

# Rendever Pilot Final Report

Front Porch Center for Innovation and Wellbeing  
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CENTER FOR INNOVATION  
AND WELLBEING



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## Executive Summary

The Front Porch Center for Innovation and Wellbeing (FPCIW; [fpciw.org](http://fpciw.org)) piloted Rendeвер (rendeвер.com), an immersive virtual reality (VR) platform for older adult social engagement, at Front Porch community Sunny View Retirement Community in Cupertino, CA.

The Rendeвер VR platform delivers immersive experiences through custom content and curated videos via VR headsets and controlled with a director tablet. Rendeвер was one of the VR solutions that FPCIW highlighted in a [white paper produced in partnership with CDW](#).

The pilot collected data over 7 weeks involving residents across all levels of care (residential, skilled nursing/care center, and memory care/Summer House) to assess impact on mood, socialization, and engagement. Residents filled out a pre-experience survey and a post-experience survey, and engaged with a staff facilitator to stimulate socialization and reflection of the experiences they viewed.

The pilot outcomes showed positive impacts, including the following:

- Reduction in negative moods and increasing positive moods
  - Increased feeling of being “Rested” from 54% (pre) to 64% (post)
  - Increased feeling of being “Composed” from 40% to 62%
  - Decreased feeling of being “uneasy” from 20% to 12%
  - Increased feeling of being “energetic” from 15 % to 28%
  - Increased feeling of being “Relaxed” from 48% to 54%
  - Increased feeling of being “Great” from 48% to 57%
- Residents expressed increased connection to their community
- 65% of residents felt engaged throughout the experience

Staff also found the Rendeвер solution to be easy to use and observed increased socialization among residents, especially in Summer House memory care. Based on the results of this pilot, FPCIW recommends Rendeвер as a viable tool for resident engagement and useful for fostering resident-resident and resident-staff interaction.

## Acknowledgements

FPCIW would like to acknowledge and thank Rendeвер, especially Director of Community Engagement Toby Patel, for their partnership and continuous, responsive support throughout our exploration and use of the Rendeвер solution. We would also like to thank the Sunny View Life Enrichment Team (Bethany Dinh, Rayeil Laia, Heather Engle, Anne Cook, and Vanessa Auguiano) for their enthusiasm in supporting this pilot and lending their expertise and creativity to deploying Rendeвер at their communities. Finally, we would like to extend our most heartfelt thank you to all the residents at Sunny View who participated in the pilot and generously donated their time to provide honest feedback about how we can best meet their needs.

## FPCIW Focus on Virtual Reality

FPCIW has been exploring virtual reality and its applications to older adults and senior living since 2014. Prior to this formal pilot, FPCIW had worked with the Rendever VR platform in multiple small projects at a several Front Porch communities and CARING Housing Ministries affordable senior housing to explore its uses, applications, and impact on older adult health and wellness. More about the small projects and their results can be found in embedded in our [CDW VR in Aging](#) white paper in partnership with CDW Healthcare in 2019.



*Group of residents visiting one resident's vacation home in Rendever VR.*

## Product Overview

Rendever ([rendever.com](https://rendever.com)) is a company based out of Boston, MA and has been producing a research-backed immersive virtual reality (VR) platform since 2015. The Rendever VR solution offers curated, on-demand, personalized experiences of travel, education, unique activities, games, relaxation, and more. It uses mobile VR headsets paired with a director tablet, which allows a facilitator to direct the viewing experiences of those wearing the VR headsets. These VR headsets are also wirelessly synchronized, which enables simultaneous shared group viewing of experiences. The ability to have shared viewing experiences promotes and integrates social engagement, a critical feature ingredient that we've outlined in our VR white paper. With Rendever, older adults can go on what can feel like group outings

with a “tour guide” facilitator, share with each other stories and sights of their lives and history as they revisit streets of their childhood homes, and even play games with each other.

The mobile VR headsets used primarily for this pilot at Sunny View and making up the bulk of the data in this report were four (4) Samsung Gear VR headsets paired with Samsung Galaxy S7 smartphones loaded with custom Rendeвер software, and is the version FPCIW deployed under this pilot. Rendeвер has since transitioned to using Oculus Go all-in-one standalone VR headsets. Both headset solutions are paired with one (1) Samsung Galaxy Tab mobile tablet also loaded with proprietary Rendeвер software.

