ENTERPRISE SYSTEMS

APOLLO (ANU POLLING ONLINE)

USER GUIDE

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1 INTRODUCTION

APOLLO (ANU Polling Online) is a software application which allows end-users to build, maintain and conduct their own web based polls using a set of predefined tools and procedures. It was developed by staff in Enterprise Systems, Division of Information. APOLLO comes with a set of tools and reports which allow poll results to be analysed (including exports to SPSS). All aspects of APOLLO can be done via the web, so there is no need to install specialist software on your computer.

APOLLO is a free service to ANU Faculties, Schools Centres and Administrative areas. If you wish to use APOLLO ask your departmental administrator to contact Enterprise Systems (ES) to set up login access for you. For further information about Apollo, please email Enterprise.Systems@anu.edu.au

The term Poll is used to mean a way of eliciting information from someone - APOLLO allows for polls in the guise of surveys, ballots, exams, or administrative forms, each of which has slightly different construction and reporting requirements.

APOLLO has three basic components - administration (where polls are built and maintained), polling (the interface used to fill in and submit responses), and reporting (where responses can be viewed and analysed).

APOLLO uses Active Server Pages (ASP) and a Microsoft SQL 2000 database backend. The entire system is web-based. The Administration and Reporting modules are housed within the ES web administration application, which allows for secure and granular access and comprehensive online help. The Polling module sits by itself so that some customisation as to look-and-feel for individual areas can be catered for. The Polling module has been designed to be browser and platform independent with all data integrity routines handled server side.

1.1 Accessing APOLLO

To access the administration and reporting components of APOLLO:

2. Click the Login button from the Side Menu.
3. Enter your University ID and Password. This is the same ID and Password that you use to access ISIS or HORUS.
4. Click the Login >> button.
5. Select APOLLO from either the Global Navigation menu (top right hand of screen) or from the Side Navigation Menu (left hand side of screen).

2 ACCESS, SECURITY AND PRIVACY

APOLLO has predefined the following poll types:

- Ballot - restricted anonymous, individual responses are not available
- Exam - open
- Exam - restricted
- Form - open
- Form - restricted
- Survey - open
- Survey - restricted
• Survey - restricted anonymous, respondent cannot be linked to response

2.1 Poll Attributes
APOLLO combines a number of poll attributes to create the different types of Polls. These types are presented to users to simplify the poll type selection process. The poll attributes are:

**Store Response Code**
Decides whether to store the unique response code given to an individual respondent with the Response data and the Answers data or just with the Response data. The Response data tells you who and when a poll was completed, while the Answers data records the actual poll responses. These sets of data are stored separately. If you choose not to store the Response Code, there is no way of linking the responses to a respondent, although you can determine when a particular person did respond.

**Hash User ID**
Determines whether the User ID for authenticated users is stored in a hashed form with the Response data. This stops easy identification of respondents completing a poll. The 128-bit MD5 encryption algorithm is used to do the hashing.

**Authenticate**
Requires the respondent to login with their user id and password. The authentication services are designed to be modular so that various options can easily be included. Currently APOLLO allows for authentication against its own simple authentication database (maintainable by the poll administrators), or against the ANU's central user management system (OLAMS). With the introduction of an ANU-wide directory service, it is expected that an LDAP interface will soon be developed.

**Form**
If the poll is an electronic administrative form, then this flag allows APOLLO to include extra functionality within the reporting module, so that responses can be channeled through a simple workflow process with sticky-note comments being appended at each step.

2.2 Poll Access
By combining the above poll attributes, Poll Administrators may select from several different poll types. For instance, a simple anonymous survey that can be completed by anyone would have the attributes "Store Response Code = True, Hash User Id. = False, Authenticate = False, Form = False". At the other end of the scale, a ballot that you want to allow only restricted, identified people to vote in (e.g. staff members) would have the attributes "Store Response Code = False, Hash User Id. = True, Authenticate = True, Form = False". These attributes are defined when a Poll is created.

Restricting user access can be done by providing APOLLO with a list of valid Identifiers (valid for whatever authentication service is being used) for inclusion or exclusion in a poll, or against a 'relationship to institution' table within the ANU's Administrative HR or Student databases (PeopleSoft), or a combination of these. This role based restriction allows a Poll to be targeted at a specific subset of people who have a relationship with the University (i.e. Academic Staff or Undergraduate Students). In addition, APOLLO has a basic authentication module that allows for individuals to be allocated login ids and passwords, independent of any other authentication service on campus.

