Co-Designing a Peer Support Platform for People with Low Vision & Blindness

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Co-Designing a Peer Support Platform for People with Low Vision & Blindness is a report commissioned by Guide Dogs Victoria and DXC Technology, and produced by Swinburne University's Digital Transformation Centre and Social Innovation Research Institute.

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Executive Summary

This report evaluates the design and development of a prototype Peer Support Platform that aimed to address the information, linkages and capacity (ILC) building needs of people with low vision and blindness.

Consistent with the research literature, our user community survey established that people with low vision and blindness face persistent challenges in a) accessibility of digital information as well as spaces, venues and transport, b) overcoming isolation and managing social connections.

The prototype platform bundled four core features that move toward addressing the needs expressed in the user community survey, and respond directly to input by co-design participants. Designing technologies with rather than simply for people with disabilities is essential for successful social inclusion outcomes; but as we found, it requires careful planning and a considered process.

The main areas of success in the planning and implementation of the co-design process include:

/ A Pre-Discovery phase allowed training and induction for the design team and the time needed to learn from and with people with lived experience of low vision and blindness.

/ Co-design practices and human centred design (HCD) principles address uncertainties regarding the digital and social access needs of people with low vision and blindness.

/ Managing the tensions between HCD discovery and the pace of 'agile methodology' allowed for the development of a working prototype peer support platform within a very limited time and budget that has the potential to be further developed and refined.

/ A multidisciplinary team with a range of skills enables effective synthesis of insights gained through discovery and co-design (described as the most challenging part of the project).

/ Co-location throughout the whole project at Swinburne's Digital Transformation Centre enhanced relationships and activities, in this case, bringing together the service provider, the technology design team and developers, co-design participants, and university researchers.

Executive Summary

Some challenges and difficulties in the co-design process include:

/ Managing Pre-Discovery, Discovery and build phases to involve software developers could have improved prototyping within the short project timeline.

/ Establishing methods for record keeping and hypothesis tracking from the initial phases of the project can help to define the scope of the problem and enable informed solutions.

/ Addressing the misalignment between resources, time and the scope of the design challenge is essential for successful integration of co-design, HCD and timely project completion.

/ Continuity of co-design participants' involvement at each stage of the project can be further improved to capitalise on their contribution and enhance their voice.

/ Co-design participants' understanding of their role shifted throughout their involvement in the project, and this can be a source of both uncertainty and a strength.

The evaluation concludes that overall the trajectory from discovery, co-design and development points toward outcomes that can address the information and social inclusion objectives established for the peer support platform in line with the ILC goals. Future steps in scaling the platform will be successful if they continue to consider user needs through co-design, and involve the voices of people with low vision and blindness in the process.

Introduction

In 2018, the National Disability Insurance Agency (NDIA) made funding available to help Australian disability support organisations achieve a set of Information, Linkages and Capability building goals (ILC).[1]

The ILC program aims to support all people with disability live more accessible and connected lives. Through successful application to the National Readiness Grant Scheme, Guide Dogs Victoria (GDV) embarked on a project to develop a prototype Peer Support Platform. Partnering with DXC Technology and Swinburne University of Technology, GDV set out to co-design and evaluate such a platform with the aim of improving access to information and increasing the independence, social connections and community participation of people with low vision and blindness.

This report presents an evaluation of the design processes and the outcomes for the prototype platform. Through the co-design and development process, GDV and DXC worked collaboratively with people with lived experience of low vision and blindness to find an effective digital solution that would address key social inclusion and information access needs.

This report details the design process, establishes key social inclusion and information access outcome targets and program logic, and assesses the resulting prototype platform against those targets and a user community survey designed to understand digital device use, information and social inclusion needs. It assesses the extent to which the prototype platform is likely to meet its information access and social inclusion objectives and its potential for further development nation-wide use.

Background

According to the National Eye Health Survey 2016, over 453,000 Australians live with low vision and blindness, with macular degeneration cited as the leading cause of blindness in non-indigenous Australians (71.42%) and cataract for Indigenous Australians.[2] As a state-based organisation, Guide Dogs Victoria (GDV) provides a wide range of services to Victorians experiencing low vision or blindness and currently has approximately 165 employees and 510 volunteers. Their mission is to "be the first-choice provider of services for people with blindness and low vision enabling a lifetime of independence."[3] GDV's services include adult and children's mobility services, training and provision of guide dogs, orthoptic low vision services, training and peer support. Services are open to Victorians of all ages, from newborn children to the elderly.

Introduction

In 2017, GDV experienced a significant increase in demand for their services and anticipate this growth to continue with the current ageing population.[4] An increase in demand, and the movement of many services and social communication processes online may have a significant impact on those with disabilities if accessibility is not addressed. This has led GDV and other health and disability support organisations to improve digital access and strengthen peer or community-based solutions.

Information relating to existing peer networks and local services and events is also often unreliable and dispersed; it may be available online, but not always in accessible formats. This can be challenging for people with low vision and blindness, especially those newly diagnosed.

We know that digital inclusion and social inclusion are intimately connected.[5] As societies move toward a situation of "digital by default",[6] where information, services and social interaction are increasingly accessed first or even primarily online, exclusion will be deepened if those channels are not made accessible for people with disabilities.

Findings from the Department of Social Services 2009 *SHUT OUT* report demonstrated significant levels of poor life satisfaction, social isolation, and depression in people with disability when compared to the general population.[7] Likewise, the Victorian Government's 2014 Senate Inquiry into Social Inclusion and Victorians with Disability noted the additional barriers to social inclusion faced by people with low vision and blindness.[8] Submissions to the Inquiry consistently emphasised a lack of accessible information and resources and poor access to relevant social opportunities as contributing to this dynamic.

A range of studies have consistently demonstrated the benefits of social relationships to the improvement of mental health and quality of life.[9] A recent systematic study showed that the presence of dynamic social relationships and the harnessing of information from these networks can have significant health and social inclusion outcomes and are particularly important for those who are most vulnerable, marginalised, and dependent on interpersonal and social support in their daily lives.[10]

Overcoming barriers to accessing information and communication and improving digital access to services and social connections have remained priorities for ensuring people with low vision and blindness are able to participate fully in society.[11] The prototype Peer Support Platform sought to address these issues by enabling members of this growing community to gain access to reliable and high-quality information and participate in events, activities and social gatherings.

The prototype platform was designed to align with the ILC goals (See Part 1) by providing access to people with low vision and blindness to up-to-date, relevant and quality information on social groups and opportunities. It was hoped that engagement with this platform will increase social inclusion for people with low vision and blindness by building their capability to:

/ **Connect with their communities** through increased participation in community organisation, local businesses and facilities

/ **Share information** about common interests, challenges, relevant opportunities, services and support

/ **Access social and leisure activities** of their choosing to increase feeling of belonging in the community

/ **Access information on existing support services** through the online platform and via peer referrals

Introduction

The concept developed through the co-design process resulted in a platform designed specifically for accessibility that gathered relevant information, and facilitated access to events, activities and group meetups.

About this report

Swinburne University of Technology, in partnership with DXC and GDV, were tasked with undertaking an evaluation of the prototype platform to assess whether it meets its objectives and hence has the capacity to be scaled and distributed for national use (see Appendix A, Partnership Roles).

This report is divided into four parts. Part 1 develops the program logic, information access and social inclusion outcomes, and key indicators in alignment with NDIA's ILC core goals. Part 2 assesses the extent to which human centred design (HCD) goals, co-design workshops and agile methodology shaped the prototype platform and contributed to achieving the project outcomes. Part 3 draws on a community survey to detail the social and digital needs of the low vision and blind community and assesses the extent to which the prototype platform may meet these needs. And the final part presents the overall findings of the evaluation.

Aims

The evaluation has been undertaken in two parts with the following aims and methods:

Aims	Methods
(a) Evaluation of the prototype design process: assess the processes involved in working with the low vision and blind community in the design, development, and testing of a prototype MVP platform.	/ Program logic development / Interviews of co-design participants and the design team
(b) Evaluation of the prototype: assess the extent to which the prototype has the potential to meet the social inclusion and access needs of users in relation to the Information, Linkages and Capacity Building (ILC) objectives.	/ User community survey / Platform analysis

Introduction

Research design

The research team was invited to attend stand-up meetings, a co-design workshop run-through, retrospective meetings, and planning meetings with DXC. Researchers also had access to reports and presentations developed by DXC highlighting key findings and outputs from each phase, as well as access to the prototype platform for further analysis. Further evidence was gathered from interviews conducted with stakeholders and co-design participants, all of which was considered against a user community survey, and platform analysis as discussed below.

All research activities were approved by the Swinburne Human Research Ethics Committee (SUHREC), project number 2018/415.

Evaluation of the design process

Interviews with key stakeholders

A total of eight individual interviews were conducted with four members of the design team and four co-design participants. All interviews were semi-structured and ran for approximately one hour. Project information statements and consent were given prior to all interviews, with accessible forms made available (e.g. in braille) for participants with low vision and blindness.

The design team. Members interviewed in this group were the DXC Project Lead, DXC Principal Consultant, DXC Graduate Consultant, and the GDV Product Owner. The interviews focused on four main topics, with the aim of gaining insights and understandings about the design processes, choices and decisions. Specific attention was paid to the application of HCD in the context of accessibility, key highlights and learnings gained, and challenges faced.

Co-design participants. Of the co-design participants interviewed, all were involved in a Discovery phase interview or workshop. Interviews were conducted at Swinburne University from the 1st to the 4th of April, 2019. Interviewees from this group have been attributed a pseudonym in line with ethics clearance obtained. The interviews focused on experiences of contributing to the design process with DXC and GDV, expectations about the design process, and understandings of their role as co-designers. Interviewees Jess and Alice participated in a group Alpha co-design workshop; Kylie participated in a one-on-one Alpha co-design workshop; and Mosa and Alice participated in user testing of the beta platform.

Evaluation of the prototype

User community survey

The survey was created in relation to the Program Logic, and hosted online using Qualtrics with accessibility testing for its use with the low vision and blind community. A community sample rather than a representative population sample was targeted so as to understand the overarching social and digital needs of people living with low vision and blindness living in and around Melbourne, Australia. The survey was electronically distributed to Guide Dogs Victoria's mailing list, and collected a total of 120 responses from the 15th of August to the 23rd of September, 2019.

The survey addressed three main themes – digital access and participation, social engagement and participation, and the need for a Peer Support Platform – to help assess the extent to which the platform has been designed to meet these needs, experiences and preferences.

Introduction

Platform analysis

Drawing on Elizabeth Ellcessor's evaluation framework for digital accessibility,[12] a member of the research team conducted an analysis of the extent to which the prototype is able to meet the needs of its intended users. This framework was weighed against findings from the discovery design process and user community survey to estimate the potential of the prototype platform to meet the social inclusion and information access outcome targets. As the platform was not openly trialled with the community, measures of success were presented as estimates of potential to meet outcomes. They can, however, be used to guide further planning and product development.

Part 1.
Establishing Social Inclusion and Access Outcomes

Digital technologies can offer solutions for many social problems including those related to disability, but they can also introduce new barriers and difficulties.

As information, services, social networks, activities and events are increasingly accessed online first, it is imperative that access is extended and shaped to meet the needs of all Australians, including those with low vision or blindness.

