

# Medox

Your medical file.  
*Anywhere. Anytime.*





## ABOUT US

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Medox is designed and developed by three undergrads from the *Karlsruher Institute of Technology* (KIT) in Germany. Our team consists of Philipp Karcher, 19 years old and student of mathematics and computer science, Philipp Pelcz, 20 years old, and Jan-Luca Vettel, 19 years old, both students of computer science and physics.

## ABOUT MEDOX

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There are two major problems in today's medical practices: Patients with complex health issues have to visit their doctors very frequently resulting in a huge amount of medical files, doctors' letters and the like. They are expected to carry all the required medical files from one doctor to the next to ensure every doctor to be up-to-date with their medical history. In many cases, this means several folders of doctors' letters and other paperwork, which have to be stored somewhere for multiple years.

The other problem becomes clear when looking at the statistics: In Germany for example, as many as 58,000 people die every year because of interactions between their medications<sup>1</sup>. Compared to the annual deaths caused by car accidents (3,100), this means wrong usage of drugs cause 18 times the fatalities during the same period. Problems occur most of the time, when different doctors prescribe different drugs.

Medox tackles both problems by giving the user the ability to manage his own health record digitally on his mobile device. He will be able to receive new medical reports and

**Nearly a quarter of all German citizens take at least 3 different medications during a day.**

(Source: <https://www.meine-gesundheit.de/service/news/mehr-tote-durch-medikamente-als-durch-strassenverkehr>, 2014)

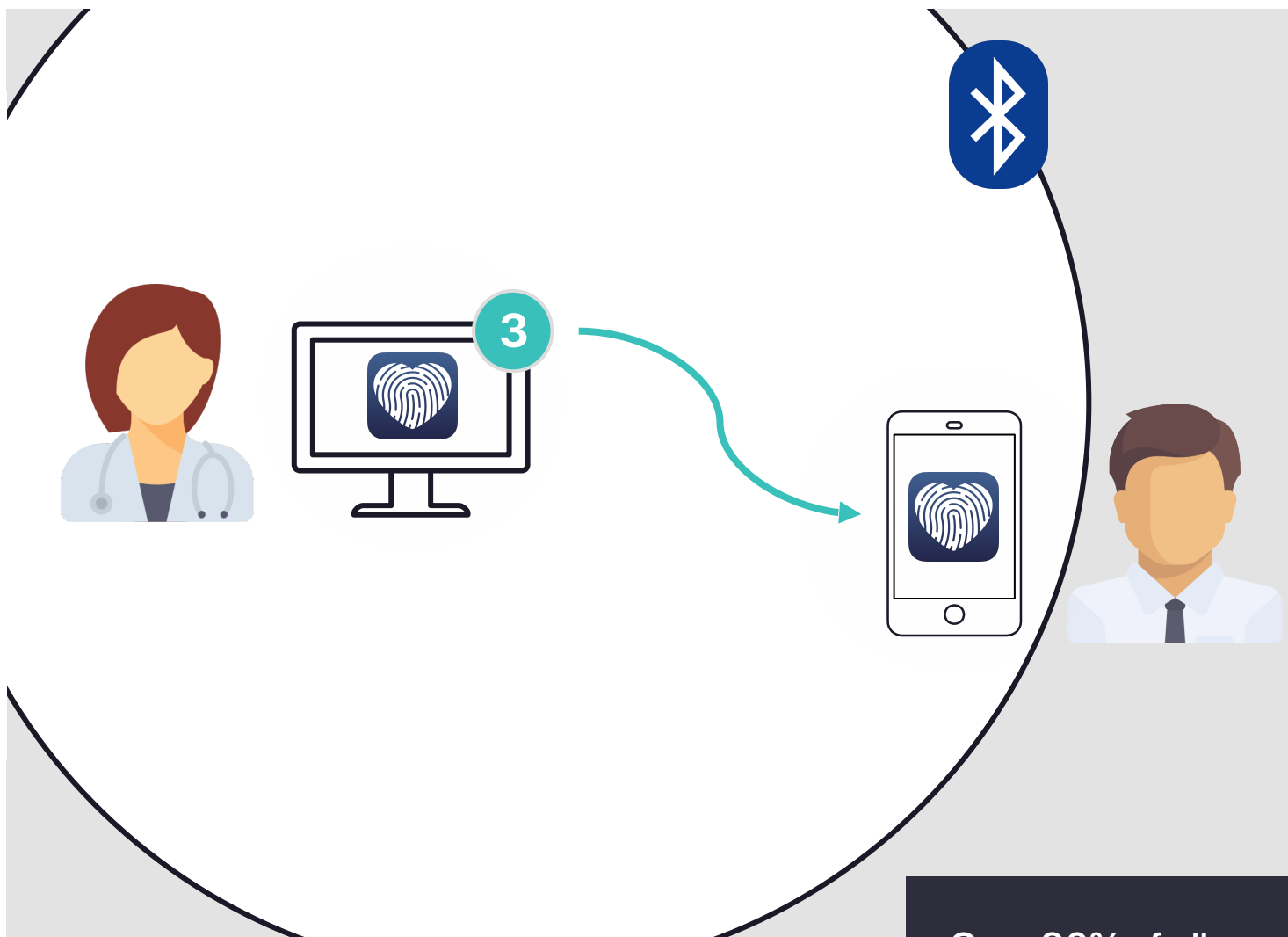
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<sup>1</sup> <http://www.rp-online.de/leben/gesundheit/medizin/wie-aerzte-ihre-patienten-gefaehrden-aid-1.3827783> (2013)



