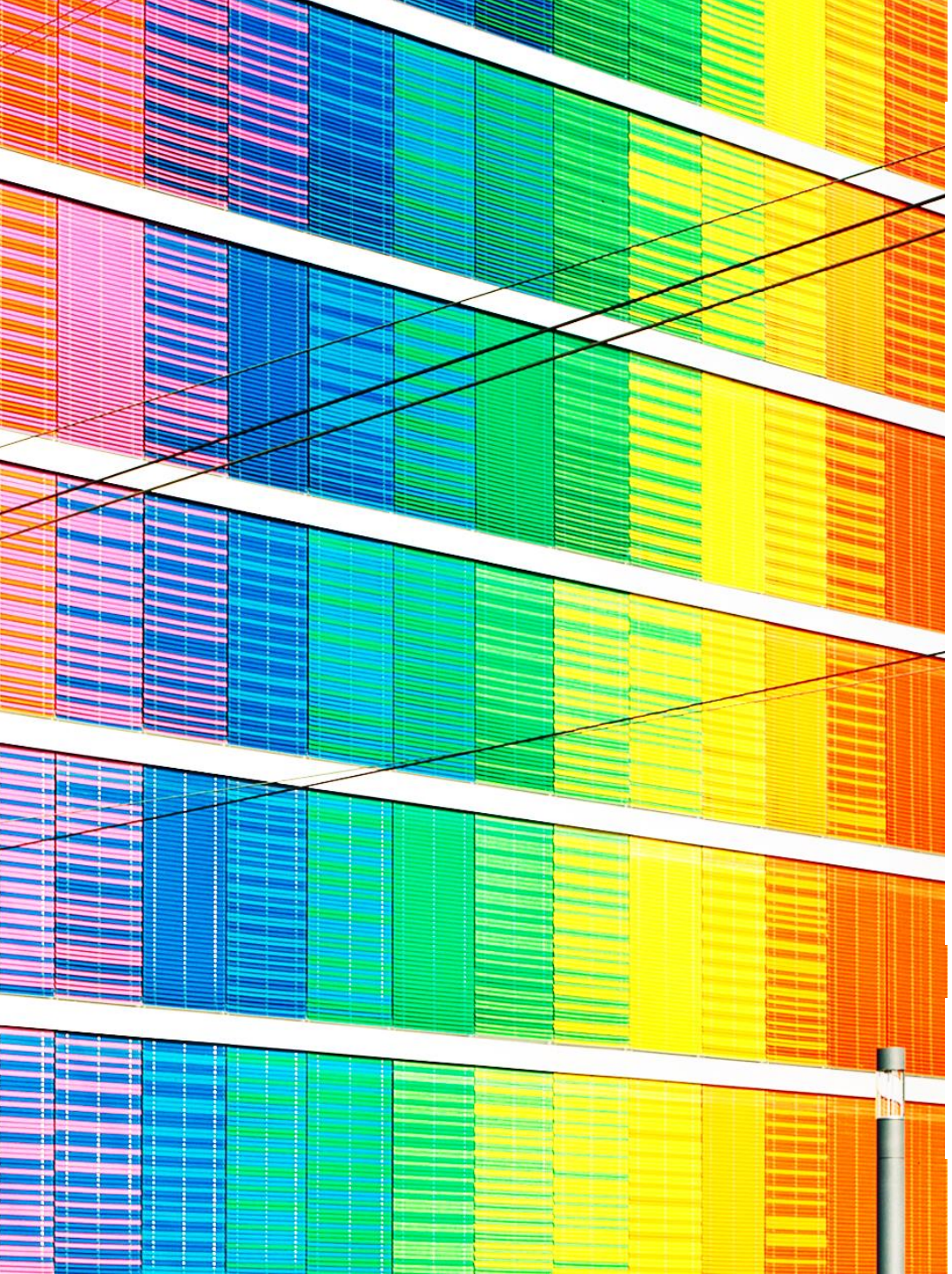


Beyond4P

Beyond Former Expectations of
Performance, Productivity, Predictability and Professionalism

