



ARM
:: Web Services ::

Web Surveys

Kevin Dooley, Asst. Dir.,
Applied Research and Methods
U.S. Government Accountability Office

dooleyk@gao.gov

GAO-Developed Web Tools

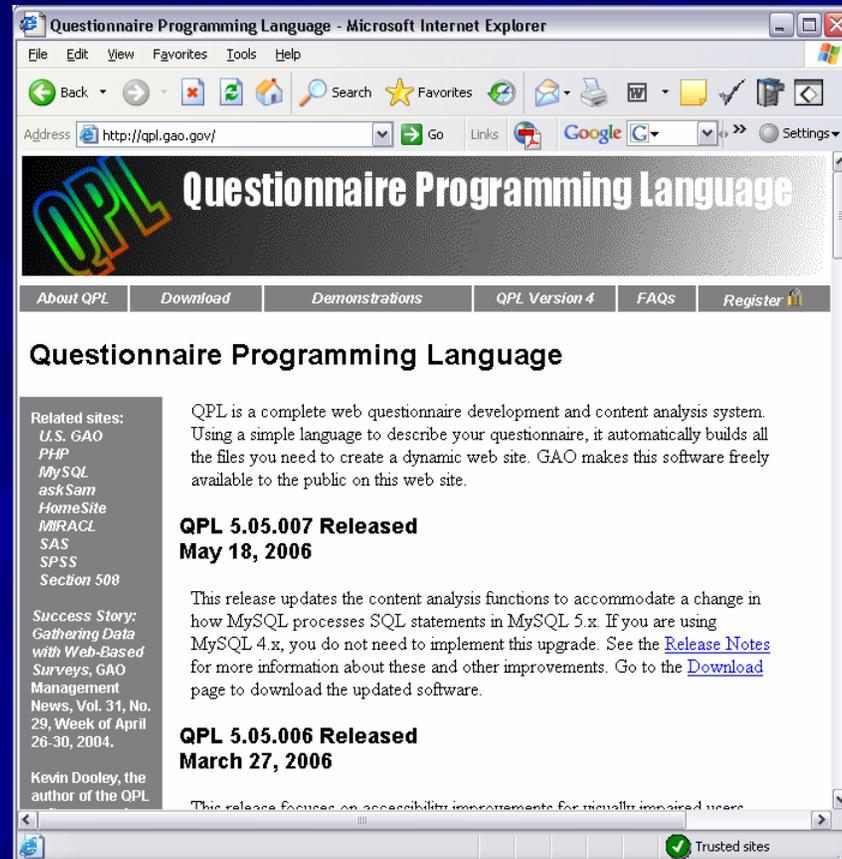
Questionnaire Programming Language (QPL)

Used to build web-based surveys that fit a wide variety of data-collection needs

E-Supplement Generator

Used to build report-ready summary of web survey data for a technical appendix (~12) or as a separate web-only product (~50)

(Plus: Web-only products using agency data or data collected not through a web-based survey)



<http://qpl.gao.gov>

QPL Has Been Used in a Wide Variety of Web Survey Designs

Large Surveys

- Survey of 12,000 faculty and students at military academies

Small Surveys

- Many 50-state surveys of state agency officials

Multiple Surveys on Single Engagements

- Survey of states regarding funeral homes, crematories, and cemeteries
- Survey of federal, state, and city government officials on their perceptions of the effectiveness of the current information and intelligence sharing

Telephone Surveys

- Survey of state officials on unemployment insurance and reemployment services

Expert Opinion Panels

- Delphi survey process involving 43 nationally recognized experts in drinking water

Structured Interviews

- Interviews with state and local first responders to determine their current status of emergency preparedness
- Recording of contacts on Katrina related work and site visit write-ups