## Pilot

### Pilot Design

The goal of the project was to promote meaningful activity participation and social engagement among older adults. Our objectives were as follows:

1. To measure and demonstrate the impact of immersive group and individual experiences;
2. To develop a replicable and sustainable model for adoption for users and their caregivers; and
3. To gain support and commitment from community Executive Directors to adopt Rendeвер for their communities.

Staff training was provided by Rendeвер. The 2-hour training thoroughly covered all the features of the Rendeвер platform, device use and setup, care and maintenance, as well as implementation ideas and suggestions to make sure staff were comfortable using the devices and understanding all of its features.

An FPCIW project coordinator collaborated closely with staff and residents of Sunny View Retirement Community to collect data from approximately 30 cumulative encounters across all levels of care: residential (independent and assisted living), skilled nursing (care center), and memory care (“Summer House”). Unique participants were encouraged to experience Rendeвер at least twice during the 2-month pilot at the community. A focus group was held at the end of the pilot period to collect narrative and qualitative feedback from both residents (Table A) and staff (Table B). Residential viewings were held in group format, while Summer House and care center viewings were held in either group or individual format.

Each Rendeвер session lasted approximately 45-60 minutes, which included completion of the pre-experience survey ([APPENDIX A](#)) and post-experience survey ([APPENDIX B](#)). Actual time spent in VR lasted 20-30 minutes. Rendeвер sessions were held both on a one-on-one individual basis between a staff member and a resident as well as on a group basis with up to a group of four residents. It was left to the discretion of the staff member to work with the resident to select content to experience in Rendeвер.

Staff were able to choose from a variety of categories and modes of experiences on the director tablet:

- **Guided Activities:** Exploration through varied themed series of 360-degree images (and sometimes video) paired with a facilitation guide with facts, questions, and information for facilitators to read out loud to participants, much like a guided tour with the facilitator as tour guide.
- **Explore:** High-quality curated points of interests and significant landmarks around the world from center stage at the Sydney Opera House to the International Space Station.
- **Maps:** Through the power of Google Streetview VR, participants can navigate anywhere in the world, even to hometowns and old addresses.
- **Videos:** 360-degree videos covering a wide range of topics from travel, animals, education, novel activities (like hot air ballooning, dirt bike racing, Super Bowl parade float, etc.). Every video is categorized for intensity for different levels of personal tolerance to visual motion.
- **Apps/Games:** Rendevar-created interactive experiences to stimulate social engagement, relaxation, and/or some physical activity. Games include Balloon Popper, iSpy with competitive and collaborative modes. Apps include sensory relaxation, mindful meditation/breathing, Ocean explorer.

Rendevar also offers a feature called the Resident Portal where each community resident can have a unique web link for family members to upload photos, videos, and 360-degree videos to create resident stories or to share family experiences with the resident. This feature was not explored during this pilot per the preference and capacity of staff members in wanting to focus on the Rendevar core features first.



*FPCIW Project Coordinator showing the Rendevar Director Tablet to a resident.*

To maximize the participation and engagement among residents, the Sunny View Life Enrichment staff deployed several strategies to recruit participants. The Sunny View team's outreach and marketing were crucial to the participation and involvement of resident volunteers for the pilot. These outreach activities included the following:

- A clear messaging strategy that described the program to staff and residents that promoted community involvement and participation;
- Regular resident meeting announcements; and
- Staff hand-selection and identification of residents who would likely be interested or presented known challenges with engagement in other community activities and low socialization.

During the period of compiling this pilot report, the world experienced a global pandemic with the outbreak of COVID-19, a highly contagious respiratory virus that required state-mandated stay-at-home orders, physical distancing, and other quarantine measures. These guidelines were designed to prevent its spread and protect the most vulnerable populations including those who are immunocompromised and older adults who are disproportionately fatally affected by this virus, leaving older adults at even greater risk of social isolation than normal. In response to the challenges of social engagement during the COVID-19 pandemic, Rendeever implemented features conducive to maintaining physical distancing for both staff and residents.