The goals and indicators of social inclusion correspond to those of digital inclusion.[13] Social inclusion has been defined by the Australian Social Inclusion Board (ASIB) (2009-2012) as the interaction between a person's 'resources, opportunities and capabilities':

/ **Resources** refer to the skills and assets people have (or various types of capital, including human, social and economic capital)

/ **Opportunities** refer to the environment (or structure) that enables individuals to use their capabilities and resources to achieve the outcomes they wish

/ **Capabilities** refer to an individual's ability (or agency) to use resources and opportunities to achieve the outcomes they wish[14]

Aligning closely with the NDIA's Information, Linkages and Capacity Building (ILC) core goals, social inclusion means having the opportunity to 'participate fully in the nation's economic and community life', where people are able to 'develop their own potential and be treated with dignity and respect'.[15] According to the ASIB's framework of social inclusion indicators, being socially included means a person has the resources, opportunities and capabilities to:

/ **Learn** (participate in education and training)

/ **Work** (participate in employment, unpaid or voluntary work including family and carer responsibilities)

/ **Engage** (connect with people, use local services and participate in local, cultural, civic and recreational activities)

/ **Have a voice** (influence decisions that affect them)[16]

Increasingly, these resources, opportunities and capabilities are facilitated by digital technologies and platforms. Hence, digital inclusion and exclusion are closely tied to social inclusion and exclusion. While many people with disability make active use of specialised assistive technologies, those with disability have been shown to experience lower digital inclusion than Australians as a whole.[17]

Part 1.Establishing Social Inclusion and Access Outcomes

To establish a framework for evaluating the success of the prototype Peer Support Platform, we draw on established indicators of social and digital inclusion as these align with the relevant Information, Linkages and Capacity goals and objectives established by the NDIA. There are two ILC goals:

/ **People with disability have the ability to achieve their goals**

/ **People with disability are included in all aspects of community life**

Alongside these two goals are four objectives. People with disability:

1. Participate and contribute to the community and protect their rights.

2. Use and benefit from the same mainstream services as everyone else

3. Participate in and benefit from the same community activities as everyone else

4. Actively contribute to leading, shaping and influencing their community

From these goals and objectives – as they align with notions of social inclusion – the project partners target outcomes to provide a longer-term roadmap for the development of the platform, and to guide evaluation through indicators of successful design and implementation.

Part 1.Establishing Social Inclusion and Access Outcomes

1.2. Nominating target outcomes

The Peer Support Platform evaluation focuses on the ILC objectives that align with social inclusion principles, assessing improvements or potential improvements to:

1. **Digital access** through improved mobile internet access, access to relevant information and relevant services.

2. **Engagement** through improved social connection, participation in events and activities, and increased access to relevant social groups.

Inputs, primary and secondary outputs are defined in Figure 1, along with the components of the target social inclusion outcomes.

If the core information access and social inclusion outcomes are met, the Peer Support Platform may also generate additional longer-term impacts. For instance, the platform may contribute to improving learning by enabling access to education and training events, facilitate paid or unpaid work opportunities, or encourage access to venues or social groups to have a voice and influence decisions. However, these are not the primary outcomes sought or tested through the prototype platform.

Improved digital access is a particularly important outcome of the Peer Support Platform, as standard online resources and services often generate additional access barriers for people with low vision and blindness, along with carers. Access, for instance to existing networks or to information needed to make decisions and choices, should not be defined in a binary sense as something that one has or does not have, but as a process relative to dynamic personal contexts.[18] As an outcome target, digital access can be measured through use of the platform to access information, the quality and usefulness of that information, as well as the access to services it can facilitate.

A Program Logic (Figure 1) was co-developed with project partners representing the platform development, inputs, outputs and desired outcomes. Voice was included as a desirable future outcome if more interactive and participatory features are included in further iterations of the platform. This may involve, for example, options for community members to interact through the platform or control content including event information and discussion. These were considered desirable components of the platform, but not included in the first phases of the prototype development for logistical and resourcing reasons.

Part 1.Establishing Social Inclusion and Access Outcomes
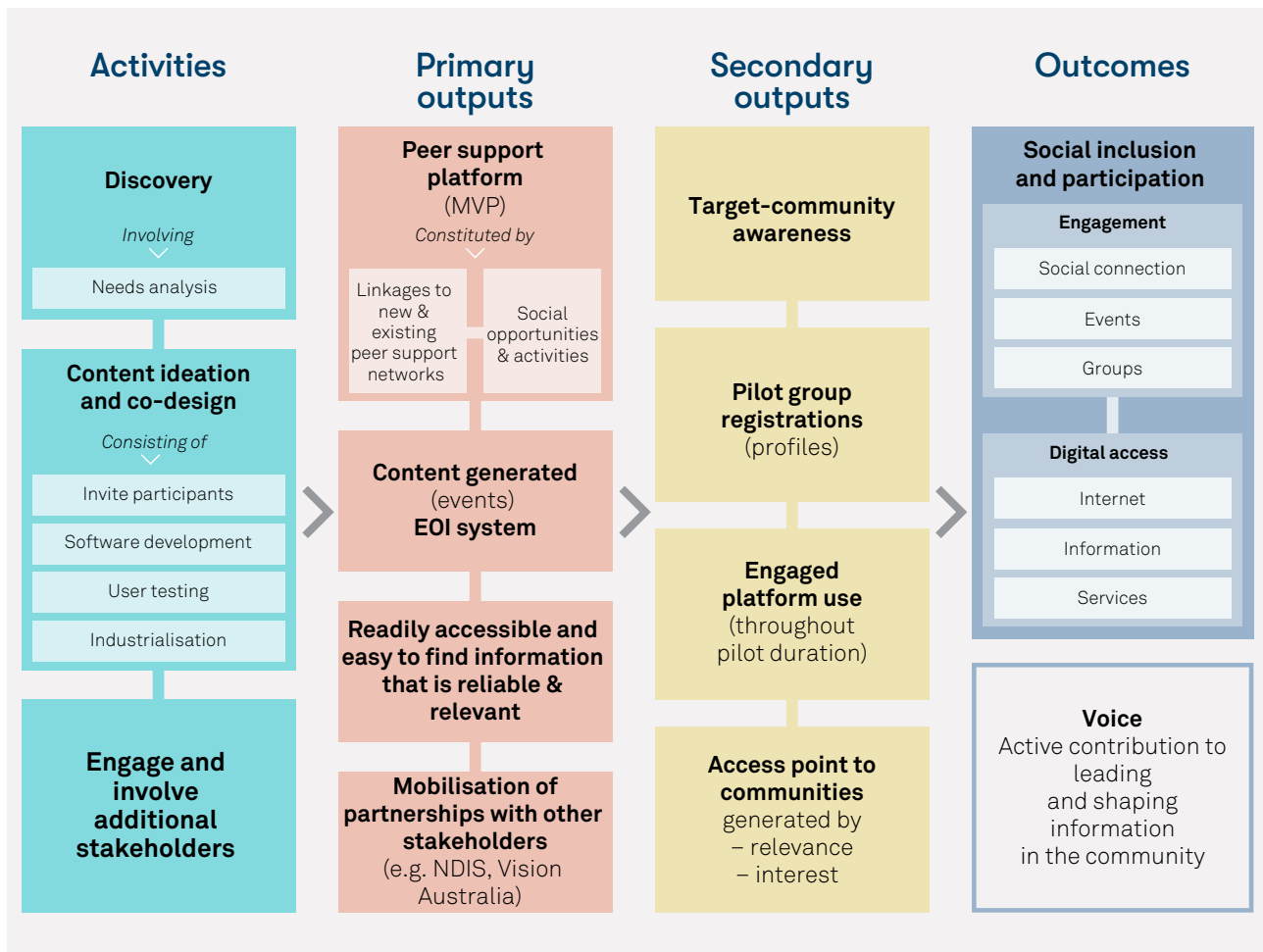
Figure 1. Program Logic, describing Activities, Primary and Secondary Outputs, and Target Outcomes for the Peer Support Platform.

Figure 1 caption: Key activities include the development of a Needs Analysis as part of the Discovery phase of the project, followed by content ideation and co-design which consists of invitations to participants, software development, user testing and industrialisation. The last key activity includes engaging and involving additional stakeholders to the project. Primary outputs will include the peer support platform prototype which will provide social opportunities and activities to help build links to new and existing peer support networks, an expressions of interest system, readily accessible and relevant information, as well as the mobilisation of partnerships with other services in the disability sector. Secondary outputs will include building community awareness, the piloting of group registrations, engaged platform use during the pilot phase, and the provision of access points to communities. Main outcomes include improvements to social inclusion and participation as measured by levels of social engagement via social connections made, events and groups, as well as digital access via the internet to information and services. Voice was included as a potential long-term outcome as well to represent the active contribution of users in leading and shaping information shared within the community.

Part 2.
Designing the Prototype Platform

> Designing new digital communication technologies from the bottom-up to achieve social inclusion and information access outcomes is an ambitious task.

Part 2 of the report describes and evaluates the design methods, principles and practices undertaken in the development of the prototype Peer Support Platform. It assesses the design process in the extent to which they contributed to achieving the social inclusion and information access goals. We focus on:

/ Design principles, methods and techniques

/ Timelines, collaboration tools and design activities

/ Experiences of the design team members and co-design participants

The **aim** of this part of the evaluation is to understand the value of using these processes to design and work with people living with low vision and blindness, and how this contributes to achieving and improving design outcomes, while identifying areas that may require further development.

To assess the extent to which the design process was able to meet its expected outcomes, two primary research questions were developed:

/ **Question 1**. How well was each phase of the project planned and undertaken?

/ **Question 2**. How well was each phase of the project implemented?

Evidence was drawn from researcher observations of activities involved during the design phase, assessment of formal reports and other documents collected from DXC and GDV, and interviews with design team members and co-design participants on their experiences.

The following sections detail the alignment as well as the discord between HCD principles, agile methods, activities, experiences of the design team and co-design participants and the social inclusion and information access targets in the development of the prototype platform.

Part 2. Designing the Prototype Platform

2.1. Achieving human centred design (HCD) with an agile methodology

Co-design refers to a set of design practices, increasingly popular in business and clinical settings that incorporate the unique knowledge and experiences of end users into the design process. The term co-design has been defined as "collective creativity as it is applied across the whole span of a design process",[19] and usually involves collaboration between designers, researchers, developers and the intended users themselves. Target users are often referred to as "experts" of their experiences whose knowledge is critical in informing the design of the final product.

Human centred design (HCD), also referred to as user centred design (UCD), is a form of co-design that is gaining popularity in service and software development currently. Current approaches to co-design and HCD vary and are often unique to the particular problem, context and target users they seek to help. The point of distinction between HCD and other design methodologies, however, is that it focuses design activities around the intended user of the product or service, and seeks to design *with* rather than simply *for* them.

The emphasis of HCD methodology, according to Elizabeth Sanders, is placed on developing understanding and empathy: "it is the belief that all people have something to offer to the design process and that they can be both articulate and creative when given appropriate tools with which to express themselves."[20] *Discovery* and *empathy* become key tools for the design process. Therefore, the activities and processes underlying this method are based on creativity; and for it to succeed, sufficient time must be available for establishing rapport and empathy.

Integration of HCD principles with agile methodology is gaining popularity in software engineering. Agile methodologies focus on four core values: (1) individuals and interactions over processes and tools; (2) working software over comprehensive documentation; (3) customer collaboration over contract negotiation; (4) responding to change over following a plan.[21]

While agile and HCD methods both emphasise the importance of user involvement and interaction, agile practices are based on the 'fail fast, learn fast' framework where practitioners are commonly given limited time frames to deliver fast outputs; in contrast, HCD places a focus on building empathy gradually over time. This was the case with the application of agile methods and HCD to developing the prototype platform.

