"La machine à formulaires" (the forms' machine), or TeX for a Kafkaian world

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Abstract

This article describes the *Machine à formulaires*, whose goal is to fill in different forms from a single file. Its aim is to help candidates to positions of (assistant) professors in a French University not to lose time in copying various informations regarding each position they apply.

1   Introduction

This article contains a short description of a set of TeX files designed to help candidates to professors' or assistant professors' positions in French Universities to fill in heavy forms. In some sense, it is similar to the AMS cover initiative [1], but with a different philosophy and design, and where informations specific to each position are reported in each form.

The *Machine à formulaires* (the forms' machine, or MAF in short) has been made available since 2001 on the WEB sites of the *Opération Postes* [5] and the *Guilde des Doctorants* [2][1] whose goal is to help Ph.D. holders looking for a job. It seems to have been appreciated by numerous candidates, since it allows them to gain a lot of time in the constitution of their application forms. The MAF does not need any real knowledge in TeX/LaTeX (only common sense) and shows the ability of TeX to deal with tasks such as automatic creation of forms without using exterior softwares.

Basically, all the informations are entered in a single file with a rather natural syntax (provided by the `keyval` package) and any repetition is avoided. Various forms may be produced simply by changing the class file which is loaded. Of course, data and presentation commands are completely separated.

2   The difficulty of applying to a French university...

The procedure for applying to a French university as *maître de conférences* (assistant professor) or professor relies on a national-wide, official and strict process. Almost all the French universities are public and then (assistant) professors are state-employees. In automn and winter, there are discussions between each university and the French Department of Education to obtain the creation of new positions, or the replacement of people leaving or retiring. Then all the available positions, whatever the university and the domain, are published around February of each year in the *Journal Officiel de la République Française* (also called the "JO"), which is a daily publication for the new legal or official texts (laws, decrees, ...) of the French government. In the JO, a range of dates are given for: applying for a position (for the candidate), choosing the candidates the university

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[1]A package with the same goal have been already available on that site and the MAF represents an attempt to have a more flexible way to do the job.

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wishes to hire and sending their name to the French Department of Education. The JO also specifies what the applicants send to the universities.

Basicall, to each position is assigned: (a) an identification number; (b) a university; (c) one or many research domains. Generally, the lab proposing this position may be deduced from this information, but this is not always true. The research domains are classified, each one corresponding to a subgroup of the *Conseil National des Universités* (CNU). Each of these subgroups is labelled by a number (for example, 25 for Pure Mathematics, 26 for Applied Mathematics, 27 for Computer Sciences, ...). Every French Ph.D. thesis is also classified according to these domains (but a Ph.D. holder is not restricted to apply to positions only in his domain); (d) possibly some precisions about the (research or teaching) skills that are required (The position may be for a team within a lab, but it may also happen that all the teams of a lab have to choose together who to hire); (e) possibly other legal informations that would be too long to explain here. Yet it concerns only a few positions each year.

For example, one could read in the JO containing some lists of positions looking like

> Postes de Maîtres de conférences
>
> ...
>
> *26e section : mathématiques appliquées et applications des mathématiques*
>
> Université Grenoble-I : et 27e section, bio-informatique : 1445.
>
> Université de Pau : 0706.
>
> ...

The first position — identified by the number 1445 — is available at one of the two universities of the city of Grenoble. It is primarily for people working in bio-informatic, either with a Ph.D. in Computer Science or Applied Mathematics. The applicant have to contact the University Grenoble I if she/he want to known which lab or team is concerned by this position. The second position, at University of Pau, is for an applied mathematician whatever his/her speciality. Of course, the priority will generally be given to the candidates that may interact with the people there.

