



The loose ends of my CWI career

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In my 20's



When you are in your 20's



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In my 20's



Rest In Peace ??

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In my 40's



Recreate In Peace

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In my 60's

Explore In Peace

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I made it





Collect
Curate
Store
Management:
Organize
Data Volumes
Retrieve
Transform
Present

Database

Very Large

Science motivation:
don't take assumptions
and solutions for granted

Database architecture soup

Mainstream DBMS system products

- ACID, OLTP
- SQL (NoSQL, newSQL)
- Row storage layout
- Cost-based optimizer
- Manual indexing by DBA
- Execution engine on block-streams
- Single-threaded
- HDD, SSD, NVMe
- ...
- Horizontal scale-in/out

First-year's student information

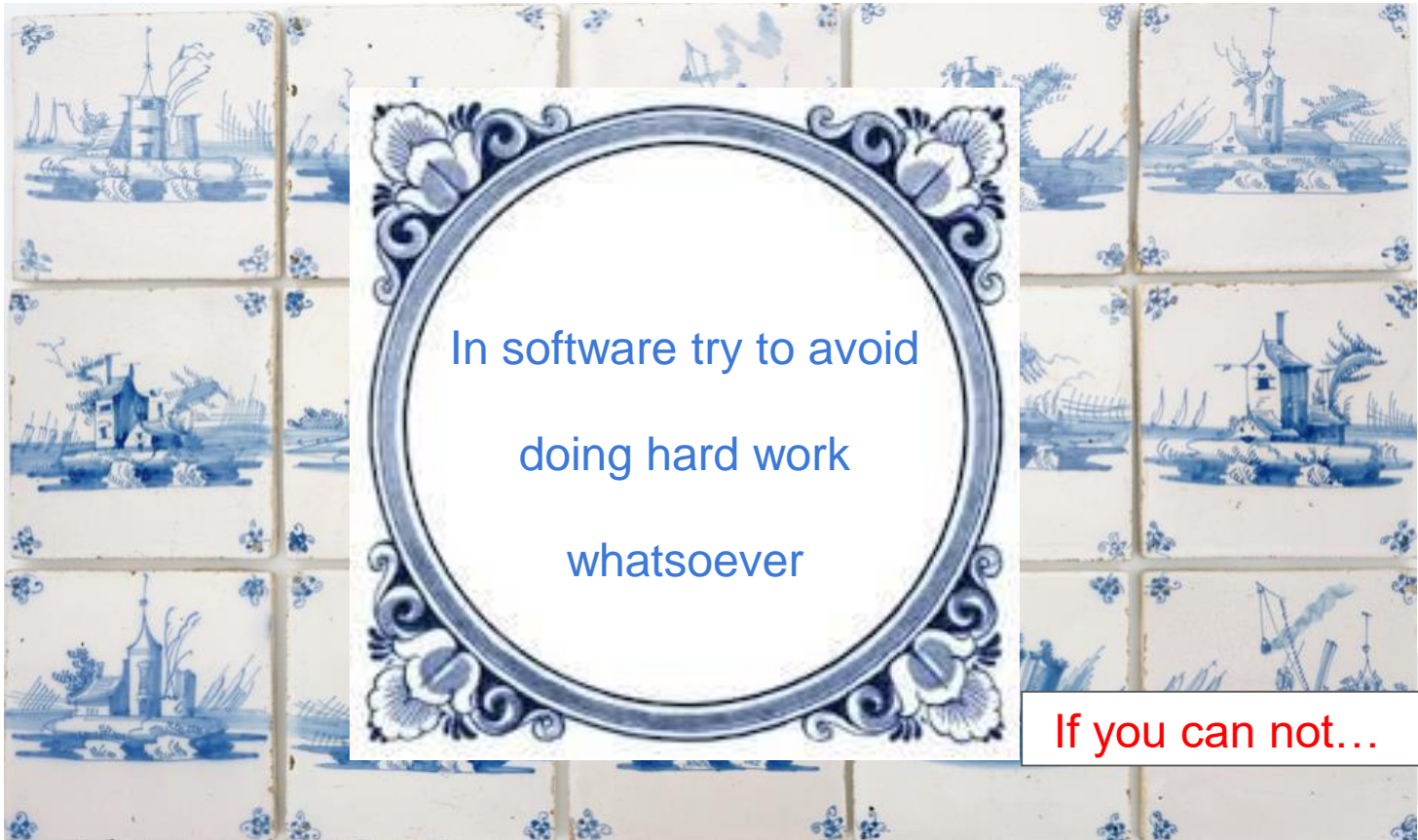


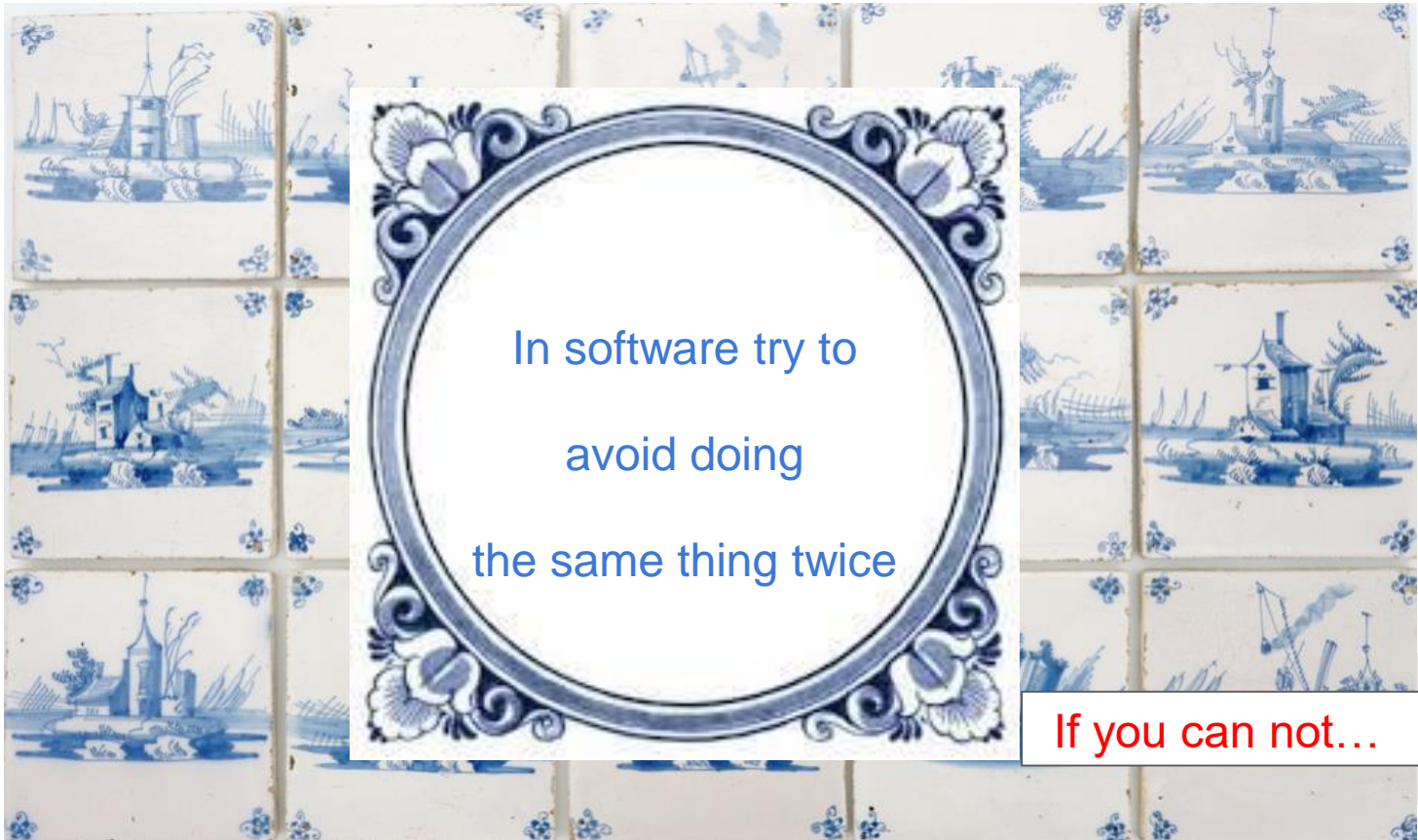
MonetDB (1993- now)

- ACID, OLAP, Data Analytics
- SQL (Python, C integration)
- Columnar storage layout
- ~~Cost-based optimizer~~
- Auto-indexing
- Execution based on materialization
- Multi-core, multi-threaded
- HDD, SSD, NVMe
- ...
- Vertical scale-up/down

PhD research agenda









- One-minute DBMS for **real-time performance**.
- Multi-scale query processing for **gradual exploration**.
- Post processing for **conveying meaningful data**.
- Query morphing to adjust for **proximity results**.
- Query alternatives to **cope with lack of providence**.
- Data rotting to **deal with lack of resources**.
- Data crumbling to **increase knowledge accumulation**.



