



A short report on the latest developments for HealthDataSpace.
www.healthdataspace.com

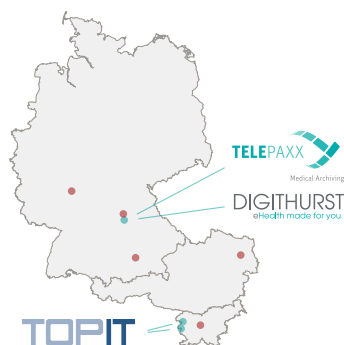
2001 | Hobby Programmer

2006 | Computer Scientist

2016 | Software Developer

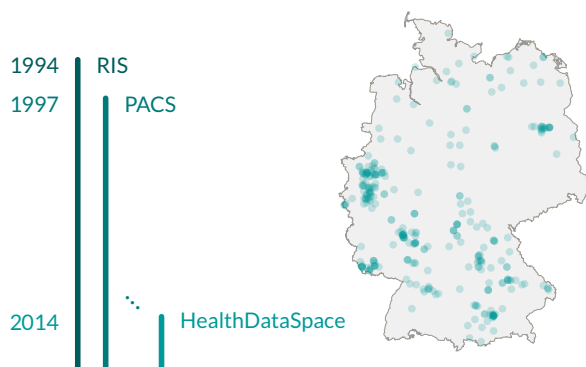


- This is me, Raphael Reitzig.
- I have been a programmer for over half of my life now.
- Ten years of university as student and research assistant made me into a computer scientists.
- Since 2016, I have been a software developer at Telepaxx Medical Archiving.
- I specifically want to help get digitalisation in the German health sector moving.



- HealthDataSpace is developed by three closely related companies:
 - Digithurst and Telepaxx, sharing offices in Büchenbach near Nürnberg (Germany).
 - TopIT (subsidiary) with offices in Nova Gorica and Tolmin (Slovenia).
- For orientation, red dots are (from left to right) Frankfurt/Main, Nürnberg, München, Ljubljana, Wien.
- My team has members from all three companies.





We have been providing IT for radiology for over 20 years.

- Digithurst: Radiology information systems (RIS)
- Telepaxx: Long-time archival of image data (data privacy certification, over six billion images).
- We have other products left out here in the interest of time.
- Our solutions run in hundreds of hospitals and practices. Customers include chains like Helios and Asklepios.
- In 2014, we released our cloud service HealthDataSpace.



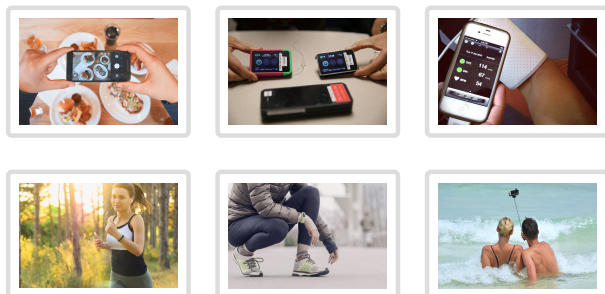
HealthDataSpace

- ✓ secure storage & sharing
- ✓ patient in control
- ✓ no or low cost

Too soon!

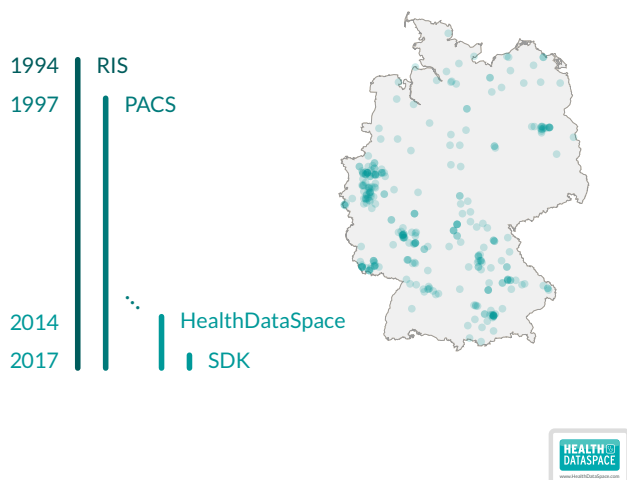


- Goal: Connect patients and doctors.
- All identifying patient information and image data are end-to-end encrypted (RSA + AES).
- Sharing data is just as secure.
- Patients own their data and decide with whom to share.
- Patient accounts start free.
- We started with adding HealthDataSpace to radiology contexts: X-ray, CT, MRI, ... images would automatically be uploaded to the patients' accounts.
- Too soon! Neither physicians nor patients were really interested.



- Since then, mobile health has conquered the consumer market.
- Tracking of food, exercise and movement/sleep patterns have become common.
- Medical devices such as insulin pumps and blood pressure monitors connect to smartphones.
- Focus on patients has become a trend since 2016.
- Many thousands of apps exist, with more emerging every month.
- But: few satisfy the rigid data privacy demands prevalent in Germany.





- So in 2017, we release software development kits (SDK) for HealthDataSpace.
- Goal: connect (mobile) applications to our secure storage.
- App developers should focus on serving the patient. We take care of the infrastructure.

