Information Technology Challenges

Data Processing Managers Academy III
Class Project

December 1991

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INTRODUCTION

The Data Processing Managers' Academy was created by the California Forum on Information Technology (CFIT) Management Development Subcommittee in response to the State's growing need for data processing managers with strong administrative and political skills. The curriculum was developed to ensure the continuous availability of highly qualified data processing managers to meet the growing needs of State agencies. As part of every Academy, each class develops a group project. The members of the Data Processing Managers' Academy III would like to describe the process by which our class projects were selected.

Our class met for two days in July 1991 to determine our topics for the class project. Issues identified fell into the following categories: human resources, infrastructure, policies and procedures, planning, standards and information sharing. After discussing each issue in depth, the class rated the categories in terms of importance, overall impact, participants interest and how effectively we could address issues in the category. Based upon these ratings, Standards and Information Sharing were selected. Class members then split into two teams. The results of the teams' work are herein reported.

II

Information Technology Challenges

California State government faces the challenge of providing more services to more people with fewer resources. As a result of California's budgetary situation, we are being asked to reduce costs while administering more programs to a greater number of people of greater diversity than ever before. At the same time, demands for quality products and services have increased. For California State Government to meet these challenges, we must develop a means of conducting business in the most effective way possible. The effective use of information technology is one of the primary ways to meet this business challenge. The question is, are California State Government's Information Technology (IT) providers ready to fulfill their roles in meeting the challenge?

As customers increasingly turn to technology, IT professionals must change the way we provide services. IT managers can no longer react to problems, but rather must develop partnerships which enable the State to actively respond to its business needs. As IT Managers, we must position our organizations to respond to these demands. This requires a transformation of the components of our service organizations. These components include: Human Resources, Infrastructure, Policies and Procedures, Planning, Standards and Information Sharing. To understand the changes that must take place, we must first examine and understand some of the issues surrounding each component. A detailed discussion of these issues can be found in Appendix A.

One trend is clear; most State Agencies have consolidated the power of their IT resources. IT has moved from tiny units within administration to division level organizations working directly with Agency program staff. IT also now supports more than merely administrative functions, but critical State programs as well.

The next step is already in progress - State organizations working together (where appropriate) to meet the needs of the State. The foundation for this infrastructure is being laid today. With no formal structure in place to facilitate this, it is not an easy job. We, the members of Academy III, felt that the most significant contribution we could make was to add two more building blocks (our two projects) to this foundation.

Challenges are not new to the State. Academy III participants view the challenges facing the State today as opportunities. Recognizing that meeting these challenges means improving the quality of service, the class chose two topics for further development: Standards and Information Sharing. The following chapters address the projects - the scope and the results of each project.

III

Standards Project

For State government to be successful in the future, we must acknowledge the challenges facing us today and determine how to position the organization to meet these challenges. We recognize we cannot continue to do business using ineffective methods. We can no longer afford the reinvestment of resources to rework a product; nor can we ask our customers to accept a substandard product. This project examined the State's efforts to date in implementing new methods and technologies in order to update our systems development and maintenance practices.

We, the Standards Project Team, selected application systems development as the focus of our effort. More specifically, project management and the use of CASE (Computer Aided Software Engineering) are the subjects of the study. CASE tools are defined as any of a set of software programs that provide partial or total automation of at least one function within the system development life cycle.

Our purpose was to:

- Identify the State's status with respect to application development and its use of structured methodologies and CASE;

- Determine CASE's value from both a strategical and a tactical point of view; and

- Document our findings.

To gather this information, we developed a survey asking IT organizations to identify their experience in the use of methodologies and CASE tools.

The Office of Information Technology (OIT) identified 122 departments, commissions, boards and agencies as having any automated support. Of these, 84 were deemed appropriate to send surveys. Of the 84 organizations that received the surveys, 53 responded. A copy of the survey is found in Appendix B. We will also mail the survey results to those who have expressed interest in receiving them.