Once having read the JO, the candidate willing to apply for some position shall send to the university offering it two copies of: (a) a normalized form (nicknamed[2] *Annexe B* by the candidates, since its presentation appears each year in the JO in the Section *Appendix B*) in which he states he applies to this position, with personal informations and all the informations given above (identification number, ...); (b) a curriculum vitæ whose first page (nicknamed *Annexe C*, since its appears each year in the Section *Appendix C*) also follows a normalized presentation with again these informations. These two forms may be found in Figure 1

Since a candidate generally send 10, 20 or more application forms that are all different, filling them within a few weeks takes a lot of time, increases the natural stress of the candidate (it is not easy to get a job) and looks like an administrative nightmare.

3   Goals and design

Of course, in days where everybody has access to a computer, the candidate may wish to produce automatically these forms. A truly helpful code shall in my opinion follow the following specifications: (a) the syntax shall be simple and rather natural; (b) data and presentation shall be separated; (c) replication of information shall be limited to reduce the risk of errors; (d) it must be system independent to be available to the maximum amount of people; (e) extensions must be easy to write in order to produce envelops labels, cover letters,...

Although many word-processors allow to do such a thing, TEX is probably the best candidate to satisfy point (d) while it does not take too much time to write some code satisfying the other requirements.

The design of the MAF is the following: (a) The candidate enters in a single file (`form.tex`) both personal informations (name, address, ...) and the list of positions she/he plans to apply. We use the functionalities of the D. Carliste's `keyval` package [3] in order to have a simple and clear syntax. (b) The class used in `form.tex` specifies the form to be produced: a single compilation of `form.tex` with the class `annexeC.cls` produces all the first pages of the curriculum vitæ for all the positions. (c) All the class files call the style file `formul.sty` whose goal is to parse `form.tex`, while the class file is devoted to the presentation of the form. Thus, it is rather easy to write or change a class file, while `formul.sty` contains more complex code (not to speak of `keyval.sty`). (d) The complete names and addresses of the universities are available in the separate file `listuniv.tex`, so that the candidate does not lose time in entering these informations.

As such, there are three layers: the front-end user, even if a complete beginner, has only to enter the informations in `form.tex`. If she/he is not satisfied by the output (which tries to be faithful to the given

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[2]It is interesting to note how an administration tends to create its own jargon...

DÉCLARATION DE CANDIDATURE
À/UNE/INSCRIPTION/À/LA/MUTATION,
AU/DÉTACHEMENT//OU AU RECRUTEMENT[1]
SUR UN EMPLOI DE MAÎTRE DE CONFÉRENCES
(Année 2004)
(décret n° 84-431 du 6 juin 1984 modifié)

adressée au chef d'établissement de : Université de Provence : Aix-Marseille I

Section CNU : 26   Profil : statistiques et traitement du   Article : 26-I-1°
signal

Emplois n°s : 1012 et 761   Journal Officiel du : 27 février 2004.

Je soussigné M. Pierre Ixe

NUMEN[3] :   N° de qualification[4] : 123456

Nom patronymique : Ixe

Nom marital :

Prénom(s) : Pierre, Paul

Date et lieu de naissance : le 1 janvier 1975 à Paris

Nationalité : Française

Adresse à laquelle seront acheminées toutes les correspondances[5] :

N° et rue : 3 Bd Gauss

Code postal : 75006   Ville : Paris   Pays :

Téléphone : 01-00-12-34   Télécopie :

Adresse électronique : ixe@libre.fr

Fonctions et établissement actuel : ATER, Université de Paris 20

Diplôme : Doctorat de mathématiques appliquées

déclare faire acte de candidature sur l'emploi ci-dessus désigné.

Fait à Paris le 10 mars 2004

Signature

[1] Rayer les mentions inutiles.
[2] Porter le n° de l'emploi concerné. Dans le cas où plusieurs emplois portant le même intitulé (mêmes sections et profils) sont publiés dans le même établissement, la demande est réputée concerner chacun de ces emplois, sauf en ce qui concerne les emplois affectés des instituts ou des écoles faisant partie de l'université pour lesquels il convient de faire acte de candidature séparément.
[3] Pour les personnels de l'éducation nationale.
[4] Pour les candidats au recrutement uniquement.
[5] Les modifications d'adresse ne peuvent être prises en considération sauf sur le site internet ANTARES durant le dépôt de la saisie des vœux. Les candidats sont invités à s'assurer le cas échéant de la réexpédition de leurs courriers.

