Chapter 58
Geospatial Mashups in Web GIS for Tourism Infrastructure:
Internet-Based Channel Perspective Promotional Measures

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ABSTRACT

A Mashup is the process of merging multiple sources of data, both spatial and non-spatial, into a single integrated spatial display. It is about extracting spatial data from a non-spatial source and combining with other spatial data and finally displaying it on a map. Mashups can potentially combine any type of contents and functions over the web, regardless of whether a formal interface of programming is available (Fu et al., 2011). The present study discusses the basic architecture of the Geospatial Mashups in Web GIS and its application in tourism promotion.

INTRODUCTION

Tourism is defined by the World Tourism Organisation *(NSCB, 2004),* as the act of travelling for the purpose of recreation and the provision of services for this act. Tourism is a vital part of the global economy. Currently, this industry is one of the fastest growing industries all over the world. Tourism has some specific advantages over other industries like; it helps countries that are poor in material wealth but enriched in heritage, culture, history to utilize their unique characteristics as a revenue-generating source. It creates networks of different supporting operations like restaurants, hotels, transport services, guides, local small scale industries and many more. This business involves many socio-economic activities like promotion and advertising tourist spots and destinations, providing effective transport facility, fooding-lodging, entertainment etc. which tends to encourage the overall development of infrastructures

that benefits the host countries. This smokeless industry is essentially a kind of service industry; it renders service to the tourists (Chaudhuri & Ray, 2015). Information and communication is an integral part of any service industry, tourism is not an exception. Information Technology breaks the geographical boundaries and share with the global audiences. It integrates between tourism products and requirement of the tourists. Information and Communication Technology (ICT) can lead tourism to emerge as a new mantra for alternative economic development (Buhalis, 1998). Information technology is being rapidly diffused throughout the tourism industry and that no player will escape from information technologies impacts. These technological innovations started in the 1970s when the main airlines set up CRSs (Computerized Reservation Systems), with the strategic aim of building a global distribution network for their products. Connecting travel agencies to the CRSs set off a process of distribution automation involving an ever-increasing number of tour operators, carriers, and car hire firms, individual hotels, hotel chains, and other hospitality firms (Chaudhuri & Ray, 2015). Geographical Information System (GIS), an ICT tool has been extensively used for tourism promotion and management. It was in use for GIS data design and collection, database design management and application of tourism analysis and problem solving. Currently, Internet has become the inseparable part of the Information and communication technology. The GIS technicians and researchers started research on how to share the GIS features online, rather than using it as a standalone system. In the year 1993, the Web GIS started evolving rapidly. The online static maps slowly changed to interactive dynamic maps over the World Wide Web. This is the first step of Web GIS. The greatest advantage was to get rid of traditional desktop GIS, its installation and data sharing hazard. Today's web user can create content on the web both collaboratively and individually, allowing for a personalized web experience through wikis, blogs, podcasts, photo sharing, and other technologies. GIS and mapping applications have both benefited from and contributed to these trends, collectively called "Web 2.0" (Pierce et al., 2009). This provides the concept of *Geospatial Mashups*. Integration of multiple data layers from varied sources, is one of the most common and effective functional requirements of Web GIS applications. On the Web GIS context, a Mashup is the process of merging multiple sources of data, both spatial and non-spatial, into a single integrated spatial display. It is about extracting spatial data from a non-spatial source and combining with other spatial data and finally displaying it on a map. Mashups can potentially combine any type of contents and functions over the web, regardless of whether a formal interface of programming is available (Fu et al., 2011). The present study discusses the basic architecture of the Geospatial Mashups in Web GIS and its application in tourism promotion.

Objectives of the Study

The main objectives of the present study are:

1. To identify the major challenges and opportunities of Web based Information and Communication technology in tourism development.
2. To study the role of Web GIS in general and Geo-special Mashups in particular for analyzing destination image.
3. To figure out major Geo-special architecture channels and recommend the application of it in various means for promoting tourist destination.

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