Retirement Calculator

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In partial fulfillment for CSC 498, Computer Science Senior Seminar
Overview

• Discuss the project goals
• Discuss the tools used in construction
• Discuss various problems in construction
• Discuss how those problems were resolved
• Discuss what improvements are to be made
• Demonstrate how the calculator works
Project Goals for Applet:

• Simplify the calculations performed on the spreadsheet
• Easy to use and understand
• Good Layout of fields
• Exceed the limitations imposed by MS Excel
Project Goals for Web Page:

• Have useful information for the end user—possibly mortality tables.
• Will have primary information about the calculator.
• Have links to other resources for retirement information.
Tools Used in Project:

- JBuilder5 Personal -- http://www.borland.com/
- Sun JDK 1.3.1 -- http://java.sun.com/
- Chart2D -- http://chart2d.sourceforge.com/
- Microsoft Frontpage 2000
Things that made me want to curse

Excel Spreadsheet Functions:

`=L3*(1+B$8/12)^(B$2*12-K3)`

`=H$14*(1+$B$6)`
int count;

    payment = marketvalue + ( ( firstyearincome / 12 ) * percentinvested );
    for( int i = workingyears; i > 0; i-- ) {
        for( int j = 0; j < 12; j++ ) {
            count = ( ( i * 12 ) - j );
            investmentmarketvalue = investmentmarketvalue + payment *
                Math.pow( 1 + workingrateofreturn / 12 , count );
        }
        payment = ( payment * ( 1 + percentincrease ) );
    }

    p.setText( "" + twoDigits.format( investmentmarketvalue ) );
Embedded Applets in Web Pages

Problem: Some applets require awkward HTML code to embed applets into HTML pages.

Solution: JDK 1.3.1’s HTMLConverter
Batch file that automatically generates Applet code into any html file.

Usage:
HTMLConverter.bat filename.html classname.class
FrontPage 2000 Problems

Problem: Caused an error in the JVM.dll and MSVM.dll

Solution: Create separate pages for calculator information and applet.
Calculator Design

Layout: Grid Bag Layout
--Allows component to be placed practically anywhere in the container
Things I would do differently:

- Not use JBuilder to design my applet.
  --Start with the Java SDK or VisualAge for Java

- Do more work early in the semester.
Future Work

1. Allow users to input numbers in dollar format.
   Ex. $40,000.00
2. Allow users to input percentages.
   Ex. 6% or %6
3. Make a batch executable of the file available for download from the web page.
4. Study the graphing API to include the graph into the actual calculator.