

CASE STUDY



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PROJECT SUMMARY

COMPANY

Nedgroup Investments

INDUSTRY

Financial Services

LOCATION

South Africa

SOLUTION

Test Automation with
Behaviour Driven Development (BDD)
Microsoft Azure BOT Framework

Software testing of an online automated self-investing platform

Nedgroup Investments, an award-winning global investment business contracted software development and testing specialist DVT to assist with the software testing of its newly launched online investment platform, 'Extraordinary Life.'

DVT's Global Testing Centre played a pivotal role in the success of the platform, which was named Banker Technology project of the year in the Banker Tech projects Awards 2018, backed by Financial Times.

Donna Barnes, Head: Direct Clients at Nedgroup Investments says the platform was designed 'to just make investing easier in South Africa' by addressing the issue that many South Africans do not know how or where to save appropriately. Furthermore, Barnes says many people are often intimidated by the traditional investment process which acts as a barrier to starting a savings regime.

HOW DOES EXTRAORDINARY LIFE WORK?

- Extraordinary Life utilises an intelligent chatbot front end that collects information from the customers in a convenient and conversational way, which helps with trust and simplicity.
- It calculates amounts needed for particular goals such as retirement and education, cleverly making use of a cloud-based algorithm that guesses the age of humans based on facial recognition and Google APIs to pinpoint education institutions and their corresponding fees respectively to enrich the engagement.
- It enables hyper-personalisation that works not only on investment but also tax recommendation algorithms, which allow customers with various needs to invest in the right portfolio at various stages of their life, using intelligent automation.
- It has advanced investment algorithms, built using in-house stochastic models from our asset management team (with 1 000 000 data points over 1 000 future scenarios) integrated into a recommendations matrix as opposed to deterministic models used in an average robo-advisor.



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THE SOLUTION

DVT included test analysis from the start of the project, and test automation followed soon after Behaviour Driven Development (BDD) was introduced to ensure test automation covered the acceptance criteria as defined by the team. BDD is an extension of Test-Driven Development (TDD) that emphasises developing features based on a user story and writing code that provides a solution to real problems.

The most complex part of the test automation was not the scripting but rather the architecture and strategy. Test automation played a critical role in the overall test strategy, executing against all environments, even production.

Extraordinary Life utilises an intelligent chatbot (based on Microsoft's Azure BOT Framework) that collects information from the customers in a convenient and conversational way, which helps with trust and simplicity.

The platform was created via collaboration between technical experts from South Africa, India, Czech Republic and United Kingdom and integrates artificial intelligence, chatbot, investment algorithms, web and API development.

THE CHALLENGES

Every project has its challenges, and in this project the biggest one was the re-use of test data, catering for complex investment models, responding to changes to the functionality and chatbot conversational flows.

LESSONS LEARNED

This project had the luxury of working directly with the business product owner, Donna Barnes. Barnes was part of the delivery team: answering questions, helping remove impediments, testing as functionality was released, logging defects, retesting fixes, informing project sponsors of the progress and providing motivation to the team to mention a few.

Other positives included a team commitment to deliver and the fact that everyone participated in the quality assurance component of the project. Everybody did testing, including the scrum master, solution architect and the IT Executive.



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ABOUT DVT

DVT is a software development and testing company that focuses on digital transformation technology solutions for clients globally. Its services include custom software development for mobile, web and traditional platforms, software quality assurance, automated regression testing, UX/UI design, cloud application services, DevOps consulting and data & analytics solutions as well as Agile training and consulting.

Founded in 1999, DVT has grown to over 700 staff with offices in the UK (London) and South Africa (Johannesburg, Centurion, Cape Town and Durban). The company services more than 100 local and international medium and large organisations.



THE RESULT

According to Donna Barnes, the results were real - a 70% reduction in testing time and development to implementation with test automation. "Thanks to a team effort and technology partners like DVT, end users now have a completely frictionless digital experience when investing, and they have access to a qualified financial advisor at no cost to review the platform's investment recommendations."

ABOUT NEDGROUP INVESTMENTS

Nedgroup Investments is an award-winning global investment business with a growing presence in Africa and Europe. Nedgroup Investments offers a wide range of investment solutions for retail and institutional investors. Nedgroup Investments is a division of Nedbank Group Ltd, leveraging the investment and financial expertise of one of South Africa's largest financial services groups. The Nedgroup Investments Best of Breed™ philosophy sees us partner with select fund managers who we believe are able to provide consistent long-term outperformance for our clients. These fund managers are experts in their field of specialisation and we tend to partner with them for long periods of time giving them sufficient opportunity to deliver on their mandate objectives.

UNITED KINGDOM

City Pavilion, Cannon Green 1st Floor, 27 Bush Lane, London, EC4R 0AA
Tel: +44 (0)203 946 7503 | www.dvt.co.uk

SOUTH AFRICA

Ground Floor, Victoria Gate South, Hyde Park Lane, Hyde Park, 2196
Tel: +27 (0)11 759 5930 | www.dvt.co.za