For many, the term CASE brings to mind code generators, which automate the back end of the software development process. But CASE products now exist for virtually every step of the System Development Life Cycle (SDLC). CASE tools may be integrated into a package which sends information from one step to the next, or may be isolated, providing standardization and documentation as the major benefits. Supporters of CASE feel that it has both strategic and tactical benefits.

Strategically, CASE can and should enhance delivery of a better quality product on time and reduce resource requirements. This is done by enforcement of rigorous development methods, ensuring all steps in the methodology are followed and by performing consistency checks between the various products. CASE use during development may also position the State to save on system maintenance by developing thorough documentation, facilitating change and maintaining consistency while changes occur.

Tactically, CASE allows development of a common business understanding in both the IT and customer areas. It provides the means to increase customer involvement in the SDLC through the use of interfaces. Those interfaces encourage

the customer to participate in the processes from business area analysis and requirements definition through the testing phases. CASE can also standardize the development processes through its structured approach to application development, including in-depth analysis. In the long run, use of CASE can reduce development and maintenance resources due to a clearer understanding of requirements, an increased customer involvement and a standardized approach towards analysis and development.

Everyone acknowledges the potential for CASE, but skeptics also see lots of room for doubt. Some CASE tools have disappeared from the market very quickly, while others announce they are now "positioning themselves for the 21st century". Few tools live up to the marketing hype surrounding it, and some are costly to implement. The question becomes, how can State IT professionals pursue CASE intelligently? The examination of our collective experience to date is a step in the right direction.

Survey Results

Our survey focused on two major areas of the SDLC: Project Management and CASE. The survey questions were designed to provide insight for assessing State organizations' readiness to begin using CASE technology. Highlights from the surveys' tabulations and correlations are listed below. Survey responses from the SDLC section show:

- A little less than half (47%) of those departments responding do not use any specific structured methodology across their organization;

- For those organizations using a structured methodology, the most common are in-house products, Yourdon and Data Structured Systems Design (DSSD - introduced by Ken Orr).

Of the 53 surveys returned, 21 organizations indicate that they are either using CASE tools currently or have used CASE in the past. Survey responses from these departments have been most helpful. The most interesting information regarding the use of CASE within the State follows:

- 82% of the organizations that have used CASE are still using a CASE product;

- Four of the most significant benefits expected from CASE are improved quality, faster development, reduced maintenance and cost savings. These benefits have been realized, but organizations reporting them either are unable to quantify those benefits or choose not to;

- Most CASE usage in State IT organizations has occurred during the past two years. Effective results and benefits have only been obtained in the analysis and documentation areas of the SDLC.

The most alarming observation we have made regarding these survey results is that many IT organizations in the State do not enforce a standardized SDLC methodology. Industry ground rules suggest that organizations have a standardized methodology in order to be successful with CASE. Yet some State organizations have pursued the promise of CASE while ignoring industry recommendations.

The good news is that we have begun to identify some of the critical success factors needed to ensure a successful CASE project. Listed in order of importance, these factors are:

Customer Involvement
IT Staff Support
Adequate Resources
Clear Project Definition
Training
Expert/Consultant Staff

Our results also told us that we have begun to develop expertise in this field and we can now begin to share our experiences. The complete survey tabulations will be sent to those who requested a copy via the survey. Additional copies may be requested from anyone identified in Appendix C as part of the Standards Project.

Conclusions and Recommendations

The State IT community has only begun to develop expertise in the field of CASE technology. This is the ideal time to begin to share our experiences. Because the few departments using CASE feel it has great promise, it makes sense to begin positioning our organizations for the future. In order to do this, we suggest each IT organization participate in:

- Development of a statewide approach to CASE implementation;

- Development of guidelines which allow us to measure the expected and actual benefits of CASE, identify a performance level for CASE tools and even identify a pool of qualified vendors;

- Development of information sharing methods to communicate successes and failures and reduce redundant effort;

- Definition of an infrastructure for supporting CASE. For example, to implement CASE do you need a culture where customer involvement is at a given level, or should you have experience in using a structured development methodology?

