"When I'm playing computer games, I can run, jump, or fight. I can be anything I want to be, without the limitations my disability and society give me. " 
About Trailblazers

Trailblazers is a group of disabled campaigners from across the UK who tackle the social issues affecting young disabled people, such as access to higher education, employment and social and leisure opportunities. We aim to fight these social injustices to ensure young disabled people can gain access to the services they require.

We are part of Muscular Dystrophy UK, the charity for individuals and families living with muscle-wasting conditions.

About Muscular Dystrophy UK

- We support research to drive the development of effective treatments and cures.
- We ensure access to specialist NHS care and support.
- We provide services and promote opportunities to enable individuals and families to live as independently as possible.

Thank you

To all the Trailblazers who filled in our survey and shared their experiences with us. Special thanks go to Anthony Price, SpecialEffect and Remap.
Foreword
By Anthony Price

Video gaming has been around since the 1970s and 80s and it’s the world’s biggest entertainment pastime. It’s also a £67 billion industry worldwide, and growing rapidly.

For many, it’s a way of life, a way to escape the stresses and strains of modern life. But for others, particularly people with a disability, there are still many barriers in the world of gaming that prevent them from joining in the fun.

For me, being a child of the 80s, gaming has been a big part of my life since owning my first games console, a Sega Master System, at the tender age of five. Back then, gaming systems were operated by simple control pads with a few buttons to input commands. This was not too difficult for someone with a muscle-wasting condition (in my case, spinal muscular atrophy) and weak hands.

Since that time, I’ve owned nearly every games console that has been released in the UK. This puts me in a prime position to see both the changes within the gaming industry, and the ways in which gamers interact with the consoles and the games running on them. Games have become more complex over the years, requiring ever-more sophisticated hardware to operate them.

Gameplay has changed from having a few button inputs to now sometimes requiring anything up to 16. This is where a lot of the barriers come into force, leaving many young people with muscle-wasting conditions giving up on gaming when they find it’s too much of a struggle to use the console.

This report is something that I’m very passionate about. The gaming industry is slowly realising that disabled gamers exist and big companies such as Microsoft and Sony are adding more and more accessibility options to their respective systems.

We also live in an age where technology evolves at hyper-speed, opening up doors for charities like SpecialEffect, who come up with innovative ways to adapt controllers and help disabled people overcome the barriers to gaming. The situation is improving, but there’s still a long way to go. Reports like this can only help to speed up that process.

Gaming gives young disabled people a chance to do things in their online life that they may never get to do in their ‘real’ life. When I’m playing computer games, I can run, jump, or fight. I can be anything I want to be, without the limitations my disability and society give me. I can’t stress enough how important it is for disabled gamers to be given the same access to the world of gaming as everyone else.

It’s my hope that one day we can all play together on an equal platform and all enjoy the fun and escapism that gaming can provide. Here’s to changing the game for everyone.
EXECUTIVE SUMMARY

Trailblazers are a network of over 750 young disabled people and their supporters. We campaign to remove the societal barriers and change the attitudes that prevent disabled people from living full and independent lives. Since our founding in 2008, we have campaigned on a wide variety of issues, from public transport to employment.

In 2015, Trailblazers released the Switched on report, which focused on assistive technology. During that investigation, it became clear that young disabled people were passionate about gaming and they put a particular focus and importance on video game accessibility.

In 2015, the UK was estimated to be the sixth largest video game market in terms of consumer revenues. At that point, the gaming industry was worth nearly £4.2 billion in UK consumer spend. Alongside this, the disabled spending power – also known as the Purple Pound – is worth an estimated £212 billion.

Gaming is an integral part of youth culture, and is a platform for discussion and progress in our society in general. For young disabled people, gaming is a release from everyday life where they are free to choose who they want to be and what they want to do, with complete independence. There is a staggering estimated 1.2 billion gamers worldwide, and disabled people are an important part of that community.

For those who told us about their passion for gaming during our Switched on investigation, many had to change and adapt their gameplay or controllers themselves. Some had simply given up gaming, feeling their progressive muscle weakness meant they could no longer take part in something they had once enjoyed.

Others experienced problems using controllers, found games to be incompatible with assistive technology, or found assistive technology to be unaffordable. Even the most basic accessibility features, such as the ability to change font size, were highlighted as issues.

At Trailblazers, we know that being able to game is important to many disabled people. Games are increasingly part of our popular culture; across the world, young minds are influenced by what content developers put into games. From LGBT rights to ethnic minority issues, many of the storylines champion equality. But too often, disability is missing from the media conversation about diversity.

Gaming has changed from a hobby into a force and a platform for change. It is transforming the way people perceive, learn about and interact with the world around them.

