ABSTRACT

O'MALLEY, KATHERINE ANNE. Systems Analysis and Design of an Interactive Marketing Tool for a Destinations' E-commerce Strategy. (Under the direction of Larry Gustke.)

This research investigated the decision-making and trip planning process of travelers. Data was collected via in-depth interviews of travelers and reviews of existing web sites for destinations. This problem was approached in a systematic way incorporating knowledge of tourism decision-making behavior, e-commerce in a general sense, and consumer behavior changes prompted by new technologies.

The outcome of this research is a generic trip-planning process framework and the proto-type design of an interactive marketing tool. This framework and proto-type tool can be used as a starting point by a destination to develop an interactive website for new and returning customers.

Systems Analysis and Design of an Interactive Marketing Tool
for a Destinations' E-commerce Strategy

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BIOGRAPHY

Katherine Anne O'Malley has a bachelor's in Information Systems from Kent State University. With over 10 years experience in the information technology field, it was a natural fit to combine her interest in travel and tourism with her programming experience.

TABLE OF CONTENTS

LIST OF TABLES **VII**

LIST OF FIGURES **VIII**

CHAPTER 1 - INTRODUCTION **1**

E-COMMERCE INDUSTRY **1**

DEFINITION OF E-COMMERCE 1

SIZE OF E-COMMERCE INDUSTRY 1

OPINIONS ABOUT E-COMMERCE 2

CUSTOMER OPINIONS ABOUT E-COMMERCE 2

SYSTEMATIC APPROACH **3**

CHAPTER 2 - RELATED E-COMMERCE LITERATURE **4**

SCOPE & SCALE **4**

GENERIC OVERVIEW OF E-COMMERCE 4

TOURISM OVERVIEW OF E-COMMERCE 10

CHAPTER 3 -DATA COLLECTION **18**

REVIEW OF WEB SITES **18**

DECISION MAKING PROCESS **22**

NEEDS 24

MOTIVES 24

DECISION TO TRAVEL 25

IDENTIFY CHOICE SETS 25

DESTINATION IMAGE 26

FINAL SELECTION 27

LACK OF INFORMATION 28

DECISION AND PROCESS 28

SUMMARY OF DATA 30

INITIAL CHOICE SET SELECTION 31

EVALUATION OF INITIAL CHOICE SET 36

DESTINATION IMAGE 38

FAMILY MEMBER INFLUENCE 40

DECISION MAKING PROCESS VARY? 41

INTERACTIVE TOOL 41

CONCLUSION 43

CHAPTER 4 - RESULTS AND DISCUSSION 44

INTRODUCTION 44

PROCESS MODELING 44

CONTEXT DFD 45

LEVEL-0 DFD 46

CURRENT PHYSICAL SYSTEM DFDS 49

LOGICAL DFD 49

DESCRIPTIONS OF EACH DFD COMPONENT 49

DATA MODELING 49

INTERFACE 50

SCREENSHOTS AND DESCRIPTIONS OF PROTOTYPE TOOL 53

INTRODUCTION 53

MAIN PAGE 53

OVERVIEW PAGE 55

PLAN TRIP (STARTING PAGE) 57

EXPRESS TRIP 59

CUSTOM TRIP (START PAGE) 61

ATTRACTIONS 63

LODGING 65

FOOD 67

TRAVEL ARRANGEMENTS 69

PRICE/AVAILABILITY 71

SUMMARY REPORT 73

COMPARE ME 76

ON THE GO 76

CONTACT 76

HOW SITE WAS CREATED 77

CONCLUSION 77

LIMITATIONS OF THE SITE 78

FUTURE VERSIONS 80

CONCLUSION **81**

REFERENCES **84**

APPENDICES **87**

APPENDIX A: INTERVIEW QUESTIONS **88**

APPENDIX B: TECHNICAL TERMS **93**

List of Tables

Table 1: Worldwide Number of Mobile Users And Consumers, 2001 ..... *8*

Table 2: US Mobile Commerce Revenues, 2001 – 2007 ..... *9*

Table 3: Obstacles Preventing Consumers From Adopting mCommerce *10*

Table 4 - List of Websites Reviewed *18*

Table 5: Demographic Information *31*

Table 6: Influencers on Decision Making Process *36*

Table 7: Attributes Looked for in a Destination *38*

Table 8: Factors Influencing Positive Image of a Destination *40*

List of Figures

Figure 1: General Trip Planning Process *23*

Figure 2: Context DFD of Travel Decision Making System *46*

Figure 3: Level 0 DFD of Travel Decision Making System *48*

Figure 4: Dialogue Diagram *52*

Figure 5: Main Page *54*

Figure 6: Overview Page *56*

Figure 7: Plan Trip *58*

Figure 8: Express Trip *60*

Figure 9: Detailed Planner *62*

Figure 10: Attractions *64*

Figure 11: Lodging *66*

Figure 12: Food *68*

Figure 13: Travel Arrangements *70*

Figure 14: Price and Availability *72*

Figure 15: Summary Report *74*

Figure 16: Detailed Report *75*

Chapter 1 - Introduction

E-commerce Industry

Definition of E-Commerce

E-commerce is defined in a broad sense by the Organization for Economic Co-operation and Development (OECD) as: “An electronic transaction is the sale or purchase of goods or services, whether between businesses, households, individuals, governments, and other public or private organizations, conducted over computer- mediated networks. The goods and services are ordered over those networks, but the payment and the ultimate delivery of the good or service may be conducted on or off- line” (OCED, 2001). Westland and Clark used a similar broad definition: "Electronic commerce—or e-commerce—is the automation of commercial transactions using computer and communications technologies” (1999).

Size of E-commerce Industry

According to ODEC estimates, in the United States for Q2 2001 just under 7.5 billion dollars in retail sales were made over the Internet (OCED, 2001). There are numerous statistics showing that sales over the Internet are just a small percentage of overall revenues. The implications are that the e-commerce generated revenue can grow beyond the current statistics. In a report “Global Online Retailing An Ernst & Young Special Report 2000”, a survey showed that more than three out of four consumers worldwide who haven’t yet

bought a single item online say planned to in the year 2000. They each anticipate making three or four purchases on the Internet in year 2000 (Ernest & Young, 2000).

According to the TIA report E-Travel Consumers: How They Plan and Book Leisure Travel Online, "24% of travelers say that they find Internet web sites most useful for planning travel (TIA, 2000). Online leisure travel planners, or E-travel consumers, tend to be heavy travelers who use the Internet about 16 hours per week. A majority (66%) do more than half of all trip planning online." (TIA, 2000).

Opinions about E-commerce

In a recent article, Peter Drucker wrote that only now, with the explosive emergence of e-commerce as a sales channel for products and services, is "the truly revolutionary impact of the Information Revolution beginning to be felt." Like the railroad, e-commerce is "totally new, totally unprecedented, totally unexpected" (Ernest & Young, 2000). In the tourism academic world, Gretzel, Yuan, and Fesenmaier say the web can "offer a powerful combination of 2-way interactivity, seamless transactions, addressability, on demand availability and customization" (2000).

Customer Opinions about E-commerce

In the Ernst and Young survey, E-shoppers universally cited three attributes of their favorite Web sites: good product selection, competitive prices, and ease of use (2000). E-shoppers say they'd like wider product selections, faster shipping, more product information, toll-free phone support, an assurance of personal privacy, and a faster shopping process

(Ernest & Young, 2000). Concerns about privacy and security on the Internet are cited in multiple sources.

Academic research regarding customers barriers to e-commerce use cite perceived disorientation (getting lost in the site) (Ahuja, Webster, 2001), knowing where to find information and poor quality of information or broken links. The emergence of portals in the IT industry is one solution that is trying to solve the "where am I" and single-source customer issues.

Systematic Approach

The intent of this research is to create an interactive marketing tool that can be used by a destination as part of their e-commerce strategy. This problem will be approached in a systematic way incorporating knowledge of tourism decision-making behavior, e-commerce in a general sense, and consumer behavior changes prompted by new technologies. This systematic approach will include three phases of the typical four phases of the system development life cycle. Refer to the appendix for a definition of technical terms related to the system development life cycle. The first phase, systems planning and selection, is covered in chapter two. Chapter two will also identify why an e-commerce strategy is important for tourism suppliers. The systems analysis phase will be covered in chapter three. Chapter three will review the pros and cons of existing tourism web sites. Chapter three will also identify a generic trip-planning framework that will be evaluated in more depth during the qualitative interviews. The systems design phase, actual conversion of the systems analysis results into a logical design, will be covered in chapter four.

Chapter 2 - Related e-commerce literature

Scope & Scale

Generic overview of e-commerce

The definition of electronic commerce (e-commerce) is multi-faceted and ever changing as technology evolves and extends the limit of what is possible. Definitions tend to be broad in order to encompass all possibilities of this technology. Armstong, CEO of AT&T, when asked to define e-commerce said: “Precisely because it is so difficult to predict the development of the Internet, I believe the best definition of e-commerce is therefore the broadest definition: any transaction over the Internet involving the transfer of goods, services, or information, or any intermediary function, which helps enable those transactions” (2000). Westland and Clark used a similar broad definition: "Electronic commerce—or e-commerce—is the automation of commercial transactions using computer and communications technologies” (1999). Block and Segev defined e-commerce as “"the buying and selling of information, products, and services via computer networks" (1996). These definitions imply that computer networks are a part of e-commerce but do not limit the definition of e-commerce to just computers thus acknowledging the reality that e-commerce can and will be conducted by mobile devices (sometimes referred to as m-commerce). E-commerce can also be considered: a strategy, a technology, a system and a sales approach (Cunningham, 2000).

The drivers of e-commerce from a business perspective are: customer empowerment, one-to-one marketing, competitive necessities, competitive advantages, global competition,

and branding (Rajput, 2000). "The pressure of global competition and the demands from customers have forced organizations to rethink the way they compete simultaneously on price, quality, delivery lead time and reliability" (Tang, Shee, and Tang, 2001). This global competition means companies must be more nimble and willing to reengineer business processes to fit the company's missions and strategies. Khalil and Wang reinforce this: "The ability to learn, collaborate, and innovate faster than one competitors is possibly becoming the only sustainable source of competitive advantage in the knowledge-based economy" (2002). E-commerce facilitates business process reengineering (Tang et al., 2001) and empowers "enterprises to embrace appropriate business propositions that will further their missions and objectives" (Rajput, 2000).

The propositions that e-commerce can enhance are: 1) customer-oriented propositions, 2) organizational efficiencies, and 3) revenue generation (Rajput, 2000). The customer-oriented proposition means addressing an individuals needs versus an aggregate need, increasing customer activation by building brand awareness and customer relationships, and retaining customers by offering value-added and differentiating services to repeat buyers (Rajput, 2000). Several authors acknowledge that e-commerce facilitates product customization especially for complex products not well suited to mass offering (Westland and Clark, 1999; Cunningham, 2000; Kiang, Raghu, and Shang, 2000). Eliminating time and geography components of information gathering (Westland and Clark, 1999) also facilitates growing the customer base (Cunningham, 2000).

The organizational efficiencies include streamlining core business and intrabusiness processes and effective knowledge management (Rajput, 2000). This may include "single-point keying to reduce errors and cycle time" and "allowing customer interaction with

databases at very low marginal cost" (Westland and Clark, 1999). Knowledge management means retaining knowledge about customers and business methods in a manner that can be used by all employees who need the information as part of their job.

Revenue generation includes advertising, facilitating payments so the product can be purchased anytime and anywhere, and organizational alliances (Rajput, 2000). An organizational alliance (or virtual organization) is inseparably tied to e-commerce (Khalil and Wang, 2002). Khalil and Wang define a virtual organization as "groups of independent firms that link together and form a single temporary company. It operates as a federated collection of firms tied together through contractual and other means" (2002).

An e-commerce model would encompass many pieces including but not limited to: web site, business practices and methodologies and electronic business processes. The three possible modes of electronic commerce are via the Internet, the intranet or via the extranet. In the Intranet and extranet modes, most of the variables regarding the systems are known or controllable (Valacich, George and Hoffer, 2001). For example, the users of the system, the methods of connecting to the system, and the connection speeds are all known quantities (Valacich et al., 2001). In the Internet mode, these same variables become unknown and uncontrollable (Valacich et al., 2001). Who is connecting to the system, how are they trying to use it, what are they connecting with (web-enabled phone, PDA, computer) all become variables.

Statistics on Internet usage, and sales of mobile devices help underscore the significance that e-commerce will have on future consumer behavior. According to International Data Corporation (IDC), worldwide e-commerce spending grew 68 percent between 2000 and 2001, reaching more than $600 billion in 2001 (Pastore, 2001). E-

commerce spending will top $1 trillion by 2002 (Pastore, 2001). Spending is the amount that businesses are investing in their e-commerce strategy. These dollars are warranted by the following statistics regarding consumer e-commerce purchases.

“According to the study "How America Shops 2002, The Overstuffed Consumer," by WSL Strategic Retail, 24 percent of shoppers surveyed used the Internet for shopping in 2001, up from 10 percent in 2000 and 5 percent in 1998” (Pastore, 2001). IDC forecasts that the number of users buying online will rise from 31 million in 1999 to more than 183 million in 2003 **(**Machlis, 1999**).** By 2003, U.S.-based users should account for less than half of all Internet commerce, compared with 74% in 1999 **(**Machlis, 1999). These numbers are significant as they imply that e-commerce can grow a business customer base at global level. If the number of online shoppers rising increases but the percentage of US-based Internet shoppers decreases, this implies the number of global Internet shoppers is on the rise.

According to a Gartner Dataquest report the sale of PDAs grew 8.6 between 2000 and 2001 from 5999 to 6515 thousands of units shipped (e-paynews.com, 2002). Table 1 details the number of mobile users and mobile consumers on a worldwide regional basis (e-paynews.com, 2002). "Mobile Consumers are defined as individuals over the age of 15 who currently use or plan to acquire mobile IT products or services within the next 12 months primarily for personal, as opposed to work-related usage” (www.researchportal.com/home/user_definitions.htm). “Mobile Users” consists of both “Mobile Professionals” (whose usage will be work related) and “Mobile Consumers” (www.researchportal.com/home/user_definitions.htm). “Mobile” refers to any web-enabled device including PDAs, web-enabled phone and web-enabled pagers. These numbers are expected to rise.

Table 1: Worldwide Number of Mobile Users And Consumers, 2001

Region	Mobile Users	Mobile Consumers
Africa	4,900,001	1,650,000
Asia-Pacific	206,500,000	131,750,000
Europe	68,850,000	39,350,000
Central/South America	18,250,000	11,850,000
North America	133,290,000	86,790,000
Australia	5,250,000	3,100,000
Former USSR	11,191,500	8,191,500
World	448,231,500	282,681,500
Source: ResearchPortal.com, via CyberAtlas at http://www.epaynews.com/statistics/mcommstats.html		

Table 2 details the US revenues expected from mobile commerce revenues growing from $127 million USD in year 2001 to $58.4 billion in year 2007 (epaynews.com, 2002).

Table 2: US Mobile Commerce Revenues, 2001 – 2007

Year	**Total(USD)**
2001	127 million
2002	616 million
2003	2.1 billion
2004	5.7 billion
2005	13.1 billion
2006	29.0 billion
2007	58.4 billion
Sources: IDC and Jupiter Media Metrix at http://www.epaynews.com/statistics/mcommstats.html	

Table 3 details some of the current obstacles that prevent consumers from using mobile devices for buying purposes (epaynews.com, 2002). If businesses supplying e-commerce opportunities to their consumers could over come these obstacles than the business' percentage of the e-commerce revenue would increase in comparison to their competitors.

