

Visualising and Animation of Vectorthotic Insole:

Technical Animations: Redesign Collaboration

Healthy Step UK

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HEALTHY STEP (SENSOGRAPH) LIMITED, (registered number 3124863), with its registered address at Unit E209 Warmco Industry Park, Manchester Road, Mossley OL5

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Healthy Step has a successful foot orthotics and rehabilitation range. The company currently one of main manufacturer of a number of products and sells through distributors through them to the NHS. There is a growing area of business in the private market and internet (direct to the patient) sales. There is a perceived opportunity to develop a new brand of devices based upon the existing range that:

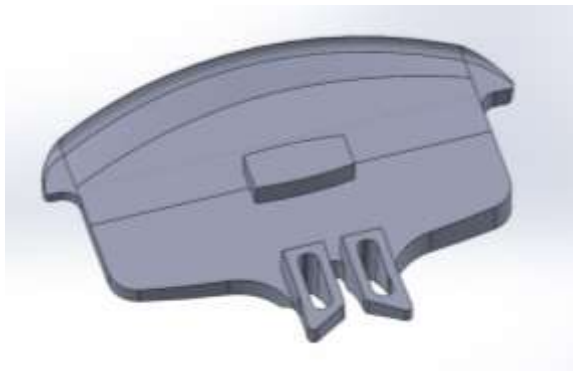
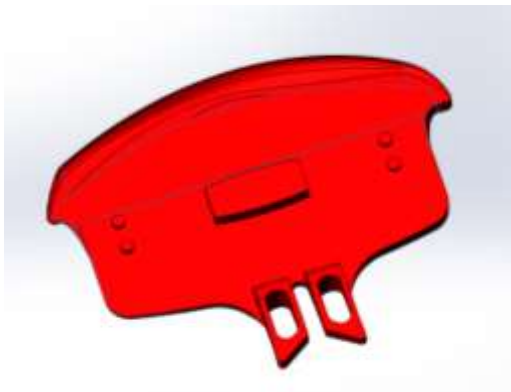
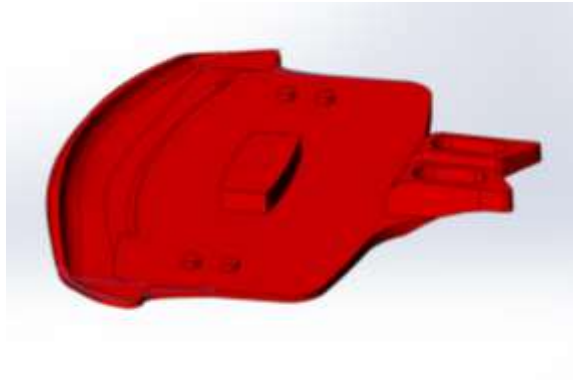
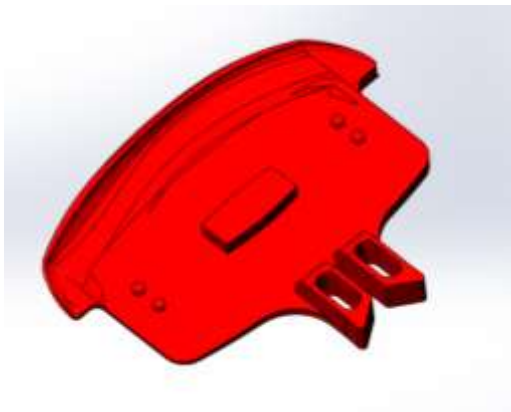
- Exude quality and performance – and would therefore carry a higher price point
- Are only available to clinics and clinicians – allowing clinics to set their own prices and be unaffected by Healthy Step’s direct to patient internet sales.
- Are not available direct to the patients.
- Focus on the business aspirations of the clinician and/or their practice.
- Allowing them to realise greater profit by “selling”/prescribing quality, branded, performance devices that deliver adaptable clinical treatments with a quality retail feel and offering.

