Writeup for the talks of Dr. Eli Tilevich 12/3

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Dr. Eli Tilevich abbreviated as Dr. T is a full professor of the Computer Science Department of Virginia Tech. He leads the Software Innovations Lab. He received his PhD from Georgia Tech in 2005. He has referred to more than 110 technical publications. He is also a professionally trained clarinetist and toured China with Manhattan Symphonie in winter 2015.

Dr. T's research interests include Systems end of Software Engineering, CS Education, Music Informatics, Middleware. And in the presentation slide, at his research interest page, there was a **?** mark that he explained as that he always likes new ideas of research from the students in any field. That is very impressive.

During the presentation, Dr.T. referred to a paper titled **Communicating Web Vessels: Improving the Responsiveness of Mobile Web Apps with Adaptive Redistribution** for which he and one of his students received the best paper award at the *International Conference on Web Engineering 21.*

Dr. T. later explained distributed applications and the motivation behind distributed computing, along with the benefits and costs of distributions. Distributed computing takes advantage of remote resources and improves performance. But it has issues when it faces partial failure, communication overhead and fails to maintain consensus among its subsystems. Dr. T. then visualized a client-server architecture to explain more about distributed computing.

Later Dr. T. provided an overview of the paper mentioned above for which he was awarded the best paper award. To make it more clear he explained the physics behind communicating web vessels. He gave an overview of the techniques used in that paper and visualized the evaluation graph of that paper.

After that, Dr. T described task and data offloading to the server by which a client can upload local tasks to the server and can get benefits from the high computable server. On the contrary, he also described cloud outsourcing in which cloud tasks can be passed to clients to perform the tasks as local tasks. Dr. T also highlighted how to refactor the server and client to make them enable to transfer tasks between them and what can be energy consumption drawback due to this.

Dr. T. also gave a brief overview of blockchain technology. He referred to some of his papers on **block-based software** and suggested reading for better understanding and knowledge. Furthermore, he explained the engineering behind refactoring for scratch with informative visualization. He provided an example **Extract Custom Block** so that the explanation of the refactoring technology becomes more clear.

The seminar held by Dr. T. was a very nice one. It was easy to understand and very much informative. After this seminar, I have received a clear understanding of distributed computing and what can be its pros and cons. Also as a bonus during the presentation, he showed a type of equation that clears the idea of the path to becoming a full professor after completing graduation.