Table 3: Obstacles Preventing Consumers From Adopting mCommerce

Obstacle	Phones	PDAs
Credit card security concerns	52%	47%
Fear of 'klunky' user experience	35%	31%
Don't understand how it would work	16%	16%
Other	11%	13%
Never heard of it before	10%	12%
Source: Forrester Research at http://www.epaynews.com/statistics/mcommstats.html		

The benefit of e-commerce and the value it provides to a business signifies the importance e-commerce has in business strategies. The increase in on-line users and the effect this phenomenon will have on consumer behavior suggests that consumers will drive businesses to embrace e-commerce as a competitive advantage.

Tourism overview of e-commerce

E-commerce and the Internet are, in many ways, particularly well suited to the tourism industry. E-commerce facilitates for tourist industry three important strategies: customer focus strategy, product leadership strategy, and a cost advantage strategy (Bloch and Segev, 1996).

The customer focus strategy is analogous to Rajput's customer-oriented proposition for generic e-commerce. Customization is an important part of the tourism product. The "postmodern" tourist has been shown to compare more products in more detail and have "fast

changing needs" as well as belong to different niches at the same time (Werthner, 1999). So, traditional means of communicating information about a product (e.g. brochures, mass advertising) may not maximize efficiently customer service to this ever-changing, hard-to-segment consumer. The web can "offer a powerful combination of 2-way interactivity, seamless transactions, addressability, on demand availability and customization" (Gretzel, Yuan, and Fesenmaier, 2000). In other words, a web site could interactively redesign its presentation of material based on user attributes, similar to the "my home page" qualities of many web sites. Buhalis emphasizes that "IT enables consumers to seek for information as well as construct and purchase individual itineraries on-line, and thus it revolutionized destination marketing" (2000). This personalized form of communication has obvious advantages over traditional media's one-way mass communication (Gretzel et al, 2000).

Customer activation can be achieved by building customer relationships and brand awareness. Reducing the time and geography factor for tourists seeking information is important. "The sophisticated and wired traveler" expects destinations to "provide timely, appropriate and accurate information" (Fesenmaier, Klein and Buhalis, 2000). Sheldon support this with his view of information technology enabling a destination marketing organization to "improve the accessibility, the accuracy, the comprehensiveness, the timeliness and the quality of information on the destinations facilities and thereby improve the quality of service provided" (1997).

Technology can also be used to save information about customers including both travel preferences (e.g. non-smoking room, babysitters on-site) and web preferences (e.g. Spanish translations, large high-contrast fonts). Information collected about the user can be

used to further target market the customer with either existing tourism products that they have not yet experienced or with tourism products reinvented specifically for their needs.

Building brand awareness is another component of the customer-oriented proposition. "Increasingly, new, experienced, sophisticated, demanding travelers seek information about more exotic destination and authentic experiences, as well as the requirement to interact with suppliers in order to satisfy their specific needs and wishes" (Buhalis, 1998). The travelers want to decide what is in their choice set rather than letting ignorance determine their choice set. "Ultimately, prospective tourists will be able to browse through the Internet and identify a rich variety of offers in order to make travel choices suited to their personal requirements" (Buhalis, 1998).

Customer retention after a visit is another piece of the customer focused strategy. Determining whether a previous inquiry resulted in a visit is still an issue in the new media as it is in the traditional media. A benefit of the new interactive media is the question can be asked "Have you visited us before, if so when" when a customer utilizes the system. Disney's web site does this and then provides a "what has changed, what is new" section for repeat customers. This is a value-added, differentiating service as it gives the traveler an idea of things they may want to add to their itinerary on the next trip instead of attempting to educate them on pieces of the product they have already experienced.

From a product leadership strategy, the customer empowerment detailed above will be integral. Since customers expect service when they want it (twenty-four hours a day, 7 days a week, 365 days a year), tourism suppliers will need to eliminate the time and geography constraints for users seeking information. Tourism suppliers who are at the forefront of effectively utilizing new technologies will have a competitive advantage over

other suppliers who are relying on traditional means of interacting with customers. Bloch, Pigneur and Segev detail the competitive advantages that can be gained in the travel industry by using e-commerce. The competitive advantages include: differentiation through price and product innovations, reduced time to market and increased customer service (Bloch, Pigneur and Segev, 1996). For example, traditional media is limited in its ability to portray the many intangible attributes of the tourism product. Multi-media, and in some instances virtual reality, could be used as part of the e-commerce strategy to set expectations of some of the intangible attributes of a destination and control pre-trip destination image.

From a cost advantage strategy, the industry can promote products in a "cheaper and more interactive way" (Bloch and Segev, 1996). An added advantage of new media (web) is there is not a trade-off between richness and reach that is found in traditional media (Gretzel et al. 2000). Richness is defined as the quality of the information (accuracy, customization, and relevance), while reach is the number of people who share in the information (Gretzel et al., 2000). Information that is distributed in an electronic format can be both easily modified and distributed which eliminates the cost of reprinting traditional media such as brochures.

This new media includes the use of hypertext links, which can influence decision behavior by the presentation of information. Decision behavior can be altered by changes in way information is accessed or displayed (Ramarapu, Frolick, Wilkes and Wetherbe, 1997). Hypertext-links enable new associations that have been shown to "facilitate remembering, concept formulation, understanding and superior problem solving" (Fesenmaier et al., 2000). Rather than a forcing a user to receive information in a linear format – here is the lodging information, here is the event information, here is the cultural information – a web page can be designed to allow the free-flow of information (Ramarapu et al., 1997). One reason

hypertext associations are important is that it allows the information processing to occur in a manner that the mind is expecting information so the mind accepts, rather than rejects, the information (Ramarapu et al., 1997). This can be tied to a cost advantage strategy since the user may no longer require personnel intervention to understand the intricacies of the tourism product.

Statistics indicate that the tourism industry is impacted by the increase in Internet usage and e-commerce. The Travel Industry Association (TIA) report "Travelers Use of the Internet" indicates that the Internet is becoming a prevalent piece of travelers' consumer behavior. "Studies show that 90 million travelers are online and over 59 million used the Internet to make travel plans in 2000. Among online frequent travelers, 69 percent use the Internet for travel planning. Use of the Internet to actually book travel continues to increase, with 27 percent of all travelers now online having made travel reservations on the Internet during the past year. That translates to nearly 25 million people, up nearly 60 percent over 1999. Of these, 15 million are frequent travelers" (TIA, 2000). This indicates that the Internet is a valid distribution channel for the tourism industry.

"Online leisure travel planners, or E-travel consumers, tend to be heavy travelers who use the Internet about 16 hours per week. A majority (66%) do more than half of all trip planning online. What types of leisure trips are planned online? These trips are often for entertainment/vacation purposes (37%) or to visit friends and relatives (34%). Many trips planned online are taken by car (46%) or by air (41%). Over half (59%) of these trips include a hotel/motel/B&B stay. The most popular elements of online trip planning are searching for maps/driving directions (60%), searching for lodging (53%), searching for things to do at the destination (45%), and searching for airfares/schedules (41%). Six in ten online planners also

have booked travel online at least once in the past year. Those who book leisure travel on the Internet spend an average of $2,146 per year online for travel products and services. (Source: E-Travel Consumers: How They Plan and Book Leisure Travel Online)" (TIA, 2000). These statistics support Buhalis statement about travelers using the Internet to determine their destination choices.

"Online booking of travel products/services is also popular among online travelers. Of travel products/services purchased online last year, 82 percent of travelers bought airline tickets (20 million people), 60 percent booked hotel accommodations (15 million people), 45 percent booked rental cars and 31 percent theatre tickets. Smaller numbers of online travelers also bought things like sporting events tickets, package tours, amusement park tickets and museum tickets online for their trips within the past year" (TIA, 2000). This demonstrates that e-commerce can and will have a significant impact on the tourism industry. Those tourism suppliers who are able to successfully integrate e-commerce into their strategies will have a competitive advantage over those tourism suppliers who rely on non e-commerce methods.

"Staying wired while traveling is important to business and pleasure travelers. In 2000, six in ten (62%) of the 36.0 million business travelers over the past year brought their cellular phone with them on a business trip. Three in ten (30%) brought a pager; 21 percent brought a laptop computer. A few (6%) brought a handheld personal digital assistant with them on at least one business trip. Pleasure travelers are only slightly less likely than business travelers to want to stay connected while away from home. Nearly half (47%) brought a cellular phone; 15 percent brought their pager. Some brought a laptop computer (8%) and/or a handheld personal digital assistant (3%). The increased usage of the Internet and the

popularity of e-mail as a form of communication is evident among many travelers, as 34 percent of business travelers used the Internet or e-mail while on a business or convention trip in the past year, compared to 22 percent of pleasure travelers. (Source: Travelers Use of the Internet, 2000)" (TIA, 2000). This shows that the e-commerce strategy of a business must cater not only to customers planning a trip but also to customers already at the destination. As technology advances, it is likely that traveler will expect to user their mobile device while on a trip to get up-to-the minute information (e.g. schedules, directions, menus).

"Travel Information comes from a variety of sources, but friends and relatives are the number one source for information about places to visit or about flights, hotels or rental cars (43%). Travel agents are the second most popular source of travel information (39%) and travel companies such as airlines, hotels or rental car companies were third (32%). One in five past year travelers (21%) contacted a city, state or country's tourism office to get information about a destination that they planned to visit or about flights, hotels or other travel services in the past five years. This equates to 33 million U.S. adult travelers. Contacts with travel agents, tourism offices and travel companies include visits to the web sites of these organizations. In total, 19 percent of travelers visited a web site to obtain travel information in the past five years" (TIA, 2000). Cost advantages can be seen from these statistics for a tourism supplier. Direct contact transactions are known to be more costly than automated transactions (e.g. downloading information from a destination web site is economically cheaper for the supplier than providing human interaction). As the use of the Internet among travelers increases, a web pretense will factor into cost savings for the supplier. Virtual alliances via e-commence could also be used to capitalize on the influence that travel agents and travel companies have on a traveler's image of a destination.

"Travel Media Usage...Half of all U.S. adults (101.9 million) say that they use the travel media - everything from newspaper travel sections and television travel shows to online newsletters - to plan their vacations. Twenty-eight percent say they used newspaper travel sections to plan their travel in the past year, 21% used an Internet web site for their travel planning and 21% used television travel shows such as CNN Travel Guide. However, when travelers who use more than one travel medium were asked which travel medium is *most useful* to them, 24% say that they find Internet web sites most useful, followed by newspaper travel sections and television travel shows. Half of travel media users (50%) say they read, watch or listen to travel media at least once a month or once a week. About one third (31%) of travelers have decided to visit a travel destination because of information that they saw or read in the travel media." (TIA, 2000). If the Internet web sites are the most useful source of information as these statistics indicate, then tourism suppliers should factor this into their mission and objectives.

The objective of this thesis is to create an interactive marketing tool that would be used by a tourism supplier via the Web as part of an e-commerce strategy. This tool will be created using a proven systems analysis and design methodology as specified by Valacich, George and Hoffer in "Essentials of Systems Analysis & Design" (2001). Their methodology follows the systems development life cycle (SDLC) which consists of four major phases: 1) planning and selection, 2) analysis, 3) design, and 4) implementation and operation. Other methodologies for systems analysis and design exist. Most analysis and design methodologies follow similar phases but may vary in terms of the number of phases and the tasks completed in each phase.

Chapter 3 -Data Collection

Review of Web Sites

A review of web sites related to the tourism industry was performed to determine the scope of existing e-commerce enabled tourism websites. The review included two generic (non-destination specific) websites, one attraction or supplier specific website, and several destination specific web sites. These sites were chosen based on either: recommendations from computer "power-users" who have used the Internet for travel research, or first-hand knowledge of the web site as a significant presence in travel research. The web sites reviewed are listed in table 4.

Table 4 - List of Websites Reviewed

Web Site Name	Web Site Address
Yahoo	travel.yahoo.com
Travelocity	www.travelocity.com
Disney	www.disney.com
Savannah, Georgia	www.SavannahVisit.com
Oregon	www.traveloregon.com/vacation.cfm
Australia	www.clickforautralia.com

Web sites have been shown to fall into several classifications (Kowtha, Whai Ip Choon, 2001). The classifications range from 1st generation web sites (home page, who are we) through 5th generation (delivery platform expansion, individualization) (Kowtha, Whai Ip Choon, 2001). The web sites reviewed below were included because they fit the higher

end of the web site classification scheme. Web sites that were merely "home pages" or static (non-interactive) were excluded from this review.

The generic sites reviewed were Yahoo (travel.yahoo.com) and Travelocity (www.travelocity.com). Both sites fall under the category of "e-commerce" enabled. As indicated in chapter one, an e-commerce enabled site from a customer perspective should: allow for customization of the product, build customer awareness of the product, create customer relationships, and allow for business transactions to be conducted via the site.

Both Yahoo and Travelocity are interactive sites that gather information about the user and then customize the product based on user preferences and needs. The customer can even book certain packages via these sites. The Yahoo site allows the user to choose a specific destination and type of travel (business or getaway). The user can save the suggested vacations, compare vacations and even email the suggested vacations to others. The drawback of the Yahoo site is it can be overwhelming to navigate. With so many choices and customization available, the user can get lost in the site rather than finding the information they desire. Yahoo is geared towards giving the user an idea of where they might want to go rather than being a detailed trip-planning tool. Travelocity provided three means of initial interaction: "express destination", "someplace similar" and "destination check". Drilling-down into these categories then allowed the user to further specify desired attributes within set categories. Travelocity assigns a score to each potential destination based on user's specified preferences. Travelocity is easier to navigate than the Yahoo site. However, its major drawback is that it does not always drill-down enough. Based on criteria entered, it gave North Carolina as a destination that scored high on meeting the criteria.

Further research in addition to the Travelocity site would need done in order to determine exactly how to meet the criteria within North Carolina.

Disney's site (www.disney.com) was the attraction specific website reviewed. It meets the definition of e-commerce because it is interactive, enables transactions to take place, and customizes the product based on user requirements. By answering two minutes worth of questions, a "vacation package summary" is given with suggested itineraries, packages, resort recommendations and special events. By viewing a multi-media video tour of the Disney experience, the user gets a sense of telepresense and an understanding of some of the intangible attributes of the Disney product. One expected limitation of the attraction-specific site is a customer cannot plan an overall Florida vacation that includes a Disney segment. In other words, only Disney-owned resources (e.g. accommodations and food) are included on this site. Another limitation is that the user must occasionally search for additional information rather than just clicking for additional information. For example, the water parks are listed as being closed for seasonal maintenance but the actual closure dates are not available. Another example of a limitation is the "resort locator" piece, which shows where accommodations are in relation to a Disney map, but does not specify the type of accommodation (budget versus resort or even camping versus hotel).

The destination specific sites reviewed were Savannah, Georgia (www.SavannahVisit.com), Oregon (www.traveloregon.com/vacation.cfm), and Australia (www.clickforautralia.com). These sites fit the e-commerce model partially. They do allow some interaction and occasional transactions (e.g. lodging) but do not allow for product customization or complete on-line based transactions (e.g. tour reservations). The Savannah site gives an overview of the destination and is a good resource on where to get more

information. The focus of the site is more one of "you are already planning on visiting so here is what to do while you are in town" versus a customizable trip-planner. The user cannot design his or her own visit easily from this site but would have to research each supplier individually (either via phone or web site) to determine what that supplier could provide. The Oregon site has similar limitations as the Savannah site. The Oregon site does give some suggested itineraries but the user is forced into very generic categories (costal area, Portland, etc.) and the itineraries are limited to what suppliers subscribe to the site. Information cannot be saved for later review forcing the user to "research" or print the materials as they are found. The Australia site had the same benefits and limitations as the Oregon site.