QPL Has Been Used for Many Non-Audit Purposes

GAO-wide staff surveys

- Annual employee survey
- EAC nominations and elections

Team-specific staff surveys

- Staff surveys for ARM, EWIS, IAT, ISTS, PI, and SI

Congressional feedback

- Hill staff comments on testimonies and high-risk products

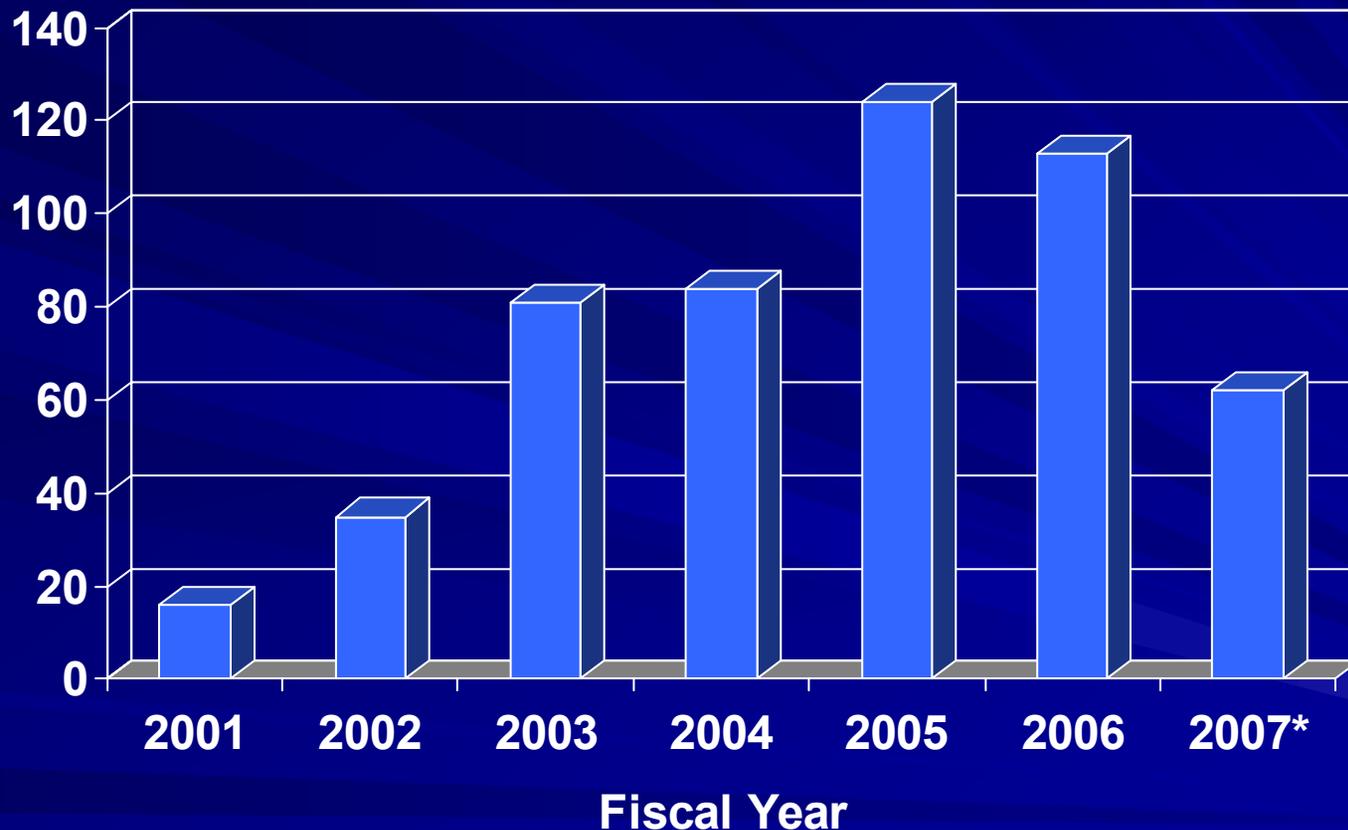
Human Capital Office staff information gathering

- Student loan repayment requests
- Classroom training course evaluation
- Band IIA/B placement

