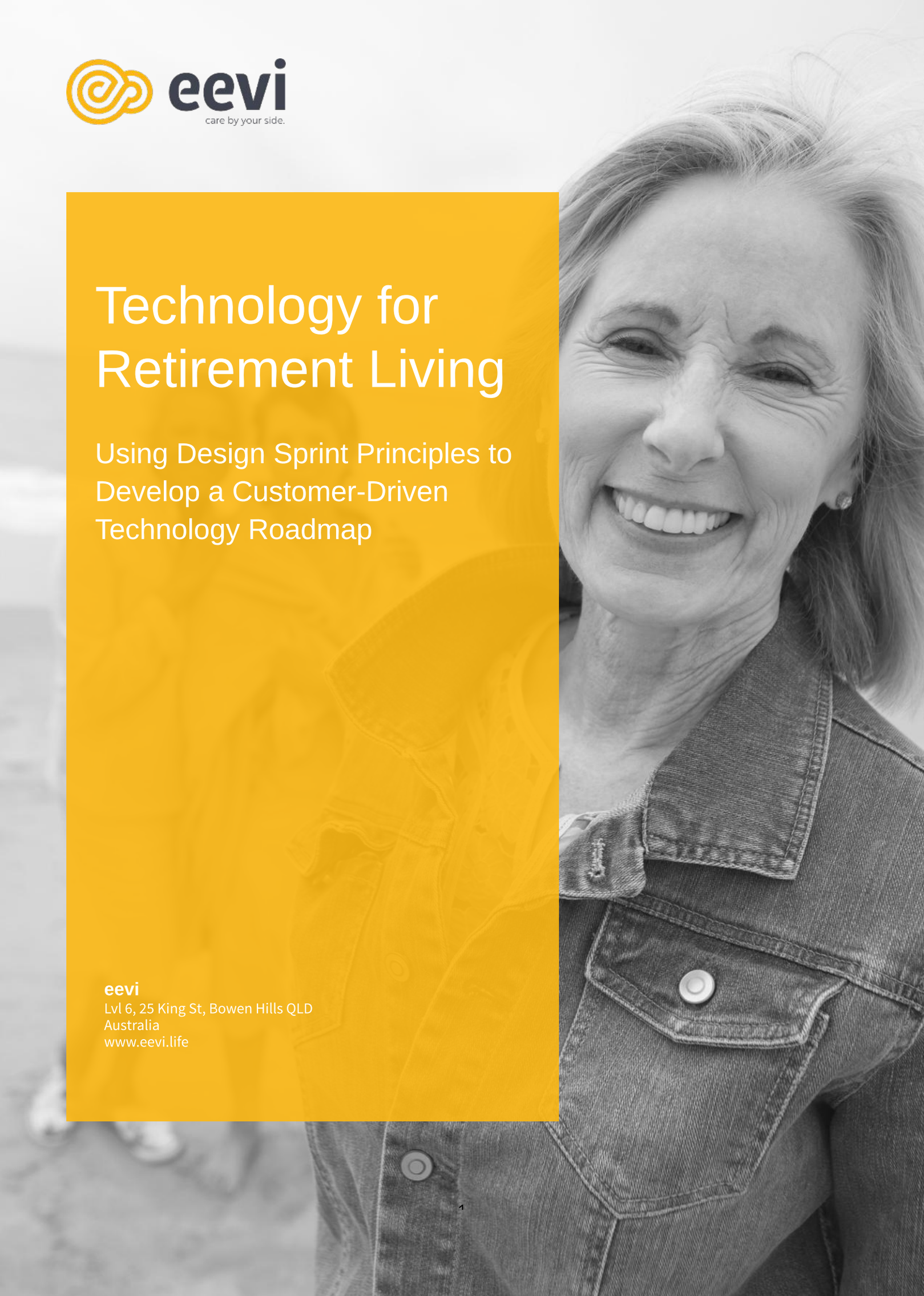

Technology for Retirement Living

Using Design Sprint Principles to Develop a Customer-Driven Technology Roadmap

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Introduction

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Technology is paving the way for smarter, more responsive care and improved quality of life for senior living and aged care residents.

