VisualAge for Smalltalk
Web Connection for OS/2, for AIX, and for Windows
Overview Presentation Script
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Presentation Guidelines

Introduction

This presentation was developed as a guide in presenting the VisualAge for Smalltalk, Web Connection feature. These notes are intended as an outline to the presentation and meant to provide both insight and guidelines in preparing for your own presentation.

Questions, hints, and feedback may be directed to ADOPP @ CARY.

VisualAge for Smalltalk Version 3.0, Web Connection

Introduction

The flow of this presentation is:

1. Discuss some of the opportunities as well as challenges of development on the Web.
2. Introduce VisualAge for Smalltalk, Web Connection and go into detail.
3. Re-emphasize benefits of developing on the Web through VisualAge for Smalltalk, Web Connection.

Web Applications: The Opportunities

With the current excitement of the Internet, many businesses are looking for more faster and efficient ways to offer their products and services on the World Wide Web. Many business are responding with Home Pages that act as:

1. New Form of Advertising

   This gives your business another channel for marketing. It gives potential customers, world-wide, the ability to get the latest information about your business, products, services, as well as promotions. For example, VisualAge for Smalltalk has a Web Page, and this page gets visits and requests from potential customers all over the world each week. Customers can browse the latest VisualAge for Smalltalk promotions or special events, read about the latest product technology, and even order a Try & Buy CD which contains the full code.

2. Improved Customer Services

   How many times have you been on the phone trying to find out more information about a business and have been put on hold or been asked to go through 10 different levels of options menus? Customer satisfaction is a key part of running any business and with the Internet, you can provide your customers with quick access to information as well as allow for your customer to provide direct input and feedback. This allows you interact more closely with your customers.

3. Sales of Products and Services

   Businesses can provide on-line up to the minute description of their products and services as well as allow for direct ordering. An excellent example is L.L. Bean, which has put its catalog on the Web. You can select from various categories such as clothing or outdoor equipment, browse the items available, select the items you want to purchase, and then actually make the purchase.

4. Competitive Advantage

   By using the Internet as another marketing and sales channel, this allows your business to be a world-wide, global company, available 24 hours a day.

Web Applications: The Challenges

The Software Crisis, a term coined by David Taylor, is used to describe the pressures and issues of IS in the 90s. These are some of the challenges that many businesses are facing today.

1. Reduced Staff and Development Costs

   This is the ″do more with less″ with problem.

2. Programmer Skills

   A key concern is how to get the current set of skills easily migrated to use a new tool set. (With Web Connection, there is no migration. As a feature of VisualAge for Smalltalk, you continue to use the construction from parts paradigm as well as IBM Smalltalk to build your Web applications... we will look at this in detail later).

3. Reuse of Existing Systems

   This is a key requirement of any tool to fit within existing information environment. Businesses need for a tool to be able to support multiple databases and communication protocols they are currently using.

4. Ability to React to Change

   In order to stay competitive in today′s fast-changing environment, we need to be able to have tools that can help us address these needs. And we need tools that can deliver these solutions quickly and rapidly.

5. Heterogeneous Environments

   With today′s mergers and right-sizing, there is a strong need to connect to various hardware and software. This creates the need for software development tools to act like the glue of the organization and connect existing and new systems.

These are some of the issues that businesses are facing today. These same issues are also true as businesses develop applications on the Web. So they need a tool that can help address these issues...

VisualAge for Smalltalk, Web Connection

- New Add-On Feature of VisualAge for Smalltalk, V3.0

  The Web Connection is a new feature of VisualAge for Smalltalk V3.0. It was announced on June 18 and is generally available July 25. The Web Connection runs with VisualAge for Smalltalk Professional for WIN 95/NT, OS/2, and AIX. As VisualAge for Smalltalk becomes generally available on other platforms such as HP and SUN, so will the Web Connection.

- Extends VisualAge for Smalltalk to build Web applications.

  The Web Connection extends the VisualAge environment allowing customers to build Web applications. You build a Web application just as you would a VisualAge for Smalltalk application, that is, by using the VisualAge composition editor to build dynamic Web pages to give you the user interface for your applications. The program logic is created by making VisualAge connections with pre-built parts and writing IBM Smalltalk scripts.

- Builds live sophisticated, business-critical Intranet and Internet applications.

  The Web Connection allows developers to build Web applications that integrate with databases such as DB2 and other middleware such as TCP/IP, MQ Series, CICS, AS/400 and IMS. Customers can now build web pages that are live and interactive rather than just static text and graphics.

- Key Features

  The Web Connection provides a set of visual and non-visual parts that can be used to design Web pages. In creating your Web application you can still use the existing VisualAge for Smalltalk non-visual parts and class libraries. Also provided is a communications link between your VisualAge Web application and the Web server.

Web Connection: Easily Create HTML Pages & Application Logic

With the Web connection, you can rapidly and easily create your Web application. Web Connection gives you:

- Visual Programming

  This set of new visual and non-visual parts is designed specifically for building Web applications. The new parts are in the Web connection category which is added to your Parts Palette on your composition editor. It is fully integrated.

- Construction from Component Technology

  Because Web Connection is feature of VisualAge for Smalltalk, you have the same ″construction-from-parts″ paradigm.

- Compatible w/Existing Non-Visual Parts & Class Libs

  With Web Connection, you can continue to use the existing non-visual parts to develop your Web application. All of the functionality that is provided with VisualAge for Smalltalk such as database access and communications can be used.