Many steps are already in progress by a statewide CASE workgroup. The group consists of representatives from many Departments currently pursuing CASE and the OIT. Our detailed survey results have been provided to the CASE workgroup. We hope that by working together, the project team, the CASE workgroup, CFIT and eventually, the State IT organization as a whole will begin to achieve the vision identified in OIT's Strategic Direction for Information Technology in California State Government 1988 - 1993 stated as:

Strategy 6 - Speed Application Development by Improving Development Methods and Adopting New Software Tools. This strategy encourages the adoption of new software tools, including CASE:

- Shorten the development process and make it more efficient at a time when there are growing demands for new applications and significant limits on technical resources;

- Improve the quality of applications through development processes that are logically more rigorous; and

- Reduce risks associated with applications development through enhanced capabilities for detecting inconsistencies, ambiguities and omissions.

IV

Information Sharing Project

Introduction

Information constitutes knowledge and we all require knowledge to do our jobs well. As a critical resource, information impacts policy making as well as strategic and tactical planning; information provides the ability to make sound decisions. On the whole, we obtain knowledge through study or experience and interaction with others.

Problem

In State government today, IT professionals compile significant amounts of management and technical information. However, IT professionals lack a formal structure and process, as well as the incentives, to share that information. Consequently, unaware of what has been done before or is being done now by other agencies, IT professionals "reinvent the wheel". More often than not, IT professionals fail to use information efficiently and effectively. In addition, State agencies expend vast amounts of resources in efforts to obtain and manage information; frequently, these agencies gather redundant information. Finally, because State agencies manage information independently, IT professionals lack consistent or uniform information.

Opportunities

Information sharing offers many opportunities.

- Improved strategic and tactical planning
- Better decisions
- Reduction/elimination of duplicate efforts
- Lower costs
- Expanded knowledge base
- Cooperation among State agencies
- Better and faster service to the Public resulting in improved State image.

Project Objectives

The Information Sharing Project objectives include the ability to:

- facilitate continuous information sharing between IT professionals in State government; and

- promote interaction among IT professionals.

Functional Requirements

We require a solution that:

- provides information access to a wide range of IT professionals;

- offers an easy-to-use method/system;

- capitalizes on the State's infrastructure of data center networks;

- provides a repository of IT information, including schedules of current events/activities by interest groups; and

- provides an ability to converse with other IT professionals with similar interests.

Alternatives

We examined two alternatives.

1. Information Sharing Conference

   This alternative proposes a one to two day semi-annual or annual Information Sharing Conference for State IT professionals. Patterned after SHARE Conferences, a State Information Sharing Conference provides a structure for IT professionals to exchange information regarding problem solving and idea formulating situations. In addition, this alternative considers including an information sharing session at the annual Government Technology Conference (GTC).

   Although this alternative provides a proven method for sharing information, a conference or a GTC session offers little in terms of:

   - continuous, day-to-day, sharing opportunities;

   - wide spread participation by IT professionals;

   - extensive interaction between IT professionals; and/or

. lowest costs.

2. Electronic Information Sharing

This alternative recommends establishing an electronic process as well as a structure to manage that process. This alternative allows IT professionals to access a wealth of information on-line. Various alternatives exist; however, we focused on the two that best achieve the stated objectives and functional requirements.

Repository of State Planning Documents - This alternative proposes a database of State planning documents including Information Management Annual Plans, Feasibility Study Reports, Post Implementation Evaluation Reports and all types of procurement documents. This alternative requires an extensive effort identifying, compiling and converting data to electronic media.

Although this alternative meets most of the objectives and functional requirements, the repository requires substantial resources to develop and maintain the information. Because this solution requires the identifying and recording of extensive information, the solution hinders continuous information sharing by IT professionals. Additionally, this alternative provides limited interaction among IT professionals. Therefore, this alternative fails as a viable solution to meet the Information Sharing Project objectives.

Bulletin Board System - This alternative facilitates electronic communication with others by creating topical bulletin boards, allowing easy access to information, and providing the ability to post and/or

remove information. For example, a bulletin board communicates special announcements, new products, meeting schedules, new or better procedures, contact persons/groups with special skills or knowledge, specific technical information, etc. In addition, a bulletin board provides conversational capabilities by allowing the posting of questions and answers.

A bulletin board system best meets all the project objectives as well as the functional requirements. Consequently, we recommended this alternative.

Description of Proposed Alternative - Bulletin Board System (BBS)

The proposed BBS will contain repository information and conferencing (conversational) capabilities to facilitate questions and answers. In addition, an events calendar will keep readers informed of upcoming management and information technology events.

Repository information includes directories of topical categories and names of contact persons. IT professionals need knowledge of experiences and skills their peers possess. Managers often face new problems and issues and could benefit from the experience of others. A directory describes the major topic areas of IT and the names of individuals in the State who have knowledge and recent experience about the topic. By establishing a mechanism to identify these potential contacts, IT professionals can easily share the knowledge and experiences they have with their peers and others. Planning, management issues and the latest technologies are all topics to be included in the BBS.

Often, management and staff have questions about new technology and issues facing IT. The BBS greatly benefits IT

professionals with the ability to post questions/information for others to read and answer/respond. In viewing conferencing topics, other individuals also profit from the shared information.

We all are interested in knowing about local and national events which affect our profession. An events calendar provides IT professionals with a central location to post a myriad of conferences, exhibits, and training opportunities.

Implementation Plan

To evaluate the benefits of a BBS, the Data Processing Managers Academy III's Information Sharing Project Team intends to conduct a one-year BBS Pilot Study. The Team will offer the Pilot BBS to the Data Processing Managers Academies I, II, III and IV, as well as Academy sponsors and managers. Russ Bohart of the Health and Welfare Data Center (HWDC) and P. K. Agarwal of the Department of General Services have agreed to sponsor this Study.

The remaining major tasks include:

- the selection of the repository topics and their associated topic administrators (possible topics include networking, imaging, CASE, training, etc.); and

- the development of evaluation criteria, monitoring methods and schedules including quarterly surveys and periodic sampling.

Capitalizing on the State's current infrastructure of data center networks, the Pilot BBS will operate on the installed electronic mail network. The BBS will become an added feature for Office Vision customers. Initially, we expect the

BBS to operate on the HWDC complex until the BBS can be networked with the Teale Data Center.

In addition to the members of the Data Processing Managers Academies, the BBS can serve an audience of other IT managers and professionals. Our initial plan provides a channel for information sharing between IT professionals. As more generalized topics are added to the BBS, the audience may expand to include departmental program managers and executive management. Also, State knowledge workers should be able to use the BBS through access to the Office Vision network.

The Information Sharing Project Team intends to assume the responsibility for administering the Pilot BBS. At a minimum, administrator duties include:

- establishment of new users and bulletin boards/conferences;
- removal of outdated information;
- entry of systemwide bulletins and news items;
- coordination of changes; and
- establishment of security.

The host data center administrator will provide technical software support and software maintenance. Backup and recovery will be performed under normal data center activities.

Pilot cost information has been estimated using actual costs from EDD's operation of the Totally Automated Office (TAO) system. EDD estimates are based upon use of the full

functioning system of mail, calendaring, bulletin boards and conferencing. The Pilot BBS project will use only the bulletin board and conferencing capabilities, therefore using less resources overall. An average charge would be around $5 per month per user. One hundred thirty (130) users are anticipated for the pilot period of 12 months. The Pilot would, therefore, cost around $7800. The DGS intends to absorb the system administrator costs during the Pilot. The Pilot charges will be on a usage basis and charged through the HWDC cost system.

At the close of the Pilot Study period, the Information Sharing Project Team expects to compile and evaluate the results. The Project Team plans to evaluate the Pilot against the project objectives and functional requirements. The Project Team also intends to identify specific successes, as well as failures. Finally, the Information Sharing Project Team plans to document the Pilot Study findings.

If the Pilot Study findings prove positive and statewide implementation is recommended, another group, such as a future Academy class, OIT, CFIT, etc., will need to carry on. In order to implement a statewide BBS, at a minimum, the following issues must be addressed:

- *Platform* - What hardware and software should be used for the BBS? The Pilot will operate at the HWDC. The next group should conduct a study to determine a permanent hardware/software platform.

- *Funding* - Each user Department should fund the BBS based on usage. How will this be accomplished?

- *Administration/Support* - Should a single entity or group administer the BBS? Who should that be?

- *Incentives for IT professionals to use the BBS* - The success of the BBS depends upon its users. In that regard, incentives must be offered to IT professionals and other users of the system to query and add to the BBS. If the BBS is to be implemented statewide, the next group must actively promote the concept through major promotions, including presentations, feature articles in major publications and use of other media.

- *Two Data Centers* - Depending on the use of both the HWDC and the Teale Data Center, decisions will need to be made concerning coordination, physical constraints, network, etc.

V

CONCLUSION

We hope the information acquired from the survey and the anticipated information sharing provided by the electronic bulletin board will bring us one step closer to our vision of an improved state-level information management infrastructure. We see these projects as two more blocks for building the foundation of this infrastructure.

If you have questions or would like more information about the surveys or the electronic bulletin board pilot, you may contact any member of Academy III.

The completion of the class project is an important part of the Academy curriculum. It gave us the opportunity to work together, to grow together and to accomplish a common goal. We took time to consider the "big picture" and to view issues from a strategic perspective.

While we feel a sense of accomplishment in our results, we feel the most valuable part of the project is the process we went through to achieve the results. Working as partners with different perspectives and experiences made us a strong team ready to conquer the challenges facing Information Technology.

We encourage you to look to the Data Processing Managers Academy as a resource to work with you in the future. We are ready to take on the challenges of today as well as the challenges of the future. We are ready to implement the current statewide vision as well as develop the new vision.

VI

Acknowledgements

The members of the Data Processing Managers' Academy III would like to take this opportunity to thank the many data processing managers and State government executives whose assistance was invaluable in developing and completing the class projects.

To the class managers, Gerri Magers, Tom Speer, and Grant Smith, our special thanks for the support provided throughout the past year. It has been unflagging, unselfish and, occasionally, we fear, unsuspecting. We thank our class sponsors, Russ Bohart, Don Leachman and Joanne Ichimura-Hoffmann for donating their time and efforts in our behalf.

Helen Stanley from the Office of Information Technology provided guidance in the development of the Project Management/CASE Tools Survey and each of the class managers reviewed it and made valuable suggestions for its improvement. Gigi Smith from the Department of Corrections developed the form and patiently processed multiple changes in direction prior to its release. David Mar, also from the Department of Corrections, offered the statistical and programming expertise to turn the survey results from data to information. Fifty-three departments completed the surveys; some of them spent a considerable amount of their time on the telephone answering the questions raised by their survey responses.

Russ Bohart, P. K. Agarwal and Ron Kuhnel provided encouragement and guidance for the development of the Bulletin Board Pilot System. Technical support is provided by Kerry Wilson and Tim Funk of Health and Welfare Data Center, by Tim Southwick of Teale Data Center and by Dave Lingren from the Franchise Tax Board.

From the Department of Justice, Debbie Florendo and Cathy Mar provided their expertise in the field of presentation graphics; Michael Landis assisted with the photography. They worked with both project teams and were full of ideas and patient.

Finally, and most importantly, we extend our sincere thanks to the IT executives in each of our departments. Only you recognize how much of a commitment our attendance at this Academy really was. We doubt that any of us knew at the outset how much time would need to be devoted to the Academy once our projects unfolded. Now, we know. Thank you for allowing us the time required to make the projects worthwhile for us, and, we hope, for the rest of the State.

APPENDIX

Appendix A

ISSUES

Human Resources

One of the State's most costly and precious resources is its people. In order to preserve this resource we must address recruitment, training and retention of staff. IT advancements require that we develop recruitment plans which identify the type of staff that will meet our needs and the source of such staff. The State needs multi-disciplined staff capable of thinking, learning and creativity. An unskilled workforce remains an obstacle the new information society must overcome. Once we have recruited staff, it is essential we provide a means for them to stay current in the latest technology and refresh and hone their interpersonal skills.

Infrastructure

As IT Managers, we need to address how the State as an organization can be structured to better serve the public and remove bureaucratic and inefficient barriers. This requires an atmosphere which brings together people from different disciplines and perspectives to work towards a common goal.

Policies and Procedures

The State must also ensure policies and procedures add value to the process rather than hinder our ability to deliver timely services. Employees who believe in and want to achieve a service vision will get frustrated if necessary processes/paperwork, outdated rules and politics hamper their ability to get the job done.

Planning

Strategic planning provides the link between business planning and the development of information systems. Effective planning enables IT to deliver relevant business systems which are targeted at supporting the primary business functions. Today, many Agencies have developed or plan to develop IT solutions to common problems. A statewide vision and plan needs to become an integral part of each Agency's strategic plan. Agencies with common business needs must work together in order to maximize utilization of diminishing resources.

Standards

Standards are also used to ensure a quality product. We often have standards that are outdated, cumbersome and never enforced; yet there are areas that without standards become very costly to maintain or are even unmaintainable. We must create standards that can easily be maintained, remain flexible to a changing environment, are easy to understand and implement and ensure a quality product.

Information Sharing

State Agencies continually "reinvent the wheel". There is no organized sharing of methods, processes and products. This is costly, especially in this time of fiscal crisis. There is also a lack of common public access to government. Barriers such as mixed standards, communications, and coordination prevent multiple Agencies from working together. We must work to remove these barriers and move toward organized sharing of methods, processes and products, for when we share, the public benefits.

Return by 10/23/91

DATA PROCESSING MANAGERS ACADEMY III

PROJECT MANAGEMENT / CASE TOOLS

SURVEY

PURPOSE: Identify key issues and summarize the status of California State Government's use of both project management and CASE tools.

Name:_____ Phone:_____

Title:_____

Department:_____

Division/Branch:_____

Date Completed:_____

Please answer all that apply:

1a. How is your IS Staff distributed? (Indicate number assigned to each functional area)

Application Development: _____ Systems software: _____

Application Maintenance:_____ Telecommunications/Hardware: _____

Production/ Operation:_____ Administration:_____

Other: _____

b. How many in each group are using Computer-Aided Software Engineering (CASE)?

Application Development: _____ Systems software: _____

Application Maintenance: _____ Telecommunications/Hardware: _____

Production/Operation: _____ Administration: _____

Other: _____

2. In what phases of the IS development process are your customers involved?

☐ Strategic Planning ☐ Testing/Evaluation

☐ Requirements Definition ☐ Training

☐ Design ☐ Implementation

☐ Development ☐ Other: _____

PROJECT MANAGEMENT / DEVELOPMENT

A comprehensive, well-defined set of processes, techniques and guidelines employed to ensure a standardized approach to the definition, design, development, installation and maintenance of automated information systems.

3a. Do you subscribe to a specific structured methodology in your systems development life cycle (SDLC)?

☐ Yes ☐ No

b. If yes, please identify below.

☐ Yordan ☐ Data Structured System Design (Ken Orr)

☐ Jackson ☐ Info Engineering Methodology (IEM-James Martin)

☐ Other: _____
(Please specify)

4. Following is a list of the major components associated with the SDLC. Please identify any formal techniques used for developing your systems or indicate if your system developers are allowed to choose their own method (freeform).

	Formal Technique	Freeform	Automated Tool
Concept Phase			
Project charter	_____	☐	☐
Project management (work) plan	_____	☐	☐
Requirements Phase			
Current system requirements specification	_____	☐	☐
New system requirements specification	_____	☐	☐
Design Phase			
Detailed design specification	_____	☐	☐
Test plan	_____	☐	☐
Implementation plan	_____	☐	☐
User documentation	_____	☐	☐
Maintenance plan	_____	☐	☐
Training plan	_____	☐	☐
Development Phase			
Code generation	_____	☐	☐
Software & system documentation	_____	☐	☐
Testing Phase			
Test cases	_____	☐	☐
Test data	_____	☐	☐
Stress modeling	_____	☐	☐
Operation and Maintenance Phase			
Post implementation evaluation	_____	☐	☐
On-going maintenance changes	_____	☐	☐

CASE TOOLS

A software program that provides partial or total automation of at least one function within the software life cycle. A set of tools that automates a major step in the software development life cycle, such as systems analysis, program design or software implementation; or a major functional task such as software maintenance or configuration control.

5a. Has your department used CASE tools?

☐ Yes ☐ No

If no, then skip to question #18

b. If yes, when were they purchased?

_____
(Date)

6. Why did you purchase this product(s)?

☐ Cost Savings ☐ Strategic Direction ☐ Standardization

☐ Bundled with Project ☐ Other:_____
(Please specify)

7a. Which CASE products have you used and for what period of time? Check all that apply.

☐ Knowledgeware	☐ < 1yr	☐ 1-2 yrs	☐ >2 yrs
☐ IEF (Texas Instruments)	☐ < 1yr	☐ 1-2 yrs	☐ >2 yrs
☐ Excelerator	☐ < 1yr	☐ 1-2 yrs	☐ >2 yrs
☐ Oracle	☐ < 1yr	☐ 1-2 yrs	☐ >2 yrs
☐ Other:_____ (Specify product name)	☐ < 1yr	☐ 1-2 yrs	☐ >2 yrs

b. Please check all situations that apply to the CASE tools used by your department.

	Project in process	Project completed	Tools still in use	Met expectations
☐ Knowledgeware	☐	☐	☐	☐
☐ IEF (Texas Instruments)	☐	☐	☐	☐
☐ Excelerator	☐	☐	☐	☐
☐ Oracle	☐	☐	☐	☐
☐ Other: _____	☐	☐	☐	☐

8. What level of CASE tools is being utilized?

☐ Planning ☐ Detail Specifications ☐ Reengineering

☐ Design ☐ Code Generation ☐ Other:_____

9a. Which of the following benefits did you expect from CASE?

☐ Cost Savings ☐ Reduced Staff ☐ Faster Development

☐ Improved Quality ☐ Reduced Maintenance ☐ None

☐ Other: _____
(Please specify benefits)

b. Which of the following benefits did you get from CASE?

☐ Cost Savings ☐ Reduced Staff ☐ Faster Development

☐ Improved Quality ☐ Reduced Maintenance ☐ None

☐ Other: _____
(Please specify benefits)

c. Were these benefits quantifiable?

☐ Yes ☐ No

If so, how? (Use an additional sheet if necessary and attach.)

_____

_____

10. How did customers participate with CASE tools?

☐ Evaluate ☐ Procurement ☐ Use

☐ Select ☐ Training ☐ Other: _____
(Please specify)

11a. Did any staff reorganization result from using CASE tools?

☐ Yes ☐ No

b. If yes, please explain changes. If possible, attach "before" and "after" organization charts.

_____

_____

c. How did CASE improve the way you do business with your customers? Check those areas in which you experienced significant improvement.

☐ Customer involvement ☐ Common understanding of expectations

☐ Project scope/requirements ☐ User satisfaction

☐ Acceptance of project deliverables ☐ Other: _____
(Please specify)

12a. Will CASE tools be used again?

☐ Yes ☐ No

b. If no, why not? (Use an additional sheet if necessary and attach.) _____

_____

13. How many days of consultant services were utilized to accomplish the following? (Include all efforts.)

Planning _____ Project development _____

Training _____ Implementation _____

Project identification _____ Other: _____
(Please specify)

14a. How many days per employee were needed to learn the product? _____

b. How many months passed after training before product was actually used on project? _____

c. How many months passed before staff became productive? _____

15. In your experience using CASE tools for a project, did any of the following factors contribute to the project's success/failure? For each response, indicate the degree of importance each factor played.