An Introduction

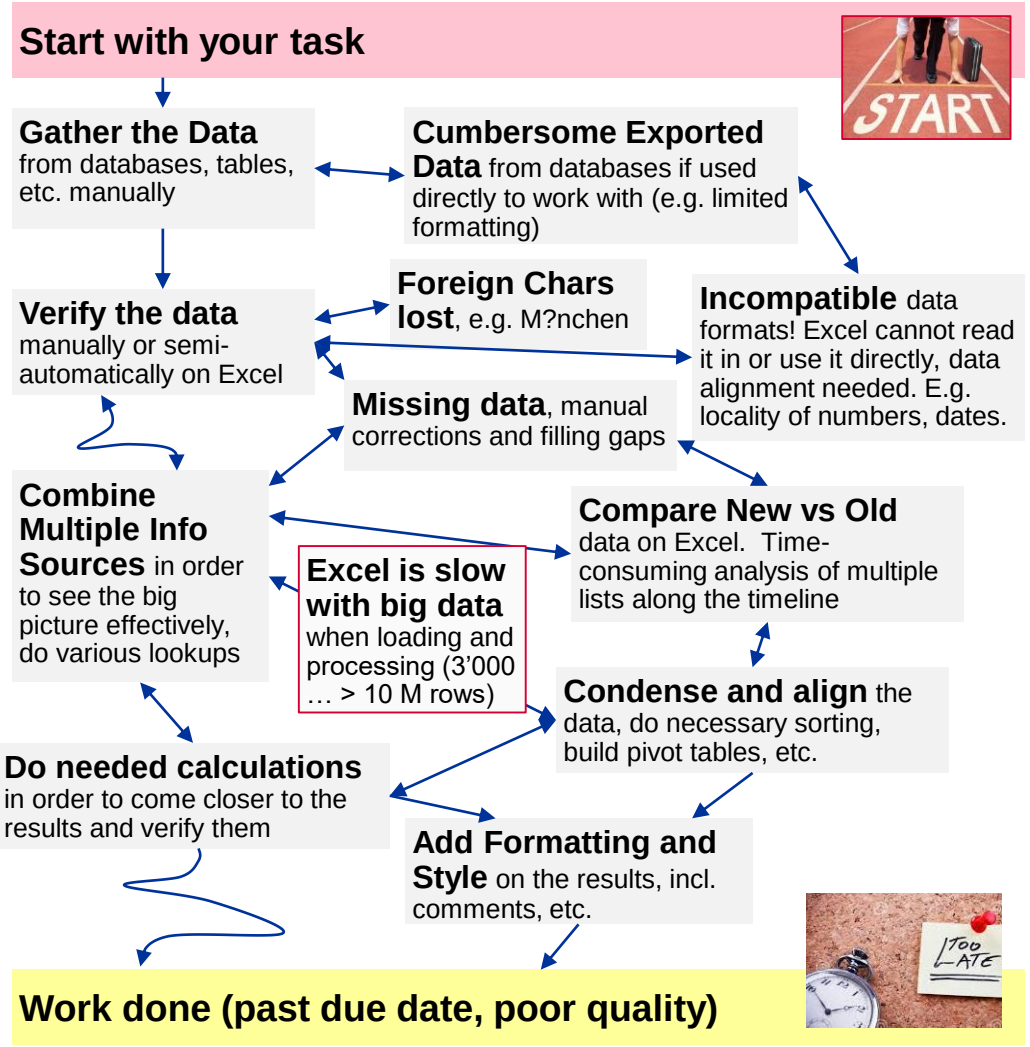
A programming language developed on the basis of long term experience manipulating with large and sophisticated data structures aiming to derive results which are easy to understand.

Key language facts:
- **Very compact**
- **Very powerful**
- **Easy to learn and understand**
- **Writing a short application script substitutes a sophisticated programming project**
- **Big potential to save precious time and money**

2019-06-22 Georg zur Bonsen

Beyond4P

Key Hassles. Conventional Methods do not Address the Problems properly



Problems you experience

Repeated and time-consuming annoying work:

- **Repetitive** manual steps on Excel and other tools
- Risk of doing **mistakes** (and repeating all over again)
- Efforts to collect **missing information** for immediate use
- **Wasting time** waiting for software to complete the work
- **Time-consuming efforts** to prepare the data so they become ready for your presentations.