Co-design participants were involved in a range of activities designed to help inform DXC and GDV on the purpose of the platform, and the accessibility and informational needs of people living with low vision and blindness in the community. The project was broken down into three main sequential stages – Discovery, Alpha, and Beta – with two planned sprints for each stage. A timeline of activities was drafted up (see Figure 2) that began from November 2018 with a planned conclusion date for 29th March 2019, however extension work was conducted which brought the project completion date to the 26th of April.

Part 2. Designing the Prototype Platform

12 Nov – 16 Nov	19 Nov – 5 Dec	6 Dec – 21 Dec	24 Dec – 4 Jan	7 Jan – 18 Jan	21 Jan – 1 Feb	4 Feb – 15 Feb	18 Feb – 1 Mar	4 Mar – 15 Mar	19 Mar – 23 Apr
Pre-Discovery	Discovery	Discovery	Xmas	Alpha	Alpha	Research	Beta	Beta	Research
Sprint 1	Sprint 2	Sprint 3		Sprint4	Sprint 5	2 weeks usability study	Sprint 6	Sprint 7	4 weeks usability study
5	13	12	Christmas Break	10	10		10	10	
	DTC Launch on 27 Nov								Easter Break

Figure 2. Project timeline and structure established during project planning.

Figure 2 caption: The Pre-Discover phase was planned to run from the 12th of November 2018 to the 16th of November. The Discovery phase was planned to include two sprints, running from the 19th to the 21st of December. The Christmas and New Year break was between the 24th of December to the 4th of January. The Alpha phase included two planned sprints, running from the 7th of January 2019 to the 1st of February. There was a planned two-week break between the 4th of February to the 15th for usability research. The Beta phase was planned to run from the 18th of February to the 15th of March, consisting of two sprints. The final phase of the project was for planned research, running for four weeks from the 19th of March to the 23rd of April.

Pre-Discovery. In consultation with GDV, it was found that DXC needed some training and additional preparation work prior to commencing interviews in the Discovery phase, resulting in an additional two-week Pre-Discovery phase. This involved training DXC staff in accessibility, the ins and outs of the NDIA framework, as well as a brief tour of GDV facilities and induction.

Discovery. This phase involved a series of one-on-one interviews with participants with the objective of understanding the lived experiences of people with low vision and blindness, and the challenges faced when accessing information, connecting to services, peers, and the community. The main outcome of this phase was to have a defined problem statement, developed hypotheses, and personas to guide the subsequent Alpha and Beta phases.

Alpha. Ideation and co-design workshops with low vision and blind participants and other key stakeholders (e.g. staff from GDV) were conducted to inform the platform principles such as content and moderation, profile and personal information needed, methods of access to the platform, and accessibility features. Two types of workshops were held: internal ideation workshops (with stakeholders) and co-design workshops with low vision and blind participants.

Some participants were involved in one-on-one co-design workshops to cater for their accessibility needs and level of vision loss. Workshops focused on three fictional personas and two scenarios per persona. The first scenario looked at gaining information, and the second was looking at connecting with others in the low vision and blind community. Further information on personas will be discussed below.

Beta. The main focus of this phase was in building and developing the minimum viable product (MVP) of the platform (we refer to this as the prototype platform) and included a series of user-testing and co-design workshops. Other activities include defining the technology involved (e.g. cloud services to host the platform), security, scaling, and visual design.

A roadmap of items that were deemed out-of-scope of the project was developed, as well as a hypothesis tracking report detailing all ideas generated by team members, co-design participants and other stakeholders that were tested, validated or debunked.

Part 2. Designing the Prototype Platform

2.2. Tracking, testing and making progress

A combination of materials and digital tools were used by the design team to aid record keeping, communication and collaboration. Post-it notes, markers, whiteboards and posters were commonly used to help the team generate and test a series of ideas and findings drawn from their research and interviews with co-design participants. These were then digitised and shared online using platforms such as Microsoft Teams, while other platforms such as Slack, Trello and Airtable were used as informal forms of communication and project management.

Synthesising ideas and insights gained from Discovery interviews into coherent and testable hypotheses were reported by the team as a challenging process. This reflected the degree of complexity of the problem, and how there is no 'one size fix all' approach. This also highlights the need for more time to digest and process insights gained from interviewing low vision and blind participants, which is commonly advocated by HCD practitioners.

For this project, a key challenge was the breadth of its initial goals, and it was difficult to define what problem areas and pain points experienced by the low vision and blind community to focus on. After some time, the team managed to narrow the scope of the issue and developed three main problem statements to focus on:

How might we enable people who have adapted to low vision or blindness become advocates for others?

/ How might we support independence for people who have recently been diagnosed with low vision or blindness so they can achieve 'an ordinary life'?

/ How might we provide more assurance to people supporting a family member with low vision or blindness so that they know they are making the best choices for them?

Fictional personas representing each problem statement were created and used for ideation and co-design workshops where participants were asked to come up with solutions in relation to each problem statement.

Hypothesis tracking became the primary means for moving from discovery to prototype development. Hypotheses were collated and shared on Airtable where members of the team could contribute evidence and other findings overtime (See Figure 3). The hypothesis tracking tool allowed the team to determine what would be within and out of scope for the platform, and to visually account for features of the platform that could be further developed if additional resources were made available.

Features that were not included in the prototype were then collated into a Platform Roadmap report for potential further development at the conclusion of this project. The use of the hypothesis tracking tool, however, was introduced later during the Alpha/ Beta phases of the project by a service designer who joined the design team at this time, and therefore required some time to develop. In future projects, use of this tool should be introduced at the beginning of the design phase to facilitate in keeping track of ideas generated during the course of the project.

Part 2. Designing the Prototype Platform

	Hypothesis	Stage Colle...	Where did this come from?	Who is involved?	Phase	Context
1	Visually impaired or blind p...	Pre Discovery	1:1 Interviews / Product Owner	Low Vision / Carer / G	Support	Creating a peer-to-peer platfor...
2	Low vision or blind people ...	Discovery	1:1 Interviews / Product Owner	Low Vision	Support / Day	People over 50 may use the pla...
3	1 Low vision or blind people ...	Discovery	1:1 Interviews	Low Vision / Services	Adapting	People aged 65+ have unique ...
4	Carers for the visually impa...	Pre Discovery	1:1 Interviews	Carer	Support / Disc	
5	People with low vision or bl...	Project Framing	Guide Dogs Victoria / DXC	Low Vision / Blind	Support / Disc	Underlying Vision statement b...
6	People with low vision or bl...	Project Framing	Guide Dogs Victoria / DXC	Low Vision / Blind / Co	Reflection / Su	Underlying Vision statement b...
7						
8	TECH:					
9	End users do not engage w...	Pre Discovery	1:1 Interviews			The issue cited was with apps a...
10	End users require accessibl...	Pre Discovery	Product Owner	Low Vision / Blind / Ca	Discovery / Ad	End user require an online plat...
11	End users require a peer su...					
12	End users require automat...	Pre Discovery	Guide Dogs Victoria	Low Vision / Blind / Ca	Discovery / Ad	
13	End users prefer a peer sup...	Pre Discovery		Low Vision / Blind / Ca	Discovery / Ad	
14	1 End users want the peer su...	Pre Discovery	Guide Dogs Victoria	Low Vision / Blind / Ca	Discovery / Ad	Would end users engage with ...
15	End users prefer using web...	Pre Discovery	1:1 Interviews	Low Vision / Blind / Ca		
16	1 If the peer support platfor...	Pre Discovery	1:1 Interviews	DXC	Adapting	
17	1 End users want to be able t...	Discovery	1:1 Interviews	DXC	Adapting	
114 records						

Figure 3. Screenshot of the Hypothesis Tracking tool layout shared between all design team members.

Figure 3 caption: The tool included a column for the stated hypothesis, followed by the stage (for example, Beta, Alpha, and so on) that it was collected from, the source of which the hypothesis came from, who was involved in stating the hypothesis, followed by a few other columns that included more information.

These techniques and tools were successful in keeping the design team on track and focused on the social inclusion and information access goals for the prototype platform. However, adhering to the limited timeline established during the initial phases of the project was found to be a significant challenge. Complications emerged such as a pause of all activities over the Christmas and New Year period. Delays to on-boarding some team members and availability at key times (including the input and work of software developers), led to timeline extensions.

Tensions in applying HCD and agile. The design team noted that while combining HCD and agile may appear counterintuitive (as agile focuses on rapid building, whereas HCD focuses on building empathy gradually over time), there was consensus that HCD and agile go hand-in-hand, and that one could not work without the other.

> *"...you can't do agile straightaway, all the way, without doing HCD, because agile's very much like, it's flexible but at the same time, in my opinion, it doesn't really account for real people, where in HCD, where you're dealing with people, you need to put them at the centre."*
> (Graduate consultant, DXC).

Part 2. Designing the Prototype Platform

They reported that adopting this hybrid approach allowed them to work collaboratively as a multidisciplinary team. There was a shared perception that while HCD was the main framework adopted for this project, agile was applied in parallel to manage the limited time frame and budget, allowing the team to "do our jobs".

Agile practices – such as face-to-face and other informal modes of communication – were used and preferred, and were understood to improve efficiency. Other practices were used to ensure that the team was on track, and to identify areas of improvement and manage risk, including: daily 15-minute stand-ups, regular "retrospective" sessions at the end of each sprint, sprint planning meetings, and steering committee meetings.

Of note, one finding from a retrospective session was that while informal meetings or daily stand-ups were designed to be short, there was a need for longer and formal collaborative meetings, as short meetings ran longer than expected anyway.

Having the right team at the right time. The success of using this hybrid framework was also dependent on having a team with an open mindset, good collaboration and willingness to learn. When compared to traditional waterfall methods commonly used in software development,[22] for the DXC Principal Consultant, agile was more about having one member "who's leading [and] is very much enabling other people to do their job rather than telling them what to do". It was important that all team members were flexible and open to change given the context that they were working in.

> *"You're working with an evolving landscape and so you evolve and learn."*
> (Principal consultant, DXC).

The importance of the GDV product owner and their significant involvement with the team were also raised by team members as fundamental to the success of the project. All DXC members reported that while it is common for the product owner to have minimal involvement during the design and development phases, having the GDV product owner present on a full-time basis at DXC was greatly appreciated and much needed.

The GDV product owner acted as a coordinator for recruitment, fostered communication with participants and stakeholders, and helped the team ensure that the physical environment was also accessible to the low vision and blind community. Therefore, while not common practice in agile, having a highly engaged and involved product owner present was needed given that the topic area was quite unique.

> *"It was important for Guide Dogs that the product owners should be closely involved in the project because we were working with something that was quite niche."*
> (Product owner, GDV).

The limited availability of software developers at the beginning of the project was reported as a significant roadblock. Members of the design team noted that, ideally, software developers would have been introduced into the project at an earlier stage so that they would: (1) have a stronger understanding of the context and goals of the project; (2) be able to find and establish earlier in the project on what tools and resources that they would need to build the MVP; (3) have more time for the build and testing phase of the MVP.

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Co-location enhances relationships and activities. Being able to co-locate in an open space on a single site was also another reported factor in facilitating communication and collaboration, and is common practice in agile approaches to development. At the same time, having a small quiet space for individual work was also reported as beneficial, especially when the open space was being used to run workshops with participants.

