VIDEO ASSIGMENT-2

The lecture was given by the John Hennessy who is the former president of the department of computer science at Stanford University and David Patterson who has worked on University Of California, Berkley. In the Lecture Professors talked about the revolution of computer architectures and issues related to design of simpler and efficient ISA's, and also how to map them on to hardware efficiently at microarchitecture level. They also talked about designing hardware is not just a seperate field of computer science. Different researchers working on operating systems, compilers, programming languages, and many more fields must work collaboratively to deal with the issues in our era. Professor Hennessy also said that it is impossible for anyone to master all the fields of computer science due to tremendous growth in the area. We are in an data intensive era in which we have to be able make millions, or even billions of computations to solve hard problems , and seemingly it is not possible with single core computers. Professor David Patterson said that "Future is parallel." which reflects the importance of parallel computer architectures and parallel programming techiques. I liked the way they introduced the evolution of computer architecture field starting with the IBM mainframes and resulted in with todays modern superscalar and out-of-order execution processors. In general what I didn't like regarding style of given lectures by the Professor Onur Mutlu and also this ACM lecture is that concepts are usually general, not giving the essence of study field, rather they mostly focused on technological imporvments in the fields. In my opinion giving fundametal ideas help even anyone who is not in the field understand the ideas, like what is an assembly language?, What is an instruction set and why we need them?, What is the relationship between processor and ISA?. If they would have given a background I think It may be better. The question that I want to ask to lecturers is that is it possible to design a more general instruction set architecture so that we can use it in most devices rather than desgining seperate instruction sets for different purposes, because would't it makes the communication among community easier as there can be single ISA which can be learned as sole ?