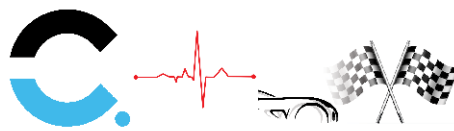# codecta.

Case Study
Race Track

Overview

Country or Region:
Germany

Customer Profile
Nürburgring is the Germany oldest and famous motorsports complex. It is a popular attraction for many driving enthusiasts and riders from all over the world, partly because of its history and the challenge it provides.

Business situation
Tourist drives became popular from year to year, increasing number of driving in open season. Crowd area, and long lanes of people at cache desk, required change in approach of selling drive tickets and fast and fluid access to the race track.

Solution
Robust and effective platform solution, built on microservice architecture and integrated with barriers, cache desk and accounting systems, using NodeJS, AngularJS, MongoDB and native Android and iOS technologies.

Benefits
Easy ticket purchase and track access only with user's cell phone. No waiting at cachedesk, no need to enter facility besides race track. Easy purchase of Season, Voucher and Gift Cards

Motorsport complex enables easy access to race track, from home to track and back without leaving your vehicle

Nurburgring, as one of the most famous race tracks in the world, lost his way to World Cup contests and became the popular place known by professional car drivers, auto manufacturers testing facility, touristic drives for regular people with their own cars, and even place for massive Rock concerts.

As Race Track Drives as its main product, there was a need for increasing popularity among the motorsport enthusiast, but at the same time enabling better experience for existing race track users. Increasing number of visitors means more crowd in facility area, long lanes of people waiting at the CacheDesks to buy their tickets for track entrance, which both leads to less satisfaction to the visitors and facility staff.

The most of the services are run and led under different service providers, barriers by Skidata, CacheDesk by Oracle, accounting by SAP, payment providers by Viacard and Concardis, and ground operation by facility staff. As these are all big and specialized providers, there was a need for someone who will build solution, but at the same time lead the complete process from requirement to final delivery, and create smooth and high performance solution with minimum downtime, which will be able to serve track drives at its season peaks.

The racetrack facility does not have internal IT Development department, all guidances and decision on tech level was delegated to us, deadlines with large PR conference promotion scheduled and Spring season at the door.

Situation

Germany as a country known by popular large Car manufacturers, has only few motosports complexes. Those facilities at season peak are crowded with auto manufacturer test drives, professional driver trainings, but at the same time, the Race Track is open for public, and large enough for Car enthusiasts are extremely excited with beginning of every season.
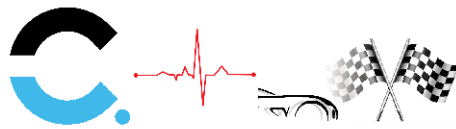
Those public drives are also known as Tourist drives, which generates quite traffic and also a lot of public opinion. Crowded Cache Desks at the season time was something required to be optimized, but at the same time to increase popularity of the track, without affecting a lot operational staff and facility capacities.

There was a need to simplify the process from customer purchasing the tickets to customer makes their drives with minimal additional ballast to the current operations.
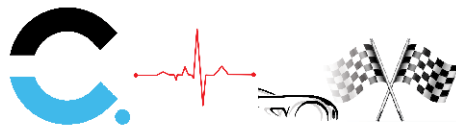
Solution

Codecta as software development service provider had experienced team which designed solution to be robust, scalable and minimum downtime platform, to support season peak and gives as much as possible new experience to the Tourist drives customers.
Various system providers which were in charge for the current operation were very responsive in requested actions, which helped us on time delivery for the main customer experience flow.

Customer was required to register to the platform, buy the credit which was used as balance check for the barrier access. Customer was able to see the internal weather station forecast, current calendar of activities, cars on the track, prices of different tracks, to buy Season or Voucher Card, to ship cards as a gift, reports of his drives, and similar options which could connect him more with the drives itself.

We needed the platform which can be easy vertically and horizontally scalable, developed fast and maintainable by any software service provider. Choice was made on NodeJS technology to build fast lightweight microservices, with the AngularJS on the front side, communication over the REST with the backend and MongoDB as flexible database for fast and long term BigData solution.

To get the best experience on the mobile devices, we have chosen native implementation for Android and iOS, as the device implementation had also required to be fast and quality solution, as the customer is supposed to make all actions and access

the track with QRCode shown on the device itself.

Benefits

Expected results after solution deployed in production were on more sides, less crowd, increased popularity, a lot of online transactions and shipment without even visiting the facility, which indirectly increases number of potential customers and attracts public attention to the Race Track.

Season peak proved most of the expectations to be valid. There was a quite number of registrations to the platform, a lot of transactions in purchasing Cards and Gifts, and especially a lot of transactions shown in the opening, closing barriers itself which proved our integrations with Payment system, Barrier system and Cache desk system to work at the highest performance, without blocking the track entrance and setting surprise moment to the most operational staff to the new operational flows in getting customers drives successful.