

AcroTeX.Net

The mkstmpdad Bundle

Using the mkstmp_pro Package
to Create Custom Stamps

and

Using the aeb_dad Package
to Create Drag and Drop Matching

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Table of Contents

1	Introduction	3
2	The <code>mkstmp_pro</code> Package	3
2.1	Requirements and Installation	3
2.2	Testing the system	4
2.3	The details	6
	• Commands of <code>mkstmp_pro</code>	7
2.4	The <code>mkstmp_pro</code> workflow	7
	• The images file	7
	• Create and install a stamp file	8
2.5	Using stamps with <code>annot_pro</code>	8
3	The <code>aeb_dad</code> Package	9
3.1	Requirements and Installation	10
3.2	Testing the system	10
3.3	The details	10
	• Commands of <code>aeb_dad</code>	11
	• Customizing the JavaScript	12
3.4	Additional Examples	14

1. Introduction

This bundle consists of two related \LaTeX packages:

`mkstmp_pro` is used to create stamps for display in Adobe Acrobat or Adobe Reader. Adobe Acrobat (and Adobe Distiller) are required to produce these stamps. The package requires `aeb_pro` (`pkg/aeb-pro`), for it uses the `docassembly` environment to create the stamp file.

The contents of the stamp file appears in the Comment panel, under the Add Stamp tool. A stamp can be dragged and dropped into a PDF document and a comment can be attached to it.

`aeb_dad` is an application to `mkstmp_pro` and requires the `annot_pro` package (`pkg/annot-pro`). The `aeb_dad` package is used to create a “matching” game, in which the user drags a stamp and drops it into a target region. Underlying JavaScript then determines whether the user has dropped the stamp in the correct region or not. This is as close to a drag and drop feature that you can get using Adobe PDF (without writing a plugin).

The matching “game” created by the `aeb_dad` package works for users that have Adobe Acrobat, but the big news here is that it works also for users of Adobe Reader XI! In the version 11 release, Adobe Reader is now able to fill in forms and save and to provide access to all comment features without requiring Reader Extended PDF;¹ however, Adobe has dropped its support for browser-based commenting, so functionality is limited from within a browser.

For more information on stamps, I recommend the book *All About PDF Stamps, In Acrobat & Paperless Workflows*, by Thom Parker. See Thom’s web site **WindJack Solutions** at windjack.com.

2. The `mkstmp_pro` Package

The `mkstmp_pro` enables the user of Acrobat Pro to *conveniently* create custom stamps.

2.1. Requirements and Installation

`mkstmp_pro` requires `aeb_pro` dated 2012/11/09 or later; in particular, there has been a change to the `aeb_pro.js` file, so this new file must be installed, following the steps described in the `aeb_pro` manual.

As for the installation of `mkstmp_pro`, if not automatically installed by a \TeX system, just copy `mkstmp_pro.sty` into a folder named `mkstmpdad`. If appropriate, refresh the filename database of your \TeX system.

Examples and Documentation. Unzip `mkstmpdad.zip` anywhere you want, outside the \LaTeX search path. The ZIP file will create a folder named `mkstmpdad`, containing program files, and folders `doc` and `examples`.

¹This only applies to non-XFA documents. XFA still requires Reader Extensions to save filled in forms.

2.2. Testing the system

The `mkstmp_pro` package comes with an example file, `uspres_stamps.tex`, which is found in the `mkstmpdad/examples/mkstmp_pro` folder. Accompanying this file is `uspres.pdf`, found in the `images` subfolder.

The verbatim listing of `uspres_stamps.tex` is given below.

```

1 \documentclass{article}
2 \usepackage[web=designi]{aeb_pro}
3 \usepackage{mkstmp_pro}
4 \pagestyle{empty}
5
6 \title{U. S. Presidents Stamps}
7 \author{D. P. Story}
8
9 \setStampPath{C:/Users/Public/Documents/%
10     My TeX Files/tex/latex/aeb/aebpro/mkstmpdad/%
11     examples/mkstmp_pro/images/uspres.pdf}
12 \makeStamps{%
13     {name=George Washington,page=0}
14     {name=John Adams,page=1}
15     {name=Thomas Jefferson,page=4}
16     {name=James Madison,page=3}
17     {name=John Quincy Adams,page=2}
18 }
19 \begin{docassembly}
20 \insertPreDocAssembly
21 \end{docassembly}
22
23 \begin{document}
24 \null\vfil
25 \begin{center}
26 \huge\sffamily\bfseries U. S. Presidents Stamps
27 \end{center}
28 \vfil
29 \end{document}

```

Before you can compile this file, you must edit lines (9)-(10) to match the path to the `examples` folder on your computer and save the changes. Follow the steps outlined in the next paragraph, in these general instructions, `<my_stamps>` refers to the demo stamp file `uspres_stamps`.

