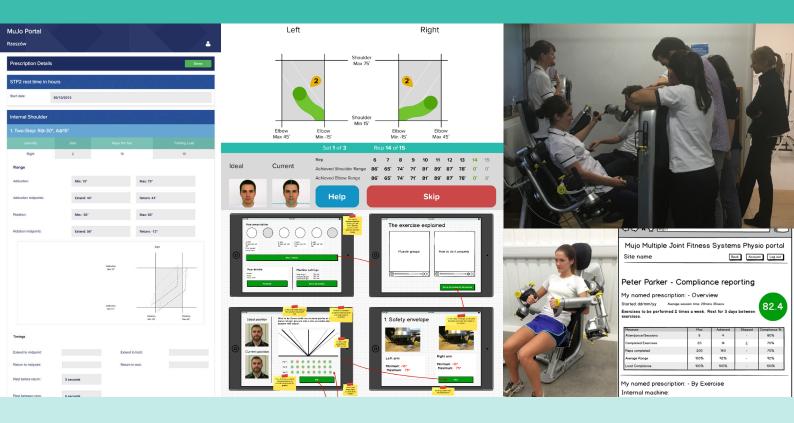# MuJo Fitness/Qinec

> "Throughout the process they consistently went above and beyond, responding to requests in out-of hours time and visiting installation locations at short notice to troubleshoot any issues discovered post-deployment. Ultimately, the success of the project can be seen by the extremely positive feedback received by patients now using the solution, in terms of its usability and innovative approach to displaying information, which was achieved thanks to Nick and Alan's insistence to involve the end users at each stage of the process."
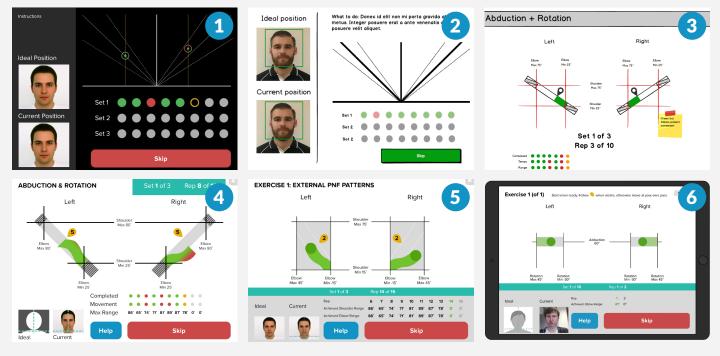
Douglas Higgins, CEO MuJo Fitness

THE PROJECT

MuJo Fitness and Qinec had partnered with the Royal National Orthopaedic Hospital (RNOH) and the University of Manchester for an 18-month study into the potential benefits of using connected devices on the treatment of musculoskeletal shoulder injuries. The project involved using a custom-built app connected to exercise machines to track patients' performance against their prescriptions and use the feedback gathered to shape further treatment plans.

HOW WE WERE INVOLVED

We were commissioned to build the app that would be connected to the machines. Following our initial work, our role in the project was considerably expanded to include the design and construction of the back-end database in which patient prescriptions and performance stats would be stored.

DESIGN EVOLUTION

1 2 3 *Initial rough wireframes are produced and iterated.* **4 5** *Successive designs are created.* **6** *Finished version in the app*

THE CHALLENGES

This was a complex project involving the transfer of confidential patient information across an open network, the real-time tracking and collection of movement path data and the creation of a presentation layer in the back end portal to facilitate analysis by caregivers. In addition we were creating a service to be used by patients aged from 15-80, with limited movement, which they were engaging with while their attention was likely to be elsewhere on a platform that they may not be familiar with

WHAT WE DID

Before development started we worked with MuJo Fitness to understand their requirements and developed comprehensive user and technical specification documents. We watched patients using the machines in situ, and used that information to generate a series of detailed user wireframes describing how people would interact with the machine and the app. We built a series of click-through prototypes which we used in further user testing. Testing extended into such things as ensuring font-sizes were suitable and that any colours used were appropriate.

We also worked with teams of Physiotherapists at the RNOH on the design of the back end. There were specific occupational factors which, we found, had a material impact on our initial designs - and by a process of iterative improvement we were able to factor them out.

Before deployment, we set up end-to-end system tests involving physiotherapists, doctors and patients

HOW WE MADE A DIFFERENCE

As a result of our ability to respond quickly and take over the design and development of the back-end portal as well as the app, the project managed to keep to its original timelines and the 18-month study began in January 2016.