

**NORTHWEST FLORIDA STATE COLLEGE**  
**Department of Mathematics**

## **eCards: Electronic Flash Cards**

### **Manual of Usage**

**D. P. Story**

## Table of Contents

|          |  |          |
|----------|--|----------|
| <b>1</b> | <b>Introduction</b>  | <b>3</b> |
| <b>2</b> | <b>Overview</b>  | <b>3</b> |
| <b>3</b> | <b>Documentation</b>   | <b>4</b> |
| 3.1      | Preamble: Required packages and options . . . . .              | 5        |
|          | • Required packages . . . . .                                  | 5        |
|          | • Drivers . . . . .  | 5        |
|          | • Options . . . . .  | 5        |
|          | • Original customization commands . . . . .                    | 7        |
| 3.2      | <code>\begin{document}</code> : Start creating cards . . . . . | 8        |
|          | • The card environment . . . . .                               | 8        |
|          | • The response environment . . . . .                           | 9        |
|          | • The hint environment . . . . .                               | 9        |
|          | • The answer environment . . . . .                             | 9        |
| 3.3      | <code>\end{document}</code> . . . . .                          | 9        |
| 3.4      | Additional customization commands . . . . .                    | 10       |
|          | • The question page . . . . .                                  | 10       |
|          | • The hint page . . . . .                                      | 10       |
|          | • The answer page . . . . .                                    | 10       |
|          | • The navigation icons . . . . .                               | 11       |
|          | • The <code>listing</code> option . . . . .                    | 11       |
|          | • Alert messages . . . . .                                     | 12       |
|          | • Miscellaneous customizations . . . . .                       | 12       |
|          | • web customizations . . . . .                                 | 12       |

## 1. Introduction

The initial version of this package was developed at the request of my colleague, Dr. Thomas Price for use in the senior honors project of Ms. Katie Jones on **Trig Flash Cards**. Upon completion of the honors project, I generalized and extended the original package developed specifically for them.

Version 2.0 (2016/07/20) of eCards brings the package up to date with the exerquiz package, which has undergone considerable revision since eCards first appeared. The only changes in the package is its name, the package name is ecards rather than eCards, also, exerquiz package dated 2016/04/18 or later is required.

## 2. Overview

We give a graphical overview of eCards using the demonstration file `ecardstst.tex`. There are three types of pages, excluding the cover page: the question page, the hint page, and the answer page.

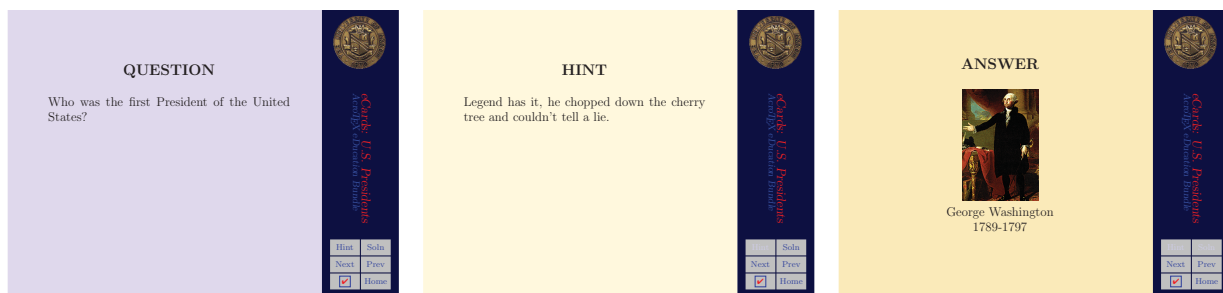


Figure 1: The question, hint, and answer pages with panel

Figure 1 shows the demonstration document using the `rightpanel` option; the user navigates through the document by pressing the links labeled 'Hint', 'Soln', 'Next', and 'Prev'.

Using the `usetemplates` option instead of `rightpanel` renders the same pages as shown in Figure 2.