1. **Voice Communication.** Rendeever added two-way audio Voice Communication so that a group of residents can still converse with each other about what they're experiencing in VR while remaining in their separate rooms. The group facilitator holding the Director Tablet can also speak into the tablet from anywhere in the community, and residents will be able to hear the group leader.
2. **Expert Live Sessions via Rendeever Live.** Rendeever also added live, pre-scheduled expert-led sessions from the Rendeever team. Residents can talk to each other to react to the content on screen (but not to the expert facilitator). This rationale behind this offering was to provide a small break for facilitating staff who can just monitor the activity without having to fully lead it.

FPCIW was unable to test these new approaches at the time of writing this paper, but is currently investigating the impact of Rendeever during the physical distancing period at our Sunny View community.

## Pilot Findings

A total of 8 residential, 10 care center, and 12 Summer House resident encounters were documented for this pilot for a total of 30 resident encounters. Not all residents completed every question in the surveys. The pilot produced overall positive feedback for experiences with Rendeever, with most residents feeling calmer, more relaxed, and more satisfied post-Rendeever experiences. In the highlights of outcomes below, residents expressed or demonstrated the following:

## Multidimensional Mood State Questionnaire (MDMQ)<sup>1</sup> – Short Form A

- Increased feeling of being “Rested” from 54% (pre) to 64% (post) (an increase of 19%)
- Increased feeling of being “Composed” from 40% to 62% (an increase of 30%)
- Decreased feeling of being “Uneasy” from 20% to 12% (a decrease of 40%)
- Increased feeling of being “Energetic” from 15 % to 28% (an increase of 87%)
- Increased feeling of being “Relaxed” from 48% to 54% (an increase of 13%)
- Increased feeling of being “Great” from 48% to 57% (an increase of 19%)

Overall, residents saw increased positive moods and a decrease in negative moods.

In response to the survey item “I feel connected to other residents and/or my community,” 11% of participants disagreed prior to experiencing Rendeвер. After experiencing Rendeвер, 0% disagreed with the statement.

- 31% of responses agreed that VR allowed them to participate in meaningful experiences or activities that they might not otherwise be able to do in reality.
- 65% of responses felt engaged during the experience.
- 78% of responses agreed they would want to try VR again.

Residents of the care center notably provided some positive comments in their post-experience survey:

- “I was entertained with the technology.”
- “Very comfortable here.”
- “Enjoyed the puppies and seeing Venice. Very interesting!”
- “It’s [an] enjoyable pastime.”

Staff facilitating the sessions made note of observations and commentary on the post-experience surveys when working with residents living with cognitive and physical challenges who were unable to complete the survey themselves:

- “Really interested in technology, wanted to see more and more. Chatting about it all and past experiences. Brought up memory.”
- “Resident was observed to run her hands [through] the grass while smiling as the elephants approached.”
- “Seemed less agitated, kinder to those around her.”
- “Really liked Map also – gave home address – pointed out home street, named other streets, ‘intrigued by amazing technology.’”
- “Resident typically not engaged. Elephant video got a smile, increased motion, looking back and forth.” (Summer House)

A focus group was held at the end of the pilot at Sunny View with a group of residential and Care Center residents. Some of the highlights are as follows:

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<sup>1</sup> Steyer, R., Schwenkmezger, P., Notz, P. und Eid, M. (1997). Der Mehrdimensionale Befindlichkeitsfragebogen (MDBF). Göttingen: Hogrefe. <https://www.metheval.uni-jena.de/mdbf.php>



