Software Requirements Specification

Travel Agent File Transfer Software

"The Journey project"

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I. INTRODUCTION

1.1 Purpose of this Document

This document is provided in order to ensure that the software we produce will be consistent with the needs of our client. It is a description of the project requirements that we have been provided with. Stating these requirements explicitly helps insure that any potential miscommunications are dealt with at an early stage, when the cost of implementing changes is still low.

This document is divided into several sections. The following section will present a general description of the product that we are working on. The focus will then be narrowed in the next section to deal with specific requirements. There will then be a section explaining the processes that we will employ to ensure the quality of our product. Finally, there will be a brief summary of the project.

We encourage our client to distribute this document among their travel agents and management in order to provide us with feedback. This will help us ensure that our end product fully meets their needs. This document will also be a useful resource for those who will be *upgrading* or *maintaining* the software after it has been completed.

1.2 Scope

A piece of software entitled “Journey” will be our ultimate product. This software will facilitate the work of travel agents by allowing them to connect to *remote servers* and transfer computer files to or from their own computers. These complex processes will be easily accomplished by means of an intuitiv% point-and-click interface. It will also allow the travel agents to set their computers to automatically transfer many large computer files overnight so that they will be available for perusal in the morning.

II. GENERAL DESCRIPTION

2.1 Product Description

2.1.1 Overview

This software will allow travel agents to eliminate the paper information brochures that they receive from tour companies by downloading electronic versions of these brochures directly from the computers of the tour companies. This will reduce paper costs and will also increase the accessibility of information that is stored at distant locations.

2.1.2 Transfer Capabilities

The travel agents will use our software to connect to pre-existing *remote servers* containing the required information files. The agents will then make use of a simple *graphical user interface* (GUI) to see what files are available on these *remote servers*, download the ones that they desire or upload additional files. If they wish, they will also be able to create a list of files that they would like to transfer automatically. This will enable them to transfer files to and from their computers overnight, in case the *transfer rate* is slow or the files that they wish to download are very large.

2.1.3 On-line Help

An on-line help system will be provided along with the software in order to serve as a reference and to help new users learn to use the program.

2.1.4 Setup Documentation

Documentation will be provided on how to install our software and how to access the more complete reference information available on the on-line help system.

2.2 User Characteristics

The travel agents who will be using our product will have a basic familiarity with personal computers and a working knowledge of systems with *graphical user interfaces*. The travel agents are not assumed to have any understanding of *networking* or file transfer methods. The only specific information the travel agents are required to have is the name of the server they wish to connect to, a login name, and a password if the *remote server's* security configuration demands it.

2.3 Operating Environment

The system is designed to run under X-Windows and Windows 9x/NT based computers. There must be a functional network linking the travel agents' computers and the tour company' servers. The travel agents' computers will be upgraded by the client to ensure that they will be capable of running our software. Considerations in this matter include a minimum resolution of 800x600 pixels and the ability to run Java v1.2 programs. The *remote servers* that the files will be downloaded from or uploaded to will be using any of the above *operating systems*, but will be assumed to be *running* the appropriate *server software* (which will be supplied by the client).

2.4 General Constraints

2.4.1 Language

The software will only operate in English.

2.4.2 Software

The software will be written and run using JDK 1.2.

2.4.3 Operating System

The software will be used on X-Windows or Windows 9x/NT based computers.

2.4.4 Communication Protocols

The *remote servers* from which files will be downloaded must be able to use at least one of the following communication protocols: *File Transfer Protocol, Telnet* or *Windows File Sharing.*

III. SPECIFIC REQUIREMENTS

3.1 Installation

3.1.1 Instructions on how to install the system shall be provided.
3.1.2 The system shall be provided with an installation mechanism.

3.2 Online Help

3.2.1 The system will have an online help facility.

3.3 Interface

3.3.1 The system will have an easy to use *graphical user interface* (GUI) to the user.
3.3.2 The GUI will provide feedback to the users.
3.3.3 The GUI will allow directory navigation on the travel agents' computers.
3.3.4 The GUI will allow directory navigation on the *remote servers*.
3.3.5 The GUI will allow file transfers.

3.4 Login Procedure

3.4.1 The system shall require users to enter the *host name* or *address* of the *remote server* they wish to connect to.
3.4.2 The system shall display an appropriate error message when unable to connect to a *remote server*.
3.4.1 The system shall require users to enter their *usernames* and *passwords* that they wish to use connecting when connecting to *remote servers.*
3.4.2 The *password* shall not be displayed on-screen when a user types it in.
3.4.3 The system shall display an appropriate error when a *username* or *password* are found to be incorrect by a *remote server.*
3.4.4 A list of the most recently accessed *remote servers* and the *usernames* used to access those servers will be available to users.

3.5 Protocol Determination

3.5.1 The system shall be capable of connecting to *remote servers* using any of the following *protocols*:
- *File Transfer Protocol*
- *Telnet*
- *Windows File Sharing*

3.5.2 The default will be to automatically determine which protocol to use when communicating with a *remote server*.
3.5.3 The system shall permit users to choose a specific *protocol* to use in connecting to a *remote server* if they wish.
3.5.4 The system shall display an appropriate error when a *remote server* cannot transfer files via supported *protocols*.