One study showed several factors that are "success criteria" for a destination marketing system (DMS) from a consumer point of view: must be user friendly and easy to understand, must provide comprehensive destination information pre-trip, and it should provide the option to conduct virtual tours and view pictures of a destination (Fesenmaier et al., 2000). Proll and Retschitzegger confirm this in their study, "Although quality of access is a major prerequisite for a successful tourism information system, as already mentioned, quality of content is equally, if not more, important" (2000). While the web sites reviewed above are not technically a DMS in and of themselves, the same rules apply. One individual interviewed as part of this thesis made the comment: "If the web site isn't any good, then I won't use it and will probably cross that destination off of my list of places to visit". The individual's definition of "isn't any good" included the terms "clunky", "slow", "bad links", and "hard to follow". Most of the individuals surveyed, who confirmed they would use an

interactive tool as part of the trip research process, qualified their answers with a “if it is good” or “if it is useful”.

Decision Making Process

A literature review indicates there are many factors that influence the decision-making and planning process. A combination of different research and models gives a high-level picture of the process as seen in figure 1. The model in figure 1 is a combination of the models and research found in Goossens “Hedonic Tourism Motivational Model” (2000), Gartner’s “Destination Selection Process” (1996), Gartner’s “Utility Maximization Process” (1996), Schmoll’s “Travel Decision Process Model” (Gartner, 1996), Ben-Akiva and Boccara’s “Framework for integrated model” (1995), Ankomah et al “Model of the Role of Cognitive Distance in the Evolution of Choice Sets” (1996), and Baloglu and McCleary’s “General Framework of Destination Image Formation” (1999) .

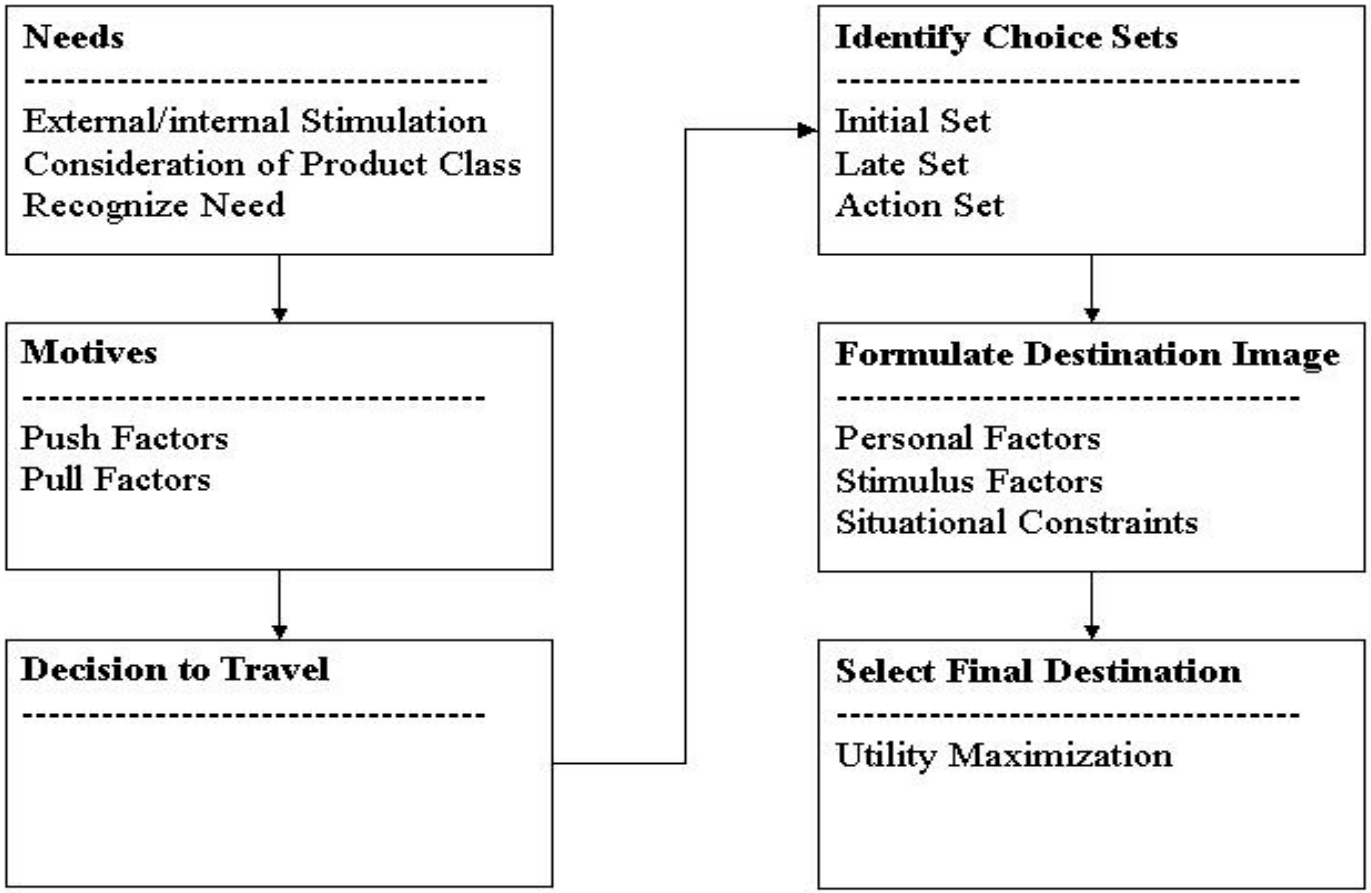


Figure 1: General Trip Planning Process

Needs

Kotler (1982) defined "need arousal" as three stages: 1) external/internal stimulation triggers a desire to a product class, 2) consideration of needs that can be met by the product class, and 3) needs are recognized and become wants (Gartner, 1996). Goossens confirmed this ideal of motives coming from needs and the identification of a product class: "But to be motivated to satisfy a need, an objective must be present. The individuals must be aware of a product or service and must perceive the purchase of that product or service as having a positive effect on satisfying that now conscious need" (2000). In other words, a need may exist but remain unacknowledged if the user is unaware of a way to satisfy the need.

Motives

Motivation is defined by Goossens as what "occurs when an individual wants to satisfy a need" (2000). "A motive implies action; an individual is moved to do something" (Goossens, 2000). When the individual is aware of a need deficiency, then they have a want (Goossens, 2000).

According to Crompton (1979), most discussions of tourism motivation have tended to revolve around the concepts of "pull" and "push" (Goossens, 2000). "Traditionally, push motives have been useful for explaining the desire to go on a vacation, while pull motives have usefully explained the choice of destination" (Goossens, 2000). Push factors are sociopsychological motives of the consumer such as needs and drives (Goossens, 2000). These are sometimes also referred to as buyer characteristics. Buyer characteristics include

traits such as culture, subculture, social characteristics (reference groups or personal aspirations), personal characteristics (age, occupation) and psychological factors (perceptions, learning, beliefs, and attitudes). Pull factors are marketing stimuli such as advertising and services (Goossens, 2000).

Decision to travel

Based on the identification of a need and the resulting motivation, a decision is made to travel. The decision is made based on the expectation that the traveling experience will satisfy the previously identified need.

Identify choice sets

During the information phase, customers acquire a market overview by gathering information about potential tourism suppliers (Proll and Retschitzegger, 2000). During this phase, the choice set is identified. A choice set is defined as the "set of alternatives available to an individual" (Ben-Akiva and Boccara, 1995).

"Choice sets serve as structured framework for conceptualizing how tourists sift through vacations destination" (Ankomah and Crompton, 1996). A choice set implies a "funneling process" from a large set of destinations down to a smaller "action set" (Ankomah and Crompton, 1996). Alternatives are either included in the inaction or action sets based on whether the products meet certain criteria (Ben-Akiva and Boccara, 1995).

Several authors review the concept of search costs (Ben-Akiva and Boccara, 1995; Ankomah and Crompton, 1996). The choice set selection is ultimately terminated when the

search cost of considering alternatives is “unacceptably high” or the search cost exceeds the “expectations about the outcome of the search” (Ben-Akiva and Boccara, 1995).

The potential destinations are filtered into one of three types of sets: reject set, inert set, or late set (Ankomah and Crompton, 1996). Destinations are put into the reject set based on unpleasant experience or negative information (Ankomah and Crompton, 1996). Destinations in the inert set are not assigned negative or positive feeling because the user does not have enough information about the destination to make a decision (Ankomah and Crompton, 1996). Destinations in the late set are likely to be visited within one year and are either part of the inaction or action sets (Ankomah and Crompton, 1996). The final destination set will eventually be chosen from the late, action set since this is where the action-oriented research occurs such as requesting brochures or investing time into detailed research (Ankomah and Crompton, 1996).

Destination Image

From the final choice set (late action set), further research is performed to identify specific attributes of each destination and formulate a destination image.

“Destination image is formed based on all the information, knowledge, impressions, prejudices and emotional thought an individual has of a particular place” (Fesenmaier et al., 2000). Crompton defines destination images as “the sum of beliefs, ideas and impressions that a person has of a destination” (Ross, 1994). “Image is the set of expectations and perception a prospective traveler has of a destination” (Buhalis, 2000).

“The image is ultimately formed based on information that was personalized by the tourist” (Fesenmaier et al., 2000). This means that a destination may promote itself as having

characteristics A, B, and C. One tourist will form an image of the destination using characteristics A and B while another tourist will form an image of the destination using characteristics B and C.

Baloglu and McCleary's literature review of the influences on destination image revealed three major factors influence pre-trip destination image: tourism motivations, sociodemographics, and various information sources (1999). These are similar to what influences assignment into the various segments of the choice set: "internal social psychological processes, situational constraints, and external stimuli emanating from the destinations" (Ankomah and Crompton, 1996).

Final Selection

"The basic premise determining whether an individual chooses one destination over another is utility maximization" (Gartner, 1996). During this stage, each destination image in the late action set is evaluated to determine which destination provides the most bang for the buck. Via sensory or cognitive information processing, marketing stimuli (push factors) are evaluated (Goossens, 2000). The data about a destination becomes information if it is used to make a better choice among competing alternatives (Goossens, 2000).

Through out the process of gathering information, both when forming the choice set and forming destination images of the destinations in the final choice set, the customers perception is influenced by selective exposure, distortion and retention (Trout, 1996). Selective exposure is remembering only what you are in market for. Selective distortion is the process of fitting incoming information into your mindset. Selective retention is forgetting what does not support your existing view. This is an additional reason why it is

important for a destination to use interactive tools to determine customer's needs, motives, and buying characteristics. A product can be customized to maximize a destination's selective exposure to the consumer and minimize its selective retention.

Lack of Information

The decision-making process outlined above is a general framework. It is not, and cannot, be applicable to every situation. A trip is a different type of consumer purchase due to many factors including its intangible nature, uncontrollable attributes (e.g. weather), and possible group buy-in (one individual planning a trip for multiple consumers). The framework is a starting point for creating an interactive tool but does not cover all potential variations of the trip decision-making process.

Decision and Process

Qualitative interviews, versus quantitative questionnaires, were selected as the most beneficial manner for collecting data for the systems analysis portion of the project. Interviewing is one of the primary ways analysts gather requirements for a systems (Valacich, George, and Hoffer, 2001). The major questions of the interview were structured as open-ended questions in order to gather richer information than close-ended questions would yield. It is general practice during systems analysis to use open-ended questions when time and resources permit to allow for the discovery of unexpected system requirements.

Preliminary discussions were held with three individuals from different socio-demographic characteristics. These discussions were unstructured surveys of each person's travel planning process. The intent of these discussions was to get a general idea of the thought pattern a person goes through when making travel plans. The discussions revolved

around two main questions with follow-up probing questions to flush out further detail when needed. The two general questions asked were:

1. What is the general process you go through when planning a leisure trip (vacation)?
2. If there were an interactive tool available to assist in the planning process, what would you expect from it?

These results of these discussions as well as the results of the literature review were combined to create the formal interview questions. A copy of the formal interview questions is included in Appendix A.

The formal interview questions consisted of nine major open-ended questions. Each question had follow-up probe questions that were used if the answers to the major questions were not complete enough. The format of the questions changed somewhat as the interviews progressed. First, it became apparent during the first and second interview that the subject could not assign "% of time" or "% of weight" to answers. Instead, subjects found it easier to rank their answers as in "this is most important, this is second, …". Secondly, the original intent of some of the questions was to determine what would positively and negatively influence the image of a destination. These were posited as two separate questions with potential factors and the interviewee was to rank them on a 5-point scale from Strongly Agree to Strongly Disagree. The first three interviewees had no problem answering the "positively influence" question but when asked the "negatively influence" question, they all indicated up-front that it would be the exact opposite of what they indicated for "positively influence". As a trial, I actually went through the "negatively influence" question with two interviewees and their answers were in fact the exact opposite of their "positively influence" answers. Thus, the "negatively influence" question was rephrased in later subsequent

interviews as “What other items might influence your image of a destination in a negative manner?”.

The interviewees were selected based on their willingness to participate and an existing point of contact. This means that the interviewees and I had met at least one time prior to the interview for other reasons. This was a convenience sample, not a random sample selection.

The interviews were conducted either face-to-face or over the phone. The interviewee was not given a hard copy of the questions. All surveys were conducted verbally. This was in order to keep the flow as an interview rather than as a questionnaire. The interviews were conducted over a period of eight weeks. A minimum of two days was allotted between each interview to allow for digestion of results and restructuring of sub-questions as needed.

Summary of Data

The interviews each lasted approximately forty-five minutes. Only one interviewee could be classified as “wandering” and had to be probed extensively in order to gather the answers to the questions.

A total of five persons were interviewed. Two married females, one married male, and two single males were interviewed. All of the interviewees had access to a computer at home and through work. Access to the work computer does not necessarily translate into “access to a work computer for personal reasons” but does imply familiarity with computers and software in general. Those interviewed are a typical representation of non-senior travelers holding professional occupations. Seniors were not included as subjects but

recommendations are made later on how to apply the model to that age demographic. The general demographic information is charted in table five.

Table 5: Demographic Information

Interview	Age	Gender	Marital Status	Children	Years of Education	Access to Computer*	Household Income
1	32	F	Married	0	8	H/W/M	130,000
2	34	F	Married	2	4	H/W/M	78,000
3	47	M	Married	2	7	H/W	170,000
4	37	M	Single	0	4	H/W	83,000
5	35	M	Single	0	6	H/W	60,000

* H = household computer, W = work computer, M = mobile computer

Following is a summarization of the answers to each question. When the answers followed the same pattern or were quantifiable, they are charted below.

Initial Choice Set Selection

Number of Destinations

The method of selection of destinations for the initial choice set varied among the subjects. Three of the subjects indicated there was not any limit on the number of destinations that would be evaluated. One subject said for his last trip to Europe: "All European countries were reviewed as a potential destination. Generally, all major tourist spots are considered a potential destination and evaluated". This indicated that although this individual did not have a numeric limitation, he did have a qualifier for what would be evaluated ("major tourist spot"). Two of the interviewees indicated that their initial choice set

was limited to three to five destinations due to the amount of time it takes to research and compare destinations

.

