Alistair Ruff

User-centred design & research

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Experience

PDR

**User Centred Design Lead
(Jan 2019 - Present)**

Leading team in research and design work for user interfaces, products and services in public and private sector. Planning, conducting and analysing qualitative user research, moderating usability testing for digital and physical products. Engaging with clients at a strategic business level, advocating for user research and design as well as at a detailed product level to inform, develop and deliver products and services.

Project, staff and budget management responsibility, including business development, public speaking and tradeshow attendance. Managing project stakeholders, mediating relationships and understanding risk managment approaches within the design process.

**(Senior) Interaction Designer
(May 2014 - Jan 2019)**

User interface, usability and interactive prototyping specialist across all products, interfaces and services designed at PDR. Developing and using expertise in discovery user research, usability testing, interactive prototyping across sectors.

**Service Designer
(Sept 2013 - May 2018)**

Supporting the service design activity within PDR, conducting research and concept development with public sector organisations through SPIDER project. Developing in-house tools and methods for use in service design consulting and liaising with clients alongside senior staff members. Organising and representing at events such as the 2013 Global Service Design Conference, SPIDER conferences and others. Maintaining and developing project websites and marketing materials.

Freelance

**EcoDesign Centre Intern
(Nov 2011 - Sept 2013)**

A 5 week project working to develop user-centred design recommendations for a contract furniture design and manufacture company, assisting EcoDesign Centre in broadening their research in this area.

**Designer
(Nov 2011 - Sept 2013)**

Graphics, web and 3D CAD design support for a range of clients across industries.

Education

**Cardiff Metropolitan University
Professional Doctorate
(2016 - 2022)**

Part-time academic study alongside commercial role within PDR, investigating application of prototyping principles in service design.

**Falmouth University
Ba (hons) Sustainable Product
Design
(2010 - 2013)**

1st Class Degree in Sustainable product design, with a focus on the use of user-centred design within the medical sector.

References

Dr Claire Andrews
Product Design Lecturer
Cardiff School of Art and Design
Cardiff Met. University

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More available on request.

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I design and prototype services, interactive products and user interfaces based on running and analysis effective user research output. My experience includes consumer electronics, medical devices, financial services and work in the public sector.

I work closely with stakeholders ensure shared project understanding and that the results of research and design projects are communicated successfully. My roles have made me comfortable discussing the value of the work I perform in a business development and internal context.

I am also studying for a Professional Doctorate part-time, exploring approaches to prototyping in service design and their similarities and differences to those in interaction design.

Public Domain Work:

Cooltone by Coolsculpting (Jan 2019 - November 2019)

User interface, interaction design and prototyping for cosmetic medical device.

Strategic Research - Visual Design - Information Architecture - Digital Prototyping - Handover specification

DHS Smart Pump

Design and interactive prototype of a connected pressure area care mattress pump

Interaction Concepts - User Experience Design - Interactive product prototyping

P1vital Predict

Research, design and usability testing for a digital depression treatment monitoring system

Visual Design - Information Architecture - Digital Prototyping - Protocol Planning - Usability Testing - Handover specification

Kenwood

Mapping the service touchpoints of blenders and food processors

User Research - Data Analysis - Strategic Concept generation

Huntleigh Sonicaid Team 3

Design, prototype and testing of a touch screen interface for a foetal heart monitor

Visual Design - Information Architecture - Digital Prototyping - Protocol Planning - Usability Testing - Handover Documentation

Cellnovo Diabetes Management System

Formative usability testing for dedicated diabetes management system

Protocol Planning - Usability Testing - Design Recommendations

Confidential Work:

Global Pharmaceutical Company (2017 - Present)

Strategic research and design project, identifying opportunities for growth in existing and emerging international markets

User research - Data analysis - Strategic concept generation

Design and Prototype of next generation flagship device

Interaction Concepts - User Experience Design - Interactive Product prototyping

National Financial Institution (2016 - Present)

Research and development within developing customer segments

User Research - Data Analysis - Service Design - Digital Prototyping - Physical Prototyping - Brand Development

Research and development of new products and services

User Research - Data Analysis - Service Design - Digital Prototyping - Usability Testing - Management

Ongoing strategic design and innovation support for propositions, marketing and digital transformation teams

Innovation Strategy - Workshop Facilitation - Training - Management - Usability Testing

International Medical Device Manufacturer (2018)

Redesign of GUI

Visual Design - Information Architecture - Management

International Consumer Electronics Brand (2017)

Research and design to inform next generation flagship computer peripherals product.

