

APPENDIX A

This appendix constitutes a compilation of some illustrations of the existing user interface of CyberQuest and the proposed WebCQ.

Fig 1A Existing Opening Screen as seen in CQ



Fig 2 A Existing Problem Description and Analysis Interface as seen in CQ

The image shows a web browser window titled "Step 1. Problem Description and Analysis". The browser's address bar shows the URL "CyberQuest Case 0-1mqa4DCIvawerKASE74h0of.com". The page has a menu bar with "Return", "Edit", "Actions", and "Help". The main content area has an orange background and contains several text input fields with labels:

- The Main Aim is to Develop a New (Way to):**
Reduce Carbon Monoxide Concentration in Cities
- The Main Client(s) for This Case is:**
National Air Quality Agency
- The Person or Group Involved in This Session is:**
Welsh Development Agency M2 '95 Conferees
- The Operator/Facilitator of This Session is:**
JW Dickey, Virginia Tech and IdeaPlex, Inc
- The Horizon Time for Implementing Any Resultant Ideas is:**
Year 2000

Fig 3 A Microsoft ActiveX Control Pad's HTML Template

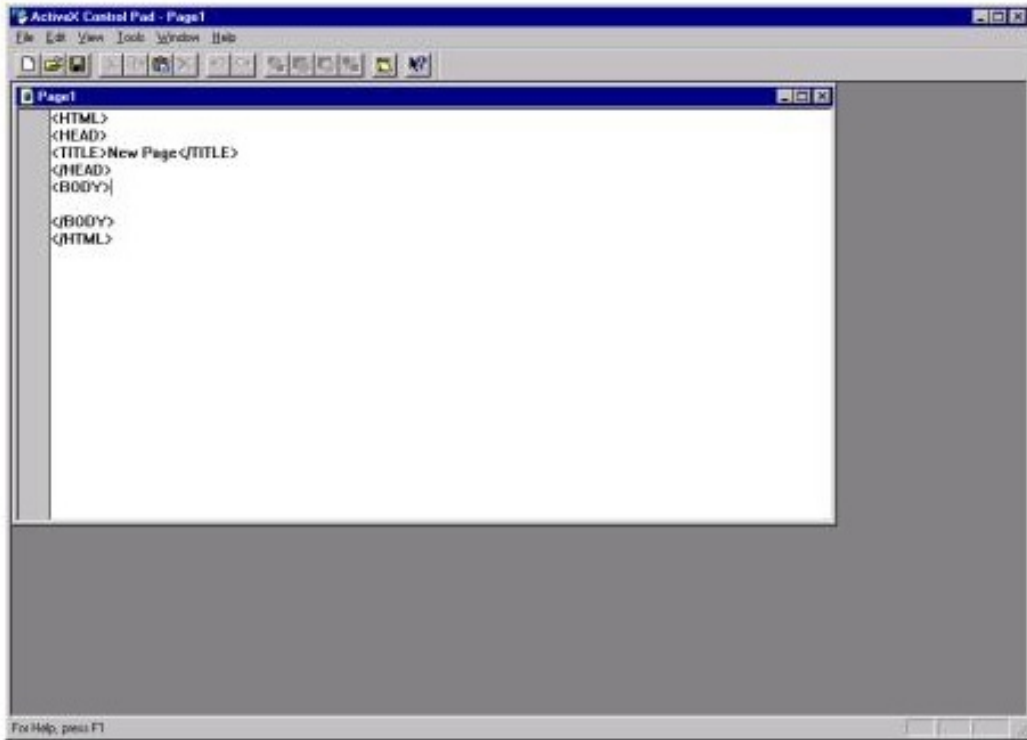


Fig 4 A Microsoft ActiveX Control Pad's HTML Layout Form Interface

This is how you can re-create CQ's forms as ActiveX Layouts to use in WebCQ

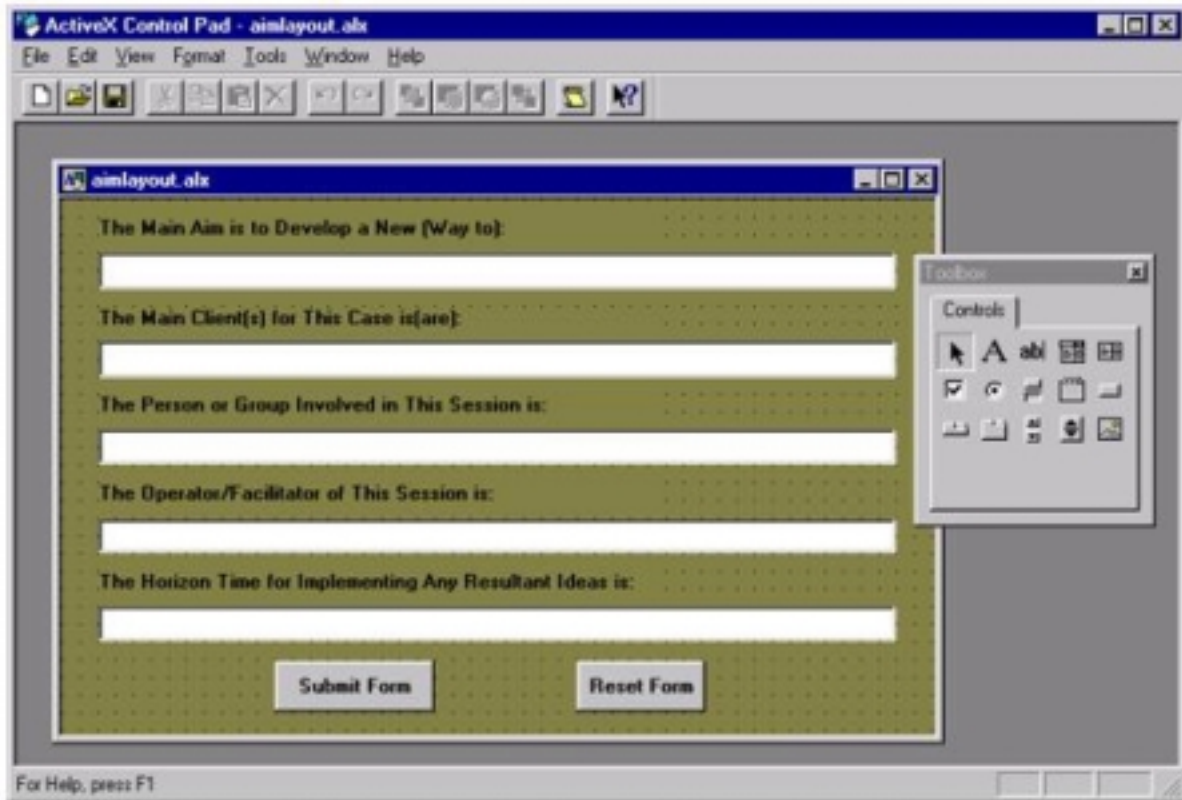


