AN INNOVATIVE EVENTS PLANNER FOR TOURISTS ON A TIME BUDGET

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Abstract

As travelling around the world becomes faster and cheaper, most people travel with greater ease. The reason for travelling may differ but time is always limited. Planning limited time in an effective and efficient way is a matter for designers to solve. This paper investigates a sample Tourism Information System (TIS), named "Event Planner", which is designed for tourists on a time budget.

Event Planner presents two methodological approaches to support the tourist. The first is the personalization, which is based on knowing user, matching user preferences, using predictive behavioral techniques. The second is a location based service which is used to perform functions based on the concrete geographical information and show this information on the map.

Keywords : Event Planner, Geographic Information System (GIS), Tourism Information System (TIS), mobile application, personalisation, location-based services

1. Introduction

The ideas in this paper date back to summer of 2002. After participating IIID's summer academy in Vienna, I had started working on TIS project at university for winter semester. The project's aim was designing a TIS project based on a database, according to the choices of the user the database would be queried and the results would be filtered. These choices will be made on digital screen and supported by audio and visual interactions.

My paper consists of three parts. In the first part I will explain you the development process of the Event Planner, the web-based application that was completed at the end of the 2002 winter semester.

Second, I am going to present you the transformation of Event Planner project from web to mobile applications. Therefore different types of interaction will be discussed.

Finally, I will draw out some practical implications of the project for tourism sector.

2. Event Planner

Having a system that can determine the user's location and personalize the content according to user's preferences is the main objective of the Event Planner project. First implementation of the project was a web-based application that everyone could access with regular Internet connection. Project started with a scenario and sample user groups that form micro scenarios.

2.1. Macro Scenario

Istanbul is one of the biggest cities in the world which hosts many international events and organizations. Thousands of people with different needs visit Istanbul. But Istanbul has very complex structure for tourists who don't know the city. Event Planner helps organise our visitor's full day events (regarding their time limits, knowing their location) and spend their limited time in an efficient way.

2.2 Micro Scenario

A foreign film director is in Istanbul for International Istanbul Film Festival and will stay in Istanbul for 1 week. He has a pre-arranged festival program to see the movies. When the director gets the program, he recognizes some free time available for travelling the city. At this time the festival committee informs him about a new service called Event Planner, an interactive digital organiser which will help him organise his full week. Only an ID number and a password are required to use this service and he can see all his pre-arranged program on Event Planner already entered in the organiser.

2.3. Content & Interface

Event planner has three main interfaces. First one is login screen for user to input his ID. Second one is the main screen which calendar and event category icons are included. Third one is the detailed information window that displays the map and info screen about places.

2.3.1 Intro Screen

Fig. 1 Login Screen of Event Planner

This is the first screen of the program when the user starts to use Event Planner. There is a textbox to input the ID. A group of icons which constitute categories are on the left. When the mouse rollovers, a hint appears for the user for later interactions.

2.3.2 Main Screen

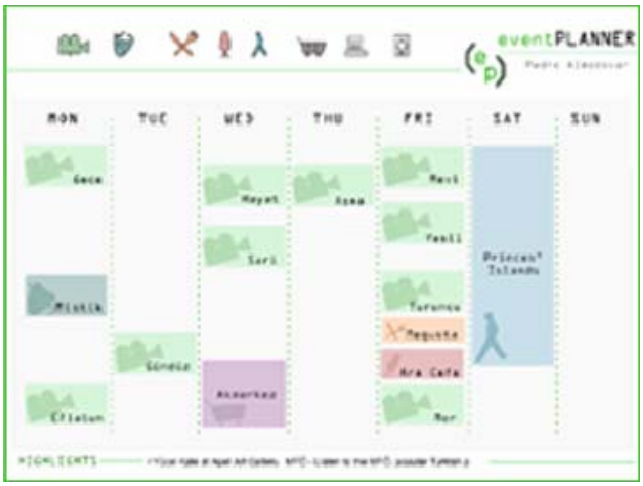

Fig. 2 Main Screen of Event Planner

Events are divided into 6 main groups. These are Movies (festival films and other films on theater), Entertainment (Music, Exhibition and all other cultural activities), Eat, Drink, Sightseeing and Shopping. Menu interaction is similar to Apple Mac OS X Dock Menu efffect. When user rolls over one of these icons, icon magnifies and user can drag & drop it to an empty space on the calendar. When the user drops the icon system will automatically know the amount of free time available by looking former and latter events that exist on the calendar, together with these events' locations, and predicts current location of the user. Calendar is limited to weekly view just because of the scenario, but daily and monthly views will be available for next versions. Previously added events to the calendar pop-up at rollover and if user clicks info screen is displayed and user can easily access information about the event.