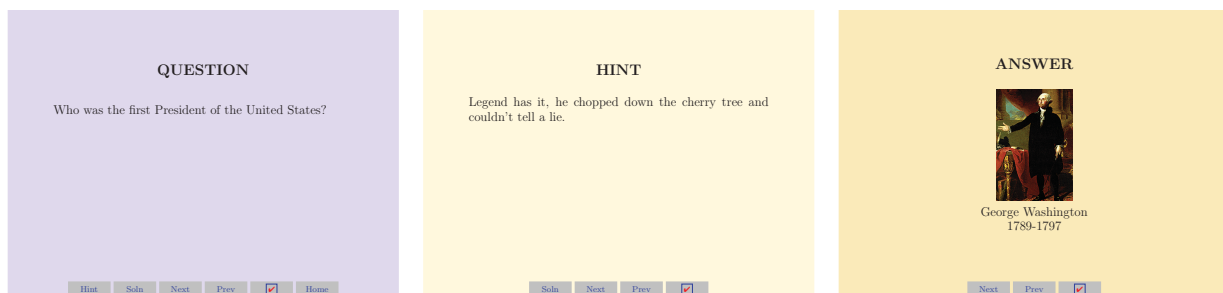


Figure 2: The question, hint, and answer pages with no panel

In the case of `usetemplates`, [Figure 2](#), the user works through the cards using the navigation icons in to footer of the page.

When the `listing` option is used along with the `forpaper` option, a document suitable for printing is produced. The document contains the questions, hints, and solutions for the document author to conveniently review. This document is shown in [Figure 3](#).

**Listing of Questions, Hints, and Answers**

1. Who was the first President of the United States?  
*Hint:* Legend has it, he chopped down the cherry tree and couldn't tell a lie.  
*Answer:* George Washington (1789-1797)
2. Who was the second President of the United States?  
*Hint:* He was Washington's Vice President.  
*Answer:* John Adams (1797-1801)
3. Who was the third President of the United States?  
 (a) Geo. Washington                      (b) Ben Franklin  
 • (c) Thomas Jefferson                    (d) James Madison  
*Hint:* He was one of the authors of the Declaration of Independence.  
 (a) Geo. Washington                    (b) Ben Franklin  
 • (c) Thomas Jefferson                    (d) James Madison  
*Answer:* Thomas Jefferson (1801-1809)
4. Who was the fourth President of the United States?  
**Ans:** ["James Madison", "Madison"]  
*Hint:* He coauthored the *Federalists Essays* along with John Jay and Alexander Hamilton. **Ans:** ["James Madison", "Madison"]  
*Answer:* James Madison (1809-1817)
5. Who was the fifth President of the United States?  
*Hint:* In foreign affairs, this President proclaimed a doctrine that bears his name. "... the American continents", he stated, "by the free and independent condition which they have assumed and maintain, are henceforth not to be considered as subjects for future colonization by any European Power."  
*Answer:* James Monroe (1817-1825)
6. Who was the sixth President of the United States?  
*Hint:* He was the first President who was the son of a President.  
*Answer:* John Quincy Adams (1825-1829)

Figure 3: The cards with the `listing` option

### 3. Documentation

In this section, the major elements of this package are highlighted. For those who want to know more, you can peruse the  $\LaTeX$  code, there are comments contained there as well. The document `ecardstst.tex` illustrates most of what you need to know for creating your own electronic flash cards.

### 3.1. Preamble: Required packages and options

#### • Required packages

This package depends heavily on the **AcroT<sub>E</sub>X eDucation Bundle**: (1) the web package provides page setup, backgrounds, and navigational elements; (2) the exerquiz package (dated 2016/04/18 or later) allows you to author the questions, both non-responsive and responsive (fill-in and multiple choice); and (3) the insdljs packages is the mechanism for introducing document-level JavaScripts into the final document.

#### • Drivers

The supported drivers are the same as those supported by exerquiz: dvipsone, dvips, pdftex, and xetex.