> *"So, that's very much part of doing things in an agile way, so fundamental view, you've got small multidisciplinary teams who are working in a collaborative manner. So, co-location is another key factor, all in the same room. If you can achieve that, fantastic."*
> (Principal consultant, DXC)

The importance of co-location was brought to light at a point of the project where the developers had to work offsite due to constraints in resources, and during this period, the team experienced challenges in communication and realigning as a team. However, this was unavoidable as they were unable to find the appropriate resources to keep the developers working on the same site at Swinburne University.

2.3. Addressing uncertainty through co-design methods

Addressing the needs of low vision and blindness required a human centred approach and this was understood by the design team to be fundamental. There was an awareness in DXC and GDV that information access remains a barrier for many people living with disability despite attempts by other organisations to develop digital products to address this need. This was consistent with accounts from co-design participants, with many reporting the need for an accessible "information hub" to support the low vision and blind community, one with trusted information and various links to services and peer support opportunities.

> *"Accessibility of information is probably the biggest barrier for people to participate in life in the universe. Access to information is a primary issue across all disability sectors partly because there's an inconsistency of information, partly because it's inaccessible... Provision of information is absolutely required. I think the social interaction is a potential by-product. I don't think it should be the primary goal"*
> (Kylie, co-design participant)

GDV were curious to understand why so many previously have failed, and strongly believed that co-design would enable them to understand why. However, both GDV and DXC were unsure what form the solution would take but there was consensus that adopting a co-design framework was accepted without question.

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"...when we started the project we didn't know what the end solution was going to be. So we needed to be able to be flexible and adaptive, to be able to gather the insights and then determine what the next best course of action was."
(Product Owner, GDV)

Learning about accessibility. There was general consensus that HCD was about "putting the user first". This meant that it was important for all team members to have a grounded understanding of what it is like to live with low vision or blindness, and that life as a sighted individual is markedly different.

"...no one had low vision, no one was blind...we can only try and understand and try and empathise what life is like for these people, and we can't, we can't, essentially we can't..."
(Graduate consultant, DXC)

To facilitate this, most of the DXC design team, although not the software developers, were taken through an induction process by GDV so that a baseline level of empathy and understanding could be developed prior to their interviews with participants living with low vision and blindness. This includes learning about language use in the disability sector, the type of services available, an introduction to the pain points experienced by people living with disability, as well as a simulated experience where DXC staff had to learn how to navigate in an unfamiliar environment while in the dark.

"So the whole project team went through that experience and they said, basically what you imagine, is that it's eye opening, it's life changing, it sort of puts you in the shoes of people that you're designing with and helps you to understand sort of their world."
(Product owner, GDV).

Although the team had to include an additional sprint to accommodate for this training, it played a significant role in preparing DXC staff for the following planned interviews and workshops, and facilitated in helping the team be more aware of the accessibility adjustments they would need to make prior to each session with participants. Learning how to adapt HCD activities for participants with low vision and blindness was understood as a significant milestone and learning curve for DXC.

"There's a lot that can happen when you get a sighted person to sit down in a sort of discussion environment with a person without sight, and it's around sort of paralysis and saying I don't know what language to use, I might accidentally say something insensitive, that kind of stuff, which just had to be removed from the room because it would create a barrier between the interviewer and the interviewee."
(Product owner, GDV).

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Using accessible co-design activities.
Traditionally, co-design workshops involve deliberately visual activities in order to improve access to non-design trained participants (e.g. scribbling on post-its, drawing diagrams and user journeys). However, to accommodate the accessibility needs of participants with low vision and blindness, the team had to think "outside the box".

After consulting and planning with a contracted service designer with experience working in disability, as well as the training DXC received during Pre-Discovery, the team were able to meet the accessibility needs of participants by adjusting the spatial arrangements in the room (i.e., ensuring that furniture was in fixed positions), adjusting lighting, and ensuring that all activities were tactile and verbal based (e.g. verbalising instructions slowly and clearly as opposed to relying on Power Point slides, images and diagrams). All activities were rehearsed and pre-tested.

"I guess there was a lot of things that we learned to accommodate such as the lighting of the room and the blinds, the furniture being in fixed positions, which I guess, that's the beauty of the space [we had], being able to morph into this accommodating accessible environment for low vision and blindness."
(Graduate consultant, DXC)

Discovery through verbal and tactile activities was singled out by some in the interviews as being highly effective in helping the group to get to know each other's personalities in an accessible and creative way, and in a way that highlighted the different perspectives of others.

"...because we were divided into groups after that and everybody had to keep their tactile item with them so because I have well, a good amount of functional vision I could see oh, you were the girl with the pink ribbon and you did that. So for me it didn't feel like I was just sitting with a bunch of strangers, I think that opening gave me a bit of a reference point and having those items with you the whole time was a good reflection and kind of connecting dots and things, because I couldn't see who was on the other side of the table but once you've described that item and you sat down next to me I was like oh, you were that girl."
(Alice, co-design participant)

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Adapting to the needs of participants. The inclusion of accessible activities was reported as a success by co-design participants. They reported that attention to their accessibility needs were met and helped them feel included and comfortable throughout the co-design process.

Notably, transportation to and from the venue was handled with particular care, with the GDV product owner guiding participants with instructions for public transport routes, and meeting them at the station to help navigate the unfamiliar university campus. This process itself led to many "informal" insights along the way with chat between design team members and participants about their mobility needs and experiences, and potential to link with other people in the low vision and blind community.

Consent forms were made accessible to screen readers, and hardcopy forms were available in size 16 font for readability, with braille versions of forms available as well. The presence of a GDV staff member at all interviews and workshops also ensured that accessibility needs were accommodated for, and that participants felt comfortable and safe to share their own experiences.

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2.4. Including the voices of people with low vision and blindness in co-design

The evolving role of co-design participants. Participants understood their co-design role as an extension of their personal experience of living with low vision or blindness, or as fitting with their professional role or experiences. Overall, the interviewees described their role as "consultants" rather than "collaborators", or co-designers as such.

> *"Part of my work is very much involved in design processes and those sorts of things, so it's all very familiar to me. So I offered to help as and when I could, even though I'm working full time"*
> (Kylie, co-design participant)

Despite the overlaps with professional roles (e.g. one participant works at GDV, while another worked in product design and accessibility quality assurance), participants did not feel that they gained new insights that contributed to their own personal and professional development.

> *"No, I just sit there and talk and give my opinion. I'm not really having any epiphanies."*
> (Kylie, co-design participant)

Rather, they emphasised that they were able to contribute through their expertise and role as advocates and consultants, as opposed to "co-designers". Each did, however, reflect on how those experiences could contribute to the design process.

> *"I was providing I guess a different perspective, and yeah, just the way I do things"*
> (Alice, co-design participant)

One participant did explain that he could apply his user testing experience from the project to his current employment, but saw his extensive experience as a resource to aid the platform design.

> *"So, I think it really challenges me and really, it gave me a chance to draw on about 18 years of accumulated knowledge about computers because it is that graphical interface and you're not using a mouse"*
> (Mosa, co-design participant)

In other words, each felt that their participation was already part of what they do as advocates and experts in accessibility; therefore, while they did not report learning anything new, they felt that they were doing meaningful work in trying to help others with low vision and blindness in the community via their involvement with the project.

> *"...I found it really beneficial. I walked out feeling like it was getting somewhere..."*
> (Jess, co-design participant)

Kylie emphasised that after her involvement in the platform design she would have loved to do more advocacy and educational work with the designers, and would have *"liked to have done it the other way `round and actually taken some of what I know into their process a little more"* (Kylie). She could see great potential in a role that advised technology and design companies about the lived experiences of low vision and blindness. This could be seen as itself a positive outcome of the project for the co-design participants.

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Shared expertise. For the design team, participatory design was described as "participation with a purpose, where participation is an outcome in itself" (Product owner, GDV). There were several implications for this perspective. Aligning with the co-design participants' perspectives on their roles detailed above, the design team shifted terminology throughout the work, initially using the term Lived Experience Consultants (LECs) to refer to co-design participants, and later referring to them as Subject Matter Experts (SME). The shift in language reflected a growing acknowledgement of the co-design participants' role in the design process, and their particular expertise.

The GDV product owner saw the relationship between the design team and co-design participants (SMEs) as a two-way process whereby the participants engaged are learning and networking from being involved in the project, while at the same time "training" the design team. For instance, an SME would educate and train staff on the use of a piece of adaptive technology and the context of information sources currently available to someone with low vision and blindness; information which a sighted person would not know how to access.

> "[SMEs] had this knowledge which we didn't have as sighted people, and so that they genuinely had the power in the room."
> (Product owner, GDV)

Through this relationship, decisions were made about the use of artificial intelligence features such as SIRI and Google Home. There was a belief shared by GDV and their stakeholders that users would find technologies such as SIRI useful. However, all co-design participants reported a general dislike for voice-based technologies, citing that they already had similar technologies available to them and that they prefer face-to-face contact.

Similarly, a preference for desktop and tablet-based software products was expressed among the co-design participants, debunking the team's hypothesis that users would prefer mobile based apps. However, as we discuss further in Part 3, our user community survey confirmed that most respondents prefer the use of mobile phones.

Providing a safe space for open discussion of personal experiences. Group workshops provided a safe and open environment for participants with low vision and blindness to not only voice their frustrations with navigating the sighted world, but to also share and have their own experiences validated by people who share those experiences. Group workshops also provided the space for a discussion on platform governance questions (e.g. should sighted users be allowed on the platform) and facilitated collaborative interactions with participants bouncing ideas off one another. For example:

> "I remember saying, 'Could you add things to that.' Like how to find grass areas, and things like that. So we were giving feedback like that"
> (Jess, co-design participant)

Part 2. Designing the Prototype Platform

In contrast, one-on-one workshops allowed the team to draw further on the expertise of co-design participants and gave the design team a chance to learn about how they used adaptive technology to navigate the sighted online world. Individual workshops were also tailored to the individual co-design participant in terms of their accessibility needs (e.g. having low lighting, quiet spaces to work in) and their availability.

Feeling valued, heard and included. Co-design participants felt that their input and expertise had an impact on the design process and the end product. One participant felt like she was really "included" in the whole process as though she was part of the team – she was involved from the Discovery through to the Beta phase of the prototype platform, and received regular updates throughout:

> *"...think that sitting down with someone back and forth, let's try this, let's do this, let's see how this works, I think that was really cool and it made me feel really included. That was an amazing day. But they kind of made me feel like part of the team as well when they were discussing options and working through things. I was like oh, I'm kind of following on, you know, IPs and what not, I don't know what that means, but I was there and if I had any questions I could ask"* (Alice, co-designer)

All understood the value of their involvement and expressed this in terms of their enjoyment and their inclusion in key aspects of the design process. One participant felt inspired by the work being conducted and wished other organisations would do the same. They each felt recognised and had their voices heard:

> *"...there was some sort of continuity that implied that I wasn't just a voice or I wasn't just a number in their system...so it did feel like a worthy contribution"* (Kylie, co-design participant)

As a result of this level of inclusion in the design process, participants felt that their contributions were meaningful to the platform's overall purpose and design. Despite working or studying full time, all participants were happy to set time aside to be involved whenever they could, knowing that working with GDV and DXC in building the platform would be meaningful and much needed in their communities. In doing so, they felt heard and acknowledged, that their inputs were taken on board.

Forming social connections through participation. As well as contributing to the discovery process, linkages and friendships were organically formed between participants during and after attending a group workshop which was an unintended outcome. The duration of the co-design workshops had to be extended by organisers to give participants the opportunity to connect with one another, but to also have enough time to voice their concerns and needs as they had a lot to share and were eager to provide as much information as they could in a peer to peer setting.