Fig 5 A The Opening Screen Interface in the Proposed WebCQ

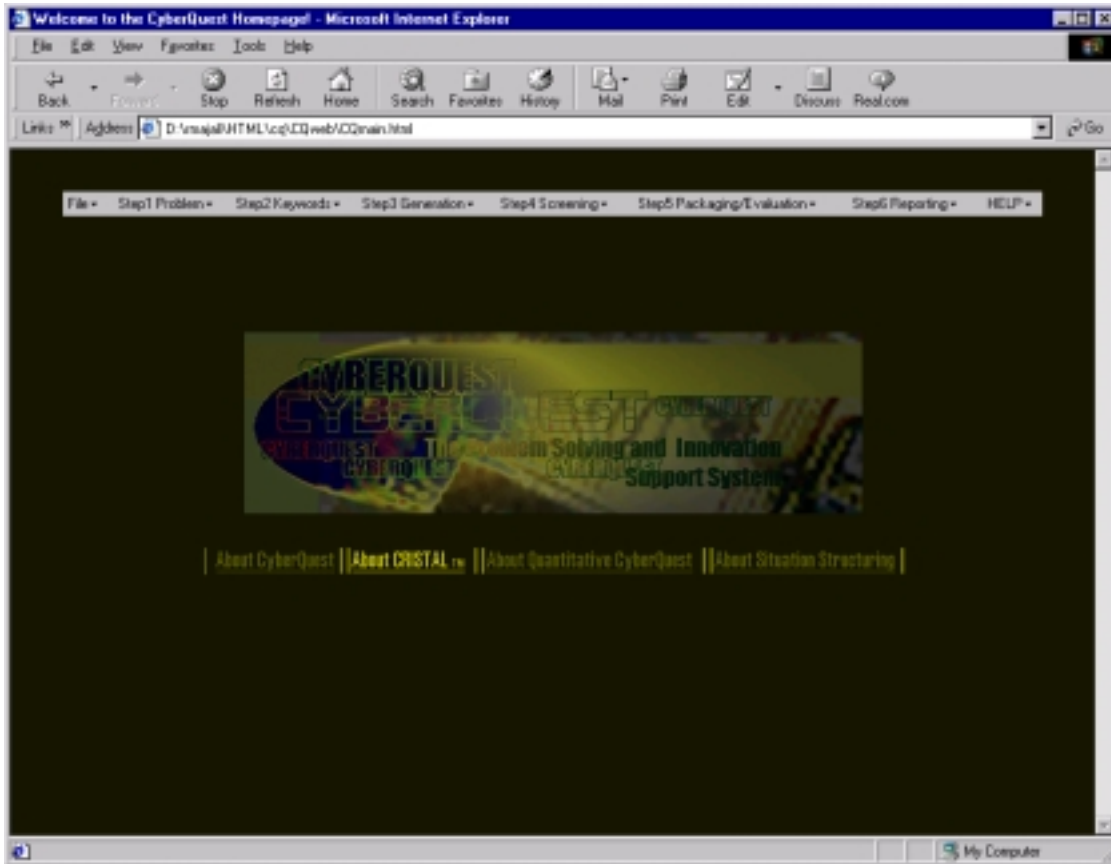


Fig 6 A The Problem Description and Analysis Interface in the Proposed WebCQ



APPENDIX B

Table 1 B REPLACING Visual Basic CONTROLS

Visual Basic Control	ActiveX Equivalent
Picture Box	See listing under Image Control
Label	Part of MSIE 3.0 and higher
Text Box	Part of MSIE 3.0 and higher
Frame	Not available
Command Button	Part of MSIE 3.0 and higher
Check Box	Part of MSIE 3.0 and higher
Option/Radio Button	Part of MSIE 3.0 and higher
Combo Box	Part of MSIE 3.0 and higher
List Box	Part of MSIE 3.0 and higher
Horizontal Scrollbar	Part of MSIE 3.0 and higher
Vertical Scrollbar	Part of MSIE 3.0 and higher
Timer	Download from ActiveX Gallery
File List Box	Cannot be used
Directory List Box	Cannot be used
Drive List Box	Cannot be used
Shape	Not available
Line	Not available
Image	Part of MSIE 3.0 and higher
Data Control	Cannot be used
OLE	Cannot be used
Common Dialog	Not available
Tab Strip	Part of MSIE 3.0 and higher
Rich Text Box	Cannot be used
Tool Bar	Not available
Status Bar	Not available
Progress Bar	Not available
Tree View	Not available

Visual Basic Control	ActiveX Equivalent
Image List	Not available
List View	Not available
Slider	Not available
Grid	Not available
Graph	Not available

Table 2 B VBA language features not supported by VBScript

