

GULLIVER - DISTRIBUTING IRISH TOURISM ELECTRONICALLY

BY PETER O'CONNOR, INSTITUT DE MANAGEMENT HOTELIER INTERNATIONAL (IMHI)
AND JOHN RAFFERTY, BORD FAILTE - THE IRISH TOURIST BOARD

ABSTRACT

The electronic distribution of tourism products continues to grow in importance. However, most distribution systems cannot list smaller suppliers because of their lack of homogeneity. The Gulliver project is an attempt to overcome this problem. Gulliver was developed by Bord Failte - the Irish Tourist Board - and the Northern Ireland Tourist Board to electronically distribute tourism information and provide reservation capabilities, with a particular focus on servicing smaller properties in the Irish tourism sector. However, the rapid pace of technological change have necessitated an upgrading and re-development of the project. A re-engineered Gulliver, based on state of the art technology has been launched and will provide a strategic advantage for Irish tourism suppliers.

INTRODUCTION

Electronic distribution systems play an increasingly important role in the tourism industry. Originally designed as an internal control tool to help manage the increasing complex inventory of seats following deregulation in the airline sector, they have developed into one of the most powerful tools available for tourism marketing. Systems are now available which allow the customer to search for information about and reserve not just airline seats, but hotel accommodation, car hire, bus, rail or ferry travel, package holidays and even flowers! The common tread throughout these products is their homogeneity. Any particular airline seat or rental car is, for the most part, the same as another, and existing systems basically distribute large inventories of near identical products. Where a product is not standardised, it is more problematic to include on distribution systems of this kind.

Ireland is an island nation, located on the north west edge of Europe. Irish tourism operations tend to be relatively small in comparison to their international counterparts (for example, over 85% of accommodation units in Ireland are SMEs with fewer than 30 rooms). Businesses tend to be owner-managed, are unlikely to be part of a chain or marketing consortium and are traditional and conservative in operation. As a result, individual properties tend to be very different, both in terms of style and facilities. In effect, their main selling point stems from the individuality of their product - uniqueness is their main attraction. This in effect makes the product practically impossible to include on distribution systems as it does not fit into any of the strictly defined inventory categories listed on the system. Furthermore, from a cost perspective, such properties cannot justify the high levels of commission and fees charged by the traditional distribution systems.

In line with international trends, Irish tourist operations generally make little use of information technology. Even the larger hotels have until comparatively recently operated purely manual systems, and today usage is mainly confined to the front office processing and food & beverage control functional areas. While this is in part due to cost factors, it can also be attributed to a considerable lack of awareness as to the benefits of the use of technology, and an overall tendency towards resistance to change.

Even though individual units are small, the tourism sector is extremely important to the Irish economy. In 1995 4.2 million people visited Ireland, giving rise to IR£1.5 billion in foreign earnings. Tourism formed 6.4% of GDP, and supported employment for 1 in every 13 Irish work-

ers. The government has in recent times been placing increasing emphasis on tourism, and has focused this through the use of strategic plans aimed at increasing both tourist numbers and yield. Increasing emphasis has also been placed on marketing, at unit, regional and national levels. One of the key initiatives in this overall growth programme is the Gulliver project.

GULLIVER - THE INITIAL SYSTEM

Gulliver was developed as a joint venture between Bord Failte Eireann (the Irish Tourist Board) and the Northern Ireland Tourist Board (NITB). Its primary goal is to be "the main channel of distribution for information and reservations on all major aspects of tourism in Ireland". The objectives of the system are twofold; to make it easier for a tourist to choose Ireland as a destination; and to improve visitor servicing while in Ireland. Rather than competing with other distribution systems (electronic or not), Gulliver sees itself as a facilitator, with its role being to define standards, remove communication barriers and reduce communication costs.

Funding for the project came from a variety of sources, including EU development grants (IR£2.9m), Bord Failte (IR£2.6m), International Fund for Ireland development grants (IR£1.6m) and the NITB (IR£1.5m). Development commenced in 1990, following a technical feasibility study. The basic technical structure chosen was that of a real time on-line system. Tourist offices accessed the system using dumb terminals connected via terminal servers and 9600 baud leased lines to MicroVAX minicomputers located in each of the Regional Tourism Organisation head offices. These were in turn connected using 64K leased lines to a Digital VAX 6320, on which the Gulliver system and its databases resided. The other major technical element of the system was a Minitel Videotext service, which provided a low cost method of allowing accommodation providers to keep their availability/prices dynamically updated on the system.