Destinations – Repeat versus New

Three of the interviewees will generally avoid returning to the same destination. Two of the interviewees will return to the same destination especially if they feel they did not get to experience everything they wanted at the destination. One of the interviewees who will repeat visit a destination indicated that he will take a package tour the first time he visits a destination to "get a feel for the place" and then return later on his own to investigate further the items that most interested him. All five interviewees indicated that they do choose a destination with the expectation of having a similar experience as a prior trip. Examples of the "new destination, similar experience" ranged from seeking different beach or amusement parks to seeking similar cultural experiences in different destinations ("I'll visit border countries that have a cross-over culture").

Destination or Dates

A sub-question attempted to determine what was decided first: trip dates or potential destinations. Only one subject indicated that dates were selected first, and then destinations were evaluated within the context of that date. The other four subjects said that potential destinations were selected and then trip dates were chosen after final destination selection. Further probing indicated that actually all the interviewees began their evaluation with a general timeframe in mind based on school, work, and family obligations. For example, one subject who insisted that dates were selected last actually described a process whereby the

family calendar was reviewed, windows of opportunity were selected (e.g. summer vacations are limited due to kid camps), and then the selection of potential destinations began. This was a similar process for all the interviewees.

Information Sources

There were seven major influences on the decision making process for both the initial choice set and the final destination selection. The seven major modes of information gathering identified are: travel agents, friend/family recommendations, magazines, television shows, Internet searches, destination brochures, and travel guides.

Travel agents were used by four of the subjects for selecting initial destinations for the choice set. One individual is in the travel industry and thus uses travel agents in a different context that might be deemed more on a personal level (friends recommendation) than a professional level. One individual uses travel agents to validate information already gathered from other sources. The individual who does not use travel agents at all is very cost conscious – the implication was that the service provided by a travel agent is not worth the fee or commission paid.

Friends and family recommendations were used by all subjects as one part of the decision making process. Four indicated that "friends and family" were actually two separate categories for them since they would take friend recommendations but not usually family recommendations. This was not explored further to determine why family recommendations were not influencers. One indicated that "friends of friends" recommendations weighed heavily on the specifics of the trip once the final destination was chosen. An example he gave was: "When we were going to Florida, a friend told us his colleague had been there.

This colleague recommended we take an airboat tour through the swamps. We never would have thought of doing that but the boys loved it. So, we usually announce where we are going so we can get feedback from people who have already been there".

Magazines were only used by two of the subjects and only for initial choice set selection. One individual used general magazines, rather than travel-oriented magazines, for ideas of activities to do rather than for specific destinations. The example given was the decision to go on a cross-country ski trip because cross-country skiing was listed in SELF magazine as a "great winter calorie burner". The individual then investigated what destinations provided the desired cross-country skiing experience. The other subject who uses magazines specifically used travel magazines to gather initial tour package information – "how much would it generally cost me to go to this country during this timeframe and what would I see".

Television shows were not used by any of the subjects in any part of the decision making process. This was surprising and might be worthy of further investigation. The question may have been too direct and linked too heavily in the interviewees' minds with magazines and Internet searches. For example, magazines and Internet searches are a very specific type of search. Television shows could possibly have a less direct impact on the decision making process – e.g. you would not surf TV looking for details on a destination but a TV show may have planted the idea of visiting a destination in your head.

All five interviewees used Internet searches. Three interviewees used the Internet to determine the initial choice set. All five used the Internet to assist in making the final destination selection. One interviewee indicated that the partner would do all the Internet research, print it out, and then they would review the information together. This was because

“he is better at looking up the information, I don’t have the patience to sift through it all and I get side-tracked”.

Destination brochures were not used by any of the subjects in creating their initial choice set. One interviewee would use destination brochures “in the second round of evaluations” while two other interviewees would use destination brochures only after the final selection was made. One interviewee, who would not use destination brochures at all during the process, indicated that he would rather gather information himself than “be bombarded every year with travel advertisements because I got on somebody’s mailing list”. The other interviewee, who would not use destination brochures at all during the process, indicated that the destination brochures information was too limited and that the same information and more could be gotten from independent travel guides.

One individual as part of the planning process only used independent travel guides. The other interviewees, if they used travel guides at all, would use them after final destination selection especially when on-site.

Table 6: Influencers on Decision Making Process

Influencer	Initial Choice Set	Final Destination Selection
Travel Agents	4	1
Friends/family recommendations	3	2
Magazines	2	0
Television Shows	0	0
Internet Searches	3	5
Destination Brochures	0	1
Travel Guides	1	1

Evaluation of Initial Choice Set

The process of utility maximization is used during choice set creation and especially during the final destination selection. Each destination in the choice set is ranked, either consciously or unconsciously, based on attributes desired. One interviewee described the process of utility maximization as the "negotiation phase". In her words: "The place has to have something that interests everyone. For example, if we ever visit Kentucky it will have to be because I can prove that it has more to do than just horse farms".

The attributes listed by the interviewees are summarized in table seven. Some summarization was performed on the answers. For example, not all interviewees gave their answers as "attractions - natural" but rather listed natural attractions: beaches, mountains, wildlife, etc.

Originally the question attempted to determine the "weight each attribute has in the decision process" but the interviewees were unable to answer that. The importance of each attribute in the final choice seemed to fall into one of three categories: the attribute was a primary consideration ("must have"), a secondary consideration ("nice to have but not mandatory"), or not a consideration. The category of "not a consideration" covers attributes both explicitly stated as unimportant in the decision-making process and attributes not listed when describing the decision-making process.

Attributes, in some instances, are difficult to separate from each other. For example, attractions were a primary attribute desired in a destination by all the interviewees. Only one interviewee listed climate as a primary attribute. However, more than one interviewee indicated that desire to "go somewhere warm and sunny" or "has to have a good swimming beach". Warm, sun, and swimable beaches could be listed as an attraction attribute or as a climate attribute. The same "cross-over" category could be seen related to food. Only one interviewee listed restaurants as an attribute in the secondary consideration category but more than one interviewee mentioned food either in a price context ("can we eat cheaply here so we can spend more on other things") or in an attraction context ("We like to treat ourselves to food we wouldn't normally indulge in when we are on vacation").

Table 7: Attributes Looked for in a Destination

Attribute	Primary	Secondary
Attractions – manmade	3	1
Attractions – natural	4	0
Accommodations	1	0
Restaurants	0	1
Time to get there (mode of travel)	1	0
Price to get there	2	0
Overall price	1	1
Availability of resources (cars/hotels/etc.)	1	0
Package tours	1	0
Climate	1	0

Destination Image

The question of what would positively influence the pre-trip destination image was asked both as an open-ended question and a close-ended question to all interviewees. During the open-ended question, many of the interviewees listed many of the same items as what was given as attributes looked for in the destination: overall price, climate, quality of accommodations, and attractions. In other words, the destination's ability to meet desired characteristics has an influence on destination image.

Further probing indicated other "non-attribute" factors that influenced destination image. One interviewee listed "Ease of doing what I want". Further probing indicated that this was both a subset of location and packaging - how difficult was it to do the desired things in terms of driving time and accessing equipment (e.g. cross-country skis). Other interviewees with comments such as "how long it takes to get there" and "how far do I have to walk to get to the beach?" echoed this sentiment.

More than one interviewee listed the service received prior to visiting as an influencer of destination image. This included both how difficult it is to gather information ("I don't want to spend too much time figuring out where I can jet-ski") as well as the service provided by employees ("If the hotel operator is nasty, apathetic, or doesn't speak English, then I won't stay there and might even decide not to visit that location at all").

Pictures also had some influence on destination image. One interviewee indicated, "It has to look like a fun place to go. If it looks cheesy, then I stop looking". One interviewee indicated he would have a more positive image of a hotel that displayed pictures of both the inside and the outside of the hotel. Another interviewee did not specifically list pictures as influencing his destination image but did indicate that "pictures of mountains or beaches would be nice" which implies that pictures that reinforce the attributes desired will influence his destination image.

The answer to the close-ended version of the question is listed below. The question was posed, as "How would you rate these factors in positively influencing your image of a destination". Each interviewee ranked the items on a scale from strongly agree to strongly disagree.

Table 8: Factors Influencing Positive Image of a Destination

How would you rate these factors in positively influencing your image of a destination?					
	Strongly Agree	**Agree**	**Neutral**	**Disagree**	**Strongly Disagree**
Ease of getting information via net	5				
Ease of getting information via print	1	3	1		
Web site design	3	2			
Print media – timely	1	2	2		
Print media depicting alternative culture/generations/		2	3		
High quality of print media	1	2	2		
Good service/response from broker (hotel agent, chamber of commerce)	5				
Media reports		3	2		
Word of mouth	2	3			

Family Member Influence

For the unmarried interviewees, the only outside influencers on the decision making process were traveling companions. Both subjects felt that traveling companions were not a major influencer because if they were traveling with a companion, then the decision to travel was less a process of deciding jointly where to go and more a process of "I'm going here, do you want to come along".

For the married interviewees, the core pieces of the decision were generally joint decisions with the husband and the wife having fifty-percent vote. One couple had a "yay/nay" vote on every item related to the trip – all the way from where to go to what time to leave. They continued down the list of items to decide and selected alternatives until they were in complete agreement on each item. The other two couples would agree on where to visit and a few other details and then split the remaining items among themselves (e.g. husband arrange transportation, wife arrange house-sitting). The two couples with kids had

differing views on the kids' ability to influence the destination chosen. One couple did not allow the children to have any direct influence on the decision. The other couple would present the children with two or three choices (final choice set) and let the children have a vote. The children's opinions were limited to the choices presented.

Decision Making Process Vary?

When asked if the decision making process was the same for each type of trip, two interviewees indicated the type of trip did not influence the process while three interviewees indicated they had a separate decision making processes depending on the cost/length/purpose of the trip. For example, a weekend getaway would be less researched than an international trip. One interviewee stated is as: "How many things can I get done in the duration I'm gone. If it's a long weekend, then I'm just spectator looking versus indulging in activities. So you'd do less research before and instead research when I get there".

Interactive Tool

The final question was to determine what the user would look for in an interactive tool that could be used as part of the planning process. All of the interviewees indicated they would use a tool if it existed. Most would be willing to spend 10 – 15 minutes answering questions about their needs and wants although this was generally qualified with "if the tool was easy to use" or "if I thought it help". Twenty minutes was the maximum amount of time to answer questions if it was a "big trip".

Most of the interviewees indicated an interactive tool could be a heavy influencer in the decision making process. One interviewee indicated that such a tool would be strongly weighted in the process because "If it did everything I wanted, it would be #1 because it'd replace the others" [means of gathering information such as brochures, internet, etc]. There were no concerns about whether the tools were independent or destination driven. The only way this might influence its significance is if it was independent, then the tool would include more than one destination and thus might be used as part of the initial choice set selection.

The expectations of the tool fell into two categories: usability of the tool and the information provided by the tool. In terms of usability, every interviewee indicated in one manner or another that the tool should be easy-to-navigate, speedy, and "bug-free". Navigation included "not getting lost" and "providing real information". One interviewee said, "I hate links. If I click to get more information, give me the information. Don't take me to another page and make me search there". It was also indicated that the tool should be accurate. As one interviewee said "If I get to the destination and find out I missed out on doing something because the tool didn't tell me about it, then I'm going to be upset and never use it again".

The users would expect the tool to provide detailed information. For example, it should list not just accommodations but "the bells and whistles of each hotel. Does it have a pool? Does it have concierge service? What are the hours of the fitness center?". Another information request was for "specials" and "packages" and "mini-tours". Examples given included both price ("Do I get a discounted rate if I stay during the week?") and attractions ("Show me the tour I can take of San Francisco Bay. I want to know what the boat looks like, where the boat goes, and what I get for the price of a ticket"). Another request was for

a “map-able tool. Let me see where all these things I want to do are in relation to each other”.

The concerns about the tool related to the accuracy of the information provided by the tool and the privacy of the information given to the tool. If the information provided about a destination were inaccurate, then the tool would be deemed useless. More than one interviewee had experienced finding information on the web that was confirmed to be inaccurate via a follow-up phone call. Another major concern about the tool was what type of information it gathered. If it attempted to gather personal information “for no reason” then it would not be used. The definition of personal information varied among interviewees but household income and age were two of the data mentioned. The travel planners want to choose a destination based on their wants and desires rather than having a destination suggest items based on a generic classification of what travelers at their age/income usually do.

Conclusion

The interview process showed similarities and differences in people’s travel decision-making process. The processes described above will be used in the next chapter as input into the system’s design phase.

Chapter 4 - Results and Discussion

Introduction

Based on results of the literature review, web site review, and interviews, this chapter will continue stages of the systems analysis phase and some stages of the systems design phase. Not all deliverables will be completed in this chapter since this tool is created via a combination of two methodologies – the typical systems analysis/design methodology and via rapid application development methodology (used to create applications quicker). Also, this tool is a proto-type so outputs to all steps (e.g. flowcharts, data flow diagrams) in the process are not needed.

Process Modeling

The next step in creating an interactive marketing tool that can be used by a destination as part of their e-commerce strategy is the "Process Modeling" stage. The deliverables for this stage are generally: 1) a context data flow diagram (DFD), 2) DFDs of the current physical system, 3) DFDs of the new logical system, and 4) thorough descriptions of each DFD component (Valacich, George, and Hoffer, 2001). Data flow diagrams show "how, when and where data are used or changed" (Valacich, George, and Hoffer, 2001). For purposes of this tool, all deliverables (flowcharts, data flow diagrams, etc) will be discussed but not necessarily created.

Context DFD

The purpose of the context data flow diagram is to show the scope of the system. The following context DFD was created based on the literature review, the model of travel decision behavior show in figure 1, and the results of the interview.

The boxes in a data flow diagram are called Source/Sinks. A source/sink is an origin and/or destination of data (Valacich, George, and Hoffer, 2001). The three source/sinks detailed in this context DFD are: Customer, 3rd Party, and Destination. Each of these is a source and or/receiver of data in the travel decision-making system.

The arrows in a data flow diagram are called Data Flow. A data flow is data that are in motion. The three dataflows in the context DFD all feed into the overall system of travel decision-making behavior and are sourced from the three sources described above.

The circles in a data flow diagram are called Processes. A process is the work performed on the data so that they are transformed, stored, or distributed (Valacich, George, and Hoffer, 2001). The main process in this system is the Travel Decision Making System.