Playing games is also an important form of exercise and therapy for disabled people. The benefits of gentle exercise in maintaining or improving physical ability can sometimes be profound for those who have progressive muscle weakness.

The psychological and social benefits of socialising during gameplay, the escapism from everyday life, or being able to play out your life in a simulation game are also important.

For young disabled people to feel all of these benefits, PC games, game consoles and games themselves must be adaptable to the physical ability of the player.

It is great that gaming companies are starting to recognise the importance of meeting the needs of disabled gamers. Indeed, even gaming giant Microsoft has argued that there are both social and financial reasons why games developers should think about making their products accessible.

Trailblazers are committed to ensuring everyone can enjoy the benefits of gaming.

---

2. Game Accessibility: a Survey
3. msdn.microsoft.com/en-us/library/windows/desktop/ee415219(v=vs.85).aspx#why_is_accessibility_important
Survey
In September 2016, Trailblazers surveyed young disabled people to gather their views on gaming. Members of the Trailblazers’ team, along with the support of young disabled gamers, put the survey together. Over the next nine months, more than 100 young disabled people from across the UK responded to the survey. In addition, we hosted two Question and Answer sessions on Facebook, asking young disabled people their experiences of gaming and some of the problems they had encountered. We then formalised all these findings into this report and worked with other charities to include case studies that are more detailed.

Key findings
▶ Almost three in five people surveyed said gaming was their favourite or regular pastime owing to limited access to other leisure activities
▶ Eight out of 10 believe the gaming industry doesn’t consider the needs of disabled gamers
▶ Around one in four respondents require extra technology to play video games
▶ More than one in three people said they could not play video games because of their disability

Action needed
We are calling on the gaming industry:
▶ to establish a working group comprising games developers, charities and gamers who have disabilities, to discuss and look at ways to overcome accessibility problems within the gaming industry
▶ to develop controllers that are adapted to different levels of disability
▶ to ensure games are compatible with different forms of assistive technology.

Trailblazers say:
“Playing on the PS3/4 gives me an escape from the real world... I feel like I’m ‘normal’ for a change and it’s an equal playing field.”
Hassan Nazir, Yorkshire and the Humber

“I think gaming can be a powerful and therapeutic tool for people living with a disability. It can provide a level playing field to build a social network on. It can be an escape from the challenges of having a disability and be a fun way to develop new skills and improve mental health through enjoyable down time.”
Charlotte Wood, Midlands

“You’re all in the same boat, regardless of colour, ability or creed. No-one knows what you look like. It’s also easier to make friends – just pop on a game server regularly and people start to recognise you.”
Thomas Jones, Wales
Game accessibility is a key topic and involves everything from the console to the controller to the game.

There are three main barriers to game accessibility:
- not being able to use standard game controllers owing to a disability; for example, not being able to press buttons quickly enough
- not being able to receive feedback from the game owing to a sensory disability; for example, not being able to hear dialogue between game characters or audio cues, or the game not including subtitles or captions
- not being able to understand how to play the game or what input to provide owing to a cognitive disability.

Key findings
- Almost three-quarters of those surveyed have never seen a disabled character in a videogame
- Over one-third would play more games if they featured a character(s) with a disability
- Almost three-quarters have difficulties playing videogames
- Eight out of 10 agree that the gaming industry doesn’t consider the needs of disabled gamers
- Almost 100 percent agree that gaming is a social experience that shouldn’t be hindered by disability

Controllers

Trailblazers say:
“When gaming companies design controllers, they seem to think that every single gamer can hold them and press every button, which isn’t the case.”
Bobby Shearer, Yorkshire and the Humber

“I find it impossible to hold a game controller, so although I love games I am unable to play them.”
Abigail Powell, Yorkshire and the Humber

“‘I don’t think there has been much thought within the gaming industry about disability. They see a control pad for instance and assume it is available to all. I think some more thought could go into the controller, making them ergonomic and even making special moulds for individuals for the control pad.’
Ryan Dack, North East

“I would love to use my PS3 to play games again like I used to but I get too tired from pressing the buttons and moving the joysticks. Now I play simple games on my smartphone which are easier because of the touchscreen. But the PS3 games are so much better and more complex than smartphone games, and I struggle to see complicated or highly detailed games on my smartphone.”
Jennifer, Midlands

“I used to play games on the Sega Mega Drive, PC, Nintendo Game Boy, Nintendo DS, PlayStation and mobile, during my teens and early 20s. As my condition progressed I lost the ability to use the controllers, and have not played since.”
Jagdeep Kaur Sehmbi, Midlands

“I’d consider purchasing more games for Wii if they configured the controller for disabled users.”
Kai Gill, Yorkshire and the Humber

