



## **Fine Art Miracles, Inc. (FAM)**



**Every 65 Seconds, someone in the US  
develops Alzheimer's Disease;  
Fine Art Miracles (FAM) can help.**

# BABYbot: A Solution for Adults With Alzheimer's Disease & Their Caregivers

Life with Alzheimer's disease and other dementias is challenging for both the loved one with the diagnosis and those providing care. Although dementia is recognized as a brain disorder, those with this diagnosis also suffer greatly from Behavioral and Psychological Symptoms of Dementia (BPSD) such as anxiety, aggression, mood disorders, boredom, and depression. For many, BPSD often causes more problems than the actual decline of dementia. With the onset of COVID-19, the past six years have added additional layers of difficulty for this vulnerable group, with loneliness and social isolation intensifying the symptoms they already have.

Behavioral and Psychological Symptoms of Dementia can be modified with both pharmacological and non-pharmacological interventions. Non-pharmacological interventions are considered the first step for treatment, because they are non-invasive, non-habit forming and have no negative effects. They offer improvements in the quality of life including cognition, depression, anxiety, and overall well-being. These interventions include behavioral therapies, art and music therapy, exercise, aroma therapy, and multi-sensory approaches.

Fine Art Miracles, (FAM) has been working with older adults with dementia, since 2007. Six years ago, FAM surveyed Caregivers to ask, "If you could change one thing about the day that you spend with your loved one with Alzheimer's Disease; something that would improve the day for both your loved one *and* for you, what would that thing be? The overwhelming answer at that time was: reduce the debilitating effects of my loved one's anxiety.

## The Beginning of a Solution

Since then, FAM has canvassed Caregivers again, this time including nursing home personnel, and we discovered that **what Caregivers really need is a tool that their loved ones can engage with independently, throughout their entire dementia journey, that will provide a purposeful engagement while reducing negative emotions (anger, boredom, fear, and frustration, anxiety) and any resulting unwanted behaviors. This tool must be sturdy, cleanable, and ideally should hold their loved one's attention for 20 to 50 minutes.**

FAM took the challenge. There were two things we knew:

- 1) All heads turn, when a baby is brought into a room. No matter where you are, everyone turns, looks, smiles. If in a nursing home, wheelchairs begin to slowly move toward the baby, as if a magnet is drawing them closer.
- 2) The second thing we knew, from our vast experience providing multi-sensory sessions for people with Alzheimer's Disease, is that participants respond positively to purposeful activities (reinforcing their sense that they are able to contribute and still matter), and to soft, huggable robots ( typically with an instinctual caring/nurturing response). This and the research that verifies the Human/Robot Interaction (an archetypal response when presented with a creature that is humanoid, but not exactly human, of having an irresistible urge to befriend and even help the creature), led FAM to wonder if it was possible to combine the two responses by introducing an irresistible baby robot that would inspire purpose? Would this tool have the ability to distract someone from deep negative emotions, easing difficult behaviors for people with dementia and perhaps offering a moment of respite for the Caregiver?

Enter BABYbot.

Created and designed to imitate a soft, swaddled baby, this prototype includes changing facial expressions and eye movement, and sounds imitating a baby: cooing, laughter, sneezing, baby talk, and breathing.





The purpose of this program is to mitigate and alleviate the behavioral and psychological symptoms of dementia, by igniting the Human/Robot Interaction while reviving the humanistic instinct of nurturing a 'baby.' This experience is meant to distract participants from their BPSD by giving them a purposeful activity: to physically and vocally care for a baby. At the same time, the welfare of the Caregiver is a critical part of the problem. We see the loved one with dementia and the Caregiver as a team and both must thrive for the partnership to succeed.

Both the Proof of Concept Tests and the first Pilot showed positive engagements for 75% of those who participated (3 people tested in the Proof of Concept and 12 individuals, identified at four nursing homes, tested in the Pilot Program).

After each session, a post-session survey was completed (by the Caregiver and FAM Facilitator) documenting their perceptions of the experience. In addition, quantitative data was collected from the BABYbot while in use. Information on how much the robot is handled (gyrometer) and the recording of volume pressure rates (verbalizing with the robot) was measured as evidence of engagement. No audio is recorded by BABYbot. BABYbot was disinfected using a UV ray wand each time it was used.

Benefits of working with BABYbot for the loved one are:

- 1) Stimulates multiple brain waves and, thus, brain functions
- 2) Activates the reward and pleasure centers of the brain
- 3) Lowers stress/anxiety and negative emotions
- 4) Reduces negative behaviors associated with negative emotions
- 5) Encourages engagement
- 6) Provides feelings of purpose
- 7) Increases feelings of connection
- 8) Decreases feelings of loneliness
- 9) Improves overall wellbeing
- 10) Provides conversation starters and can stimulate memory

Benefits of the Caregiver include:

- 1) Reduced stress regarding the loved one's activities
- 2) Time for respite and relaxation
- 3) Heightened sense of security when observing the loved one's delight
- 4) Assistance in conversing with a loved one at all stages of dementia

FAM's goal is to make available an innovative therapy tool, designed to soothe Alzheimer's and dementia patients who are experiencing negative feelings, with a low-tech intervention. We are actively moving dementia care forward, both in



redefining dementia as a team effort, made of both the loved one with the diagnosis and the care partner and in using ground-breaking technology to address emotions and behaviors that have gone unattended for too long.













## Finally: The Homebound BABYbot Test

FAM's final step was enhancing this innovative therapy designed to soothe dementia symptoms, by exploring the use of this low-tech intervention at home. Because the Caregiver 'partners' in this intervention, they are referred to as 'Care Partners' here. For the Care Partner, this activity provides a focus for communication and eases the burden that surrounds this disease. FAM collaborated with Caregiver advocacy organizations to assist with enrollment of thirty participants with dementia and their Care Partners.

For the first month we followed our initial plan, training Care Partners on the use and care of BABYbot, offering them a guide book with tips for communicating with folks with Alzheimer's Disease and how to use BABYbot. And we demonstrated the use of the BABYbot and left it with them for 30 days.

Surprisingly, we learned from the first five families participating, that these Care Partners were too burned out to utilize BABYbot correctly, and the project did not succeed. However, the eye-opening understanding of the depth of despair was invaluable and we believe we otherwise would not have gained this knowledge. As one care partner stated; tears spilling over, "Eventually the light just goes out. And there's nothing you can do, to turn it on again." She wasn't talking about her loved one—she was speaking of herself.

We quickly pivoted to a "BABYbot Service" and hired and trained eleven individuals to use BABYbot bot and we sent them out to work with the rest of our 26 families, six weekly visits for each family. The results were stunning:

- 85% of loved ones showed a positive affect during engagement.
- 93% of Care Partners rated their experience from very good to excellent.
- 100% of both groups stated they wish to continue working with BABYbot.

By the age of 65, you have a greater than 25% chance of developing Alzheimer's Disease. And every day in the US, 11,000 people turn 65. We need to do something NOW. Please join us and become part of the solution!