A typical set of packages used for on screen presentation:

```
\usepackage[⟨driver_option⟩,tight,rightpanel]{web}
\usepackage[⟨options⟩]{exerquiz}
\usepackage[⟨options⟩]{ecards}
```

where *⟨driver\_option⟩* is any of the drivers listed above; pdftex and xetex are automatically detected so they need not be specified; if the driver option dvips is specified in the web.cfg, it need not be specified either.

**A note on xetex.** The xetex application may be set to strip out named destinations that are not referenced within the document as a target of a ‘hard-wired’ link. The ecards package sets a lot of destinations (or targets) but, in many instances, ‘dynamic’ links are employed using the JavaScript method *Doc.gotoNamedDest(⟨target⟩)*. In such instances, xetex may strip out these targets; the link or button action may not perform the jump to the destination because the destination does not exist. If this becomes an issue for your xetex installation, the **Dvipdfmx Compatibility Flags** needs to be modified. Search for the configuration file dvipdfmx.cfg, open the file. Scroll down to the line ‘%C 0x0000’, beneath it insert ‘C 0x0010’, save and close the file.<sup>1</sup> The documentation for this bit field is just above the referenced line and an explanation of the ‘C 0x0010’ setting is given.

#### • Options

**eCards options.** The ecards package really has only 4 options:

1. **nohints:** If you do not want to provide hints in your eCards, use this option. See also the comments in ‘[The hint environment](#)’ on page 9.

The default is to provide and display hints to each card; when nohints is specified in the option list of ecards, no hints provided becomes the default.

Whether hints are provided or not can be overridden in two ways: through the optional argument of the card environment ([page 8](#)), and through the commands listed next.

<sup>1</sup>MiKTeX discourages the direct editing of the file dvipdfmx.cfg, instead, on the command-line prompt type and execute ‘initexmf --edit-config-file dvipdfmx’ enabling you to edit a local version of the configuration file as described above.

```
\useNoHints \useHints
```

The commands are used between `card` environments to change the default usage of hints. When hints are *not provided*, a simple message defined by the command `\noHintProvided` (see [page 10](#)) appears on the hint page.

2. `listing`: This option gives you a printable version of your eCards. In this way, you can proofread, check your questions, hints, and answers. Suggested packages and options are given below:

```
\usepackage[<driver_option>,forpaper]{web}
\usepackage[solutionsafter,proofing]{exerquiz}
\usepackage[listing]{ecards}
```

This option sets the Boolean `\ifecListing` to true; this Boolean is used to define optional content. Read ‘[The card environment](#)’ on [page 8](#) for an example of using `\ifecListing`.

Refer to [Figure 3](#) for a depiction of an eCards document under the `listing` option.

3. `memLogo`: The logo, if any, is read and re-read for each page on which it appears. Using this option, the logo is read once and saved in a box for use.
4. `custom`: If this option is included in the option list, the package looks for and inputs the file `ecard.cus`. This file can be used to customize the environments. This file should be kept in the source directory, not in the  $\TeX$  search path.

**Other options.** Selecting the various options of the `web` and `exerquiz` packages can give you different looks. It is important to be aware of all the options associated with these two package; in the paragraphs below, various options are discussed that may be useful in eCards.

**Useful web package options.** There are three background/panel options; these are `usetemplates`, `rightpanel` and `leftpanel`.

Using the `usetemplates` option does not give you the vertical navigation panel, but it does provide background colors; the `rightpanel` and `leftpanel` given you a vertical panel on the right and left, respectively. Use one of these three options only, if any at all. Using none of these three will just get you the default white background. See the `AeB` documentation for details.

There are certain “standard” page designs, or you can create your own using the `\margins` and `\screensize`; the demo document has

```
\margins{.25in}{.25in}{24pt}{.25in} % left,right,top, bottom
\screensize{3.72in}{366.24bp} % height, width
```

See the `web` package documentation for details on these and other options.