Category	Feature
Array Handling	Array function Option Base Private, Public Declaring arrays with lower bound <> 0
Collection	Add, Count, Item, Remove Access to Collections using the ! character
Conditional Compilation	#Const #If...Then...#Else
Constants/Literals	Const All intrinsic constants Type-declaration characters (such as 256&)
Control Flow	DoEvents For Each ...Next GoSub...Return, GoTo On Error GoTo
	On...GoSub, On...GoTo Line numbers, Line labels With...End With
Conversion	CCur, CVar, CDate Format Str, Val

Table 2 B VBA language features not supported by VBScript ...contd.

Category	Feature
Data Types	All Intrinsic data types except Variant Type...End Type
Date/Time	Date statement, Time statement Timer
DDE	LinkExecute , LinkPoke , LinkRequest , LinkSend
Debugging	Debug.Print End , Stop
Declaration	Declare (for declaring DLLs) Property Get , Property Let , Property Set Public , Private , Static ParamArray , Optional New
Error Handling	Erl Error On Error...Resume Resume , Resume Next
File Input/Output	All
Financial	All Financial Functions
Object Manipulation	CreateObject GetObject TypeInfo
Objects	Clipboard , Collection
Operators	Def type Option Base Option Compare Option Private Module

Strings	Fixed-length strings
	LSet, RSet Mid Statement Type...End Type StrConv
Using Objects	TypeName Collection access using !

