Annual Report and Accounts

2016-17



Designability Annual Report 2016–17

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Please note: This report covers financial activities and outputs for the period 1 April 2016 to 31 March 2017. Also included is a summary of activities to 31 July 2017. Full details of projects are not included here (to keep costs down) but can be found on our website at: www.designability.org.uk

About Us

Designability brings together knowledge and expertise to enhance people's lives by creating products that meet the needs of people with disabilities and health problems. We are engineering and design experts with a passion for creating life-changing products that redefine the experience and perception of disability and ageing.

We do this by taking a human-centred approach. Whether we are developing our own products or collaborating with other organisations, we know how to listen and translate needs into workable insights and person-centred technologies.

We seek to learn and share our knowledge. Our product development work is supported by scientific research that helps us understand specific needs and challenges and identify the best solutions.

As a charity, our mission is to get the right products to those who need them, in the most effective manner. We do this directly or by working in partnership with other third-sector and commercial organisations.

To safeguard our mission, we spend every penny wisely. This means that we focus and balance our activities between areas where we have deep expertise – such as care for people living with dementia and mobility in young lives; we also seek to solve new problems where the need is greatest.

Our History

Designability was established as the Bath Institute of Medical Engineering (BIME), in 1968, as an independent charity by the renowned inventor and engineer, Bevan Horstmann, and consultant surgeon, Kenneth Lloyd-Williams – they wanted to create medical equipment that would make a difference to people's lives. With the support of the University of Bath and the local health board, they set up the charity with an Executive Director, a Projects Committee, and a Board of Governors, which included our first President, Sir Barnes Wallis. The objectives of the charity were then as they are now:

"The advancement of medical education and of engineering research for medical purposes, the dissemination of the knowledge thereby acquired and the relief of those in need (by reason of their disability, age or infirmity) by the provision of devices and equipment to assist in their medical treatment or improve their quality of life."

BIME was first located at St Martin's Hospital in Bath. Being placed close to an NHS hospital meant clinical experts could be consulted and trials could be easily organised. In 1987, we moved our offices to our current base, at the Royal United Hospital (RUH) in Bath, where we have been ever since. The RUH is a great location, providing us with continuing close working links with clinicians and opportunities to work with departments such as the Children's Centre and the Older People's Unit.

In 2013, we changed the working name of the charity to Designability, to reflect the change in the balance of our work from medical engineering to enabling and assistive technology and the more national focus of our work. In June 2017, we officially changed the name of our registered company from the Bath Institute of Medical Engineering to Designability Charity Ltd.

We are proud that 2017 is our 49th year; since 1968, we have completed well over 300 projects and supplied our products to over 250,000 people world-wide!

Message from the Chair of the Council

It is an exciting time for Designability. We continue to grow the Wizzybug Loan Scheme, and now have a reach across almost half the children in the UK who might benefit. Our target is to enable easy access for all eligible children to the scheme. We also continue to sell the Wizzybug to partners overseas.

It has also been a challenging year for Designability with donations being lower than hoped for during the first half of the year. However, we were very fortunate to receive a generous donation to assist with the Wizzybug programme which has enabled us to implement substantial programme improvements during the year.

We are continuing with our development of other products to meet the needs of people with disabilities and health problems. We provide research and offer consultancy in our fields of expertise to assist other organisations to achieve the same objectives. In the year ahead we expect to increase our focus on the development of our products and consultancy work.

I would like to thank all our donors for their generosity, all our volunteers for the generous donation of their time and the Designability team for their commitment. Without them all, we would not be able to achieve the level of impact that the organisation achieves year on year.

Finally, I would like to thank the Board members and our Patron Lord Foster of Bath for their support to the organisation.

Libby Gawith BSc, MBA, C. Eng, FICE

Message from the Chief Executive

As I look back over my seven years as Chief Executive, I think this last year has been our most challenging so far.

We took on two new large applied research projects with Bristol Robotics Laboratory – CHIRON, which explores the use of robotics technology to enable people to live independently at home, and FLOURISH, in which we are helping to design a user interface that will enable older drivers to use autonomous vehicles. I believe that it is important for us to contribute and influence how these technologies are applied, since both have very significant potential to enable people with long-term health problems to live independently. However, both projects have needed significant staff time.

The Wizzybug Loan Scheme continues to grow; we now have over 280 Wizzybugs out across the UK. Wizzybug transforms the lives of children and families and our long-term aim is to work to provide early powered mobility to all children who might benefit, across the UK. To allow for further growth we have provided extra resources to the scheme, with the recruitment of a second Children's Occupational Therapist.

We also invested in our engineering team, are working to implement a quality system across the organisation and have taken on additional support and fundraising staff. As in any growing organisation, we have worked at improving our operations and governance, to ensure that we are operating as efficiently and effectively as we can. In challenging times, it is even more important that we spend every penny wisely.

All this extra activity coincided with a politically turbulent year, which placed significant demands on our fundraising team. But with a lot of hard work from the team and the generosity of our donors, we have had a successful year.

I would like to pay personal tribute to the Designability team, our voluntary Board members and, most importantly, to our donors, for their support through the year, as we work together to transform lives.

It would not be right to conclude without remarking that this is our 49th year (2018 will be our 50th year). We will also celebrate 30 years in the Wolfson Centre at the Royal United Hospital. In celebration of our 50th Anniversary we have a number of special events planned, starting with our very first Bath Dragon Boat Race in September – please do sign up for our newsletter and via social media so you don't miss out on hearing about our exciting year ahead.

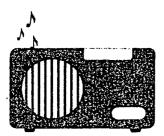
Thank you again for your support.

Nigel Harris BSc, MSc, PhD, FIPEM

Chief Executive

Summary of Activities





Players gave 3,161 people an easy way to continue to enjoy music



We provided mentoring and guidance to more than

100 students

studying product design, occupational therapy and engineering



more children were given the freedom to play and explore with a Wizzybug powered wheelchair

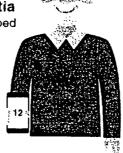


We went on an exciting quest to the USA

to visit key clinicians to discuss potential ways of getting Wizzybugs across the Allantic

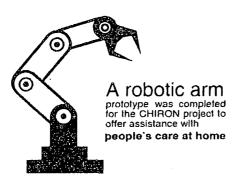
12 people with dementia

and their family carers helped us trial a task prompting app



www.designability.org.uk Registered Charity No. 256335 Company registered No. 933932 (London)

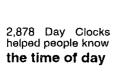
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We carried out a redesign of our wheelchair baby carrier to enable a mother to transport her daughter independently

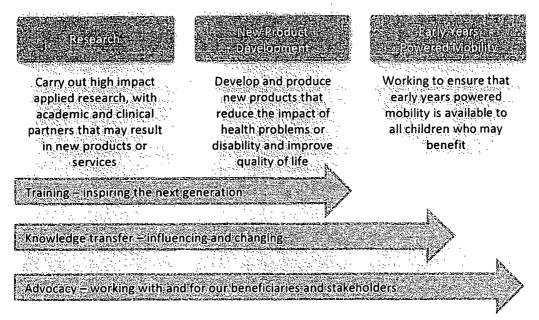






We joined a project to develop **self-driving cars** to give people much greater independence as they age

We have focused our activities on three main areas – research, new product development and early years powered mobility. There are three cross-cutting themes – training, knowledge transfer (publications and presentations) and advocacy.



Research

The **CHIRON Robotics in Care** project (supported by Innovate UK) to develop technology to enable people to live independently at home successfully completed the first year's work on a prototype to demonstrate principles of the design.

The UK's population is ageing at a rapid pace. By 2065, 26% of the population of England and Wales will be more than 65 years old. With increasing numbers of older adults needing assistance in later life, there is a challenge for society as to how best to provide and maintain high-quality support, and ensure that we can all stay integrated and valued members of our communities.

We are working in partnership with technology and care providers to develop an intelligent modular robotic system that can be located in different positions around our homes; CHIRON could help with personal hygiene tasks in the morning, getting ready for the day and even support in preparing a favourite meal in the kitchen. Designability is the lead partner in the project and is providing specialist knowledge of user-centred design, engineering and occupational therapy, towards the development of the CHIRON system.

Our design team have been carrying out user engagement and design work within the **FLOURISH Autonomous Vehicles** project at the University of the West of England. This work is also supported by Innovate UK and additionally by the Road Safety Trust, and focuses on the needs of older drivers.

The FLOURISH project aims to develop autonomous vehicle (CAV) technology that is usable, safe, secure and reliable. The project aims to ensure that the technology is suitable for older drivers. Ageing is often accompanied by physical and cognitive impairments, which can limit access to the outside world. Older people who are unable to drive can struggle to maintain

their independence without the use of a car. Driverless cars, or self-driving cars, have the potential to transform the lives of older adults through the creation of independent travel options. Designability will be working with users and beneficiaries to develop the vehicle user interface, or dashboard. Our engineering and design teams are carrying out interviews, focus groups and user testing with older adults, to ensure the user interface is appropriate and able to respond to people's different accessibility requirements.

Working with a commercial partner, our project on novel **Dynamic Seating** for young children (supported by Sparks Children's Medical Research Charity) has designed and developed a seating system for children aged 2–5 years with dystonic cerebral palsy.

Task Prompting for people living with dementia (supported by the Dunhill Medical Trust) has completed the first test of the product with people with dementia and their carers.