The initial service was piloted in early 1992, and following the correction of some initial problems and incorporation of user feedback, went on-line in August of 1992.

Conceptually, the system can be broken down into three parts.

1. The Gulliver Central System acts as the central processor and purveyor of data. Its prime role is to facilitate the distribution of the tourism products from the supplier to the customer by providing a flow of accurate, reliable and relevant information. The ultimate vision is that Gulliver will be the definitive repository of tourism information for all Ireland, north and south. Currently the information stored includes premises data (name, address, grid map reference, directions from the nearest town, a brief description, a list of facilities, services and local amenities) and more general.
2. The supply side of the system is composed of all suppliers of tourism services in Ireland. It must be pointed out that, unlike the majority of commercial electronic distribution services, Gulliver is designed to be comprehensive in its database of potential suppliers. Basic details of all Tourist Board

approved properties are included on the system. However, member properties get further benefits when they give an allocation of their product to the system. This is then available for sale electronically. This facility is the key to the successful use of the system, as it allows anyone accessing the system to immediately and instantly make a booking and receive confirmation electronically. Without an allocation, the purchaser must telephone the supplier to check availability and make the booking. In such cases, many of the benefits of using an electronic system in the first place are lost and thus preference is given to the former type of property. On the initial system; suppliers interacted with the central system in a variety of ways. Many used Minitel Videotext terminals to process their day-to-day transactions such as checking reservations/cancellations or modifying availability/rates. Interfaces were also developed for the two major Property Management Systems (PMS) in use by the Irish hotel industry. Suppliers who did not have access to either of these technologies contacted the Gulliver office by telephone to perform their « housekeeping » tasks.

3. The third component is the demand side, which is best viewed in terms of the various demand points on the distribution network. When fully developed, Gulliver was to provide information and reservations capability to a wide variety of different types of purchaser. Initially, these include the Regional Tourism Organisations and the Tourism Information Centres located throughout Ireland and which primarily service the tourist already in the country. The international market was to be serviced in three ways; through the Market Offices of the tourist boards located in key foreign markets; through the major Global Distribution Systems such as Galileo, Sabre, Apollo, and Worldspan; and through Videotext systems such as Minitel in France and Prestel in the UK. Longer term plans included making the system available on Automatic Teller Machine style self service units located at major tourism access sites such as at airports, transport terminals, on board ferries and in major shopping centres. From the point of view of the potential purchaser (be it an individual customer or a bulk purchaser such as a tour operator/travel agency), Gulliver set out to provide several key advantages. Users would have direct and instant access to the vast database of tourist information discussed above, containing up-to-date information about tourism services, events, attractions, places of interest and, of course, comprehensive information on accommodation providers. Electronic search facilities would allow them to quickly and easily find exactly the information they require. Lastly, electronic booking facilities would allow them to immediately check availability and rates, make their booking(s) and immediately receive confirmation. All of this could be achieved without the monetary and time costs associated with the traditional telephone/fax methods of searching for information/making reservations.