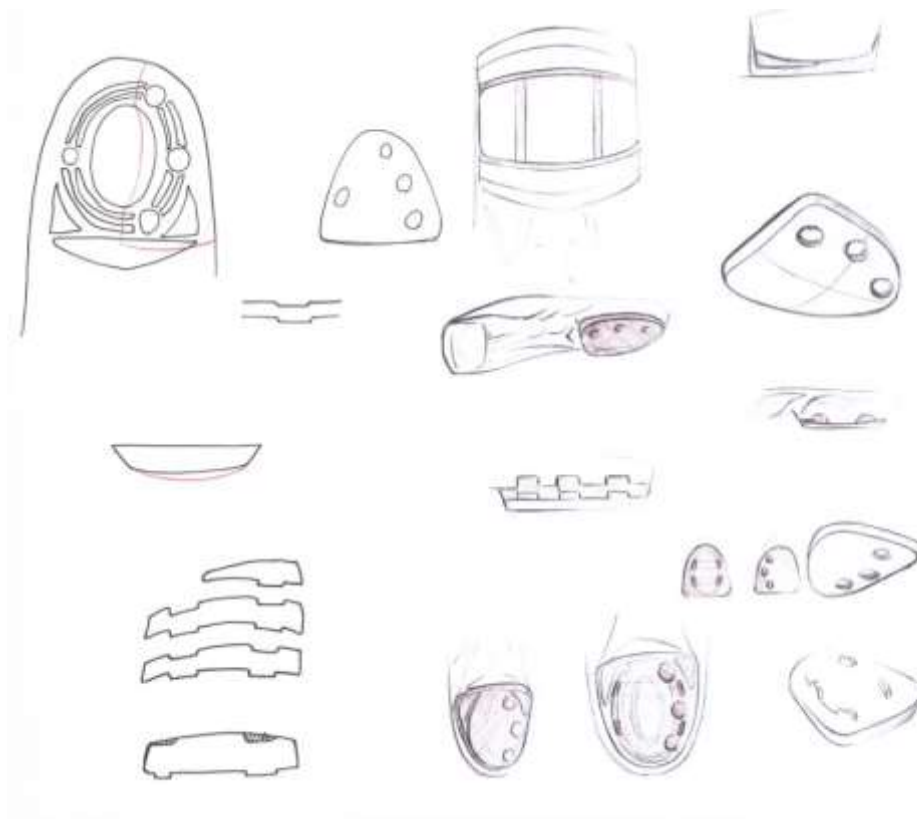
This performance orthotic range aspires to be as effective as a functional foot orthotic (FFO). It is adaptable and customisable to meet the needs of the busy clinical environment as an off the shelf solution. The Vectorthotic device is a very successful polyprop device which adaptions can be clipped into.

A technical animation is planned to support for the new brand - website animation:

- 30-60 second animation
- High impact
 - Stage I - primary care conference: target audience is a wide range of public healthcare sectors
 - Stage II - COPA conference encompassing elite sports: target audience are physics, chiro, osteopaths and any connections to elite sports like sports therapists.
- Suggestions:
 - 3D 360 degree views of product demonstrating interchangeable heel wedges, bidirectional (varus and valgus, medial and lateral) forefoot wedges
 - Introducing key enhancements
 - Unique shock absorbing top cover highlighting the retail quality design - at this stage its multi-functional i.e. For all activities
 - Diagnostic heel raise - breaks out to show 'click-in' graduations to enable differing raise graduations
 - Demonstrate heel device re-pitching - with application of heat
 - Highlight that plastic heel raises do not compress over time

Other deliverables have been discussed at: <http://eprints.hud.ac.uk/id/eprint/31684>





Results

Three new attachments were created to fit with the existing polymer base. a 2 degree heel piece that can clip onto the orthotics with the ability to have a 1mm to 6mm raise attached to it, a mid- foot piece that could be glued to the surface of the vector and a front foot piece that gave a 2 degree raise with a lip but the final product did not clip fully into place. The final iterations were printed using a FDM printer and the final designs were printed using laser sintering, this compromised accuracy.

Healthstep gave feedback on the final product:

'These all look good. The midfoot fits really well. The heel raise and 2/1 extra pieces are a good fit and look incredible. The forefoot piece, now that is printed in the PA look really smart. The only issue is that the forefoot part doesn't stay fast, in falls out'



If there was a possibility to change the base tooling a completely new clip feature could be designed with potential to improve performance as outlined above. Heel, ball and arch orthotic components of the existing vectorthotic were improved during the course of this project. Completion was a great live experience for the team although some issue with 3D modelling and printing tolerances as it had an impact on the first phase of iterations. This inaccuracy had a bearing on the printing of the snap fit parts of the orthotic but with product testing and feedback from the client these were overcome. Budget restrictions had an impact on the type of printing available for iterations, which partly compromised the outcome with regards to fit.

The Company recently invested in a new mid range 3D printing machine to be used for mass customised product development and employed a Product Design placement student to further develop service they offer. They also are keen to further develop the web presence and exhibition through 3D Animation and Design visualisation.

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