



# piaf / PIAFStat

... evaluation system for field trials

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# History and Requirements

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## History

- 1999 first conceptual design / 2000 first release
- 2007 September: actual release 5.34

## Requirements on PIAFStat

- Open structure and split-up:  
data handling (piaf) / analysis (SAS)
- Simple interactive analysis of field trials  
using expert know how
- Automation of standard analyses

# Problem Analysis

## Data collection

Single trials or series of trials with characters:

### Classification

- Year
- Replication
- Soil-Climate-Region
- Intensity
- Variety
- ...

### Analysis

- Crop yield
- Disease
- Sprouting
- Mildew
- ...

## Question of field trials

Statistical model:

### Standard procedures

- A-BL Standard Block Design
- Split-Plot Design
- Strip-Plot Design
- Geo-Statistical Analyses
- VK Series Analyses
- TAB Tabulation for single trial
- ...

**PIAFStat**

*piaf*

Results

Reports

Tables

Data

Statistics

# Three types of users

Normal user

Analyst

Developer

Data selection

Standard procedure

Handling of results

Data selection

Selection of the procedure  
for a special design

Adaption of the  
selected procedure

Interpretation of results

Development of  
analysis strategies

Implementation  
into procedures

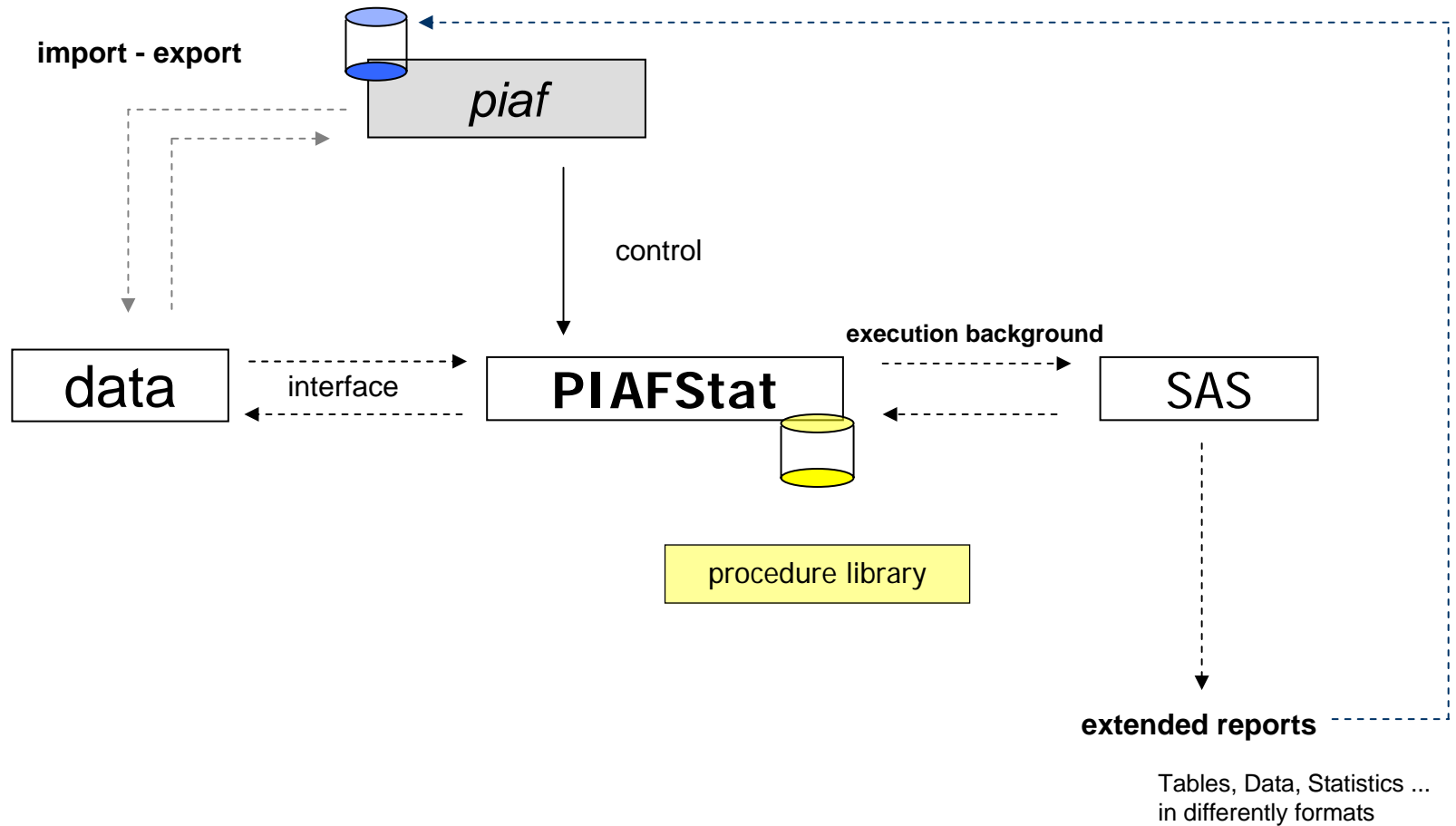
Background  
Mode

Dialog  
Mode

Extended  
SAS-Language

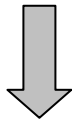
PIAFStat

# Application



# Example: Loading Data...

Data selection: *piaf* creates ADS



The screenshot shows the PIAFStat software interface. The main window displays a table of data with columns: Serie, Jahr, Ort, Kennr, Fruchtart, and V-Frage. The selected row is 07014G, 2004, Gülzow, 1, Sommergerste, Wertprüfung 2 Sommergerste. A dialog box titled "Statistisches Verfahren auswählen: Auswertungsserie" is open, showing a list of statistical methods. The "Gruppe" is set to "ALLE" and the "Verfahren" is set to "LISTVAREV". The dialog box also shows a list of variables: Ort (10), OrtID (10), and Bodenklimaraum (158). The "OK" button is visible at the bottom right of the dialog box.

Serie	Jahr	Ort	Kennr	Fruchtart	V-Frage
0201	2004	Tützpatz	1	Wintergerste	WP 3 Wintergerste (mz)
0301	2004	Tützpatz	1	Wintergerste	WP 3 +Landessortenversuch+EU Wintergerste
0101	2004	Tützpatz	1	Winterweizen	WP 3 Winterweizen
07014G	2004	Gülzow	1	Sommergerste	Wertprüfung 2 Sommergerste