User Research - Concept Design - Product Design - Interactive Prototyping - Usability testing

International Medical Device Manufacturer (2018)

Research and design to inform next generation wearable product.

User Research - Concept Design - Prototyping - Management

Cooltone by Coolsculpting (2019)

User interface and product interaction design and prototyping for cosmetic medical device.

Coolsculpting are the industry leaders in Cryolipolysis (Fat Freezing) technology. Their market share in the US was strong but global reach was limited. We Identified opportunities for business growth and worked with them to design and develop next generation products.

The first of these is 'Cooltone', a supporting product to their flagship. I worked alongside PDR's Industrial Design and Design Engineering team to design the interactions for the product, with a focus on the touchscreen user interface.

Approach

Global research

Collaboration with team

Research in established and growth regions to identify new product and service opportunities

Concept Translation

Service & Interaction concepts led by me

Translating research into suite of concept opportunities for continued business growth. Merging physical, digital and service opportunities.

Concept Development

Collaboration with Industrial designer and Design Engineer

Developing product vision for identified product. Generating and communication interaction concepts for digital and physical touchpoints.

Visual Design

Led by me

Defining visual style of UI elements, including developing client brand guidelines to meet WCAG requirements for digital interface.

Interactive prototype

Collaboration with Design Engineer and Software Developer

Planning and building 'looks-like' prototype using off the shelf screens to incorporate high fidelity digital UI prototype into sales prototype to indicate functionality.

https://vimeo.com/375642182
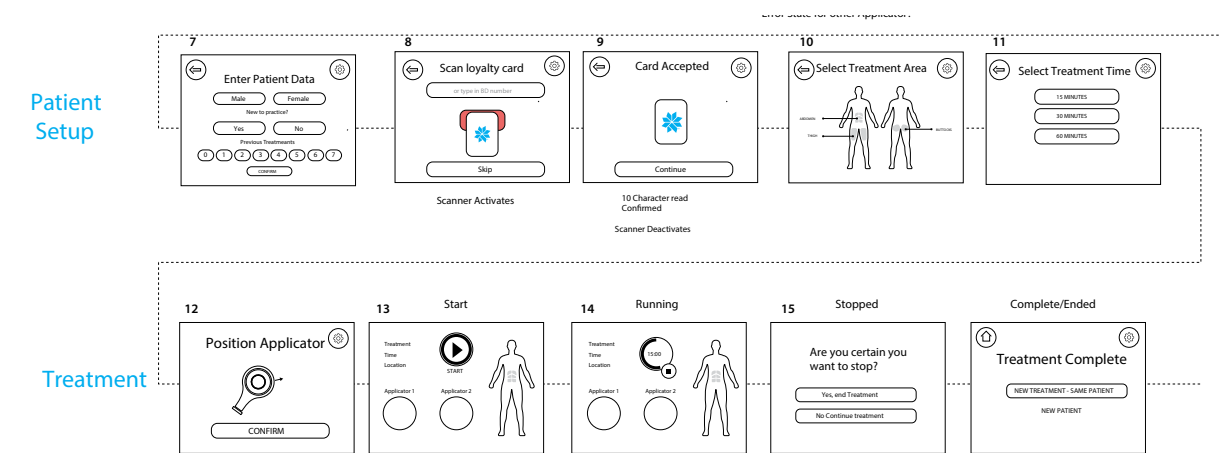
Outcome

Product has been soft-launched to clinics/consumers including all proposed designs & utilising prototypes at National Sales Meetings.

Full Product launch in 2020

Interactive user interface prototype for 'Looks like' sales model.

P1vital Predict (2018)

Research, design and usability testing for a digital depression treatment monitoring system

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Based on research conducted at Oxford University, P1vital's product brings together decades of clinical research and proven artificial intelligence to deliver digital tools that help improve recovery rates for depression sufferers whilst reducing the overall cost of treatment.

As a Class I medical device P1vital had more considerations than a standard consumer focused website. I was involved in a user-centred design approach to understand how both NHS staff and patients would use the website and wider system.

Approach

Internal knowledge audit

Led by senior colleague

Using P1vital's expertise and existing research to avoid duplication and inform research methods & content.

