



dreipol

Content

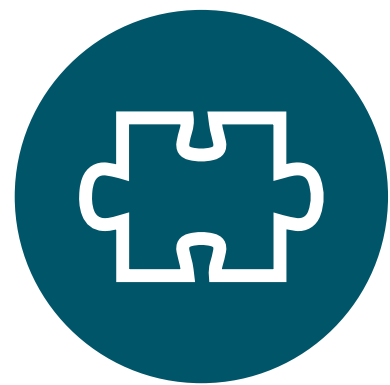
- About me & dreipol
- Mobile technologies
- Current limitations of progressive web applications
- Example of a recent product we developed (optional)

Philipp Läubli

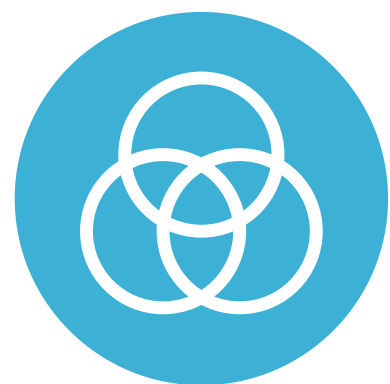
- Informatiker EFZ (1998-2002)
- HSLU Animation, not finished (2006)
- ZHdK BA Interaction Design, finished (2010)
- Professionally* working as developer for more than 16 years
- Professionally* worked with Perl, PHP, ActionScript 2+3, Java, Python, HTML/CSS/Javascript, Objective-C, Swift)

* professionally = people are paying me for doing it

dreipol



We are creators, designers, strategists and developers implementing digital products for mobile, web and desktop.



In our approach, we combine aesthetic design, intelligent technologies and intuitive user interfaces.



We aim at creating exciting interactions. Happy users are our motivation.