Procedure to create stamps. The following are the steps for creating a stamp file, `<my_stamps>`.

1. **Create the Stamp file.** Now, \LaTeX `<my_stamps>.tex`, convert the DVI to PS using `dvips`, then convert to PDF using Adobe Distiller. If all works out, the file `<my_stamps>.pdf` is produced. When the file first opens in Acrobat after distillation, there are document assembly methods that import the images of the

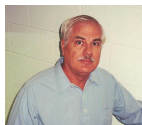
presidents into the newly created file. Give it a second or two for the process to complete before saving `<my_stamps>.pdf`.

2. **Move the Stamp file.** After the stamp file is created, you need to move it to the stamp folder, where Acrobat expects it to be. To find this location, start Acrobat and open the JavaScript Debugger Window (Ctrl+J/Cmd+J), and type in the following line of code,

```
app.getPath("user", "stamps");
```

Place your cursor on this line and press Ctrl+Enter/Cmd+Enter (or just use the Enter key on the keypad). Acrobat will execute this line and return the path to the user stamp folder. Navigate to this folder, and copy (or move) `<my_stamps>.pdf` to this folder.

3. Restart Acrobat.
4. On restart, your newly installed stamps should be visible: Open the Comment panel of Acrobat, and select the Add Stamp tool.



If you built and installed the `uspres_stamp.pdf` file correctly, you can use your stamps through the user interface of Acrobat, or reference them with the `annot_pro` package, as I did here (see the comments of George Washington in the margin).

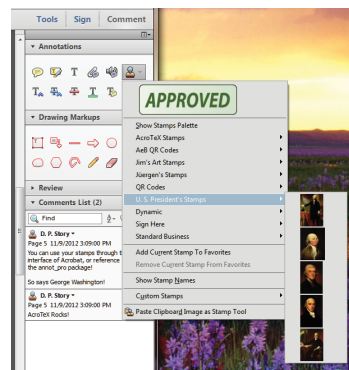


Figure 1: Stamp tool

- To use stamps through the user interface of Acrobat:
 - For Acrobat 9 or earlier, select Comments > Show Comments & Markup. The Stamp tool can be seen on this toolbar. For Acrobat 10 and later, select the Comment panel on the right, again, the Stamp tool is revealed. Figure 1, page 5, show the stamp tool, with **U.S. Presidents Stamps** selected.²

²The user-interface of Acrobat is ever changing.

- Select a stamp, click on it, and bring your mouse back over the document. An image of the stamp should appear. Place it by left-clicking.
- Double click on the stamp to open the associated Pop-Up Note, used to associate a note with the stamp.

2.3. The details

A PDF file is used to create a stamp file. Each page that contains an image for a stamp must be a *page template* for that image to be recognized as a stamp. A page template has an associated *name* that is used as the *name* of the stamp, as can be seen through the user interface. The stamps that appear in a stamp file are listed under that *title* of the stamp file in the Stamp tool menu, listing all available stamps, see Figure 1, page 5.

In light of the above paragraph describing the essentials of stamps, let's go through the listing of `uspres_stamps.tex`, which we'll reproduce on this page.

```

1 \documentclass{article}
2 \usepackage[web=designi]{aeb_pro}
3 \usepackage{mkstmp_pro}
4 \pagestyle{empty}
5
6 \title{U. S. Presidents Stamps}
7 \author{D. P. Story}
8
9 \setStampPath{C:/Users/Public/Documents/My TeX Files/tex/latex/aeb/aebpro/
10 mkstmpdad/examples/mkstmp_pro/images/
11 uspres.pdf}
12
13
14 \makeStamps{%
15   {name=George Washington,page=0}
16   {name=John Adams,page=1}
17   {name=Thomas Jefferson,page=4}
18   {name=James Madison,page=3}
19   {name=John Quincy Adams,page=2}
20 }
21
22 \begin{docassembly}
23 \insertPreDocAssembly
24 \end{docassembly}
25
26 \begin{document}
27 \null\vfil
28 \begin{center}\huge\sffamily\bfseries
29 U. S. Presidents Stamps
30 \end{center}
31 \vfil
32 \end{document}

```

Line (2) we use the `aeb_pro` package, which defines the `docassembly` environment, seen in lines (21)–(23). Line (3) inputs `mkstmp_pro`, this package.