GP Skype Interviews

Led by senior colleague

Cost effective, allowing for regional NHS variations and fitting into busy GP's schedules. Semi-structured interviews around how P1vital system could sit within their workflow.

Visual Design

Led by me

Defining colour, grid layout and visual style for the system, informed by internal P1vital brand values.

Interface Design and Prototype

Led by me

Overall system architecture down to interaction details, prototyped to high fidelity in Axure. Radically streamlining existing clinical trial software for patient users, for desktop and mobile use.

Usability Testing

Led by me

Protocol creation of frequently used functions, recruitment of participants, facilitation of 1hr lab-based usability studies, analysis of results and subsequent design changes.

Handover Documentation

Led by me

Creation of handover documents for P1vital and external software developers. Usability study results and resulting design guidelines alongside detailed design specifications.

Outcomes

Key findings:
- GPs need system to integrate with their existing NHS systems
- GPs desire for as few notifications / emails as possible
- Patients find system simple to use on 'good days' but 'tests' require a quiet space and concentration which those suffering with depression don't always have.

Product has been re-branded as 'i-spero', with ongoing work to integrate into NHS systems and continuing research to obtain patient results from a short a ' test' as possible. Trials remain ongoing and the product is available at www.i-spero.com/

Client returned for further work on their product

Design Challenge: Presenting Results to Patients

Results needed to be seen and understood as a high priority. As they combined two sets of data this presented a key design challenge.

The system generates 'QIDS' Symptom Tracker results, which are trended over time, and 'Predict' results which are positive or negative results calculated algorithmically by the system.

'Predict' results assess whether your current anti-depression medication is likely to be effective based on a combination of interactive tests (including the symptom tracker). This is only taken 7 days after a new medication has been started, whereas the symptom tracker can be done whenever desired by the patient which generates complementary but not directly related results.

