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### **Using technology to assist and treat separation anxiety in new/existing dog owners**

Since it first hit national headlines in early 2020 the COVID-19 virus has influenced how the much of the world has handled human interactions. The introduction of lockdowns and isolation practices brought on by the pandemic have led to many people experiencing new levels of loneliness. Experiences of loneliness often leads to significantly increased the chances of a person experiencing other mental health symptoms. (Pia) Understanding these negatives effects many people turned to different methods to combat the newly found isolation. One of these methods is pet adoptions with the pandemic bringing on an increase in the rate of pet ownership. According to a global study there was a specific increase in dog ownership during the pandemic(Ho). This increase in the rate of dog adoptions as well as record numbers of prior owners being able to stay from due to remote work/lockdowns has led to people spending more time at home with their pets. However, years later we are now working our way back to normalcy with the help of increased vaccine availability, testing resources, or even the abandonment covid protocols in some places.

As pet owners get back to their working and social routines, they sometimes forget about the dog that grew accustomed to having them around so frequently. Dogs can quickly grow used to having company and just like people can become mentally distressed when faced with loneliness(Aspca). Separation anxiety in a dog has many ways of being conveyed some dogs become distressed and express anxious symptoms if they see their owner getting ready to leave(Aspca). Dogs can also become destructive displaying behaviors such as destroying furniture,

others howl for hours on end after being left alone(Aspca). This leaves many dogs owners in tough situations sometimes having to choose between dogs and living situations such as a howling dog in an apartment bothering neighbors. It's often hard to find a new owner willing to take on the responsibilities of a dog with known behavioral issues and with their already being around 390,000 dogs euthanized each year shelters are not an option for many owners.

It is clear to see owners of dogs with separation anxiety are left in a tough spot of having to find a viable solution that allows them to help their dog and themselves. This is the problem I want to design a solution for utilizing phone app technology as well as machine technology. There are a few solutions currently in place for this condition such as edible aids that help in calming dogs down or cameras that help you monitor your pet while gone. None of these solutions integrate all these methods into one singular solution, by using the phone app an owner can access helpful resources built around prevention and handling separation anxiety in dogs.

The app would also have access to the machine which will provide five key features camera, microphone, speaker, calming-treat dispenser, and a diffuser. The camera/microphone is used to monitor dog while the calming treat dispenser, lavender diffuser, and speaker will be used to provide relief when the dog is under distress. Studies have shown that diffused lavender odor cause dogs to spend significantly more time resting effectively calming them down (Wells). By using technology, it is possible to integrate all these effective solutions into on easily accessible app making it easier for dog owners to monitor, improve, and care for their dogs when they are and are not present. This will lead to a less lonely anxious dog with lessened symptoms of separation anxiety as well as a more confident informed owner.

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