**Report 0**

The topic of the project: ‘Babycare’ Environmental Anomaly Detection System in Infants.

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Abstract

Environmental anomaly detection systems exist in our industry. In our project we want to focus on a system, which will be applied among infants in the NICU (neonatal intensive care unit), where the number of babies is significantly greater than that of nurses. This situation justifies using the proposed accessory in such environment. The proposed system will notify the staff about an emergency event. The following parameters are being considered by the Babycare:

. Temperature1

2. Humidity

3. Stopping pulse.

The sensors that will be used by “Babycare” are as follows:

1. **Raspberry Pi**: We will use the second version of its Model B+. The device is a cheap single board computer with suitable connections. It will be possible to synchronize this hardware to the relevant computer software.

2. **Temperature-humidity sensor** optimized, heartbeat sensor, noise sensor.

3. **Matrix of connections**: the sensor is placed on it.

4**. Electronic Hardware**: Cable of conductors, resistors, bulbs.

The software will combine the appurtenance above, by the following modules:

1. Communication: Internet, Wi-Fi, sending information (text messages, Whatsapp).

2. A database management system: Histories of the events are accompanied by statistical data.

3. Algorithms: calculating the optimal team composition in order to maintain the system (nurses, technicians). Another module will map the sensors space in the computer.

4. Simulation execution in order to debug before publishing the project to the all public.

5. Determination of criteria for various emergencies such as a temperature above a certain threshold.

The implementation will take place in the Python language to synchronize the different modules.

We want to express a secondary benefit from the project by utilizing the syllabus, especially of the following courses: databases, software structure, data structures and algorithms.

In future, in case of commercialization the system, it will be necessary to examine the product in a validating process, checking the conventional standards, to accept the product for wide use by the community.