Proposed Design
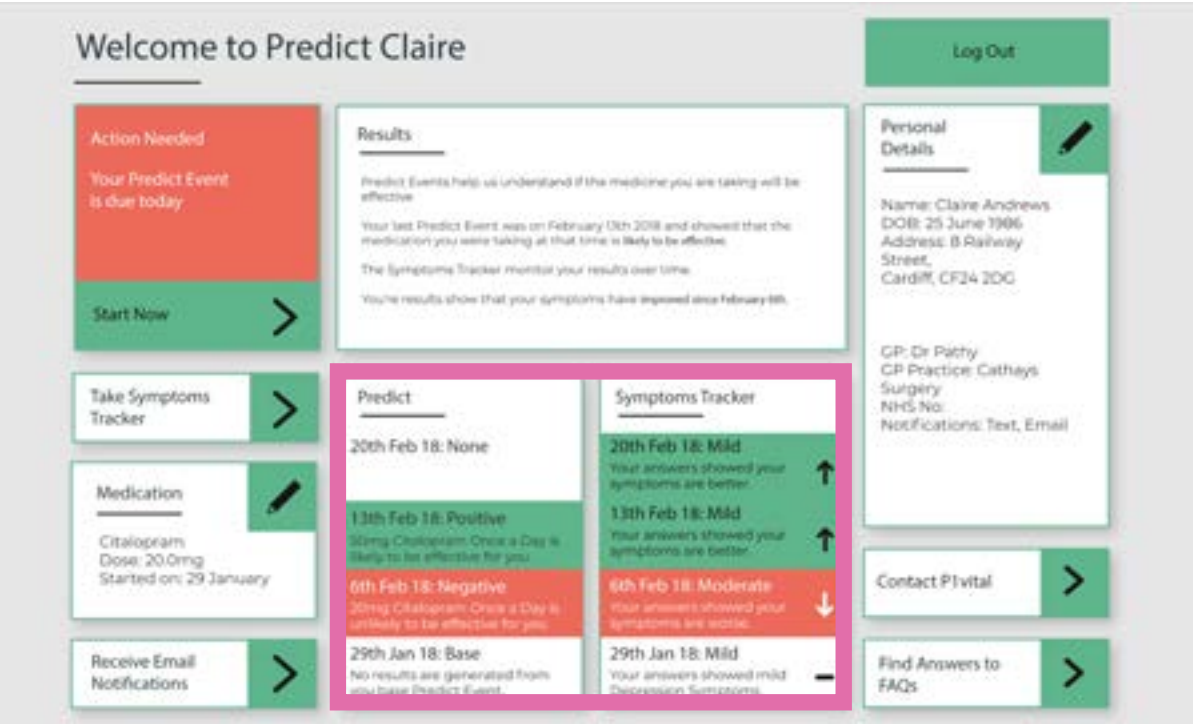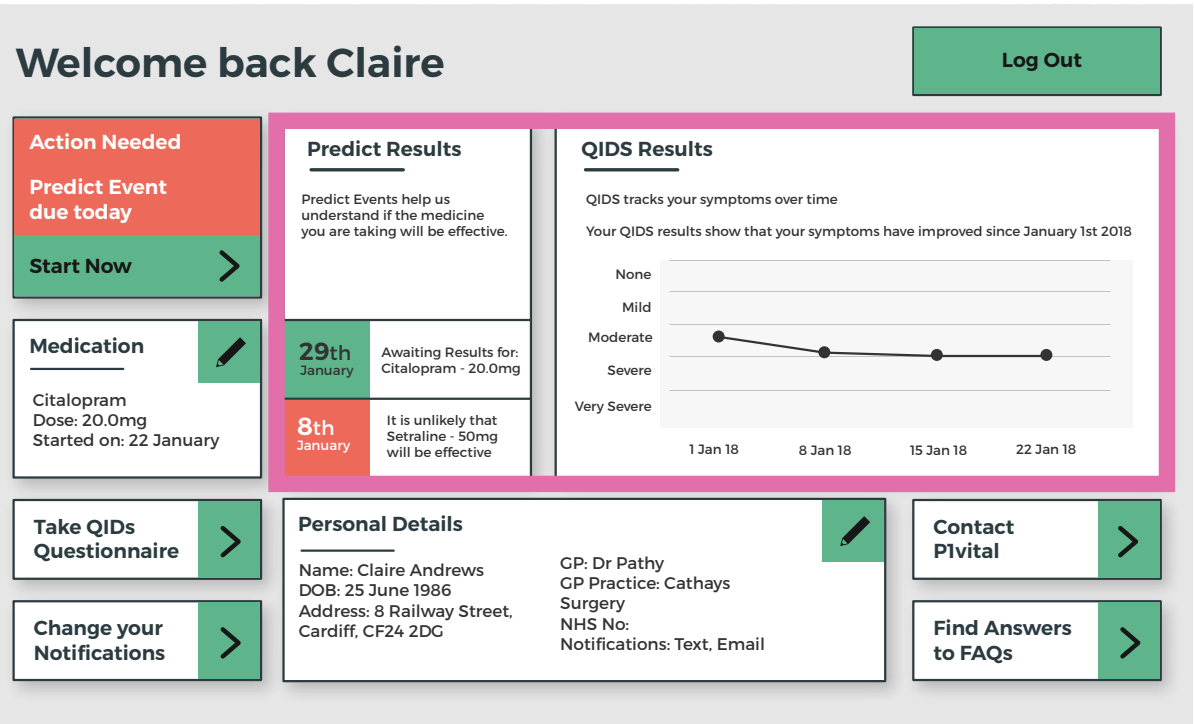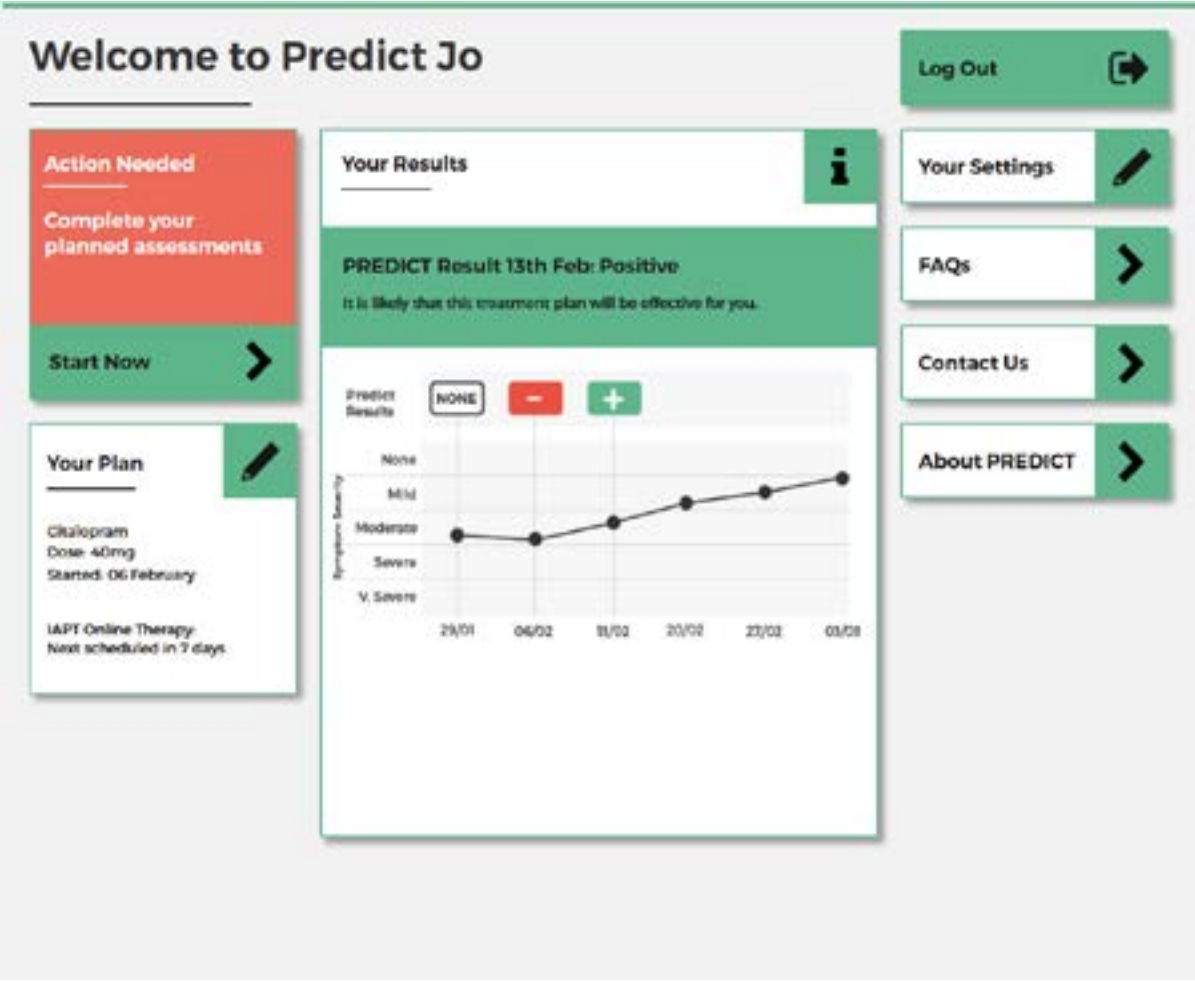
Design Iterations of results presentation (Pink highlight added). Designs that separated the results prevented the user cross referencing the dates of results. Where 'Symptoms Tracker' was not shown in a graph form, users found it more difficult to understand the trend.