3.6 Directory Navigation

3.6.1 The system will display a list of files and directories in the current directory of the local computer.
3.6.2 The system shall display a list of files and directories in the current directory of any remote server that it is connected to.
3.6.3 The system shall display the following properties of each file and directory: name, date modified and size.
3.6.4 The system shall allow the user to sort the contents of a directory by name, date modified or size.
3.6.5 The system shall allow users to change the current directory.
3.6.6 The system shall allow users to select the default local current directory.
3.6.7 The system shall display an error if a user is not permitted access to local or remote files or directories.

3.7 File Transfer

3.7.1 The system shall permit users to select one or more files or directories from the current directories of the *remote server* or the local computer to be transferred.
3.7.2 The system shall allow users to choose to transfer selected items immediately or at a later time.
3.7.3 The system will display the items selected for transfer in a list ordered by priority.
3.7.4 The system will allow users to modify the list of items to transfer by removing them, adding them and reordering the list.
3.7.5 The system shall display the progress of the current transfer.
3.7.6 The system shall permit users to pause and resume transfers while they are in progress.
3.7.7 The system will transfer items from the local computer into the current folder on the *remote server*.
3.7.8 The system will transfer items from the *remote server* into the current folder on the local computer.
3.7.9 The system shall keep a log of items transferred.
3.7.10 The system shall display an error if unable to transfer an item.
3.7.11 The system shall attempt to continue processing pending transfers when an error occurs.

IV. REQUIREMENTS VALIDATION

4.1 Client Validation

We ask the client to review this requirements document and present it to its travel agents. This will ensure that our conception of the product is consistent with what is desired. We will appreciate any and all requests for additions or changes at this stage, as these will be much more costly to implement at later stages of the production process.

4.2 Testing

We will continually test our product at all stages of production in order to ensure that it is fully functional. This will include connecting to the *remote servers* and attempting to perform all of the operations that our program is required to perform. This will include transferring many different types of files to and from local computers and *remote servers.* Tests will also be performed to ensure that our program functions well when problems occur such as external interruptions in network connections, attempting to transfer files for which we do not have access and attempting to log in using incorrect login information. We will test that files can be transferred using all of the supported communications protocols. We will also ensure that our product functions under all of the supported *operating systems*. Essentially, we will attempt to do all of the things with our program that users will be able to do and we will make sure that it continues to function properly if it is used improperly or if external problems occur.

4.3 Prototyping

We will present the client with working prototypes of limited functionality at various stages of the production process. This will enable the client to be fully aware of our progress and provide useful feedback.

VI. CONCLUSION

It is our hope that this document will be the first part of a continuing series of interchanges between ourselves and our client. This will ensure that the needs of the client are met in a cheap and timely way. It will be important to involve the travel agents in this feedback process, as end-users such as they often have many unique insights that might not occur to software developers or people involved in management. This interchange will involve both information such as this document and prototypes of our product. The end result will be a product that is functional, reliable and easy to learn and use.

V. GLOSSARY

Compile = transforming information written in a language used by computer programmers to write software into information that is directly understandable to a computer.

Default Folder = a folder that a computer program automatically assumes will be the destination or source for files.

FTP = File Transfer Protocol. A standard way to transfer files between computers.

Graphical User Interface = an interface between the user and a piece of software that allows him or her to interact with the program using a mouse, windows, dialogue boxes, menus, buttons, etc.

Java Code = a language that programmers use to write software.

Linux = an *operating system* that is an alternative to Microsoft Windows.

Log File = a file that contains a list of actions performed by a computer.

Maintaining Software = the process of performing maintenance work on software in order to fix any problems that might arise.

Networking = connecting two or more computers together so that they can share information.

On-Line Help System = a reference on how to use our product that will be made available by choosing an item from a menu in our software.

Operating System = the software that allows computer programs to interact with each other and with the hardware of a computer. Examples include Linux (Red Hat, Debian, Corel etc), Unix, Microsoft Windows 95, Microsoft Windows 98, Microsoft Windows NT and many many others.

Remote Servers = computers at arbitrary locations that the users of our product will be able to connect to using telecommunications. These computers will hold the files that the travel agents will want to download.

Running = the process of using a particular piece of software.

Server Software = the software that enables computers to work as *remote servers.*

Telnet = accessing another computer by means of setting your computer to behave as if it were the other computer.

Transfer = to pass electronic data from one computer to another, either uploading (sending) or downloading (receiving) the data, usually utilizing networking technology.

Transfer Rate = the speed at which information is transferred from a *remote server* to a user's computer. This speed is determined by the telecommunications infrastructure involved as well as the hardware installed on the user's computer and at the *remote server*.

Upgrading Software = the process of creating a new version of a piece of software with increased functionality and/or improved performance.

Windows File Sharing = a means of transferring files that comes standard with Microsoft Windows.

X-Windows = an application for Unix and Linux which greatly aids in the creation and standardization of *graphical user interfaces*.