But with so many products and options available, what is the most important area for providers of retirement living to focus their efforts, and where do they start? How many meetings and discussions does it take before providers can be sure they have the right solution?

For eevi, the answer lies in design sprint methodology, a user-led approach to product design and implementation, that can also deliver a digital roadmap to providers moving forward. Design sprint methodology was pioneered by firms like IDEO and Google and has been adapted by eevi for elder health and wellness and aged care.

This paper outlines the results of a design sprint undertaken by eevi in conjunction with providers of retirement living in Australia, with a focus on face-to-face resident interviews and design thinking. Resident coverage was primarily with prospective residents and recent move-ins to independent living, but also covered serviced apartments and home care services.

The design sprint approach enabled the identification of key themes of importance to residents, the rapid testing of proposed technology solutions, validation of these solutions with residents and the development of recommended product roadmaps. The approach was based upon the real needs and wishes of clients and their prospective customers.

Impact of the Royal Commission

The Royal Commission into Aged Care Quality and Safety concluded in their final report that the aged care system is well behind other sectors in the use and application of technology.[1]

The Commissioners found that “ageing brings changes in

1. Royal Commission into Aged Care Quality and Safety, Final Report - Executive Summary, 2021, p. 77

functioning that can impact on people's ability and capacity to live independently. Small adjustments, new appliances, technologies or minor alterations to the home can enhance older people's independence, mobility and quality of life."[2]

The Commissioners supported the adoption of smart technology to support both care and functional needs, manage safety and support the quality of life of older people.

Specifically, the Commissioners call for the universal adoption of pre-certified assistive and smart technologies into older people's homes, enabled through internet and wireless access and funded by the Australian Government, to help in the provision of care and improve older peoples levels of social engagement.

If providers of independent living or aged care are considering what technologies to implement, they could consider resident-focused design sprint research as outlined in this paper. This approach not only develops a technology roadmap but also the basis of a strategy for implementation of assistive and smart technologies.

In addition, valuable data gained during the process will support the business case and improve the chances that the provider chooses the right technologies, delivering the right information to the right people at the right time.

About eevi

Eevi is a care technology provider currently supporting the lives of over 7000 Australians across the country. With a product set evolved from user-led design sprint methodology, we're now a preferred supplier to many of Australia's leading operators. We're proud to offer product solutions providing emergency care to our most vulnerable Australians. We're committed to sourcing and curating quality technology with an end to end service delivery that ensures our clients feel confident that our systems can be relied upon when needed.

With eevi, you can have the confidence to know we're there if ever you need us. With efficiency and transparency for your team and peace of mind for your community.

That's eevi. Care by your side.

2. Royal Commission into Aged Care Quality and Safety, Final Report: Care, Dignity and Respect, Volume 3A, p.169

About Design Sprints

Developed by Google

Clearly define goals

The design sprint approach was developed in 2010, by a handful of Google employees looking for ways to break away from back-to-back 30-minute meetings and the challenges of working cross-functionally.

A design sprint is a time-constrained, phased process that uses design thinking with the aim of reducing the risk when bringing a new product, service or a feature to the market.

The process aims to help teams clearly define goals, validate assumptions and decide on a product roadmap before starting development. It seeks to address strategic issues using interdisciplinary teams, rapid prototyping, and usability testing.