Proposed design was both results presented over a graph layout. This represents the trend of 'Symptoms Tracker', shows date connection between any 'Predict' results from the same day and shows if it was positive or negative.

The interpretation of the results is presented in text form above for clarity.

DHS Smart Pump (2017)

Design and interactive prototype of a connected pressure area care mattress pump

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Direct Healthcare Services (DHS) manufacture and provide pressure area care solutions, with a portfolio of innovative, award-winning products including mattresses, cushions and overlays. However they had not previously developed their own dedicated product from scratch.

I was part of a 3 strong product design team, tasked with developing their new product, with market leading connectivity and design from concept to interactive prototype to launch at a trade-show.

Approach

Design Concept

Collaboration with Industrial Designer

Proposing integrated product and interface design concepts to client, ranging from full touchscreens to discreet hidden-to-lit display

**Prototype Planning**

Collaboration with Design Engineer

Identifying appropriate interactive prototyping approach for selected design concept, including technology required to provide desired visual and functional outcome.

UX Design

Led by me

Defining user flows and service that sits alongside the pump, incorporating mobile app controls.

Interactive prototype

Collaboration with Design Engineer and Software Developer

Planning and building 'works-like' prototype using arduino, raspberry pi, wireless plugs and app to control a pressure area care mattress live at the trade show.

