20.03.2021

CMPE312 Term Project Task Spring 2021

“WSNSim development”

Consider low-energy adaptive clustering hierarchy (LEACH) protocol [1]-[3] for wireless sensor networks (WSN). Implement a software system for simulation of WSN with LEACH protocol (WSNSim) providing opportunity of conducting simulations similar to those presented in [1], Figs. 3 12, [2], Figs. 7, 8, and [3], Figs. 4, 5. WSNSim shall be implemented as an online system providing its functionalities for registered users (full functionality), guests (limited functionality), and administered by a system administrator.

The project shall be implemented by teams of 3-10 people.

The milestones of the project are as follows:

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| --- | --- | --- | --- |
| # | Week of | Activity | Deliverable |
| 1 | 12.04.2021 | Presentation | Project proposal report |
| 2 | 17.05.2021 | Presentation | Project Software Requirements Specification report |
| 3 | 07.06.2021 | Presentation | Final report |

Templates and samples of the reports are available in [here](https://staff.emu.edu.tr/alexanderchefranov/en/teaching/cmpe312/homework). One report team shall be presented. Final report shall be accompanied also with all project related data (codes, executables, manuals, etc., all in a zip file). Files with reports shall be named: “CMPE312 TP Spring2021 Team#”.

References

1. W. R. Heinzelman, A. Chandrakasan, and H. Balakrishnan, Energy-Efficient Communication Protocol for Wireless Microsensor Networks, Proceedings of the 33rd Hawaii International Conference on System Sciences – 2000, p. 1-10
2. W. B. Heinzelman*,* A. P. Chandrakasan*,* and H. Balakrishnan, An Application-Specific Protocol Architecture for Wireless Microsensor Networks, IEEE TRANSACTIONS ON WIRELESS COMMUNICATIONS, VOL. 1, NO. 4, OCTOBER 2002, p. 660-670
3. I. Sohn, J.-H. Lee, and S. H. Lee, Low-Energy Adaptive Clustering Hierarchy Using Affinity Propagation for Wireless Sensor Networks, IEEE COMMUNICATIONS LETTERS, VOL. 20, NO. 3, MARCH 2016, p. 558-561.