Faculty/Student Surveys Using Open Source Software

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Abstract

This session will highlight an easy survey package which lets non-technical users create surveys, administer surveys, gather results, and view statistics. This is an open source application all managed online via a web browser. By using phpESP, the faculty is given the freedom of creating various surveys at their convenience and link them to their web pages seamlessly. A demonstration of the application implementation, functionality and how it developed will be presented in this session.

Introduction/Background

Philadelphia Biblical University (PBU) is one of many institutions striving to bring technology in the classroom while teaching Biblical truths. The university has about 1300 full-time students offering various degrees from undergraduate to graduate. With the increase in the number of programs and with the development of technology, a new need arose where the faculty needed to be able to create and design their own surveys from anywhere.

We looked at various commercial products but they were rather expensive or did not have all the features available to customize them. We found that phpESP is free, open source and meets our needs.

Product Information

REQUIREMENTS:
- A web server that supports PHP
- PHP4.2.1 or above
- MySQL installed in the machine

PhpESP and its documentation and a live demo can be obtained by going to http://phpesp.sourceforge.net. We are currently running phpESP on a Red Hat system. The hardware requirements are very minimal. Even a Pentium II computer running Linux works well.

As the name implies, phpESP (which stands for php Easy Survey Package) is based on the PHP scripting language. Installation didn't require much more than unpacking its folders to our Web server, creating a MySQL database and making a few small configuration file changes. We were able to get it running on Linux with no problems.

Once phpESP is up and running, all management is done through a browser-based management interface. The product provides enough simple group and access management features to control the capabilities of different types of users.
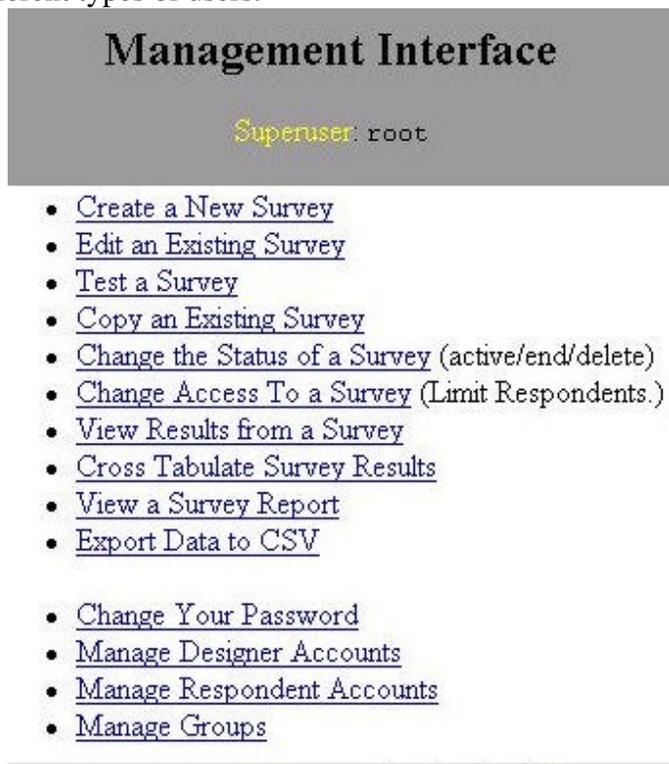

Figure 1 – Management Interface

Usability

There are three basic things faculty need to do: make surveys, deploy surveys and retrieve or export the data.

Making Surveys: This is a straightforward procedure. The application provides the survey designer with five tabs: General, Questions, Order, Preview and Finish. This can be accomplished by going to Management Interface normally: http://yourwebserver.edu/phpESP (this may depend on how you set it up initially).

- **Creating a new survey**

  o Click **New Survey Design** from the Management Interface.

  o **General Tab:** Enter a name for the survey in the **name** field. Do not use spaces in this name, think of this as a filename.

  o Choose a **group** to own this survey.

  o Fill out the **title**, **subtitle**, and **info** fields. These fields will be used in the creation of a header for the final survey.

- o If you would like to receive a copy of each submitted survey via email, enter a valid email address in the **email** field. (This is intended for **backup**, not as the primary data collection, you should probably leave it blank.)

- o If you would like to theme your survey, select the appropriate theme from the dropdown list. This will establish a link to a specific css style sheet for your survey.

- o The **Confirmation Page** is the page users will be shown after filling out the survey online. Fill in the **heading** and **body text** for the page, or leave them blank to use the default.