Games

Trailblazers say:
“With certain games I just can’t participate to a level that makes me feel like I’m just like everybody else. Pokémon is an example of this.”
Catherine Gillies, Scotland

“‘Inaccessible games can make your disability a ‘problem’ which is unnecessary if it was designed properly.’
Jon Hastie, South East

“I would love to be able to play as a wheelchair user when picking a character to play as.”
Jennifer, Midlands
“My difficulties tend to stem from the fact that many videogames require quick response times and a multitude of actions and commands to be completed more or less at once and with some speed.”
Sebastian Bianco Lynn, North West

“If the gaming industry showed more diverse characters with a wide range of disabilities it may open people’s minds and make people more aware of disabilities rather than judging a person for being disabled.”
Elle Robson, South West

CONTROLLERS AND THE NEED FOR ADAPTATIONS

The progressive nature of muscle-wasting conditions means gaming can become more difficult as people gradually lose the ability to press buttons or hold a controller. But assistive technology can help with this.

With creative adaptations, you can improve access to gaming. For example, by making buttons easier to push, moulding grips to fit your hand better and using mounts so you don’t need to hold a controller. You can also rewire the electronics of a standard console controller so that you can use separate switches and buttons that are easier to press.

Many young disabled people don’t know these adaptations can be made. Often, it’s volunteers in charities such as Remap and SpecialEffect, and not the gaming industry, who make these adaptations.

Key findings:
> Two-thirds of respondents believe gaming adaptations are expensive and unaffordable
> Almost one-quarter use assistive technology to play videogames
> Only 10 percent own technology provided/funded by a charity to help with gaming
> Over three-quarters agree that a greater choice of adaptions and add-ons to games, consoles and controllers would enable them to play more games

Trailblazers say:
“Some adaptations are very specialised, which adds to the price and it is very hard to get them without funding, which many disabled people don’t get.”
Bobby Shearer, Yorkshire and the Humber

“I was put off playing videogames from a very young age due to the lack/expense of assistive equipment that would enable me to truly perform each command/action required and having to rely on others to assist me.”
Sebastian Bianco Lynn, North West

GAMING EVENTS

Trailblazers say:
“I was offered a chance to play at games con in a street fighter 5 tournament and when I got there I was appalled at the lack of accessibility: no ramp, no lift and if I somehow magically got inside the building there were about five steps just to get on the stage to compete.”
Hassan Nazir, Yorkshire and the Humber

“Disabled gamers should have equal opportunities. It is very difficult to go to gaming events if you love games. Very hard to go to E3 Conferences, Gamescom and other events.”
Mohamad Asim Hussain, Midlands

Danielle Maycox, Trailblazer
Remap supports young disabled gamers to use their game controllers. Here are some of their success stories:

Phil is a keen gamer but has a disability that makes it difficult for him to operate his PlayStation 4 controller. He had found it easier to place the controller on a surface and operate it from the top, but this made it hard to use the buttons on the front.

Phil’s family approached Remap’s group in Kent to see if they could help. After visiting to assess the situation, Remap volunteer Sam provided a solution by making some special levers on a 3D printer so Phil can use the front trigger/bumper buttons from above. (See image above.)

In another case, Brendon lost the ability to play computer games altogether, when his muscular dystrophy progressed and he didn’t have the finger strength to use a standard computer keyboard.

Remap volunteer Martin Harman, from the Southampton group, developed a special keypad and mouse mat to get him back online.

Brendon was overjoyed, as he would once again be able to compete on equal terms with others. In the world of online gaming, nobody knows if you have condition like muscular dystrophy, which has such an impact on daily life offline.

Brendon said: “Now I can get back to thrashing those able-bodied kids!”

Remap is a national charity with hundreds of volunteers who love making things for disabled people. It designs and custom-makes equipment of all sorts and everything is provided free of charge.

Remap aims to help people achieve independence and quality of life, filling the gap where no suitable equipment is available commercially. You can see examples of projects on their website and, with over 70 local groups, there’s probably help close at hand.

www.remap.org.uk
SpecialEffect was started 10 years ago by founder and CEO, Dr Mick Donegan. He'd spent many years helping very severely disabled people, and was hearing time and time again that they were desperate to play games – not just to have fun, but to interact and be included with their family and friends. He was amazed to find that no-one else was providing the kind of personalised support that's vital to the success of the work, so he started the charity.

The aim of SpecialEffect is to help people with physical disabilities and of all ages to access entertainment and leisure technology. The charity also supports specific patients in intensive care units, hospices or at home, who through a traumatic accident, illness or injury, have become completely paralysed and often unable to speak.