On line (6) we title this document, the title appears in the Stamp menu, as seen in Figure 1 of page 5.

The `\setStampPath` command is defined in this package to point to the file containing the images to be made into stamps, call this the *images file*. It is an absolute path.

The `\makeStamps` command is the one that describes the images to be imported into the document as stamps. Details are found below; in this example we specify a name for the stamp, and the page on which this stamp is to be found in the images file.

The `docassembly` environment, lines (21)–(23), encloses the command `\insertPreDocAssembly`. These two are defined in `aeb_pro`, but `mkstmp_pro` modifies `\insertPreDocAssembly` to import and name the images.

This content of the actual document is listed in lines (26)–(30). No DVI file is produced unless there is content. Here, we have a simple title page.

• Commands of `mkstmp_pro`

The `mkstmp_pro` only defines two commands, `\setStampPath` and `\makeStamps`.

- `\setStampPath{absolute_path}` defines the absolute path to the images file, the file that contains the images to be imported into the stamp file and used as stamps.
- `\makeStamps` takes a single argument that describes the images to be imported. The syntax is,

```

1 \makeStamps{%
2     {name=name1, page=page1}
3     {name=name2, page=page2}
4     ...
5     {name=namen, page=pagen}
6 }
```

The images will appear in the stamp file in the same order they are listed. The value of the `name` key is the name to be associated with the stamp. The value of the `page` key is the page that this image is found on in the *image* file. (Notice that in the verbatim listing, the images are not imported in the same order they are listed in the images file.) There is another key, not shown above, called `path`. In theory, you can import an image in another file, different from the one declared by `\setStampPath`. It is perhaps best to have all images in a single file, however.

2.4. The `mkstmp_pro` workflow

The workflow comes in two steps, prepare an *images file*, create and install the *stamp file*.

• The images file

The `mkstmp_pro` package requires an *images file*, a file containing all the images to be made into stamps in the stamp file. For the `uspres_stamps.tex` file, the images file is `uspres.pdf`, as seen at the end the absolute path declared by `\setStampPath`.

Creating an images file is easy, given that you are using Acrobat. Combining files into a single PDF is accomplished by opening Acrobat and selecting Combine Files into PDF from the menu or toolbar. Now the good folks have moved things around over the years, so this features can appear in diverse location depending on the version you are using. Your Acrobat may have a Create button on the toolbar, as seen in Figure 2.³

The use of this feature is quite intuitive. Select the files you want to include in your images file. Combine and save them to the appropriate location. (Acrobat supports an enormous variety of file types, includes PDF, JPG, PNG, GIF, etc.)

³Version 9 of Acrobat has a Create button, but the feature here is now called Merge Files into a Single PDF. It is also found under File > Combine.

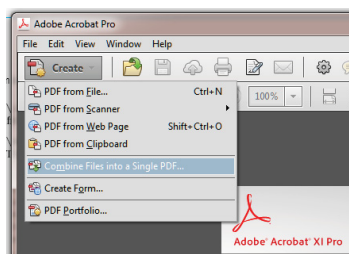


Figure 2: Combine Files into a Single PDF

- **Create and install a stamp file**

Create. To create a stamp file, take the sample file `upres_stamp.tex` and save it under a different name, say `<my_stamps>.tex`. Bring your newly created stamp file into your editor.

1. Set the `\title` and `\author` of `<my_stamps>` as desired. The `\title` will appear as a menu item of the Stamp tool.
2. Edit the argument of `\setStampPath` to point to the image file.
3. Edit the argument of `\makeStamps`. There should be one token for each of the stamp images you are importing. Follow the formatting of the sample file.
4. Compile `<my_stamps>.tex`, convert to PS (using `dvips`), and distill using Adobe Distiller. This creates your stamp file `<my_stamps>.pdf`.

