Disclosure of the data in the cells of CSV table

After loading CSV table into module (when use `\opencsvfile` command) the CSV data are put into the library macros for practical using. Datas in macros are available to ConTeXt and can be browsed "manually" or by using the standard cycles or predefined cycles of library.

Processing method and creating of usable macros depends on whether it's header of CSV table or not. If the first row of the table contains the so-called header of CSV file, then column names will be used as names of macros. In addition, macros are created next macros, whose names match the names of cells in a spreadsheet (eg. Excel).

The contents of individual cells can be obtained using macro `\csvcell[<`*column*`>,<`*row*`>]` or using any macros that refer to a specific column, while line number of table is determined using a pointer (linepointer). Let me show the following simple example.

To begin, suppose that we will process the CSV table myfirstcsvexamplefile.csv, the column delimiter is comma (`,`) and in first line is header with these items: `"first_name"`, `"last_name"`, `"company_name"`, `"address"`, `"city"`, `"county"`, `"state"`, `"zip"`, `"phone1"`, `"phone2"`, `"email"`, `"web"`.

Examples of usage

Contents cells via coordinates

We can getting cell contents through coordinates of cells in the CSV file.

For example following source code:

```
\usemodule[handlecsv]

\setheader %first row contents header with columns  names
\setsep{,} %columns separators
\opencsvfile{myfirstcsvexamplefile.csv} %open CSV table

\startresult
Content of \type{\csvcell[1,1]} (i.e. 1st colmn, 1st row) is {\bf \csvcell[1,1]}. \crlf
Content of \type{\csvcell[2,3]} (i.e. 2nd colmn, 3rd row) is {\bf \csvcell[2,3]}. \crlf
Content of \type{\csvcell[9,5]} is {\bf \csvcell[9,5]}. \crlf
Header item \type{\csvcell[3,0]} has content {\ttbf \csvcell[3,0]}.
\stopresult
```

... produces the following output result:

Content of `\csvcell[1,1]` (i.e. 1st colmn, 1st row) is **James**.
Content of `\csvcell[2,3]` (i.e. 2nd colmn, 3rd row) is **Venere**.
Content of `\csvcell[9,5]` is **513-570-1893**.
Header item `\csvcell[3,0]` has content `company_name`.

Contents cells via Excel notation

And here is notation like Excel example:

For example following source code:

```
\startresult
\type{\csvcell['A',1]} --> {\bf \csvcell['A',1]} \crlf
\type{\csvcell['cA',1]} --> {\bf \csvcell['cA',1]} (library authorized version)\crlf
\type{\csvcell['B',3]}  --> {\bf \csvcell['B',3]} \crlf
\type{\csvcell['cI',5]} --> {\bf \csvcell['cI',5]} \crlf
Header item \type{\csvcell['J',0]} --> {\bf \csvcell['J',0]} \crlf
Out of range \type{\csvcell['Q',157]} --> {\bf \csvcell['Q',157]}
\stopresult
```

... produces the following output result:

`\csvcell['A',1]` –> **James**
`\csvcell['cA',1]` –> **James** (library authorized version)
`\csvcell['B',3]` –> **Venere**
`\csvcell['cI',5]` –> **513-570-1893**
Header item `\csvcell['J',0]` –> **phone2**
Out of range `\csvcell['Q',157]` –> **undefined**

Contents cells via "header like" notation

And here are "header like" variations of notation example:

For example following source code:

```
\startresult
Exact notation \type{\csvcell['first_name',1]} --> {\bf \csvcell['first_name',1]} \crlf
\TeX\ variant name \type{\csvcell['firstxname',1]} --> {\bf \csvcell['firstxname',1]} \crlf
\stopresult
```

... produces the following output result:

Exact notation `\csvcell['first_name',1]` –> **James**
TEX variant name `\csvcell['firstxname',1]` –> **James**

You see, that TEX problematic character (not allowed in macro names) are replaced with `x` character.

