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Project Repo URL : <https://github.com/kento-mc/toddler-gatekeeper> Project Website: <https://kento-mc.github.io/toddler-gatekeeper/>

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| Grade Band | Combined Knowledge | Networking Technologies | IoT Solution | Communication |
| Base |  |  |  |  |
| Good |  | WiFi & SSH connection between laptop and Raspberry Pi  Bluetooth connection to speaker. Setting up Bluetooth headless took a good bit of configuring. | Solution has a clear domain application. | Github repo with detailed and fleshed-out readme file. |
| Excellent | Knowledge from three strands:  1. Programming, including multiprocessing  2. Database: with remote connections  3. Computer systems | MQTT messaging mediated by Wia as detailed below. | I would characterize this as a good prototype, as it shows the suitability of the various technologies/ protocols, though it lacks any suitable GUIs or more refined physical implementation. | Instructional video included in the readme file/website. |
| Outstanding | Multiprocessing in Python might qualify for this band as it was self-acquired knowledge. Also had to do a bit of reading to set up remote connections for MySQL | Use of Wia to log and visualize data, and flows to send email and SMS notifications |  | Github Pages website mirroring what is included in the readme file. |

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Additional Comments: Demonstration video: <https://drive.google.com/open?id=1LrCdx6n4-Phj_Y3xchccxNcxP8jbA6hr>

The main learning outcomes of the project for me were troubleshooting connecting devices on a local network and getting more comfortable with Python. The most time was spent in refining how the accelerometer data from the Sense Hat was captured and used, and then figuring out the networking of the remote database and Bluetooth device from the command line. Setting up Wia was very straightforward after working through it in the labs. If I were to take this further I would focus next on creating a web interface that would allow for a more elegant presentation of arming the Gatekeeper, providing a time threshold, and maybe setting up a schedule for how it operates on different days of the week. Then, ideally, that web interface could be replicated in a mobile app. Naturally, the sensor used on the door and what type of display was mounted would also need to be refined to something less heavy-duty than a Raspberry Pi and Sense Hat.