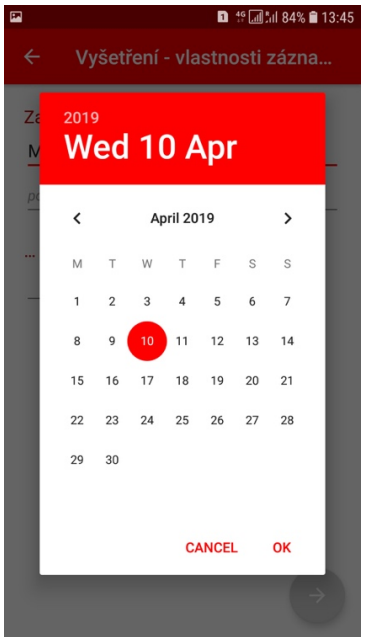
zScanner enables doctor to take multiple photos of medical documents and patient injuries. When doctor finishes the photo documentation, zScanner uploads the photos into the hospital information system.



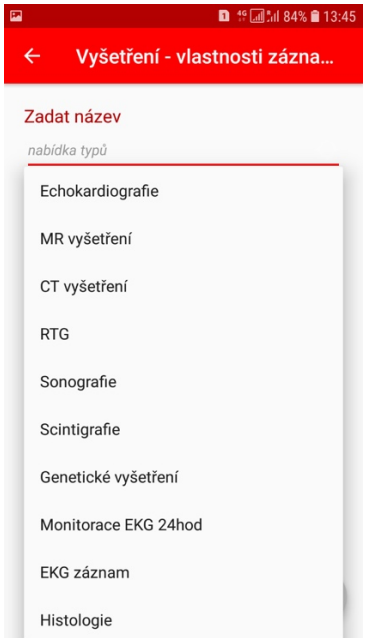
Log in



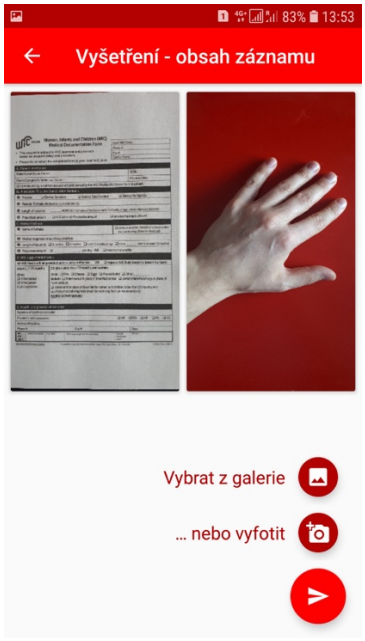
Select patient



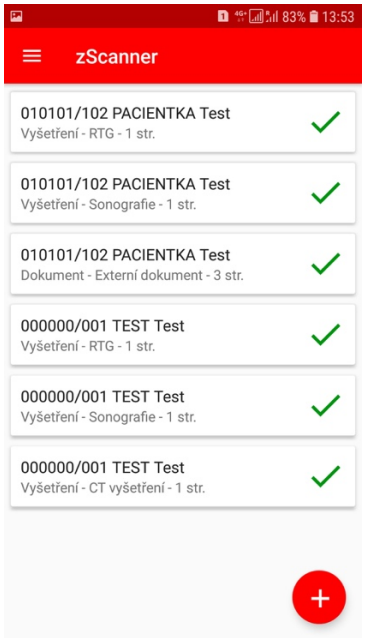
Insert validity of examination



Select type of examination

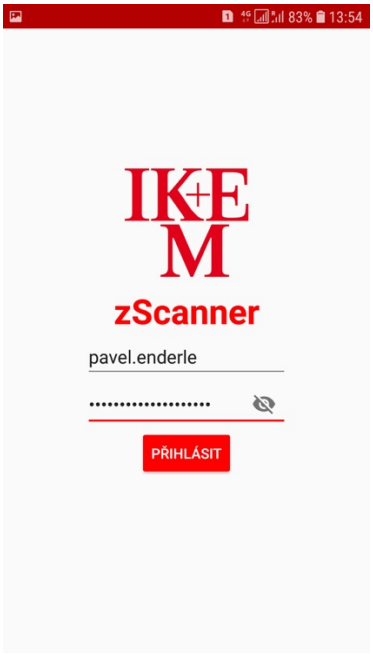


Take photos



Upload the photos

Case study – zScanner in IKEM hospital



zScanner mobile application used by IKEM hospital

IKEM is a major Czech hospital, and the largest centre of clinical and experimental medicine in the Czech Republic.

IKEM needed to solve a long-standing problem: for years, visiting patients had been presenting their doctors critical medical records in printed format. These documents then had to be manually uploaded into the IKEM's hospital information system. Doctors faced a dual dilemma: they had no time to perform these tasks and yet they needed to have quick access to this vital patient information.