2.3.3 Info & Result Screen

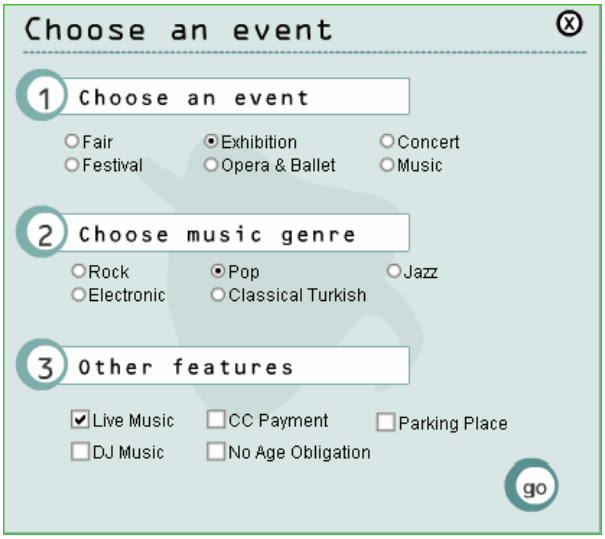

Fig. 3 Questions to get user preferences for query

After drag & drop a window pops up on the screen and asks the user a few questions. These questions can be answered with default preferences of the user. These default preferences are pre-entered to the system by operators. The entering and storage of preferences will be discussed later. Questions are asked step by step and answers to them, together with location and available time create search criteria. The results are displayed with a visual approach on touristic maps, which give the tourist a good impression of "what is

where" to decide which of the resulting objects fit best to the user's needs, interests, location and available time. This is an interactive map that the user can scroll, zoom in/out the map to adjust it. Search results are shown on the map with icons that represent categories. When the user rolls over the mouse, a sliding window appears on the left side of the map and shows detailed info about the place. If the user decides to add this item to the calendar, he can do so by just clicking on its icon.

Fig. 4 Map and accessing detailed information

2.4 Results

The user can share the weekly plan over Internet with his friends and arrange meetings. Info on the map can be printed out if no PDA is available.

2.5 Conclusion and Future Works

As you see, the project has some limitations, such as entering user preferences to the system, determining the exact location and available time etc. All these limitations were revealed at the end of the project and me and my project advisor decided to develop an extended version for mobile and PDA devices. This process requires different interactions, user interface design, and network design to find exact location. All these will be discussed in next section.

3. Event Planner on the Move

Modern lifestyle corresponds with high personal mobility. Advanced new features like user positioning allow sophisticated applications that are not possible in the fixed Internet or traditional cellular networks. Users have special demands because of the mobile environment. So Event Planner must be redesigned for mobile systems.

Some of the current limitations of Event Planner are: Finding and extracting the appropriate information, and receiving the information in a form that is easy to digest and suitable to the user context, the transport characteristics of the delivery network, and the terminal capabilities.

These limitations can be solved by developing mobile Event Planner. Next chapters will explain basics of mobile systems.

3.1 Mobile Users

The penetration rate of mobile data users in the U.S. has grown from 7% in 2000 to 44% in 2003 and will reach 83% by 2005 (ARC Group). Japan and Western Europe expect even higher rates of 90% and 91% respectively.

3.2 Mobile Devices

Mobile appliances can be generally grouped into five different groups, although this classification of mobile devices is not robust:

- *Mobile Phones* : are increasingly becoming popular, with an expected 57% to be Internet enabled by 2002.

- *Communicators* : are portable information centric devices, such as pagers, often with voice capabilities.

- *Embedded Devices* : such as watches, pens, glasses, etc. will use developing technologies such as Bluetooth in order to become Internet enabled.

- *Personal Digital Appliances*: are devices such as the Pocket PC, or the PalmPilot Handheld computers.

- *Tablet PC* : is a type of notebook computer that has an LCD screen on which the user can write using a stylus.

3.3 Mobile Networks

With each new generation of technology, the services which can de deployed on them become more and more wide ranging and truly limited only by imagination. As mobile technology grows, these services will be digital mobile multimedia offering broadband mobile communications with voice, video, graphics, audio and other information.

- *GSM* : GSM networks deliver high quality and secure mobile voice and data services (such as SMS/ Text Messaging) with full roaming capabilities across the world.