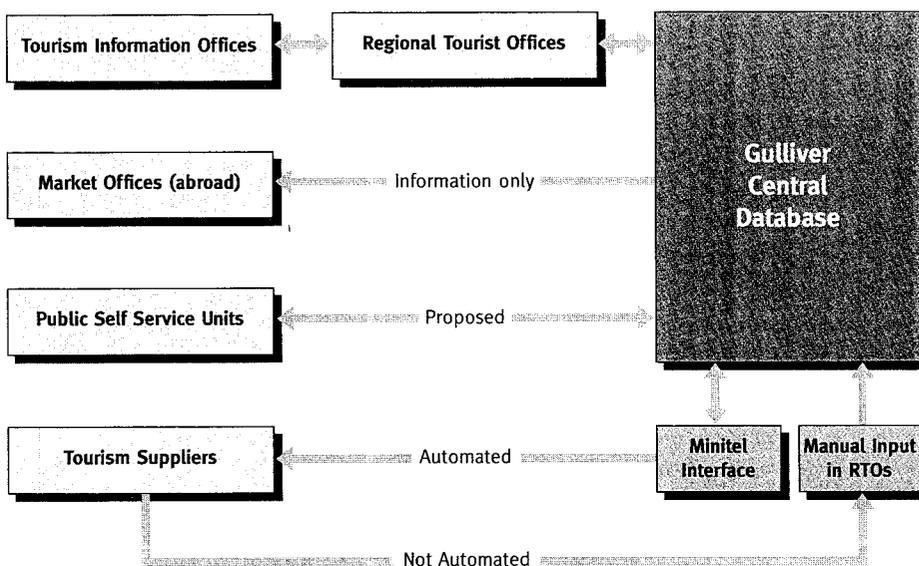


Figure 1
Gulliver's Original Design

The project was implemented on a phased basis. Stage one made information and reservations for serviced accommodation and a limited range of other tourist information available on a system accessible from the main tourist board offices. The next stage placed information/reservations facilities for non-serviced accommodation, car rental and cabin cruisers on the system, and broadened the range of « supplementary » information to include places to visit. The next phase planned to make Gulliver accessible to the general public through Minitel Ireland, international Videotext systems, an international airline CRS and some pilot self-service unit sites, and the final phase would have made Gulliver available on all the major GDSs and expanded the network of public self service units. However, a combination of factors, discussed in detail in the next section, caused a major rethink of future plans, and in particular of how the system should actually be technologically implemented.

REVIEW OF SYSTEM PERFORMANCE

In 1993, a system review identified some fundamental problems with the technological strategy being used. These can be summarised as follows;

1. The use of a centralised real time approach meant that extremely high levels of central computing power were required. All processing had to take place on the central system, which led to performance difficulties at peak times, particularly during the key summer season.
2. The use of dedicated leased lines as a communications medium resulted in very high telecommunications costs. In addition, the exclusive use of leased lines meant that entire sections of the system could be cut off in the event of line failure.
3. The combination of the performance difficulties and high communications costs made it difficult to justify the development of international distribution channels. However, such developments were critical to the success of the project as tourism numbers could only be increased by reaching tourists before they

came to Ireland using just such an international service.

4. The use of the French computer system Minitel to link suppliers with the central system also proved problematic. As was mentioned above, technology use among Irish tourism supplier was low, amounting in many cases to « technophobia ». As a result, a large scale and on-going training program was needed to teach suppliers how to use the service, thus further increasing costs. Cost also a factor in that many suppliers only used their Minitel terminals to access Gulliver, and thus the link was perceived as being expensive in relation to the benefits gained. These problems combined to make Minitel unpopular, particularly with the smaller operations at which, ironically, it was being targeted. Many choose to simply communicate with Gulliver via telephone or fax, which was ineffective as it meant that a large amount of manual work had to be done in the Regional Tourism Organisations to update information on the system, and also that information could only be updated during normal office hours.

The review made it clear that, from a technological point of view, a centralised on-line system was not appropriate to achieve the objectives of the project. A further more conceptual problem also became apparent at this time. Gulliver used a simple text based interface for both its suppliers and its demand points, in part to minimise the amount of data being transmitted over the system. Rapid developments in technologies such as multimedia and the World Wide Web meant that such an interface had become outdated. Given the marketing orientation of the system, the opportunity existed to provide a much richer user interface incorporating high quality images and graphics, sound and even video, thus enhanced the usefulness of Gulliver as a sales and marketing tool. The limitation, however, is that each of these enhancement has a requirement in terms of the volume of data which must be transmitted. As the existing system was

already overloaded at peak times, it was clear that it would not be capable of handling the increased work load.

A different approach was clearly needed. Examination of the data revealed an interesting statistic. Elements of the data stored about each supplier could clearly be divided into two categories; static data, which remains the same in the medium to long run and comprised the vast majority (approximately 90%) of the data; and dynamic data, which is basically limited to information about availability and rates. Based on this revelation, an alternative structure was proposed.

RE-ENGINEERING THE GULLIVER SYSTEM

Instead of having one central storage and processing resource, the Gulliver system has been redesigned as a distributed client server system which utilises state of the art communications technology (developed using Microsoft Windows NT 4.0 and SQL Server). Static data is accessed locally on personal computers located in the demand points, and users link to the central system only when they need to access dynamic data such as up-to date availability and rate information. This distributed approach means that both central processing requirements and communication costs are minimised.

The central system has been redesigned so that each transaction (such as, for example, bookings, cancellations, or changes in allocation and price) is processed using a series of electronic messages (in effect, a customised form of EDI) rather than through real-time on-line access. These electronic transactions are processed and a response transmitted, again using a predefined format, to the original remote computer.