For example following source code:

```
\startresult
Exact notation \type{\csvcell['email',5]} --> {\bf \csvcell['email',5]} \crlf
Exact notation \type{\csvcell['phone2',10]} --> {\bf \csvcell['phone2',10]} \crlf
\TeX\ variant name \type{\csvcell['phoneII',10]} --> {\bf \csvcell['phoneII',10]} \crlf
\type{\csvcell['NonExistentColumn',8]} --> {\bf \csvcell['NonExistentColumn',8]}
\stopresult
```

... produces the following output result:

Exact notation `\csvcell['email',5]` –> **donette.foller@cox.net**
Exact notation `\csvcell['phone2',10]` –> **410-804-4694**
TEX variant name `\csvcell['phoneII',10]` –> **410-804-4694**
`\csvcell['NonExistentColumn',8]` –> **undefined**

Numbers are not allowed in TEX macros, therefore numbers are changed into roman numeral in TEX macro name. Furthermore, it is seen that if the column name does not match the proper column name, than result of macro is *undefined*. Later, we will see why names of columns are allowed in other variants (some characters are changed).

Macro `\csvcell` and pass parameters using macros

Here are some examples using of macro `\csvcell`.

For example following source code:

```
\startresult%
\def\myrow{13}
\def\mycol{7}
\def\mynextrow{7}
\def\myxlscolumn{'A'}
\def\mycxlscolumn{'cC'}
\def\mycolumnname{'email'}

\type{\csvcell[\mycol,\myrow]} --> {\bf \csvcell[\mycol,\myrow]} \crlf
\type{\csvcell[\myxlscolumn,\mynextrow]} --> {\bf \csvcell[\myxlscolumn,\mynextrow]} \crlf
\type{\csvcell[\mycxlscolumn,\myrow]} --> {\bf \csvcell[\mycxlscolumn,\myrow]} \crlf
\type{\csvcell[\mycolumnname,\mynextrow]} --> {\bf \csvcell[\mycolumnname,\mynextrow]}
\stopresult
```

... produces the following output result:

```
\csvcell[\mycol ,\myrow ] –> CA
\csvcell[\myxlscolumn ,\mynextrow ] –> Mitsue
\csvcell[\mycxlscolumn ,\myrow ] –> Feiner Bros
\csvcell[\mycolumnname ,\mynextrow ] –> mitsue_tollner@yahoo.com
```

Using `\csvcell` macro in cycles

Example of list of five rows of `first_name` column by use `\dorecurse` loop:

For example following source code:

```
\startresult
\dorecurse{5}{\csvcell['first_name',\recurselevel], }
\stopresult
```

... produces the following output result:

James, Josephine, Art, Lenna, Donette,

Example of list of all header:

For example following source code:

```
\startresult
Header items are \dorecurse{\numcols}{{\ttbf\csvcell[\recurselevel,0]}, }
\stopresult
```

... produces the following output result:

Header items are **first_name**, **last_name**, **company_name**, **address**, **city**, **county**, **state**, **zip**, **phone1**, **phone2**, **email**, **web**,

Example list of all CSV table by use dorecurse cycle:

For example following source code:

```
\setuppapersize[A3,landscape][A3,landscape]
{\catcode`\#=12 %CSV file contains # characters (i.e. TeX problematic character)
\switchtobodyfont[10pt]
\setupTABLE[background=color,backgroundcolor=yellow]
\setupTABLE[row][first][background=color,backgroundcolor=lightblue]
\bTABLE[offset=2pt, split=yes]
 \dorecurse{\numexpr(\numrows+1)}
 {\bTR
   \dorecurse{\numcols}
      {\bTD \csvcell[\currentTABLEcolumn,\currentTABLErow-1] \eTD}
 \eTR}
\eTABLE}
```