- o Click continue, or click the **Questions** tab at the top to proceed to the questions section.

Figure 2 – Survey Design Tabs

- **Questions Tab:**

  - o Enter the text of your question (i.e. *What is your favorite color?*) in the **question** box. Optionally enter a **field name** for this question, if you leave it blank one will be generated for you.

  - o If you would like to require the user to respond to this question, select **yes** in the **required** field.

  - o Choose the **type of response** for this question.

  - o If you chose a response type that has answer options, fill in one answer per line on the bottom half of the form. If you need more lines, click **Add another answer line**. [Question types with answer options are: Check Boxes, Dropdown Box, Radio Buttons, Rate.] For check boxes and radio buttons, you may enter `"!other"` on a line to create a fill in the blank option. An "Other" box defaults to using the prompt *Other:* , but is configurable by using the format:

    - o `!other=prompt text`

- o Add more questions by clicking the **New Question** button. Edit/View existing questions by clicking the question numbers at the top of the form.

- o Click continue, or click the **Questions** tab at the top to proceed to the questions section.

- **Order Tab:**

  On this tab, you can change the order of the questions, delete questions, and insert **section** breaks. A section break, divides your survey into multiple pages (good for long surveys).

- **Preview Tab:**

  Shows a preview of your survey. You can switch to this tab at any time to see what your survey will look like. If you would like to make changes, go back to the appropriate tab and make the changes. If you are satisfied with the survey, click the **Finish** tab or button at the bottom of the page.

  The **Next Page** and **Submit Survey** buttons are inactive in the preview mode.

- **Finish Tab:**

  Shows you the block of PHP code that you need to paste into the HTML of your webpage to embed the survey.

  Once a survey is finished, you may return to editing it by choosing **Edit an Existing Survey** from the Management Interface. When all final edits are done, you need to change the survey status from **new** to **test** or **active** mode. You can change the status by choosing **Change the Status of an Existing Survey** from the Management Interface.

Deploying Surveys: After a survey is made (and tested), you can deploy it. This is a simple as going and clicking on "Change Status of a Survey" and clicking on "Activate". There are two options for the deployment of a survey: one is to embed it in a customized HTML page, or to use the automatic template (which is very plain and simple). To use the automatic template, simply copy and use the URL given to you on the "Finish" Tab. If you want to have the survey embedded on some custom web page, insert the PHP tag that was given on the "Finish" tab in the desired place in your HTML file. Make sure that the HTML file you put that code in has a ".php" extension.

Retrieving Data: For any survey that is in Testing, Active or Ended Mode, you can view the results in various ways:
- **Export Data to CSV:** By going to the Management Interface and selecting "Export Data to CSV" you can download a copy of the data on the computer and then resort it and use it in various ways.
- **Email:** If you specified an email address when designing the survey, you will receive copies of the completed surveys via email as they are completed.