CANDIDATURE À UN EMPLOI DE MAÎTRE DE CONFÉRENCES
(Second tour — Année 2004)
(décret n° 84-431 du 6 juin 1984 modifié)
CURRICULUM VITÆ

Mutation[1] :
– avec changement de discipline ;
– sans changement de discipline.

Détachement[1]
Recrutement [1]   ⊗ article 26-I (1°)   ○ article 26-I (2°)
○ article 26-I (3°)   ○ article 26-I (4°)

Académie : Aix-Marseille   Établissement : Université de Provence :
Aix-Marseille I

Section C.N.U. : 26   Profil : statistiques et traitement du
signal

Emploi n°s2 1012 et 761   Publié au Journal Officiel du 27 février 2004

Nom patronymique : Ixe
Prénoms : Pierre, Paul   né le 1 janvier 1975 à Paris
Nationalité : Française   Situation familiale : célibataire
Fonctions : ATER
Etablissement actuel : Université de Paris 20

Adresse personnelle   Adresse professionnelle

3 Bd Gauss   Institut de mathématiques
75006 Paris   Université de Paris 20
Tél. : 01-00-12-34   3 rue Laplace
75020 Paris
France
Tél. : 01-00-00-00
Fax : 01-00-00-01

Adresse électronique : ixe@math.paris20.fr
Adresse électronique (privée) : ixe@libre.fr
Page Web : http://math.paris20.fr/~ixe

Titres universitaire français[3] : voir p. 1   Diplômes, qualifications, titres : voir p. 2
Travaux, ouvrages, articles , réalisations[4] : voir p. 3
Le candidat développera à la suite son curriculum vitae et précisera notamment ses activités en matière :
– d'enseignement (voir p. 4)   – de recherche (voir p. 5)   – d'administration (voir p. 6)

Fait à Paris le 10 mars 2004

[1] Rayer les mentions inutiles.
[2] Dans le cas où plusieurs emplois portant le même intitulé (mêmes section et profil) sont publiés dans le même établissement, la demande est réputée concerner chacun de ces emplois, sauf en ce qui concerne les emplois affectés à des instituts ou à des écoles faisant partie de l'université pour lesquels il convient de faire acte de candidature séparément.
[3] Préciser pour la thèse : le titre, la date, le lieu de soutenance, le directeur de thèse et le jury.
[4] Numéroter les documents devant figurer dans le dossier des rapporteurs.
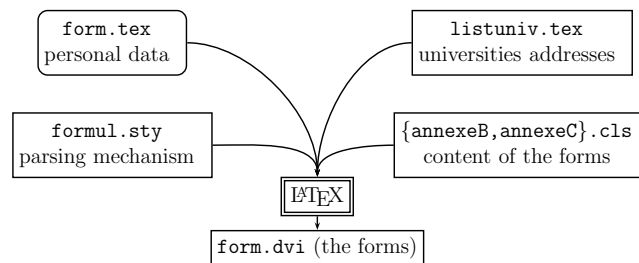
Figure 1: The two forms *Annexe B* and *Annexe C*.

Figure 2: The design of the MAF.

models, but which is not aesthetic), an average LATEX user may rather easily change the class files or create new ones simply by playing with boxes, spaces and springs, since the parsing and sometimes tricky job is done in `formul.sty`[3].