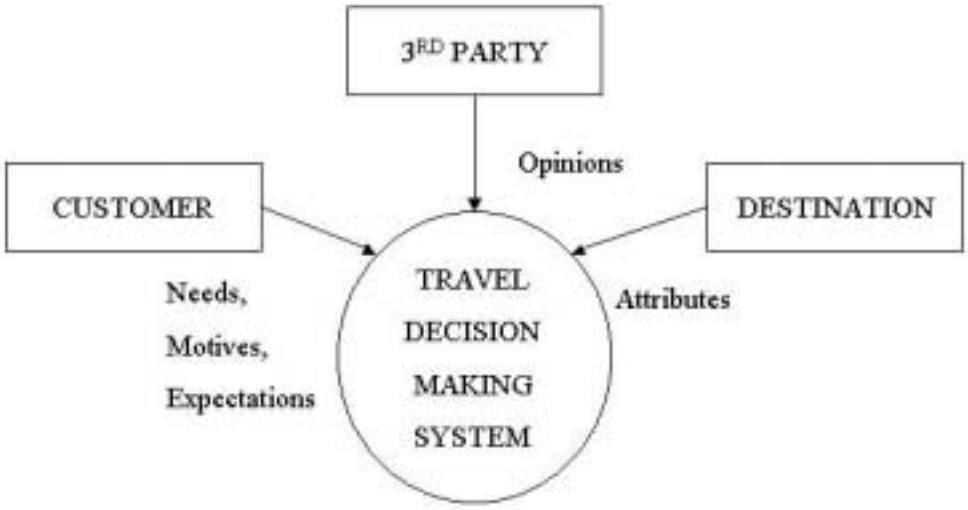


Figure 2: Context DFD of Travel Decision Making System

Level-0 DFD

The next step after a context diagram is to focus on further details of the system. A level-0 diagram represents a system's major processes, data flows, and data stores at a high level of detail (Valacich, George, and Hoffer, 2001). This level-0 diagram was created based on the literature review, the model of travel decision behavior show in figure 1, and the interview results. Due to space constraints, the word "destination" is abbreviated "dest" in the diagram. It is important to note that the "images" portrayed in this diagram are plural

images, not singular images. In other words, “images” is different images about different destinations.

The source/sinks remain the same in the level 0 diagram as they were in the context DFD – customer, 3rd party, and destination. The process in the context DFD of “travel decision making system” is further decomposed into four separate processes: 1.0) Filter Data, 2.0) Form Destination Image, 3.0) Choose Final Destination, and 4.0) Select Destination. Additional data flows have been added in this diagram to show additional movement of data between processes.

The filter data process includes the selective exposure/distortion/retention process described in chapter three. This is where all data about a destination from all three sources (customer, 3rd party, destination) are filtered. The end result is called “destination data”. Only data that survive the filter data process and are not rejected are used as input into the process “form destination image”. A preliminary destination image is formed as output of process two.

Process 3.0, “Choose final destination image” is a decision point. If the data flow “preliminary destination image” is selected in process 3.0 as the final destination image, then the system continues on to the process of selecting a destination. If the data flow “preliminary destination image” is not selected in process 3.0 as the final destination image, then the data flow funnels back to the customer for repeat assessment.

Included in this diagram are “data stores” indicated by the long rectangular boxes labeled “Destination Data”, “Trip”, “Rejected Destination data”, “Rejected Data”. These indicate data at rest. The end result of this system is a trip, completely rejected data, or a final destination image that does not result in a trip.

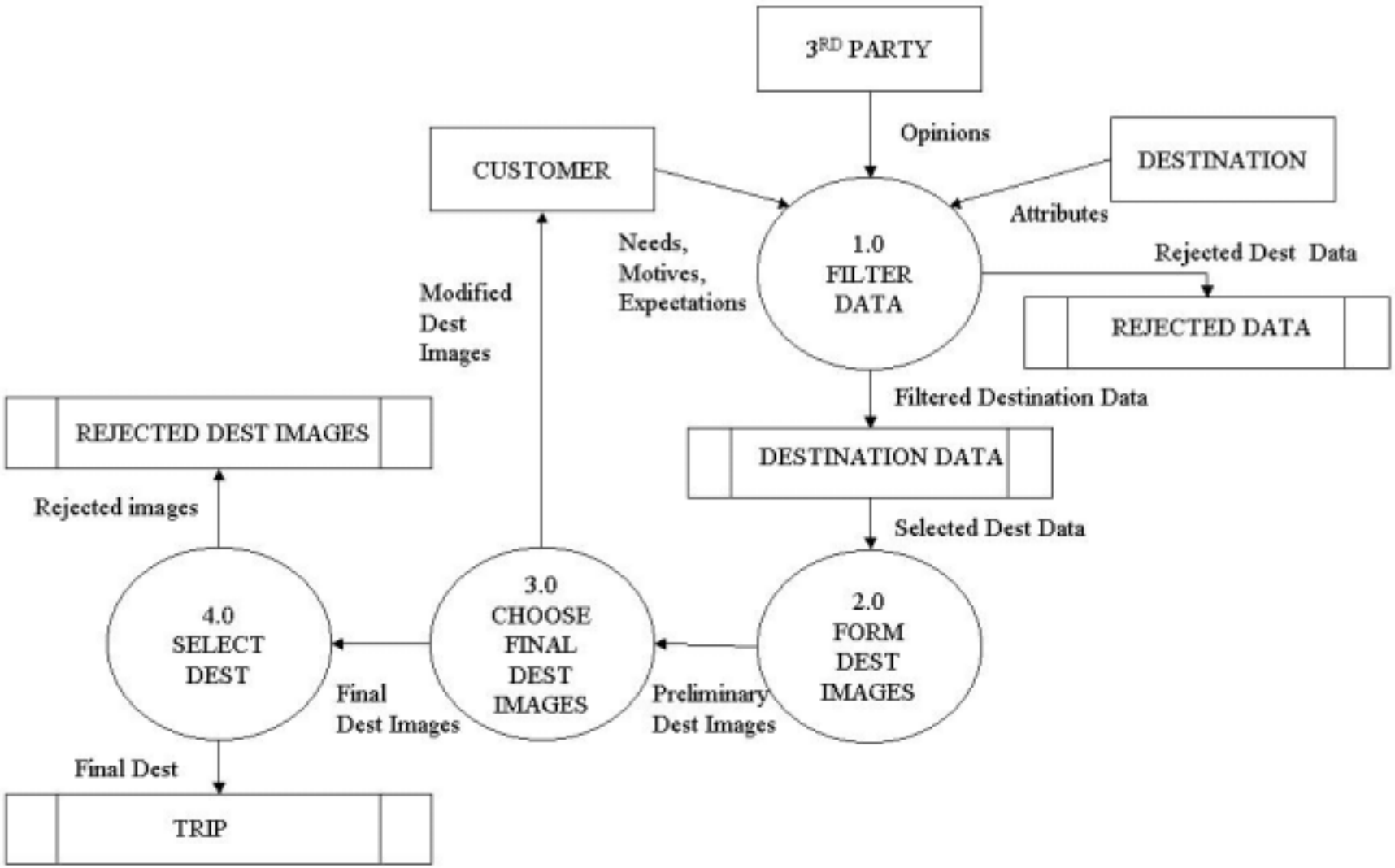


Figure 3: Level 0 DFD of Travel Decision Making System

Current Physical System DFDs

Since there was not an existing tool, data flow diagrams of the current physical system (non-existent) will not be done

Logical DFD

The next deliverable in the process modeling stage is a logical DFD. Logic modeling "involves representing the internal structure and functionality of the processes represented on data flow diagrams" (Valacich, George, and Hoffer, 2001). The purpose is to describe what occurs inside each process that transforms input data into output information.

For purposes of this tool, a logical DFD will not be created. The tool is primarily concerned with the data flows from the customer and destination. This tool has no control over the data flow labeled "opinion" that comes from 3rd party entities. This tool has influence but limited control on the actual processes so a logical DFD will not be created.

Descriptions of each DFD component

This has already been described in chapter three when performing the literature review and the interviews.

Data Modeling

The next stage of systems analysis phase is to create conceptual data models and entity-relationship diagrams. The data models show the definitions, structures and

relationships among the data (Valacich, George, and Hoffer, 2001). The purpose of the conceptual data model is "to show as many rules about the meaning and interrelationships among data as possible" (Valacich, George, and Hoffer, 2001). An entity-relationship diagram is similar to a conceptual data model only it shows more details about attributes of each entity.

The conceptual data model and the e-r diagram will not be done for this prototype. Further research would need done on how to implement this tool prior to creating these models. A simple data model could be created based solely on the research done thus far but it would be misleading and oversimplified. To create an accurate conceptual data model or e-r diagram, a decision would need to be made regarding use of this tool (is it destination specific or destination independent, what is the scope of the term "destination"). Also tourism suppliers would need interviewed in order to accurately represent the entities and attributes.

Interface

The systems design phase includes designing the human interface and the physical database design. The proto-type tool screen shots will be shown in this section. The proto-type tool will not include a back-end database so a physical database design will not be done.

The dialogue diagram below shows a high-level overview of the sequence of screens that a user may go through to retrieve destination information. Some of these screens will be further detailed in the proto-type tool. Note that choices made on higher-level screens may dictate that not all subsequent screens are presented to the user (e.g. if user does not choose to plan lodging on the initial "custom trip" planner screen then the "lodging" screen

represented later in the sequence would not be presented). It is also important to note that the dialogue diagram below assumes that this is destination specific. The same sequence could be applied to a destination independent tool used to determine what destination should be visited based on user decisions. However another level of dialogue would need included between the first and second levels. This level would need to determine what the user wanted from the trip prior to providing them with the “Plan Trip”, “On the Go”, or “Contact” screens.

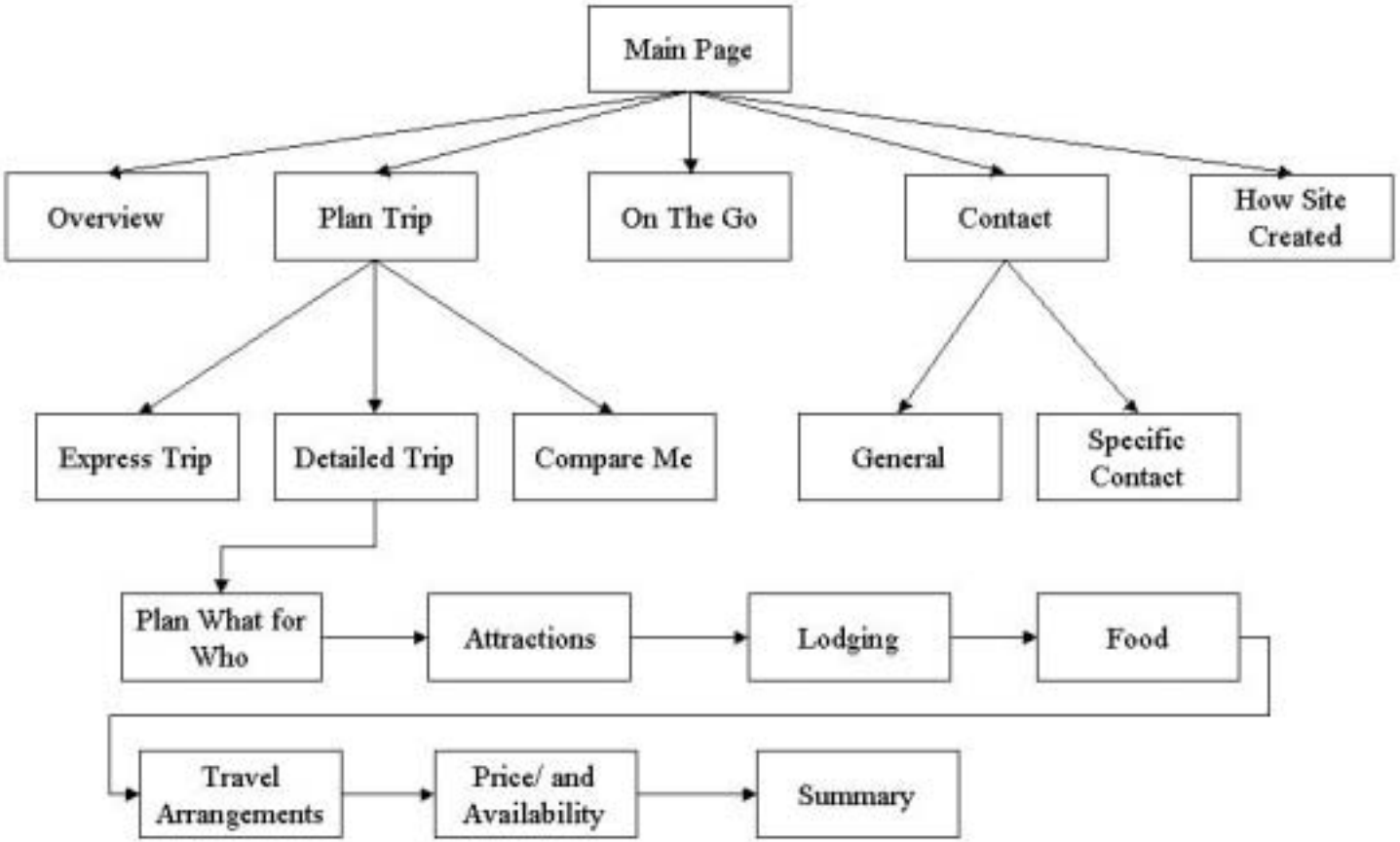


Figure 4: Dialogue Diagram

Screenshots and Descriptions of Prototype Tool

Introduction

The screenshots depicted below cannot accurately depict the navigation of the system. Based on the final physical implementation (which would determine what language the tool would be written in), the tool might include tabs, breadcrumbs, or portal-like structure. Accommodations would need made for low bandwidth users and different end-user devices (monitor versus PDA versus web phone).

The actual layout of the screens would change. The screenshots below are intended to give an impression of what each screen would contain rather than be an accurate representation of the final screens. Final screen design would ultimately depend on what the suppliers had to offer and the expert advice of a graphic designer.

Main Page

The "Main" page would be the home page or main entry point for the user. This page will provide the user with options based on the information they need. This main page will be used to accommodate the variety of reasons customers may visit a site – to gather general information (e.g. what is this destination like overall, information for a report, etc.), to plan a trip, to get "on the go" information, to get contact information, or to determine how information was put on the site.

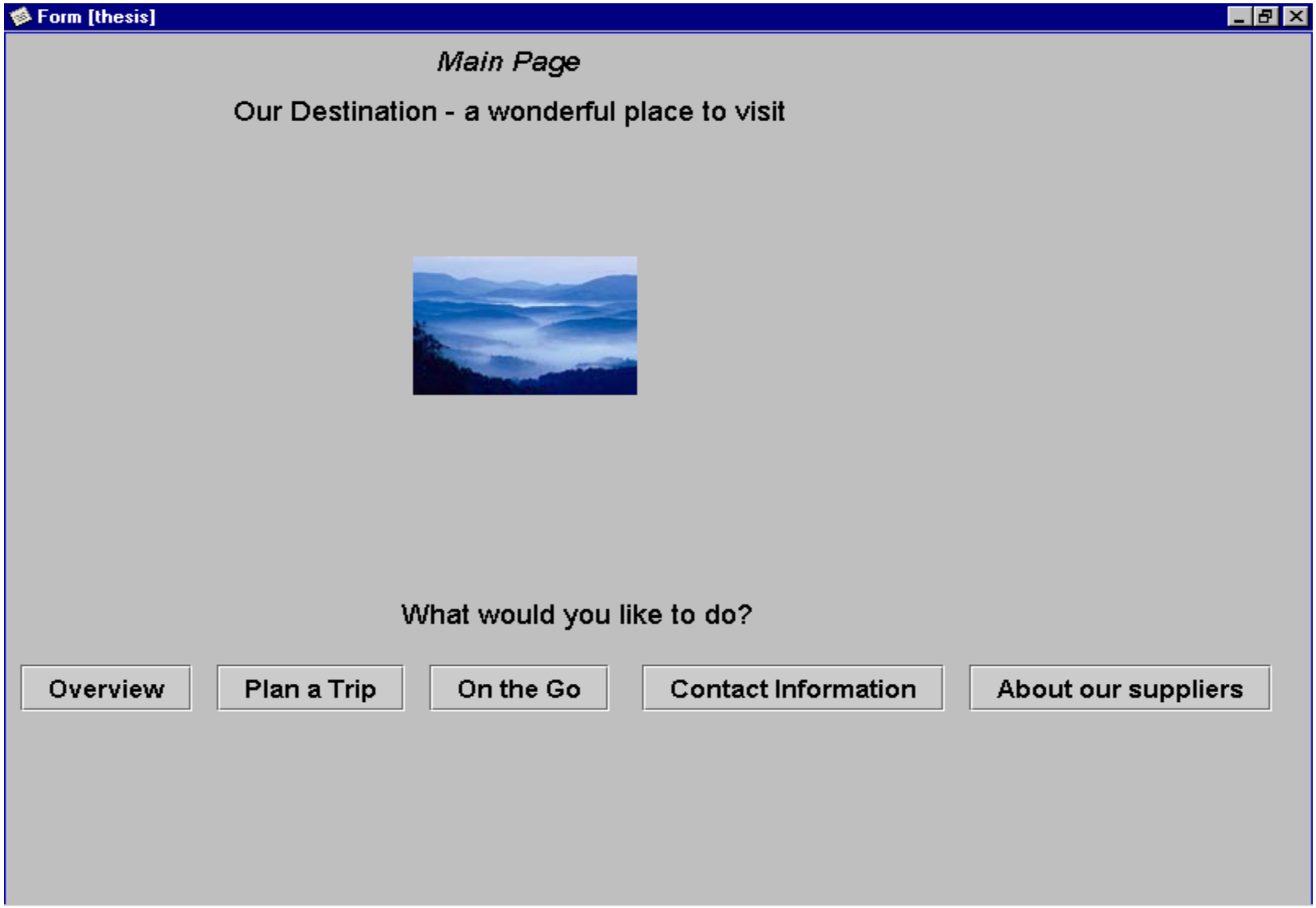


Figure 5: Main Page

Overview Page

The “Overview” page would give the user a general idea of what the destination has to offer. This would be the "marketing blitz" page of the site. Here is where the user would get a general feel for what they could do if they visited this destination. This could also be considered the “at a glance” page for creating a destination image. This page in not interactive – information presented would not be customized per user.