HealthDataSpace as a Service:

- ✓ secure encryption
- ✓ certified data privacy
- ✓ hosted on German servers
- ✓ access from any app



- We offer HealthDataSpace as platform (PaaS).
- We provide software development kits for the relevant platforms:
 - For the Apple ecosystem, one written in Swift.
 - For most other platforms including Android, GNU/Linux and Windows, one written in Java.
- The SDK for Apple platforms has been released.
- Work on the Java version is progressing nicely; we hope to release this year.

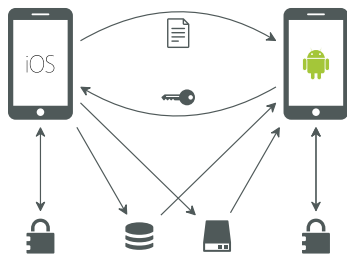
HealthDataSpace is for:

- ✓ medical professionals
Dr. Help, Kinder-Kardio-Cloud
- ✓ medical research
mitassist
- ✓ any privacy-aware service
Blackpin



Who can profit from using HealthDataSpace SDK? Anybody who requires data privacy but does not have the time, resources or expertise to setup and maintain their own backend, and write all the code necessary to access it. In particular: startups. Our current partners include:

- Dr. Help, an app that will focus on physician-patient interaction.
- Childrens-Cardio-Cloud, a project funded by the Bavarian ministry of state (Telepaxx is the industry partner); its goal is to use telemedicine to improve the quality of life for children born with heart deficiencies by reducing the time they spend in hospitals.
- mitassist, a BMBF-funded research project around using wearables to monitor mental health.
- Blackpin, a secure messenger for several industries.

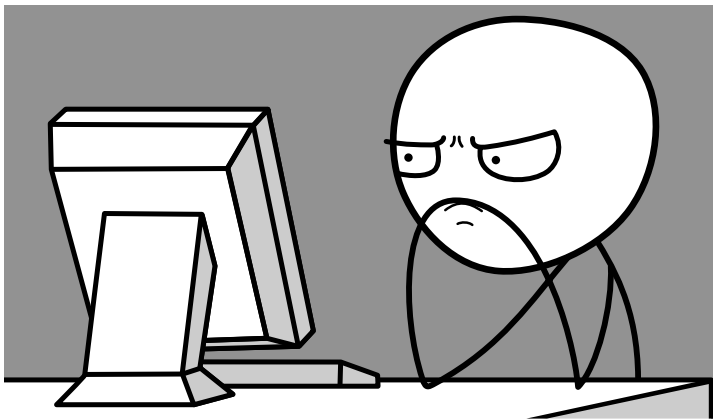


Say you want to share a medical document on your mobile with your mum. These are the necessary steps:

- Create cryptographic keys. Choosing a secure cryptographic method and good library can be a challenge already!
- Exchange the keys.
- Encrypt the file.
- Upload the file to a database and/or storage, which have to install and maintain.
- Send a notice to the recipient.
- Download the file again.
- Decrypt the file.

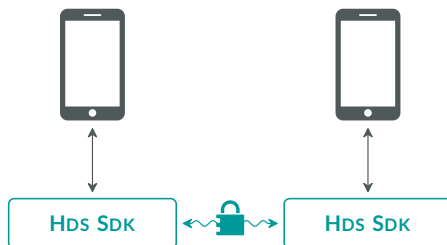
Every single step can go wrong, which means that you have to deal with a plentitude of error scenarios.

And then, if you want to support more than one platform, you have to do it all over again! And what about the next app?



This is a face your developers may make in such a situation.

Doing all of these things requires thousands of lines of code in each client, not to talk about the backend. Why replicate the same thing at each company? What a waste of resources!



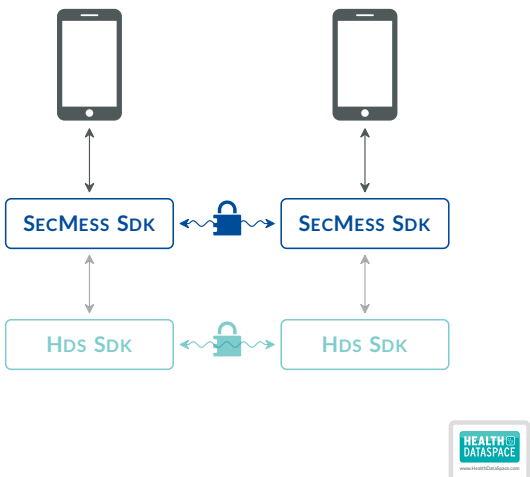
For comparison, the same diagram if you use HealthDataSpace SDK.

- You put in a plain file on one side...
- ...and get it out on the other end.
- All encryption, transmission, and storage is done by the SDK and HealthDataSpace. The data is safe!
- A few dozen lines of code are enough.





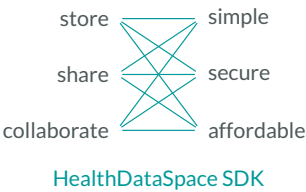
That is more like it! Only a happy developer is a good developer.



Our latest development, about to be completed: SecureMessaging SDK!

- Provides its own interface to messaging, but uses HealthDataSpace.
- Messages are encrypted as strongly as files.
- Uses XMPP for sending messages.
- Key exchange and file "transfer" through HealthDataSpac SDK.

Our Solution



In summary, if you want to

- store and share data, enable collaboration, and
- have a secure solution that is simple and affordable,

our SDKs may be for you. Please contact us, plans start at 0€!



YOU CODE — WE CLOUD

www.HealthDataSpace.com



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