Install. After the stamp file is created, move it to the stamp folder, where Acrobat expects it to be. To find this location, start Acrobat and open the JavaScript Debugger Window (Ctrl+J/Cmd+J), and type in the following line of code,

```
app.getPath("user", "stamps");
```

Place your mouse cursor on this line and press Ctrl+Enter/Cmd+Enter (or just use the Enter key on the keypad). Acrobat will execute this line and return the path to the user stamp folder. Navigate to this folder, and copy/move `<my_stamps>.pdf` to this folder.

Restart Acrobat, if all went as planned, your new stamps should be listed in the menu listing of the Stamp tool. Verify this. If successful, they are ready for use!

2.5. Using stamps with `annot_pro`

Earlier, on page 5, the George Washington stamp was used. The verbatim listing of that is given below.

```
\annotpro[subject={AcroTeX makes stamps},title={D. P. Story},
type=stamp,name=\#George Washington]{You can use your
stamps through the user interface of Acrobat, or reference
```



```
them with the annot\_pro package!\n\n So says George
Washington!}
```

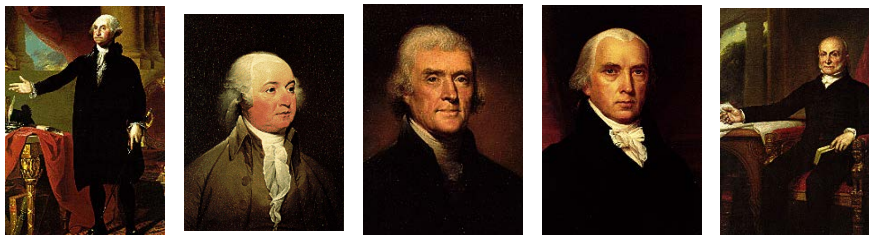
Note that the value of the name key is specified as #George Washington, not simply as George Washington. Custom stamp names require their name be prefixed with a #. The mkstmp_pro package automatically inserts the required prefix, but annot_pro does not.

See the documentation of annot_pro for more details on how to use the \annotpro command.

3. The aeb_dad Package

When Adobe Reader XI was released with its full support for comments (and saving form fields), I saw this opened up possibilities for using dragging and dropping stamps (DAD). Suppose you had a series of stamps, and a series of push buttons. Each button is associated with one of the stamps, but which one? The user, even using ARXI, drags and drops a stamp onto one of the push buttons. The underlying JavaScript determines whether it was the right choice, if not, the stamp is returned to its starting position. Below is the example demonstrated in dd_uspres.tex, the demo file for this package.

DAD Matching (Game)



John Quincy
Adams

Thomas
Jefferson

James
Madison

George
Washington

John Adams

Drag and drop the image of each President onto the corresponding rectangular region. Use your little gray cells, I am watching.

Important: Adobe has dropped its support for online commenting, as a result, DAD Matching does not work from within a browser. The user should download the file and view with Adobe Reader XI (or later), or with the Acrobat application.

3.1. Requirements and Installation

The aeb_dad package requires annot_pro dated 2012/11/10 or later.

As for the installation of aeb_dad, if not automatically installed by a T_EX system, just copy aeb_dad.sty into a folder named aeb_dad. If appropriate, refresh the filename database of your T_EX system.

Examples and Documentation. Unzip mkstmpdad.zip anywhere you want, outside the \LaTeX search path. The ZIP file will create a folder named mkstmpdad, containing program files, and folders doc and examples.

3.2. Testing the system

The example file for this package is dd_upres.tex. Assuming you have installed and tested the Presidential stamps as per the instructions in the section titled ‘Create and install a stamp file’ on page 8, you are ready to compile the example file. After you compile, convert to PS, and distill using Adobe Distiller, you get the PDF file, dd_upres.pdf. *Don’t forget to save the file*, this also saves the JavaScript that is imported into the document.

The behavior of the stamps and push buttons in the file dd_upres.pdf is the same as the Presidents drag and drop demonstration seen on the previous page.

3.3. The details

Let’s look at the verbatim listing of dd_upres.tex.