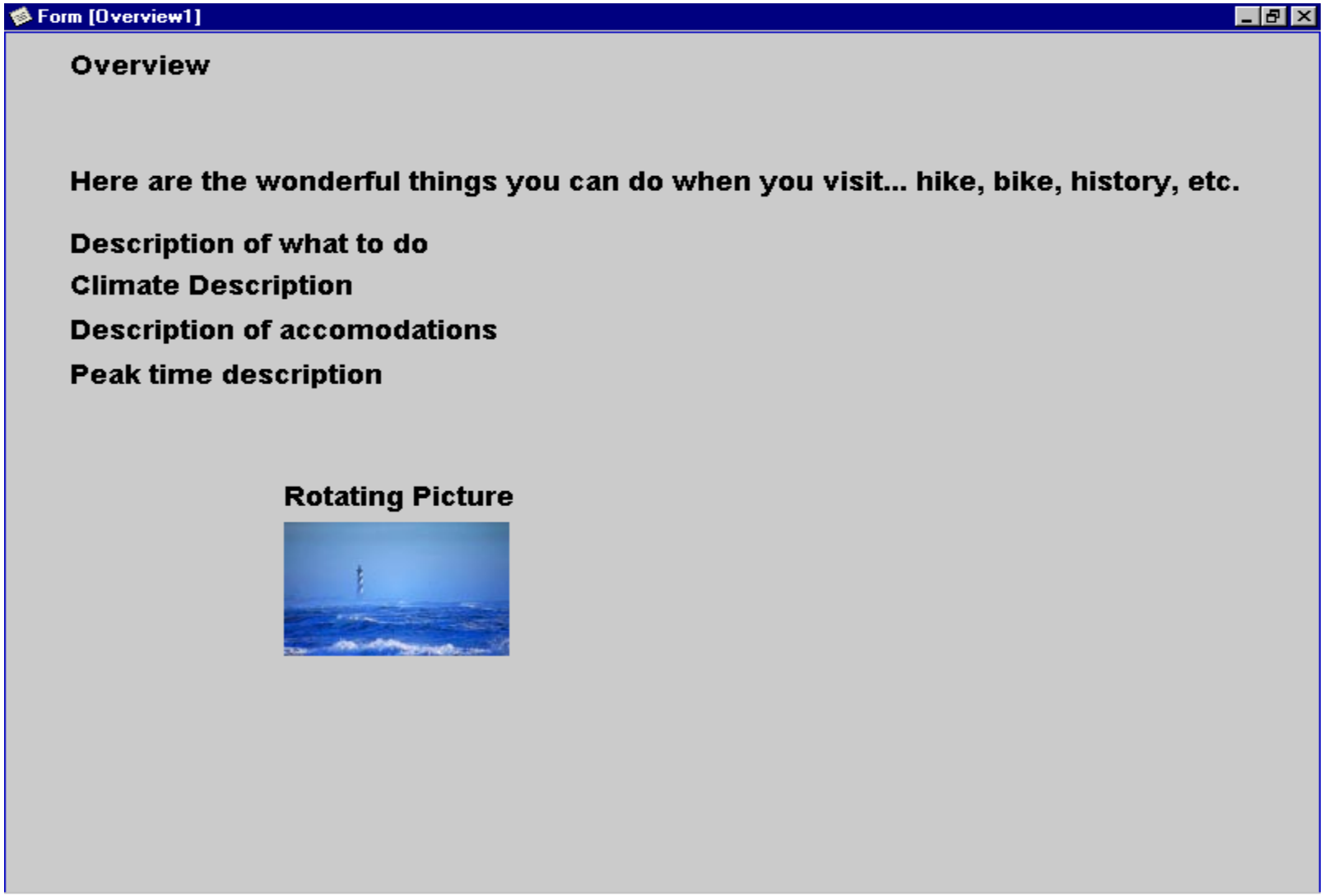


Figure 6: Overview Page

Plan Trip (starting page)

The “Plan Trip” page is where the user would begin to get specific information about the destination. The initial page for the “Plan Trip” module will give the user three options: “Express Trip”, “Custom Trip”, and "Compare Me".

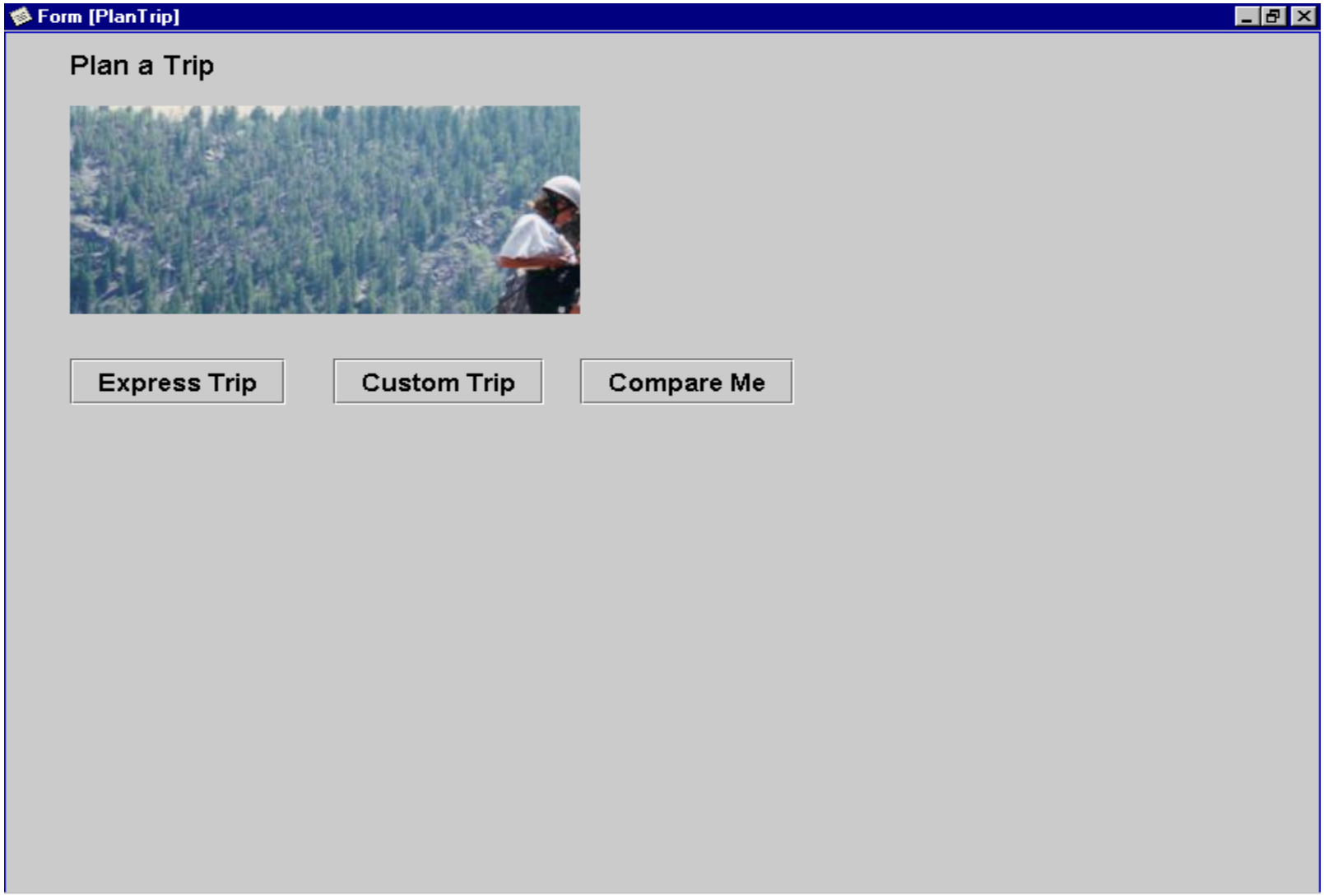


Figure 7: Plan Trip

Express Trip

The express trip option would allow the user to create a quick trip guide based on answering just a few questions. Food was not included in the questions, as it was not indicated as a primary consideration of users during the interviews. This option is not intended to give the user a detailed itinerary but rather an idea of things they can do when they visit. This express trip option would be good for initial research, or possibly for repeat visitors.

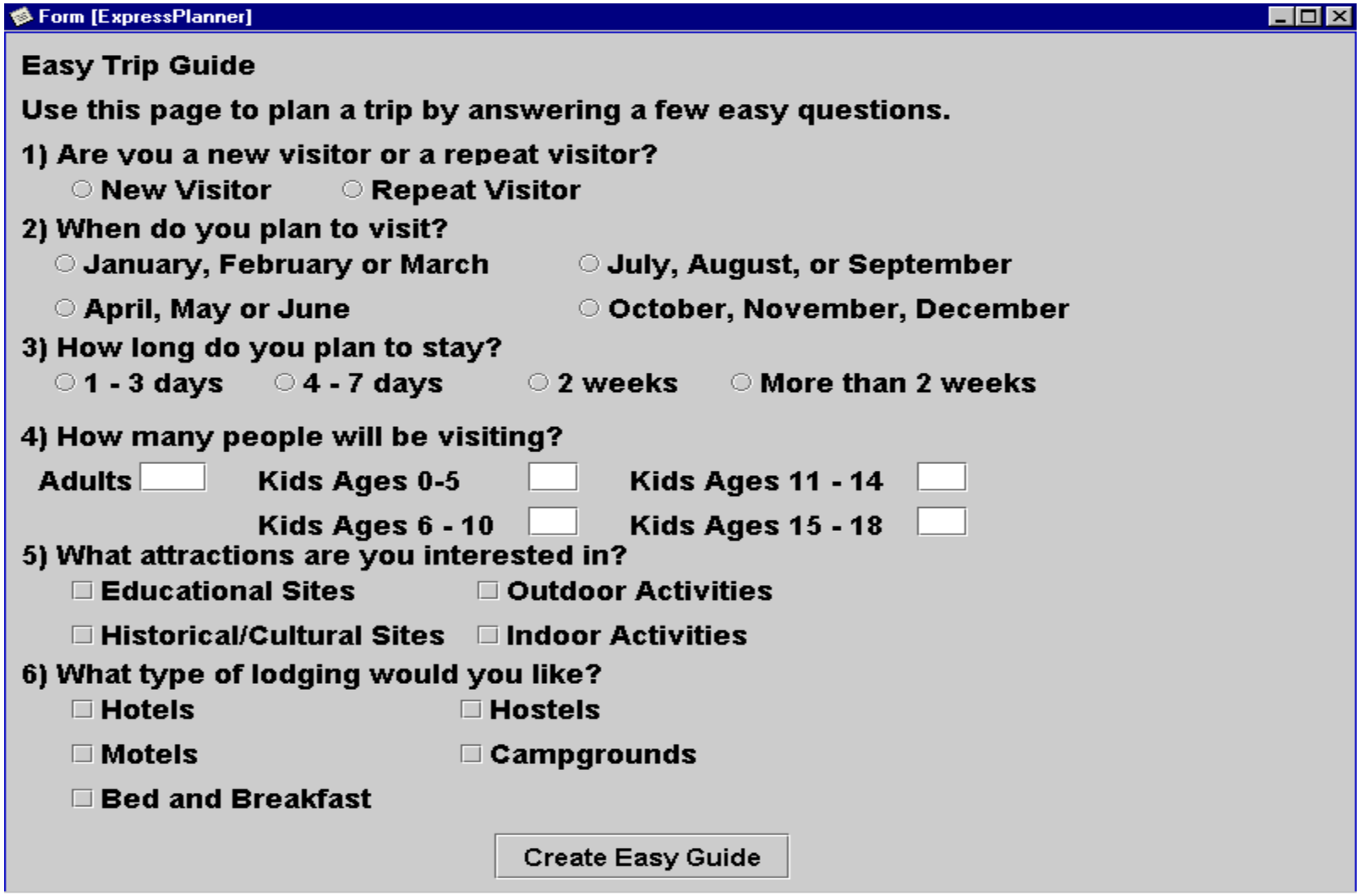


Figure 8: Express Trip

Custom Trip (start page)

The “Custom Trip” page is the starting point for creating a custom trip or a detailed itinerary for the user. This “Custom Trip” module is where the user can do in-depth research and planning. This module could be used for initial research but would most likely be used after initial choice set selection. From the “Custom Trip” initial page, the user would see the “Plan What for Who” page. The user would input some general customer information such as timeframe for visit, length of stay, and number of visitors. On the "Plan What for Who" page the user would specify what they would like to plan. This is designed to accommodate different users needs. For example, during the interviews some users felt that types of lodging available were important to their destination image. Others indicated that lodging was secondary or not important at all.



Figure 9: Detailed Planner

Attractions

After the "Plan What for Who" page, the users would go through a series of pages to gather further information about their needs, wants, and expectations. The "what to do" or attractions page would interview the users to determine what type of attractions they are interested in. All questions on this page would not be static or fixed but would rather be related to what the suppliers could offer. In other words, if an amusement park were not an option for the destination, then it would not be included on this page. Based on the interview results, this page should include a question about "pre-packaged" tours if available via one or more suppliers.