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"The other thing that happened which surprised us was the extent to which in group conversations we would ask a probing question and then we wouldn't be able to get another word in for about 15 minutes."
(Product owner, GDV).

Witnessing these linkages form however not only empowered the design team, but also demonstrated the power of bringing people with shared goals together. The feedback received from participants, the stories gathered from interviews, and linkages formed therefore had a positive reinforcing effect in inspiring the design team.

> *"I think a lot of people got quite invested; the project team I mean got quite invested in this particular project because they knew that whatever they were doing was ultimately going to make an impact on the community of people with low vision blindness."*
> (DXC Project Manager)

Continuity in the co-design participants' involvement must be ensured. From the initial Discovery phase right through to user testing, co-design participants reported that consistent involvement throughout each phase could be an area for further improvement. While each of the participants said they had no explicit expectations about their involvement in the design process, there were some discrepancies in what they understood their role to be afterwards. Only one was able to witness the extent to which outputs gathered from workshops at all stages contributed to the prototype platform itself at the time our interviews were conducted.

Some co-design participants desired more ongoing involvement and updates. For example, Jess and Alice assumed that they would be contacted with updates about the process of the project and how their feedback was implemented into the MVP, however they were unaware and did not hear back following their attendance at each workshop. Three participations expressed desire to be more involved and engaged in the process – to be receiving regular updates on which stage of the design process the project was in.

Co-design must be adequately resourced. HCD methodologies for a vulnerable user group such as the low vision and blind community require significant resourcing and capacity. This was evident from interviews with the design team, with reports saying that the discovery aspect of the project never ended, and that they accumulated significant learnings from working with co-design participants; however, the time taken to actualise these learnings was significant, consequently leaving little space for the developers to build and translate user wants and needs into action. In other words, building an understanding of the complex needs of the low vision and blind required significantly more time than expected, time which according to agile methodology, did not accommodate and was therefore not sustainable.

Part 3.
The Peer Support Platform Prototype

In order to assess the extent to which the current prototype may be able to meet the various needs of people living with low vision and blindness, we sought to first develop a grounded understanding of what these needs were in the broader community, and collected quantitative data (in addition to previous qualitative interviews discussed in Part 2) to help us answer the following research questions:

Question 3. How functional, user-ready and scalable is the prototype platform?

Question 4. How well aligned is the prototype platform with the desired outcomes established in the program logic?

Question 5. How well does the platform address the needs of the target population?

Measures of success were considered in relation to the potential for the prototype platform to achieve the primary social inclusion and information access outcomes. Therefore, in this phase of the project we sought to not only validate findings from the interviews with participants of the design process, but also to gain a broader contextual understanding of the low vision and blind community by reaching out to a wider network of community members and in that way allowing their voices to be heard.

This phase of the research consisted of a) an "access" analysis of the platform's features and b) results of the user community survey establishing key information, accessibility and social inclusion requirements for the vision impaired and blind community.

Part 3. The Peer Support Platform Prototype

3.1. What was built? About the prototype platform

The Peer Support Platform is an online portal designed to collate information and events in an accessible format for people with low vision and blindness and enable members to find and sign up to events, activities and groups relevant to them. The prototype platform was designed for desktop or tablet browsers and optimised for smartphone browsers.

Registration is required however minimal personal information is needed to sign up. Access to the content on the platform is available only for registered (and verified)[23] users. Registration is simple and requires a new user to provide: their first and the last name, a username of choice, preferred email address and a password. After submitting registration requests, new users are sent a confirmation email and are able to access and use the platform immediately.

The welcome page of the prototype platform is a white page featuring GDV logo and "I love NDIS" badge prompting user to either login or register a new account. The platform is designed with white and yellow colours as the default setting, with black and purple font colours as the contrast design changeable through the preferences section (see Appendix C for the Platforms' About description).
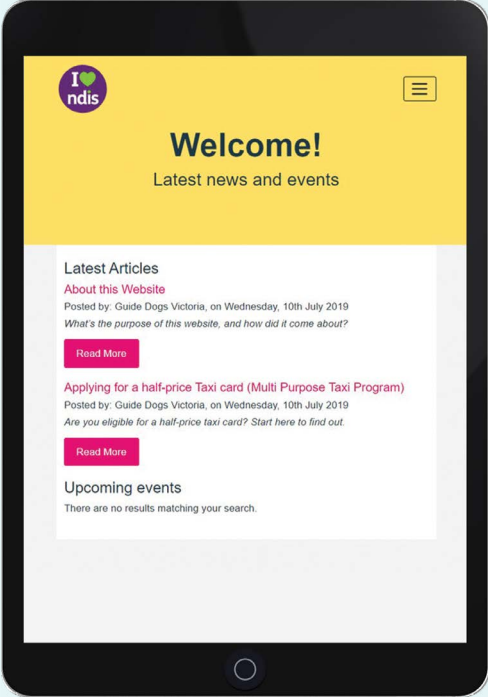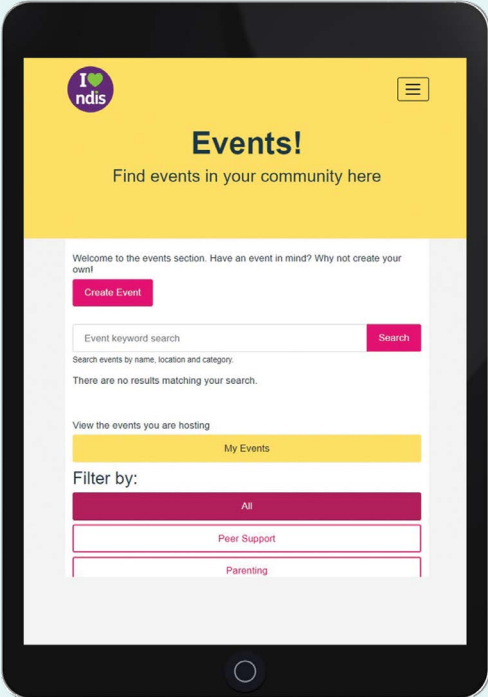
On the landing page users are presented with a list of latest articles sorted chronologically. On the top of the page is linearly organised navigation menu, divided into seven sections including **Home**, **Events**, **Ideas**, **Library**, **My Account, Preferences** and **Contact Us**.

While the design team considered including a peer-to-peer discussion feature, this feature was not pursued for the prototype due to the cost and resourcing implications.

In its current form, the platform allows users to contribute by: **Create Event**, **Create Idea** and **Get in Touch** with GDV through an online form. This interaction is moderated by GDV staff, and suggested content is published only after approval by a GDV administrator. While this approach ensures control over the appropriateness of the content being published, (e.g. filters out spam or other inappropriate content) it also introduces a layer of governance and limits users' agency.

Part 3. The Peer Support Platform Prototype

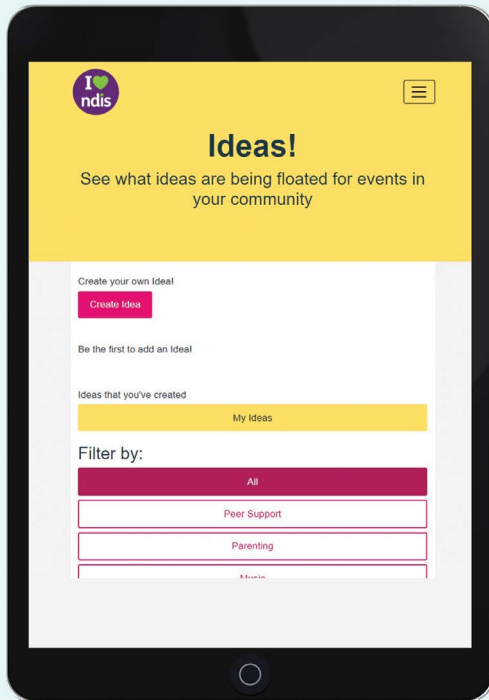**Table 1: Summary of main features of the Peer Support Platform.**

Section	*Description and purpose*
Welcome! Latest news and events	Welcome! Latest news and events features the latest articles and upcoming events ordered chronologically.
	At the bottom of the Home page, there are options allowing users to get in touch with GDV via email and phone.
Events	"The Events page of this website is a space to promote established activities that are already scheduled. This is the place to view and create information for others to connect with your existing networks and events!"
	This section allows members to create a new event (published only after GDV's administrator approval), RVSP to events, and search events by chosen keywords. In this section members can also access a "My events" tab, and also a "Attending" tab which features list of events to which user has been RSVP'd.

Part 3. The Peer Support Platform Prototype
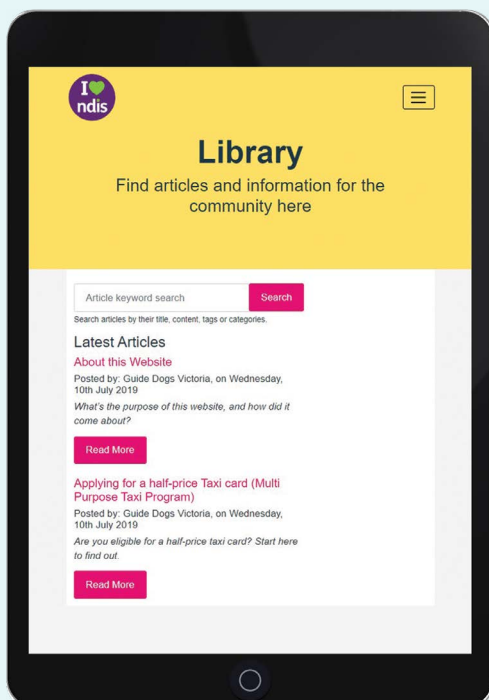
Section	*Description and purpose*
Ideas	"The Ideas page of this website is a space to float ideas out to the community about potential activities that you want to organise. Nothing in the Ideas section is set in stone; it's simply a place where you can initiate, or express interest in, Ideas about possible future activities. If there's enough interest in an Idea, we encourage you to turn that Idea into a reality! Service Providers and Community Organisations can also float Ideas about potential events or activities that they are considering offering. Let them know if you're interested in their suggestions, and they'll be far more encouraged to make those Ideas a reality."
Library	"The Library section of this website is a space where we'll publish high quality information to answer some of the most pressing questions that many people have about blindness and low vision. What are my entitlements? How do I access funded supports? How can I offer peer support in the most effective ways possible? Content will be regularly published here from Service Providers, advocacy organisations, peer groups, and individuals with a range of lived experience and expertise."

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Section	*Description and purpose*
Preferences	"Preferences: Alter your accessibility settings" Users can change the contrast of the page and font size. This section provides a step by step guide to adjusting accessibility settings for most commonly used internet browsers (including Internet Explorer, Safari, Google Chrome, and Firefox). Guidelines also cover instructions for accessibility settings adjustments across different operating systems. "**Toggle contrast**" switches between default page colours and black background with white font. "**Increase Font Size**" and "**Decrease Font Size**" increase and decrease font sizes of the text shown across the platform. "**Reset Font Size**" resets settings to default colours and font size (16px).
My Account	My Account allows members to access and update their personal information provided during the registration, except provided email addresses. Personal information stored as part of the user's account include email, first name, last name, nickname/display name, and date of birth.
Contact us	Contact us allows members to directly contact GDV via email or telephone number and provide feedback or ask questions. Although not yet implemented, the platform assumes there will be a contact form, which should make getting in touch with GDV easier and more accessible to people with low vision and blindness.