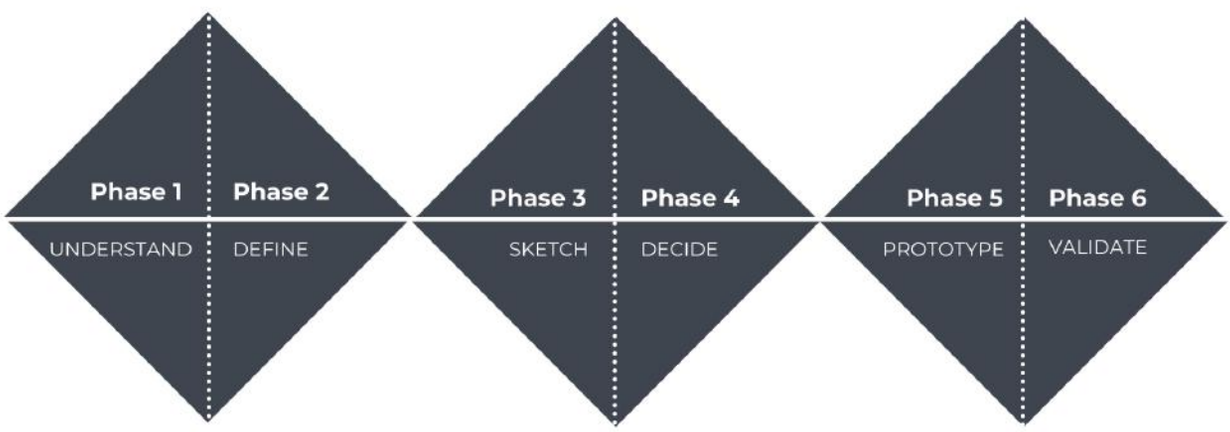


Figure 1. Design sprint methodology

The eevi Design Sprint

The design sprint approach offers a compact and robust process to explore opportunities and to develop and test ideas with users. It is a tool for developing a hypothesis, prototyping an idea, and testing it rapidly with as little investment as possible in as real an environment as possible.

Using the Google design sprint model as a basis, adaptation was made for senior housing providers and the needs of residents. In this example, three key phases were decided upon: data collection; problem-validation; and solution-validation.

Test ideas with users

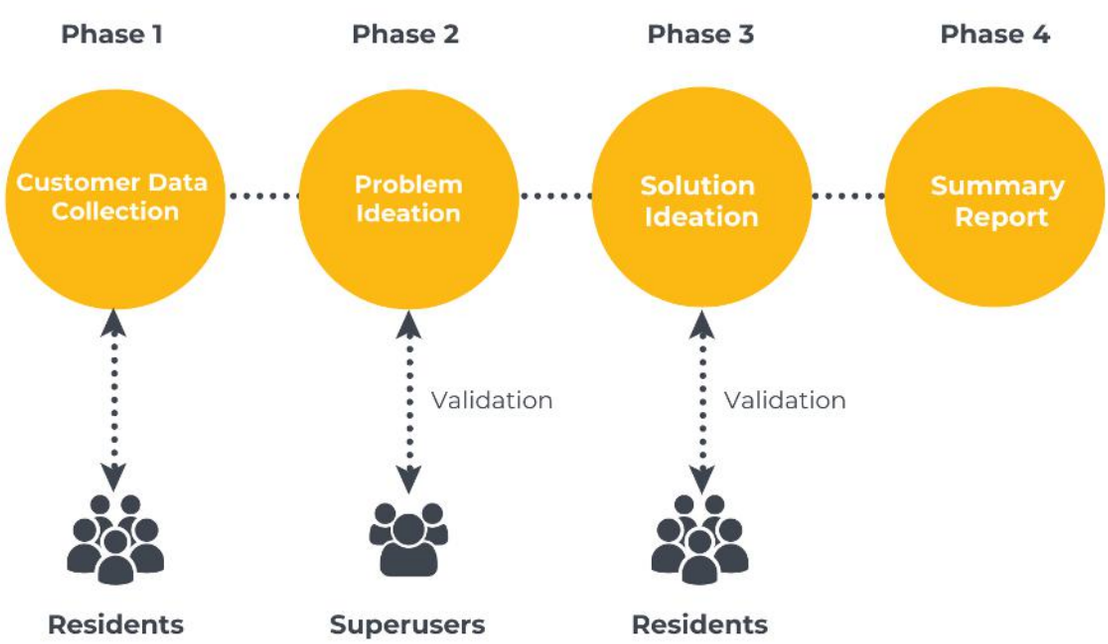


Figure 2. eevi adapted design sprint methodology

Phase 1: Customer Data Collection

Overall, there were three phases of interviews with residents: the initial data collection; validation of problem statements; and validation of the proposed solutions. Interviews were held over five locations including regional and metropolitan settings with over 250 hours of resident interviews.