An additional problem, current medical procedures require doctors to create photo documentation of patient injuries. IKEM formerly addressed this issue in a labour-intensive manner: the doctor had to use a camera, make a photo, and later upload the photo from the camera to a computer, and then upload it from the computer to the hospital information system. This was both time-consuming and subject to error.

To address this issue, IKEM has developed zScanner, a mobile application for clinical and medical photo documentation. zScanner enables doctors to use one device to make digital copies of patient medical records, and record pictures of patient injuries, and upload them to a hospital information system in one seamless action.

The zScanner application contains very sensitive data, and therefore cyber-security is a very important element. IKEM decided to secure zScanner by employing the cyber security platform SeaCat. *SeaCat covers all cyber security and regulatory requirements*, and moreover, it's *very easy to integrate*.

Today, zScanner is used by dozens of doctors in the IKEM hospital. The doctors report that this application significantly increases their efficiency and saves them considerable time in performing clerical functions.

About IKEM

Institute for Clinical and Experimental Medicine (IKEM)

The Institute for Clinical and Experimental Medicine is the largest specialised clinical and science & research institute in the Czech Republic. IKEM is focused on the fields of cardiovascular diseases, organ transplants, diabetology and metabolism disorders. IKEM is a contributory organisation directly managed by the Ministry of Health of the Czech Republic.

Cardiac Center

The IKEM Cardiac Centre is the largest, most comprehensive and one of the oldest cardiology centres in the Czech Republic. The centre is focused on the therapy of cardiac and vascular diseases of adult patients in their entire spectrum – congenital and acquired. The IKEM Cardiac Centre is composed of four departments and units that offer patient care in the fields of cardiology and cardiosurgery. The centre is also focused on the prevention of civilisation diseases. It is not only a medical, but also a teaching and research centre.

Transplantation Center

The Transplantation Surgery Department is predominantly focused on transplantations of abdominal organs; abdominal surgical and vascular surgical procedures are also performed at the department. The division of abdominal organs transplantation has a long and successful tradition at TSD. Considering the number of performed procedures, it is the largest transplantation unit in the Czech Republic.

Diabetes Center

Diabetes Centre covers therapeutic and preventive, scientific and research, and educational activities in diabetology and in metabolism and nutrition disorders. It is the largest centre of diabetology in the Czech Republic. The centre is primarily focused on patients with organ complications, thus not only patients with diabetes in its initial stage, but especially patients with rather serious complications. Šárka

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SeaCat

SeaCat is a cyber-security platform for mobile, IoT and other modern applications.

SeaCat enables businesses to operate their applications in reliable, scalable and secure way. It provides valuable insights into an app operation combined with a strong protection of a data. Visibility and security are two key building blocks of a professional app. SeaCat enables detect, resolve, and mitigate all kinds of availability and security incidents before they impact the business.

Benefits

Strong cyber security

Build and operate the app free from any cyber-security incident. SeaCat is a cyber-security platform created by experts, and it features all cyber-security and data privacy must-haves.

Fast deployment

SeaCat deployment is smooth and hassle-free. SeaCat increases your security level instantly, with no need for custom development.

Reasonable investment

Building a secure mobile application can be a tedious and costly journey. Get the best cyber-security protection for a fraction of the cost of in-house development. SeaCat is a cost-effective choice.

Reliable technology

SeaCat is used on tens of thousands of devices every day. We protect applications in telco, retail, healthcare, automotive and more.

Seamless user experience

Cyber-security should not come at the cost of the user experience. SeaCat requires no pesky configurations or procedures on the part of the user; SeaCat employs all modern cyber-security features, such as biometrical authorization, and hardware security modules.

Open platform

Build and operate your own applications freely, without a vendor lock, or any limitations. SeaCat is the cyber-security platform that allows you to benefit from the latest cyber-security advances while you are focused on functions of your application.

Features

Feature	Description
Security	Secure data transfer Certified and approved cryptography (RSA-4096, mutual SSL/TLS authorization, AES-256, ...) Secure storage on a mobile device Strong level of security even on old version of operating system (Android, iOS)

