Car-Hire Feasibility Study

The Project

Software for a Car Hire Company, which allows users to get a quick quote and choose a car for hire from a list of pictures on screen. The user enters when they want the car and when they tend to leave it back. If the car is unavailable the user will be asked to choose another car from the list. When the users are happy with their selection they go on to the next page showing the car details and then they enter their payment details. They summit these details, and a message comes up saying the car is booked.

Benefits

This software is specificity for the company Car Hire, it's designed for their needs and requirements. The users of this software, will be telesales people, who will be dealing with customers over the phone, it's designed in mind for staff who are not computer illiterate.

This is a simple tool, which allows access to a database, without actually going into the database, which has been found to be time consuming and complicated to users who aren't used to computers.

- The software is simple and easy to use
- Users have quick access to getting a quote
- User friendly
- Time saving

Scope

This software will be designed and developed to allow people to get a quick quote and select a car to hire, very quickly and easily without much fuss using a graphical user interface (GUI). This interface will be user friendly, allowing user to get a quote quickly and not much form filling.

When the user enters the information such as the date they wish to hire a car, the date they wish to return the car, then select the car they want, they should instantly get a quote, with details of the car, and a breakdown of the quote. The user then enters their personal details and bank details, and presses the summit button, which updates the database, the user gets a message that the car is booked.

Walkthrough Scenarios:

User:

- Easy access to the software
- Enter in information easily (by use of combo boxes)
- Select a car by clicking its picture on screen
- Press a button at end of page to get a quote
- If user is happy with the quote, fill in personal details and bank details, press summit button. If user is unhappy with quote, leave application by pressing end button.

System:

- Display in interactive screen to the user
- Take in information(dates) form Combo Boxes
- Display a selection of cars to the user, let user select one by clicking with mouse
- Check database if car is available for dates chosen. If not print to screen “select another car”
- Calculate a price for a quote
- Display a new page to user with the quote, this page should also have text boxes for personal information and bank details and a summit button or leave button,

- If the summit button is pressed the system will send updates to the database of any new hire dates added. Customer details such as name, address, Tel/email and bank details should be also added to database. The user will be sent a message that the car is booked.
- If the “leave” button is pressed, the application is ended.

Technical Requirements and Feasibility:

Equipment and Software

Equipment: Acer Laptop, HP Laptop

Software Editors:

Text pad: A simple editor that allows you to run java programs when a *Software Development kit (SDK)* is also installed

Eclipse: Eclipse is a Software Development Environment which has a set of tools to create, test and modify a program. Eclipse is an IDE that incorporates the development tools of the SDK into one convenient GUI-based program.

Software:

Java Our Source code will be written in Java (our version J2SE 6.0)

MySQL A backend database which stores the long term memory of data.

JDBC Java Database Connectivity will interconnect with our software and the database.

If there is sufficient time we will develop a website using:

JSP JavaServer Pages is a Java technology that helps software developers serve dynamically generated web pages based on HTML, XML, or other document types

HTML HyperText Markup Language is the main markup language for web pages. HTML elements are the basic building-blocks of webpages.

PHP Hypertext Processor is a server-side scripting language designed for use with HTML

System Model and Development Language

With this product will be design using UML diagrams and wrote with the Java programming language. One of the main reasons we will be using Java is because of its platform independence, which means simply that Java programs can be run on many different types of computers. This application will run on any computer with a *Java Runtime Environment*, also known as a *JRE*, installed. As we know JRE is available for every type of computer from PCs running any version of Windows, Macintosh computers, UNIX or Linux computers and even mobile phones.

Software APIs

The Java API that we will be using will have classes that will let us write data to files create windows or frame on-screen, retrieve information from a database. These API or libraries will be the JAVA Swing, JAVA AWT and JAVA SQL which are powerful toolkits and Model-View-Controller (MVC) systems.

Our program will also use the following java elements in our design.

- Methods (group of programming statements that is given a name)
- Primitive data types (numbers and characters)
- Arrays
- Loops

The GUI (Graphic User Interface)

- Frames and Panels
- Layout Managers
- ComboBoxes, Input boxes and buttons
- Components, events and listeners

Peristent storage:

In the early stages of the development of our application we will be using text files to store our data. Once our first version is functioning correctly, we will create and incorporate a database to replace the text files. A database using MySQL software will be used to store the details of car hire dates and details of customer personal and bank details. Our developed Java application using the

Technical Feasibility

Establishing the requirements

What Hardware and Software will we need to carry out this project is the first question we need to ask ourselves. The only Hardware we will need is our own laptops. And the software is the applications we already know or are currently studying. There is a couple we will have to learn such as JDBC (interacts with the software and MySQL) and JSP (interacts with the software and the website).

Creating a design

A software design indicates how a program will accomplish its requirements. The effort put into design is both crucial and cost-effective, because it will sort out any major problems in the beginning that may occur, saving both time and effort. The design will specify the classes and objects needed in our program and define how they will interact. It also specifies the relationship among the classes. During software design, alternatives need to be considered and explored. Often, the first attempt at a design is not the best solution. Fortunately, changes are relatively easy to make during the design stage.

Implementing the design

We expect the implementation of our design to take four weeks in total, from start to finish. The design will be broken up into stages, these stages will be done in one in text pad, accomplishing certain parts of the design. These elements will be imported into Eclipse, where the final design will be put together. Other JDBC classes will be imported into Eclipse, allowing us access to the MySQL database. If sufficient time is available we will develop a website using a variety software languages including html, Applets, PHP and JSP

Testing

When the software is finished, all elements will be tested. We have allowed a few days for problem solving and fixing any bugs in our system.

Desirable

If there is time within the deadline for the project, the client would wise to update the software by added the following changes:

- Vans and lorry's added
- More information added, such as petrol or diesel, calculated miles
- A log in number so user can check details of customer details

The client desires a website that will interact with the software and the database, if feasible within the budget and time available.