dreipol



Nino Cometti
CEO & Partner



Tobias Koller
Senior UX Consultant
& Partner



Philipp Läubli
Lead Developer
& Partner



Laura Orlando
Project Manager



Paola Gächter
Project Manager



Gautier Schaffter
Project Manager



Lea Walter
Junior Project
Manager



Sarah Hefti
Communications
Manager



Florian Wille
Design Strategist



Marco Huber
Digital Art Director



Alain Groeneweg
Senior Interaction
Designer



Philippe Meier
Senior Interaction
Designer



Stephanie Stutz
Design & Illustration



Florin Gasser
Designer



Lara Hänni
Designer



Gina Held
Apprentice



Samuel Bichsel
Senior Software
Engineer



Simon Müller
Senior Software
Developer



Julia Strasser
Software Engineer



Fabian Tinsz
Software Engineer



Nija Nikolic
Game Designer &
Developer



Christian Schürmann
Senior Software
Developer



Sidney Widmer
Software Developer



Rouven Bühlmann
Senior Frontend
Developer



Gianluca Guarini
Frontend Developer



Fabio Gianini
Frontend Developer



Stephanie Beyeler
Office Manager



Marina Holenstein
Office Manager

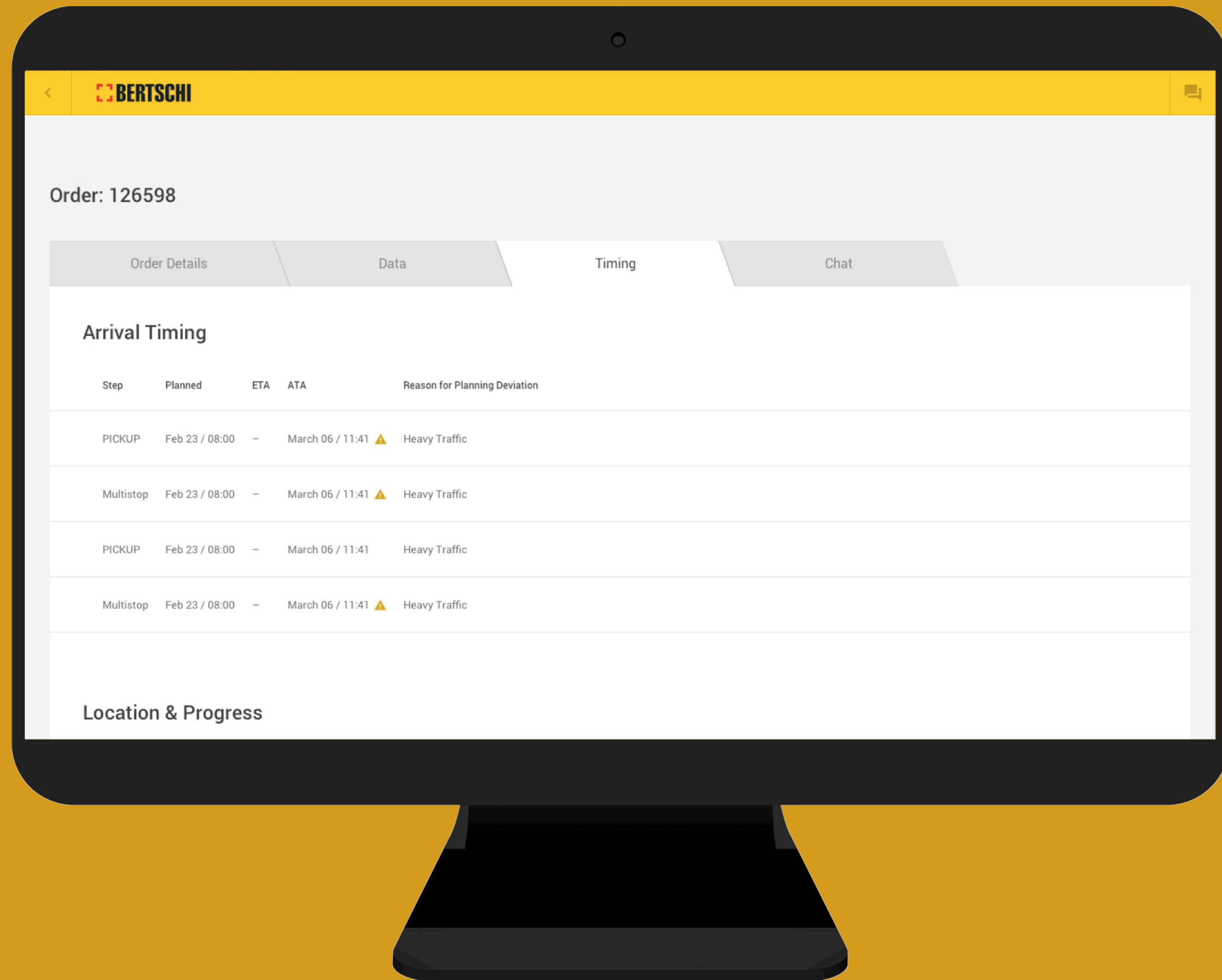
Selection of dreipol projects

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TruckTracer

Web & App

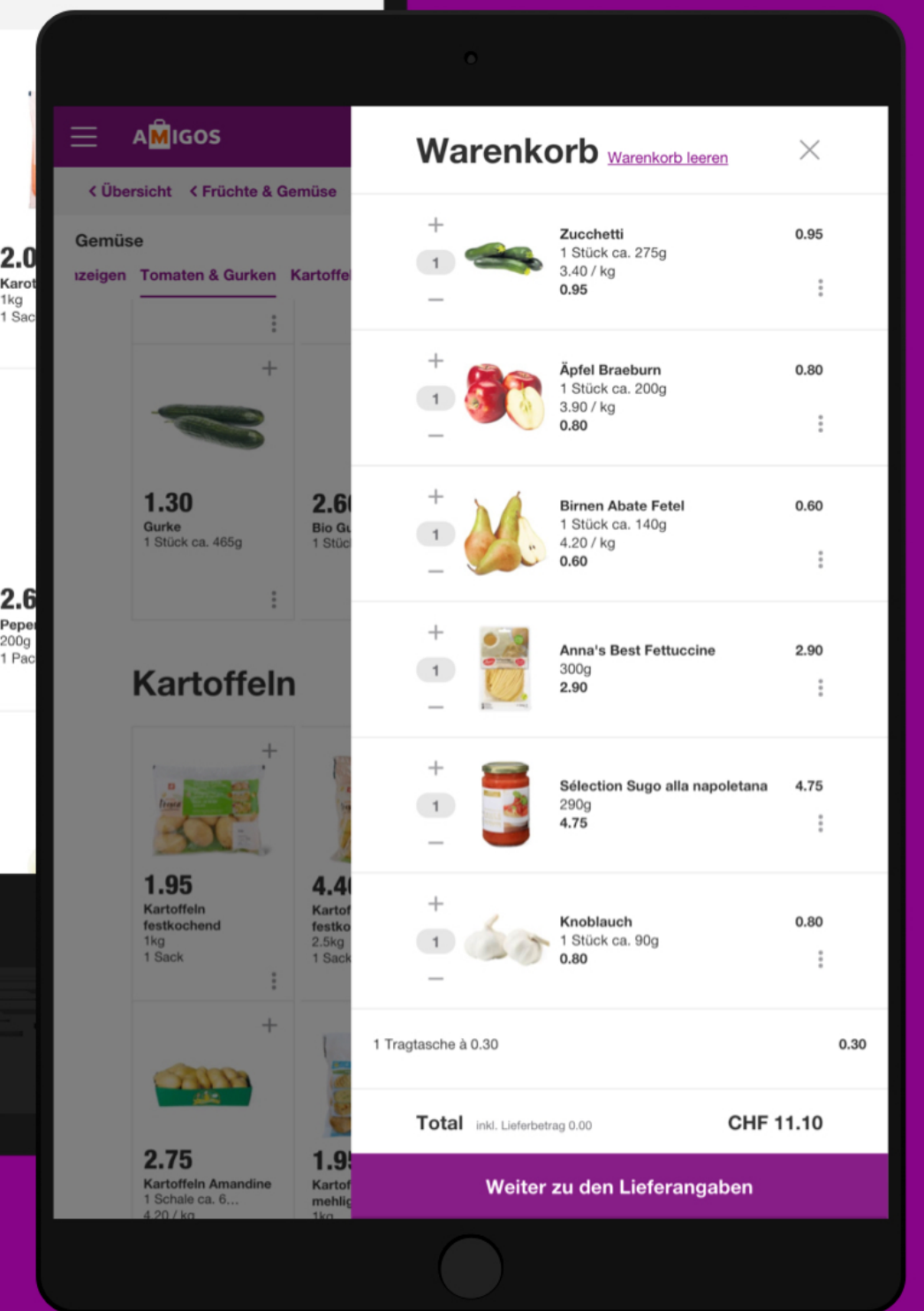
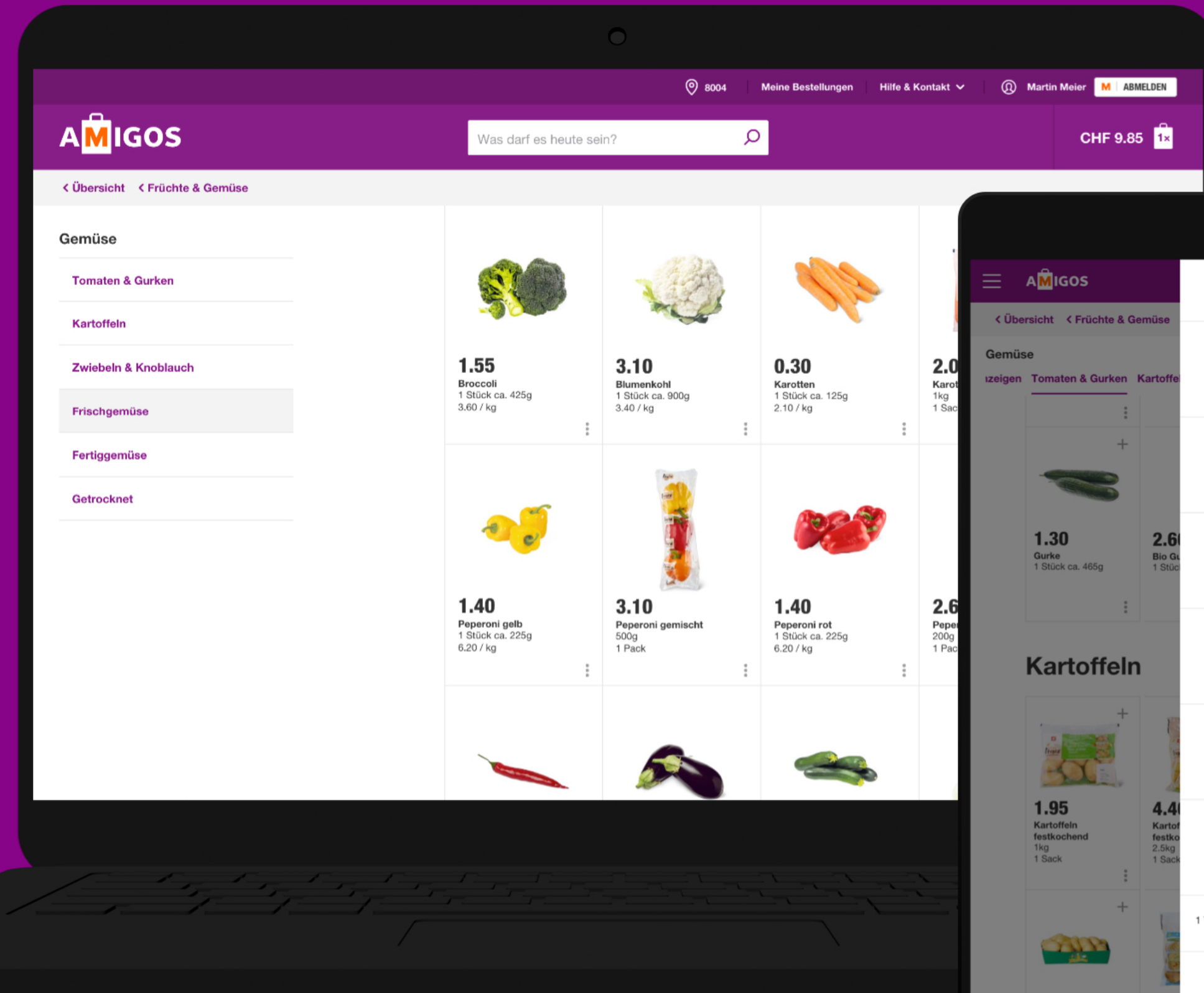
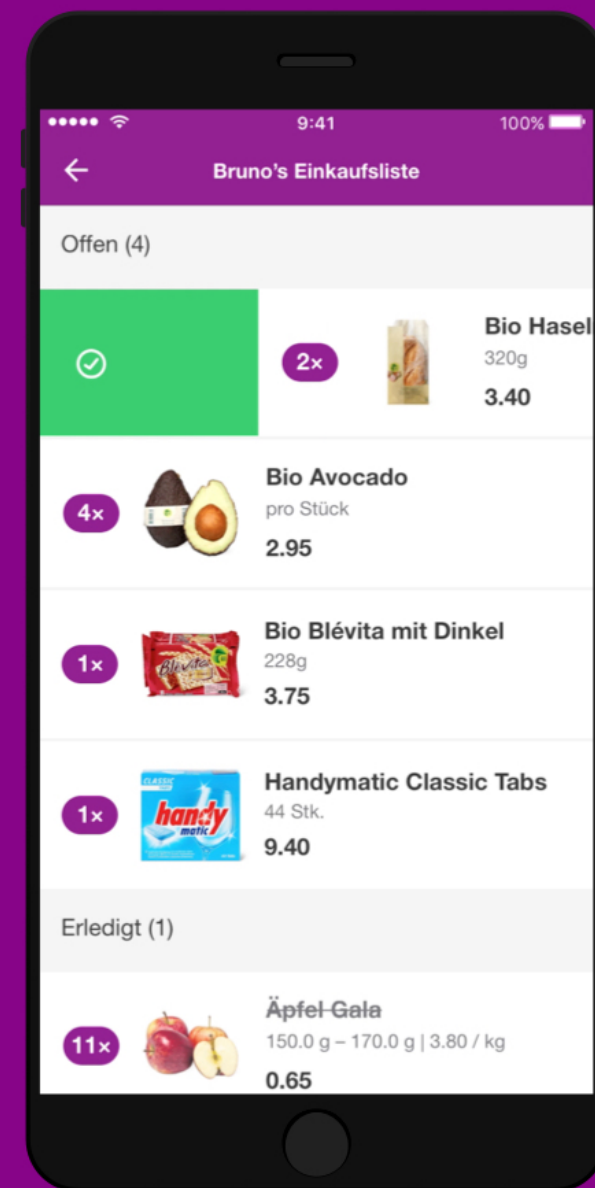
[Link](#)