Challenges:
- Using a 'dumb' prototype to control two existing pumps to simulate full functionality of new device.
- Connecting LED Matrix, Multiple LEDs and wireless plug controls to Raspberry Pi due to GPIO port constraints.
- Communicating intent to sub-contracted software developer

https://vimeo.com/224300454
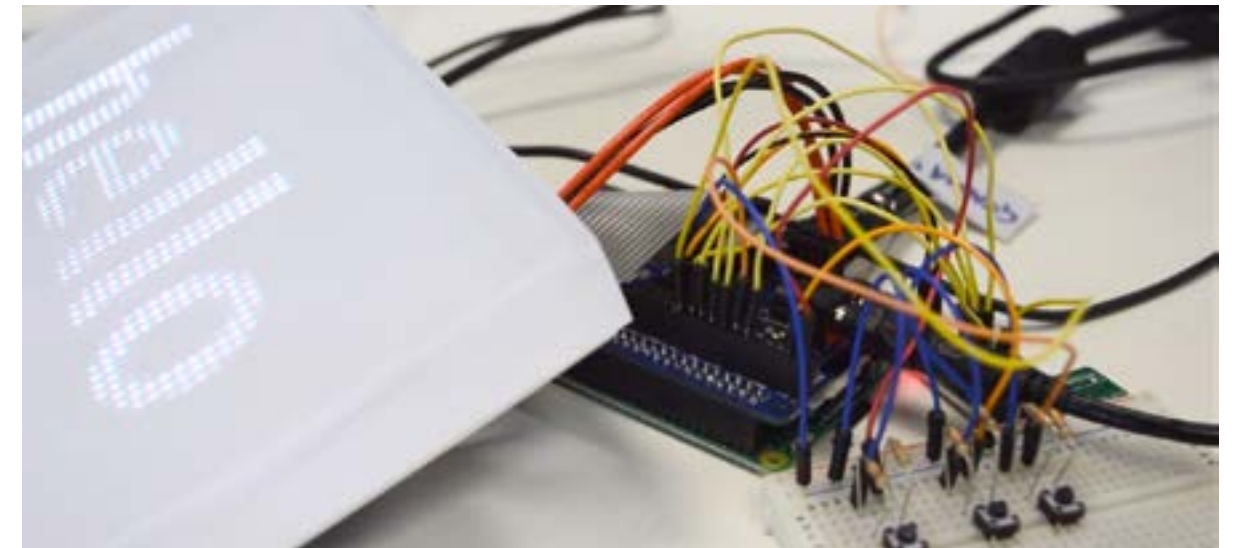
Outcome

Prototype completed to deadline, and performed as required at trade-show generating a lot of positive interest.

Product remains in development with the client.

Kenwood (2016)

Mapping the service touchpoints of blenders and food processors

Kenwood, a true household name in British kitchens, has been designing and manufacturing quality kitchen appliances since 1947. They identified the need to understand the experience of purchasing its kitchen products, through the eyes of the customers, to help recognise areas of the journey that require greater attention. With the focus on understanding users values and priorities research was planned to identify both new product and service opportunities alongside iterative improvements for current products.

Approach

Mystery shopping / Store Safari

Collaboration with other UCD Staff

Analysing product presentation, categorisation and positioning with stores. Acting as purchasers to gather staff advice and input on products. Identifying difference in perception with competitor brands.

Semi-contextual Lab Study

Collaboration with other UCD Staff

Study beginning with 'shopping process', identifying product touchpoints, comparison techniques and monitoring gaze through observation and behavioural coding. Followed by semi-structured interview to identify underlying motivations and decision making factors. Included value tasks, identifying customer expectations of costs and how they made these decisions.

In Home observation

Collaboration with other UCD Staff

5 participants provided with Kenwood devices, research session observed them from unboxing through preparing two dishes. Data recorded in video, images and notes. Analysis of how product translated in-store promise to in-home usage context.

Ideation and concept generation

Collaboration with other PDR Staff

Data refined into key insights for ideation process, generating a large quantity of different approaches to enhancing Kenwood's product and service offerings to improve the customer's journey with their products.

Outcome

Confidential

Customer continues to undertake equivalent projects with the us to drive their product and service innovation.

Huntleigh Sonicaid Team 3 (2014)

Design, prototype and test of a touch screen interface for a foetal heart monitor

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Huntleigh saw the need for a user-centred approach to develop the interface for a new Foetal Monitor. The design was fundamentally different than any of its predecessors, with the inclusion of more powerful features and a touch-screen for the first time.