**Useful exerquiz package options.** If you are not using multiple choice or fill-in questions, you should use the `exercisely` option. This removes much of the document level JavaScript from the PDF document.

For authors that use the full Acrobat 5.0, or the newer Acrobat 6.0 Standard or Acrobat 6.0 Professional, you can use the `execJS` option. If this option is taken, then when the document is first loaded into Acrobat (following distillation, or creation using `dvipdfm` or `pdftex`), the document will be automatically saved; this saves any imported document level JavaScript in the document. The document always needs to be saved after creation so save the scripts with the document, this does it automatically so you can't forget to do it—as one of my colleagues once did.

The `nosolutions` option removes the response environment leaving only the questions. The `proofing` and `preview` options can be useful for proofreading, as described in the `listing` option described above.

#### • Original customization commands

The `eCards` defines several (text) commands, there are listed here:

- `\cardsFinishedMsg`: When the user has reviewed all the electronic flash cards, an alert dialog appears with a message. The contents of the message are defined by this command. The default is

```
\cardsFinishedMsg{You've seen all the cards!}
```

- `\cardColor`, `\hintColor`, and `\solnColor`: The background colors of various pages. The defaults are

```
\cardColor{vlightblue}
\hintColor{cornsilk}
\solnColor{webyellow}
```

Additionally, `\textBgColor` command is used to define the default background color (of the web package). This will be the color of the first page, the default is `\textBgColor{cornsilk}`. The panel background is controlled by the `web` command `\panelBgColor`; for example, `\panelBgColor{logoblue}`.

- `\ecLogo`: The logo emblem that would appear in the upper portion of the vertical navigational strip. This assumes you are using either the `rightpanel` or `leftpanel` option for web. The default is

```
\ecLogo{\includegraphics[scale=.4]{graphics/uakron}}
```

As you can see, the argument of this command is a graphic command, usually the command `\includegraphics` from the `graphicx` package.

- `\ecLogoLink`: This is the URL of the link destination that will be placed around the logo. The default is an empty address, in this case, no link is placed around the logo emblem. An example of usage:

```
\ecLogoLink{http://www.uakron.edu/}
```

- `\ecHomePage`: This is the URL to a page. This will be used as a link destination of the ‘Home’ button seen on the first page of the eCards document.

```
\ecHomePage{http://www.math.uakron.edu/~dpstory/acrotex.html}
```

- `\noHintJSAction`: When there are no hints (the document author has taken the option `nohints`, the ‘hints’ button is grayed out, but still functional, with no JavaScript action. You can add some action to this button through this command. An example of usage is

```
\renewcommand\noHintJSAction{app.alert("No hints provided!")}
```

Section 3.4 lists more customization commands, available with version 2 or later of eCards.

### 3.2. `\begin{document}`: Start creating cards

The process of creating these electronic cards is quite simple, the sections below describe the card, response, hint and answers environments.

- **The card environment**

The main environment is the card environment, which is used for posing questions, offering a hint, and an answer. The syntax is,

```
\begin{card}[hint|nohint]
  <a question>
  \begin{response}
    \begin{hint}
      <a hint>
    \end{hint}
    \begin{answer}
      <an answer>
    \end{answer}
  \end{response}
\end{card}
```

The optional parameter takes one of two keys, `hint` or `nohint`. Normally, each question contains a hint, but there is an option, `nohints`, for declaring that no hints are to be used for the question. You can pass one of these two parameters into the card environment to declare there is a hint for this question (in the case `nohints` is selected as an option), or to declare there is no hint for this question (in the case `nohints` is *not* an option). If no parameter is passed, it is assumed the question has a hint, unless the `nohints` option is used, in which case it is assumed the question has no hint.