In operation, this means that the seller first searches through the static data stored on his local PC or LAN when looking for a suitable property/service for a customer. Once a suitable one has been identified and the customer wishes to make a booking, the local system automatically accesses the central system using a router

and an ISDN line. A typical response time of less than eight seconds has been estimated once the client is connected. If the required services are available, the central system responds with a confirmation number which can immediately be given to the customer.

Specialised communications software has been developed for the demand side which enable remote sites to dial into the system and transmit any requests, collect the relevant responses and also collect updates to static database where relevant. Software has also been developed for the server side which uses tight security controls to prevent unauthorised access to the Gulliver central system, while at the same time enabling legitimate transactions to be processed quickly. The system is currently being enhanced to take messages which comply with the UNICORN standard, thus allowing the international tour operators to directly send bookings and cancellation requests to Gulliver and receive the relevant responses. A facility is also provided to connect via the international Sprint telecommunications network, which enables international purchasers to access the service by linking directly to their nearest Sprint node.

Similarly on the supply side, there has been a change in focus away from the videotext Minitel system towards a PC based solution. Once again, this allows suppliers to dial in and use the electronic messaging standard to collect reservations/cancellations and change availability/rates. Already, two large Irish marketing groups, which together represent over 2000 accommodation outlets, have successfully linked themselves to the new Gulliver system using this messaging approach. The software can be run as a stand-alone program, or can be incorporated into third party software, thus allowing it to link directly into Property Management Systems. An alternative communications method has also been developed for those suppliers who do not wish to use a PC based approach. This is centred around a fax machine and is aimed primarily at smaller premises with low levels of transactions. Pre-printed fax forms can be used to change allocations/rates. These are sent to the central system from a conventional fax machine, and are then optically scanned directly into Gulliver, converted into electronic transactions and processed. In the other direction, Gulliver replies by faxing each supplier to inform them of any reservations, amendments or cancellations.

In this way, smaller operations can have easy access to the basics of Gulliver with a minimum of technology.

The distributed database concept was initially tested using the international tour operators. A pilot group of seven key tour operators in the Irish marketplace (two in Ireland, four in the UK and one in France) was established to test the use of the new technology. The results of this pilot study indicated that the distributed approach worked efficiently and the task of converting the whole system to the client server architecture was undertaken. The Tourist Office version was used in Northern Ireland over the 1996 season, and is now being rolled out in the South of Ireland prior to the 1997 tourist season.

In December 1996, Gulliver was launched on the World Wide Web on the Tourism Brand Ireland Web Site (<http://www.Ireland.travel.ie>). Using state of the art technology, this allows potential customers anywhere in the world to directly find information about visiting Ireland. In effect, it give them instant access to an extremely comprehensive, interactive, multimedia brochure about Irish tourism goods and services.

