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HAND-HELD DATA CAPTURE SYSTEMS IN FRANCE AND GERMANY

Document prepared by experts from Germany and France

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INTRODUCTION

1.   From time to time hard and software components of hand-held data capture systems have to be upgraded. There is an UPOV document which describes the actual situation in different member states (see document TWC/32/27 "Updated Survey on Hand-Held Data Capture Device").

2.   The aim of this document is to inform participants of TWC meeting about new developments in Germany regarding to hand-held data capture systems, to compare the French and the German system and to offer an English version of the software.

THE FRENCH SYSTEM: SIRIUS

3.   The hand-held data capture system of French colleagues "SIRIUS" was described in document TWC/27/17 "Hand-Held Data Capture System: SIRIUS". It is a highly developed system and is in use in many countries. There are a lot of useful functions and a user-friendly interface. The system was developed by using "WINDEV" as programming language and a relational database "HYPERFILE". The software works on all windows platforms. The contact person is Christophe Chevalier, a member of the TWC.
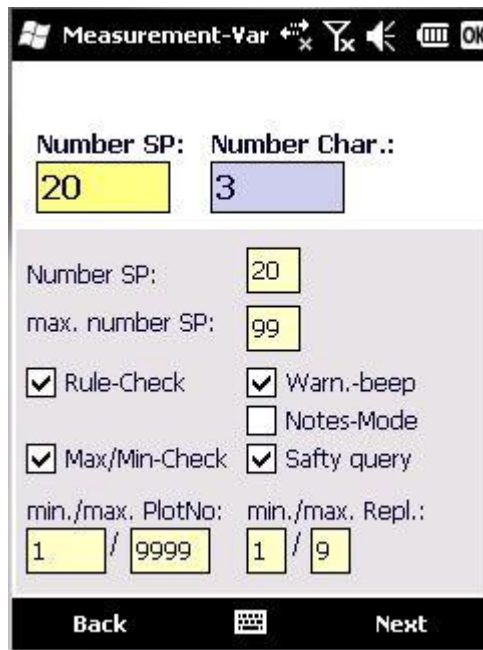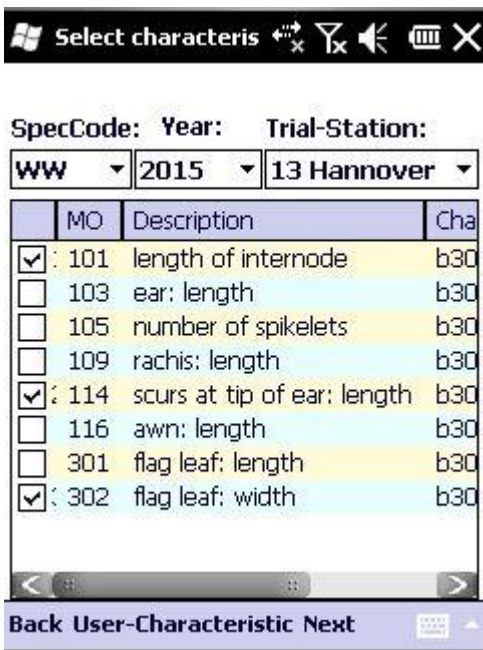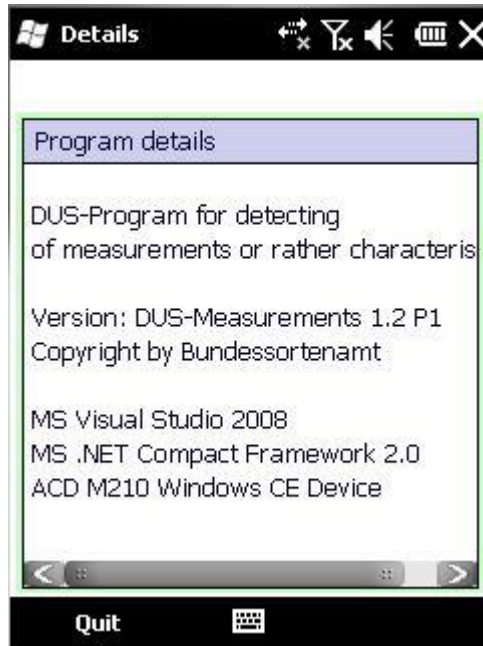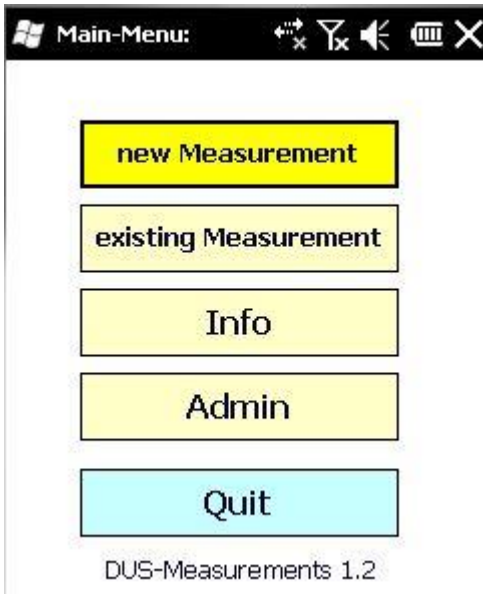
THE GERMAN SYSTEM

