Galway - Mayo Institute of Technology

Final year project

Easysleep

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Declaration

This project is presented in partial fulfilment of the requirements for the Degree of Bachelor of Engineering (Hons.) in Software and Electronic Engineering at Galway-Mayo Institute of Technology. This project is my own work, except where otherwise accredited. Where the work of others has been used or incorporated during this project, this is acknowledged and referenced.

Acknowledgement

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1 Project background and motivation

Aim of the project, Why?

The goal of this project is to create a device that would help resolve nocturnal enurism (bedwetting) so common in children above the age of 5.

During my research on the topic of bedwetting I have come to some interesting numbers. 15children above the age of 5 still wet the bed at night, while 5

2 Overview

What is Easysleep?, Research, Architecture diagram

The project consists of two devices that are able to communicate via Bluetooth and a mobile phone application. The idea behind the project is a master device capable of detecting moisture and recording the time and the data of this event. The master device can then notify the secondary one (bracelet) responsible for waking up the sleeping person on the following night prior to the event-time and also receive acknowledgement status. The master device can also communicate with a mobile phone application. The user can silence an ongoing alarm, request current date and time of the system or change it and also request data of last ten events that would then be saved into an SQLite database on the phone.

3 Hardware

Hardware used, Connections, Specifications

4 Software

Software used, Programming languages, IDEs, Software tools

4.1 MCUXpresso

development of code for K64Fs

4.2 Android Studio

mobile application development

4.3 Other

SystemView, FreeRTOS, Pulseview, Git/Github, project management software, BT configuration

5 Conclusion

what was the development of the project like

6 References

7 Bibliography