People living with dementia will often find everyday multistep tasks difficult to complete as their memory and ability to plan activities is progressively affected. We have found that by using a combination text and recorded voice prompts, a person with memory problems can complete simple cooking, leisure or household tasks, without the assistance of a carer. In this project we are developing electronic prompting technology, with supporting training material for carers. Our engineering, design and therapy team are now evaluating the system in use by people with dementia and their carers in their own homes.

The Catch Me If You Can project, supported by the Arts and Humanities Research Council, aims to capture real life experience of children and families using early years powered mobility (Wizzybugs).

Early powered mobility can help with the development of psychosocial and play skills in young children with disabilities. These skills are crucial for children to become comfortable in joining social communities. The Designability Wizzybug enables children with conditions such as cerebral palsy, spinal muscular atrophy, spina bifida and muscular dystrophy to gain mobility, both indoors and outdoors. This project will develop novel methods for capturing and communicating the lived and emotional experiences of the young children and their family, in a creative manner. This will enable families to express the impact that early powered mobility makes and how it can help to address the challenges of exclusion through reduced mobility. It will provide objective evidence of how early powered mobility can open the world of outdoor play and support social interactivity and independence for very young children with disabilities.

We are partners in a consortium, led by the University of the West of England, that has secured European Development funds to develop a **Health Technology Hub** at the Frenchay Campus. This will provide a real-life home test facility that we can use to develop and test our new products with users.

Current Research Grants and Awards

Our research helps inform the development of new products and provides new expertise and knowledge to our team, as we work to improve health and quality of life. Research also contributes to our understanding of new technology, unmet need and the development of new ways to deliver products and services.

The following research projects are currently underway:

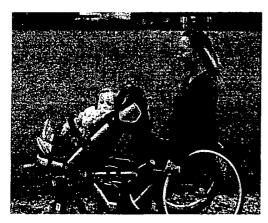
Project	Funding and period	Project Lead	Details
CHIRON – Care at Home using Intelligent Robotic Omni-functional Nodes	£2,155,779 2 years to March 2018 Innovate UK	Nigel Harris	Second year of the grant which aims to create a set of intelligent modular robotic systems to provide help around the home with daily tasks
FLOURISH – Connected and Autonomous Vehicles (CAVs) for greater travel independence	£146,784 3 years to May 2019 Innovate UK	Keir Haines	Second year of the grant to develop user-centric autonomous vehicle technology and connected transport systems. Driverless cars have the potential to transform the lives of isolated older adults through the creation of independent travel options
D4D – Catch Me If You Can	£65,000 3 years to March 2019 Arts and Humanities Research Council	Praminda Caleb-Solly	Second year of the grant to collate more qualitative evidence on how early powered mobility can help to open the world of outdoor play and support social interactivity and independence outside the home for very young children with disabilities
Task Prompting for People with Dementia	£203,699 3 years to April 2018 Dunhill Medical Trust plus others	Nigel Harris	Third year of the grant to use task sequencing for people living with dementia by provision of technology-based prompts
KiTE – Kids in Therapeutic Environments	£83,519 15 months to Oct 2016 Sparks Children's Medical Research Charity	Tim Adlam	Stage 1 work completed on the grant to provide functional seating that moves with children during whole body extensor spasms to give relief from discomfort and improved functioning. Stage 2 funding (£147,202) is secured to start in September 2017
Wizzybug USA/Canada	£20,964 4 months to March 2017 Innovate UK	Alex Leach / Tim Adlam	To investigate the viability of extending the reach of Early Years Powered Mobility into the US/Canadian market and exploring engineering improvements needed to allow the expansion of our manufacturing capacity

New Product Development

Wheelchair Baby Carrier

In 2016–17, our design and OT teams have been redesigning our Wheelchair Baby Carrier. We have been working closely with Anna, a mother who uses a manual wheelchair. We have been exploring the requirements for use of this device in everyday life. We found that changing the carrier between forward and rear facing is important, especially in the child's early months. Adjustments for the carrier's height and angle would improve manoeuvrability. We also wanted to test a removable push-guard to help with opening doors.





We developed the Wheelchair Baby Carrier iteratively, with Anna's involvement at each stage. Early in 2017, we delivered the first fully functional prototype, giving Anna the freedom to take her daughter out. Anna likes the style of the Wheelchair Baby Carrier, and was pleased to be able to go off paths and onto grass and gravel surfaces. Her daughter also loves their trips out together. We have gathered valuable feedback on what works well, and on design. We are planning to develop a production-ready design and manufacture further to enable more parents with disabilities to enjoy the experience of taking their children out.

Visual Reinforcement Audiometry Unit

Designability has worked with our partner, E2L Limited, to improve the design and outsource manufacture of our Visual Reinforcement Audiometry System (VRA). This was produced in response to the needs of professional audiologists in the hospital, for an effective and easily controlled reward system to use during paediatric hearing assessments. Our partnership with E2L has freed up capacity in our workshop, offered product improvements and increased our ability to match growing demand.



Our Products

We continue to find that working with commercial partners is generally the best way to make products available, as these can then be sold worldwide and benefit more people. The table below gives some idea of the number of people our products have helped based on numbers sold to date across the world as of 31 March 2017.

Product		otal sales over- st:7 years
Wizzybug	Early years mobility – Loan scheme	280
Wizzybug	Early Years mobility – units sold	205
Wheelchair Baby Carrier	Early years mobility	14
Bottom Wipers	Daily living	67,930
Visual Reinforcement Audiometry	Medical Diagnostic/system	80
Wander Reminder	People living with dementia	440
One Button DFS Radio	People living with dementia	2486
One Button Digital Radio	People living with dementia	503
Day Clock	People living with dementia	16,693
Ward Orientation Clock	People living with dementia	126
Simple Music Player	People living with dementia	4,650
Blys Night Light Tray	Daily living	278
Custom Bikes (Adults and Children)	People with restricted growth	77
Toilet Handles	Children with restricted growth	553
School Chair Footrest	Children with restricted growth	636

Nine of our products have been commercialised through third parties:

- Desk Clamp Peta Limited
- Bottom Wipers Patterson Medical Limited
- Day Clock DF Sales Limited
- Lifting Commode Aidapt Limited
- Ward Orientation Clock DF Sales Limited
- VRA Intricon Limited
- Blys Nightlight Tray E2L Limited
- Simple Music Player E2L Limited
- One Button Radio DF Sales Limited
- Wizzybug Active HealthCare Solutions, Canada; ELI, Israel

Early Years Powered Mobility

The Wizzybug Loan Scheme has continued to grow and thrive this year. Since we began in 2011, we have transformed the lives of over 450 children and their families; thanks to the generosity of our supporters and donors, we have raised donations of over £1.3 million to date. This year has seen our highest ever level of enquiries with an average of 12 accepted applications every month (an increase from 8 per month last year).



In September 2016, we celebrated the completion of our 250th Wizzybug for the Loan Scheme with a party where we were joined by former employees who had been instrumental in the creation of the Wizzybug and many of



our supporters. The Wizzybug was adorned with a special Wizzybug 250 number plate and stickers. Later that month we were very pleased to see Thomas driving it home. Thomas's

family were very excited to have been loaned such a special Wizzybug!



By the end of the year, our Loan Fleet grew to over 280 Wizzybugs. We believe we may have reached almost half of the eligible children across the UK who could benefit. Following a review of clinical evidence, our therapy team have lowered the minimum age to 14 months. We have now provided Wizzybugs for a number of children under 18 months old.

We receive applications from across the UK; however, we are aware that the distribution is not evenly spread (based on population density) and know that this often relates to the challenge of travelling to Bath for families based towards the north of England and Scotland. We also receive enquiries from families based in Northern Ireland where we are currently unable to offer the Loan Scheme, due to the cost of providing therapy and technical support at a distance. We are exploring

options for one or more regional assessment bases to improve access to the scheme for these families.

As a result of the success of the scheme, we now need further resources to allow the scheme to continue to grow. These include the need for additional:

- Materials and labour to support the additional demand
- Accommodation workshop and handover space
- Infrastructure fleet management, repairs and refurbishment.

In light of the above, we are taking steps to secure additional support for the scheme. We are overjoyed to have been successful in securing a donation from a major corporate donor to support 50% of the scheme's cost over the next 2 years. Alongside this, our fundraising team are working with supporters and partners to generate the funds needed to increase the size of fleet and to ensure that even more children can benefit from independent mobility.

Our work on early years powered mobility is world leading – we have supported more children and families than any other centre in the world. Tim Adlam, our Head of Mechanical Engineering, and Alex Leach, our Commercial Manager, secured funding from Innovate UK to conduct a feasibility study for Wizzybug in North America. They were able to meet with clinicians, academics and families who helped us understand the steps needed to enter this region. Already, we have supplied an additional six Wizzybugs to Canada, and have established useful links with therapists and academics in both Canada and the USA who share our belief in the importance of early years powered mobility.

Sales into Australia and Israel continue to grow and we receive enquiries from across Europe from families and organisations who are keen to obtain Wizzybug. Although this is exciting, we are very aware of the need to maintain manageable lead times and good service, so we are taking a cautious approach to these enquiries at present.

The Benefits of Early Mobility



Psychological development - Wizzybugs let children explore their surroundings. Learning to operate a Wizzybug offers an opportunity for the child to develop skills and show-off their new abilities!

Tia's parents told us:

"The biggest difference it has made is to Tia's confidence – thanks to Wizzybug even her speech has improved."