**Table A.** Resident Focus Group Highlights

Question/Topic	Sunny View Residents (6 total – 2 residential, 4 Care Center)
First Impressions & expectations:	<ul style="list-style-type: none"> <li>• Very good, surprising how it works. I could see the broader picture of my home, where I was born. Couldn't believe it! I hadn't visited in 60 years.</li> <li>• I was afraid, expecting a 3D experience. But it was wonderful. The balloon ride was so much fun. Heights bother me. But when you looked up and saw the basket, it didn't bother me like I thought. I didn't know it was scenes, and smooth, and very nice</li> <li>• I was a visitor. That's the part I like</li> <li>• It was like watching "stereo pictures."</li> </ul>
Favorite activities:	<ul style="list-style-type: none"> <li>• The New York Metropolitan Museum, that was nice.</li> <li>• They're (videos and stationary images) both "immaculate, fantastic." You Can go anywhere you want! Name a city. It was great. I can't see 3D too much – I only have one eye (macular degeneration). Took a while, did not know what I was going to see. Took a little bit, 30 seconds, then I saw a lot. Absolutely [able to see the whole image].</li> </ul>
Preference to use on their own or with another person:	<ul style="list-style-type: none"> <li>• Doesn't matter</li> <li>• We talk about it afterwards. It would be fun if we were watching the same thing</li> </ul>
Critiques/things they didn't like about Rendeвер:	<ul style="list-style-type: none"> <li>• There's a fellow that gives lessons, it's more exciting to hear him talk than see pictures. Like an auditorium, you and others see the same thing at the same time. Any time you have a machine like that, you're by yourself. I would rather see it on a large 3D screen.</li> </ul>
Could you see yourself continuing to enjoy Rendeвер experiences if it was readily available at Sunny View? Why or why not?	<ul style="list-style-type: none"> <li>• If it was scheduled, I would do it more.</li> <li>• If we had an assembly to talk about it, makes a big difference [for recruiting]</li> <li>• Would be nice if you have it on a schedule. 2 sessions a week.</li> </ul>
Other comments:	<ul style="list-style-type: none"> <li>• This is a great device for people to learn. We're losing our memories!</li> </ul>

A focus group was also conducted with Sunny View Life Enrichment Staff to gather their thoughts about Rendeвер's impact. The following are some highlighted comments:

**Table B.** Staff Focus Group Highlights

Question/Topic	Sunny View (SV) Life Enrichment Staff Responses (5 present)
What was your overall impression of Rendeвер?	<ul style="list-style-type: none"> <li>• "It was easy to navigate through it."</li> <li>• "Overall I thought it was really easy to use, really user friendly, and easy to engage residents. I was impressed it had residents engaging with each other when they don't normally do that much – pointing things out to each other, helping each other. It broke down my expectations of what VR could do."</li> </ul>

<p>What effects did you see Rendeвер having on the residents?</p>	<ul style="list-style-type: none"> <li>• For a resident in hospice “Betty” – I was really impressed in how she took it. I would never have thought she would have more words and how much she spoke about her experience.</li> <li>• We were going through different countries for traveling. They were just into it like “wow” and moving around. They were talking about it (in a group reacting out loud but not necessarily to each other).</li> <li>• It was a very positive experience really. More smiles, increased interest. It wasn’t a miracle cure by any means, but it really did seem to make a difference in their mood.</li> </ul>
<p>What were your favorite features of Rendeвер to use?</p>	<ul style="list-style-type: none"> <li>• I actually liked the Activity Guide part and being the tour guide reading the things out loud while residents looked around.</li> <li>• Balloon Popper and Videos</li> <li>• We really did like the guided tours, hot air balloons, swimming in the ocean [Ocean Explorer]. Anything that really allowed you to be in the environment. A resident from New York went back to her home street and saw what her neighborhood looked like. VR is more personal. For Summer House, I don’t see VR being used in a large group because you lose the personal connection.</li> </ul>
<p>What features do you wish Rendeвер had that it currently does not?</p>	<ul style="list-style-type: none"> <li>• More games. More competition so they can interact with each other more</li> <li>• I don’t actually know. Don’t want to overload it and make it hard to navigate. It’s kind of elegant in how it is now with its categories. I guess a search feature, if residents wanted to specifically see everything with “elephants” or a type of music</li> </ul>
<p>Thoughts on Rendeвер as an effective tool for providing enriching activities to residents:</p> <ul style="list-style-type: none"> <li>• Do you feel that Rendeвер added to or enhanced your ability to provide enriching activities for residents?</li> <li>• Did you feel that Rendeвер was a valuable tool to support your work with residents?</li> <li>• Do you feel like Rendeвер helped you connect more with residents?</li> </ul>	<ul style="list-style-type: none"> <li>• For me it was easy. It added to my interaction with residents</li> <li>• It really did, absolutely.</li> <li>• The key is that it’s so useable. I had a family member come up and ask me to try it after the San Francisco Chronicle article.</li> <li>• Yes! And [residents] connected with other residents, too. Residents would share about their experiences [to other residents]</li> </ul>

Other thoughts and comments:	<ul style="list-style-type: none"> <li>• We trained volunteers in the Care Center to use Rendeвер. They liked it.</li> <li>• Rendeвер is a good 3D, and it helps residents interact. It's good for educational [content]. It not only helps with their interactions but expressing their feelings.</li> </ul>
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## Conclusion

Based on the insightful resident and staff feedback from the focus groups and survey outcomes collected during the approximate 2-month period, we found that the Rendeвер virtual reality solution was generally successful in improving positive moods and decreasing negative moods in residents. Residents, especially as reported by staff in Summer House memory care, demonstrated increased social engagement with each other during and after the experiences.