... produces the following output result:

first_name	last_name	company_name	address	city	county	state	zip	phone1	phone2	email	web
James	Butt	Benton, John B Jr	6649 N Blue Gum St	New Orleans	Orleans	LA	70116	504-621-8927	504-845-1427	jbutt@gmail.com	http://www.bentonjohnbjr.com
Josephine	Darakjy	Chanay, Jeffrey A Esq	4 B Blue Ridge Blvd	Brighton	Livingston	MI	48116	810-292-9388	810-374-9840	josephine_darakjy@darakjy.org	http://www.chanayjeffreyaesq.com
Art	Venere	Chemel, James L Cpa	8 W Cerritos Ave #54	Bridgeport	Gloucester	NJ	08014	856-636-8749	856-264-4130	art@venere.org	http://www.chemeljameslcpa.com
Lenna	Paprocki	Feltz Printing Service	639 Main St	Anchorage	Anchorage	AK	99501	907-385-4412	907-921-2010	lpaprocki@hotmail.com	http://www.feltzprintingservice.com
Donette	Foller	Printing Dimensions	34 Center St	Hamilton	Butler	OH	45011	513-570-1893	513-549-4561	donette.foller@cox.net	http://www.printingdimensions.com
Simona	Morasca	Chapman, Ross E Esq	3 Mcauley Dr	Ashland	Ashland	OH	44805	419-503-2484	419-800-6759	simona@morasca.com	http://www.chapmanrosseesq.com
Mitsue	Tollner	Morlong Associates	7 Eads St	Chicago	Cook	IL	60632	773-573-6914	773-924-8565	mitsue_tollner@yahoo.com	http://www.morlongassociates.com
Leota	Dilliard	Commercial Press	7 W Jackson Blvd	San Jose	Santa Clara	CA	95111	408-752-3500	408-813-1105	leota@hotmail.com	http://www.commercialpress.com
Sage	Wieser	Truhlar And Truhlar Attys	5 Boston Ave #88	Sioux Falls	Minnehaha	SD	57105	605-414-2147	605-794-4895	sage_wieser@cox.net	http://www.truhlarandtruhlarattys.com
Kris	Marrier	King, Christopher A Esq	228 Runamuck Pl #2808	Baltimore	Baltimore City	MD	21224	410-655-8723	410-804-4694	kris@gmail.com	http://www.kingchristopheraesq.com
Minna	Amigon	Dorl, James J Esq	2371 Jerrold Ave	Kulpsville	Montgomery	PA	19443	215-874-1229	215-422-8694	minna_amigon@yahoo.com	http://www.dorljamesjesq.com
Abel	Maclead	Rangoni Of Florence	37275 St Rt 17m M	Middle Island	Suffolk	NY	11953	631-335-3414	631-677-3675	amaclead@gmail.com	http://www.rangoniofflorence.com
Kiley	Caldarera	Feiner Bros	25 E 75th St #69	Los Angeles	Los Angeles	CA	90034	310-498-5651	310-254-3084	kiley.caldarera@aol.com	http://www.feinerbros.com
Graciela	Ruta	Buckley Miller & Wright	98 Connecticut Ave Nw	Chagrin Falls	Geauga	OH	44023	440-780-8425	440-579-7763	gruta@cox.net	http://www.buckleymillerwright.com
Cammy	Albares	Rousseaux, Michael Esq	56 E Morehead St	Laredo	Webb	TX	78045	956-537-6195	956-841-7216	calbares@gmail.com	http://www.rousseauxmichaelesq.com
Mattie	Poquette	Century Communications	73 State Road 434 E	Phoenix	Maricopa	AZ	85013	602-277-4385	602-953-6360	mattie@aol.com	http://www.centurycommunications.com
Meaghan	Garufi	Bolton, Wilbur Esq	69734 E Carrillo St	Mc Minnville	Warren	TN	37110	931-313-9635	931-235-7959	meaghan@hotmail.com	http://www.boltonwilburesq.com
Gladys	Rim	T M Byxbee Company Pc	322 New Horizon Blvd	Milwaukee	Milwaukee	WI	53207	414-661-9598	414-377-2880	gladys.rim@rim.org	http://www.tmbyxbeecompanypc.com