For phase one, over 1500 data points were collected in regards to the technological knowledge of residents, the potential roadblocks to adoption of technology and the desired outcomes of technology.

Amongst the residents interviewed, a group were identified (approximately 25% in our sample) who were 'superusers', that is, people more likely to be early adopters of technology. They were more likely to be on committees and influence the direction of investment in technology in the village. Superusers are also people particularly engaged with the design sprint process.

Technology help and support emerged as a key pain point felt by nearly all residents. Common complaints included not being able to set up technology properly and not being able to talk to a real human for assistance. This finding was consistent with the global research that identified whilst the cohort of adults 55+ were adopting technology almost as fast as younger cohorts, they needed roughly three times as much help to set it up.

There was an appetite for extended safety monitoring (mobile emergency response, daily check-ins) so that peace of mind could be enhanced which would translate to an active life. However, there was a weaker appetite for safety technology that was overtly 'clinical' and obtrusive.

Residents expressed the importance of community and social connection, and keeping in closer contact with family and friends.

There was a strong adoption of online digital entertainment, including music and games like 'Words with Friends'.

Use of mobile phones centred on communications (calls, emails and SMS), however superusers were also using it for video calling and web browsing.

In terms of new technology offerings, residents commented that while they sound interesting, they need to be brought to life via key case studies. Awareness of what was possible in terms of 'smart homes' and IoT was low.

Phase 2: Problem Ideation and Validation

Using the phase one interview data, a problem-ideation workshop was held which identified three key themes; **Technology Help**, **Health** and **Community**. For each of these themes, problem statements were formulated that emerged directly from the data.

TECHNOLOGY HELP

HEALTH

COMMUNITY

Technology Help Sub-Themes

Further sub-themes emerged from data relating to Technology Help:

- Simplicity; mostly related to the setup of technology
- Trust; feeling embarrassed to call for help or help not being readily available
- Time and cost; waiting too long for new services, paying for something they may not use or technology being too expensive
- Independence; being taught how to make the most of technology
- Personalisation; customised technology for the individual's needs and preferences

TECHNOLOGY HELP	Cohort 1	Cohort 2	Cohort 3	Cohort 4	Rank
Themes					
Simplicity	High	Low	Special	High	4.0
Independence	Low	High	High	Special	4.0
Personalisation	Medium	Medium	High	Special	3.0
Trust	Low	High	High	High	3.0
Time and cost	High	Low	High	High	2.5
Goals					
Watching TV	High	High	Medium	Special	4.5
Monitoring health	High	High	High	Medium	3.0
Listen to music	High	High	Medium	Medium	3.0
Send SMS	High	Medium	Medium	High	3.0
Send emails	High	Medium	Medium	High	3.0
Playing games	Low	Low	Medium	High	1.5
Doing online courses	Low	Low	Medium	Medium	1.0
Pain points					
Logins and passwords	High	High	Low	Special	4.0
Too complex	High	High	High	High	4.0
Worried about data privacy	High	High	High	Low	3.0
Don't know who to call	High	High	Low	High	3.0
Can't manage it myself	High	High	High	Low	3.0
Internet not working	High	High	Low	High	3.0
Takes too long to get help	High	Low	Low	High	2.0
Worried it's going to be costly	High	High	Low	Low	2.0
Embarrassed to call for help	High	High	Low	Low	2.0
Tech being ugly	High	Medium	High	Low	2.0
Help not personalised for my need	Low	Low	Low	Special	2.0
Don't have help I can trust	High	Low	Low	Low	1.0
Documentation not designed for me	Low	Low	High	Low	1.0
Guilty to call family	Low	Low	Low	Low	0.0

Table 1. Technology Help Ranked Data

Technology Help Sub-Themes (cont.)

Problem statement data was ranked and validated as visualised in Table 1.

Using these rankings, the issues of most importance were identified as **simplicity** and **independence.** The main goals of technology for residents were **television, health, music, SMS** and **email.** The biggest pain points in regards to technology uptake were around **logins and passwords** and perceived **complexity** of technology.