Play – Wizzybugs enable children to have fun and be naughty! Family life can be more enjoyable, such as a visit to the park, and relationships between siblings can improve.

The parents of these twins said:

"Wizzybug is helping Gracie to learn more and more about what she is capable of."





Participation – Mobility allows a child to participate with others and encourages adults and other children to see the child as an autonomous individual, to be included on an equal basis.

Romeo's parents told us:

"Romeo's friends all want to have a go and think that Wizzybug is 'awesome'."

Training, Knowledge Transfer and Advocacy

Training

Occupational Therapy Student Placement

We have again offered a practice placement to a first year occupational therapy student from the University of the West of England (UWE). This follows on from, and builds on, our previous successful experience. Our student learnt and practised the clinical skills needed for the role, and worked through her agreed learning contract. Her placement has been enriched by external visits to other paediatric occupational therapy teams and charities, a children's equipment exhibition, and an inter-professional child protection course. She reported:

"I feel very privileged to have had such a unique learning experience in my first year of training. On this placement I am able to develop my understanding of the occupational therapy process, as well as learning about posture management and power mobility for early years, in a busy charity setting."

Occupational Therapy Practice Educator and Student Support Course

Rae Baines, Senior Children's Occupational Therapist, has completed a UWE Practice Educator and Student Support course at Master's level, which also leads to the highly regarded occupational therapy Accreditation of Practice Educators' Scheme (APPLE) award, demonstrating the commitment of both the occupational therapy team and Designability to providing quality placements for students.

Support for a student from the National Star College

Keir Haines, Senior Product Designer, and Jess Ridgers, Product Designer, supported a student from the National Star College by providing a day's work experience. The student, who lives with cerebral palsy, worked with our team to define a challenge she faces daily (preparing a drink) and then translated these insights into a design solution for an improved sipping cup.

Human-centred design workshops and masterclasses at the Smallpeice Bioengineering Course The Smallpeice Bioengineering Course is a week-long residential course for Year 10 and 11 school students held at the University of Southampton, and run by the Smallpeice Trust, an engineering education charity. Jess Ridgers, Product Designer b and Rob Hanson, Design Engineer, developed and ran human-centred workshops to design a product for someone living with a disability. Tim Adlam, Head of Mechanical Engineering, and Jess also gave lectures on engineering and product design to create technology for people with disabilities.

Summer school at UWE for technology-minded young women

Praminda Caleb-Solly, Head of Electronics and IT, was involved in a challenge for teams of young women, aged 16–18, with problem solving and creative skills, to come up with an assistive technology design idea using a human-centred design approach. A 2-day Residential Summer School was available for finalists to access state-of-the-art laboratories at UWE, attend academic masterclass sessions and be mentored by a Student Ambassador team.

Final Year Projects supervision

Hazel Boyd, User Interface Engineer, and Jess Ridgers supported a final year University of Bath Mechanical Engineering student for 6 months with a project relating to financial management for people who have experienced a stroke. They provided feedback and assessed prototypes

with him. Tim Adlam supervised final year project students to design a scooter that can drive in any direction and smart glasses that provide auditory lane guidance for visually impaired runners; and a third year Group Design and Business Project at the University of Bath where a team of six students wrote a business case and carried out the technical design for a new product. Jess Ridgers also provided support to Beechen Cliff School AS level students around disability and design.

Stepping Stones Opportunity Group

Dr Tim Adlam is a member of the management committee of the Stepping Stones Opportunity Group in Trowbridge – a District Specialist Centre for young children with disabilities. He advised the manager on the use of outcome measures that could be used to demonstrate the effectiveness of the centre, and put her in contact with a National Institute of Health Research Fellow from Newcastle University who is researching meaningful outcomes in children's disability services. As a result of this contact, Stepping Stones have been able to take a lead in developing the use of outcomes among similar centres in Wiltshire.

Reflections from the 2016 Harvard Business School Alumni Club of London Social Enterprise Scholarship Winner

Professor Nigel Harris received a scholarship from the Harvard Business School Alumni Club of London to attend the prestigious Harvard Business School Strategic perspectives in non-profit management. There were 160 CEOs on the programme, which was based on discussion of 20 carefully selected case studies, exploring a range of different challenges, from leadership, through strategy, to Board performance. Nigel's take home message is "how can I increase the scale and scope of what we do?", so that we can make more of an impact on the lives of people with disabilities and health problems. As Nigel says "I feel empowered, re-energised and more determined to make a difference."

As part of the Scholarship, Nigel was able to include two related visits. The first of these was three days in Washington to attend the annual meeting of the Rehabilitation Engineering and Assistive Technology Society of North America, which was held with the National Coalition for Assistive and Rehab Technology. The second was a visit Assistive Technology Partners (ATP), based at the University of Colorado, Denver. Both of these visits yielded valuable new contacts and opportunities.

PhD Studentships

Zack Lyons (Industrial Supervisor: Nigel Harris) University of Bath, Department of Computer Science and the Brain Injury Rehabilitation Trust Use of virtual reality environments to support people living with acquired brain injury

Zeke Steer (DoS: Praminda Caleb-Solly, Additional Supervisors: Steve Battle, Richard Cheston)

Al-Based recognition of physiological states & activities in people with dementia to predict distressed behaviours

Joseph Bolarinwa (DoS: Praminda Caleb-Solly, Additional Supervisors: Sanja Dogramadzi, Tom Mitchell

Investigating optimal sensory feedback modalities for effective tele-operation of a robot to provide remote assistance for assisted living tasks

Katie Winkle (DoS: Paul Bremner, Additional Supervisors: Praminda Caleb-Solly, Allie Turton) Learning how to help: Social robots in therapy

Linda Sumpter (DoS: Jane Powell, Additional Supervisors: Praminda Caleb-Solly, Allie Turton) Technology that promotes relationship-centred reablement services for the health and wellbeing of older people

Prankit Gupta Current MSc – AL Co-created (DDRI PhD starting 1st Oct 2017 DoS: Praminda Caleb-Solly, Additional Supervisors: Richard McClatchey, Ala Szczepura – Coventry) Intelligent data processing to support self-management and responsive care

Guy Powell Yr 1 CDT (DoS: Praminda Caleb-Solly, Additional Supervisor: Tim Moss)
Investigating the nature and scope of robotic inanimate objects to engender engagement and interaction

Knowledge Transfer

Publications

Our research publications are important as they inform clinicians, academics and public bodies about our work. This is an important part of our advocacy, as we seek to influence and inform others about the potential benefits that well designed technology can bring.

- Alnuaim, A., Caleb-Solly, P., and Perry, C. (2016). "Enhancing Student Learning of Human-Computer Interaction using a Contextual Mobile Application" IEEE Technically Sponsored SAI Computing Conference 2016. pp 952-959. ISBN: 978-1-4673-8460-5.
- Boyd, H., Evans, N., and Harris, N. (2016). A clock that does not tell the time: how the Day Clock meets the needs of people living with dementia CWUAAT 2016.
- Bray, N., Yeo, S. T., Noyes, J., Harris, N., and Edwards, R. T. (2016). Prioritising wheelchair services for children: a pilot discrete choice experiment to understand how child wheelchair users and their parents prioritise different attributes of wheelchair services. Pilot and Feasibility Studies, 2, 32. http://doi.org/10.1186/s40814-016-0074-y.
- Brown, L.J., Adlam, T., Hwang, F., Khadra, H., Maclean, L.M., Rudd, B., Smith, T., Timon, C., Williams, E.A. and Astell, A.J., (2016). Computer-based tools for assessing microlongitudinal patterns of cognitive function in older adults. *Age*, 38(4), p.335.
- Caleb-Solly, P. (2016). Person-environment interaction. In: Florez-Revuelta, F. and Andre, A., eds. (2016) Active and Assisted Living: Technologies and Applications. IET, pp. 143-162. ISBN 9781849199872.
- Caleb-Solly, P., (2016). A brief introduction to... Assistive robotics for independent living. Perspectives in public health, 136(2), pp.70-72.
- Chance, G., Camilleri, A., Winstone, B., Caleb-Solly, P.and Dogramadzi, S. and EU CHIST-ERA, EPSRC (2016). An assistive robot to support dressing Strategies for planning and error handling. In: (2016) 2016 6th IEEE International Conference on Biomedical Robotics and Biomechatronics (BioRob). IEEE, pp. 774-780. ISBN 9781509032877.
- Chance, G., Jevtić, A., Caleb-Solly, P. and Dogramadzi, S., (2017). A quantitative analysis of dressing dynamics for robotic dressing assistance. Frontiers in Robotics and AI, 4, p. 13.
- Fiorini, L., Cavallo, F., Dario, P., Eavis, A. and Caleb-Solly, P. (2017). Unsupervised machine learning for developing personalised behaviour models using activity data. Sensors, 17(5), p. 1034.
- Harris, N. (2017). The design and development of assistive technology. IEEE Potentials, 36 (1), 7814358.

Presentations and Demonstrations

TEDx Youth Bath 'Creating Independence through Design'. Jess Ridgers was invited to give a talk at TEDx Youth Bath, presenting to around 1600 young people at the Bath Forum. The talk featured a case study of a Wizzybug child. Jess spent an afternoon with the family to understand first-hand the difference that Wizzybug makes. The presentation was live streamed and can be viewed at: www.youtube.com/watch?v=TCmZXVuSA4I

Rob Hanson and Jess Ridgers have given talks at Bruton School for Girls (50 students aged 12–18), St Monica's Trust's Alzheimer's Café, RICE (Research Institute for the Care of Older People), ARCO (Associated Retirement Community Operators) and Bristol Robotics Lab. Jess was guest lecturer for Masters Engineering students at the University of Southampton (including design tasks to get students thinking about how to design with the user in mind). Nigel Harris talked about the benefit and importance of the design of products for people living with disabilities, at Beechen Cliff School.