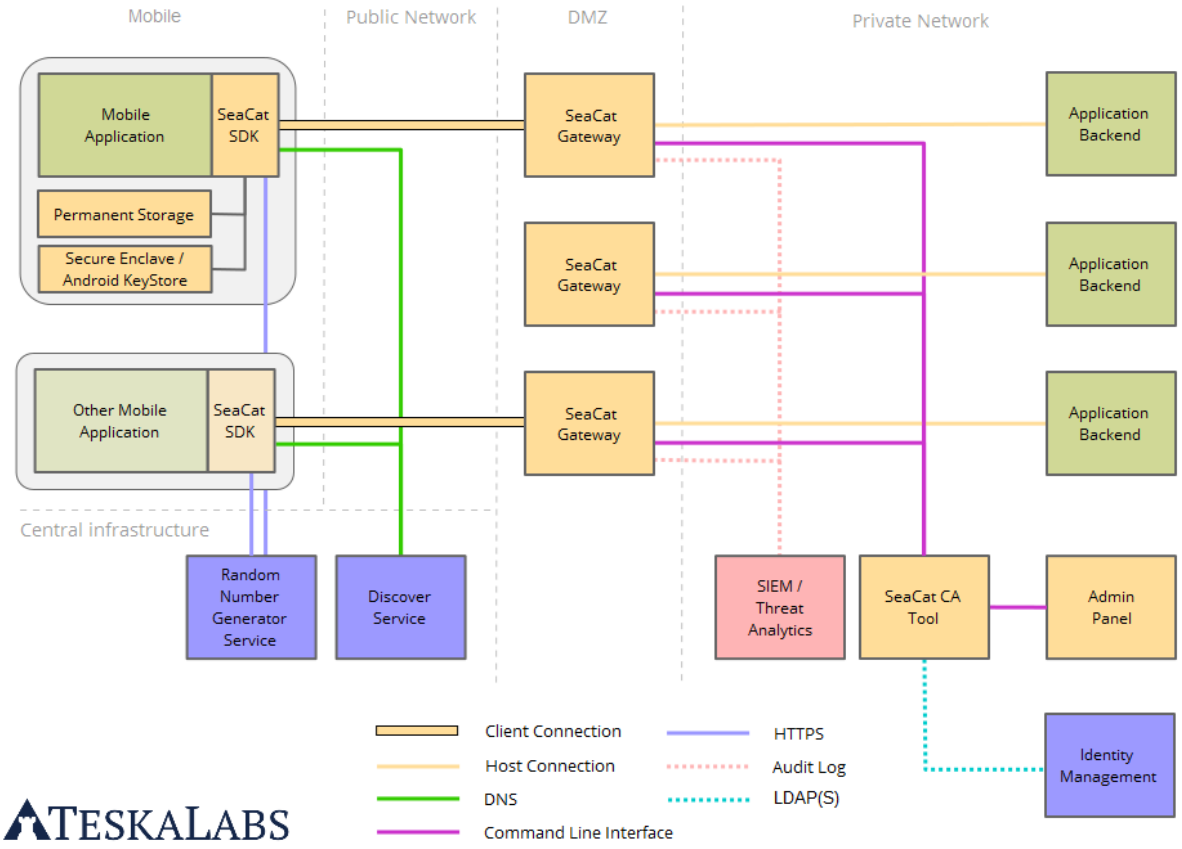
	Private key saved in HSM (Hardware Security Module) if it is supported by the device Automated recognition that detects whether mobile device contains HSM (Hardware Security Module) Audit trail
Authentication & on-boarding of new users	Customizable user authentication Seamless links with existing user accounts Compatible with LDAP, Active Directory Biometric authentication Two-factor authentication (2FA) Simple onboarding process, fully automated for users
Application management	Works on unmanaged mobile devices, no Mobile Device Management (MDM) is needed Remote application management (e.g. denial of access to sensitive information in case of lost device)
User experience	Seamless user experience Designed for use by staff, doctors and/or patients No disruption by security technology No impact on productivity No impact on speed Screen share and remote access technology CatVision.io for technical/customer support
Regulations compliance	GDPR compliant HIPAA compliant
Performance	High scalability Load balancing, high availability option Low network communication overhead
Deployment	Works on public and private clouds, and on premises Apps deployable via public app stores All major mobile Operating Systems (iOS, Android, Windows Phone) and platforms (Xamarin, PhoneGap and more) Compatible with all enterprise mobility policies, (e.g., BYOD, COPE)

Technical specifications

SeaCat technology consists of a mobile SDK that is to be added into a mobile application and a gateway that is to be installed into demilitarized zone (DMZ) in front of the application backend. It is designed to be transparent to a mobile application developers, easy operable by sysadmins and to provide maximum visibility for cybersecurity teams.
SeaCat is compatible with major mobile operating systems and platforms.

Architecture

SeaCat components and interactions for SeaCat are described in the following high-level diagram:



Documentation

SeaCat documentation is available on TeskaLabs website at: https://teskalabs.com/docs

TeskaLabs Company

We, at TeskaLabs, believe that the digital world has to be safe. Today, as enterprises move toward mobile and Internet of Things (IoT), we help them build and operate mobile, desktop, web and IoT applications securely.
TeskaLabs is an award-winning product company committing to creating the world's most comprehensive application security technology for mobile, desktop, web and IoT apps. We are a proud member of Microsoft BizPark Plus, and a strategic partner of O2 Czech Republic.
TeskaLabs operates from the headquarters in London, United Kingdom and an additional office in Prague, Czech Republic.

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