As the junior member of a team of 3 I was responsible for the visual styling and prototyping of the interface, working alongside others to define how the device's functionality would translate into the new interaction styles.

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Approach

Existing Product Analysis

Led by senior colleague

Capturing the features and user flows of the current product, which was heavily defined by a restrictive interface.

Paper Prototyping/Card Sort

Led by senior colleague

Generative research approach used internally and with midwives, a 'jigsaw' interface and card sort approach defined priority features and information architecture.

Visual Design

Led by me

Defining colour, grid layout and visual style for the system, refining initial 3 concepts to one selected direction.

Interface Design and Prototype

Led by me

Planning in wireframes and sketchwork to define navigation and IA through to high fidelity prototype in Proto.io. Prototyped to demonstrate full functionality, interaction details and visual style.

Usability Testing

Led by senior colleague

Acting as note taker for usability studies, ensuring smooth running of prototype and facilitating later studies. 1hr studies conducted in lab environment with midwives.

Handover Documentation

Led by senior colleague

Creation of handover documents to communicate design intent to Huntleigh Development team. Presentation of results of work to client.

Outcome

Key insights that informed design direction:

- Midwives preferred large number display over graphed data
- 'Night Mode' proposed for monitoring when dark was preferred by some for all hours.

Product was launched in Q1 2017 winning Red Dot & Good Design Award

Cellnovo Diabetes Management (2016)

Formative usability testing for dedicated diabetes management system

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Cellnovo had an existing product already on the market are were seeking to launch the second iteration. Prior to launching the updated hardware they wished to find out whether the proposed changes would impact upon the usability of the device.

I acted as support for these usability tests, with no design input required. As with all medical device projects the testing and results analysis was conducted and captured to support the client's design history file for based on ISO 62366 / HE75 guidelines.

Approach

Product and Risk Review

Led by senior colleague

Understanding the product's key features, reviewing provided risk analysis and using these to define the required user flows and tasks to be tested in usability testing.

Protocol Creation

Led by senior colleague

Translating user flows and functions into understandable and contextual tasks for users to perform. Preparing scripts, task assessment capture, ethics applications and participant consent/information sheets

Usability Testing

Led by Senior Colleague

Lab based usability testing including tasks for device power-up, insulin control and food tracking. This encompassed the main device and an accessory device. Task assessment results captured alongside qualitative feedback on the device and System usability scale questionnaire.

Results Analysis

Led by senior colleague

Identification and categorisation of usability issues, cross-referenced with qualitative data to understand user's experience at these points.

Results Presentation

Led by senior colleague

Presentation of usability testing results with initial design recommendations where necessary. System usability score used to benchmark overall usability of product.

Outcome

Usability testing results:
- Touchscreen was not on par with expectations of modern devices, users frequently compared how much easier their smartphone was
- Some interaction styles used across the device exacerbated the poor quality touchscreen resulting in input errors.

Cellnovo have now closed.

Pointr (2014)

Service and visual design of a digital tool to help young people find work, training or education opportunities.

A wide range of opportunities exist for young people not in education, employment or training. However they can be difficult to find for the target people as they are often promoted on website they do not visit, by organisations they are not aware of.

Many of these sites had complex menu systems, prioritising organisational needs over the user's. Pointr was designed as an aggregator, bringing links to all services into one place, navigated using a simple question and answer interface.

Approach

'SPIDER' Hack day

Led by senior colleague

Initial event exploring various solutions to improve access to education, employment and training for young people. Leading to initial 'Pointr' concept.

Discovery Research

Led by senior colleague

Assessing young people's approaches to finding education, employment or training online. Understanding their trusted sites, and whether current support organisations featured in search behaviour.

UX Design

Led by me

Designing flow through site, prototyped in wordpress & Typeform before informal usability testing at local youth events. Iterating design based on observed use and user feedback from a range of stakeholders.

Visual Design

Led by me

Defining logo, colour, layout and visual style for the service. Aiming to achieve a minimal design that enabled users to perform intended task with no distractions.

Development

Collaboration with software developer

Communication of design intent, providing assets and styles to developer and iterating as necessary based on software constraints.

Outcome

I was responsible for securing the funding to put the prototype into development, with Cardiff Council then supporting a beta phase for the service. After an initial pilot, the service was ended.