Statistisches Verfahren auswählen: Auswertungsserie

Gruppe: ALLE Alle Verfahren der Bibliothek

Verfahren: LISTVAREV

LISTVARSERIE

A\*B zweifaktorielle Blockanlage Standard M-V

A\*B-LR ZUF zweifaktorielles lat. Rechteck Standard M-V

A+B zweifaktorielle Streifenanlage Standard M-V

A-BL einfaktorielle Blockanlage Standard M-V

A-LR ZUF einfaktorielles lat. Rechteck Standard M-V

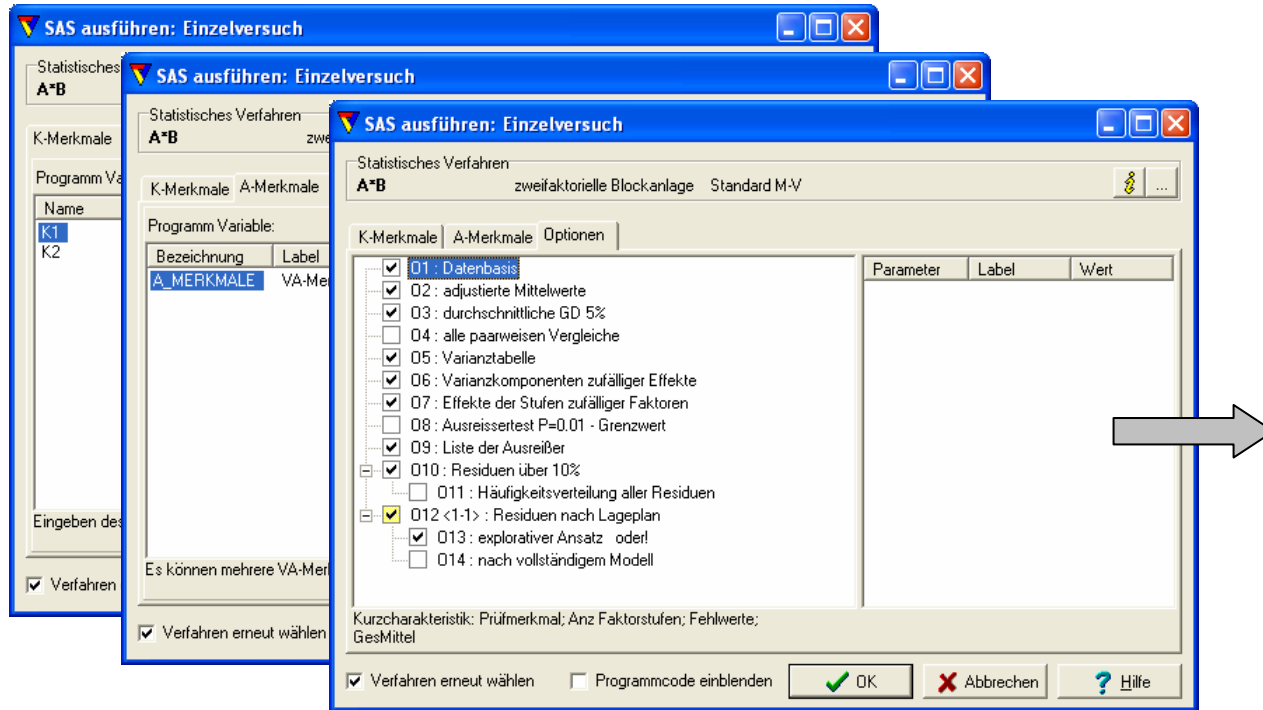
Ort 10

OrtID 10

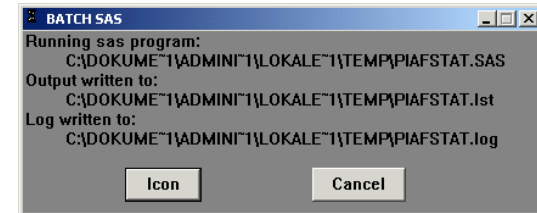
Bodenklimaraum 158

OK

# Adaption of selected procedure...



SAS Run



## Results

List and Log (handled by PIAFStat)

Reports, Tables, Data, Statistics (external files)

# Developer

## Language elements

- Classification of characters
- Analysis of characters
- Standard class-characters  
(WDH, SERIE, BKR, K-ALL...)
- Optional Section
- Blocks
- Functions
- Layout

### A\*B two-factorial block design

#### DEKLARATION

```
K1( L:Teilstücksfaktor A,I:Eingeben des  
Teilstücksfaktors A- z.B.Intensität in  
LSV,M:1-1,intensität)
```

```
K2( ...
```

#### PROGRAM

```
/* Berechnung N je PG-Stufe */
```

```
Proc sort data=daten;
```

```
by [K1] [K2];
```

```
run;
```

```
proc means data=daten noprint;
```

```
var &MERKMAL;
```

```
by [K1] [K2];
```

```
output out=n_PG N=N ;
```

```
run;
```



# Summary

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- PIAFStat is an add-on to *piaf* for statistical analysis of field trials
- Expert know how is available in a procedure library and simply to use
- The library is expandable and the procedures are adaptable
- Standard procedures and tabulation procedures are available to analyse single trials and series of trials
- Background mode: automation of standard analyses
- Dialog mode: individual adaption of analyses

## Today

17:10 – 17:35 Session V2 “Hohenheim-Gülzow-method”

18:10 – 19:20 Presentation - Euroforum Katharinenaal

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