Tim Adlam gave the annual Christmas lecture at the Post Graduate Research Association at the University of Southampton. Dr Adlam explained what makes good design and how to design inclusively in a talk illustrated with some of his more interesting experiences from 20 years of working in assistive technology research in the UK and abroad.

Professor Praminda Caleb-Solly has given various talks and demonstrations regarding the use of assistive robots at the following:

ExtraCare Charitable Trust, Coventry, Demo and Presentation, 16th May 2016, on Potential Collaborative Assistive Robotics projects to Blue Skies Team

Assisted Living Action Network, Bristol 8th June 2016, introduction to the CHIRON project

JISC Connect More Conference, Cheltenham, 30th June 2016, Sharing our Human-centred Design Process for Co-designing Apps to Support Learning.

London Science Museum, Reformation 4th July 2016, Demonstration of Assisted Living Studio via Telepresence Robot.

Alzheimer's Research Trust UK, Bristol, 4th July 2016, presentation on How Personalised Intelligent Technologies Can Support Independent Living.

British Association for Community Child Health (BACCH), 14th Oct. 2016, Taunton, Discussion of the Self-help for Anxiety Management app and it wider use in supporting mental health interventions.

WEASHN Event - Healthcare from your Living Room, 7th Feb. 2017.

Conference presentations

Tim Adlam presented his work on dynamic seating at the 2016 European Academy of Childhood Disability conference in Stockholm.

Hanna McFadden, our specialist research physiotherapist, presented her work on identifying and selecting suitable outcome measures for young children with complex dystonia at the 2016 #CountMeIn conference on children's participation at Plymouth University.

"Simple design is not easy! How we work" presented by Hazel Boyd as part of the Exhibitor Workshop, Alzheimer's Show, London, 7th June 2016.

"Designing for people with dementia... it's all about communication", presented by Hazel Boyd within the session "Design for Alzheimer's and Dementia - the inside story", New Designers, 8th July 2016, hosted by the Knowledge Transfer Network (KTN) at the Business Design Centre, London.

"Strategies for Deploying and Delivering Ethical, Sustainable and Acceptable Assistive Robotic Solutions". Praminda Caleb-Solly and Nigel Harris. Workshop at the European Robotics Forum, Edinburgh, March 2016.

Advocacy

The Memory Technology Gallery – assistive technology for Dementia demonstration and training.

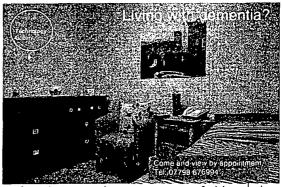
This is a service for the Royal United Hospital for people who are living with dementia and their carers, and for hospital dementia volunteers and clinical staff.

The Memory Technology Gallery continues to provide an invaluable source of advice and information about products for people living with dementia and their carers, and for hospital dementia volunteers and clinical staff at the Royal United Hospital in Bath.

The Memory Technology Gallery's profile within the Royal United Hospital and locally in Bath is growing as more events have been



Claire Raven demonstrating the DayClock.



undertaken to raise awareness of this service. As a result, our referral rate is increasing, demonstrating that we are reaching more people and making a bigger impact.

Summary of our Financial Performance

This year has presented some financial challenges. The fundraising environment is increasingly competitive, with funding decisions generally taking longer than in the past to be approved. However, an increase in research funding, a strong performance from our investments and careful control of expenditure has resulted in a year end surplus of £7,301.

This year has seen a significant increase in income to £1,952,924, an 89% increase compared to last year. The majority of this increase has come from our research programme.

Our Wizzybug Loan Scheme has continued to grow and this has required investment in terms of staff, materials and manufacturing support. We were fortunate to secure support from a major corporate donor for 50% of the Loan Scheme costs for the next 2 years, with the first payment received towards the end of this financial year, which has resulted in a year end surplus for the Loan Scheme of £96,270. This provides funds for us to refurbish Wizzybugs when they are returned from loan and will allow us to continue to invest in scheme improvements through to the next financial year.

Income

Donations

Donations this year were slightly lower than last year at £548,883. This includes a large donation from a corporate donor to support the Wizzybug Loan Scheme. Just over half of donated funds were specifically to support the Wizzybug Loan Scheme. Donation levels at the start of the year were particularly challenging. Our team has worked hard to diversify donation streams to ensure we are less vulnerable going forward and we have started to see growth in support from individual and community donors. We have also benefited this year from a 9-month marketing secondment from a corporate supporter who facilitated the ongoing growth of the Wizzybug Loan Scheme throughout the year.

Research grants

Our research grant income ended the year at £1,036,041, which was a significant increase year on year (compared to £129,001 in 2015-16). The CHIRON Robotics in Care project contributed the majority of this (£849,104). A large proportion of the additional income (£676,447), was directly expended on CHIRON subcontractor costs, therefore the large overall increase in income is attributable to this project.

Other significant research income included £66,041 from the Dunhill Medical Trust for the Dementia Promoting Project and £52,490 from Sparks Charity for the Children's Dynamic Seating Project. We anticipate a continued level in research income over the next 2 years, as we benefit from the new programs of research with the University of West of England.

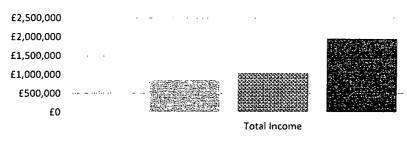
Sales & royalties

Product sales and royalties increased to £250,549, compared with £178,126 the previous year. This increase was largely a result in increasing volumes of Wizzybug sales to Australia, Israel and Canada. Royalties from our Day Clock product have declined as many new companies have replicated our design and have entered the market. However, we are gratified to see that this unmet need has been recognised and our product design has spawned a massive increase of products to support those living with cognitive impairment. Sales of the Visual Reinforcement Audiometry System (VRA) have continued to grow and we have now outsourced the manufacture of this product, which has reduced costs and increased our workshop capacity for prototyping and new product development.

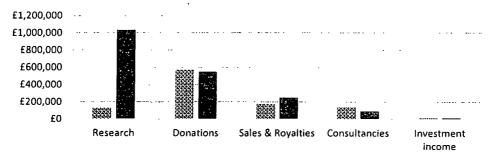
Consultancy

Funds from our consultancy services have decreased to £94,962 compared with £139,328 in 2015-16. However, several of the projects started this year will continue to bring in income next financial year. Our capacity to deliver consultancy services has been reduced due to the increase in our work on research projects. We are taking care to ensure the consultancy projects we do deliver fit with our charitable objectives and our involvement offers real impact to our beneficiaries.

Total Income

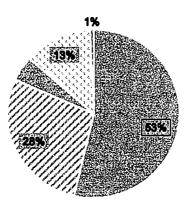


Income by stream



38 2015-16 ■ 2016-17

% distribution of Income 2016-17



■ research donations consultancies Sales & Royalties Investment income

Expenditure

Total expenditure this year was £2,003,212, versus £1,091,720 in 2015-16. This significant increase in expenditure can be largely accounted for by the subcontractor costs for the CHIRON project (£676,447) and additional salaries. These costs were balanced by the additional income this project generated. The increased activity on the Wizzybug Loan Scheme has also increased costs of materials and clinical staff salaries.

Direct expenditure on general activities

Our costs in this area have slightly reduced since last year, from £386,310 (2015-16) to £374,445 (2016-17), which reflects the tight controls placed on costs in response to the donation shortfall at the start of the year.

Direct expenditure on sponsored activities

<u>Salaries</u>; direct salary costs increased as a result of investment in new roles, which included an additional Children's Occupational Therapist, an Engineer for the CHIRON project, a Quality Manager and an additional Mechanical Engineer to support the New Product Development programme, from £270,262 (2015-16) to £520,024 (2016-17). These new roles were vital to the delivery of our plans for the year and have significantly strengthened the team going forward.

Materials and Equipment: direct expenditure on materials and equipment increased from £58,461 (2015-16) to £87,910 (2016-17), which reflects the materials needed for additional Wizzybug builds and the materials required within research projects.

<u>Subcontractor costs</u>: as previously mentioned, a major expenditure this year (£678,547) came from the payment to subcontractors for the CHIRON Robotics in Care project. This sum was paid across five separate subcontractors.

<u>Travel</u>: additional travel costs were incurred for the Global Feasibility Innovate UK grant visit to Canada and USA to explore opportunities for Wizzybug. These costs were fully reimbursed by Innovate. This resulted in an increase in direct expenditure on travel from £8,413 (2015-16) to £14,048 (2016-17).

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Indirect expenditure

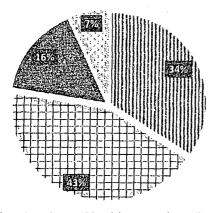
Indirect expenditure reduced from £177,762 (2015-16) to £119,935 (2016-17) as a result of tight cost controls in response to low levels of donated income at the start of the year. The main saving came from a reduction in promotional and marketing activities, delays in replacing equipment and a reduction in the use of professional services (Legal / IP) with the use of probono services whenever possible.

