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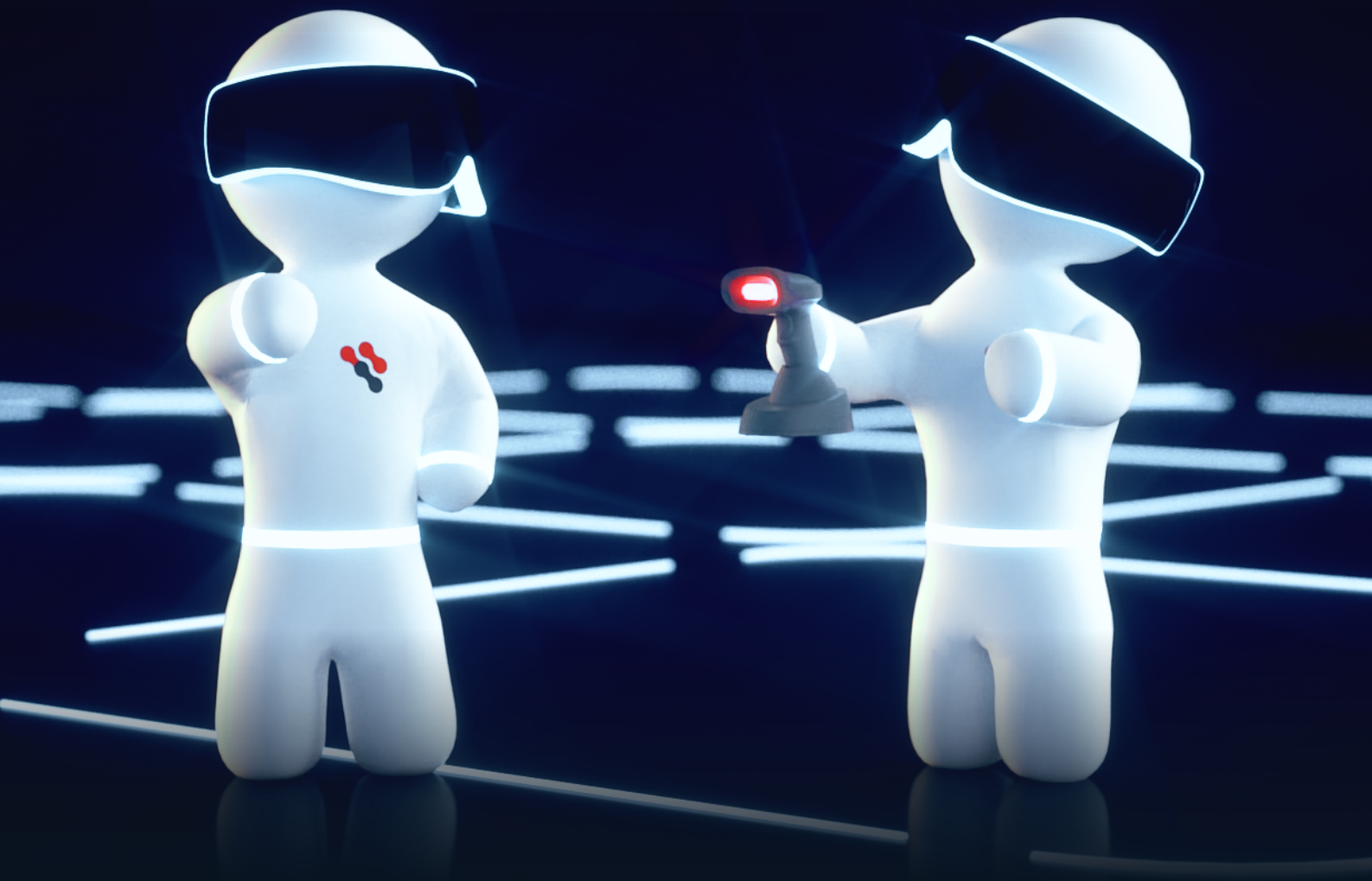

PARAGON ID

Building a modern mobile application for high-performance RFID scanning and equipment management.