AMIGOS

Social Shopping
Platform

[Link](#)



OnlineDoctor

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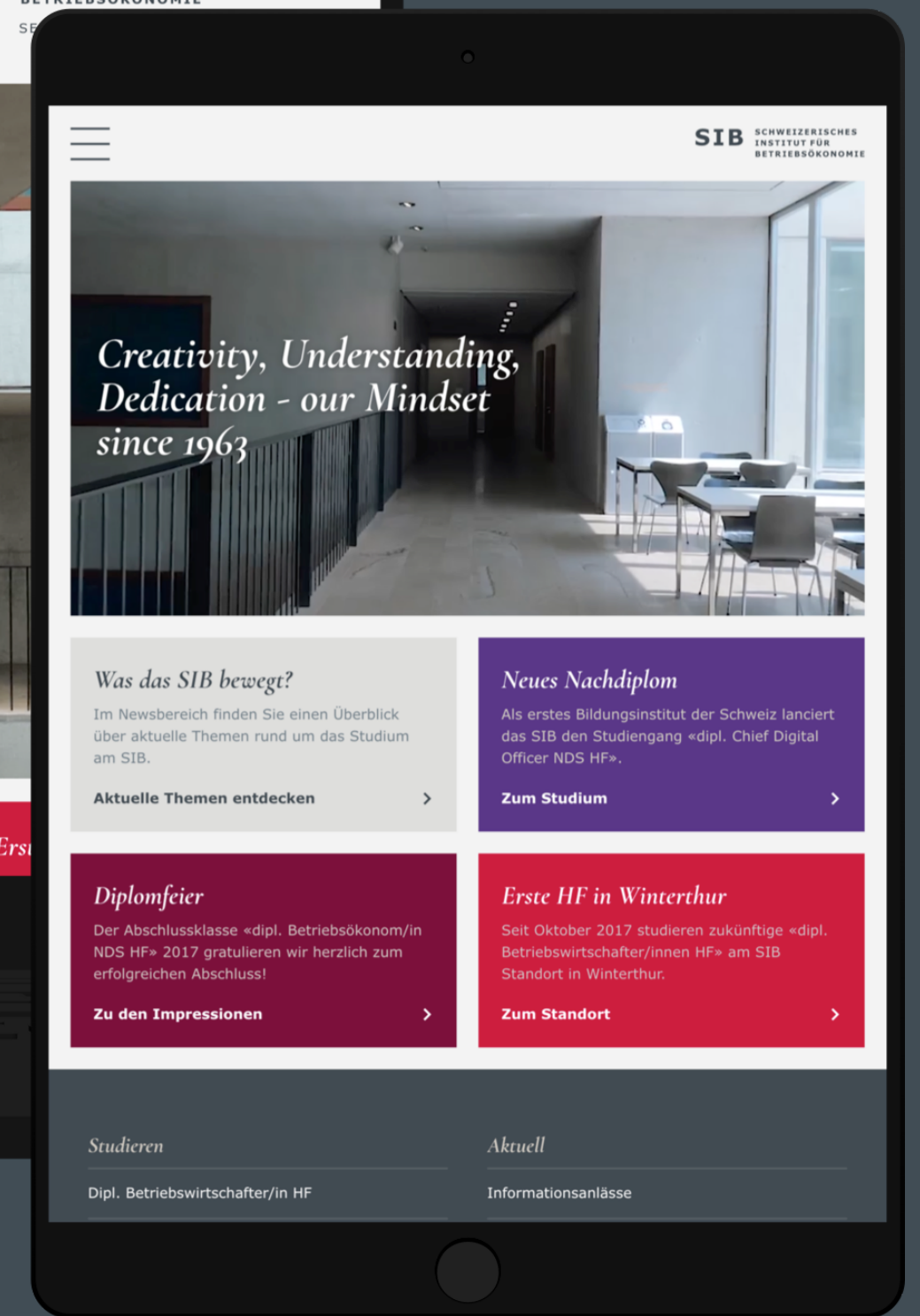
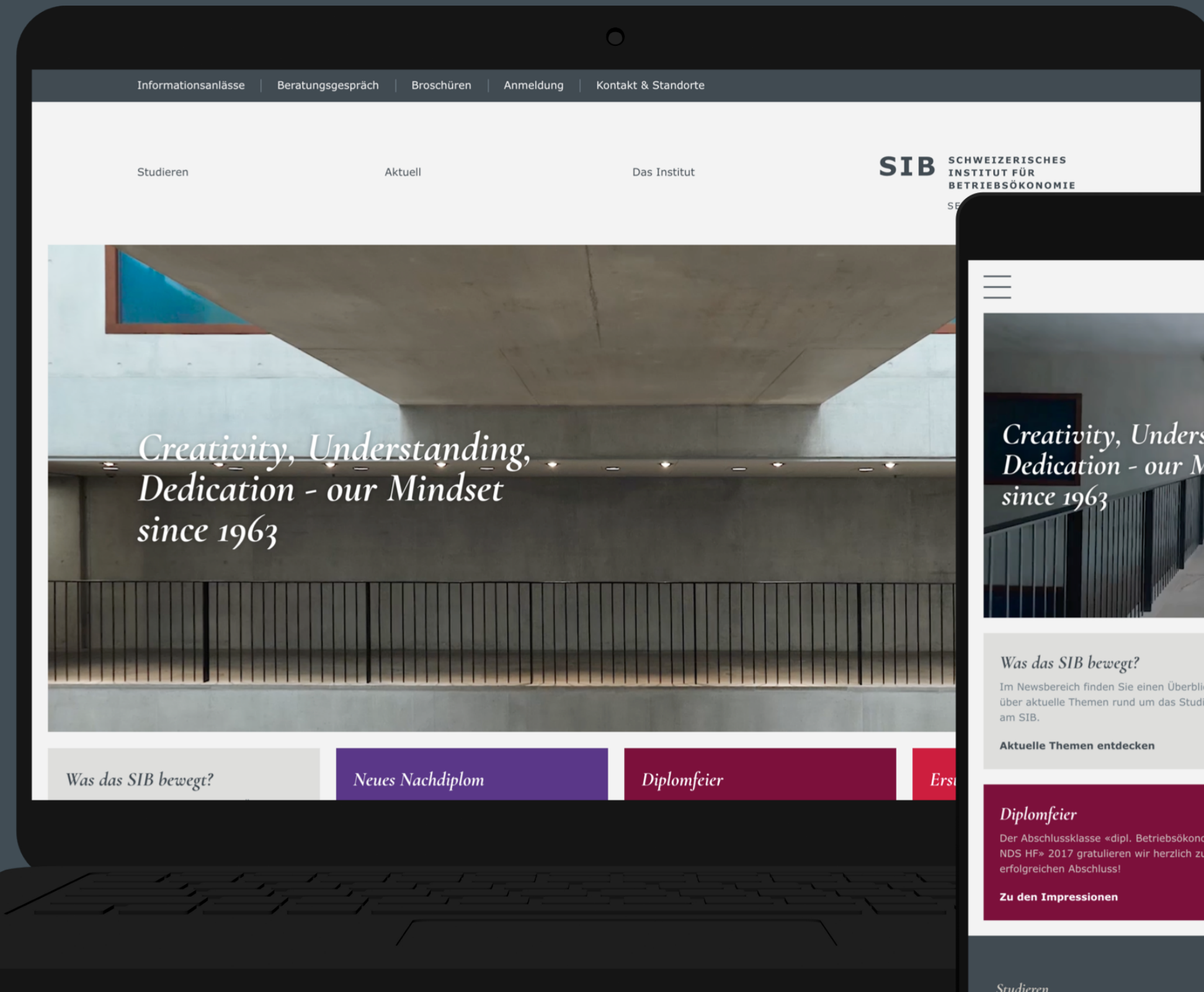
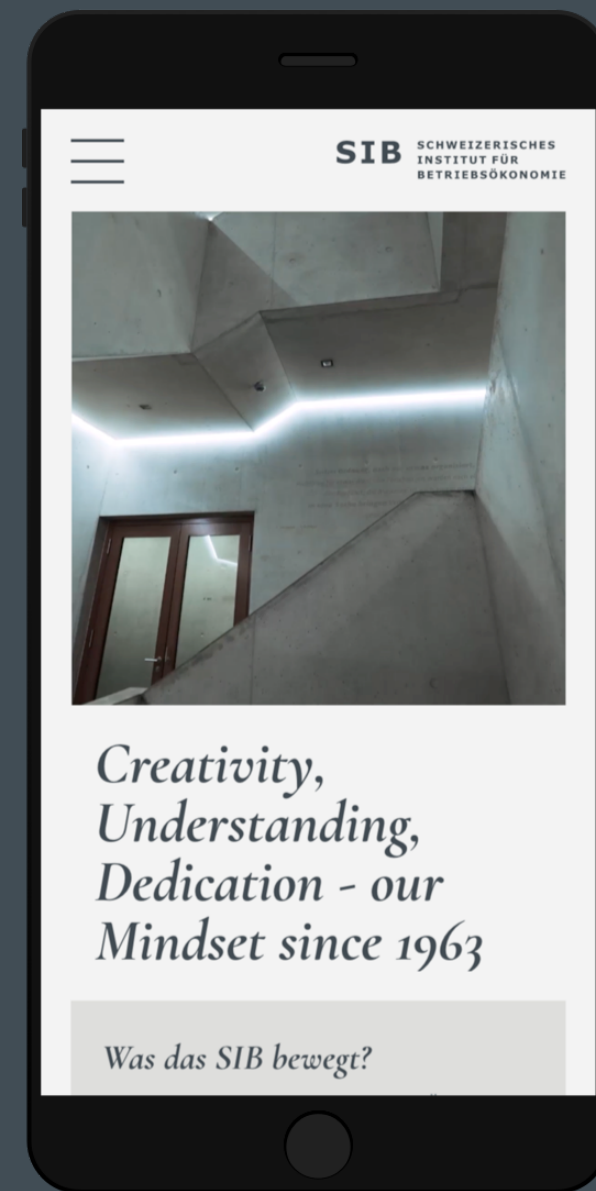
Teledermatology
Platform