4.   Up to 2012 German colleagues worked with hand-held data loggers which had proprietary operating systems. In 2013 there was for the first time a data logger on the market comparable with the old ones but using a windows mobile operating system. In the past the Bundessortenamt developed an application program for these data loggers in co-operation with a private company based on programming language "C-Easy". There is an interface to exchange data with the German DUS program which can use to import and to export different types of data.

5.   German DUS experts wanted to transfer the same application program on the new platform in order to minimize their training time and costs. So IT experts of the Bundessortenamt rewrote the program using programming language Visual Studio 2008 (.NET).

6.   Starting in 2013, we have been using a first version successfully and we developed a second version which has a user interface in English in 2015. The contact person is Thomas Drobek, a member of the TWC.

COMPARISON OF FRENCH AND GERMAN SYSTEM

7.   In the following table the French and the German system are compared.

Category	French system	German system	Remarks
Programming language	WINDEV	.NET Compact	
Windows compatible	Yes	Yes	
English version	Yes	Yes	
Changing order of characteristics on display	Yes	Yes	The order is defined by the selection (click-order)
Definition of data format for each characteristic	Yes	Yes	
Definition of lower and upper limit of expressions	Yes	Yes	
Definition of input type of each characteristic	Yes	Yes	No input, Not displayed, Day of month, Reference value
Definition of filter	Yes	No	To define accessible cells
Parameter update in the office and/or in the field	Yes	Yes	
User friendly interface to handle many notes	Up to 250,000	Yes 1000*5*3*20=300.000 (plot-no.* No. of characteristics * No. of repl. * No. of single plants)	
Rules-processing	Yes	Yes	Dependence between two characteristics
Note-mode	Yes	Yes	fast typing without enter key (only press one key)
Hardware	Panasonic Toughbook CF 19 Toughbook CF U1	ACD M210 Pocket-PC	
Screen	10,1"	3,5"	
Pixel		240 x 320	
Weight	CF-U1: 1060g	550g	
Resistance	IP65	IP54	
Application area	DUS, VCU	DUS	
Contact person	Christophe Chevalier	Thomas Drobek	

SCREENSHOTS GERMAN SYSTEM

Main-Menu:

- new Measurement
- existing Measurement
- Info
- Admin
- Quit

DUS-Measurements 1.2

Details

Program details

DUS-Program for detecting
of measurements or rather characteris

Version: DUS-Measurements 1.2 P1
Copyright by Bundessortenamt

MS Visual Studio 2008
MS .NET Compact Framework 2.0
ACD M210 Windows CE Device

Quit

Select characteris

SpecCode: Year: Trial-Station:
WW   2015   13 Hannover

	MO	Description	Cha
☑	101	length of internode	b30
☐	103	ear: length	b30
☐	105	number of spikelets	b30
☐	109	rachis: length	b30
☑	114	scurs at tip of ear: length	b30
☐	116	awn: length	b30
☐	301	flag leaf: length	b30
☑	302	flag leaf: width	b30

Back User-Characteristic Next

Measurement-Var

Number SP: Number Char.:
20   3

Number SP: 20
max. number SP: 99

☑ Rule-Check   ☑ Warn.-beep
                    ☐ Notes-Mode
☑ Max/Min-Check   ☑ Safty query

min./max. PlotNo: min./max. Repl.:
1 / 9999   1 / 9

Back   Next

Capture PlotNo/Re

WW/2015/13

PlotNo: Repl:

1   **1**

[Exit]   [Next]

Exit Meas.V. Char.V. Next

Capture measurer

length of internode

1   / 1   SP: 1   MO: 101

Save   Back

Select measureme

SpecCode: Year: Trial-station:

WW   ▼   2015   ▼   13 Hannover ▼

MO	Description	ChNo	ChOrder
113	plant: length	2	1

Back   Next

Admin-Menu:

[Default-Values]

[Delete Measurement]

[Info]

[Change Password]