Below is the first card environment for `ecardstst.tex` showing the nesting of the card, response, hint, and answer environments.

```
\begin{card}
  Who was the first President of the United States?
\begin{response}
```



```

\begin{hint}
  Legend has it, he chopped down the cherry tree and
  couldn't tell a lie.
\end{hint}
\begin{answer}
\ifecListing
  George Washington (1789-1797)
\else\centering
  \includegraphics[scale=.4]{presidents/gw1}\
  George Washington\
  1789-1797
\fi
\end{answer}
\end{response}
\end{card}

```

The role of `\ifecListing` is also shown in the above verbatim listing. When `listing` is specified, there is no need for the graphic; we use a text phrase instead.

**Important.** You can pose a question which requires a verbal response, or one for which there is a choice of alternatives, or a fill-in the blank (math or text). See the demo file `ecardstst.tex` for examples.

- **The response environment**

Immediately following and nesting within the `card` environment is the `response` environment. This sets things up for the responses to the question: the `hint` and the `answer`.

- **The hint environment**

The first environment to appear within the `response` is the `hint` environment. Here you can provide additional information to help the student answer the question successfully. I've posed a multiple choice or fill-in question, you can simply copy the multiple choice or fill-in into the hint, just as I have done in the demo file `ecardstst.tex`.

In this release, hints can be provided for **all** of the questions or for **none** of the questions. You can enter hints using the `hint` environment, illustrated [above](#), or not include a `hint` environment. When you do not want to include hints—whether you've entered the environments or not—use the `nohints` package option. This will convert the `hint` environment into a `comments` environment, and redefine some of the navigational buttons.

- **The answer environment**

After the `hint` environment comes the `answer` environment where the answer to the original question can be presented. At the end of this environment, you need to back out of the nested environments: `\end{answer}`, `\end{response}` and `\end{card}`.

### 3.3. `\end{document}`

That's the end! Once you have completed your eCards file, you are ready to create your eCards PDF document!

### 3.4. Additional customization commands

Version 2.0 or later has a number of commands designed to customize the look of eCards without having to redefine some of the environments.

- **The question page**

In addition to `\cardColor`, described briefly in ‘[Original customization commands](#)’ on page 7, the following are also defined on the question page.

```
\renewcommand{\ecQUESTION}{\textbf{QUESTION}}
\ecAfterQuesSkip{<skip>} (.25in)
\ecQuesWidth{<length>} (.85\linewidth)
```

The `\ecQUESTION` command defines the title for the question page; the default definition is given. Beneath `\ecQUESTION` is a vertical space of *<skip>* determined by the argument of `\ecAfterQuesSkip`, its default is given in parenthesis. The content of the question page is contained in a minipage of width *<length>* determined by the argument of `\ecQuesWidth`, its default value is given in parenthesis.

- **The hint page**

In addition to `\hintColor`, described briefly in ‘[Original customization commands](#)’ on page 7, the following are also defined on the hint page.

```
\renewcommand{\echINT}{\textbf{HINT}}
\ecAfterHintSkip{<skip>} (.25in)
\echHintWidth{<length>} (.85\linewidth)
```

The `\echINT` command defines the title for the hint page; the default definition is given. Beneath `\echINT` is a vertical space of *<skip>* determined by the argument of `\ecAfterHintSkip`, its default is given in parenthesis. The content of the question page is contained in a minipage of width *<length>* determined by the argument of `\echHintWidth`, its default value is given in parenthesis.

When there is no hint provided, the content of the `hint` environment is not displayed, in its place the command `\noHintProvided` is expanded. The default definition of which is given below.

```
\renewcommand{\noHintProvided}{No hint provided for this question.}
```

The command may be redefined as desired in the preamble.

- **The answer page**

In addition to `\solnColor`, described briefly in ‘[Original customization commands](#)’ on page 7, the following are also defined on the answer page.

```
\renewcommand{\ecANS}{\textbf{ANSWER}}
\ecAfterAnsSkip{<skip>} (.25in)
\ecAnsWidth{<length>} (.85\linewidth)
```

The `\ecANS` command defines the title for the answer page; the default definition is given. Beneath `\ecANS` is a vertical space of *(skip)* determined by the argument of `\ecAfterAnsSkip`, its default is given in parenthesis. The content of the answer page is contained in a minipage of width *(length)* determined by the argument of `\ecAnsWidth`, its default value is given in parenthesis.