Cost of raising funds

The cost of raising funds increased from £75,636 (2015-16) to £95,680 (2016-17) as a result of the recruitment of a Fundraising Manager. This new role is to provide much needed guidance and experience to our fundraising team.

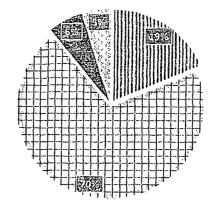
% OF OVERALL EXPENDITURE 2015-16

- 11 Direct general activites 34%
- L: Direct sponsored activities 43%
- 図Indirect costs 16%
- "Cost of raising funds 7%



% OF OVERALL EXPENDITURE 2016-17

- II Direct general activities 19%
- → Direct sponsored activities 70%
- Indirect costs 6%
- 4 Cost of raising funds 5%



In summary, 2016-17 was a positive year financially with encouraging increases in income from grants and product sales. In particular, the CHIRON Robotics in Care Project contributed to a significant increase in income, though this was largely balanced by additional expenditure for subcontractors, salaries and materials.

We invested in additional staff to support both our sponsored activities and our fundraising team, which we are confident will pay dividends next year with greater impact for our beneficiaries across all our activity streams.

This year saw 89% of our overall costs being spent on direct charitable activities (an increase from last year's figure of 77%) and, despite our increased cost of raising funds, this constitutes 5% of overall costs versus 7% last year.

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The strong performance of our investments also boosted our position and contributed to our modest £7,301 surplus at year end, which we consider to be a satisfactory result.

Alex Leach Commercial Manager June 2017

Staffing

We welcomed a number of new staff members this year:

- Susanne Gaertner joined the team in June 2016 as a Children's OT providing additional support to the Wizzybug Loan Scheme with assessments for children eligible to receive a Wizzybug.
- Rob Hanson began working with Designability as a Mechanical Engineer in July 2016 and works across multiple engineering projects with a specific focus on our new product development programme.
- Caroline Grange joined the team in August 2016 as PA to the Director, providing administrative support for Nigel Harris.
- Matthew Jacobs started in September 2016 as Fundraising Manager to lead the fundraising team and focus on corporate and high value donor streams.

Our Volunteers and Associates

We continue to be enormously grateful to our volunteers and associates who dedicate their time and expertise to helping us with our charitable work.

We are also very thankful to our national panel of assistive technology users, carers and professionals who continue to provide us with their ideas and views on our on-going and new design and development projects.

How we are Governed

Designability is a registered charity and company limited by guarantee under its formal name Designability Charity Limited.

Our work is overseen by our Board of Trustees and supported by our President.

Board of Trustees

Our Board of Trustees meets at least three times per year and is responsible for ensuring that we meet our charitable objectives and are run according to our Articles of Association and Memorandum of Association. The Trustees do not receive any remuneration for their duties.

- Ms Libby Gawith (Chair)
- Mr Mark Humphriss (Vice Chair) from July 2017
- Professor Mark Tooley
- Mr John Bishop
- Professor Ben Hicks
- Professor Tony Miles
- Mr Gordon Richardson
- Dr Louise Shaw
- Mr Steve Tanner
- Professor Christos Vasilakis
- Dr Elizabeth White
- Mr Gavin Maggs
- Professor Manuchehr Soleimani
- Professor Paul Olomolaiye
- Professor James Bilzon to July 2017
- Ms Sarah Phillimore to January 2017

Governance

We have taken steps to strengthen our governance structures, by establishing an Oversight and Scrutiny Committee and revising the terms of reference for the Project and Research Governance Committee. Alongside this, the introduction of our Quality Management System (QMS) has provided us with the opportunity to review and document our operating policies and procedures.

Projects and Research Governance Committee

Our Trustees have appointed a Projects and Research Governance Committee with revised terms of reference and membership to provide oversight and research governance. All members are unpaid volunteers.

- Dr Elizabeth White (Chair)
- Mr Lindsay Grant
- Mr Steve Tanner
- Ms Kelly Spencer
- Mr Graham Worsley

Oversight & Scrutiny Committee

This committee meets quarterly to review finance, health and safety and risk management.

- Mr Gordon Richardson
- Ms Libby Gawith

Chief Executive

Day to day responsibility for the running of Designability is delegated to our Chief Executive, Professor Nigel Harris, BSc, MSc, PhD, FIPEM

Company Secretary

Our Honorary Secretary and Assistant Secretary are appointed by the University of Bath.

- Company Secretary: Mr Mark G.W. Humphriss, University Secretary, University of Bath (to July 2017)
- Honorary Assistant Secretary: Ms M. Clare Henderson, Administrative Officer,
 University of Bath

President

Our President is elected at our AGM for a term of two years. They provide us with advice and support and help us spread the word about what we do.

President: Lord Foster of Bath

Council's Report

Nature of governing document and how the charity is constituted

Designability is a charitable company limited by guarantee, incorporated on 18 June 1968 and registered as a charity on 11 July 1968. The charity was established under a memorandum of association which established the objectives and powers of the charitable company and is governed under its articles of association. Under this Constitution, each member of the charity is liable to contribute £10 in the event of wind-up.

In May 2017 at an extraordinary general meeting, Designability Board approved a change to our company name from the Bath Institute of Medical Engineering, to Designability Charity Ltd.

Board also approved updates to language and terminology used in our articles of association. These are available on request, from the Charity Commission, or our website. The objectives of the charity are:

"The advancement of medical education and of engineering research for medical purposes, the dissemination of the knowledge thereby acquired and the relief of those in need (by reason of their disability, age or infirmity) by the provision of devices and equipment to assist in their medical treatment or improve their quality of life."

Further information on the charity's activities and performance are set out on pages 5 to 17.

Organisation structure and how decisions are made

The Board of Trustees meets at least three times per year and is responsible for the strategic direction and policy of Designability. The Board has appointed an Oversight and Scrutiny Committee to review key activities. These include: accounting and financial policies and procedures, budgets and financial forecasts, cash flow, reserves, risk management and health and safety. Responsibility for the day to day running of the Institute and delivery of activities is delegated to the Chief Executive.

Statement confirming major risks have been reviewed and systems and procedures have been established to manage these risks

The Trustees have reviewed the major strategic, business and operational risks which the charity currently faces.

This work has identified that potential financial instability is the major risk for the charity. A key element in the management of financial risk is the regular review of donated income, available liquid funds to settle debts as they fall due, and active management of trade debtors and creditors, to ensure that there is adequate working capital.

Attention has also focussed on non-financial risks including: product liability, facilities, health and safety. These risks are managed by having robust policies and procedures in place. In addition, strong financial controls are in place to mitigate the risk of financial losses due to theft or fraud. The key risk areas are reviewed on a quarterly basis by the Oversight and Scrutiny Committee, with annual review by the Trustees.

Financial Review

The position of the charity at the year-end is set out on pages 18-22.

Financial effect of significant events

The Oversight and Scrutiny Committee review financial performance on a quarterly basis. The Trustees are aware of the potential adverse impact on our Wizzybug Loan Service of the loss of a major donor. We have designated reserves to cover the costs associated with refurbishment of the Wizzybug loan fleet. Our product liability insurance has been extended to cover sales of our Wizzybug product to North America.

Factors likely to affect future financial performance

The Trustees have not identified any factors that are not documented in the risk register, that are likely to affect our future financial performance.

Principal funding sources and how they support key objectives

Details of current applied research projects and level of funding are set out on page 7. A summary of our sources of income and expenditure is provided on pages 18-22.

Arrangements for setting the pay of key management personnel

The Trustees consider that the key management personnel are the Chief Executive and the Commercial Manager. The pay of senior staff is reviewed annually by the Chair, Vice-Chair and Company Secretary. Any increase in pay is considered having regard to average earnings within comparable organisations and conditional upon satisfactory individual performance.

When recruiting, pay is set by benchmark salaries against a comparable role within similar sized third-sector organisations.

The total employment benefits of key management personnel (including NI and pension contributions) was £153,958 (2015: £138,017).

Reserves Policy

The Trustees reviewed the level of designated funds at 31 March 2017 and considered that the funds set aside are adequate to cover 6 months running costs and refurbishment of Wizzybugs on return from loan.

	£
Balance on reserve: 31 March 2016	725,000
Transfer from unrestricted funds	0
Balance on reserve: 31 March 2017	725,000

Further details of our restricted and designated funds are detailed below:

	Value on 31/03/17	Purpose
Restricted reserves	£96,570	Funds to build new Wizzybugs and support the Loan Scheme
General reserves	£192,138	Unrestricted reserves
Designated funds	£135,000	Wizzybug refurbishments
	£590,000	6 months' running costs

At 31 March 2017 the charity had free reserves (unrestricted reserves not tied up in functional fixed assets) of £136,540 (2016 £142,317).

Statement confirming that the Trustees have had due regard to the Charity Commission guidance on public benefit

We have referred to the guidance contained in the Charity Commission's general guidance on public benefit when reviewing our aims and objectives and in planning our future activities. In particular, the Trustees consider how planned activities will contribute to the aims and objectives they have set.

Investment Policy

The Trustees managed the investment portfolio in accordance with the charity's governing document.

Monies not immediately required for the objectives of the charity may be invested in investments, securities or property as may be thought fit having regard to any consent and in accordance with any relevant laws. The Board includes Trustees with sufficient specialist knowledge and experience of investments suitable to the present needs of the charity.

