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ΟΜΙΛΗΤΗΣ:



Παναγιώτης Βασιλειάδης

Αν. Καθηγητής

Τμήμα Μηχ. Η/Υ & Πληροφορικής

Πανεπιστήμιο Ιωαννίνων

ΗΜΕΡΟΜΗΝΙΑ:

Τρίτη, 2 Ιουλίου 2019

ΩΡΑ:

12:00

ΑΙΘΟΥΣΑ:

Αίθουσα Σεμιναρίων (ισόγειο I11)
Κτήριο Τμήματος Μηχανικών Η/Υ &
Πληροφορικής

Θέμα

Schema evolution for relational databases

Περίληψη

Like all software systems, databases are subject to evolution as time passes. Apart from the evolution of the content, the internal structure, also known as schema of the database, evolves too. The impact of schema evolution is tremendous as every change to the schema of a database affects the syntactic correctness and the semantic validity of all the surrounding applications and de facto necessitates their maintenance in order to remove errors from their source code.

The talk will provide a walk-through on the currently available evidence on the mechanics of schema evolution, based on the study of the version history of free, open-source systems (FOSS) that are built on top of relational databases. We will discuss the main lessons learned from these case studies, organized in three lines of investigation. In the context of the first line of investigation that deals with the evolution of the schema in its entirety we will discuss regularities concerning the growth patterns and the change rate of the involved schemata. In the context of the second line of investigation, that deals with the evolution of individual tables, we will discuss findings on how the change profile of individual tables is related to their structural properties, like schema size (the number of attributes of a table), duration, and, time of birth. In the context of the third line of investigation that deals with the evolution of foreign keys we will discuss how foreign keys evolve along with tables, along with evidence about the mistreatment of foreign keys in several occasions.

Open issues for further research will be discussed at the end of the talk.