Health Sub-Themes

Further sub-themes that emerged from the data relating to health technology included:

- **Fear**; relating to technology making them feel old, or risk of falling and not being found
- **Friends and family**; social connection, knowing what's going on with family or in the village
- **Medical alarms**; too expensive and response time too slow
- **Mobility**; peace of mind when out and about, ability to keep going out
- **Seamless**; a desire for technology to be unobtrusive and to hide external signs of having health issues

HEALTH	Cohort 1	Cohort 2	Cohort 3	Cohort 4	Cohort 5	Rank
Themes						
Independence and activity	High	High	High	High	Special	6.0
Seamless	High	High	Medium	Medium	Special	5.0
Wellness hub	High	High	High	High	Medium	4.5
Friends and family	High	High	Medium	Medium	Medium	3.5
Goals						
Preventing falls	Special	Special	Special	Special	High	9.0
Stay in home for rest of life	Special	Special	Special	Special	High	9.0
Keep active and independent	High	High	Special	Special	Special	8.0
Peace of mind	High	High	Special	Special	Special	8.0
Pro-active detecting of emergencies	High	High	High	High	Special	6.0
Pro-active detection of health	High	High	High	High	High	5.0
Keeping village in the loop	High	High	High	High	High	5.0
Unobtrusive devices	High	High	Medium	Medium	Special	5.0
Keeping friends and family in loop	High	Special	Medium	Medium	Medium	4.5
Pain Points						
Need emergency/fall detection outside home	High	High	Special	Special	High	5.0
Don't want obvious signs of "being an old person"	High	High	Low	Low	Special	4.0
Don't know what's out there for monitoring health	High	High	High	High	Low	3.0
Worried about data privacy	High	High	Low	Low	Low	2.0
No current way to give visibility to friends and family	High	High	Low	Low	Low	2.0
No current way to give visibility to village/staff	Low	Low	High	High	Low	1.0
Wellness hub too obtrusive	Low	Low	Low	Low	High	1.0
Wellness hub too expensive	Low	Low	Low	Low	High	1.0
Wellness hub too complex	Low	Low	Low	Low	Low	0.0
Wellness hub response time too slow	Low	Low	Low	Low	Low	0.0

Table 2. Health Ranked Data

Problem statement data was ranked and validated as visualised in Table 2.

The standout sub-themes were that technology should be **seamless** and contribute to **independence and activity**.

The main goals of health technology should be to **prevent falls**, help residents to **stay in their homes**, keep **active** and **independent** and provide **peace of mind**.

Key pain points included technology providing detection when residents are **outside of the home**, to be unobtrusive so not to highlight signs of '**being an old person**' and also lack of knowledge of **what technology is available**.

COMMUNITY	Cohort 1	Cohort 2	Cohort 3	Cohort 4	Cohort 5	Rank
Themes						
Shared experiences	Special	Special	Medium	Special	Special	8.5
Friends and family	Special	Special	Medium	Special	High	7.5
Live experiences	High	High	High	Special	High	6.0
Convenience	High	High	High	Medium	High	4.5
What's on	High	High	High	Medium	High	4.5
Goals						
Talk to my friends and family	Special	Special			High	5.0
Have fun, be entertained	High	Special			Special	5.0
Feel like "I'm there" with F&F for big events	High	Special			High	4.0
See what my family and friends are up to	Special	High			Medium	3.5
Connect with family and friends	Special	High			Medium	3.5
Facilitate shared learning	High	High			High	3.0
Connecting with people in village	High	High			High	3.0
Learning new things	High	High			High	3.0
Getting out of the village	Medium	Medium			High	1.5
Pain points						
Not easy to find out what's on in village on daily basis	Medium	Low	High	Low	Low	1.5
Finding where newsletter or flyer is	Medium	Low	High	Low	Low	1.5
Setting up the tech to connect with F&F	High	Low	Low	Low	Low	1.0
Setting up the tech to have live experiences	High	Low	Low	Low	Low	1.0
Don't know who else in village shares my interests	Low	Low	High	Low	Low	1.0

