



ICT LOGISTICS CASE

Starlet automates the blood collection chain with mobileNXT

Starlet Diagnostic Centre in the Northwest of The Netherlands was the first centre to use a blood collection app. This was ten years ago, but due to the constant growth of Starlet's geographical work area as well as the blood collection instructions issued by health insurer VGZ for the area, the somewhat rigid application no longer sufficed. Flexibility and scalability are now key requirements. The combination of mobileNXT and Topicus offered exactly what Starlet was looking for.

Jeannette Goudriaan is chairman of the Board of Directors of Starlet Diagnostic Centre. She says: "We perform diagnostic tests for the Noordwest Hospital Group as well as for GPs, midwives, home care and nursing homes. One of our main services is blood collection. That process involves a large number of different parties: a (GP) doctor who needs blood samples; a patient who either has to visit an outpatient clinic or is visited at home, as well as the hospital lab that carries out the analysis. We had two apps - one logistical and one medical - that automated the entire workflow. Thanks to those apps, we were well ahead of the market ten years ago. In fact, those apps are still adequate,

even though their performance has deteriorated a bit because we have grown so much. But now that we play a managing role in the process of blood collection throughout the northwestern area of The Netherlands, a lot more parties need to be involved. So it's no longer a matter of just optimising our own process, but it involves the entire chain. And that doesn't work with the old apps."

One app with multiple faces

Because of the change in requirements, ICT manager Robert Meijer drafted specifications for the development of a new environment that involved all links in the chain. "We mapped all possible process



variants and looked at how information flows through those processes. We wanted to develop an application that feels like one single app that is tailored to the task of the various employees in the process - route planners, blood sample collectors and lab technicians. At the same time, the back end of the app had to automate the entire workflow across the chain." With that idea in mind, Robert created a Request for Proposal. Starlet then followed a traditional selection process - longlist, shortlist, demos by various parties - and eventually selected Topicus and mobileNXT. Topicus was selected for its expertise related to the medical component of the app, mobileNXT was the partner of choice for all logistics, for instance route planning.

Support for a variety of process variants

The contracts were signed in the middle of 2021 and the project started. However, there were immediate changes to the Programme of Requirements. Jeannette: "We had started the preparations just before the corona epidemic and began the project during the summer of 2021. This was when everything opened up a bit because a lot of people were vaccinated. During the period when we had to keep our distance, you could visit us by appointment only, whereas we were used to working without appointments at the blood collection clinics. If you had a referral, you could walk in at any time you wanted to get a blood sample taken. At the back end, this meant quite a big change in the processes, and this showed us the tremendous importance of flexibility. We want the app to support multiple process variations, both at the blood collection clinics and the mobile blood collectors."

"We really had something to celebrate because the collaboration with mobileNXT and Topicus resulted in an environment that simplifies the work of everyone involved in the process, reduces the risk of errors, and improves patient care"



Jeannette Goudriaan
chairman of the Board of Directors
of Starlet Diagnostic Centre

Integration with electronic patient records, lab system and Zorgdomein

Another key requirement was the integration of the newly developed app with the lab system and the Northwest Hospital Group's electronic patient records (ChipSoft HiX), as well as a link with Zorgdomein and with Portavita – the system used by Scarlet's thrombosis service. "Altogether that's four links, and all four are quite complex," says Robert.

But the most important link was the interface between mobileNXT and Topicus' software. "Both suppliers have a standard solution, but the two solutions had to be interconnected. In addition, some customisation was required to make the final product fit in seamlessly with our processes. All this means that you need to enter into intensive discussions, because a supplier does not want to develop customised components within its





standard application. However, we did not want to work with two standard applications that would function alongside each other and that did not fit in completely with our working methods. Fortunately, after close consultation and a lot of intensive sparring sessions, we managed to roll out a blueprint that met all our needs. The two underlying apps remain completely within the standard, while a shell around the apps links the two together. The shell also includes some more customisation in order to make the solution fully match our processes. Altogether, our work resulted in the roll-out of a great solution," Robert says proudly.

One app, multiple appearances

The final solution is an application in which the front-end feels like one app to the users, but behind the screens it directs employees from mobileNXT to Topicus and back again. The solution is also linked to the roster scheduling package and to Starlet's ERP software. In addition, several front-ends have been developed which consist of task-oriented apps that are tailored to the work of a specific user group: schedulers, blood sample collectors and lab workers. They all have their own working environment, which they can access via a computer or phone, depending on their role. Above all, the application ensures that the entire process is supported – right from planning to analysing blood in the lab.

No more errors

Jeannette describes the workflow of a blood sample collector. "She opens the app in the morning and sees at a glance which patients she needs to visit. As soon as she gets into the car, the app starts

navigation to the first blood collection address. When she arrives at the patient, the collector checks the patient's name and date of birth and then sees how many tubes of blood need to be collected. She scans the tubes, after which the app indicates whether she accidentally has taken an insufficient number of tubes. In short, the blood sample collector can't make any mistakes. When the task is completed, the app indicates the next blood collection address and starts navigation to that address."

Meanwhile, the solution automatically sends the numbers of tubes to the lab. This means that the lab staff know exactly what workload is coming up and why the blood needs to be examined. The moment the tubes of blood arrive in the lab, the staff just needs to scan the barcode to automatically match the tube to the type of test and the patient. The solution thus eliminates a range of administrative work, and no mistakes can be made when retyping data.

Long development path

The overall project took longer than expected. "A lot of the time the cause was that we could only proceed with the next development step once all parties involved had finished their part of the work. Because we were dealing with so many stakeholders, dependencies and sub-processes, this had quite an impact on the lead times," says Robert. It also took some time before all parties involved got to know each other well and knew each other's responsibilities and capabilities. "For instance, Topicus involved a number of separate business units, while mobileNXT assembled a single team to





work on the solution. We ourselves also have a lot of technical knowledge and participated intensively in the thought processes. The longer we worked together, the easier things proceeded and the more we could rely on each other."

Something that also took a lot of time was testing, but this is certainly not time wasted, says Robert. "We have so many process variations and you have to develop test scripts for each of them, plus you have to actually run each of those scripts. And that takes time. What's more, testing the large number of process variations also produces quite a few findings, all of which have to be resolved. We underestimated this a little beforehand, but in retrospect we can see how important it was that we took the time to do this. As a result, we now have software that fully matches and supports all process flows."

Phased implementation

The implementation was performed in phases. This was new for the organisation, Jeannette explains. "Previous software implementations had always been performed with a big bang. Sometimes that was quite intense, with crying people who had done their work well for years, but who were now completely overwhelmed by a new style of working. That's why we were very happy that mobileNXT and Topicus wanted to start on a small scale, with a limited number of employees and limited functionality. This has the disadvantage that for a while you work with two styles of working at the same time, which means double work. However, the advantage is that you give employees time to get used to it. This made the entire adoption



process much easier than in previous migrations. Moreover, it gave the development team time to iron out teething problems before everyone started working with it."

Higher efficiency, better patient care

In the beginning of 2024, the big moment had finally arrived: everyone throughout the organisation, including the lab, switched to the new MyStarlet app. This moment certainly deserved a grand celebration. "We invited all those involved: the suppliers, lab staff and our employees," says Jeannette. "We really had something to celebrate because the collaboration with mobileNXT and Topicus resulted in an environment that simplifies the work of everyone involved in the process, reduces the risk of errors, and improves patient care. Moreover, some minor adjustments have ensured that the solution can also be used by other regions. I hope they will, because isn't it great if you can make greater efficiency and better patient care go hand in hand?"

Want to know more about this case?



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