IoT Baby Monitor

MINOR PROJECT REPORT

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# ROLES AND RESPONSIBILITIES

| NAME | ROLE | RESPONSIBILITIES |
| --- | --- | --- |
| Rhys Gilmartin |  |  |
|  |  |  |
| Leigh McGuinness |  |  |
|  |  |  |
| Stephen Meehan |  |  |
|  |  |  |
| Abdul Rahman Saif al Ahdubi |  |  |

# Technologies used

| NAME | Source |
| --- | --- |
| GitHub |  |
| Trello |  |
| Fritzing |  |
| Arduino IDE |  |
| Pushing Box |  |
| Bonitasoft |  |
|  |  |

## Outline of the Problem

The problem our team has set out to solve is a problem faced by people of all race, creed, and social standing in lla parts of the world. There are very few things as universally important to humankind as the care of our children. In the technological age of today, people are increasingly turning to gadgets and tech to help solve our everyday problems.

Parents worldwide are using baby monitors as they can provide peace of mind around the comfort of their children, easing parental anxiety (Harwell, 2021). ­This anxiety leads to parents experiencing broken sleep patterns, due to getting out of bed to check on their children. An effect of this is circadian rhythm disruption,

“Insufficient sleep and circadian rhythm disruption are associated with negative health outcomes, including obesity, cardiovascular disease, and cognitive impairment” (Möller-Levet *et al.*, 2013).

In light of mental health having implications on physical health, such as BMI, further highlighted in a report on Social Jetlag and Obesity by Roenneberg *et al.*, 2012, the use of a baby monitor can reassure, and lead to lower levels of anxiety in parents increased physical health.

Another negative effect of disrupted sleep are elevated levels of tiredness, reducing people’s productivity in the workplace, leading to more stress and anxiety and a repeat of the cycle.

As a solution to the above-mentioned problems, our group propose the installation of an IoT baby monitor featuring a crying-alert, night-light and a speaker which will play a lullaby. These components of the device will be triggered by a sound and movement sensors.

The peace of mind provided by having this device can lead to a reduction in anxiety and a reduced need to get up to check on a child, thus alleviating some of the negative physical and metal health effects experienced by people.

Should I work in some of our own research findings???

While not a new development, baby monitors are still a useful tool used by many, and with the rise of the Internet of Things, they can now take on a new dimension. The ability to produce a report on nightly activity of a child through the use of an API will allow a parent or career to monitor the child nightime behaviour, further enforcing their comfort in not always rising to check on the child.