

Group number: May 1715

Project title: Internet of Machines

Client &/Advisor: Vermeer, Keith Bryant and / Dr. Sang Kim

*Team Members/Role: Dean VanEvery/Team Leader, Cody Lample/Key
Concept Holder, James A Kluesner, Matthew Gustin/Webmaster, Sam
Ellis/Communications Leader, Kojo Otchere-Badu*

o **Weekly Summary**

This week we demoed our design to our advisor and performed field testing of the LoRa transmission. From this we were able to get a better idea of the transmission range of the hardware at the power settings we originally planned on using and allowed us to plan accordingly.

We were also able to packetize on the node (sensor) end and successfully cached dropped requests on the server end.

o **Past week accomplishments**

- Matt Gustin –
- Dean VanEvery – Tested tx/rx range in coover & scripted data upload to arduino
- Sam Ellis – Added caching of dropped requests to server posting script
- Kojo Otchere-Badu – Tested ranges for LoRA communication
- Cody Lample - Cleaned up C code and tested LoRA range
- James Kluesner – Finished script to push data received to .txt file

o **Pending issues**

We've found some issues in the range of the transmission, finding that it requires higher power than initially planned to have the originally expected transmission range.

o **Individual contributions**

| <u>NAME</u> | <u>Individual Contributions</u> | <u>Hours this week</u> | <u>HOURS cumulative</u> |
|--------------------|--|-------------------------------|--------------------------------|
| Cody Lample | Test range of LoRA | 3 | 23 |
| Dean VanEvery | Tested tx/rx range in coover & scripted data upload to arduino | 5 | 20 |
| James Kluesner | Python scripts 50% complete | 3 | 21 |
| Matt Gustin | | 2 | |
| Sam Ellis | Completed & debugged gateway to server script | 4 | 25 |
| Kojo Otchere-Badu | Tested loRA communication | 3 | 23 |

o **Plan for coming week**

Present design to our sponsor, do further testing/integration and work on the project poster due Sunday the 16th. Begin re-writing the project plan to reflect changes made since last semester and begin preparation for presenting design for Vermeer (Wed. 26th tentatively) and the ISU faculty (Thurs 27th).