The inclusion list works in addition to the roles based check and means that correctly authenticated respondents are allowed into the poll, while the exclusion list means that a respondent is restricted from entering, regardless of their authentication or role status.
2.3 Security

ANU Polling Online (APOLLO) uses Secure Sockets Layer (SSL) technology to verify the identity of ES servers and encrypt communications between them and your web browser. This security also applied to poll data collected from the user. It is constructed using Active Server Pages (ASP) with a MS SQL database backend. ES technical staff have access to the database in relation to supporting the Apollo application. In designing the APOLLO application, all reasonable care has been taken to protect the privacy of all data collected.

OLAMS is used as the Authentication system for accessing ANUBIS and Apollo. The password and session connection are your responsibility for access to the application and data. Access to the Poll data within Apollo is defined at the Area level. This means if a person has access to the Area then they have that access to all polls within the area.

2.4 ANU Privacy Policies

ES has provided a tool to enable Poll Administrators to collect data from many users. In designing the APOLLO application, all reasonable care has been taken to protect the privacy of all data collected while it remains within the APOLLO system.

Poll Administrator’s Responsibility

ES take no responsibility for the creation, maintenance and data collected by a poll. This remains the responsibility of person, area or department who created and maintains the poll. You should be aware of your responsibilities in relation to the ANU Policy on Privacy and its implications on soliciting information from respondents (See http://www.anu.edu.au/legal/privacy.html). You should provide a Privacy statement for each poll that clearly indicates its use. As the use varies between individual polls, it is not appropriate for ES or APOLLO to provide a global statement. It does however provide a link to the ANU's statement on Privacy.

If data is extracted (ie printed or exported) from the APOLLO system, its security becomes the responsibility of the Poll Administrator.

Any research involving human subjects (including surveys and interviews) requires approval by the University's Human Research Ethics Committee to comply with the national guidelines, the NHMRC’s National Statement on Ethical Conduct in Research Involving Humans (1999). A link to the National Statement, a downloadable application form and information on ethics approval are at http://www.anu.edu.au/ro/ethics/human.php. It is vital that all research conducted at the ANU comply with the Statement. A possible sanction for non-compliance is the withdrawal of all NHMRC and ARC funds from the ANU.

Included in the Privacy/Security statement available to Users is:

- The APOLLO application provides Poll administrators with the means to control the level of anonymity of your response to a particular Poll. As such, the ultimate security and potential use of any data that you submit lies with the administrator of that Poll.
- The APOLLO application also allows Poll administrators to specify what questions they wish to ask, so a statement on what personal data is being collected and for what purpose is also the responsibility of the administrator of that Poll.
- Any questions regarding the privacy and security of your response to a Poll should be directed to the Poll administrator (via the e-mail address in the footer of the Poll).

ANU policies regarding privacy can be viewed at:
3 POLL ADMINISTRATION

Polls are set up for different areas in the Faculties, Research Schools, Centres and Administrative Divisions on campus. Once a Poll Administrator has logged into the administrative framework they are presented with a list of all Polls with an indication as to their current status (refer figure 1).

In addition to creating a new Poll, actions that can be performed against any particular Poll include:

- preview the Poll
- edit the Poll
- delete the Poll

3.1 General Poll Information

Poll Administrators may choose to create a new Poll by either duplicating an existing one or building one from scratch. Either way, they are required to provide some basic information about the Poll (see figure 2).
**Multi-page:** Indicates the various sections of a Poll are to be presented on separate pages.

**Confirm Submit:** Indicates that after a respondent has completed the Poll and pressed the submit button, they will be presented with a pop-up window asking them to confirm their answers.

**Start Date-Time:** When does the Poll start - APOLLO will not allow access until this time.

**End Date-Time:** When does the Poll end - APOLLO will deny access after this time.

**Contact Name:** Who is responsible for this Poll.

**Contact Phone:** Phone number of contact.

**Contact Email:** Email address of contact (will appear in footer of Poll so respondents can ask questions or provide feedback on the Poll).

**Notify Email:** If provided, an email message is sent every time a respondent completes a Poll. For long term Polls (i.e. system feedback surveys or administrative forms) this allows a nominated person to be informed of any Poll activity without always having to regularly check the reporting module.

**Privacy Statement:** Each poll should contain a privacy statement indicating the purpose and use of the data collected.

**Show Privacy:** Use these options to determine how the Privacy Statement is presented to the user.

- select link to Statement on Poll pages to display a Privacy button on each poll page presented to the user.
- select full Statement on Intro page to show the privacy statement on the introduction page.
Polls can be cleared and the start date reset on demand, and the results to date can be extracted for archival purposes.