doctors letters from his doctor and scan printed existing ones. He can also keep track of his medication intakes and get warnings when possible interactions between some of them are detected.

## Medox Desktop



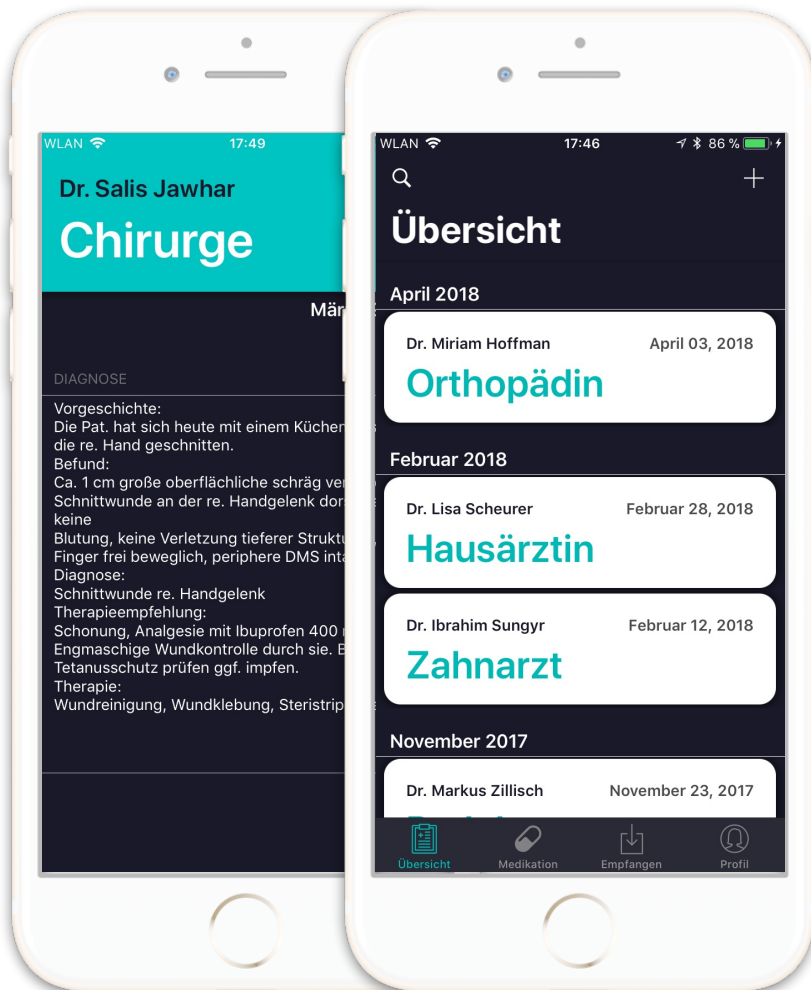
Medox Desktop enables a doctor to send medical files wireless and locally over a Bluetooth connection to a patient who uses the Medox mobile client. This ensures a fast and secure transmission without the need of transferring the files over possibly compromised internet connections. It was a defined goal for us to keep Medox Desktop as minimalistic as possible, to provide a helpful and simplistic tool to a doctor, not a new obstacle in his already stressful work day.