Possible Solutions ?

Write Excel Macros:

- OK for simple tasks, but cumbersome code and very slow when doing sophisticated work on big data. E.g. combining 2 tables into 1 creates a lot of effort !

Write a Computer Program (C, Java, …):

- Custom software will get the job done very fast after you have spent significant time to write the program, debug it and get it running. Difficult for others to understand.
- Program text tend to get very big. You need to worry about every functional detail. And it takes a lot of time.
- You need good programming know-how (training) and a development environment with language compiler.

Hire a Consultant or two:

- Consultants are happy to solve your problems against cash. They will offer decent solutions.
- If you need further enhancements in the future, they ask for more cash. You will depend on them.

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Straightforward Solution to overcome all Hassles

Start with your task

Gather the Data
from databases, tables, etc. manually

Process the Data Automatically, reliably, and very rapidly with Beyond4P

Gaining speed !

Taking seconds !

Excellent work done on time

Changing Big Data to Smart Info Automatically & Rapidly

Automate your work and save time:

- With a simple, comprehensible and intuitive but very powerful **programming language** easy to learn.
- With a very lean run-time machine doing the automatic processing on any number of tables, data, etc. according to your needs.
- Discover the full computer performance to get your big data job done very quickly.
- Even do the formatting (e.g. highlighting data, adding comments, etc.) automatically.

Fast one-time Preparation | **Fast repeatable Processing** | **Easy & Fast Adaptations**

Beyond4P – Automated Run-Time System + Language

Based and continuously refined on experience dating back to 2007

- Developed based on our own experience as well as recognized hassles to overcome
- Developed to save time and enhance the quality of analytical results
- Creates opportunities to enrichen your work even more because you have won time

High Return on Investment:

- Easy to learn → Little work effort → High benefits
- No need to plan extra budget hours or hire external consultants
- No sophisticated tools to purchase

You have won time to for further and better analysis work:

- Little work effort → High benefits
- No need to plan extra budget hours or hire external consultants
- No sophisticated tools to purchase

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Lean, Easy to Learn, to Use and Easy to understand

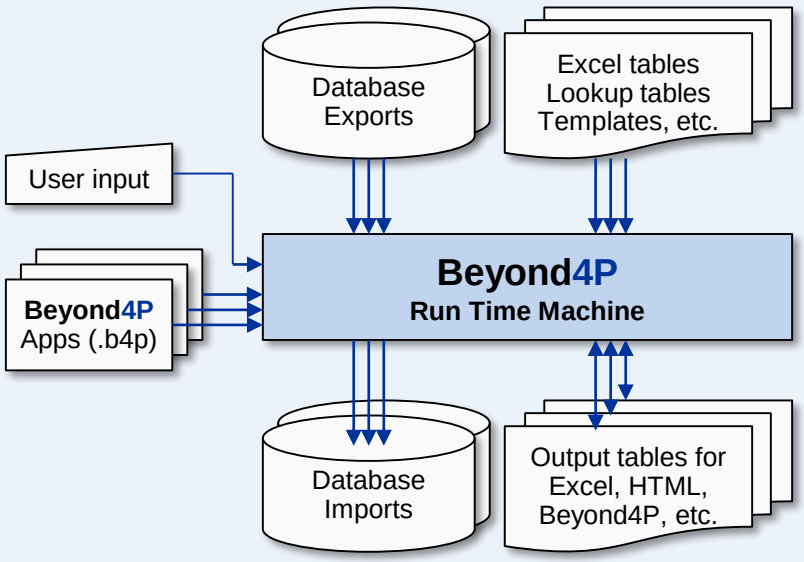
The Run Time Environment

Very Lean

- No sophisticated installation required.
- Starts immediately → Loads the data quickly → does processing the fast lane → Saves data 'ready-to-use' for Excel and other tools
- Understands various data formats and exports from various databases and sources:

  Databases: Incl. Salesforce, Filemaker, PDM, SAP, 4P, Oracle, etc.