Part 3. The Peer Support Platform Prototype

3.1.2. Designing for access and inclusion

Our assessment of the features chosen for inclusion in the platform design examines their potential to meet the outcome targets – to improve access to relevant information, and to improve social inclusion by extending social connections and inclusion through events and access to social groups.

To evaluate the accessibility of the features, we draw on the "access kit" framework developed by Elizabeth Ellcessor[24] before considering the platform's features and potential use against the needs analysis resulting from the community survey and weighing each against the intentions of the design process.

Ellcessor's (2016) accessibility framework identifies five distinct categories of relevance to the platform's accessible and inclusive usability: ***regulation, form, content, use and experience***. By questioning and examining each these aspects of the platform, the framework guides researchers' attention to those dynamics that affect accessibility and inclusion through the platform's design.

Given that the platform is currently in the prototype stage and not available to the general public, we did not evaluate use and experience directly. These were considered in relation to the user community survey's needs and preferences.

Regulation. The regulatory structures of the platform are those elements and dynamics that determine who uses it, in what ways, and who manages, moderates and modifies the platform. Use and control of the platform can be flat, or peer-to-peer oriented, or hierarchical and centrally controlled. Terms of Service information, along with decisions about who can add or remove content have an impact on the agency and input allowed by users and others. Discussion forums, for example, allow members to post topics, reply and sometimes rate or block others. Like the information gathered through registration, or the data collected, these aspects of a platform were established through technical choices, as well as through the interpersonal and organisational dynamics. Several core aspects of regulation were built into the prototype platform:

/ Membership targets people with low vision and blindness, but also allows sighted supporters and carers. Membership requires registration, with email verification and approval by a GDV administrator.

/ Content management is undertaken centrally by GDV staff as the platform owners, but in future may be generated in collaboration with partner organisations. Users can provide feedback about the currency or other issues with information content provided.

/ User generated content is published only after GDV administrator's approval.

/ Members can add ideas through an Expression of Interest (EOI) feature, and these are moderated by administrators before appearing.

Part 3. The Peer Support Platform Prototype

Form. The form of digital technologies refers to the material and technical elements that carry or house the platform. While use identifies actual and intended modes of engagement with the medium, the form provides the mechanism, device and layout that allow that engagement. Several elements define the form of the prototype platform:

/ The interface is via a web browser, optimised for both desktop and tablet or smartphone devices.

/ Two formats are offered, one coloured and the other providing strong white on black contrast for vision enhancement. All content is readable by screen readers with inaccessible dropdown menus avoided.

/ Customisation to individual needs is possible through the preferences feature, including changing the contrast, increasing or decreasing font size.

/ Information is presented via text, links and images, with no other video graphic content.

Content. A platform's content is the communicative and cultural components of the platform, or *what* users' access and in most cases is also a *motivation* for access. It can be user-generated or generated by platform owners solely or in collaboration with other content providers.

/ Information is presented in searchable article format, targeted to people with low vision and blindness, and in particular those with a new diagnosis. External links and articles are provided relevant to the user base, such as the NDIS, or information on how to apply for a Vision Impaired Travel Pass for instance.

/ The home screen is dedicated to recent news and information items, suggesting regular updates.

/ A searchable library is provided as a feature and is also curated thematically.

/ Events are presented as the second main form of content and are set out in standardised formats.

/ An Ideas space invites input about gatherings, activities and events, and these are generated by the member community.

Use. Any device, platform or program presents intended uses, and these can be explicitly conveyed or implied. The anticipated forms of use do not always match with actual uses, and the more complicated the features of a platform, the more likely many intended uses do not occur. Several key elements of the intended use of the prototype are made explicit, and others implied:

/ Members are invited to use the platform to access information relevant to people with low vision and blindness, especially those who have a new diagnosis.

/ Users can contribute by adding events and ideas, as well as by providing an RSVP to existing events.

/ Users cannot interact with each other through the platform but are enabled to do so by joining and attending events and activities with others.

Part 3. The Peer Support Platform Prototype

Overall, the prototype achieves its primary goals. It functions as an online platform that collates information, connects members with events, and provides a space for members to generate ideas and make their own contributions in an accessible way. By design, the platform is simple and minimal but has scope for further development.

In its current state, it enables users to easily navigate through its features and has the infrastructure available for service providers to populate relevant content that is reliable and easy to read. While the prototype is desktop based, it is still accessible via mobile devices which was reported as the preferred tool by survey respondents to access the internet (see section 3.2.2.).

Safety and governance were met to an extent, with access available only to registered and approved users, and content curation and approval made by GDV moderators. Further development would require an active effort to respond to risks of spam and/or online harassment which is common in all online-based social platforms, in addition to the implementation of other features (as reported in the product roadmap) prior to its release to public. In its current minimal state, we are unable to determine to what extent the platform itself can meet social inclusion outcomes and participation outcomes (as seen in Figure 1) until it is released and tested by the public.

3.2. User community survey

A user community survey was devised to establish the online information needs, social connection uses of technology and social activities of the target users of the Peer Support Platform. A total of 120 responses were received. The survey and descriptive analysis presented here are not intended to be a representative sample of the low vision and blind population. It does show some broader patterns among respondents as to their online information and social connection needs and preferences and can therefore aid in assessing the value of the Peer Support Platform.

Survey questions addressed:

a) Device preferences and assistive technologies used

b) Uses of the internet for information and online transactions

c) Online social connections and activities

d) Social activities commonly undertaken

3.2.1. Who responded to the survey?

The average age of respondents was 47, with a wide age range of 12 to 94 years. English was the predominant language spoken at home (88%).

Only 15% are in fulltime employment, with 20% in casual or part time work. Only 11% of respondents are actively looking for work. A small number saw themselves as "very comfortable" or "prosperous" (14%), with the majority "reasonably comfortable" (44%) or "just getting along" (42%).

Respondents defined their vision loss as central (8%) or peripheral (29%), but also listed a wide range of other vision impairments (47%) or preferred not to say (5%). (For more detailed demographics see Appendix C).

Part 3. The Peer Support Platform Prototype

3.2.2. What are respondents' device preferences?

To identify respondent's preferred device (desktop computer, laptop, tablet/ iPad, smartphone), respondents were asked to rate along a 5-point scale ranging from "Do not prefer (0)" to "Prefer a great deal (5)".

There was some polarisation of preferences for different devices, and our findings showed that a range of devices were used. Our respondents most strongly preferred (either "a lot" or "a great deal") to use smartphones (61%), with only 10% who "do no prefer" smartphones. Desktop computers were also preferred (50%), although 27% did not prefer; and similarly, 43% preferred tablets or iPads, but 30% did not prefer these devices. This indicates that while smartphones were the strong preference, a mix of devices were used by most respondents.

A variety of assistive technologies or aids are used by participants, and these can be simple tools such as white canes or guide dogs that aid mobility and movement about unfamiliar spaces, or they can aid information and communication technology. When asked about what assistive technologies or aids respondents currently use, white canes (22.77%) and the in-built accessibility features on smart phones and laptops (20.79%) were noted, along with mobile phone GPS (12.87%). Only 12% used a screen reader such as JAWS.

3.2.3. How do respondents use the internet for information and online transactions?

We asked how frequently respondents used internet technologies (on any device) to search for information or undertake online transactions such as banking, buying and selling. Answers were within frequency ranges of Never, Less than once a month, Once a month, 2 to 3 times a month, Weekly, or Daily. We considered Once a month, 2 to 3 times a month, Weekly and Daily to constitute *active use* on the different items, with Weekly and *Daily* as *highly active*. Less than once a month or Never was considered *low-use*, and Never as *non-use*.

On many questions of internet use for information and online transactions, responses were polarised with a split between a group of low use and group of active use respondents. This was the case for questions on: "Searched for information about government services," "Created or used a MyGov account," "Bought or sold items online," and "Searched for information and local facilities."[25] Three questions were skewed more towards active use:

/ Used internet banking services: 66% active use, 34% low use

/ Searched for information about transport and directions: 66% active use, 34% low use

/ Searched for information on local venues (e.g. cafes, restaurants, markets): 64% active use, 36% low use

Only 15% reported Never "Searching for information on Government services," and 13% reported Never "Searching for information about transportation and directions."

Part 3. The Peer Support Platform Prototype

3.2.4. How do respondents use internet technologies for social connections?

When it comes to communicating or participating socially online, respondents were highly involved in "communicating with family and friends online" (80% active use, 46% highly active use), or "keeping up to date with family and friends online" (80% active use, 49% highly active use).

On the other hand, only a small percentage used internet tools for other social purposes. For instance: "Joined an online forum to provide or receive peer support" (67% low use, 47% non-use); and "Searched for information on clubs and groups" (70% low use, 29% non-use). This tells us that while a decent proportion have tried searching for information about clubs and groups online, or participate in online forums, the vast majority do not tend to.

3.2.5. What are the social activities respondents commonly undertake?

We asked about the social, leisure and fitness activities respondents commonly undertake. Understandably, respondents rarely undertook activities mostly geared toward sighted people, such as the Movies (81% < once a month), Theatre (94% < once a month, 45% never), Sporting events (79% < once a month), Go to a local market (68% < once a month), Go to a local community centre (83% < once a month), Attend education or training programs (76% < once a month).

The two most common social or leisure activities were: "Visit the local shopping centre" (90% ≥ once a month), and "Go out for a meal or drink with friends and family" (70% ≥ once a month). 41% of respondents attended a recreational centre or gym once a month or more, with 27% attending weekly or daily. And 26% undertook some form of volunteering activity.

Part 3. The Peer Support Platform Prototype

3.2.6. Digital and social inclusion barriers

We asked two open questions regarding the barriers and frustrations respondents experienced, and their challenges in creating social connections. The first question targeted challenges with digital technologies:

/ **Question**. What are the main limitations or frustrations you commonly experience when using digital technologies in your everyday life?

Accessibility. The majority of responses concerned different aspects of accessibility with online information. These difficulties were related mainly to issues with appearance (font size, colour, text layout etc), or navigation and structural organisation of sites and platforms, along with the coding practices and structures that helped with accessibility with some mentioning sites' incompatibility to assistive devices such as screen readers.

> *"Inaccessible web pages, including web pages that time out, have information that is hard to find as well as the common inaccessible problems such as alt tags missing, and W3C non-compliant controls."*

> *"Finding contrast settings that suit my level of vision, being unable to locate tabs or buttons, timing out because I am to slow to progress to the next steps (eg booking a flight)"*

Where webpages and platforms had limited accessibility, users with low vision and blindness describe exerting more energy and effort, leading to significant weariness and fatigue.

Access and connectivity were also hindered by WiFi and internet connection difficulties or costs, battery life issues (drained by using voice and screen reader assistance), and the poor responsiveness of assistive tools. Respondents reported often having insufficient training and knowledge on how to use digital devices in adaptive ways, especially after software updates.

Digital skills and capabilities have to be higher for users with low vision and blindness in order to navigate these challenges. However, some respondents reported experiencing discrimination when attempting to seek support from others in learning how to use technology.

> *"I can't look at a screen too long eg like tv, laptop because it everything goes whitewashed and my eyes start to hurt. I get very tired. I have an iphone which isn't setup correctly but siri helps me alot. On my NDIS plan a man from an organisation is going to show or explain my iphone. The thing is he explained that it is a 6 week course. Seriously?? He even asked to have notebook to jot stuff down. Umm I'm vision impaired!"*

Others reported experiencing feelings of shame or "feeling like an idiot" from their inability to navigate digital tools, impacting their confidence and contributing to social and digital isolation.