1	<code>\initDDGame{Presidents}</code>	<code>\initDDGame</code> initializes the DAD game, each game must have a unique name.
2		
3	<code>\ddDimens{%</code>	
4	<code>iconwidth=1in,iconheight=1.5in,</code>	
5	<code>targetwidth=1in,targetheight=1.5in}</code>	<code>\ddDimens</code> sets up the dimensions of the stamps and the push buttons.
6		
7	<code>\ddGameIcon{George Washington}\quad</code>	
8	<code>...</code>	
9	<code>\ddGameIcon{John Quincy Adams}</code>	<code>\ddGameIcon</code> is a command that sets up the positioning of the stamps, the argument of this command is the <i>name</i> of the stamp to be used.
10		
11	<code>\ddTargetOfIcon{John Quincy Adams}</code>	
12	<code>{John Quincy Adams}\quad</code>	
13	<code>...</code>	
14	<code>\ddTargetOfIcon{George Washington}</code>	<code>\ddTargetOfIcon</code> is a comment that creates a push button that is a target of one of the stamps. The first argument is the <i>name</i> of the stamp, the second is the caption that appears beneath the push button.
15	<code>{George Washington}\quad</code>	
16	<code>...</code>	
17	<code>\ddReset</code>	<code>\ddReset</code> is a reset button. It puts the stamps back into their initial positions, and returns the push buttons to their original appearance.

The details follow in the order they appear in the document.

• Commands of aeb_dad

In this section, several commands are presented; these are used to define and design your DAD Game.

A DAD Game must appear on a single page. You must design the 'game board' to appear in one page, that might require making the stamps and targets smaller, or the page width wider.

Begin by declaring the game title of the DAD Game.

```
\initDDGame{<title>}
```

The `\initDDGame` command must appear on the same page on which the stamps and push buttons appear. The argument `title` is the title of the DAD game; typically, it should follow the same rules as a JavaScript variable, because it forms the base name of the push buttons and the reset button. `\initDDGame` defines a page option action that sorts through the stamps on the page for the ones that belong to the DAD Matching Game with a name of `title` and places them in an array.

```
\ddDimens{<KV-pairs>}
```

The key-values are,

- `iconwidth=<width>` is the width allotted to the icon (stamp). The default value is `\defaultStampWidth`, defined in `annot_pro` as 50bp.
- `iconheight=<height>` is the height allotted to the icon (stamp). The default value is `\defaultStampHeight`, defined in `annot_pro` as 50bp.
- `targetwidth=<width>` is the width of the target push button. The default value is 1.25in, as set by `aeb_dad`.
- `targetheight=<height>` is the height of the target push button. The default value is 1.25in, as set by `aeb_dad`.

```
\ddGameIcon{<icon_name>}
```

This is the command that places a stamp with name of `<icon_name>`. Use this command repeatedly with, of course, different names. Arrange them on the page as desired.

```
\ddTargetOfIcon{<icon_name>}{<caption>}
```

This command creates a target push button. There must be one `\ddTargetOfIcon` for each `\ddGameIcon`. The first argument, `<icon_name>` must match one and only one `<icon_name>` argument of `\ddGameIcon`. (There must be a one-to-one correspondence between stamps and push buttons.) The second argument `<caption>` is a short caption that appears at the bottom of the button. This caption should be descriptive on the icon (stamp) that it matches with.

`aeb_dad` defines two other commands that relate to `\ddTargetOfIcon`, these are `\ddTargetCaption` and `\ddTargetFmt`, the default definitions of which are seen below.

```

\newcommand{\ddTargetCaption}[1]{\[\[3pt]\%
\parbox[t]{\linewidth}{\centering\ddm@targetfmt#1}}
\newcommand{\ddTargetFmt}[1]{\def\ddm@targetfmt{#1}}
\ddTargetFmt{}

```

`\ddTargetCaption` sets the caption in a `\parbox` that is 3pt beneath the button. The command `\ddm@targetfmt` is a formatting command, it is defined by `\ddTargetFmt`. Use the command `\ddTargetFmt` to set the formatting (or styling) of the captions, it takes one argument which is passed to the tex stream prior to the caption. For example, for the President Stamp game appearing on page 5, we declared

```
\ddTargetFmt{\sffamily\small\bfseries}
```

The default is `\ddTargetFmt{}`, no styling.

```
\ddReset[{title}]
```

The `\ddReset` button restores the most recently defined DAD Matching Game to its original state. If, for some reason, the most recent one is not the one you want reset, use the optional argument `title` to pass the title of the game you want reset.