Table 3. Community Ranked Data

Community Sub-Themes

Further sub-themes that arouse from community-focused data included:

- **What's on**; knowing what's going on in the village, finding information and booking outings
- **Family and friends**; connecting with friends, family and others in the village
- **Shared experiences**; facilitating shared learning, finding others to share experiences
- **Convenience**; automatically lodging maintenance requests, not having to use keys, booking into events
- **Live experiences**; being able to participate in live events virtually, ie. watching football with grandson

Problem statement data was ranked and validated as visualised in Table 3.

The clear focus for the community-related theme were **shared experiences** and **friends and family**. The main goals for technology were to be able to **talk to friends and family**, to **have fun** and to be **entertained**.

Phase 3: Solution Ideation and Validation

Based on the data for each of the themes - Technology Help, Health and Community - potential solutions were validated with three propositions created for each theme (nine in total). These consisted of a broad set of solutions, including high tech, low tech, short term and longer term. Indicative pricing and propensity to pay were also tested with each solution.

Technology Help: Solutions Tested

The propositions put forward for Technology Help were essentially service-based. These were:

- **A Technology Bar;** providing dedicated technology assistance and support as well as a place for workshops and learning
- **My Technology Home**; a concierge like service that would set up technology in the home prior to a resident moving in
- **Technology Angels**; technology support individuals who would visit resident's homes weekly or monthly

Technology Help: Solution Validation

Whilst all solutions tested positively, the concept of **My Technology Home** received the highest rankings from residents, with many liking the opportunity of having technology set up for them or being able to move into a village home with everything already working.

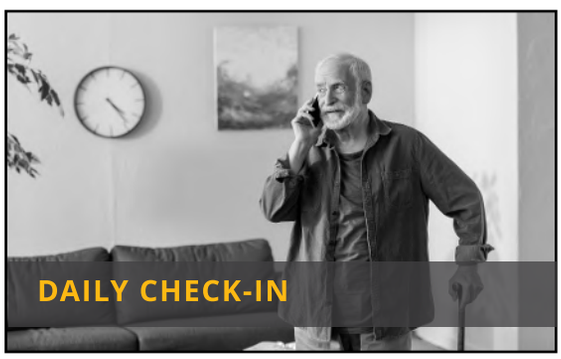
Technology Help: Solution Validation			
Solution	**Score (/10)**	**Likes**	**Considerations**
Tech Bar	**7.3**	• Computer lab idea • Free community wifi • See products you wouldn't otherwise	• Some villages already have techs come in for minimal prices • Mobile tech bar instead of permanent • Cost to provide
My Tech Home	**8.8**	• Opportunity to mix in with general appliances too • Help getting TV set up • The idea of having it all ready when you move in	• Should be optional, won't suit everyone • Currently get maintenance guys to help with this
Tech Angels	**7.9**	• Physical presence on site • Start using what they have already • Appointment setting	• Subscription offering may have some resistance

Table 4. Technology Help: Solution Validation Data

Health: Solutions Tested

For the health theme, three proposed solutions were tested with residents. These were:

- **Mobile Emergency Response**; a system that works in and out of home with options tailored to the preferences of residents such as a watch, bracelet or pendant
- **Daily Check-in**; a daily phone call or SMS to check that resident is OK
- **One Home for Life**; a flexible, adaptable design of the resident home to ensure resident can continue to stay there



Health: Solution Validation

The Daily Check-in solution was ranked highest with residents, positively responding to the idea of a simple call or message to say 'I'm OK'.