4 The structure of the files

The end-user has only to change or complete the file `form.tex` that begins with

```
\documentclass{annexeB}
%\documentclass{annexeC}
\input{listeuniv}
\begin{document}
```

Here, the user chooses which form to produce by commenting and decommenting the first lines. Then, she/he enters some personal informations (name, address, ...), using key-values syntax.

```
\candidat{
        MMmeMlle={M},
        nom={Doe},
        prenom={John},
...}
```

In order to avoid repetitions (and mistakes), some default informations can be entered with the command \postedefaut. For example, a Ph.D. holder in pure mathematics generally applies to positions in the research domain labelled by the number 25. Thus, there is no need to repeat this information, which is then entered as a value for the key `sect`. The key `mdcouprof` accepts `mdc` (for positions of assistant professor) or `prof` (for positions of professor).

```
\postedefaut{
    mdcouprof={mdc},
    sect={25},
    type={recrutement},
    dateJO={27 f\'evrier 2004},
    articleJO={26I-1}
}
```

Here, the other informations specify in some sense the statut the applicant: for example, the recruitment procedure is also valid for people already having a job as (assistant) professor but willing to go elsewhere. It may also happen that some positions, although rare, are opened only to a restricted category of people.

The file ends by a list of commands \postes, one for each position, whith two mandatory arguments (the number of the position and the "tag-name" of the university. This "tag-name" is defined in the file `listuniv.tex` but it is easily deduced from the real name of the university). Some optional arguments, again with the key-value syntax, may be used to give more precision about the position or to override the arguments used by default.

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[3]This style file also provides also some macros for formatting lists and other typesetting issues.

```
    \poste[
        sect={26},
        profil={statistiques}
        ]{1012}{aix-marseille1}
```

The file `listuniv.tex` contains the list of all the Universities with their addresses, under the form (this list, with 91 entries, was established from the informations given in the WEB site of the french Department of Education [4]):

```
    \defuniv{aix-marseille1}{
        nom={Universit\'e de Provence~: Aix-Marseille I},
        academie={\dapostrophe Aix-Marseille},
        adresse={3, place Victor Hugo\\
        13331 MARSEILLE CEDEX 3 }
    }
```

The command `\dapostrophe` may be used to write "d'Aix-Marseille" (literally "from Aix-Marseille") or "Aix-Marseille" in function of the context. Thus, in the last call of the command `\poste` above, the tag-name `aix-marseille1` means that the full name, address, ... of the corresponding entry in `listuniv.tex` will be used. These data are stored in TeX's memory using a `\csname`/`\endcsname`'s scheme.

When compiling the file `form.tex` with LaTeX, the appropriate class file will be called. Every class file shall have the following structure:

```
    \LoadClass[11pt]{article}
    \RequirePackage{formul}
    \newcommand{\codeposte}{
    ...
    }
```

The package `formul.sty` contains the parser. The informations on the candidate are transformed into some commands. For example, the name of the candidates is defined as the expansion of the command `\nom`, ... The command `\codeposte` is called each time the command `\poste` is encountered in the file `form.tex`. Its effect is to typeset and fill the form with the specific informations on the position. The file `formul.sty` also contains some commands regarding typesetting (lists manipulations, ...), so that new class files can be easily created.

5   Conclusion

The first version was released in 2001 and its seems that many candidates enjoyed it (I have absolutely no statistics at all, but I have received some very enthusiastic emails), since it allows them to concentrate on the content of the curriculum vitæ and not on writing boring, repetitive informations.

Using TeX for this task is advantageous since only one version needs to be maintained due to its computer-independent design. Besides, the MAF is easily installed, adapted if needed and the end-user does not need any specific skills or knowledge of a particular software. Finally we use the fact that the TeX language allows to mix both data processing and typesetting issues, maybe in a more complex way than usual word-processors and this is essential for the automatic production of forms.

References

[1] AMS coversheet <http://wwww.ams.org/coversheet>.

[2] Guilde des doctorants <http://guilde.jeunes-chercheurs.org/>.

[3] D. Carlisle. `keyval.dtx`, part of the *graphic bundle*.

[4] Ministère de l'Éducation Nationale (France) <http://www.education.gouv.fr>.

[5] Opération Postes <http://smai2.emath.fr/postes>.