Working prototypes of new management information systems

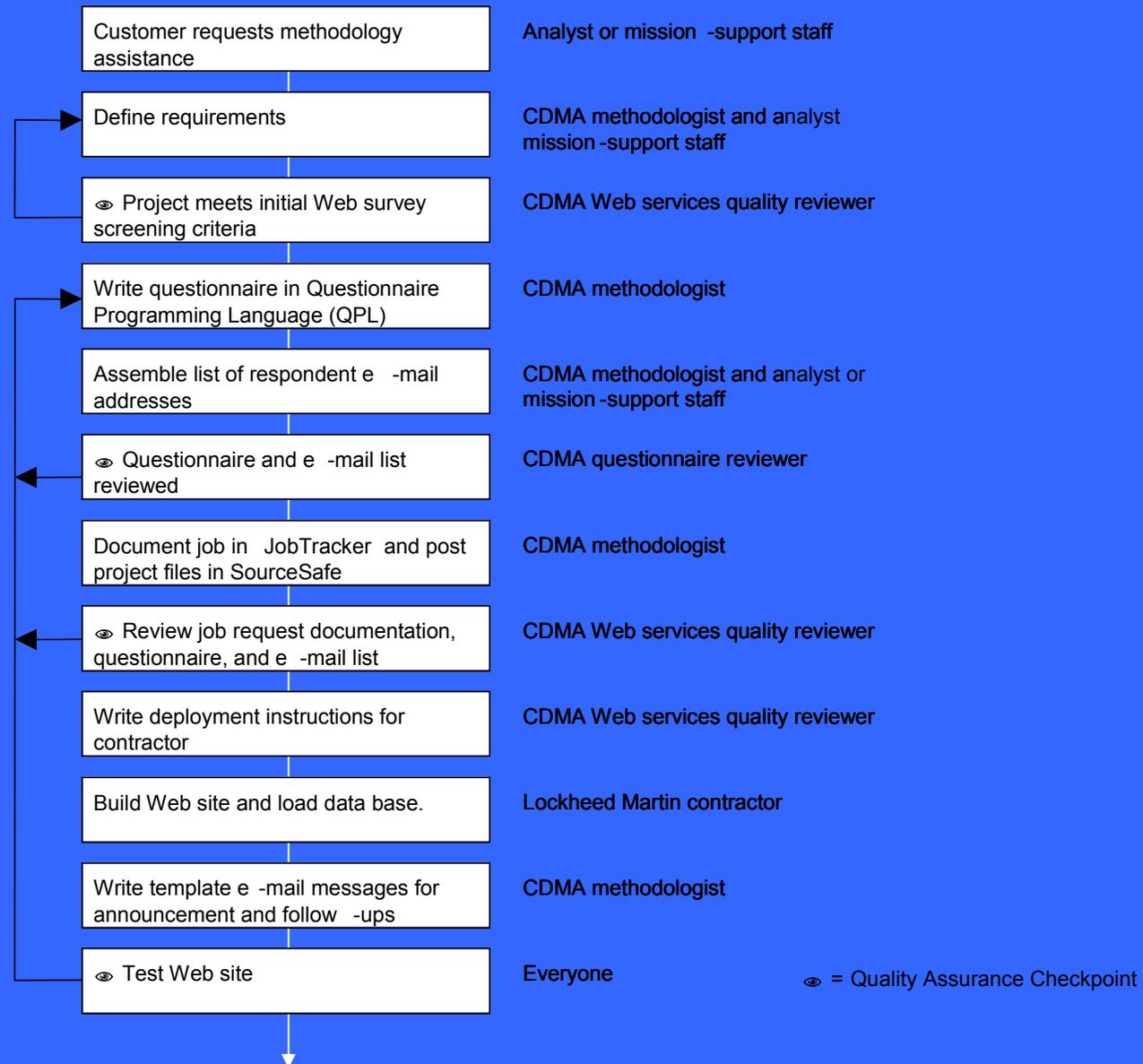
- Product number issuance system
- New Staff Services Assurance System
- ARM, NRE, and PI staff assignment systems