Part 3. The Peer Support Platform Prototype

/ **Question**. What are some common challenges that you may face when trying to maintain or create social connections when attending social events, activities or going to venues?

Mobility, navigation and social connection. Accessibility of public transport and of the venues were highlighted as the main barrier to engaging with new community activities. For those living in remote areas where there are limited transport options and poor infrastructure (such as lack of footpaths), they experience double the disadvantage.

Accessibility of venues themselves, such as whether they are guide dog friendly, wheelchair friendly, easy access to transport, lighting levels, etc, were main issues reported by participants. Safety was also raised as a significant concern by many respondents.

Many respondents described the impact of accessibility and mobility issues on making social connections or attending events. In fact, connecting socially seemed a major challenge for many, often due to the social barriers and exclusions associated with responses to their disability:

"Very difficult to join in group as many people do not understand about blindness and low vision"

"Finding an event that I could participate in terms of site, getting safely to the venue, being able to navigate within the venue without having to explain myself to different people, doing all that without injury"

Part 3. The Peer Support Platform Prototype

Some described their isolation and frustrations with not being able to find like-minded others or to connect with others socially.

> *"Not being able to find the people I wish to talk to. Not being able to attend a venue because it is difficult to get to independently. People being dismissive of me due to my blindness"*

> *"Finding people with similar interests in the local area such as playing computer games, going to restaurants, movies etc with people my own age. Meet ups are mainly in the city. Need something 15 minutes away."*

Anxiety over the unfamiliar, and independently navigating a new environment were a consistent experience for respondents. The main challenges raised were the difficulty in recognising new faces and voices, knowing who is in a room, and going to places alone without support. Previous negative encounters with others such as "people staring" or being rude have led to social anxiety and reduced confidence understandably.

> *"It's just too hard to do alone. Going to new places often makes me feel more isolated than not trying in the first place."*

> *"People talking to you but you don't know who they are. People walking away whilst you are talking to them - nothing worse than talking to thin air."*

3.2.7. Need for a Peer Support Platform

Respondents were asked whether they would be interested in using a Peer Support Platform if it were made available to them. Some had already been invited to test the prototype platform (12%), and 31% expressed their interest in using the platform. However, 21% were unsure, and 17% were not interested.

When asked to further explain their responses, most cited not knowing much about the platform and its intended uses, while others did not see any benefit, did not wish to develop more social connections, or had no time and were happy with where they were now. Some other responses include:

> *"I find other people with vision loss inspiring but I also find it confronting."*

> *"My lack of computer knowledge – I rely on my partner to do my computer work for me."*

Those who were interested or already using the prototype platform were asked to rank their top 3 reasons for use (see Figure 4).

Social connections and information needs were the most common reasons for wanting to use the peer support platform. Information about services, the NDIS or about GDV activities were prominent, along with information that can help with mobility and finding accessible spaces.

Amongst the "other reasons", respondents highlighted a wish to receive and provide peer support to others with low vision, as well as having an avenue to learn more about new technologies and research in adaptive technologies from those who have more experience.

Part 3. The Peer Support Platform Prototype
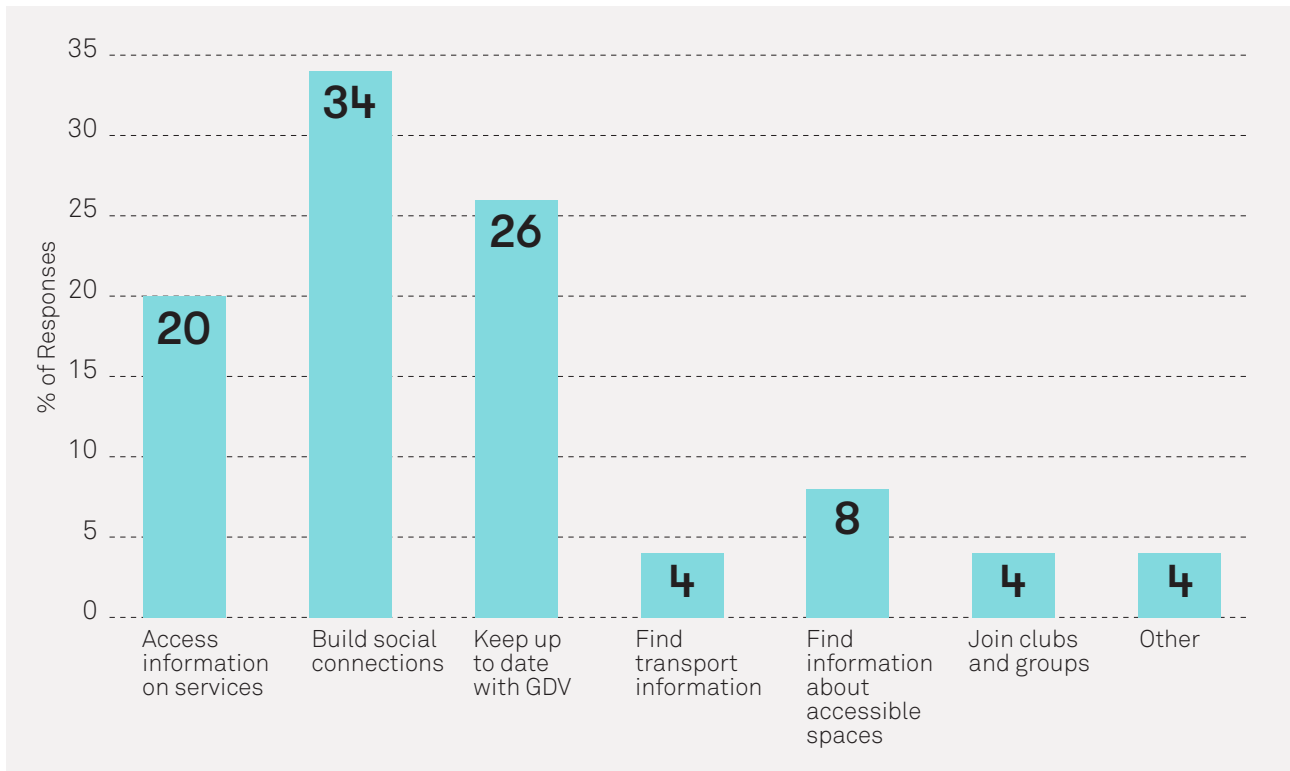
Figure 4. Top reasons for wanting to use the proposed Peer Support Platform (n = 116).

Figure 4 caption: 20 % of responses reported wanting to use the platform to access information on services; 34% reported wanting to build social connections; 26% reported wanting to keep up to date with GDV events; 4% reported wanting to find information on transport routes, join clubs and groups, or had other reasons for joining the platform; while the remaining 8% wanted to find information about accessible spaces.

Part 4.
Conclusions

This report has presented an evaluation of the design processes and the outcomes of the development of a prototype Peer Support Platform that aimed to address the Information, Linkages and Capacity building needs of people with low vision and blindness.

The overall success of this project can be found in the opportunity it presented for collaborative co-design in addressing the needs of people with low vision and blindness. As a prominent disability service provider, Guide Dogs Victoria took on a co-design approach with international technology company DXC Technology along with community members with lived experience of low vision and blindness, in an environment of collaborative discovery and development. The resulting platform prototype was created with human centred design (HCD) principles and reflected the fundamental information and social connection needs for people with low vision and blindness.

In the process of development, the project has offered a rich opportunity to understand the dynamics involved in co-design between a disability support organisation, a technology specialist and people with lived experience of low vision and blindness. The lessons learnt and challenges faced are useful for any organisation undertaking similar work with social impact goals.

The concept developed through the co-design process resulted in a platform designed specifically for accessibility that gathered relevant information, and facilitated access to events, activities and group meetups.

Part 4. Conclusions

Co-designing for technology-enabled disability peer support

In relation to the planning and implementation of key activities throughout the project, main areas of success include:

/ **A Pre-Discovery phase** allowed training and induction for the design team and the time needed to learn from and with people with lived experience of low vision and blindness

/ **Adopting a flexible HCD design model** involves adapting discovery processes to meet the accessibility needs of participants involved.

/ **Co-design practices and HCD principles address** uncertainties in the needs of people with disabilities, allow the design team to target the particular information access and social inclusion needs of people with low vision and blindness.

/ **Creating engaging and accessible activities** for co-design workshops enables participants to make contributions in a safe and comfortable way. Linkages between participants were also formed as an unintended by-product.

/ **Managing the tensions between HCD discovery and the pace of agile** methodology results in producing a working prototype peer support platform within a very limited time and budget that has the potential to be further developed and refined.

/ **Multidisciplinary team with a range of skills** enables effective synthesis of insights gained through discovery and co-design (described as the most challenging part of the project).

/ **Co-location enhances relationships and activities**. The Digital Transformation Centre at Swinburne University established a hub that aided the full-time availability and interaction of design team members from both organisations, alongside co-design participants.

Some challenges and difficulties in the co-design process include:

/ **Managing Pre-Discovery, Discovery and build phases to involve software developers** could have improved prototyping within the short project timeline. Software developers should be involved in co-designing to some degree to better connect Discovery with build phases in the design process. In this way, the continuous discovery phase expressed by design members may work side-by-side with the building of the platform itself, allowing for new insights to be gradually iterated into the prototype itself across time, as opposed to at the end.

/ **Establishing methods for record keeping and hypothesis tracking** from in the initial phases of the project can help to define the scope of the problem, and enable informed decisions on what the solution could be.

/ **Addressing the misalignment between resources and time and the scope of the design challenge** is essential for successful integration of co-design and HDC. Applying HCD, especially for a vulnerable group such as the low vision and blind community requires significant time and resources to put to action. While working with participants with low vision and blindness occurred with success, the translation of learnings into the build of the platform required significant more resources than previously planned and anticipated.

Part 4. Conclusions

/ **Continuity of co-design participants' involvement at each stage of the project** could also be further improved, with many participants reporting that they wanted to be more involved and failed to receive updates on the progress of the project, as well as how their contributions led to the final prototype design. We acknowledge that this is also dependent on the resources and funding available as well as the availability of co-design participants, however for HCD to be truly impactful, it will require significant resourcing put in place.

/ **Co-design participants' understanding of their role shifted** throughout their involvement in the project, and this can be a source of both uncertainty and a strength.

Meeting information access and social inclusion needs

As a proof of concept, the design and development of the platform demonstrates the benefits and feasibility of co-designing with participants with low vision and blindness, and the potential it has to help meet the gap in digital information access and fostering social connections.

Our user community survey established that people with low vision and blindness face persistent challenges in a) accessibility – of digital information as well as spaces, venues and transport, b) overcoming isolation and managing social connections. On many questions of internet technology use respondents were highly polarised, with a group of very low internet use, and a group of active and highly active use. The majority prefer to use smartphones (61%), while half prefer desktop computers.

Around two thirds of our survey respondents were active users of the internet for banking services, searching for information about transport and directions, and information on local venues such as cafes, restaurants or markets.

When it comes to communicating or participating online socially, the great majority regularly communicated with or kept up to date with family and friends online (80%). However, only a small percentage used internet tools for other social purposes. 70% of respondents had rarely if ever searched for information about clubs and groups online.

There was significant interest in using a peer support platform such as the one designed by GDV and DXC. Around 43% of respondents had either been involved in testing the peer support platform or expressed an interest in using it. Another 21% were unsure and wanted more information.

The prototype design bundled four core features that move toward addressing the needs expressed in the user community survey, and respond directly to input by co-design participants.