It is recommended that the reset button be always on the screen when the user is matching icons. The game executes a `Field.setFocus()` method to take the focus off the stamps when they are dropped. The focus goes on the reset button. If the reset button is out of the user's viewing, AA or AR will scroll the page to place the reset button in the (middle of the) viewing area. This would not be a good experience for the user. For documents that are screen size, placement below the game is probably acceptable; for paper size pages, placement of the reset button between the row of stamps and the row of target buttons may work.

• Customizing the JavaScript

When a correct matching is made, the JavaScript function `ddCorrectAction()` is executed; and when an incorrect matching is made, `ddWrongAction()`. These two functions simply place an alert box on the screen with the message "Right!" or "Wrong", depending. These two messages, as well as three others, are defined below.

```

\newcommand{\ddRightMsg}{"Right!"}
\newcommand{\ddWrongMsg}{"Wrong!"}
\newcommand{\ddDragOnlyOne}{"Drag one icon at a time"}
\newcommand{\ddExternalMsg}{%
  "Drag and Drop of icons does not work in a browser. "
  + "Save this file to your computer and view it in "
  + "Adobe Reader XI or later, or in the "
  + "Acrobat application."
}
\newcommand{\ddBadAppMsg}{%
  "Any version of Adobe Acrobat, "
  + "or Adobe Reader XI is required!"
}

```

These may be redefined to other messages as desired.

The two functions `ddCorrectAction()` and `ddWrongAction()` first test for the presence of `ddCustomCorrectAction()` and `ddCustomWrongAction()`. If either one (or both) are defined, then these functions will be executed. The two JavaScript functions, then, are hooks into the system to modify how the game reacts to being right or wrong. See the second demo file `dd_uspres_custom.tex` for an example. The verbatim listing of the definitions of custom functions are given and discussed below. This example is just one of many possible definitions.

```

1  \begin{insDLJS}{dd}{Custom Notifications}
2  var oAlertTitle=new Object();
3  oAlertTitle["Presidents"] = "The Presidents of the United States";
4  function ddCustomCorrectAction(event,ddName) {
5      app.alert({cMsg: "That's right! Out of sight! (" +ddStats.nCorrect
6          +" out of "+ddStats.nTries+")",
7          nIcon: 3, cTitle: "AeB Drag and Drop: "
8          +oAlertTitle[ddName]});
9  }
10 function ddCustomWrongAction(event,ddName) {
11     app.alert({cMsg: "Ding, Dong, that is Wrong! (" +ddStats.nCorrect
12         +" out of "+ddStats.nTries+")",
13         nIcon: 0, cTitle: "AeB Drag and Drop: "
14         +oAlertTitle[ddName]});
15 }

```

- Lines (2) & (3) show how to get a custom title on the alert box, optional, just an idea.
- Lines (4)-(14) is the custom handler when the user has a correct matching.
 - There is a built in counter that tracks the number correct and the number of attempts. The counter array is shown in lines (6) & (7). The first one, line (6), keeps track of the number correct, and the other one, line (7), is the total attempts.
The reset button `\ddReset` resets the counters to zero again.
 - Lines (10)-(13) is a custom alert box, that would say, for example, "That's Right! Out of sight! (2 out of 5)".
- Lines (15)-(24) show the definition of `ddCustomWrongAction()`. It has a similar structure, but does not increment the number correct.

There are other ideas that come to mind. You can create a text field, and define your custom functions to write the score to it. Within the reset JavaScript function `resetDDM()`, a check is made for the presence of a function named `ddCustomResetAction()`; if it exists, it is executed as `ddCustomResetAction(page, ddName)`, where `page` is the page number on which the game resides, and `ddName` is the title of the game. You can use, for example, to then reset any text field you define to hold the score.

3.4. Additional Examples

Additional examples are posted on the [AcroTeX Blog Site](#), these can be conveniently found under the tag *mkstmpdad*.

Now, I simply must get back to my retirement. ~~DS~~