### 3.2 Messages
You can attach a number of personalised messages which appear at various times (refer figure 3).

![Figure 3](image)

**Pre-Poll Message:** What do you want to tell people who try accessing the poll before it is available (before the start date-time) - HTML allowed.

**Post-Poll Message:** What do you want to tell people who try accessing the poll after it is finished (after the end date-time) - HTML allowed.

**Introduction:** A message that appears at the very start of the poll - HTML allowed. When left blank, no introduction page is displayed.

**Completion Message:** A message that appears at the very end of the poll - HTML allowed.

### 4 THE COMPONENTS OF A POLL

The base component of any Poll is the **Answers**. You must define Answers before you can create the Questions. Answers are placed into Answer Groups which are reusable components of related Answers.

Once all possible Answer Groups have been set up, you can start to create the **Questions**. Question are a combination of a Question number, Question text, and an Answer Group.

Question are in turn grouped within **Sections**, and one or more Sections constitute a Poll. Figure 4 graphically demonstrates the relationship of the various components making up a Poll.
4.1 Answers

Answer Groups are the heart of the polling system and are a powerful way of creating reusable components for Questions. Define the Answer Groups that will be used in your poll and attach Answers to each group. The range of Answer Group types that are supported in APOLLO are:

- Check Box
- Date Box
- Multiple Select List
- Number Box
- Preference List
- Radio Button
- Select List
- Text Area
- Text Box

A Poll can have any number of Answer Groups assigned to it. In addition to creating Answer Groups, actions that can be performed against any particular Answer Group include:

- edit Answers within an Answer Group
- delete an Answer Group (if it is not currently assigned to a Question)

When creating an Answer Group it is necessary to specify a number of attributes and/or Answers for that group (i.e. for a text box the size and maxlength, or with check boxes the possible range of responses).
An Answer Group can also have a default Answer, a correct Answer (for use in Exam poll types), and allow for the inclusion of a “specify other” text box. For each Answer Group type there is a range of specific attributes and properties that can be set.

Answer Groups can be built for just about any type of Question that could be asked on a Poll and can be re-used in as many Questions as required. There are also a number of predefined Answer Groups (templates) including:

- ANU Administrative Centres
- Australian States - full name (select list)
- Australian States - short name (select list)
- Australian Universities (select list)
- Countries (select list)
- Days of Week - full name (select list)
- Days of Week - short name (select list)
- Disagree - Agree (radio button)
- Institute of Advanced Studies (select list)
- Months - full name (select list)
- Months - short name (select list)
- National Institutes (select list)
- Relationship to Institution (select list)
- The Faculties (select list)
- University Areas (select list)
- University Schools and Centres (select list)
- Yes/No (radio button)
- Your Role (select list)

Once selected, a template is copied into the Poll where it can be modified to suit.

4.2 Questions

Questions are the visible results of a polling system and provide the mechanism for eliciting responses. A Section may contain many Questions (see figure 6).

In addition to creating and re-ordering Questions, actions that can be performed against any particular Question include:

- preview a Question
- edit a Question
delete a Question

A Question has many attributes that define the type of question, the text of the question, the layout of the question, and additional requirements (see figure 7).

![Modify Question](image)

**Figure 7**

*Answer Group:* The Answer Group defines the type and set of answers that are valid for this Question.

*Question #:* The text of the Question - HTML tags allowed for formatting.

*Mandatory:* Makes a Question mandatory when responding.

*Response Count:* Set a maximum and/or minimum number of required answers.

*Layout Style:* Defines how the question is presented (see below).

*Randomise:* Randomises the display order of the Answers each time the Poll is presented.

*Comments Box:* Make available a “comments” text area for requesting additional information regarding this Question.

*Text Before:* Text that will appear before the Question - HTML allowed.

*Text After:* Text that will appear after the Question - HTML allowed.

The layout style allows a Question to be presented in a variety of ways:

*Vertical*
A Poll can be made up of a number of Sections if desired. These can be displayed on a single page or across multiple pages (refer to figure 8).

In addition to creating or re-ordering Sections, actions that can be performed against any particular Section include:

- edit a Section
- view a Section's questions
- delete a Section
Each Section has a number of attributes (see figure 9). Questions are assigned to a particular Section.

![Figure 9](image)

**Section Name:** the name of the Section.

**Show Name:** displays Section name and number at the beginning of each Section

**Section Text:** text which appears at the beginning of the Section - HTML tags allowed.

**Colour Scheme:** each section can have a different colour scheme. Currently APOLLO has six predefined colour schemes - Blue, Green, Grey, Pink, Purple and Yellow.