[Link](#)



SIB Relaunch

—
Web
Link



Bux App

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Multimedia
City Guide

[Link](#)



EcoDriver

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Mobile Game

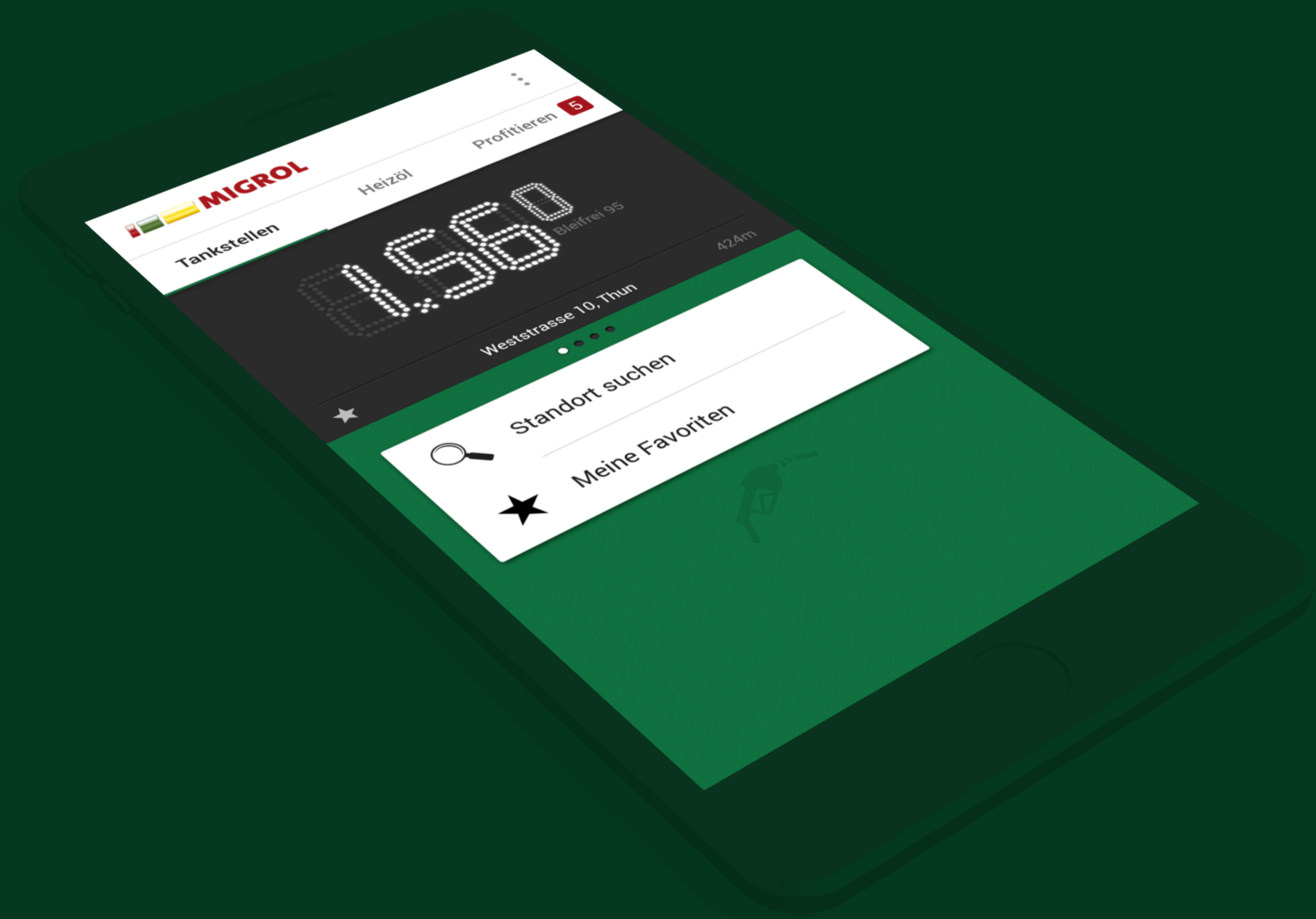
[Link](#)



Migrol App

—
Current Fuel & Fuel
Oil Prices

[Link](#)