The charity does not hold any 'social investments' where the purpose in making the investment is wholly or partly to further the charity's aims.

Methods policies and procedures for recruitment, appointment, induction and training of Trustees

The Board has appropriate procedures for the recruitment, appointment, induction and training of its Trustees. These are subject to review every 5 years. The Officers of the Charity, supported by the Chief Executive, consider the skills, diversity and gender balance of the Board prior to appointments being made and arrange for induction as befits the appointee.

Plans for the Future

Research:

Carry out high impact applied research, with academic and clinical partners that may result in new products or services

New Product Development:

Develop and produce new products that reduce the impact of health problems or disability and improved quality of life

Early Years Powered Mobility:

Work to ensure that early years powered mobility is available to all children who might benefit within the UK

Our key targets over the next year include:

Appoint a designated manager for each of the three key work streams, to increase the
effectiveness and impact of these activities

- Ensure more children have access to early years powered mobility through further development of the UK Wizzybug Loan Scheme and by growing the international market for sales of Wizzybug
- Develop our fundraising strategy to build up a more diverse range of supporters
- Implement improved systems and processes across the organisation, with the introduction of a formal Quality Management System
- Put in place measures to improve the representation and accountability to our beneficiaries in our work and establish closer working relationships with leading national patient and carer groups
- Appoint a Finance Manager to strengthen our financial planning and processes, and ensure that we make best use of our funds
- Develop a facilities plan that will support planned growth over the next 5-10 years.

Statement of Board Responsibilities

The Trustees (who are also the Directors of Designability Charity Limited for the purposes of company law) are responsible for preparing the report of the Board and the financial statements in accordance with applicable law and United Kingdom Accounting Standards (United Kingdom Generally Accepted Accounting Practice).

Company law requires the Board to prepare financial statements for each financial year which give a true and fair view of the state of affairs of the charitable company and of the incoming resources and application of resources, including the income and expenditure, of the charitable company for that period. In preparing those financial statements, the Trustees are required to:

- · select suitable accounting policies and then apply them consistently
- observe the methods and principles in the Charity SORP (FRS102)
- make judgements and estimates that are reasonable and prudent
- prepare the financial statements on the going concern basis unless it is inappropriate to presume that the charitable company will continue in business.

The Board are responsible for keeping proper accounting records which disclose with reasonable accuracy at any time the financial position of the charitable company and to enable them to ensure that the financial statements comply with the Companies Act 2006. They are also responsible for safeguarding the assets of the charitable company and hence for taking reasonable steps for the prevention and detection of fraud and other irregularities.

Statement as to disclosure of information to Auditors

So far as the Board is aware, there is no relevant information (as defined by Section 418 of the Companies Act 2006) of which the charitable company's auditors are unaware, and the Board has taken all the steps that they ought to have taken as a Board member in order to make them aware of any audit information and to establish that the charitable company's auditors are aware of that information.

Auditors

The auditors, Haines Watts, will be proposed for re-appointment at the forthcoming Annual General Meeting.

ON BEHALF OF THE COUNCIL:

M G W Humphriss Honorary Secretary

Independent Auditor's Report

To the Members of Designability Charity Limited

We have audited the financial statements of Designability Charity Limited for the year ended 31 March 2017 which comprise the statement of financial activities (including income and expenditure account), statement of financial position, cash flows and the related notes. The financial reporting framework that has been applied in their preparation is applicable law and the United Kingdom Accounting Standards (United Kingdom Generally Accepted Accounting Practice), including FRS 102 "The Financial Reporting Standard applicable in the UK and Republic of Ireland".

This report is made solely to the charity's members, as a body, in accordance with chapter 3 of part 16 of the Companies Act 2006. Our audit work has been undertaken so that we might state to the charity's members those matters we are required to state to them in an auditor's report and for no other purpose. To the fullest extent permitted by law, we do not accept or assume responsibility to anyone other than the charity and the charity's members as a body, for our audit work, for this report, or for the opinions we have formed.

Respective responsibilities of trustees and auditor

As explained more fully in the trustees' responsibilities statement, the trustees (who are also the directors for the purposes of company law) are responsible for the preparation of the financial statements and for being satisfied that they give a true and fair view. Our responsibility is to audit and express an opinion on the financial statements in accordance with applicable law and International Standards on Auditing (UK and Ireland). Those standards require us to comply with the Auditing Practices Board's Ethical Standards for Auditors.

Scope of the audit of the financial statements

An audit involves obtaining evidence about the amounts and disclosures in the financial statements sufficient to give reasonable assurance that the financial statements are free from material misstatement, whether caused by fraud or error. This includes an assessment of: whether the accounting policies are appropriate to the charity's circumstances and have been consistently applied and adequately disclosed; the reasonableness of significant accounting estimates made by the trustees; and the overall presentation of the financial statements. In addition, we read all the financial and non-financial information in the trustees' report to identify material inconsistencies with the audited financial statements and to identify any information that is apparently materially incorrect based on, or materially inconsistent with, the knowledge acquired by us in the course of performing the audit. If we become aware of any apparent material misstatements or inconsistencies we consider the implications for our report.

Opinion on financial statements

In our opinion the financial statements give a true and fair view of the state of the charity's affairs as at 31 March 2017 and of its incoming resources and application of resources, including its income and expenditure, for the year then ended;

have been properly prepared in accordance with United Kingdom Generally Accepted Accounting Practice; and

have been prepared in accordance with the requirements of the Companies Act 2006. www.designability.org.uk
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Company registered No. 933932 (London)

Opinion on other matter prescribed by the Companies Act 2006

In our opinion the information given in the trustees' report for the financial year for which the financial statements are prepared is consistent with the financial statements.

Matters on which we are required to report by exception

We have nothing to report in respect of the following matters where the Companies Act 2006 requires us to report to you if, in our opinion:

- adequate accounting records have not been kept, or returns adequate for our audit have not been received from branches not visited by us; or
- the financial statements are not in agreement with the accounting records and returns; or
- · certain disclosures of trustees' remuneration specified by law are not made; or
- we have not received all the information and explanations we require for our audit; and
- the trustees were not entitled to prepare the financial statements in accordance with the small companies regime and take advantage of the small companies exemption in preparing the trustees' report and take advantage of the small companies exemption from the requirement to prepare a strategic report.

Susan Plumb

Susan Plumb
Chartered accountant & statutory auditor
Haines Watts, Chartered Accountants
Old Station House
Station Approach
Newport Street
Swindon
SN1 3DU

9 NOV 2017

Statement of Accounting Policies

This Statement of Accounting Policies forms part of the Accounts.

1. General information

The charity is a private company limited by guarantee, registered in England and Wales and a registered charity in England and Wales. The address of the registered office is The Wolfson Centre, Royal United Hospital, Bath, BA1 3NG. The charity constitutes a public benefit entity.

2. Statement of compliance

These financial statements have been prepared in compliance with FRS 102, 'The Financial Reporting Standard applicable in the UK and the Republic of Ireland', the Statement of Recommended Practice applicable to charities preparing their accounts in accordance with the Financial Reporting Standard applicable in the UK and Republic of Ireland (FRS 102) (Charities SORP (FRS 102)) and the Charities Act 2011.

3. Accounting policies

Basis of preparation

The financial statements have been prepared on the historical cost basis, as modified by the revaluation of certain financial assets and liabilities at fair value through income or expenditure.

The financial statements are prepared in sterling, which is the functional currency of the entity and rounded to the nearest pound.

Going concern

There are no material uncertainties about the charity's ability to continue.

Transition to FRS 102

The entity transitioned from previous UK GAAP to FRS 102 as at 1 April 2015. Details of how FRS 102 has affected the reported financial position and financial performance are given in note 16.

4. Fund accounting

Unrestricted funds are available for use at the discretion of the trustees to further any of the charity's purposes.

Designated funds are unrestricted funds earmarked by the trustees for particular future project or commitment.

Restricted funds are subjected to restrictions on their expenditure declared by the donor or through the terms of an appeal, and fall into one of two sub-classes: restricted income funds or endowment funds.

5. Incoming resources

All incoming resources are included in the statement of financial activities when entitlement has passed to the charity; it is probable that the economic benefits associated with the transaction will flow to the charity and the amount can be reliably measured.

The following specific policies are applied to particular categories of income:

income from donations or grants is recognised when there is evidence of entitlement to the gift, receipt is probable and its amount can be measured reliably.

legacy income is recognised when receipt is probable and entitlement is established.

Consultancy, sales and royalties are accounted for in the period in which the relevant goods or services have been provided.

income from donated goods is measured at the fair value of the goods unless this is impractical to measure reliably, in which case the value is derived from the cost to the donor or the estimated resale value. Donated facilities and services are recognised in the accounts when received if the value can be reliably measured. No amounts are included for the contribution of general volunteers.

6. Resources expended

Expenditure is recognised on an accruals basis as a liability is incurred. Expenditure includes any VAT which cannot be fully recovered, and is classified under headings of the statement of financial activities to which it relates:

- expenditure on raising funds includes the costs of all fundraising activities, events and non-charitable trading activities.
- expenditure on charitable activities includes all costs incurred by a charity in undertaking activities that further its charitable aims for the benefit of its beneficiaries, including those support costs and costs relating to the governance of the charity apportioned to charitable activities.
- other expenditure includes all expenditure that is neither related to raising funds for the charity nor part of its expenditure on charitable activities.