### 4.4 Exams

Exams provides control over how an online examination is implemented (see figure 10). You can specify which answer is correct for each question. This allows Apollo to automatically grade exams.

**Note:** use only **Radio Button** or **Select List** answer groups if you want APOLLO to automatically mark an Exam. These are the only answer types for which a correct response can be defined.

![Figure 10](image)
Show Results: tick to show the respondent their Exam score.
Show Marked Exam: tick to show the respondent which answers were correct or incorrect.
Pass Mark: set the minimum score (as a percentage) that the respondent must achieve to pass. The Pass Mark is not displayed to respondents.
Pass Message: message that will be displayed to the respondent if they pass. HTML allowed.
Fail Message: message that will be displayed to the respondent if they fail. HTML allowed.

4.5 Forms
Forms allows the creation of a workflow for the processing of the form after it has been completed by the respondent (see figure 11). Each status represents a task in the workflow. An email address can be included for each status. When the status is changed and an email address is provided, an email is sent to notify that the status has changed.

The status order is not strictly enforced on the system thus the form can easily move forward, backwards and skip statuses. Once the form is open/closed status descriptions cannot be changed/deleted. However extra statuses can be added, and the email address for each status can be updated. It is recommended for Forms that the Notify Email (General Tab) is filled in so that when the form is submitted the first point to receive the form is contacted via email.

Status Description: the description of the status/workflow.
Notify Email: the email address that will be notified when the status has been set.

In addition to creating Statuses, actions that can be performed against any particular Status include:
- edit a Status
- delete a Status
- add a Status

4.6 Login
The Login defines who can and cannot respond to the poll, and the source of authentication to use for the poll (which system will be used to check user log on).
**User Sets:** Select from the list of user sets supplied by the ANU’s PeopleSoft HR or Student systems. This option is mainly designed for use by OLAMS authentication. Combining User Sets results in an OR inclusion. By using Allow you can exclude subsets, and users matching that exclusion will be denied access.

**Individual Users list:** This inclusion/exclusion list overrides all other Authorisation rules. Allowed users gain access to the poll, while excluded users are denied access. If OLAMS Authentication is used, emails can be sent to the inclusion respondents on this list.

![Figure 12](image)

Figure 12

**Authentication Types:**

*Apollo Basic Authentication:* allows for individuals to be allocated login ids and passwords, independent of any other authentication service on campus.

*OLAMS Authentication:* major authentication service on campus.

*Allow Multiple Responses:* allow the respondent to respond to a poll multiple times.

**Authorisation:**

User Sets:

*Allow:* is this User Set allowed or disallowed access.

*Enabled:* is this User Set rule to be applied.

In addition to adding a User Sets rule, actions that can be performed against any particular User set include:

- ![ ] remove User Set rule
Individual Users list:

- **Allowed**: is this user allowed access to the poll.
- **Expires**: the date user login access expires.

In addition to creating Individual Users, actions that can be performed against any particular User include:

- edit a User
- delete a User (Action)
- delete all individual Users
- import a individual User List
- create a new User
- email the Users

**Note**: the poll must have at least one Login Rule defined, either an Individual User or User Set before it can operate. The system will not allow you to remove the last remaining Login Rule as this would result in a poll that no-one can access.

## 5 PREVIEW AND TESTING A POLL

Preview your poll before making it ‘live’. Use representative data and test different scenarios to ascertain that your poll behaves the way you want it to. The ‘preview’ mode has a “TEST” button, which tests any rules applied to the questions on that section ie

- not answering mandatory questions
- selecting an other field but not providing details in the Other box
- selecting one checkbox when two or more are required.

These should then return error messages indicating the problem.

Test the Notify email by setting the poll date to the current date and submit a response. You can them reset the start date to a future date to carry out refinements.

## 6 POLLING

Once you have completed all aspects of building the Poll using APOLLO tools, the Poll is made available for people to fill in and respond to by setting the start date and advertising the URL of the poll. Depending on the options selected for the Poll, it will generally have an introduction page (pre-poll message) containing the personalised text defined during building (see Section 3.2 above):
Each Poll has a body (where the questions reside):

![Figure 13](image1)

and each Poll concludes with a thank you page (post-poll message), containing the personalised text defined during building (see figure 3 above):

![Figure 14](image2)

If the Poll has been built with multiple pages (i.e. a page per section) then navigation tabs and next/previous buttons are also supplied:

![Figure 15](image3)
When submitting the Poll, or moving between multi-page sections, APOLO applies data integrity routines to validate responses - i.e. date answers are valid dates, mandatory answers have been answered, numeric answers are valid numbers, etc. Invalid responses are noted with red text explaining the reason for the validation error (see figure 17).

