Cross4Health

Awarded Projects Interview

Awarded Project	Gamification of Digital Saliva Test
Company name	Zajzon Bodó, founder Sinfonic Innovation Management Bt.

1. What is the company's business activity?

The saliva fern test is based on the phenomenon that dried saliva forms fern-shaped crystals a few days before ovulation when the estrogen hormone level increases. We are the first who started to digitalize the saliva test in 2016 with a vision that automated crystal detection and AI can unfold the hidden information in these crystals. By finding correlations with other physiological conditions, we personalize the test and increase its accuracy.

Today, we offer a non-intrusive, reusable and natural method for child-seeking women to monitor their fertile days. The price of the microscope is negligible compared to urine tests; and its accuracy is much higher than of other reusable methods e.g. body temperature tests.

2. What is the Babyndex project?

Saliva fern test is FDA-approved for ovulation prediction but many samples are not interpretable with naked eye. Babyndex is the first digital saliva test. We complement the analogue ovulation microscope with automated crystal detection in a mobile application. The user takes a picture of the dried saliva sample with her smartphone and she can immediately see on the screen if the probability to get pregnant is high or low.

3. How did the idea come about?

We started working on this project with my father, Ákos Bodó, in 2016. I am an economist with experience in electronic infrastructures and he is a gynecologist. He complained about waiting for laboratory tests and about inaccurate home use tests for tracking menstrual cycles. We found that the saliva test can be easily automated and can support fertility monitoring.

We collected saliva samples from volunteers and built a technology demonstrator – with the help of Innolabs – in 2018. The same year, Harvard Medical School performed a study and found that saliva test is 99% accurate in predicting ovulation if complemented with computer vision.

4. Who are the core partners of the project?

In the Cross4Health project, Sinfonic Innovation Management Bt. is the consortium leader and Touch4IT s.r.o. is the consortium partner who builds the mobile application both for Android and iOS on market terms. Additionally, we have third parties working on the website and on the SEO.

5. How did this collaboration between the partners arise?

We were happy to see that Norway HealthTech manages a new EU program in 2019. We started to look for an app development company. Amongst others, we had a meeting with Touch4IT and we were impressed by their affinity for innovation. We agreed that they take care of the mobile application development and help engage users with gamification. This is utmost crucial for calibrating the test, for reaching higher accuracy and also for improving the product-market fit.

6. How did you hear about the Cross4Health project?

In 2017-2018, Innolabs, which was also led by Norway HealthTech, incubated the Digital Saliva Test. During this period, Sinfonic had built a technology demonstrator and had significantly improved the status of its IPR, which was absolutely crucial for further development. Hence we kept an eye on Norway HealthTech upcoming programs.

7. What is the current status of the project?

With the help of Cross4Health, we have built an online store, https://babyndex.eu, with SEO and a mobile application both for iOS and for Android that makes testing easier and more fun. This sounds easy but a competitive online service still requires a lot of iteration, discussion and hard work.

We launched the app only a few weeks ago and people are already using it. With my father, it took us a month to collect 10 images manually. Now, we have more than that every day. This growing digital database of dried saliva samples is the core of our business. We can annotate the dataset and make it actionable for AI to unfold correlations with other physiological conditions for a significantly better personalized monitoring of the fertile window.

My father is 77 and still working. We know that behind an uploaded image there is a child-seeking woman. And we know that saliva test has its advantages and disadvantages but with AI it can only get better.

We have a crystal detection algorithm hard-coded in the app for markets with weak Internet connection. This was added to the application after project start but Cross4Health was more flexible than we thought and supported this amendment.

Last year, new team members joined and we are already 5 working on the project; thus Babyndex turned into a start-up from a family undertaking.

8. What are the next steps?

We improve our algorithms, work on our database and focus on non-EU markets. We wish to keep our first mover advantage and calibrate the test to the individual user. This test phase is easier in non-EU markets with a bigger user base. The Babyndex solution is available on the market but the CE certification is pending. However, Cross4Health helped us to create a CE certification strategy, and the good news is that a Notified Body is not required for the approval.

9. How Cross4health can support the development of your project?

Cross4Health's support was inevitable for achieving these results; namely to build a product and to start its commercialization. And as I mentioned, we have images being uploaded daily, and this is the best market validation. These women want to get pregnant and we hope with our technology they can achieve their goal. This is why we started the whole project and what we are working on relentlessly.

In other words, Cross4Health has contributed to help these women get pregnant sooner. This program enabled us to build this unique solution and to couple 50 years of gynecological experience with e-infrastructures into a digital product. Together, and I mean Cross4Health

and the team, we can empower women to track their fertility significantly more accurately and easily.

10. Would you recommend Cross4Health to other companies?

Yes, of course, Cross4Health is a very pragmatic and result oriented program with high quality project management, good network and wide range of expertise. I hope that Norway HealthTech has again a new program in preparation that suits our needs.