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Paragon ID are identity solution providers, specialising in Radio Frequency Identification (RFID) technologies to service a range of industries including healthcare, manufacturing, and logistics.

BACKGROUND

Paragon had originally developed their Discovery app to interface with handheld scanners, enabling users to scan locations and inventory, and track valuable data. This app was primarily intended for use in hospitals, enabling users to ensure that equipment such as masks, gowns, and disinfectants were properly allocated and accounted for.

Originally built in Windows CE, Paragon ID decided they should rebuild the Discovery app for Android, as they were in the process of upgrading their scanners to ones that came with Android handsets. Although they started this journey with another provider, that engagement was short-lived as the supplier could not complete the first working version, at which point we became involved due to our expertise.

CHALLENGES

Our primary goal was to ensure that all of the legacy app's functionality was retained in the rebuilt version. This included tag scanning and connection to a server for synchronisation of asset and tag data. Critically, there was a requirement to use a custom, undocumented Java module that had been developed to act as a bridge between the app and the hardware.

PARAGON ID

We also needed to carefully refine the user interface and user experience. No designs had been produced by Paragon or the original supplier, and the design language of modern mobile apps is quite different from that of Windows CE. It was important to get something in place that worked, in order to meet the timescales Paragon were depending on, but equally to revisit this to bring the application up to a higher level of design and interaction quality. Getting this balance right was key to both achieving Paragon's commercial objectives and satisfying their customers.

In addition, once the first release was complete we were asked to develop a parallel version of the app with a different target market. This would present additional functionality, and its own branding, but run on the same codebase as the standard app, meaning data from both apps could be managed and accessed through the same system.

SOLUTIONS

We assessed the original application and confirmed the critical requirements and approach to ensure that we would produce exactly what was needed in the limited time available. We then built the app using React Native, interacting with physical scanners through a Java library in order to control settings and collect scanned tag data.

We also used Redux to ensure reliable state management of data between the scanners and the server, and Native Base as a component library for establishing atomic design.

Once the initial launch had been achieved, and Paragon's commercial position assured, we developed subsequent versions of the app to introduce less-urgent functionality along with new features and iterative improvements.

After completion of the critical commercial objectives, we produced conceptual designs for the UI and held client workshops to refine and tailor the details and dynamics. Our improvements to the UI/UX included; reworked layouts, improved data presentation and interaction, and a refreshed approach to navigation. We established a global set of design rules and guidelines, and implemented a new theme with a defined colour palette which made it easy to change colours and appearance with global effect.

Notably, our introduction of continuous location tag scanning meant that scanners would automatically detect new location tags when they were encountered, and present the user with the option of changing their location. This mitigated the need for users to manually scan location tags each time they entered a new location, saving time and improving the users' experience.

We also carried out performance testing and optimisation, to ensure that the system could handle large volumes of scan data safely and robustly, and that the process was clear and would prevent resubmissions.

RESULTS

We successfully delivered the initial application in time to meet Paragon's commercial agreements, and have continued to work with Paragon ID over a number of subsequent iterations. This has enabled Paragon to roll out the app to several customers, including the NHS, allowing them to secure and grow their customer base, and gain an edge in a competitive market.

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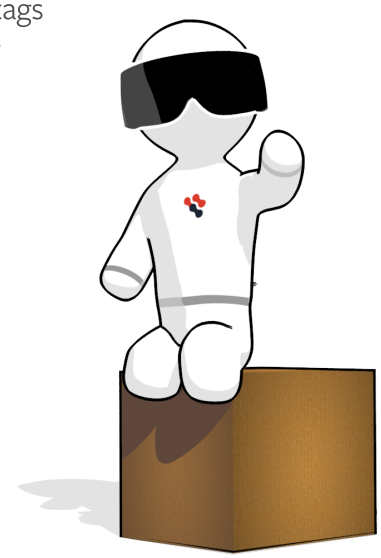

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Technologies used:

REACT NATIVE

REDUX

NATIVE BASE

NUR SDK

Reactive Native | React Redux | Native Base | Java | NUR SDK | RFID | API

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