Benefits Are Reflected in the Growing Use of Web Surveys

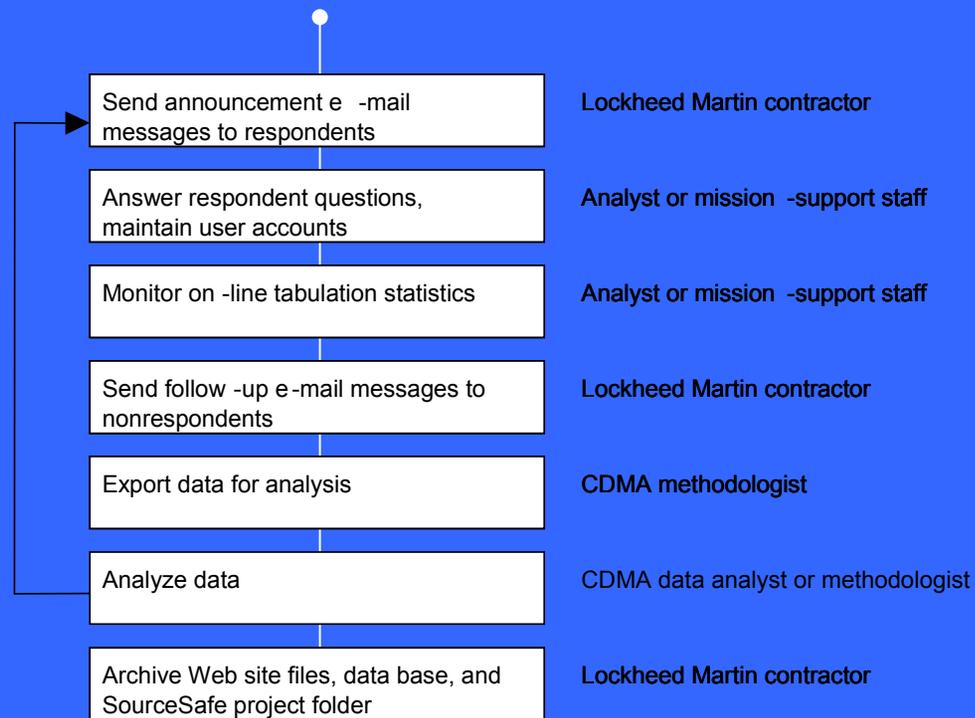


Since offering web survey services, GAO has 525 projects that have been completed, are currently deployed, or are under active development.

Development Process



Administration and Analysis Process



Benefits: Its not when you start, its when you finish!

Timeliness

- Data available immediately: No keypunching and keypunch-verification steps
- Real-time analysis on the web site, including open ended
- Quick turnaround to assess the quality of the e-mail addresses
- Web survey data seamlessly integrates with the E-Supplement process

Customization

- E-mail and the respondent's survey can be customized

Scalability

- Very little cost to scale up

Data Protection

- Data is protected through encryption, firewall hardware, and real-time backup hardware
- E-mail messages may be sent using registered e-mail services, which tell us when messages could not be delivered
- Archived projects may be quickly recovered and reused

Best Practice Issues

- Minimal requirements made of respondents' software and hardware
- Many options to customize the survey behavior to the needs of the project
- Use open-source systems that allow us to specially customize behavior when needed
- Integrated administration, email, content analysis, and stat-package support
- Exceed Sec. 508 accessibility requirements
- Well established business process to build, deploy, and archive projects
- Dedicated equipment used to host survey web sites and databases

Recent Web Survey Improvements and Next Steps

Content Analysis

Analysts may use these functions that are built-in to the web site to systematically analyze responses made to open-ended responses.

Accessibility

The web survey forms and the administrative support pages have been made fully accessible to visually-impaired users (Sec. 508).

Next Steps

Making QPL development tools available for Mac OS X and Linux users.

Proceeding with development of QPL Version 6, which will add new question types and more complex page-layout options.