The disabled people SpecialEffect supports have a huge range of difficulties, including repetitive strain injuries, loss of limbs, cerebral palsy, muscle-wasting conditions, spinal injury and strokes. A typical console games handset has over 20 controls packed on to a small unit over a number of surfaces, so it's not surprising that even the slightest of hand injuries can cause an access issue.

If the charity can help, a specialist team of occupational therapists will work with the person either in their own home or at their games room in Oxfordshire to look at matching up their abilities to the requirements of the games they want to play.

It's a personalised and lifelong service. Occupational therapists take into account a whole range of factors – personal, social, environmental – and their aim is to create very personalised solutions that are comfortable to use over long periods. It's important they also give as competitive and enriching a gaming experience as possible, and sit alongside other existing mounting and accessing equipment.

Once a successful set-up has been found, SpecialEffect will lend the equipment to the gamer to make sure that it works over time. Afterwards, they'll ask the person to source their own set-up so they can re-use the equipment.

By mixing, matching and modifying equipment, they'll get the best access possible. It's totally dependent on the abilities of the individual.

For some, that might mean modifying a controller by adding sockets for external switches. For others, a combination of equipment like foot switches, a chin-controlled joystick or speech controls might work. Or eye control, often in combination with another access method. A common modification is to make a controller joystick easier to move by replacing the springs inside.

SpecialEffect doesn't sell or make any equipment, but occasionally develops specific software if there's a real need. For example, working on a free Minecraft software interface that works with several eye-gaze devices.

The charity is also working with games developers to make their games as accessible as possible, so that the knowledge gained by working one-to-one with people can be beneficial worldwide.

SpecialEffect has an open referral process, so anyone who's having problems accessing their games can get in touch. The best way is usually via the contact form at www.specialeffect.org.uk/contact

There's also a range of videos on YouTube that tell the stories of some of the people who've been helped: http://bit.ly/2AnyOpT (or search for The Gamers' Charity on YouTube). There's also a range of how-to videos that explain some of the accessible tech.

www.specialeffect.org.uk
Reclaiming My Love of Gaming

Trailblazer Anthony Price blogs about how the charity SpecialEffect has helped him reclaim his love of gaming:

I remember the first time I held the controller of a gaming console. I was five years old, on holiday with my parents and some family friends whose son owned a Sega Master System. Straight away, I was hooked to the fast pace and exciting action taking place on the screen. I was in control.

I was the omnipotent god controlling the lives of the pixelated men jumping and kicking on screen.

And that summer, I owned my first games console and haven’t looked back since.

My experience of gaming has been extensive over the years, having owned nearly every console that has ever existed. Gaming is a big part of my life, whether it be a sports game, a beat ‘em up, a first-person shooter, or an RPG. You name it, I’ve played it.

But my love of gaming has taken a back seat for the last 15 years. With the ever-increasing weakness in my arms and hands, playing computer games got to the point where it just wasn’t worth the effort.

I was getting less functionality out of my body and therefore less ability on the games. Couple that with the ever-increasing complexity of games, which require more buttons to press, it was almost impossible.

That was until recently, when I stumbled across a charity called SpecialEffect. All it took was an initial contact email to them and arrangements were made for them to visit me in my family home. I haven’t stopped playing since. It really is the most amazing feeling being back in control. Like a phoenix, I’m reborn.

I really couldn’t be happier with the outcome. How did they do it? I shall explain.

My rig, as I’ve now named it, consists of an adapted PlayStation 4 control pad that has four micro switches plugged into the handles. These can be mapped to any button that I require via the console settings. They essentially replace the trigger buttons on the shoulders of the control pad.

That is then mounted to a photography camera bracket in order to bring it level with my chin, which I use to manipulate the left analog stick (see picture opposite). Each button is positioned where I can easily press them; one for each hand and two on the wings of my headrest.

I also have voice controls set up for more complex games, to give me increased functionality. It took around three hours to come up with the solution and implement it. I couldn’t be happier with it, as it works for me and only takes around 10 minutes to set up each time I want to play.

I’m so happy to be playing again. Watching was fun for a time, but nothing beats doing it yourself.

Gaming gives disabled people a chance to do things in life that they may never get to do. When I’m playing I can run, jump, or fight. I can be anything I want to be without the limitations of my disability.

The guys at SpecialEffect have given that back to me and I wouldn’t change it for the world. I can’t ever thank them enough.

My pixelated persona became a shadow, a backseat gamer, destined to watch others do the things that I loved to do. It’s true what they say: you don’t know what you’ve got until it’s gone.
Muscular Dystrophy UK is the charity for 70,000 children and adults living with muscle-wasting conditions. We provide vital information, advice and support to help people live as independently as possible. We accelerate progress in research and drive the campaign for access to emerging treatments.

We know we can beat muscle-wasting conditions more quickly by working together and hope you will join us.