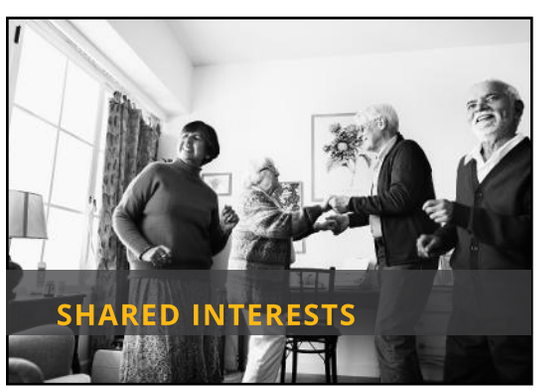
Health: Solution Validation			
Solution	**Score (/10)**	**Likes**	**Considerations**
Mobile Emergency Response	7.1	• People would be more inclined to use • Easy to use on wrist if right type	• Device can't be big and bulky • Women need something stylish • Mixture of form factors preferred (watch, pendant, bracelet)
Daily Check-in	9.4	• The idea of simple "push to say you're ok" • Daily safety / keeping an eye on you • Being done by landline	• May not be needed for people with mobile emergency response
One Home for Life	7.0	• Incrementally is good • Could fit in as part of rebuilds Great for dementia patients • Sensors over time (eg. heat)	• Video surveillance and privacy concerns • Affordability concerns • Most residents would like this in aged care not independent living

Table 5. Health Solution Validation Data

Community: Solutions Tested

For the Community theme, the tested solutions were essentially items that the provider could co-design with residents. There were:

- **A Community Hub**; a digital, one-stop-shop of the village which informs residents of what is going on in the village and housing menus, maps and chat functions
- **Village Podcasts**; a once a week podcast series on life in the village enable residents to get to know other residents and to feel connected to village life
- **Shared Interests/Activities**; facilitating group events around shared interests/activities



Community: Solution Validation

The concept of Village Podcasts ranked highly amongst residents, with many liking the idea of hearing people's personal histories and also being able to know what's happening within the village. Similarly the Community Hub ranked highly for reasons of connection and knowing what's going on in the community.

Community: Solution Validation			
Solution	**Score (/10)**	**Likes**	**Considerations**
Community Hub	**8.4**	• Lots of "all of it" responses • Use of something like Google Home as the hub or connected	• User experience will be key
Village Podcasts	**8.8**	• Hearing people's personal histories • People's life and what it's about • What's happening this week	• N/A
Shared Interests/Activities	**5.8**	• The idea of it being structured around courses (e.g. 8 weeks craft)	• "Everyone knows anyways" was a common sentiment

Table 6. Community Solution Validation Data

Product Roadmap Recommendations

Based on the data gathered from residents in phase one and two, a product roadmap was developed, based on immediate, medium and longer term value. Given the roadmap is purely driven from resident data as opposed to data from sales, operations and developments teams, businesses cases and financials for the roadmap would be an extension to this research. A business case would need to take into account referrals and higher conversions in sales from offering these products to prospective clients.

A number of these products would need to be thought of as a package, rather than individually. For example, all three of the Technology Help propositions work together and complement each other.