- **View Results of a Survey:** By going to the Management Interface and selecting "View Results of a Survey", you can view the data cumulatively for all respondents or simply for each respondent.
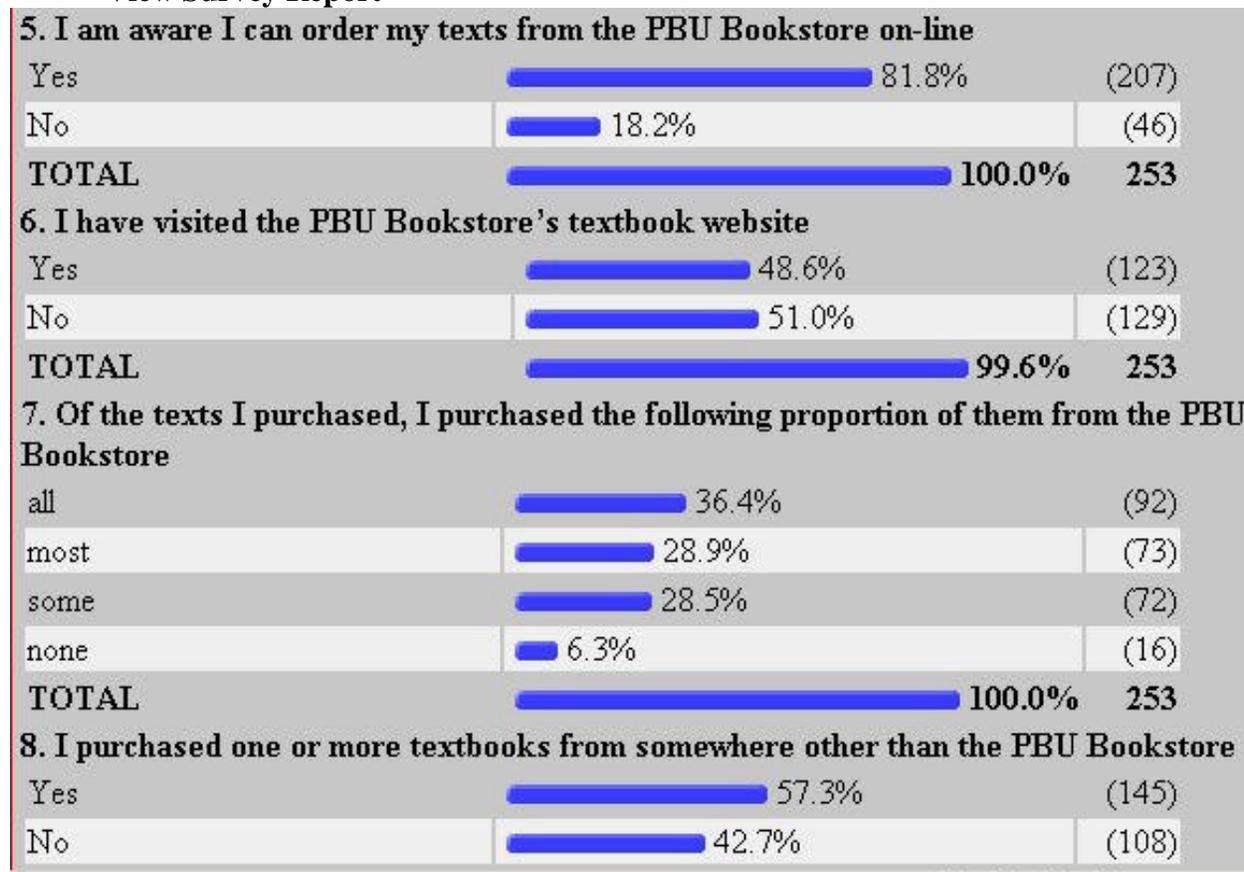- **Cross Tabulate Survey Results**
- **View Survey Report**

5. I am aware I can order my texts from the PBU Bookstore on-line		
Yes	81.8%	(207)
No	18.2%	(46)
TOTAL	100.0%	253

6. I have visited the PBU Bookstore's textbook website		
Yes	48.6%	(123)
No	51.0%	(129)
TOTAL	99.6%	253

7. Of the texts I purchased, I purchased the following proportion of them from the PBU Bookstore		
all	36.4%	(92)
most	28.9%	(73)
some	28.5%	(72)
none	6.3%	(16)
TOTAL	100.0%	253

8. I purchased one or more textbooks from somewhere other than the PBU Bookstore		
Yes	57.3%	(145)
No	42.7%	(108)

Figure 3 – Survey Results

Other Actions:
You can also make copies of surveys, which is very handy if you want to change a survey that has already left the Edit/Test phase. Copying copies the survey questions, none of the collected data is copied. Then the copied survey is placed in "Editing Mode".

Permissions

Before beginning administration you must understand the user/group relationship. There are three classes of users.

- Superusers: Have complete control in the Administration Mode.
- Designers: Users who will be creating, deploying, and analyzing surveys.
- Respondents: Accounts are for private surveys (surveys which require a user to login before entering data). It is worth noting that at this time this survey package does not provide any way of authentication for the users taking the survey. phpESP currently provides LDAP authentication for the designer accounts only.

Each of the Designers and the Respondents is associated with a group. It is expected that a group will contain members of a similar area. For example there may be a group for a department, or a club, or just for some arbitrary group of people who are working on a similar subject. There may exist an unlimited number of groups.

Conclusion

PhpESP provides a good amount of results analysis, even letting us view results as they arrived in real time. We can choose to view the results of all respondents or drill down to individual responses. Results from multiple surveys can be cross-tabulated to view trends, and results can also be exported as comma-delimited text for use in Excel and other analysis tools.

PhpESP holds up well performancewise, handling close to 1,000 responses in the span of a few hours while running on a fairly modest Intel Corp. Pentium III system with the open-source Apache browser. Moreover, this provides faculty with a powerful survey tool which they can use from anywhere.

References

PhpESP Website: http://phpesp.sourceforge.net, April 20, 2004. Product Documentation.