7 Reporting

Each Poll type means that the reporting module has to cater for slightly different methods of presenting results. For instance, any Poll that has a anonymous response separates the names of the respondents from the responses (i.e. in the case of a ballot it is possible to know who voted, but not how they voted); whereas in identified Polls, the Poll Administrator must be able to review an individual respondent's answers (i.e. in the case of an Exam).

7.1 Listing Respondents

When setting up a Poll, it is necessary to identify which questions have relevance to the reporting requirements. Since a Poll can contain just about any question, the Poll Administrator needs to determine which questions are of primary importance for identifying and sorting responses (i.e. question 1 asks where the respondent lives while question 2 asks about the respondent's travel options, etc.).

Three reporting identifiers are permitted (figure 18) and these can relate to any question where only a single answer is possible (i.e. check box questions cannot be selected). In addition to the three reporting fields, the date/time that the survey was submitted and, in the case of identified Polls, the user id. of the respondent are also included in reporting.

Figure 19 shows the respondent list for a Poll that asked, among other things, where the respondent lives and how they travel to the campus. In this case the Poll was not anonymous so the Poll Administrator is allowed to view and/or delete the actual responses. If the Poll was anonymous then the 'Action' buttons would not be presented. Each column is sortable (both ascending and descending).
Pressing the “View” button allows you to see the Poll responses in the same layout as data entry, so you see the Poll as the respondent would have seen it when filling it in. Additional information is also presented including the date/time that the Poll was initiated and submitted (and an elapsed time for completion), the IP number, and the browser type.

7.2 Statistical Reporting
APOLLO includes a simple statistical report module which details the number of respondents answering each question and shows this as a percentage of the total number of respondents (see figure 20):

Clicking on the or buttons against each answer takes the Poll Administrator to a 'filtered list' of all Respondents or Statistics (of responses) meeting the criteria for the count selected - i.e. clicking on the next to the answer 'Yes' in Q4 (figure 19 above) will list the responses of all the people who answered this way. This filtering is also the same mechanism that is used to allow simple search/filter reporting on the collected data.

7.3 Search Responses/Statistics
Search Responses/Statistics allows you to perform basic analysis on the poll responses (see figure 21).

Questions, Other and Comment fields can be searched. The options available for searching are dependent on the answer type. A variety of AND/OR statements can be employed in searching. Use the select fields to create the search line details and then click the Plus button to add this to the overall search parameters.

**Note:** Grouping of AND/OR statements are not possible in Apollo i.e. (a AND b) OR (c AND d). If this is required then the data should be exported via the XML function and then placed in a tool that will allow you to perform this type of search.
Search Responses/Statistics

Search: return filtered results in either Responses or Statistics view.
Response Key: the response key id.
Submitted After: filter responses submitted after this date/time.
Submitted Before: filter responses submitted before this date/time.
IP Address: filter responses submitted with this IP address.
User Agent (browser): filter responses submitted with this type of browser.

Note: fields listed above can change depending on the poll type.

In addition to creating filtering rules, actions that can be performed against any particular filter rule include:

- delete the filter rule.

7.4 Downloads and Reports

APOLLO also offers a number of options for downloading information:

- **Response to RTF** Export a response to RTF (Rich Text Format) file.
- **Poll to XML** Export the Poll to an XML file.
- **Poll to CSV** Export the Poll as Comma Separated Values. Note that answer values (along with comments and others) are truncated at 255 characters; questions are truncated at 120 characters; and answer labels are truncated at 60 characters. Also note that Excel can not handle more than 255 columns of data in a worksheet. Forms will export status, but not comments/history. Exams will not calculate marks for this export. That information is available via the response list.
- **Statistics to CSV** Export the Statistics as Comma Separated Values.
### SPSS Commands

Generates an SPSS Command (aka Syntax) file that describes the Poll in a format suitable for SPSS. Note that because SPSS Variable Labels cannot be longer than 120 characters and SPSS Value Labels cannot be longer than 60 characters, if you have defined questions or answers longer than this, they will be truncated in the Command file. Form status and comments/history; and Exam marks are not included. That information is available via the response list.

### SPSS Data

Export the Poll answers for use with the SPSS Command file above. Note that because SPSS string values cannot be longer than 255 characters, if the Poll contains answers (or comments or others) that are longer than this, they will be truncated in the Data file. Form status and comments/history; and Exam marks are not included.

### Others & Comments

Generates a report of all of the 'Others' and 'Comments' recorded for the Poll.

### Textual Answers

Generates a report of all of the textual answers recorded for the Poll.