Residents felt a personal connection to the experiences they viewed – for real life experiences they've always wanted to try and sights they wanted to visit once more. For Life Enrichment staff, they found it to be an easy-to-use, powerful tool in helping them connect and engage with their residents. It added another tool to their diverse arsenal of promoting social connection and meaningful activity engagement among residents. Overall, Rendeвер has demonstrated positive impacts to resident engagement and is a worthwhile tool for activity programming at Front Porch Communities. Especially now with consideration of COVID-19's long term impact on the balance of resident safety and social engagement, Rendeвер's diverse and thoughtful features can be a powerful ally for resident quality of life.

## Media Highlight

Sunny View Retirement Community's use of Rendeвер, among other technology solutions, was featured in the March 1, 2020 issue of the San Francisco Chronicle with the article [“Tech Rides the ‘Gray Tsunami’: Age-tech aims to keep booming demographic thriving. Can it?”](#) by Mandy Behbehani. It highlights the positive and innovative approaches Sunny View is using to care for the older adult residents of the community.

## APPENDIX A: Sunny View Rendezvous Pilot Pre-Experience Survey

- In the following, you'll find a list of expressions that characterize different moods. Please take a look at the list, word by word, and mark for each word the answer that represents best the actual intensity of your mood status.

Right now I feel...

	definitely not 1	2	3	4	extremely 5
1. content	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. rested	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. restless	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. bad	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5. worn-out	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. composed	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7. tired	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8. great	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9. uneasy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10. energetic	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
11. uncomfortable	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
12. relaxed	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

- To what extent do you agree with this statement:

*"I feel connected to other residents and/or my community."*

1  
Strongly  
Disagree

2  
Disagree

3  
Neither Agree  
nor Disagree

4  
Agree

5  
Strongly Agree

3. To what extent do you agree with this statement:

*“Virtual Reality (VR) allows me to participate in meaningful experiences or activities that I might not otherwise be able to do in reality (i.e experience items on your bucket list).”*

1  
Strongly  
Disagree

2  
Disagree

3  
Neither Agree  
nor Disagree

4  
Agree

5  
Strongly Agree

## APPENDIX B: Sunny View Rendever Pilot Post-Experience Survey

- In the following, you'll find a list of expressions that characterize different moods. Please take a look at the list, word by word, and mark for each word the answer that represents best the actual intensity of your mood status.

Right now I feel...

	<b>definitely not 1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>extremely 5</b>
<b>1. content</b>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>2. rested</b>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>3. restless</b>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>4. bad</b>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>5. worn-out</b>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>6. composed</b>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>7. tired</b>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>8. great</b>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>9. uneasy</b>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>10. energetic</b>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>11. uncomfortable</b>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>12. relaxed</b>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

- To what extent do you agree with this statement:

*"I feel more connected to other residents and/or my community after participating in this group VR activity."*

1  
Strongly  
Disagree

2  
Disagree

3  
Neither Agree  
nor Disagree

4  
Agree

5  
Strongly Agree

3. To what extent do you agree with this statement:

*“Virtual Reality (VR) allows me to participate in meaningful experiences or activities that I might not otherwise be able to do in reality (i.e experience items on your bucket list).”*

 1

Strongly  
Disagree

 2

Disagree

 3

Neither Agree  
nor Disagree

 4

Agree

 5

Strongly Agree

4. On a scale of 1 to 5 (1 = *Not at all* and 5 = *Very*), how engaged did you feel throughout the activity?

 1

Not at all

 2 3 4 5

Very

5. On a scale of 1 to 5 (1 = *Very Unlikely* and 5 = *Very Likely*), how likely would you try VR again?

 1

Very Unlikely

 2 3 4 5

Very Likely

6. What was your favorite part of the Rendever VR activity? (Please choose one)

Guided  
Tours

Maps

Videos

Apps  
(balloon popper,  
meditation, etc.)

All of the  
above

Any Additional Comments: