

APPENDIX G

Draft Codebook Based on Early Coding Experience

This appendix contains the codebook developed based on coding five of the guided interviews. The coding categories derived from Bogdin and Biklen's coding families (1972), and the detailed codes were derived from the actual data in the interviews. The first list is simply the labels for the code. The second list contains working definitions for the codes. This coding scheme was superseded by one based on the systems model and the additional coding categories identified in the inductive analysis.

FIRST LEVEL CATEGORIES & CODES -- Labels

Activity Codes

AC-ZIG Meeting Activity

Event Codes

EC-Aagaard Drafts Protocols (Application & Presentation)

EC-ALA Telecommunications Committee

EC-Congress Restricts LC Access

EC-Implementors Testbed

EC-Lsp

EC-Maintenance Agency

EC-Nac/Nag

EC-Nclis/nbs Protocol Task Force

EC-Ntag

EC-Nypl/LC Link

EC-Pips

EC-Nbs Protocol Activities

EC-Sc D

EC-Sc D-1984 Draft

EC-Sc D-1988 Draft

EC-1992 Draft

EC-1995 Draft

EC-Z39.50 Implementors Group (ZIG)

Perspective Held by Subjects Codes

PHSC-Burden of Work in Standards Development

PHSC-Challenges to Linking Systems

PHSC-Comparing ZIG Meetings

PHSC-Description of SC D

PHSC-Description of Stakeholders

PHSC-Description of ZIG Meeting

PHSC-Factors for Successful Standards Development and Use

PHSC-Formal Standards Process vs. Other Standards Processes

PHSC-Goal of Standardization

PHSC-Growth and Evolution of Standard

PHSC-Implementation Experience and its Utility for Standardization

PHSC-Management of Standard and its Implementation

PHSC-Operational and Use Goal

PHSC-Problems with Standards Environment

PHSC-Relationship of Early Protocol Work and SC D

PHSC-Relationship of LSP and Z39.50

PHSC-Scope of Standards

PHSC-Specific Actions of Resistance to a Standard or Standardization Approach

PHSC-Success Measures of Standards

Relationship & Social Structure Codes

RSSC-Users & Providers

Strategy Codes

SC-Announcing/Implementing Features

SC-Gaining Support for Standard

SC-Raising Issues in ZIG

SC-Stakeholder Influence on Standards Development

SC-Technological Approaches/Solutions

SC-Timing

SC-When to Implement

Setting/Context Codes

SCC-Standards Development Phases

Subjects' Ways of Thinking about People & Objects

SWTPO-Barriers to Successful Standards Development

SWTPO--Characterizing What a Standard is

SWTPO-Choosing OSI

SWTPO-Implementation Prior to Standard's Approval

SWTPO-Knowledge of a Standard Being Worked on

SWTPO-Lurking Issue

SWTPO-Relying on Staff Experts

SWTPO-Vision of National Network -- 1970s

SYSTEMS MODEL CODES -- Labels

Environment Codes

E-Characteristics of Installed Base 1970s
E-Implementors Testbed
E-Influence of Other Standards, TCP/IP
E-Popular Awareness of Need for Standard or Approach to Solving a Problem

Input Codes

I-Externally Developed Protocol Draft
I-Lurking Issue--ZIG
I-Political Influence of Stakeholders
I-Requirement for Standard
I-Stakeholder's Agenda and Requirements

Process Codes

P-Closure on Draft
P-Developing 1984 Draft
P-Investigating Differences in Searches on Systems

P-LSP Protocol Development Process
P-ScD Process -- Informal and Formal
P-Standards Committee Appointments

Stakeholder Codes

S-Changes in Perspective over Time
S-Differences in Perspective
S-Funders of Z39.50 Development
S-Implementation Activities/History
S-Interaction Among Stakeholders
S-Pre SC D Stakeholders
S-Resistance and Barriers of Stakeholders
S-Role of Chair of Standards Committee
S-Voting Representatives
S-ZIG Member's Role

Critical Factor

CF-Demonstrating Features & Interoperability

FIRST LEVEL CATEGORIES & CODES -- Definitions

AC-Activity Codes

AC-ZIG Meeting Activity

Describes activities or actions occurring in the ZIG meeting; assumption is that there is some regularity in occurrence. Contrast with "Event."

EC-Event Codes

EC-Aagaard Drafts Protocols (Application & Presentation)

References to the work of Aagaard from Northwestern and Davison from RLG to draft a set of protocols for application and presentation layers.

EC-ALA Telecommunications Committee

References to the ALA Telecommunications Committee that was active in 1975-1976.

EC-Congress Restricts LC Access

References to the 1978/1979 activities surrounding Congressional restrictions of online access to LC computers for "security reasons."

EC-Implementors Testbed

An important event perceived by respondent related to a testbed to demonstrate features and interoperability of standard.

EC-Lsp

References to Linked Systems Project, LSP, and/or LASP

EC-Maintenance Agency

References and information about the Z39.50 Maintenance Agency established at LC

EC-Nac/Nag

References to NAC and/or NAG.

EC-Nclis/nbs Protocol Task Force

References to NCLIS/NBS Task Force on Computer-to-Computer Protocol

EC-Ntag

References to NTAG activities.

EC-Nypl/LC Link

References to the experimental link between LC and NYPL/RLG

EC-Pips

References to the Protocol Implementation Planners group study.

EC-Nbs Protocol Activities

References to work being done by NBS on lower level protocols.

EC-Sc D

References to SC D.

EC-Sc D-1984 Draft

Information about the development and balloting of 1984 draft.

EC-Sc D-1988 Draft

Information about the development and balloting of the 1988 draft

EC-1992 Draft

Information about the development and balloting of the 1992 draft.

EC-1995 Draft

Information about the development and balloting of the 1992 draft.

EC-Z39.50 Implementors Group (ZIG)

References and information about the ZIG

Perspective Held by Subjects Codes (PHSC)

PHSC-Burden of Work in Standards

Development

Descriptions of who does the work in a standards development effort.

PHSC-Challenges to Linking Systems

Technical, social, political, or other barriers and issues that stood in the way of linking systems.

PHSC-Comparing ZIG Meetings

Discussion in which one or more meetings of the ZIG are compared in terms of activities, events, processes, etc. This from the perspective of participant.

PHSC-Description of SC D

Descriptions about the status, operation, or other comments about SC D.

PHSC-Description of Stakeholders

Any comments or descriptions by one person of one or more stakeholders. Description or attribution could be positive or negative.

PHSC-Description of ZIG Meeting

General description of a ZIG meeting from the perspective of participant.

PHSC-Factors for Successful Standards

Development and Use

Identification of any factors, entities, etc. needed for a successful development process. Could be considered as inputs into the standards process.

Also could include things that need to be done to get the standard used.

PHSC-Formal Standards Process vs. Other Standards Processes

Statements that compare one standards process with others, and give reasons why a certain one is seen as better.

PHSC-Goal of Standardization

PHSC-Growth and Evolution of Standard

Identifies what occurs as standards are put to use, their growth and evolution to respond to needs -- whether or not that growth is controlled.

PHSC-Implementation Experience and its Utility for Standardization

Comments that describe or state thoughts about how implementations and other efforts such as prototyping can be useful in standardization efforts.

PHSC-Management of Standard and its Implementation

Ways in which a standard and its implementation is controlled or managed once it is underway.

Includes issues of increased numbers of stakeholders that want to be involved.

PHSC-Operational and Use Goal

PHSC-Problems with Standards Environment

Comments on the status of the standards environment, what happens without standards, and problems with the standardization process.

PHSC-Relationship of Early Protocol Work and SC D

Discussions about the early protocol activities such as NCLIS/NBS and how that did or did not feed into SC D work.

PHSC-Relationship of LSP and Z39.50

Discussions about the relationship between the Linked Systems Project and the protocols developed for that and the work of SC D and the development of Z39.50.

PHSC-Scope of Standards

Statements relating to the initial or evolving scope of a standard, and the basis for the scope of particular standards at specific times.

PHSC-Specific Actions of Resistance to a Standard or Standardization Approach

Identifying specific actions that one or more people used in resisting all or part of a standard or standardization effort or approach

PHSC-Success Measures of Standards

Statements identifying things, issues, or concerns that point to what makes a standard a success.

Relationship & Social Structure Codes (RSSC)

RSSC-Users & Providers

Suggests a connection or relationship between actions of users and providers, e.g., users of Z39.50 products and providers/ implementors of those products.

Strategy Codes (SC)

SC-Announcing/Implementing Features

Implementor announces or implements new features to achieve specific goals, such as providing users with a sense of satisfaction.

SC-Gaining Support for Standard

Activities and actions used by a stakeholder to gain support for a standard or even an approach to a standard. This is different from building consensus, which I will use in a more formal restricted sense. These are related.

SC-Raising Issues in ZIG

Stakeholder brings an issue to the ZIG for action by the ZIG.

SC-Stakeholder Influence on Standards Development

Actions by a stakeholder to influence the actions and choices by other standards developers or the standards process.

SC-Technological Approaches/Solutions

Ideas for ways of solving a problem. Not necessarily as a part of a standard, but a way of thinking about how to solve a technological problem.

SC-Timing

Effects of timing on actions or behaviors to achieve goals.

SC-When to Implement

Considerations in deciding to implement specific features of the standard to achieve certain goals.

Setting/Context Codes (SCC)

SCC-Standards Development Phases

Any specific mention of phases or stages in standards development as defined/described by respondent.

Subjects' Ways of Thinking about People & Objects (SWTPO)

SWTPO-Barriers to Successful Standards Development

Statements of what should not be done in the standards development process. Things, activities, and attitudes that stand as barriers to the process.

SWTPO--Characterizing What a Standard is

Descriptions, metaphors, or other labels that provide an understanding of how a person sees/understands what a standard is

SWTPO-Choosing OSI

Explanations, descriptions and comments about the reasons for people to choose OSI at the beginning of the development of linking systems.

SWTPO-Implementation Prior to Standard's Approval

Respondent's reflection on considerations and issues in timing implementation of features.

SWTPO-Knowledge of a Standard Being Worked on

Statements about how well one becomes familiar with a standard. Expresses an emotional relationship or metaphor.

SWTPO-Lurking Issue

Description of an issue that has yet to be addressed or resolved.

SWTPO-Vision of National Network -- 1970s

Statements that describe an idea, vision, activity, or other related information about the national network as it existed in the 1970s.

SWTPO-Relying on Staff Experts

Comments and reflections on the problems and advantages for a decisionmaker to rely on staff experts rather than being in a position to know for him/herself.

SYSTEMS MODEL CODES -- Definitions

Environment Codes (E)

E-Characteristics of Installed Base 1970s

Any descriptions of the technology or characteristics of what it could or could not do. Could identify potential problems that needed to be addressed in the development of a network to link systems.

E-Implementors Testbed

An organized activity among stakeholders and implementors to demonstrate features of the standard and interoperability of the implementations. Tentatively places in the environment, but may be included in the system

E-Influence of Other Standards, TCP/IP

Any characterization of the effects of other standards, particularly TCP/IP vs. OSI.

E-Popular Awareness of Need for Standard or Approach to Solving a Problem

Identification of changes or emergence in the environment of people's awareness of a need or a way to solve a particular problem.

Input Codes (I)

I-Externally Developed Protocol Draft

An input into SC D was the Protocol that was developed by Aagaard and others that was to be used in LSP and was also reviewed by SC D.

I-Lurking Issue--ZIG

An issue that has yet to be addressed or resolved that is brought to attention of ZIG.

I-Political Influence of Stakeholders

Describes actions by certain powerful stakeholders to get movement on the standard. Intended to indicate the use of power on the standards committee to get something done.

I-Requirement for Standard

Specific identification of technical or other requirements that the standard should address.

I-Stakeholder's Agenda and Requirements

Any things that would be brought to the standards process by a stakeholder representative that reflects a stakeholder's agenda or other requirements. These may or may not have the effect of slowing down or hindering the process of developing the standard.

Process Codes (P)

P-Closure on Draft

Identifies actions around the period of finalizing a draft standard and preparing it for ballot.

P-LSP Protocol Development Process

Describes actions that occurred in developing the LSP Protocols. Focus on the processes used such as meetings, traveling, planning, etc.

P-Developing 1984 Draft

Anything related to the process of developing the 1984 draft of the standard.

P-Investigating Differences in Searches on Systems

Describes actions taken to understand the differences between systems and how they represented and processed searches.

P-ScD Process -- Informal and Formal

Describes the way the SC D carried out its work in both formal and informal ways.

P-Standards Committee Appointments

Description of how the standards committee appointments were made and any other comments about standards committee membership

Stakeholder Codes (S)

S-Changes in Perspective over Time

Statements where a stakeholder identifies changes in his or her perspective or attitude about an issue or topic over time.

S-Differences in Perspective

Instance where specific differences between stakeholders exist.

S-Funders of Z39.50 Development

Identifies name of organizations that supported the development of Z39.50.

S-Implementation Activities/History

Describes a stakeholders actions or behaviors regarding implementation of the standard.

S-Interaction Among Stakeholders

Describes activities among and between stakeholders to get things moving. Includes indications of compromises and trading.

S-Pre SC D Stakeholders

Describes, lists, or names people and organizations that were participants or otherwise had a stake in the development of the technology that pointed toward interoperable computer systems.

S-Resistance and Barriers of Stakeholders

Any reasons or issues by stakeholders for resisting activities having to do with technology or standardization.

S-Role of Chair of Standards Committee

Descriptions of what a chair of standard committee must do including roles, responsibilities, activities, and work.

S-Voting Representatives

Describes activities and attitudes and other aspects of voting representatives including interaction with members of standards committee.

S-ZIG Member's Role

Identifies stakeholder's actions within the ZIG that characterizes a particular role played out by the stakeholder.

Critical Factor (CF)

CF-Demonstrating Features & Interoperability

Need to show how the standard can be implemented to ensure success of standard.