Aktuelle Meldung

Hasso Plattner Institute and IBM: MOOC on the future of computing
April 23, 2019

On May 1, the Hasso Plattner Institute (HPI) launches an online course on the future of computing. It lasts four weeks and is offered free of charge on the IT learning platform openHPI. The title is "The Future of Computing - IBM Power 9 and Beyond". HPI Professor Dr. Andreas Polze, Head of Operating Systems and Middleware, offers the course together with Hildegard Gerhardy from the IBM Academic Initiative Europe and Dr. med. Wolfgang Maier, Director of IBM Hardware Development in Böblingen. Registration for the Massive Open Online Course (MOOC) in English is possible at https://open.hpi.de/courses/ibmpower2019.

"We present to the participants different approaches that can be used to master the challenges of digitization, especially the exponential growth of data," says Andreas Polze, Professor of Computer Science at HPI. He points out that global information storage per capita has almost doubled every 40 months since the 1980s. "And in about five years, some researchers expect that there will already be more than 160 zettabytes of global data volume," says Gerhardy. Expressed in numbers a zettabyte is 1,000,000,000,000,000,000,000 bytes, that is 10^{21} Bytes.

"As more and more unstructured data, such as the Internet of Things, is produced and must be analyzed, it is necessary to pursue new approaches in software development," says Maier. There is also the issue of the provision of microservices, container solutions and cloud-based applications. In addition, IT organizations need new basic technologies to handle the massive amounts of data, such as hardware accelerators, artificial intelligence, and blockchain technologies.

This trend of novel data analysis, the so-called "Systems of Engagement," is what Polze and the other two course instructors want to contrast with the essential technologies of the traditional "Systems of Record," which still play an important role. "Reliability, high availability, and service-friendliness of the systems require sophisticated hardware, operating systems, and application-neutral programs—the middleware— in order to handle large-scale transactions," said Prof. Polze. In the past, the main focus was on managing corporate resources and handling financial services. Today, connected markets require the constant availability of communication and sales systems and the use of decision-support systems.

A focus area of the course on the future of computing will target technologies related to IBM Power Systems. In its OpenPower initiative, the group collaborates with more than 300 member companies, including Google, Samsung and NVIDIA, to create diverse innovations ranging from software to hardware. Use cases are provided by the companies Vattenfall and Bosch. The course is directed at those interested in IT who have a basic knowledge in computer science and algorithmics.

Depending on previous knowledge, the expected the workload is around six hours a week. This includes participating in short video lessons and acquiring knowledge of the curriculum, with verification based on quizzes and a final exam. Questions can be asked and clarified in the discussion forum. Besides earning the regular certificate for this course, it is also possible to obtain a qualified HPI certificate. Universities are free to decide on the allocation of ECTS credits for students.

Some facts about openHPI

Launched on September 5, 2012
Individual users: around 196,000*
Course enrollment: around 593,000*
Issued certificates: more than 63,000*
Archived courses: almost 60*
Course languages: German, English, Chinese
Website: https://open.hpi.de
* status as of April 2019

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