/ **The Library feature offers an accessible "information hub"**, a key need identified by co-design participants and survey respondents. With further development, partnerships with other disability support stakeholders and service providers will enhance the content available on the platform. In addition, partnerships with organisations specialising in accessible transport, government services (such as the NDIS, ATO, etc), and other services for people with low vision and blindness may allow users to have the agency and resources to lead more independent lives.

Part 4. Conclusions

/ **The Search feature** (including the use of tags and categories) can be scaled and improves access to information by organising content intuitively around areas of interest and need.

/ **The Events feature** is central to the social inclusion affordances of the platform. It provides opportunities for service providers to:

– Organise and present relevant information sessions and training opportunities for people with low vision and blindness and their carers

– Provide an avenue for exiting peer support groups to recruit or engage with new members to join and participate in events

– Allow users to organise their own events (with admin approval)

– Provide opportunities for users to learn about, attend, or participate in public events that are made accessible specifically for the low vision and blind (e.g. Victorian Blind Football League)

The design of the events feature also includes information on transport routes and mobility advice, which was highlighted in the survey, co-design workshops and evaluation interviews, and was a significant need shared among the low vision and blind community.

/ **The Ideas feature** allows expressions of interest on the platform. This feature has the potential to maintain and build community engagement overtime, and has the flexibility to allow users to offer new forms of peer support mentoring networks to others. This would enable those who wish to support others (as highlighted by survey respondents) to have a safe avenue where they can find opportunities to fulfil goals in providing peer support.

/ **The Preferences feature** was designed to address the key accessibility barriers to online participation reported by co-design participants and survey respondents, specifically in relation to colour, contrast, and font size. In addition, the omission "pop ups", the current simplistic structural layout of the interface, and compatibility with adaptive devices also serves to meet the needs reported by co-design participants and survey respondents. As a prototype, there is still scope for further iteration and inclusion of other accessible features that users may have the option to apply to suit their needs.

The evaluation concludes that overall the trajectory from discovery, co-design and development points toward outcomes that can address the information and social inclusion objectives established for the peer support platform in line with the ILC goals. Future steps in developing and scaling the peer support platform concept can be successful if they continue to consider user needs through co-design, and involve the voices of people with low vision and blindness in the process.

Appendices

Appendix A. Partnership Roles

Swinburne and DXC have an existing and ongoing partnership which has resulted in the establishment of the Digital Transformation Centre (DTC) based on the university campus. This evaluation project is a result of that partnership and gives Guide Dogs Victoria access to a highly skilled and capable workforce, and a central hub for the design and development work.

A summary of the roles and responsibilities of each stakeholder for this project has been summarised below in Table 1.

Table 1. Organisations involved in the development of Peer Support Platform

Organisation	Responsibilities
Guide Dogs Victoria (GDV)	Product owner, oversight, approvals, reporting and accountability to NDIA.
	Recruit and liaise with participants, including but not limited to the organisation of transport for participants, reimbursement, and follow up contact and support
DXC Technology Australia PTY Limited (DXC)	Product development lead
	Development and implementation of initial Discovery interviews and Co-Design workshops with participants with low vision and blindness
	Utilise insights gained from workshops to design and build a working prototype, or minimum viable product (MVP) Peer Support Platform
	Facilitation and application of human-centred design and agile ways of working
	Collaboration and leveraging Industry SMEs where appropriate to provide insights that assist in shaping the features of the MVP
	Documentation and capturing the deliverables and outcomes of the project through the DXC development approach
Swinburne University of Technology	Process and outcomes evaluation lead

Appendix B. Demographics of user community survey respondents

Table 2. Summary of participant demographics

Variable			
Gender n (%)	Male	45	37.8
	Female	68	57.1
	Non-binary/ gender fluid	1	0.8
Country of origin n (%)	Australia	98	82.4
	New Zealand	3	2.5
	UK	5	4.2
	Greece	1	0.8
	Other	7	5.9
Aboriginal or Torres Strait Islander n (%)	Yes	1	0.8
	No	113	95.0
Education n (%)	Below Year 12, including Certificate I & II	24	20.2
	Year 12 or equivalent	11	9.2
	Certificate III, IV or Diploma	40	33.6
	Undergraduate degree	25	21.0
	Postgraduate degree	13	10.9
English main language n (%)	Yes	105	88.2
	Other	7	5.9
Student n (%)	No	94	79.0
	Yes, full time	7	5.9
	Yes, part time	11	9.2
Employment status n (%)	Casual employment	9	6.7
	Full time employment	17	14.3
	Home duties	18	15.1
	Looking for work	12	10.1
	Other, please state:	21	19.3
	Part time employment	15	11.8
	Retired	20	16.8
Financial needs n (%)	Prosperous	3	2.5
	Very comfortable	13	10.9
	Reasonably comfortable	50	42.0
	Just getting along	39	32.8
	Poor	6	5.0
Diagnosis n (%)	Central Vision loss (Please specify)	10	8.4
	Other (Please specify)	56	47.1
	Peripheral vision loss (Please specify)	34	28.6
	Prefer not to say	6	5.0

Appendices

Appendix C. "About" the Peer Support Platform.

Author: Guide Dogs Victoria

← Back to Library

Date published: Wednesday, 10th July 2019

Category: Uncategorised

This website is being developed by Guide Dogs Victoria alongside a team of people who are blind or have low vision, with funding from the National Disability Insurance Agency.

The purpose of this website is to develop, over time, a trusted source of information about the range of events, opportunities, activities, and networks that exist in the blind and low vision community. This could include:

/ Peer-led networks that plan activities, share learnings, compare experiences, and facilitate peer support

/ Service Providers and Community Organisations facilitating events or activities that are in demand

/ Accessible arts experiences

/ Adaptive and inclusive sporting activities

/ One-on-one connections for peer support

The Events page of this website is a space to promote established activities that are already scheduled. This is the place to view and create information for others to connect with your existing networks and events!

The Ideas page of this website is a space to float ideas out to the community about potential activities that you want to organise. Nothing in the Ideas section is set in stone; it's simply a place where you can initiate, or express interest in, Ideas about possible future activities. If there's enough interest in an Idea, we encourage you to turn that Idea into a reality! Service Providers and Community Organisations can also float Ideas about potential events or activities that they are considering offering. Let them know if you're interested in their suggestions, and they'll be far more encouraged to make those Ideas a reality.

The Library section of this website is a space where we'll publish high quality information to answer some of the most pressing questions that many people have about blindness and low vision. What are my entitlements? How do I access funded supports? How can I offer peer support in the most effective ways possible? Content will be regularly published here from Service Providers, advocacy organisations, peer groups, and individuals with a range of lived experience and expertise.

Thanks for being here, and as always, please let us know if you have any feedback or suggestions!

Tags: Events, Ideas, Information, Library, Networks, Peer Support

To download a file for offline viewing, please use your browser to open in a new tab and save it from there.

Endnotes

1   NDIS. (2019) *Information, linkages and capacity building*. Available at: https://www.ndis.gov.au/community/information-linkages-and-capacity-building-ilc

2   NEHS. (2016), *National Eye Health Survey*, accessed via http://www.vision2020australia.org.au/uploads/resource/250/National-Eye-Health-Survey_Summary-Report_FINAL.pdf

3   Guide Dogs Victoria. About us. https://www.guidedogsvictoria.com.au/about-gdv/about-us/

4   Guide Dogs Victoria. (2018). *Facts + stats*. Accessed via https://www.guidedogsvictoria.com.au/about-gdv/fact-sheet/

5   Helsper, E. J., & Eynon, R. (2013). Distinct skill pathways to digital engagement. *European Journal of Communication*, 28(6), 696–713. Helsper, E. J. (2012). A corresponding fields model for the links between social and digital exclusion. *Communication theory*, 22(4), 403–426.

6   Yates, S. J., Kirby, J., & Lockley, E. (2015). '*Digital-by-default*': reinforcing exclusion through technology. Defence of Welfare, 2, 158–161.

7   Commonwealth of Australia. (2009). SHUT OUT: The experience of people with disabilities and their families in Australia, accessed via https://www.dss.gov.au/sites/default/files/documents/05_2012/nds_report.pdf

8   Parliament of Victoria. (2014). Inquiry into the social inclusion of Victorians with a disability, accessed via https://www.parliament.vic.gov.au/images/stories/committees/fcdc/inquiries/57th/Disability/Report__Response/Social_Inclusion_FINAL_REPORT.pdf

9   See for example, Thoits, P. A. (2011). Mechanisms linking social ties and support to physical and mental health. *Journal of Health and Social Behaviour*, 52(2), 145–161. doi: 10.1177/0022146510395592; Umberson, D., & Montez, J. K. (2010). Social relationships and health: A flashpoint for health policy. *Journal of Health and Social Behaviour*, 51(S), S54–S66. doi: 10.1177/0022146510383501

10   Perkins, J. M., Subramanian, S. V., & Christakis, N. A. (2015). Social networks and health: A systematic review of sociocentric network studies in low- and middle-income countries. *Social Science and Medicine*, 125, 60–78. doi: 10.1016/j.socscimed.2014.08.019

11   World Health Organization. (2011). *World report on disability 2011*. World Health Organization. https://www.who.int/disabilities/world_report/2011/report/en/

12   Ellcessor, E. (2016). Restricted access: *Media, disability, and the politics of participation*. NYU Press, New York.

13   Helsper, E. J. (2012). A corresponding fields model for the links between social and digital exclusion. *Communication theory*, 22(4), 403–426.

14   Australian Social Inclusion Board (2012). *Social inclusion in Australia: How Australia is faring*. Australian Government, Department of the Prime Minister and Cabinet, p. 12.

15   Australian Social Inclusion Board (2009). *A compendium of social inclusion indicators 'How's Australia Faring?'* Australian Government, Department of the Prime Minister and Cabinet, p. 2.

16   Australian Social Inclusion Board (2012) Social inclusion in Australia, p. 12.

17   Thomas, J, Barraket, J, Wilson, CK, Cook, K, Louie, YM & Holcombe-James, I, Ewing, S, MacDonald, T, 2018, *Measuring Australia's Digital Divide: The Australian Digital Inclusion Index 2018*, RMIT University, Melbourne, for Telstra. DOI: https://doi.org/10.25916/5b594e4475a00

18   Ellcessor, E. (2016). *Restricted access*.

19   Sanders, E. B. N., and P. J. Stappers. (2008) Co-creation and the new landscapes of design. *CoDesign* 4(1): 5–18, p. 6.

20   Sanders, E. B. N. (2002). From user-centered to participatory design approaches. In Jorge Frascara (ed), *Design and the Social Sciences*, Taylor & Frances, London, pp. 1–8, 2.

21   Alliance, Agile. The Agile Manifesto. https://www.agilealliance.org/agile101/the-agile-manifesto/.

22   Ming, Huo, J. Verner, Zhu Liming, and M. A. Babar. (2004) Software quality and agile methods. Paper presented at the Proceedings of the 28th Annual International Computer Software and Applications Conference,a COMPSAC 2004, 28–30 Sept. 2004.

23   Upon registering new users is required to verify their email address and also be approved by GDV administrator.

24   Ellcessor, *Restricted access*.

25   Searched for information about government services: 57% active use, 43% low-use; Created or used a MyGov account: 48% active use, 52% low-use; Bought or sold items online: 47% active use, 53% low-use; Searched for information on local facilities (e.g. public park, recreational centre): 50% active use, 50% low-use.

Contact for more information

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