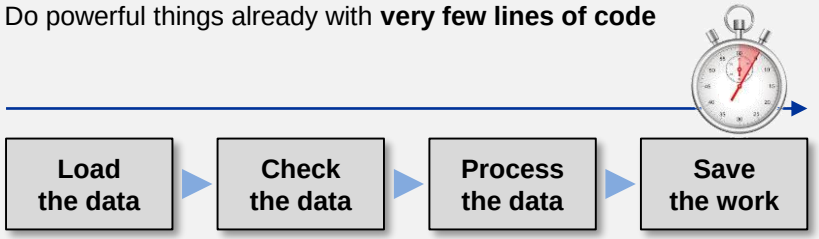
  Sources: Incl. Excel files (.xlsx, .xlsm. .csv), text files, data acquisition devices, etc.



The Language

Why inventing a new programming language ?

- **Simple to learn**
- Do powerful things already with **very few lines of code**



- It builds upon efficient processing of large tabular and relational data and flexibly structured data models
  → **Relational Tables & structured data are the DNA of Beyond4P**
- A comprehensive, well-focused and flexible function library provides all necessary features, especially on processing and analyzing big data.
  → **Designed to use function library very effectively**
  → **No need to reinvent wheels**
  → **No hassle with low-level programming**
- Supports simple and generic features to add style and formatting to the output data (for Excel, Explorer, etc.)
- Works everywhere and with contents in all languages
  → No hassles with date, time and currency formats
  → Foreign characters are preserved

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Supported Data Formats

Input

Excel

- .xlsx, .xlsm, open formats
  (Picks up entered and calculated values, is able to distinguish between numbers and dates)
- .csv comma and tab separated files

Database Exports

- HTML, MHTML and XML formats (depending what the database is producing). Examples: Salesforce, Oracle, SAP
- .csv comma separated files

Other Inputs

- Files with fixed columns on every row
- Any other form of text files

Character Sets (both input and output)

- UNICODE UTF-8 and UTF-16; Basic and extended multilingual planes
- Legacy formats (like ASCII)

Outputs

Unformatted Output for Excel

- .csv comma separated files

Formatted Output for Excel

- .xls (A modified HTML format recognized by Excel)
- You can apply various styles, colors and formats on cells, rows, columns and whole tables.
- Output table may contain multiple sheets, comments, etc.

Unformatted and formatted output for Browsers

- .html (incl. various formatting options)
- .xml (planned)

Output for other databases

- .csv comma separated files
- Other data formats can be realized with B4P

Additional data formats can be supported on request, e.g. by library extension

Beyond4P

The Programming Language – Unparalleled Compactness and Easy to Read

In the example below, only 8 lines of code are needed to combine membership lists of two clubs which plan to merge into one society.

Simple statements non-programmer can already understand

Variable names, table names, column header names and function names may consist of **multiple words!** Easy to read !

