TD6-01
XML PARSER WITH SOAP CAPABILITY ON PALM

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Introduction

The introduction of 3G technology has boosted the need for powerful mobile devices. People get connected no matter where they are. They are eager to access applications and data anywhere. In the E-business era, organizations begin to extend their information systems outside their office. Palm, Inc. provides comprehensive solutions for enterprises and individuals. PalmOS® is the standard for handheld computing. More than 70% of handheld products are based on the PalmOS® (Source: IDC, 1999). Due to the hardware resource limitation, such as processing power and memory space, data reaching the handheld must be concise and self-explanatory. SOAP, based on XML, over HTTP connection is becoming a standard and is widely used. In this project, on PalmOS® 3.5, we implement the XML parser, Expat, and an embedded small SOAP application. A stock-quoting application is chosen as an example. The handheld device extracts data by parsing received SOAP responses.

Project Description

The objective of this project is to use the concepts of XML and Simple Object Access Protocol (SOAP) together with the skill of Palm programming to integrate the power of XML and SOAP on Palm. SOAP is used as a protocol to invoke Remote Procedure Calls (RPC). A Palm application together with an XML parser is developed on PalmOS® version 3.5 to validate SOAP (XML document), extract the data encapsulated and to display the contents accordingly. This client program is written in Palm C programming language. We make use of the available XML Parser Toolkit from James Clark, Expat Version 1.95.2, which is written in C, to build our XML Parser on Palm. An Apache HTTP server is used as a RPC response server. The ultimate goal is to develop a SOAP client for Palm and a stock trading application to demonstrate the ability of XML parser on Palm.
System Block Diagram

Final Project Flow

XML Parser on Palm with SOAP capability

TCP/IP Module  Palm Program  XML Module (Expat)

Networked Palm Program (Text Browser)

Palm SOAP Module

Integrated Program

Java SOAP Server Module

Final Product (Stock-quote Application)

Palm XML Shared Library
Result

The stock application is tested on the Palm OS emulator.

The Apache SOAP server and Palm III with the stock application installed