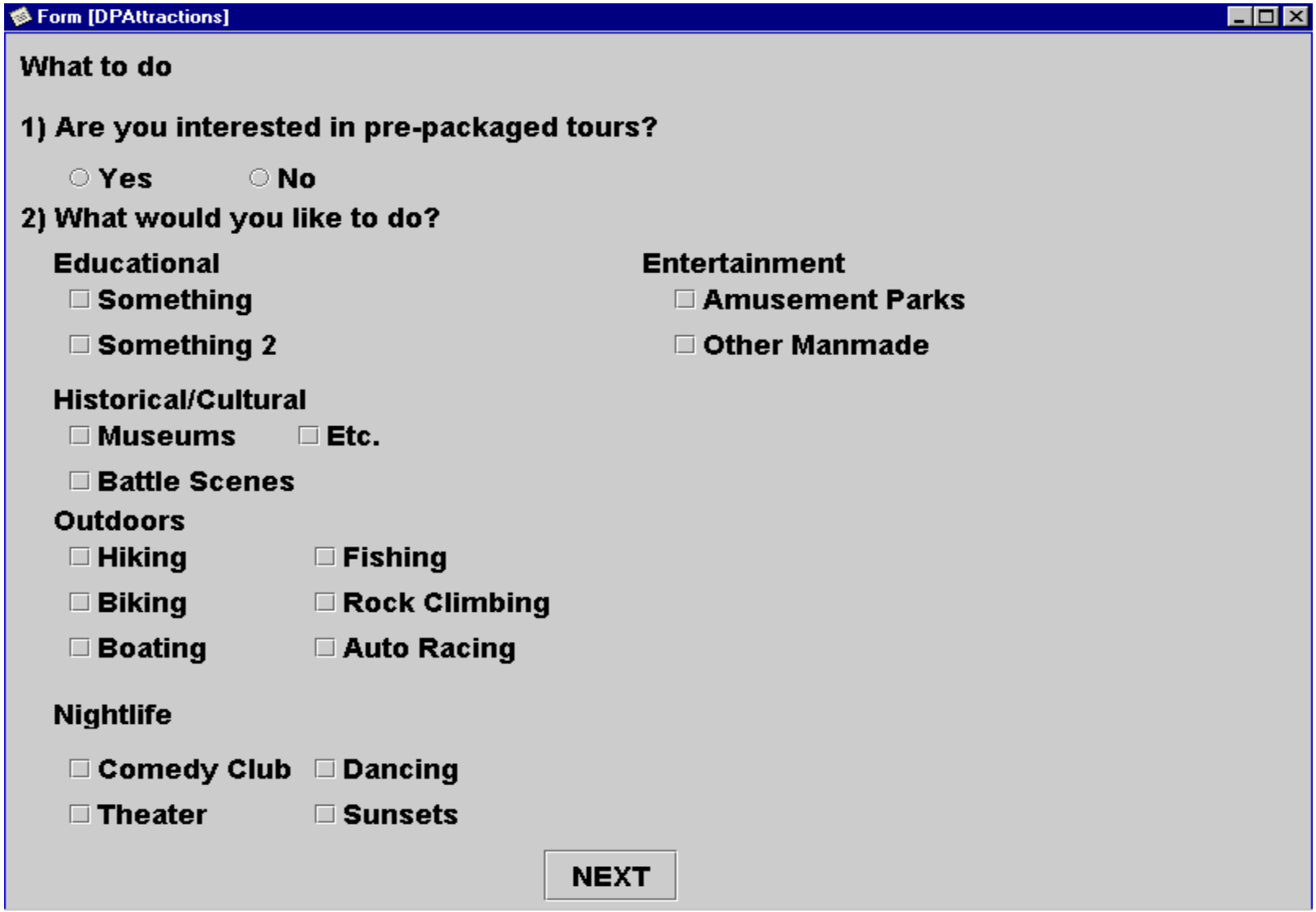


Figure 10: Attractions

Lodging

The lodging or accommodations page would query the user regarding what type of accommodations they are interested in. Again, the list of types would be based on what is available at the destination. The page would also determine a price range the user is interested in as well as the "bells and whistles" they would like.



Figure 11: Lodging

Food

The food page would be used to query the user about their restaurant preferences. The answers given pertaining to “type”, “style”, and “availability” would need to be independent rather than mutually exclusive. In other words, if the user chose “Italian”, “buffet”, “take-out” then the summary report should indicate all facilities that meet any of those criteria rather than only listing a buffet-style restaurant that serves Italian take-out.



Figure 12: Food

Travel Arrangements

The travel arrangements page has two main goals – determine user's desire for "how to get here" and "how to get around". "How to get here" information would pertain to getting to the destination from another location (e.g. plane, train, bus). "How to get around" would be information on local means of transportation (e.g. bus, trolleys, rental cars).

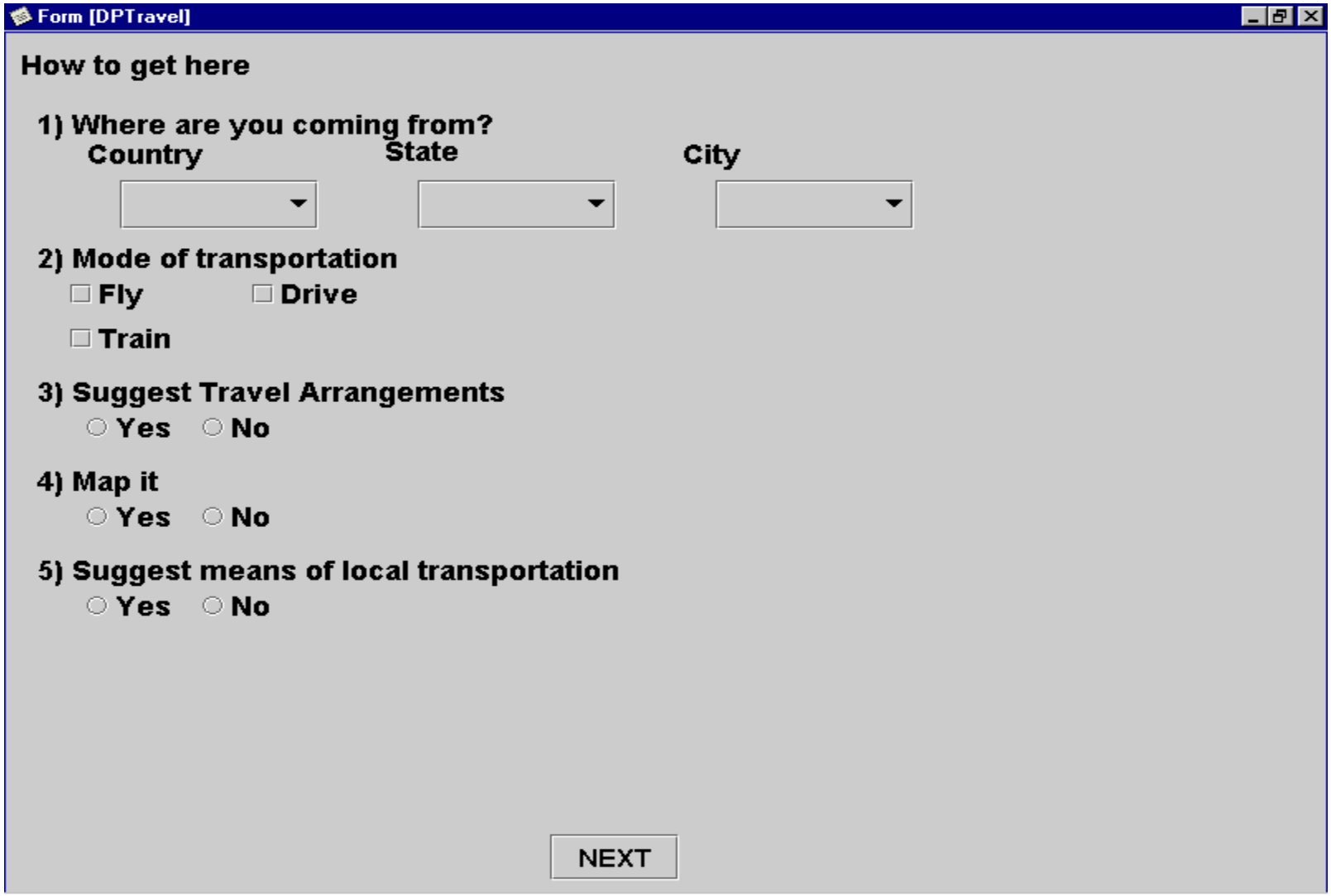


Figure 13: Travel Arrangements

Price/Availability

The price/availability page would create a ballpark price scheme for the visitor based on number of visitors, ages, and requested information. The price scheme would not be 100% accurate since the user may ultimately decide to change criteria but could be used as a starting point for the utility maximization process. The availability would be very handy if the tool could link into the suppliers systems to determine availability. At a minimum, availability should suggest what the peak times and off-peak times for the destination are.

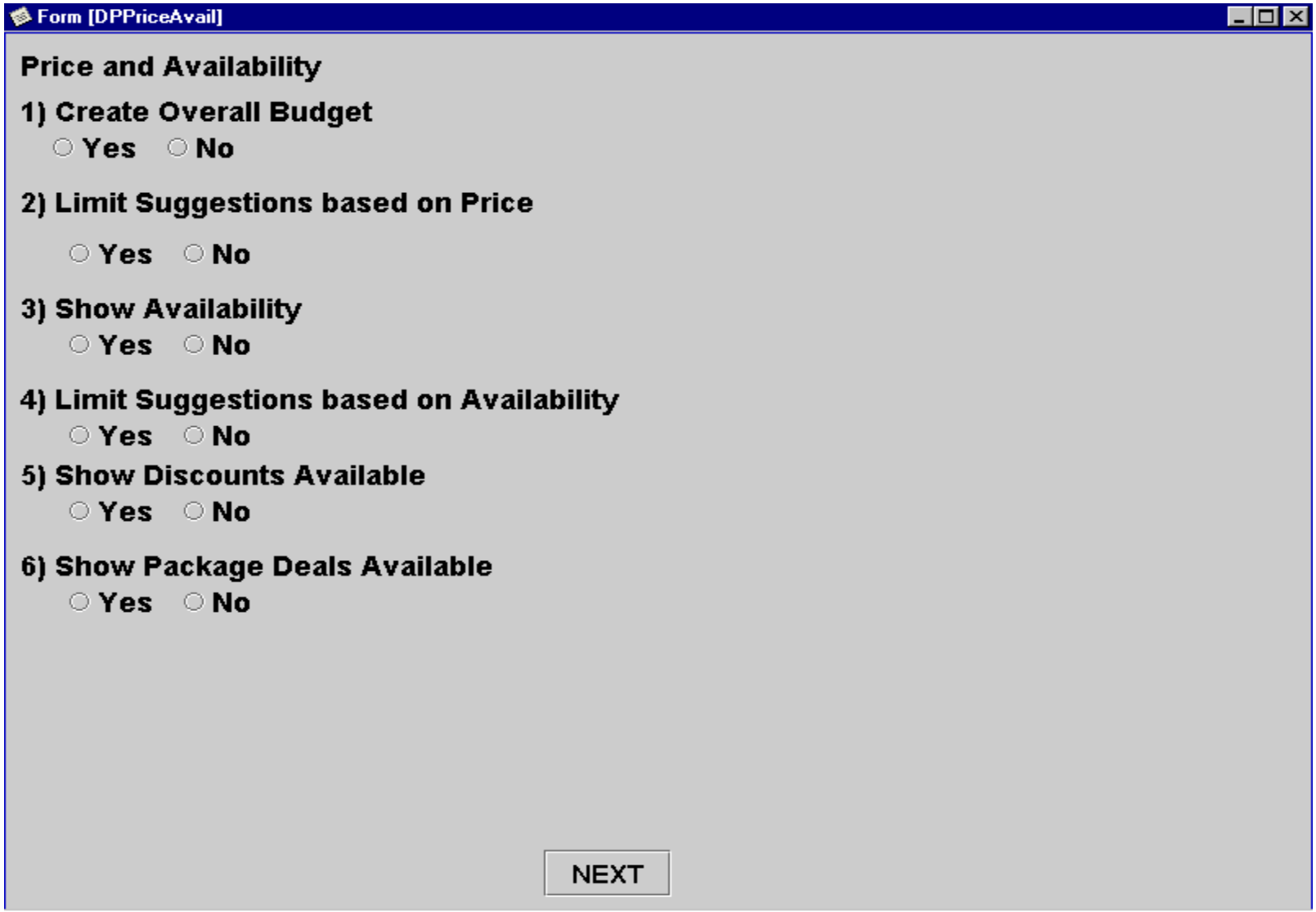


Figure 14: Price and Availability

Summary Report

Based on the answers in the previous pages, a summary page would appear detailing a suggested trip plan. This page would have options for printing, e-mailing, saving the information, or further refinement of the information. The print option would include the ability to print a summary version of the report or a detailed version of the report. The print option would also include the ability to include or not include any images as desired. The "redo" options would be for the entire trip or specific criteria. The user may want to start the interview over ("redo trip") or further limit criteria for a specific section ("redo selected criteria") (e.g. only select hotels in a certain price range rather than hotels and motels).

The page would resemble the form below. A decision would need to be made by the destination as to whether all categories are always shown or whether only categories specified as important on the "Plan What for Who" page are shown.

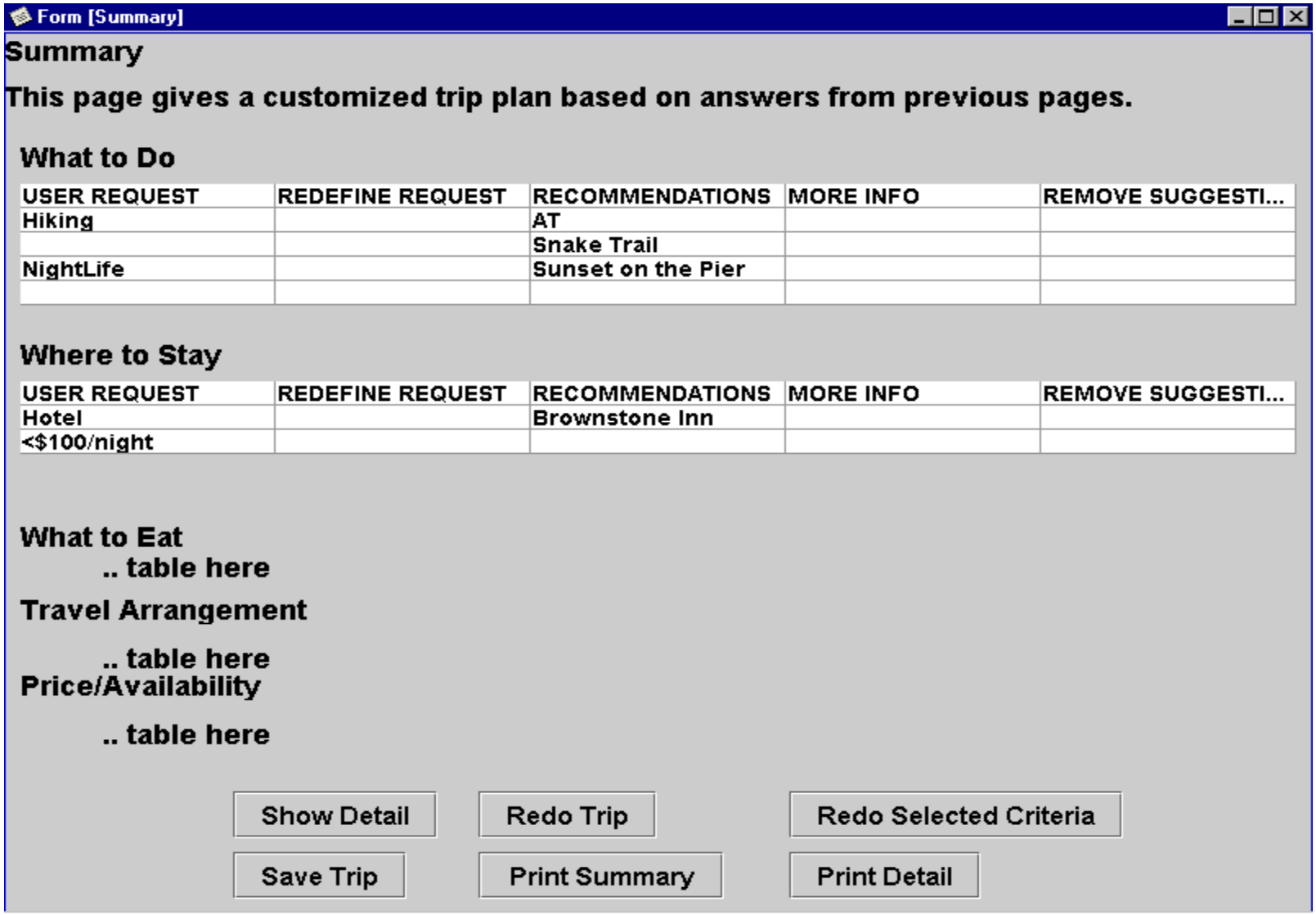


Figure 15: Summary Report

The detail report would be more of a narrative format specifying in-detail the custom guide. An example of a detail report is shown below.