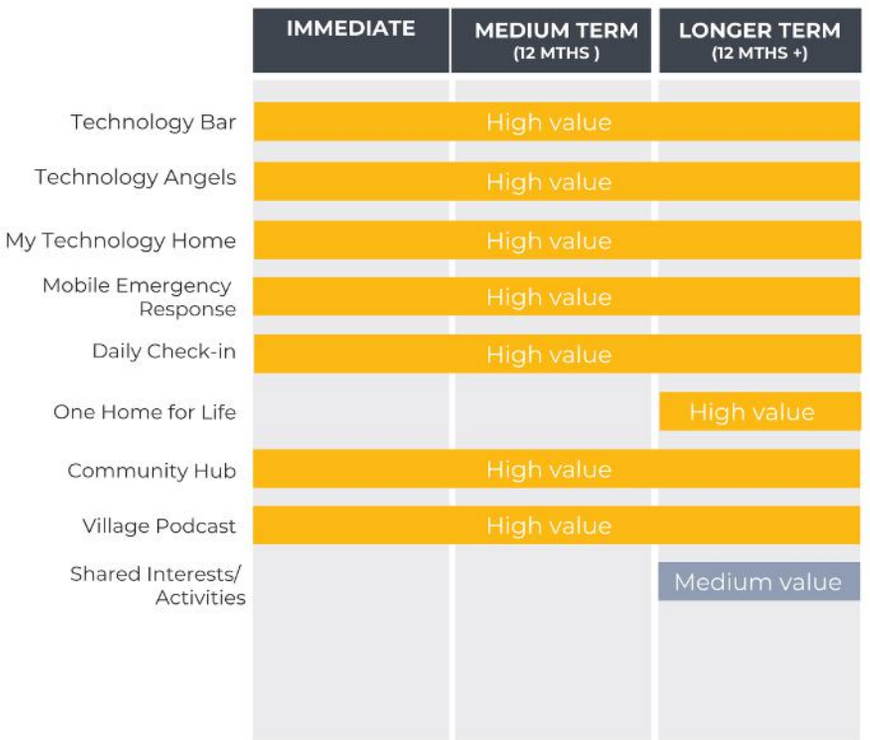


Table 7. Product Roadmap

Conclusion

At eevi, the design sprint methodology is consistently used for the development and testing of technology solutions designed to help elders enjoy a more independent life as they age. eevi products are unobtrusive, easy-to-use, reliable and adaptable and have been designed hand-in-hand with clients and their residents. Utilising today's leading tech brands, eevi has created our own tech platform and ecosystem that easily integrates with provider's systems to optimise health outcomes of residents.

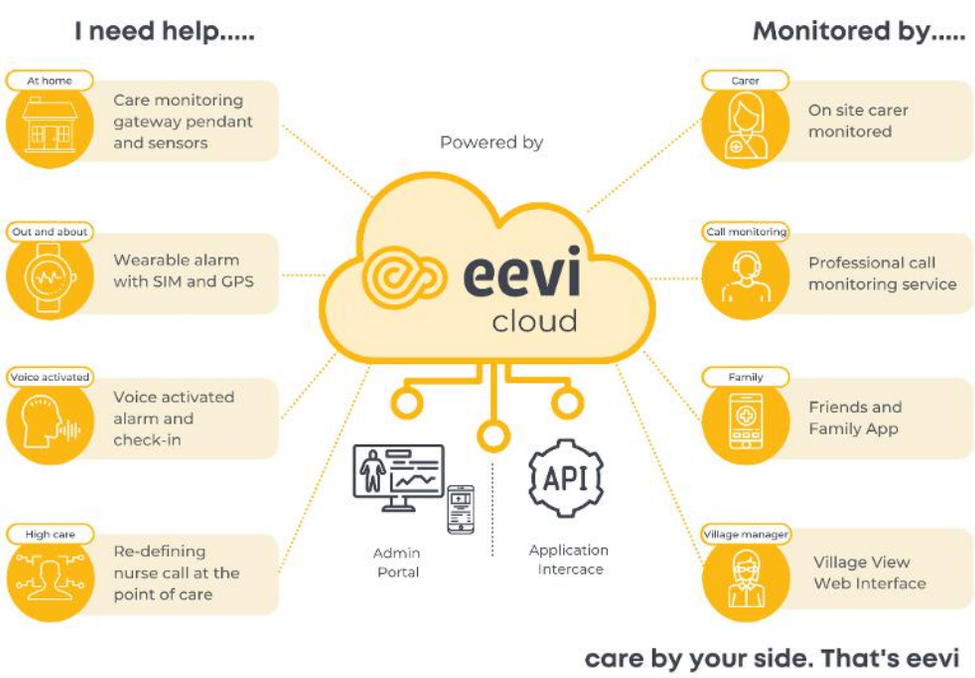
This is achieved with desirable technologies that residents will understand and want to use. We know this because we've spent time with them, asking questions and testing solutions.

Our commitment to providing the most relevant and effective solutions has resulted in our products being trusted by some of Australia's largest retirement living and aged care operators and home care providers.


To our readers,

If you're intrigued by anything you've read here- if you're motivated to implement your own resident-focussed approach to care technology, we invite you to share your feedback. If you agree, great. If you don't agree, then that's great too. We'd love to know either way as we continue our body of work on user-led design technology to bring about positive and lasting change within our industry.

David Waldie
Founder & Managing Director



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