Martin L. Kersten, [Stratos Idreos](#), [Stefan Manegold](#), [Erietta Liarou](#):
The Researcher's Guide to the Data Deluge: Querying a Scientific Database in Just a Few Seconds.
[Proc. VLDB Endow. 4\(12\)](#): 1474-1477 (2011)

Assets of a Scientist



Energetic



Flexible



Innovative



Educative

CWI, a research oasis in the wilderness of political driven science funding

...18 years of Management Team services

... hunting for large scale research funds

... locked into a meeting room > 1 month/year



1985 - Database Architectures group and MonetDB team

| | | | |
|---------------------|--------------------|--------------------|--------------------|
| Arno Siebes | Johan List | Eleni Petraki | Dimitar Nedev |
| Frans Schippers | Marcin Zukowski | Yagiz Kargin | Georgina Ramirez |
| Carel van den Berg | Roberto Cornacchia | Holger Pirk | Panos Kouourakis |
| Sjoerd Mullender | Sandor Heman | Wouter Alink | Pedro Ferreira |
| Peter Boncz | Torsten Grust | Stratos Idreos | Joeri van Ruth |
| Niels Nes | Jens Teubner | Erietta Liarou | Aris Koning |
| Stefan M | | | Is Zois |
| Fabian C | | | Svetlin Stalinov |
| Ying Zhang | Jan Flokstra | Jonas Karlsson | Giulia Frascaria |
| Steffen Goeldner | Milena Ivanova | Martin van Dinter | Bernardo Moto |
| Arjen de Vries | Arjen de Rijke | Peter Bosch | Mitchell Weggemans |
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| Lefteris Sidiourgos | Pham Duc | Bart Scheers | Gijs Molenaar |
| Alex van Ballegooij | Kostis Kyzirakos | | |

THANKS FOR THE FUN AND COOPERATION !!

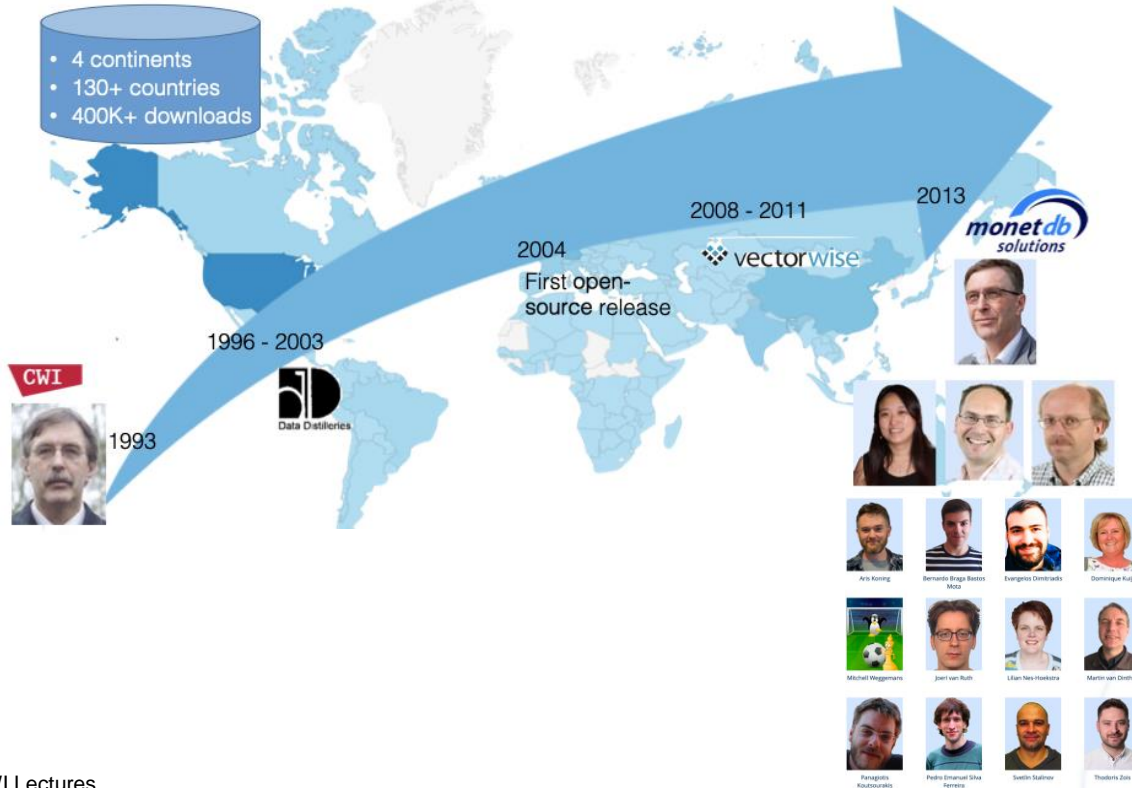
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The MonetDB story continues





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