Yuki	Whobrey	Farmers Insurance Group	1 State Route 27	Taylor	Wayne	MI	48180	313-288-7937	313-341-4470	yuki_whobrey@aol.com	http://www.farmersinsurancegroup.com
Fletcher	Flosi	Post Box Services Plus	394 Manchester Blvd	Rockford	Winnebago	IL	61109	815-828-2147	815-426-5657	fletcher.flosi@yahoo.com	http://www.postboxservicesplus.com
Bette	Nicka	Sport En Art	6 S 33rd St	Aston	Delaware	PA	19014	610-545-3615	610-492-4643	bette_nicka@cox.net	http://www.sportenart.com
Veronika	Inouye	C 4 Network Inc	6 Greenleaf Ave	San Jose	Santa Clara	CA	95111	408-540-1785	408-813-4592	vinouye@aol.com	http://www.cnetworkinc.com
Willard	Kolmetz	Ingalls, Donald R Esq	618 W Yakima Ave	Irving	Dallas	TX	75062	972-303-9197	972-896-4882	willard@hotmail.com	http://www.ingallsdonaldresq.com
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Alisha	Slusarski	Wtlz Power 107 Fm	3273 State St	Middlesex	Middlesex	NJ	08846	732-658-3154	732-635-3453	alisha@slusarski.com	http://www.wtlzpowerfm.com
Allene	Iturbide	Ledecky, David Esq	1 Central Ave	Stevens Point	Portage	WI	54481	715-662-6764	715-530-9863	allene_iturbide@cox.net	http://www.ledeckydavidesq.com
Chanel	Caudy	Professional Image Inc	86 Nw 66th St #8673	Shawnee	Johnson	KS	66218	913-388-2079	913-899-1103	chanel.caudy@caudy.org	http://www.professionalimageinc.com
Ezekiel	Chui	Sider, Donald C Esq	2 Cedar Ave #84	Easton	Talbot	MD	21601	410-669-1642	410-235-8738	ezekiel@chui.com	http://www.siderdonaldcesq.com
Willow	Kusko	U Pull It	90991 Thorburn Ave	New York	New York	NY	10011	212-582-4976	212-934-5167	wkusko@yahoo.com	http://www.upullit.com
Bernardo	Figeroa	Clark, Richard Cpa	386 9th Ave N	Conroe	Montgomery	TX	77301	936-336-3951	936-597-3614	bfigeroa@aol.com	http://www.clarkrichardcpa.com
Ammie	Corrio	Moskowitz, Barry S	74874 Atlantic Ave	Columbus	Franklin	OH	43215	614-801-9788	614-648-3265	ammie@corrio.com	http://www.moskowitzbarrys.com
Francine	Vocelka	Cascade Realty Advisors Inc	366 South Dr	Las Cruces	Dona Ana	NM	88011	505-977-3911	505-335-5293	francine_vocelka@vocelka.com	http://www.cascaderealtyadvisorsinc.com
Ernie	Stenseth	Knwz Newsradio	45 E Liberty St	Ridgefield Park	Bergen	NJ	07660	201-709-6245	201-387-9093	ernie_stenseth@aol.com	http://www.knwznewsradio.com

CSVCELL Foller: TEST: TRUE
JMENO: Foller TEST: TRUE
NE1
\JMENO: Butt
\dosinglegroupempty\JMENO{5} Text: Foller Text
\dosinglegroupempty\JMENO Text: ButtText
\dosinglegroupempty\JMENO{5} Text: Butt5 Text
Foller
Tollner
last_name
Tollner

————————————

CSVCELL Marijana: TEST: TRUE
JMENO: Marijana TEST: TRUE
NE1
\JMENO: Tomáš
\dosinglegroupempty\JMENO{5} Text: Marijana Text
\dosinglegroupempty\JMENO Text: TomášText
\dosinglegroupempty\JMENO{5} Text: Tomáš5 Text
Marijana
Šimon
Jmeno
Šimon
sssssssssssssssssss

We thrive in information–thick worlds because of our marvelous and everyday capacity to select, edit, single out, structure, highlight, group, pair, merge, harmonize, synthesize, focus, organize, condense, reduce, boil down, choose, categorize, catalog, classify, list, abstract, scan, look into, idealize, isolate, discriminate, distinguish, screen, pigeonhole, pick over, sort, integrate, blend, inspect, filter, lump, skip, smooth, chunk, average, approximate, cluster, aggregate, outline, summarize, itemize, review, dip into, flip through, browse, glance into, leaf through, skim, refine, enumerate, glean, synopsize, winnow the wheat from the chaff and separate the sheep from the goats.