Detailed Trip Guide - (some name given by user when saved) **Created on May 1, 2002**

User Requests

The following is the information that was requested for this trip guide.

Customer Information: Two adults, no children, new visitors, visiting in April thru May timeframe for two weeks.

What to Do: Beaches, Hiking, Nightlife

Where to Stay: Hotels less than $100 a night. Hotel should have a pool and a concierge service.

Where to Eat: Restaurants that are buffet-style or serve Italian food. Price is unimportant.

Travel Arrangements: Travel Arrangements were not requested by the user.

Price/Availability: Package deals and a ballpark price scheme are shown.

Suggestions

The following is your customized trip guide.

What to Do:

Hiking is plentiful in the Hot Springs area. We suggest "Snake Trail" and the "AT trail". Both of these trailheads are located just outside of hot springs on the SR 1315. See map below for location of starting point. Snake Trail is 3 mile, two hour round-trip trail that takes you past Snake Rock and presents a view of the Snake Waterfall. The AT is .....

Sunsets are best viewed from the deck of the Rex Restaurant located on... Sunset viewing time in April thru May is approximately between 6 and 8 p.m.

Where to Stay:

The Brownstone Inn, located at 413 Main St, has double-occupancy rooms available for approximately $45/night. Peak visitor time are May through August so make your reservations early by calling 888-888-8888 or clicking brownstone.com. The outdoor pool that is open May through September.

Where to Eat:

The "ALL-YOU-CAN-EAT" buffet, located at 4 West St, is well-known for its quantity of food. No reservations are necessary. Approximate dinner plate prices is $5.

Vincent Italian fine-dining, located a 43 West St, is rated by Siesel and Ebert as "the best Italian food outside of Sicily". Reservations are recommended and gentlemen are required to wear suit/tie. Approximate dinner plate price is $25. Call 888-888-8888 to make reservations.

Travel Arrangements: Travel Arrangements were not requested by the user.

Price/Availability:

The Brownstone Inn offers package deals for customer that would like to book "Haunted House" tours at reservation time.

Your overall price scheme based on the items above is below:

Lodging at the Brownstone Inn ($45/night for 14 nights): $630

Dinner at the ALL-YOU-CAN-EAT buffet: $12

Figure 16: Detailed Report

Compare Me

The remaining pages from the dialogue diagram are not prototyped since they are outside the scope of the interactive marketing tool. These pages are described at a high level to show other means of retrieving information about a destination. These pages or a version of them should be included to accommodate user needs.

The third page available from the initial plan trip page is the "compare me" page. The page would be used to compare the destination during different seasons or even to compare this destination to known competitors. The known competitors option could give the destination a way to present themselves in a favorable light against direct competitors.

On the Go

The third option from the main page would be the "on the go" page. The intent of the "on the go" page would be to provide information and services to tourists currently at the destination who would most likely be using a mobile device. An example would be a tourist driving down Main Street who would like to know what restaurants are within a two-mile radius. This page or sequence of pages will not be prototyped in this thesis but should be considered an integral part of a destination's ongoing e-commerce strategy.

Contact

The fourth option from the main page would be the "contact" page. From the contact page, the user could get general contact information or specific contact information. General

contact information could include Chamber of Commerce, visitor centers, or travel agencies. Specific contact information could include numbers for specific suppliers such as a restaurant or hotel. The specific contact information could be especially useful for visitors already at the destination using their mobile device to get further information about a supplier.

How Site was Created

The fifth option from the main page would be the "how site was created" page. This would give the user information on how data is put on the site. This would allow them to know how often and by what means information is updated (do suppliers directly input information, is the site limited to paid advertisers, etc.).

Conclusion

This proto-type tool is a working start on what an interactive marketing tool should encompass. The limitations of the tool and recommendations for future versions are described in the next chapter.

Chapter 5 - Summary and Conclusions

Limitations of the site

As with any system documentation it is important to address what is not covered by or within the scope of the system. The following list is not meant to be all-inclusive but simply to hit some of the highlights of what the user should not expect from the proto-typed system. Some of these items should be addressed in further revisions of the system. This list includes: greater breadth of tourist interviews, marketing of the site, supplier side issues, user training, costs, or potential discrimination.

The travelers interviewed were representative of young, working professionals. Future revisions of the system may do well to include a larger sample of interviewees. The expectation is that more interviews will not alter the general decision making framework. My belief is that the decision-making framework, as shown in figure 3, is comprehensive enough to represent the decision-making process of seniors and other demographics. The sample interviewed for this thesis was sufficient for the creation of a prototype tool.

Marketing of the site is related to how you let users know this site is available for their use. During my website reviews cover earlier in this thesis, it was sometimes difficult to know when a site was "an official destination" site or an advertising based site. Thus careful consideration will need to be made as to how to distribute the address of the site and how to most effectively market it.

Supplier side issues include how suppliers interact with the site, who inputs data into the site (do the suppliers input their own data or is data cleaned/categorized by a designated gatekeeper), quality and timeliness of data, and the accuracy and completeness of the data.

The supplier side of the system is certainly an integral part of the system. This thesis focused solely on the customer requirements and customer interface for the system. The definition of a customer, for purposes of this thesis, was equivalent to tourist. For the system as a whole, the supplier would be considered a customer of the tool as well.

User training, in theoretical realms, is not needed if the system is correctly designed. In practical application user training might need done. It is only possible to meet the customers' expectations of the system if you can control or define what those expectations should be upfront. User training might also need done for suppliers and host organizations. A scenario of when host organization would need trained is that tourists would call up a visitor center asking how to use the tool. The employees of the visitor center (representatives of the destination in the tourists mind) would need to be prepared to explain the tool.

Costs of the system, including software, hardware and ongoing maintenance costs, would need reviewed. The issue of hardware costs would integrate with supplier side issues. For example, a policy would need to be set to define the amount of data a supplier could put on the site. Performance of the site overall may be impacted if one supplier were to put 20 giga-byte of data on the system.

Discrimination is a twofold issue. First the destination would need to consider ways of accommodating suppliers and/or tourists who do not have online access or sufficient bandwidth to use the tool. While more people have online access each day, there still exists a digital divide. Secondly, this tool as defined does not address cultural or language translations. As tourism is a global industry it would be important to allow for language translations and to accommodate cultural translations as much as possible.

Future Versions

The tool for this thesis is a prototype or a scaled-down version of the final tool. The proto-type was put through “pre-alpha" testing. Alpha testing is defined as "user testing of a complete information system using simulated data" (Valacich, George, and Hoffer, 2001). Beta testing is defined as "user testing of a completed information system using real data in the real user environment” (Valacich, George, and Hoffer, 2001). This tool is by no means complete. Testing was done by showing potential users the screenshots and walking them through the process.

There was some confusion as to the flow of the screens and how a user would get the information they needed. In part, I believe this was due to the fact that screenshots rather than a working prototype were used for the review. For example, one user kept flipping back and forth between expecting it to be a destination specific site versus an independent travel site (like Travelocity). If this had been a working prototype with real or better simulated data than this user may have been less confused. A working prototype would have included navigational aides such as “float over text tips” where hovering a mouse over a button would give a detailed description of what the button would do. Also, no options were show for saving data midway through the tool. This save option was described in the text but not shown on the pages. Since it was not shown on the screen shots, some testers were disturbed and confused as to why they could not save and revisit their data.

I also believe that users were trying to fit this into existing knowledge base (e.g. "can you make it look like google's website"). This implies that either some redesign would need done to make the interface more intuitive or that a user-training (e.g. a how to use the system) screen would need included.

Some revisions were made to the interface after user review. For example, on the accommodations screen there were originally check boxes associated with the costs question that allowed the user to specify that they were interested in discounts or package deals related to their accommodations cost. These check boxes were put there based on the interviews where some users were very interested in discount accommodations and other users do not take discounts into account at all. However testers felt that while they were not interested in discounts specifically they assumed any discounts would be included in the cost range. So it seemed a better design to not ask about discounts on the accommodations page and rather signify discounts on the price page and acknowledge base cost and discounts in the summary report.

Another change made, based on user review, was to remove questions related to location and accessibility. These two questions were on both the accommodations and the food pages. The intent of these questions was to determine whether the location and means of accessing (e.g. walking, public transportation, etc.) the lodging and restaurants were important to the user. Without doing a beta test (having real data) or specifying that the tool was city specific, it was impossible to put those questions in context. If the tool is city specific, then location could be defined in terms of "within walking distance of downtown", or “within five minutes driving time of x". If the tool had a broader scope than city specific, then the user would need some means of specifying within “x” distance of “y”.

Conclusion

This thesis created a proto-type of an interactive marketing tool that can be used by a destination as part of their e-commerce strategy. The systematic approach used covered

three phases of the system development life cycle – systems planning and selection, systems analysis, and systems design. The literature review identified why e-commerce and an interactive tool are integral to a destination's strategy. The web site reviews and in-depth interviews provided input as to what destinations are already providing and what customers really want. These results were then inputs into the methodology used to create the proto-type tool.

The end result is a working start of what customers would require from an interactive marketing tool. Future versions of the tool would include in-depth user reviews, more detailed testing and the use of expert designers. The intent of the in-depth user reviews would be to answer the question "Does the tool do what you want it do". This is sometimes also called "user acceptance" testing. User acceptance testing is done formally prior to implementation but is frequently done informally throughout the process to ensure the system is still "on-track". More detailed testing would include unit (each module alone), integration (all modules together), system (all pieces together), and stress/performance testing (under heavy user loads). The intent of these types of testing is to identify any issues with the code or the hardware/software environment from a technical (rather than user) perspective.

Areas of future research, as related to this tool, include: supplier-side requirements, host requirements, and the research of new technologies and how they could affect the ultimate design of the tool. Supplier-side and host requirements are critical to the tool since they would ultimately be end-users of the tool as well. Some of their requirements would include: how to get information into the tool, how to generate reports, and how to use the tool to effectively manage tourists. New technologies, such as end-user devices and portals, may eventually affect the look-and-feel of the tool.

Knowing the customer, understanding the decisions they make, and relating that to our current and future technologies will enable the creation of a system to effectively assist tourists in their decision making processes.

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Appendices

Appendix A: Interview Questions

1) How do you select potential destinations to evaluate for trips?
    a. Is there a limit on number of destinations that will be in the pool?
    b. Use of travel agents?
    c. Use of friends/family recommendations?
    d. Magazines/tv shows/internet searches?
    e. Brochures from destination or travel guides?
    f. Prior experience with destination or similar destination?
    g. Date and then options, or options and then dates?
    h. % of time used on each of the above.
    i. % weight each above has

2) How do evaluate each potential destination option?
    a. Attributes looked for
    b. % of weight each attribute is assigned

3) Describe what would positively influence your perception of a destination. (rate when done.)

4) Describe what would negatively influence your perception of a destination. (rate when done)

5) What is your family like … describe your family. What influence does each member have on the decision making process?

   Side note: more folks may use vacation time to visit family members than they did in past.

   a. Joint or individual?
   b. Adults, children, both?
   c. More influence than another?

6) Is this decision making process the same for each type of trip or does it vary? For example, is the planning decision-making affected by get-away, yearly, dream vacation status?

   a. Length of trip affect
   b. Price of trip affect
   c. Participants affect
   d. Expense of trip
   e. Type of trip (going anyway versus get-away versus dream trip)

7) Recap answers above and see if this accurately reflects their decision making process. Ask for additional information/feedback.

8) What things should be included in an interactive web-site that you might use to plan for a trip? If there were an interactive tool to determine your image of a destination and your needs/wants, would you be willing to use it?

   a. Length of time you would spend on it
   b. Weight it would have in your decision process (independent versus destination driven)
   c. What you would expect from the tool?
   d. Concerns about the tool?

9) Get general demographic info.

   a. Age
   b. Married/single/divorced
   c. Children
   d. Race
   e. Occupation
   f. Education level
   g. Access to computer (where work, home, on-road)
   h. Number of trips taken/planned in past x years

How would you rate these factors in positively influencing your image of a destination?

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Ease of getting information via net					
Ease of getting information via print					
Web site design					
Print media – timely					
Print media depicting alternative culture/generations/					
High quality of print media					
Good service/response from broker (hotel agent, chamber of commerce)					
Media reports					
Word of mouth					
Other:					
Other:					

How would you rate these factors in negatively influencing your image of a destination?

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Ease of getting information via net					
Ease of getting information via print					
Web site design (slow, broken links)					
Print media out of date					
Print media depicting alternative culture/generations/					
Poor quality of print media					
Poor service/response from broker (hotel agent, chamber of commerce)					
Media reports					
Word of mouth					
Other:					
Other:					

Appendix B: Technical Terms

All technical terms below are cited from Essentials of Systems Analysis and Design by Valacich, George, and Hoffer, 2001.

Alpha testing: User testing of a complete information system using simulated data

Beta testing: User testing of a completed information system using real data in the real user environment

Conceptual data models: Shows organization of data independent of software/hardware

Context data flow diagram: Shows system boundaries, external entities that interact with system, and information flows of the system

Data flow: Data in motion

Data stores: Data at rest

Dialogue diagram: Shows interfaces between system and users

Entity-relationship diagrams: Shows at detailed level the entities, associations, and data elements

Integration testing: Testing all modules together

Interface: Point of contact with users or other systems

Level-0 diagram: Shows systems major processes, data flows and data stores at high-level

Logic modeling: Shows the internal structure and functionality of the processes represented on the data flow diagram

Process Modeling: Show processes of a system graphically

Process: Work performed on the data so that they are transformed, stored, or distributed

Proto-type tool: Limited version of the desired system

Rapid application development: Methodology used to decrease time of SDLC.

Source/sink: Origin and/or destination of data

Stress/performance testing: Testing the system under heavy user loads

System testing: Testing all programs of the system together

Systems analysis phase: Phase of SDLC where system is analyzed and alternatives considered

Systems design: Phase of SDLC where logical (do not consider computer platform) and physical (consider computer platform) requirements of system are considered.

Systems development life cycle (SDLC): Phases during the development of an information systems.

Systems planning and selection: Phase of SDLC where information is gathered and analyzed to determine what system to create

Unit testing: Test each module alone