[Back]

Details   Help

DATABASE-MODEL GERMAN SYSTEM

8.   A table with all database table and column names is included in Annex.

IMAGES OF DATA LOGGERS IN USE

Panasonic Toughbook 19 using in France

Panasonic Toughbook CF-U1 using in France

ACD M210 Pocket-PC using in Germany

ANNEX

TABLE OF DATABASE STRUCTURE

database	table	column name	datatype	length	description
masterdata	duschar	speccode	nchar	3	species code
masterdata	duschar	charact	nchar	4	character
masterdata	duschar	measobj	int	4	object of measurement
masterdata	duschar	charno	int	4	number of character
masterdata	duschar	mrule	nchar	20	rule of measurement
masterdata	duschar	mob_min	int	4	minimum value
masterdata	duschar	mob_max	int	4	maximum value
masterdata	duschar	descript	int	4	description
masterdata	standard	minmaxflag	nchar	1	minimum/maximum flag
masterdata	standard	mruleflag	nchar	1	rule of measurement flag
masterdata	standard	warnflag	nchar	1	warning flag
masterdata	standard	safeflag	nchar	1	safe flag
masterdata	standard	nosp	int	4	number of single plants
masterdata	standard	maxsp	int	4	maximal number of single plants
masterdata	standard	noteflag	nchar	1	note flag
masterdata	standard	minpltno	int	4	minimal plot number
masterdata	standard	maxpltno	int	4	maximal plot number
masterdata	standard	minreplno	int	4	minimal replication number
masterdata	standard	maxreplno	int	4	maximal replication number
masterdata	standard	zoom	int	4	zoom
masterdata	measurements	measno	int	4	measurement number
masterdata	measurements	speccode	nchar	3	species code
masterdata	measurements	year	int	4	year
masterdata	measurements	trialst	int	4	trialstation
masterdata	measurements	nosp	int	4	number of single plants
masterdata	measurements	no_sp	int	4	number of single plants exception
masterdata	measurements	maxsp	int	4	maximal number of single plants
masterdata	measurements	minmaxflag	nchar	1	minimum/maximum flag
masterdata	measurements	minpltno	int	4	minimal plot number
masterdata	measurements	maxpltno	int	4	maximal plot number
masterdata	measurements	minrepl	int	4	minimal replication number
masterdata	measurements	maxrepl	int	4	maximal replication number
masterdata	measurements	mruleflag	nchar	1	rule of measurement flag
masterdata	measurements	noteflag	nchar	1	note flag
masterdata	measurements	safeflag	nchar	1	safe flag
masterdata	measurements	warnflag	nchar	1	warning flag
masterdata	measurements	no_char	int	4	number of characters
masterdata	trialstnam	trialstno	int	4	number of trial station
masterdata	trialstnam	trialstname	nchar	20	name of trial station
masterdata	measchar	measno	int	4	measurement number
masterdata	measchar	charorder	int	4	character order

masterdata	measchar	measobj	int	4	object of measurement
masterdata	measchar	charno	int	4	number of character
masterdata	measchar	descript	nchar	75	description
masterdata	measchar	mob_min	int	4	minimum value
masterdata	measchar	mob_max	int	4	maximum value
masterdata	measchar	mrule	nchar	20	rule of measurement
masterdata	measchar	charact	nchar	4	character
m-measurement	measurement	measno	int	4	measurement number
m-measurement	measurement	plotno	int	4	plot number
m-measurement	measurement	repl	int	4	replication number
m-measurement	measurement	sp	int	4	single plot
m-measurement	measurement	m001	nchar	4	measurement 1
m-measurement	measurement	m002	nchar	4	measurement 2
m-measurement	measurement	m003	nchar	4	measurement 3
m-measurement	measurement	m004	nchar	4	measurement 4
m-measurement	measurement	m005	nchar	4	measurement 5
m-measurement	measurement	m006	nchar	4	measurement 6
m-measurement	measurement	m007	nchar	4	measurement 7
m-measurement	measurement	m008	nchar	4	measurement 8
m-measurement	measurement	m009	nchar	4	measurement 9
m-measurement	measurement	m010	nchar	4	measurement 10
m-measurement	measurement	m011	nchar	4	measurement 11
m-measurement	measurement	m012	nchar	4	measurement 12
m-measurement	measorder	measno	int	4	measurement number
m-measurement	measorder	order	int	4	order
m-measurement	measorder	plotno	int	4	plot number
m-measurement	measorder	repl	int	4	replication number
archivflag	archivflag	measno	int	4	measurement number
archivflag	archivflag	archivflag	char	1	archive flag

[End of Annex and of document]