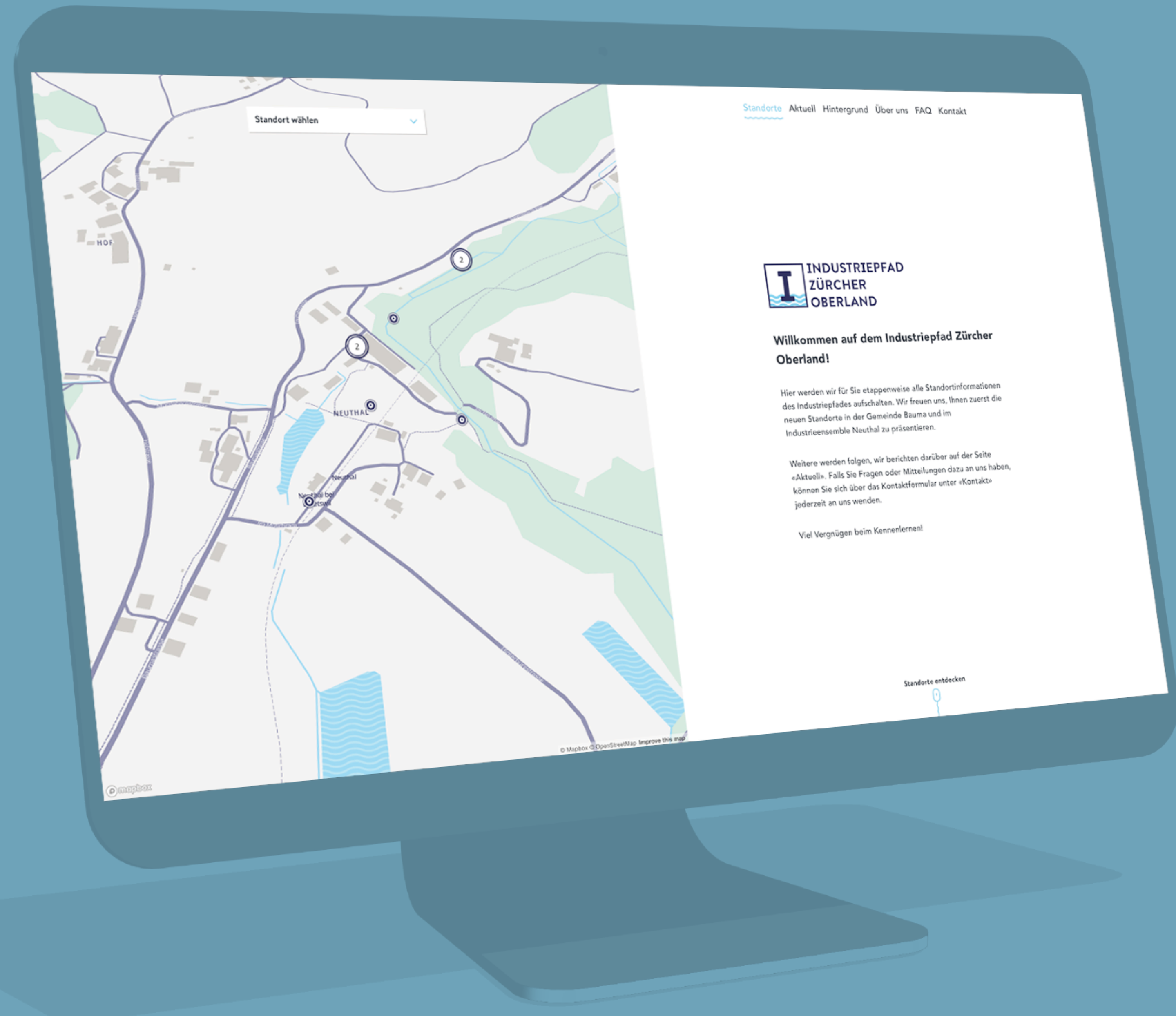


IPZO



Industry Path Zürcher Oberland

[Link](#)



Mobile technologies

- Mobile first / responsive websites
- Progressive web apps
- Hybrid apps
- Cross platform apps
- Native apps

Mobile first / responsive websites

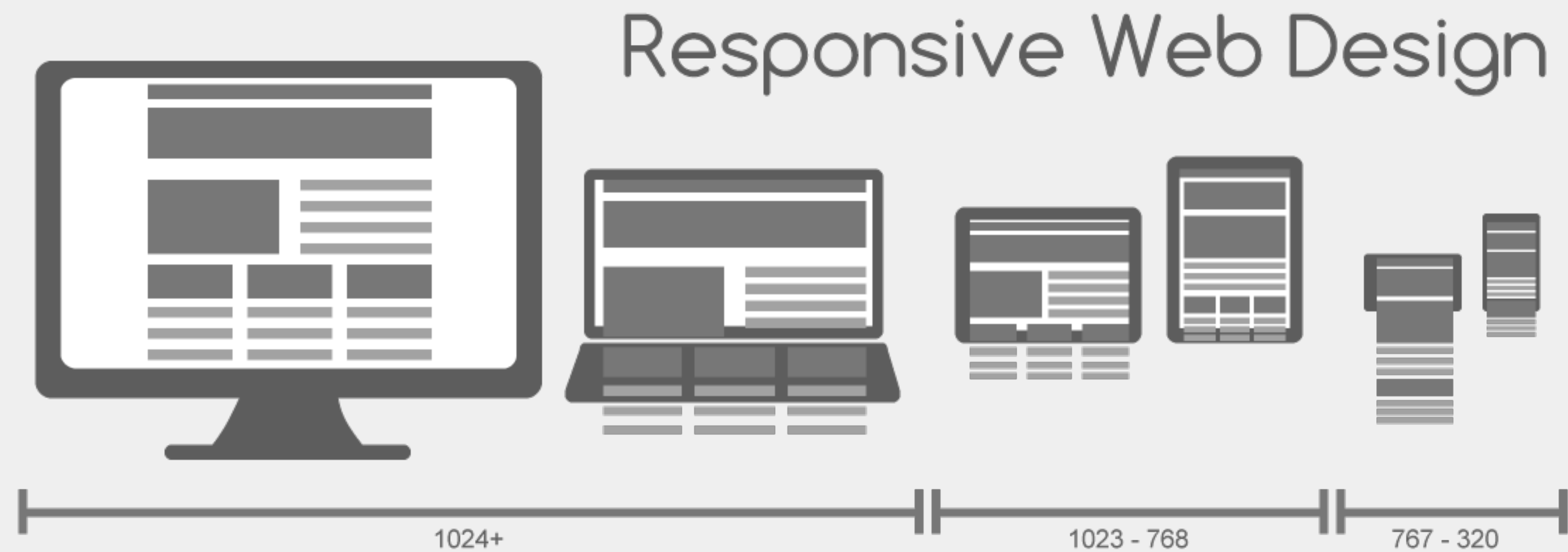


Image found on Wikipedia /CC0

- Simple & fast development
- Low costs
- Technology is very wide-spread
- No specialists needed
- Very limited hardware integration
- Web pages and online shops with limited interaction