All costs are allocated to expenditure categories reflecting the use of the resource. Direct costs attributable to a single activity are allocated directly to that activity. For restricted projects, expenditure is the total of all invoiced costs plus all recorded staff hours spent on the project with a 45% charge to cover support costs and overheads. Income is the donated income specified for each project, received in the year.

7. Transfers

Transfers between funds are made where the income for the project is exceeded by the costs incurred on the project, or where it has been agreed with the funder to use unspent balances at the end of a project on activities with a similar objective.

8. Tangible assets

Tangible assets are initially recorded at cost, and subsequently stated at cost less any accumulated depreciation and impairment losses.

Depreciation

Depreciation is calculated so as to write off the cost or valuation of an asset, less its residual value, over the useful economic life of that asset as follows:

Workshop equipment Leasehold improvements Computer equipment Wizzybugs 10% per annum 2% per annum 33% per annum 20% per annum

9. Investments

Dividends and interest from investments are credited to income on a receivable basis and include the associated income tax credits.

Investments are shown in the Balance Sheet at fair value. Gains and losses on the revaluation and realisation of investments are credited/debited to the Statement of Financial Activities. On reconciling investments to the market values at 31 March 2017 and additional £50,000 revaluation gain was identified. This has been included in the financial statements.

10. Debtors and prepayments

Trade and other debtors are recognised at the settlement amount due after any trade discounts. Prepayments are valued at the amount prepaid net of any discounts.

11. Creditors and provisions

Creditors and provisions are recognised where the charity has a present obligation resulting from a past event that will probably result in the transfer of funds to a third party and the amount to settle the obligation can be measured or estimated reliably.

12. Cash and cash equivalents

Cash at bank and cash in hand includes cash and short term highly liquid investments with a short maturity of three months or less from the date of acquisition or opening of the deposit or similar account.

13. Pension

Designability participates in three defined benefit pension schemes. The costs of contributions are recognised in the year they are paid (see note 5). Pension scheme assets and liabilities cannot be separately identified and therefore these have not been included in the Balance Sheet.

The charity has a multi-employer defined benefit scheme in place for the Universities Superannuation Scheme. Following discussion with the scheme administrators it has been determined that it is not possible to determine whether there is any funding deficit and liability. There is only one participant in the scheme and therefore any provision would not be material to the financial statements. No such provision is included.

Accounts

Designability Charity Limited
Balance Sheet as at 31 March 2017

patance sneet as at 31	Notes	Total Funds 2017 £	Total Funds 2016 £
Fixed Assets			
Investments	(Note 7)	468,730	461,141
Tangible assets	(Note 8)	311,868	289,191
		780,598	750,332
Current Assets			
Debtors Sundry		165,686	102,431
Pre-payment:	S	14,782	11,600
Cash deposits		82,640	177,763
Bank balances		207,981	88,790
Petty Cash		85_	105
Creditors: amounts fallin	ig due within one year	471,174	380,689
Creditors & Accruals (No	•	(238,064)	(124,614)
Net current assets		233,110	256,Ö75
Total assets less liabilitie	2 \$	1,013,708	1,006,407
Funds: Unrestricted funds			
General reserves		192,138	167,649
Designated reserves (No	te 11)	725,000	725,000
Restricted funds (Note 1	3)	96,570	113,758
Total funds (Note 14)		1,013,708	1,006,407

These financial statements have been prepared in accordance with the provisions applicable to companies subject to the small companies' regime

Approved by Board Mrs L Gawith: Chair Professor M Tooley: Vice Chair

Statement of Financial Activities

(including the Income and Expenditure Account) for the year ended 31 March 2017

	Unrestricted Funds £	Restricted Funds Research £	Restricted Funds Projects	Total Funds 2017 £	Total Funds 2016 £
Income	_	_			
Donated Services (Note 15) Donations and	8,143			8,143	
legacies Grants for sponsored	195,583		353,300	548,883	571,877
research Income from other		1,036,041		1,036,041	129,001
charitable activities Consultancies (& Misc.)	94,962			94,962	139,328
· ·· =- y	,			,	
Income from charitable activities					
Product sales	208,676			208,676	137,620
Royalties	41,873			41,873	40,506
Investment income	14,344			14,344	15,732
Total income	563,582	1,036,041	353,300	1,952,924	1,034,064
Expenditure Charitable activities Direct expenditure on general activities: Donated services	8,143			8,143	
Salaries and wages (Note 3)	300,270			300,270	329,348
Materials and equipment Direct expenditure on	66,042			66,042	56,962
sponsored activities: Salaries and					
wages (Note 3) Materials and		311,914	208,110	520,024	270,262
equipment Administration,		43,389	44,521	87,910	58,461
exhibitions and professional				0	0
fees Sub Contract		2,100	7,200	9,300	8,813
CHIRON Depreciation on Wizzybug Loan		676,447		676,447	
Scheme			98,800	98,800	100,000

Depreciation on Computer					
equipment	3,814			3,814	3,264
Depreciation on	•			•	•
refurbishment	1,056			1,056	1,056
Depreciation on					
W'shop equip.	1,743			1,743	1,743
Travelling and conferences		7,941	6,107	14,048	8,413
		7,741	0,107	14,046	0,413
Indirect expenses:	12 274			13,276	12,344
Rent (Note 4)	13,276				
Premises	7,013			7,013	5,230
Administration, exhibitions and					
professional					
fees (Notes 5 &					
6)	88,013			88,013	137,830
Travelling and					
conferences	11,633			11,633	22,358
Cost of raising funds					
Salaries	93,093			93,093	52,487
Materials and					
equipment	2,587			2,587	2,336
Consultancy	0			0	20,813
Total expenditure	596,682	1,041,791	364,738	2,003,212	1,091,720
					1,400
Unrealised gain on					
investment	£7.500			F7.F00	(35.5(4)
assets(Note 7)	57,589			57,589	(15,564)
Net					
income/(expenditure)	24,489	(5,750)	(11,438)	7,301	(71,820)
Transfer between	21,107	(3,730)	(11, 150)	7,501	(, 1,020)
funds		0		0	
Net movement in					
funds	24,489	(5,750)	(11,438)	7,301	(71,820)
Funds at 31 March					
2016	892,649	5,750	108,008		1,006,407
Eumale at 27 Manuals					
Funds at 31 March 2017	917,138	0	96,570	1,013,708	
2017	717,130		70,370	1,013,700	

Cash Flow Statement As at 31 March 2017

	2017 £	2016 £
Cash flows from operating activities Net income/(expenditure)	7,301	(71,820)
Adjustments for: Depreciation of tangible fixed assets Net gains/(losses) on investments Other interest receivable and similar income	109,413 (57,589) (14,344)	108,063 15,564 (15,732)
Changes in: Trade and other debtors Trade and other creditors	(66,436) 113,449	(10,323) 19,547
Cash generated from operations	91,794	45,299
Investment Income	14,344	15,732
Net cash from operating activities	106,138	61,031
Cash flows from investing activities Purchase of tangible assets Proceeds from sale of investments Net cash used in investing activities	(132,090) 50,000 (82,090)	(205,579) (205,579)
Net increase/(decrease) in cash and cash equivalents Cash and cash equivalents at beginning of year	24,048 266,658	(144,548) 411,206
Cash and cash equivalents at end of year	290,706	266,658

Notes to the Accounts

Year Ended 31 March 2017

1 LIMITATION BY GUARANTEE

The Company is Limited by Guarantee and as such has no share capital. Under the Constitution, each member of Designability is liable to contribute £10 in the event of winding up.

2 CHARITABLE STATUS

The Company is a registered charity (no 256335).

3 EMPLOYEES

Particulars of employees are as shown below:-:

	2017	2016		
	£	£		
Wages and Salaries	707,345	528,269		
Social Security Costs	68,054	38,347		
Other Pension Costs	125,306	81,271		
	900,705	647,887		

No trustee received any remuneration or expenses during the year (2016 nil).

One employee received a salary of between £65k and £75k

Employees by function:— Engineering - 9.6 fte, Clinical - 2 fte, Fundraising - 3 fte, Admin/management - 6.5 fte, Promotions - 1 fte

Key Management Personnel

Key management personnel include all persons that have authority and responsibility for planning, directing and controlling the activities of the charity. The total compensation paid to key management personnel for services provided to the charity was £153,958 (2016: £138,017).

Designability participates in three contributory pension plans providing defined benefits based on final pensionable pay. The schemes are as follows:-

<u>Local Government Pension Scheme</u>. The assets of the scheme are held separately from those of the Institute. The Institute does not have separate employee registration and is registered as part of Bath University for the purpose of the scheme. Accordingly, it is not possible to separately identify the assets and liabilities relating to the Institute for the purpose of Financial Reporting Standard 102 (FRS 102) disclosure and accordingly any FRS 102 surplus or deficit attributable to the Institute is not shown on the Balance Sheet.

<u>National Health Service Scheme and Universities Superannuation Scheme.</u> Both of these are mutual schemes and again, the assets and liabilities cannot be attributable to an employer and any surplus or deficit attributable to the Institute is not recognised on the Balance Sheet.

The schemes are therefore treated as defined contribution schemes in these financial statements as permitted by FRS 102.

4 LEASEHOLD PROPERTY

A lease of the property at the Medical Sciences Centre was entered into on 26 May 1995 and renegotiated on 23 April 2013. By the terms of the lease, the annual rent was reviewed and agreed at £5330 (Excluding VAT). The lease expires on 28 September 2067. There were no capital costs to the Institute. A lease was also entered into on an industrial unit (Unit 5, Victoria Park Business Centre, Midland Rd, Bath, BA1 3AX), on 6 February 2017.