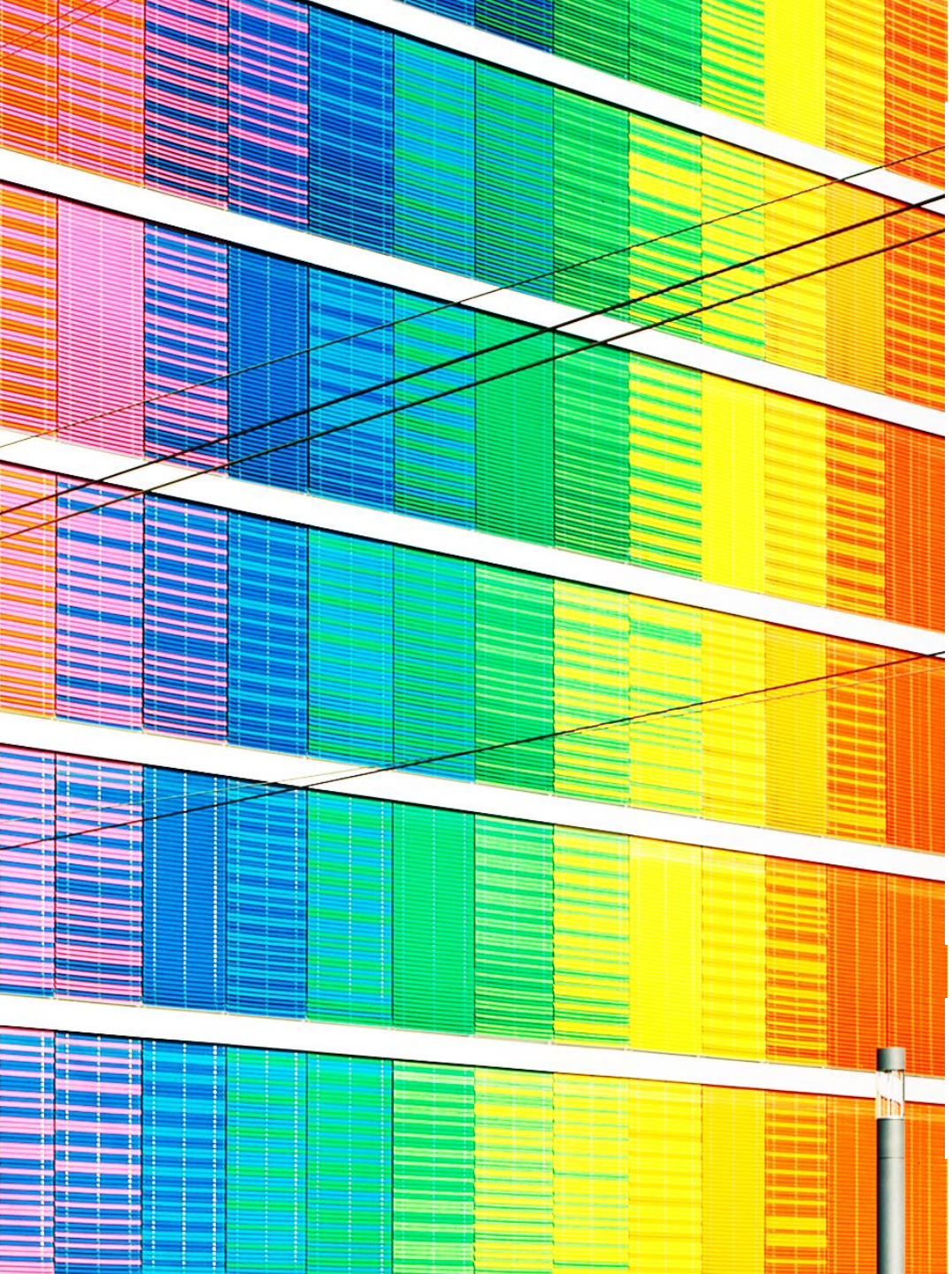
EXCEL Sheets are loaded directly. Visible sheet is taken if not specified.

```
include (Office Library); // Needed if you want to load Excel files, as it is implemented in B4P language
{
    table load excel file         ( football club, Football Membership List.xlsx );
    table load                    ( soccer club , Soccer Membership List.csv ); // Beginners are Novices here
    table rename column headers   ( football club, {Family Name, City}, {Last Name, Town} );
    table process selected rows   ( soccer club, [Level]==Novice, [Level]=Beginner );
    table merge                   ( football club, soccer club, {Last Name, First Name} );
    table sort rows               ( soccer club, {Last Name, First Name, Town});
    table save                    ( soccer club, New Soccer Club Membership List.xls, EXCEL );
    echo("New soccer club has ", table length( soccer club ), " members. Enjoy playing.");
}
```

Compact - One statement: Merge 2 tables, with matching up on full names.

Change the table contents using 1 simple statement (**No loops** to be coded)

Save file in Excel format **«Prêt-à-présenter»**



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Good Luck with Beyond4P

Interested in Beyond4P?

Please contact Georg zur Bonsen
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