**Over 80% of all german family doctors record exclusively digitally, but only 5% of all doctors letters are handed out to patients digitally**

(Source: <https://www.aerzteblatt.de/archiv/126394/Elektronischer-Arztbrief-Im-Praxisalltag-angekommen>, 2011)



# Medox Mobile

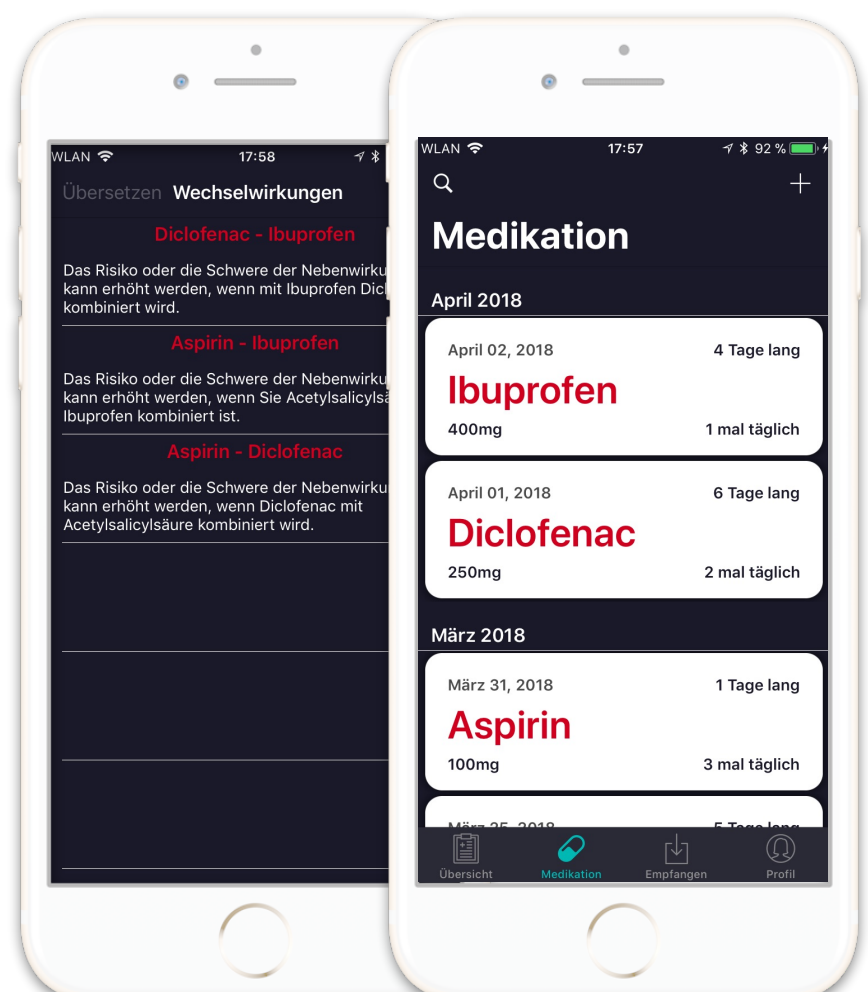


Using Medox Mobile, a patient can receive his digital doctors letters instantly and effortlessly every time he visits his doctors. But what about medical files from previous visits, piling up in stacks of paper at home? Those files can be easily added to Medox by taking a photo of the document. In a split second, the app will generate a digital doctors letter with the content of your physical letter.