  Note to create your Web User Interface, you must use the new Web visual parts and cannot use the existing VisualAge for Smalltalk visual parts. This is because VisualAge must use the set of user interface parts that is supported by HTML, which is a smaller set than the standard VisualAge parts. These new parts represent the controls that can be displayed by a Web browser and these parts are fine-tuned to reflect true native HTML capabilities.

- HTML Generated by VisualAge

  The parts in the Web Connection category are special VisualAge parts that have the ability to translate themselves into HTML code. At runtime, instead of creating windows and user-interface controls on your screen, the parts generate HTML code that recreates your user interface in a Web browser. Web Connection generates HTML 2.0 compatible code.

- Integrated Development Tools

  Through VisualAge for Smalltalk, Web Connection provides a fully integrated development environment which includes the full IBM Smalltalk language, class libraries, browsers and debuggers that you can use to build your Web application,

- Object Oriented Techniques

  By using Web Connection, you can still gain all the benefits of OO as you are within the VisualAge for Smalltalk Development environment.

Web Connection: Construction from Component Technology

New visual parts are provided as replacements for the standard VisualAge for Smalltalk visual parts. They represent the various entities and controls that can be displayed by a Web browser and have the ability to translate themselves into HTML code automatically.

This chart shows a list of the visual parts that available. You should briefly go through some of them and go into detail during the demo.

Web Connection: Access to Existing Enterprise Services & Data

As you recall, a challenge that businesses are facing is the need to access existing environments. The Web Connection allows you ″fit″ within you current environment and the high degree of interface to existing code and protocols allow maximum reuse of existing systems.

This chart is fairly self explanatory but a few notes to clarify (if needed):

- All communication protocols are offered in the Comm/Tran Feature.
- IMS connectivity is offered in the IMS Connection Feature.
- DB2 family native access is available in the base product as well as ODBC support. Through this support you are able to participate in the DRDA strategy for remote data access.
- Oracle native access is available in the Oracle features.
- Lotus Notes access is available in the Connection for Notes feature.
- C Wrappering and COBOL are provided in the base product.
- Our current SOM support allows one to use SOM objects, not create. Plans will be to create.
- Sybase, SQL are available via ODBC.
- Gemstone is available via 3rd party provider.

Web Connection: Interoperability with Java Technology

Web Connection provides the capability to create Web pages that display/contain existing Java applets. You can create Web pages containing Java applets such as running ″clock″ on your page. The applet is a visual part on the VisualAge palette. You specify the parameters, such as the applet name and URL, and then let Web Connection generate the applet tag. The applets are executed by Java-compatible browsers, and make it easy to display attention-getting information on your Web pages. Web Connection supports Java 1.0.

Web Connection: Additional Features

This chart describes some additional features in detail. You may skip over this chart depending on the audience. The chart is pretty self-explanatory with a few notes:

- Netscape Plug-ins

  You can use a visual part to design it into the Web page if you need to plug into Netscape. Pages can be debugged during development. Any changes to HTML pages or associated business logic are immediately available for testing using the standard VisualAge debugging tools.

- Session Data

  CGI-Link enables VisualAge applications to stay running all the time on the server, so you avoid the unnecessary startup time and database initialization. In addition, applications can specify objects to be retained on the server between one client request and the next client request.

Web Connection: Application Flow Scenario

This chart describes the application flow of a Web application. The detailed process is listed below:

A single request from a Web client, and its results, follow a multi-step process:

1. The client Web browser submits a HTTP request that specifies your VisualAge Web connection application.

2. The Web server (a daemon running on the specified host) receives the HTTP request from the client. The server parses the HTTP request and runs the specified program (CGI Link), passing it the additional information contained in the URL.

3. The CGI Link program runs. CGI Link passes the client request to the running VisualAge image, communicating through a TCP/IP socket. The VisualAge image can be on the same machine as CGI Link or on a different machine.

4. The CGI Link Server, a process running in the VisualAge image, receives the request from CGI Link and creates a new instance of the specific VisualAge HTML part.

   CGI Link also parses any other data fields from the request so that they are available to the new part. Each HTML part can have a nonvisual subpart called HTML Form Data, which contains the parsed data from the request. By connecting to the attributes of the HTML Form Data part, you can access any of the data from the fields in the form.

5. The part generates HTML code, which is relayed back through CGI Link and the HTTP server to the client browser, which renders the page.

Web Connection: Common Gateway Interface

CGI stands for Common Gateway Interface. It is a standard interface that defines how HTTP (Hypertext Transfer Protocol) servers can run programs in response to client requests, and how the results from those programs are returned to the clients. Web Connection supports CGI 1.1. With Web Connection, you get a stand-alone executable program (CGI-Link) which is set up on the Web server to be accessible through the CGI protocol. The CGI-Link gathers the client request, sends it to the VisualAge application, and then waits for the application to process the results and return the results. The CGI-Link passes the client request to the VisualAge image, communicating through a TCP/IP socket.

Web Connection: Flexible Environment

The Web Connection provides an extensive support of Web Browsers, Web Servers, and choice of platforms. An important feature of the Web Connection is that it is flexible and supports an extensive variety of environments so you can develop, browse, and run in your platform of choice.

Web Connection: Benefits

This chart is self-explanatory. The point here is to emphasize the value-add of using Web Connection to build live-Web applications to gain that competitive edge in their business. You should re-emphasize that by using the Web Connection, they gain all the benefits of VisualAge for Smalltalk.