Progressive web apps



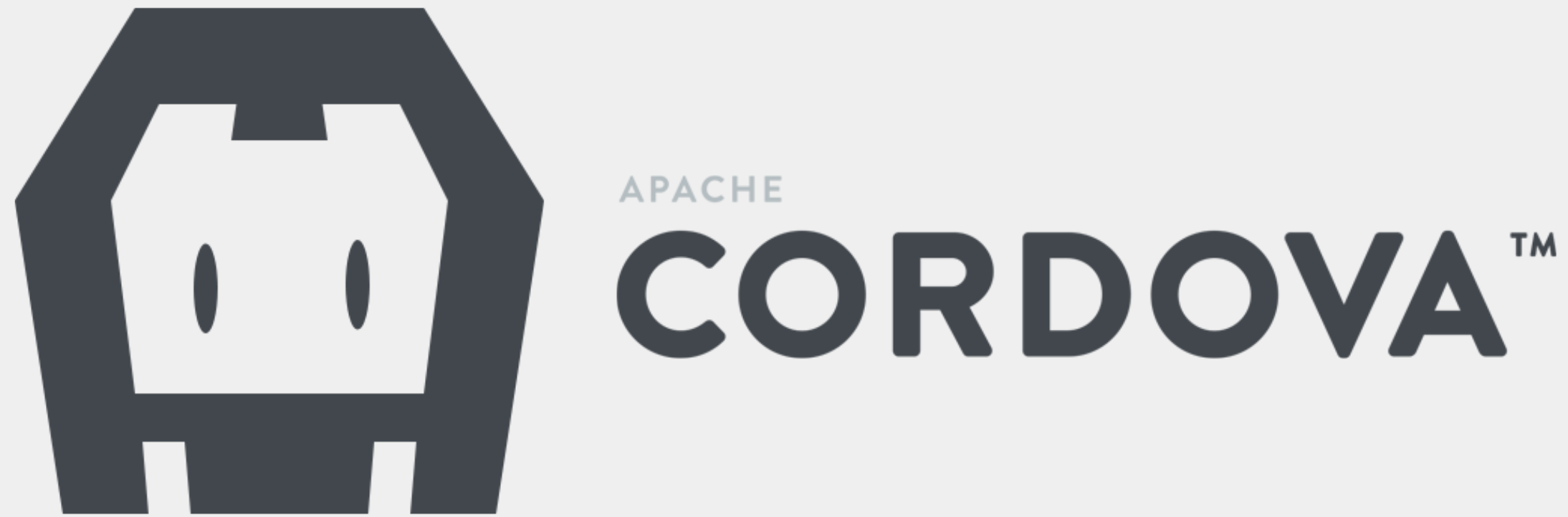
Image found [here](#)

- Low costs
- Fast iterations
- Offline functionality
- Javascript (wide spread technology)

- Browser & OS support
- Limited hardware integration

- Applications with limited to low interaction and reliability requirements

Hybrid apps



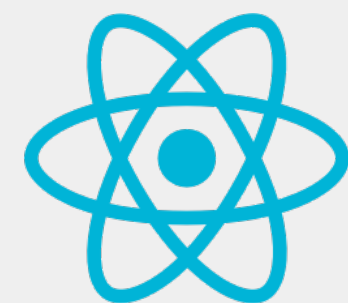
Images by Apache Cordova / ionic

- Only one programming language
- Wide-spread technology (web)
- No real integrated development environments
- Performance
- Simple native apps that require native components or deeper integration.

Cross platform apps



Xamarin



React Native

Images by Microsoft, Facebook & Google

- Good performance
- Only one programming language: C# or Dart
- Shared libraries with other components of your platform
- Lowest common denominator
- Another layer on top with its own problems
- Optional, platform specific UI and behaviour
- Still requires specialists for platform dependent features
- Applications with average to high demands and sometimes platform specific features.

Native apps



Images by Apple & Google

- High performance
- Fast boot times
- Latest APIs & frameworks
- Best possible OS integration

- Multiple programming languages
- Cost intense
- Specialists needed
- App stores

- Applications with very high demands or target devices with very low specs

Words of wisdom

- My knowledge might be old
- My knowledge might not be complete
- I might have some opinions, even grudges
- You might prove me wrong, hopefully!

What is a progressive web app?

- There is no magic sauce
- Combination of important browser APIs
- With a manifest that enables OS integration: add to home screen

Most important APIs

- Service & web workers
- Web notifications (can trigger workers)
- WebAssembly
- Background sync
- Storages (local, session, index)
- WebVR (deprecated, will be replaced by WebXR) on Chrome

The good

- Jumpstart with your basic web knowledge
- Fast iteration at the beginning
- Open source, no proprietary frameworks, no licensing, no fees: power to the people!
- Shared code between your regular platform and your mobile app
- Growing set of APIs
- SEO

The bad

- Compatibility: minor OS updates (iOS 11.2 to 11.3) can break your app
- Missing the big picture: no architectural blueprints
- Maintenance: missing long term support of web frontend frameworks
- Technological turnaround: the meat grinder

The missing

- Application / device lifecycle
- Beacons & region monitoring
- Many platform specific features (Doze, Data Saver, Payment, Wi-Fi RTT, Hardware Security)
- ARKit & ARCore, sorry folks! You can still use WebGL, WebVR and maybe the upcoming WebXR! But this only works on Android devices.
- CoreML & MLKit

VR/AR without device support

- For mixed reality (no special hardware needed) you'll need:
 - Camera feed
 - Feature detection
 - WebGL
- For virtual reality you'll need:
 - WebGL

It is possible, but it is hard and error prone, especially on not-state-of-the-art devices (Android). Also, we have no browser/OS powered framework available to help us. Also, you can get creative with the existing features.

Some hints

- If you prototype in the real world:
 - Choose your device & browser wisely
 - Don't focus on stuff nobody sees – no one cares
- Use your UX/UI design tools as much as possible, test and iterate fast and often
- Less is always more!
- Do one thing – do it really, really good
- Complexity can be hidden, not eliminated

Thank you!





dreipol GmbH • Langstrasse 94 • 8004 Zürich • www.dreipol.ch • hello@dreipol.ch • 043 322 06 44