- *GPRS* : General Packet Radio Service (GPRS) enabled networks offer 'always-on', higher capacity, Internet-based content and packet-based data services. This enables services such as colour Internet browsing, e-mail on the move, powerful visual communications, multimedia messages and locationbased services.

- *UMTS* : third generation of mobile communication brings to life the full potential of the mobile internet, opening up new vistas of communication, accessing information, conducting business and also being entertained.

- *Bluetooth* : Bluetooth is an alliance between mobile communications and mobile computing companies to develop a short-range communications standard allowing wireless data communications at ranges of about 10 meters.

- *Wi-fi* : this wireless local area network (WLAN) technology provides high-speed Internet access (20 times faster than a 56K modem) and LAN connectivity over distances of under 500 feet (150 meters), usually within one building.

3.4 Mobile Applications

You can see the European projects related to wireless tourism applications. CRUMPET is a project that inspired me and affected the development of event planner in a positive way.

- *Crumpet* : CReation of User friendly Mobile services PErsonalized for Tourism

- *Guidefree* : Guide by Telematics to Enable Tourist Freedom at Sites

- *Palio* : Personalised Access to Local Information and for tOurist

- *Tellmaris* : Give the user better tools for locating specific information

- *Tourserv* : Personalized Tourist Services Using Geographic Information System via Internet

- *Vmart* : Virtual Market place for Rural Tourism

- *Wham* : The world in your HAnds on the Move

3.5 Wi-fi Applications

You see lots of communication standarts and applications developed with wi-fi applications. While designing event planner we decided to use wireless LAN technologies. It is called Wi-fi (Wireless Fidelity – technical name 802.11x). Main reason for our decision is great demand for this technology from travel and tourism industry. Hotels are rushing - even when industry revenues dip - to meet the perceived demand from customers for the Wi-Fi. Access to Wi-Fi zones is sometimes available free on college campuses, in city parks and airports, train stations and even coffee bars. But recently, airlines like British Airways and Lufthansa have begun testing Wi-Fi access inflight, at a price. And many high-end hotels have been rushing to install wireless services in their guest rooms, meeting halls and other public spaces. Here is a list of some popular public wi-fi hotspots. Wi-fi services from Mc Donalds, Starbucks, Paris Underground made this technology popular. Secretary of UN Kofi Annan made a speech about supporting Wi-Fi technology in developing countries, and the Portugese Government decided to support Wi-fi networks.

In next 2 years 80 % of PCs will support Wi-Fi connection. In 2008 there will be 75 milllion Wi-Fi users and 167.000 hotspot (Gartner Group).

3.6 Location + Personalization = Killer Applications

But the Wi-Fi will not be a simple wireless access to the conventional Internet. It will not succeed if it merely tries to duplicate the traditional Web. Many online services that simply "translated" their websites for wireless use failed to achieve any significant usage. This includes some major travel services and travel suppliers. Slow speed, primitive phone browsers, small displays, limited data-input capability (e.g. type keywords in a search), multi-step booking and information retrieval process are some of the factors. Experts claim that your wireless service loses 50% of the potential customers each time they are required to push a button on their mobile devices.

If the mobile Internet means location + personalization, then this nicely coincides with the very definition of what travel is all about: location + personalized customer service. The mobile Internet demands an entirely new breed of applications that take full advantage of the unique characteristics of the wireless environment and the fact that these applications are delivered via a very personal device (e.g. your cell phone). Some of the "killer" applications for the mobile Internet include: time and location sensitive services; short, interactive, instant applications; highly personalized services; "always on" services; PIM applications; instant notifications, email and messaging; entertainment during "dead" time (commuting, etc) and voice-browsing applications.

4. Conclusions and Future Work

In our study we tried to design an innovative event planner for tourists on a time budget. To achieve our goals, we tried to access information with minimum user interaction. It must not take the user more than 3 clicks to access desired information. We are planning to implement this project by answering these questions.

Who / Where / In which scenario you are ?
Which preferences you have
Which information you want to receive
Where the data resides

We want to integrate tourism and GIS data to display our information on the map. This will tell the user where things are, what they are, how they can be reached by walking or other transport, and what other attractions are nearby to help them to find the most suitable location to stay or to visit.

We have almost finished system design and are currently planning an extensive development phase on wireless version of Event Planner. The usability study will be conducted by students attending our departments project lessons. Some system enhancements such as GIS implementation are planned for Event Planner

5. Acknowledgements

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