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CONTEXT OF USE

Though safety is the main feature of the device, it can be used in a variety of fashions by many different users. Some key users include the elderly, parents who are often away from home, forgetful users, and anyone else simply wanting to make their household safer. This stems from the fact that the stove and oven are the largest contributors to household fires in the United States. Based on a recent report from the National Fire Protection Agency (NFPA), forty-three percent of all home structure fires from 2007-2011 were caused by cooking equipment¹. This is more than triple the rate of fires produced by heating equipment, which is the second leading cause at sixteen percent². On average, home structure fires cause an estimated 2,570 civilian deaths, 13,210 civilian injuries, and 7.2 billion dollars in property damage per year.

Because of these statistics, the types of users vary widely. One of these user groups include parents who'd be able to limit potential accidents caused by the stove or oven when they are not home. In order to prevent children from using the stove or oven, parents would be able to set restrictions on the device that would not allow gas or electric flow to the appliance for any desired period of time. Anyone wishing to make their household safer, including the forgetful, would also get plenty of use out of the device. For example, if someone were to set a pot to boil then accidentally forget about it after walking, the device would interfere as it would cut off gas or electric flow after thirty minutes unless this is bypassed by the user. This would additionally protect in the event that a user left the house without turning off the stove. While the timer function would activate in these situations, the user would also have the ability to cut off flow remotely via the smartphone or tablet app. Lastly, one group that may have the highest stake in this product would be the elderly - who make up the highest percentage of home fire victims³. In the event of an emergency that may threaten the life or well-being of an elderly person, the device can assist in minimizing damage or eliminating it altogether. This is performed through the device's connection with other devices in the home. If a smoke alarm in one's house were to be activated, or if a temperature influx were detected, the device would immediately cutoff gas or electricity to the stove or oven, thus potentially eliminating the chances of a hot dish turning into a fire. It would additionally eliminate the need to reach over the flames of a stove or oven fire.

Overall, these uses all assist users in avoiding fires caused by the stove or oven. They additionally help the user in the event that a fire were to arise. Yet, another potential use regarding safety exists in the stove being able to detect gas flow. These gases are not only a fire hazard, but have also been linked to respiratory illnesses in preschool-age children⁴. Thus, with the activation of the timer setting, the device not only increases fire safety but can also play a role in reducing these types of illnesses.

¹ The NFPA's statistics are based on data from the U.S. Fire Administration's (USFA's) National Fire Incident Reporting System (NFIRS) and the NFPA's annual fire department experience survey.

² <http://www.nfpa.org/research/reports-and-statistics/fires-by-property-type/residential/home-structure-fires>

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⁴ A Cross-Sectional Study of the Association Between Ventilation of Gas Stoves and Chronic Respiratory Illnesses in US Children Enrolled in NHANESIII, Molly L Kile, Eric S. Coker, Ellen Smit, Daniel Sudakin, John Molitor, and Anna K Harding, Environmental Health Journal, 2014, 13:71. <http://www.biomedcentral.com/content/pdf/1476-069X-13-71.pdf>