Language Integrated Query in # 3.0 – Leave Plumbing to the Plumbers

.NET Language Integrated Query (LINQ) unifies querying across programming languages and across data sources. Most application developers work with external data in various formats, such as relational tables or XML documents. Currently, reaching across the gaps of different data representation and different access methodologies is a major challenge in every single application. APIs are often unsafe and error prone, and always specific to the data source. With LINQ, queries are written directly in your programming language, using the same strong typing and deep tool support as the rest of the application. A uniform querying syntax allows developers to focus on the programming, not the plumbing.

Any data source provider can plug into the LINQ framework. Already in the box are LINQ providers for XML, relational data and in-memory queries. LINQ is API based and can be used from any .NET programming language, but the experience is greatly enhanced by a number of extensions to C# and Visual Basic, many of which have their origins in functional and metaprogramming. This talk dives deep into the guts of LINQ, focusing on how it brings together many different technologies under the hood to provide a smooth experience on top.

Mads Torgersen’s Biography

Mads Torgersen is a Program Manager at Microsoft in Redmond, with responsibility for the C# programming language. When he’s not out spreading the gospel, he is a core member of the C# design group which currently focuses on the language and library aspects of the LINQ technology. He coordinates and communicates between designers, implementers and testers and with other product groups, and writes too many specifications and other documents for his own good. Before joining Microsoft, Mads was an associate professor at DAIMI, the Computer Science department at Aarhus University, where he worked for four years on programming languages and type systems. The most visible outcome was the wildcards feature in Java generics, which was designed and implemented by Mads and his group at DAIMI.

Host: Associate Professor Michael R. Hansen