The Overview will provide you with a consistent and thorough history of your health record, always in your pocket.

Tracking your medications can be as easy as pie: Just add a new entry with the name of your drug and specify the dose, starting/ending date and frequency of your intake. You can always adjust those values and Medox will automatically warn you, when interactions between your current medications are possible.

This makes it easier and safer for yourself and your doctors to survey your medications.

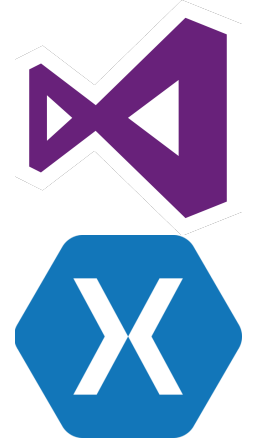




## FEATURES & TECHNOLOGIES

From the moment we started designing Medox, it has been a major goal to enhance the lives of as many people as possible. This meant to support the major operating systems and thousands of different devices.

Thanks to Visual Studio and the power of Xamarin.Forms, we achieved our goal with ease and are able to run Medox on Apple iOS, Google Android and Microsoft Windows 10.



Every innovative product needs innovative tools in its core. By using the products of Microsoft Azure like the cognitive services, we achieved the reliability and efficiency our customers expect from Medox.



Take a picture of a printed medical file and Medox will generate a digital doctors letter



Receive digital doctors letters from your doctor wireless. Medox detects medications included in the letter automatically



Add new medications and receive warnings automatically, when a risk of interactions is detected



Translate the details of the medication interactions to better understand what exactly could happen



Search for definitions of medical expressions and other technical terms



Take a picture of a handwritten note from your doctor to decrypt his handwriting



powered by



powered by



## DISTRIBUTION

As always, running expenses have to be covered. This is an important topic for us: We believe every user should be able to check for possible interactions between drugs to avoid any damage to health *without* being charged. This is why Medox Mobile is offered to users as a free download over the common App Stores without restrictions. Medox Desktop on the other hand will generate revenue with a fee-based subscription model and is distributed over the Windows Store.

We feel confident that a key to success lies in the number of doctors working with Medox Desktop. That is why we want to seek cooperation with all kinds of medical practices, health care providers and health centers to gain market share. This will result in a growing user base of Medox Mobile.

**On average, a german family doctor receives nearly 2,700 doctors letters yearly; two-thirds are highly interested in digital transfers of doctors letters**

(Source: <https://www.aerzteblatt.de/archiv/126394/Elektronischer-Arztbrief-Im-Praxisalltag-angekommen>, 2012)

## PRIVACY & LEGAL ASPECTS

Medox handles data and files, most people would declare the most sensible and private they could imagine. This is why privacy has always been the top priority during the development of Medox and led to the decision to send files locally over Bluetooth instead of a trivial internet transmission for example.

We consulted a specialist in data protection law who confirmed our application to be in line with the European Law. In fact, a law change coming next month will require every doctor in the European Union to be able to transfer health files digitally to his patients. This makes all of them potential customers of Medox Desktop.

*„The data subject shall have the right to receive the personal data concerning him/her [...] in a structured, commonly used and machine-readable format and have the right to transmit those data to another controller without hindrance from the controller to which the personal data have been provided.“*

(Source: <https://gdpr-info.eu/art-20-gdpr/>, 2018)



## SOURCES

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- <https://yt3.ggpht.com/-kWuTsV3ndxw/AAAAAAAAAAI/AAAAAAAAAAA/8ihQJjsTE3Q/s900-c-k-no-mo-rj-c0xffffffff/photo.jpg>
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