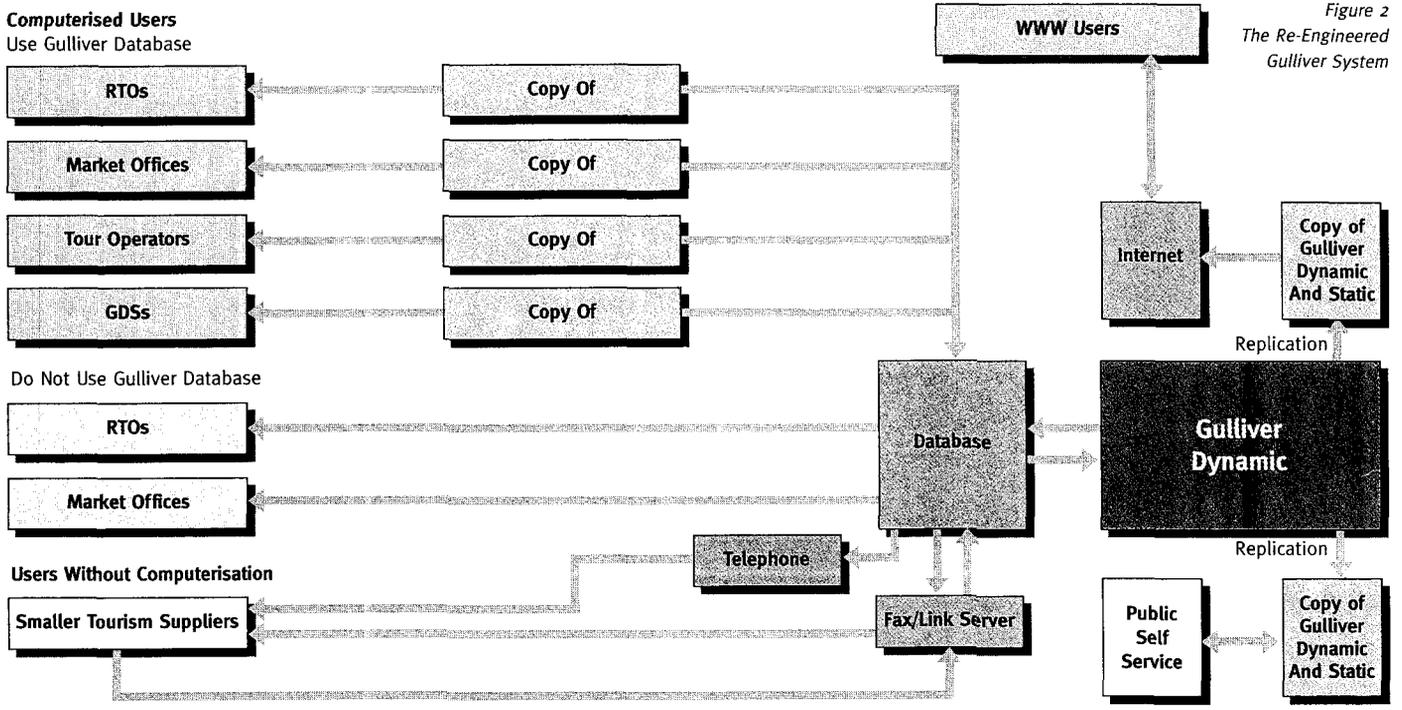


Figure 2
The Re-Engineered
Gulliver System

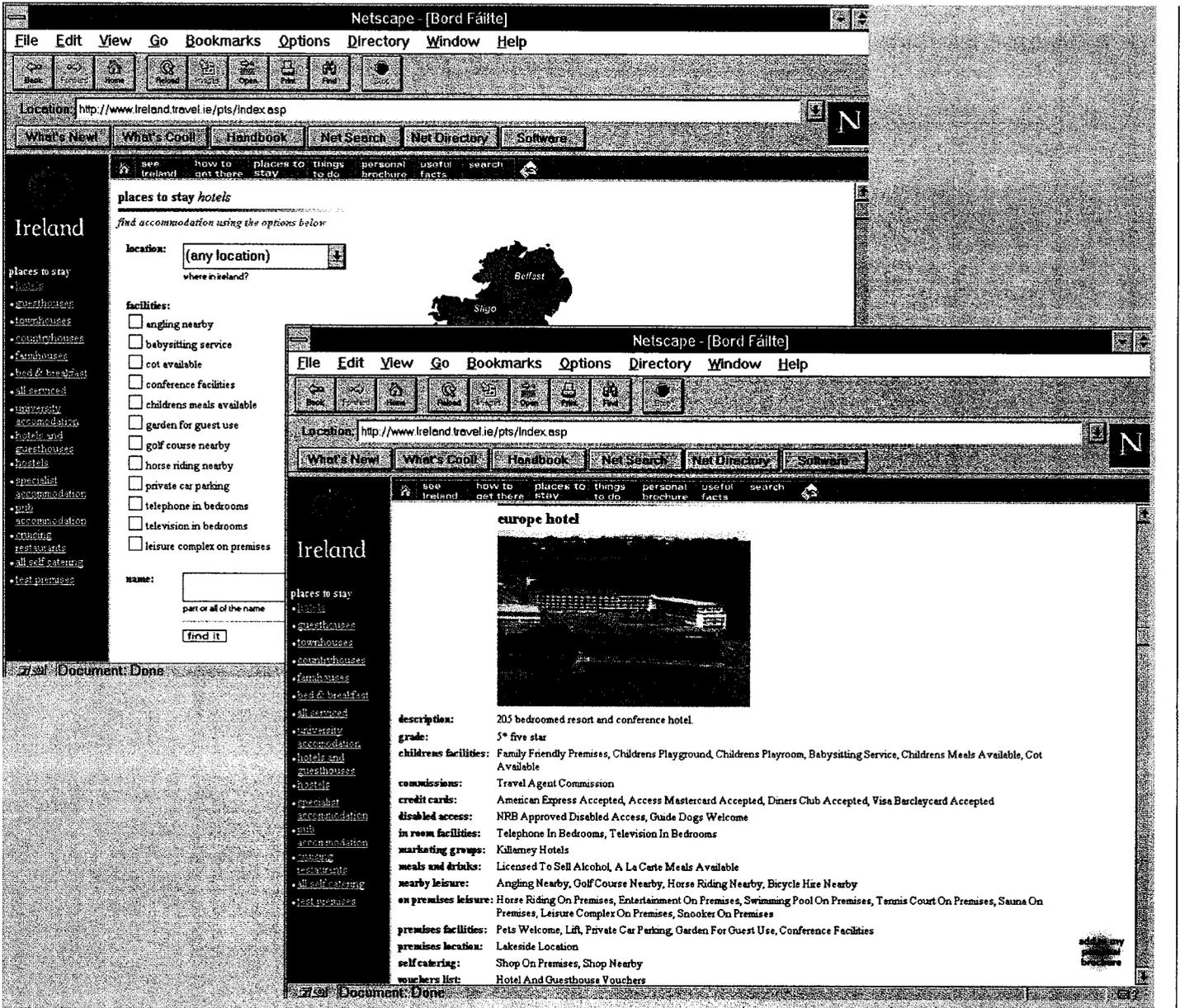


Figure 3
Sample Pages From The Irish
Tourism Web Site

The rear page shows an example of a form based search facility, which allows potential customers to search for properties with specified facilities. The front page shows an example of the type of data stored about each individual property. Notice the "Add to My Personal Brochure" button, which allows the user to create a personalised itinerary.

The information contained in the Gulliver database is used as the basis for the Web site. The information provided is very comprehensive, and includes sections on how to get to Ireland from different countries, on places to stay, things to do and on gen-

eral tourist information. People viewing the site can either use the hyperlinks to browse through the site and find the information they require, or can use a powerful form based search engines to find more specific data. The site also provides a very innovative facility which allows users to build up a "personal brochure" of accommodation providers, attractions and events etc., which can then be printed and used as a personalised guide to planning their visit. The site will shortly be further developed to allow it to accept bookings electronically, thus making it very easy for potential customers to organise their trip to Ireland.

FUTURE PLANS

Future plans for Gulliver concentrate on two main areas; increasing the number and variety of demand points; and increasing the quantity and quality of information available on the system.

Gulliver is currently available in the tourist offices within Ireland, and some of the overseas market offices. Using the new distributed client server approach, the remaining 19 overseas offices will be linked to the system to provide information services for potential clients in their respective markets. The system also forms a key component of the current rebranding/promotional campaign for Ireland as a tourism destination. All promotional materials will feature a localised freephone number, which will be automatically routed to a Irish based multilingual call handling centre. This, in turn, will use the Gulliver System as its core technology to handle customer enquires, check availability and make reservations. As was originally planned, ATM