The total future minimum lease payments under non-cancellable operating leases are as follows:

2017 2016

 Less than one year
 £
 £

 Later than one year and not later than five years
 6,955
 11,330

 Later than five years
 21,320
 21,320

 Later than five years
 242,515
 247,845

5 AUDIT FEES

Audit fees of £1900 are included under the heading of Administration, Exhibitions and Professional Fees.

6 DIRECTORS' AND OFFICERS' LIABILITY INSURANCE

The Charity has effected Directors' and Officers' Liability Insurance cover.

7 INVESTMENTS

	<u>2017</u> £
Value at 1 April 2016 Unrealised Gain Disposals Acquisitions	461,141 57,589 (50,000)
Value at 31 March 2017	468,730

The Investments are shown in the Balance Sheet at market value.

8 FIXED ASSETS

Cost	Workshop Equipment	Refurbishment	Computer Equipment	Wizzybug Loan scheme	Total
				£	£
At 1 April 2016	16,642	52,780	32,582	434,000	536,004
Additions Disposals	0	0	2,090	(4,000)	132,090 (4,000)
At 31 March 2017	16,642	52,780		560,000	664,094
Depreciation					
At 1 April 2016	4,984	3,168	27,462	211,200	246,814
Charge for the year	1,743	1,056	3,814	102,800	109,413
Eliminated on disposal	0	0	0	(4,000)	(4,000)
At 31 March 2017	6,727	4,224	31,276	310,000	352,227
Net Book value					
At 31 March 2017	9,915	48,556	3,396	250,000	311,867
At 31 March 2016	11,658	49,612	5,120	222,800	289,190

9 RELATED PARTY

For administrative purposes Designability's staff payroll is processed through the University of Bath. Salary costs are invoiced by the University to Designability. Consumable items and stationery are charged at cost; the total of these charges is insignificant.

10	CREDITORS AND ACCRUALS		

	£	£	
Sundry creditors	60,591	78,279	
Accruals	177,473	46,335	
	238,065	124,614	

11 DESIGNATED FUNDS

The trustees reviewed the level of designated funds at 31 March 2017 and considered that the funds set aside are adequate to cover 6 months running costs and refurbishment of Wizzybugs on return from loan.

£

Balance on reserve: 31 March 2016 Transfer from Unrestricted funds Balance on reserve: 31 March 2017 725,000 0 725,000

12 CAPITALISATION OF WIZZYBUG LABOUR AND MATERIAL COSTS

Designability continues to expand the Wizzybug loan scheme. During the year a further 65 were built and 2 retired bringing the total to 280 at 31 March 2017.

Labour and material costs associated with building the units are removed from the Statement of Financial Activities and capitalised into Fixed Assets. Costs are then written off over a period of 5 years.

Total costs associated with the loan scheme for the year are as follows:

Total labour and material costs incurred in the year in respect of the loan scheme £295.946

Costs of units capitalised

(£130,000)

Net labour and material costs recognised in the SOFA Depreciation charge for the year on capitalised units

£165,946 £ 98,800

Total costs for the year in restricted funds

£264,745

see note 13

13 RESTRICTED FUNDS

Fund RESEARCH	1 April 2016 £	Expenditure £	Income/Transfers £	Transfer from/ (to) general £	31 March 2017 £
CHIRON	0	-849,104	849,104		0
KiTE1	0	-52,490	52,490		0
Dunhill 2015	0	-66,041	66,041		0
FLOURISH	0	-34,071	34,071		0
D4D	0	-9,993	9,993		0
Global Feasibility	0	-20,965	20,965		0
Collaborative Projects Wander Reminder	0	-3,377	3,377		0
Redesign	5,750	-5,750	0		0
		1,041,791	1,036,041		0

PROJECT

BIRT Wizzybug Loan	0	-2,000	2,000	0
Scheme	56,701	-264,746	304,315	96,270
Cooker Monitor Compliant Seat	3,150	-3,150	0	0
Extension	24,627	-29,627	5,000	0
In Touch Wheelchair Baby	255	-255	0	0
Carrier	10,093	-10,093	0	0
Day clock Plus	472	-472	0	0
Internet of Things	1,918	-1,918	0	0
Flourish Active Adaptive	0	-10,485	10,485	0
Support	6,000	0	-6,000	0
AT Sebba Newsletter Dunhill (Tfr from in	0	-7,200	7,500	300
Touch)	4,791	-4,791	0	0
Wander Reminder 2	0	-5,000	5,000	
Junior Dynamic Seat	00	-25,000	25,000	0
TOTAL PROJECT	108,007	-364,737	353,300	96,570

Details of the restricted funds are given in the Summary of Activities section of these financial statements.

14	ANALYSIS OF NET ASSETS	5 BETWEEN FUNDS Unrestricted Funds	Restricted Funds	Total Funds 2017
		£	£	£
	Fund balances at 31 March 2017 are represented by:			
	Tangible fixed assets	780,598	•	780,598
	Current assets	291,117	180,057	471,174
	Current liabilities	(154,577)	(83,487)	(238,064)
	<u> </u>	917,138	96,570	1,013,708

15 DONATED SERVICES

A corporate partner supported us with a 9 month marketing secondment.

16 TRANSITION TO FRS 102

These are the first financial statements that comply with FRS 102. The charity transitioned to FRS 102 on 1 April 2015. No transitional adjustments were required in the retained funds or income or expenditure for the year.

Donations Received

The following were exceptionally generous in their donations:

4814 Trust

A.M. Fenton Trust

Allergan International

Ballinger Charitable Trust

Barbara Ward Children's Foundation

Basil Brown Charitable Trust

Basil Samuel Charitable Trust

Bath Golf Club

Bath Wine Circle

Benevity

Benham Charitable Statement

Bernard Lewis Family Charitable Trust

Bisgood Charitable Trust

Blakes Genes

Bonhomie Charitable Trust

Boshier-Hinton Foundation

Brian Mitchell Charitable Statement

Brian Shaw Memorial Trust

Broyst Foundation

Calleva Foundation

Caterpillar (UK) ltd

Charles & Elsie Sykes Trust

Cheyne Charity for Children with Cerebral Palsy

Christ Church Bath

Christopher Rowbotham Charitable Trust

Constance Travis Charitable Trust

D.M.F. Ellis Charitable Trust

D'Oyly Carte Charitable Trust

Dame Violet Wills Will Trust

De Brye Charitable Trust

Douglas Arter Foundation

Dr LHA Pilkington Trust

Earmark Trust

Elizabeth & Prince Zaiger Trust

Elusen Jac Bach Charity

Estate of Miss Barbara Margaret Holt

February Foundation

G.M Morrison Charitable Trust

Gilbert & Eileen Edgar Foundation

Grey Court Trust

Hadley Trust

Harris & Sheldon Group Ltd

Hedley Foundation

Helen Hamlyn Trust

Helen Robertson Charitable Trust

Helianthus Charitable Trust

Hobson Charity Ltd

IMI plc

Irwin Mitchell

J & M Family Foundation

Jane Hodge Foundation

Jenour Foundation

Jug of Oil Trust

Lady Eileen Joseph Foundation

Lake House Charitable Foundation

Leeds Building Society

Linmardon Trust

MacCabe Family Charitable Trust

Mark Benevolent Fund

Mason Bibby 1981 Trust

Masonic Charitable Foundation

Miles & Miles

Mountbatten Memorial Trust

Neighbourly Ltd

Next plc

Nina & Roger Stewart Charitable Trust

Odin Charitable Trust

Oldhurst Trust

Paul Foundation

Philip King Charitable Trust

QBE Foundation

Rainford Trust

Ray Harris Charitable Trust

Reuben Foundation

Road Safety Trust

Robert Kiln Charitable Trust

Roger & Jean Jefcoate Trust

Rotary Club of Bath

www.designability.org.uk Registered Charity No. 256335 Company registered No. 933932 (London)

annual report 1617 final for companies house 44/45

Rotary Club of Chelwood Bridge

Rotork Controls Ltd

Sir James Reckitt Charity

Sir James Roll Charitable Trust

Sir Jules Thorn Charitable Trust

Sir Robert Gooch Charitable Trust

Sir William Coxen Trust Fund

Spirax-Sarco Charitable Trust

Squishy Charitable Trust

St. John's Hospital

St. Jude's Trust

Staples Trust

Stephen Clark 1957 Charitable Trust

Syder Foundation

Sydney Building Carol Singers

Thomas Curtis Charitable Trust

Topsteer Challenge

Tuesday Luncheon Club

University of Bath Students Union - RAG

Usborne Publishing

Virgin Money

Viridor Waste Management

Walter Guinness Charitable Trust

William Crown Charitable Trust

Zochonis Charitable Trust

A.L.K Cadbury

Clair Rix

D J Adlam

D.F & H.H.M. Joliffe

Daniel Wood

Dr S Garnish

Dr Trevor Ogden

Eloise Wild

Ennis Jones

Hilary Hanson

In memory of Derek Smith

L Pearcey & P Child

M E Adlam

M Whittington

Mike Ridgers

P Perry

Paul Gregory

S Holland

S.J. Harrison

Sandra Humphries

5 Donors wished to remain anonymous

£200 and under: 86 Donors