- **The navigation icons**

The navigation icons have labels on them, which may be redefined for language localization. The labels are defined through the arguments of the commands below. The arguments given are the default (English) declarations.

|                                     |                                     |
|-------------------------------------|-------------------------------------|
| <code>\ecSolnLabel{Soln}</code>     | <code>\ecBeginLabel{Begin}</code>   |
| <code>\ecHintLabel{Hint}</code>     | <code>\ecHomeLabel{Home}</code>     |
| <code>\ecNextLabel{Next}</code>     | <code>\ecFinHomeLabel{Home}</code>  |
| <code>\ecPrevLabel{Prev}</code>     | <code>\ecFSLabel{FS}</code>         |
| <code>\ecHintNextLabel{Next}</code> | <code>\ecCloseLabel{Close}</code>   |
| <code>\ecHintSolnLabel{Soln}</code> | <code>\ecRandomLabel{Random}</code> |

The meaning of these commands, it is hoped, is self-evident.

The size of the icons are determined by four commands.

|   |
|---|
| <code>\renewcommand\iconWidth{40pt}</code>      |
| <code>\renewcommand\iconHeight{15pt}</code>     |
| <code>\renewcommand\iconWidthPanel{28pt}</code> |
| <code>\renewcommand\panelGrpWidth{57pt}</code>  |

`\iconWidth` and `\iconHeight` set the dimensions of the navigation icons when a panel option is not taken; `\iconWidthPanel` and `\iconHeight` are the dimensions of the icons when they appear in the panel. The `\panelGrpWidth` is the overall width of the group of icons in the panel.

- **The listing option**

There are some minor formatting commands that take effect when the `listing` option is used.

|  |
|--|
| <code>\renewcommand{\leadAnsFmtForPaper}{\textbf{Ans:\thinspace{}}}</code> |
| <code>\renewcommand{\trailAnsFmtForPaper}{\textbf{[]}}</code>              |

The effects of this formatting is seen in [Figure 3](#); look for the bold `Ans :` in question 4. To remove this formatting, simply redefine the two commands

```
\renewcommand{\leadAnsFmtForPaper}{\textbf{Ans:\thinspace{}}}
\renewcommand{\trailAnsFmtForPaper}{\textbf{[]}}
```

No formatting was the standard for eCards prior to version 2.0.

- **Alert messages**

Several alert boxes appear in response to pressing buttons or links, we list some of the more important ones. All redefinitions must occur in the preamble of the document.

```
\renewcommand\eqsqrmsg{"Right!"}
\renewcommand\eqsqwmsg{"Wrong!"}
```

The above two definitions are from `exerquiz`, they are the message that appears (in an alert box) to indicate to the user that his/her response is correct or wrong.

```
\cardsFinishedMsg{You've seen all the cards}
\renewcommand{\pressBeginMsg}{Press the "Begin" button to
begin viewing the cards.}
\renewcommand{\randomizedMsg}{The cards will be delivered
to you in random order.}
\renewcommand{\nonrandomizedMsg}{The cards will be delivered
to you in their natural order.}
```

The first message appears when the user has gone through all the cards. The second message appears when the user does not press the “Begin” button. The third and fourth inform the user the state of the delivery of the cards; one of these messages appear when the state of the “Random” checkbox is changed.

- **Miscellaneous customizations**

The “Random” checkbox has a tooltip message that can be customized. Below is the default message.

```
\renewcommand{\toggleRandomizeTU}{Click to toggle between
random and natural order.}
```

- **web customizations**

The `web` package has many commands for modifying the look of the PDF page. The author is referred to the `AeB` manual for details.

Go to it, and be creative and enjoy! Now, back to my retirement. 