style Public Self Service units (which will utilise selected elements of the Gulliver system such as the static database, transaction processing facilities and credit card clearance) are also in development. However, these will now be operated by independent commercial companies who will create added value through advertising, multi-media and virtual reality facilities. As technology further develops, Gulliver is now poised to take advantage of appropriate opportunities to find new and innovative ways to distribute Irish tourism.

Similarly, moves are also in progress to improve the information content of Gulliver. The amount of « general » tourist information on the system has been and will continue to be broadened to include data such as a comprehensive calendar of events, listings of restaurants, well known pubs and nightlife, sports and leisure activities, suggested sightseeing itineraries, information on transportation schedules including bus and rail schedules, a five day weather forecast service and a route planning service with all data geo referenced to display exact locations.

Quality issues are also being addressed through the implementation of a quality control system linked with the regulatory function of the tourist board, which will help to insure the completeness and accuracy of the data in the system.

However, the most important question facing the future of Gulliver is that of ownership. Following a recent strategic review, Bord Failte intends to concentrate solely on the promotion of Ireland as a destination abroad. As a result, it has downsized considerably, and is outsourcing many of its non core activities. At the same time, the Gulliver project urgently needs additional resources to continue its development. To this end, Gulliver is now in the final stages of seeking a strategic partner which will provide both financial and technical input for the project. This partner will purchase a majority share holding in Gulliver, thus effectively taking the project into the private sector. This will allow the Gulliver team to take advantage of their innovative R&D, and make use of the experience which they gained by being an early entrant into the field of electronic distribution of tourism destinations. Its commercial focus will also future-proof the IT investment, and thus help insure the continued success of the Gulliver project.