A. PROJECT INITIATION	Success	Fail	Not important	Slight effect	No effect	Important	Very important
Clear requirements definition	☐	☐	☐	☐	☐	☐	☐
Sufficient funding	☐	☐	☐	☐	☐	☐	☐
Support							
• Executive	☐	☐	☐	☐	☐	☐	☐
• Customer	☐	☐	☐	☐	☐	☐	☐
• I/S management	☐	☐	☐	☐	☐	☐	☐
• I/S staff	☐	☐	☐	☐	☐	☐	☐
Adequate resources	☐	☐	☐	☐	☐	☐	☐
Training	☐	☐	☐	☐	☐	☐	☐
Expert/consultant staff	☐	☐	☐	☐	☐	☐	☐
B. PROJECT DEVELOPMENT							
Training	☐	☐	☐	☐	☐	☐	☐
Customer involvement	☐	☐	☐	☐	☐	☐	☐
Expert/consultant staff	☐	☐	☐	☐	☐	☐	☐
Management support	☐	☐	☐	☐	☐	☐	☐
Technical staff support	☐	☐	☐	☐	☐	☐	☐
Adequate resources	☐	☐	☐	☐	☐	☐	☐

16. Were CASE tools used to perform any of the following?

	Yes	No
Define Requirements	☐	☐
Develop design	☐	☐
Generate code	☐	☐
Eliminate redundant code	☐	☐
Reengineer	☐	☐
Create documentation	☐	☐
Conduct testing	☐	☐
Perform maintenance	☐	☐
Other: _____ (Please specify)	☐	☐

17. What is your overall opinion of CASE tools?

☐ Very satisfied ☐ Satisfied ☐ Disappointed ☐ Very disappointed

18. If available, would you utilize the State Purchase/Rental Agreement to acquire:

a. CASE tools?

☐ Yes ☐ No

b. CASE consultant services?

☐ Yes ☐ No

c. CASE training?

☐ Yes ☐ No

19a. Can we contact you, or one of your staff, for further information?

☐ Yes ☐ No

b. If other than yourself, please indicate the name and phone number of the person we should contact.

Name: _____

Phone: _____

20. Please attach any evaluations of the CASE tools or methodology(s) you have purchased/investigated.

21. Would you like to receive a copy of the survey results/report ?

☐ Yes ☐ No

Appendix C

STANDARDS PROJECT TEAM

Name	Phone	Department
Josetta Bull	654-7737	EDD
Terry Burke	327-5823	Highway Patrol
Page Ingram-Doyle	654-0337	Health Services
Elizabeth J. Jackson	920-7507	Teale
Teri Lynch	323-3816	Corrections
Ron Nabity	445-4393	Controllers
Dawn Potts	657-1138	Health Services
Denny Smith	654-9240	EDD
Kent E. Stodden	327-5477	CALTRANS
Patricia Touhey	323-3616	Corrections
Richard Tubbs	322-8840	Bd. Equalization
Bill Wensrich	322-3267	Education

INFORMATION SHARING PROJECT TEAM

Name	Phone	Department
Robert Austin	369-4449	Franchise Tax
Robert J. Clark	323-6843	Bd. Equalization
Mike Cuccia	739-2348	Justice
Bob Ferguson	369-4044	Franchise Tax
Kirby Fukushima	327-1317	Lottery
Joyce Hicks	657-5778	DMV
Marilyn Kehlet	653-9461	Water Resources
Gail Overhouse	327-8445	Controllers
Ron Rabun	323-5966	General Services
Greg Thompson	323-6326	Social Services
Roseanna Torretto	739-7657	HWDC
Daniel K. Whetstone	739-2244	Justice
Roscoe Williams	739-7703	HWDC