Table 3 B Functions Available in VBScript

Function	Description
Abs	Returns the absolute value of a number
Array	Returns a variant containing an array with the specified values
Asc/AscB/AscW	Returns the ASCII value of a character
Atn	Returns the arctangent of the argument
Chr/ChrB/ChrW	Returns a character for a specific ASCII value
Cbool	Converts a value to Boolean
Cbyte	Converts a value to Byte
Ccur	Converts a value to Currency
Cdate	Converts a value to Date
CDbl	Converts a value to Double
Cint	Converts a value to Integer
CLng	Converts a value to Long
Cos	Returns the cosine of the argument
CreateObject	Creates a new instance of the specified object
CSng	Converts a value to Single
Date	Returns the current date
DateSerial	Converts month, day, and year values to a Date value
DateValue	Returns a date part of a Date value
Exp	Returns the exponential of the argument

Filter	Returns a string array that meets the specified filter criteria
Fix	Returns the integer part of a number (Fix (1.2) = 1 and Fix(-1.2) = -1)
FormatCurrency	Formats a value as currency
FormatDateTime	Formats a value as a date or time
FormatNumber	Formats a number
FormatPercent	Formats a number as a percentage
GetObject	Returns a reference to an automation object
Hex	Returns a string containing the hexadecimal value of a number
InputBox	Displays a dialog box with a prompt for an input value
InStr/InStrB	Returns the starting position of the specified substring
InStrRev	Similar to InStr but starts at the end of the string.
Int	Returns an integer part of a number. (Fix (1.2) = 1 and Fix (-1.2) = -2)
IsArray	Returns True if the argument is an array
IsDate	Returns True if the argument contains a valid Date value
IsEmpty	Returns True if the argument has been initialized
IsNull	Returns True if the argument contains valid data
IsNumeric	Returns True if the argument contains a valid number
IsObject	Returns True if the argument contains an object
Join	Joins together a series of strings (opposite of Split)
Lcase	Converts a string to lowercase characters
Left/LeftB	Returns the leftmost part of a string or byte array
Len/LenB	Returns the length of a string or byte array
LoadPicture	Loads a picture object
Log	Returns the log of the argument
LTrim	Removes leading spaces from a string
Mid/MidB	Returns a substring from the middle of a string or byte array
MsgBox	Displays a dialog box with a message
Oct	Returns a string containing the octal value of a number
Replace	Replaces one substring with another substring the specified number of times

RGB	Returns a color based on values for red, green, and blue
Right/RightB	Returns the rightmost part of a string or byte array
Rnd	Returns the next random number from the random-number generator
Round	Rounds a value to the specified number of decimal places
Rtrim	Removes trailing spaces from a string
Sgn	Returns -1 if the argument is negative, 0 if it's zero, +1 if it's positive
Sin	Returns the sine of the argument
Space	Fills a string with the specified number of spaces
Split	Breaks apart a string into multiple strings based on a substring (opposite of Join)
Sqr	Returns the square root of the argument
StrComp	Compares strings
String	Fills a string with a specified character the specified number of times
StrReverse	Reverses the order of the characters in the string
Tan	Returns the tangent of the argument
Time	Returns the current time
TimeSerial	Converts hour, minute, and second values to a Date value
TimeValue	Returns the time part of a Date value
Trim	Removes leading and trailing spaces from a string
TypeName	Returns a string containing the name of the type of variable
VarType	Returns an integer containing the type of variable

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VITA

Rupashree Majali (Rupa) was born in Bangalore, India on August 4, 1971. She received her Bachelor of Architectural Technology degree from The University of Bombay in June 1993. While pursuing her undergraduate studies, she completed one student internship. From April 1992 to September 1992, Rupa worked at G & D Associates in Bangalore as a junior Structural Engineering Technologist. After she graduated with her bachelor's degree, she completed a senior professional project with the Civil Engineering Department at the Indian Institutes of Technology in Bombay where she worked on developing analytical visualization tools and low-cost solutions for building technology in rural seismic zones in India. She has over 4 years of professional experience as a structural analyst and designer. Her work experience includes employment at Charles Correa Architects and Planners, one of India's premier consulting firms, as a designer and analyst from July 1994 to August 1995. She also worked at APA Consulting in New York City as a designer and structural analyst from December 1994 to August 1997, before returning to school. Her research interests are in the areas of computing for design, visualization and representation, development of graphical tools for designers and planners, using Virtual Reality for analysis and visualization of structures and using VR and database aided techniques for distance and distributed learning.