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Web Enabled Heritage Information System -A Case Study of Bundi District (Rajasthan)

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ABSTRACT

The Remote Sensing and GIS tools have opened new paths in tourism and allied studies. Remote sensing provides multi-spectral, multi-temporal and multi-sensor data of the earth's surface and tourism destinations. This technology is very useful as it offers a powerful set of tools for collecting, storing, analyzing and visualizing spatial data for tourism planning and development. GIS makes possible to share information with a large amount of people. To enhancing the exploitation of resources some important layers has used in this study as road/rail network and heritage site In this study Global Position System (GPS) were applied for collecting heritage site and other facility site for tourist location. The system developed to explore such potentialities in the field of heritage; the prototype is based on SQL-server for data and DbMAP ASJ for cartographic publication and data query over the Internet; the extensive use of codes makes the system very flexible. Bundi has a social, cultural, historical place and natural environment, which needs to be preserved. . Bundi has been rightly termed as the queen of Hadoti. It is this environment that is valued the most by the fastest growing segment of the tourism and travel market, the upper end international tourist. This research provides the information about Bundi district tourism status and helping tourism development. This paper is based on the use of modern spatial computing technology in the development of spatial tourism.

Keywords: *Remote Sensing, GIS, Web Server, Network Analysis, Heritage site.*

Introduction

Tourism Industry in India is one of the most lucrative industries in the country and contributes substantially to foreign exchange earned. In fact, during 2012-13 about 5.2 million tourists visited India and spent US $12.8 billion, thus making India one of the major global tourist destinations. Almost 20 million people are now working in India's Tourism Industry. India's tourism is thriving, owing to a huge flow in both business and leisure travel by foreign and domestic tourists and is expected to generate approximately US$ 275.5 billion by 2018. Bundi has been the best of what a perceptive tourist can hope for in terms of natural attractions, social and cultural environment, physical quality of life and so on.

Location and Geographical Area

The district is situated in the south – east of Rajasthan, between latitudes 24º 59′11″ and 25º 53′11″ North and Longitudes 75º 19′30″ & 76º 19′30″ East. The length of the district from east to west is about 110 km. and it is about 104 kms.

from north to south. Bundi is bounded on the north by Tonk District, on the west by Bhilwara and on the south – west of Chittorgarh district. The river Chambal forms the eastern Boundaries, separating the Bundi and Kota territories. The southern part of Bundi forms a wedge between Bhilwara and Kota and also touches Chittorgarh district. The total geographical area of the district is 581938 hectares.

Figure 1 : Location Map of Bundi District.

Methodology

The research in tourism has undertaken by well-programmed and integrated approach set up on reliable methodology. For data collection field survey, identification, selection and evaluation of sites data required. To identify the tourist sites in Bundi systematic tourism utilizing Remote Sensing for field studies, Global Positioning System (GPS) for collecting the site location and Geographic Information Systems (GIS) for preparing maps. SQL server for database, queries and web pages ASP, PHP, HTML used for developed the web based search engine.

Information System Architecture

The system architecture has been settled holding similar researches and initiatives in due consideration. Inventories are the core of the system; in each inventory all entries have associated attributes – most of them are used for research purpose. For example, data set (resource or service), category and sub-category are assigned to each entry of site inventory. The extensive use of code and relationship archives makes the system very flexible:

- Site-Survey – GPS Location, Photographs and collect the social & Cultural data.
- Site-Site – Interlinked of all tourist site.
- Site-Map – site without geo-references.
- Site-Image – Image in relationship with different sites.
- Site-Route – Stages of specific routes.

The system is based on SQL-server for database and DbMAP ASJ for cartographic publication and data query over the Internet. DbMAP ASJ is an

advanced tool for web application developers oriented to build HTML pages and other types of dynamic Web pages (ASP, PHP, etc.) with GIS data view features (vector coverage's and imagery) and vectorial drawing editing; the displayed content can be fully customized using an XML project (static file or dynamically produced on the server). The system has been developed using DbMAP ASJ Viewer, a multi-platform client application available for analyzing, displaying, web deploy and editing geometries stored in a relational database. It is an interactive application, specifically created for Database Administrators and for anyone involved in the planning, production and web publishing of Geographic Information Systems.

Research Objectives

- Creating, configuring, managing and publishing XML projects.
- Importing and exporting of shape files.
- Connecting and navigating among the spatial database schemes and views.
- Managing the displaying of spatial data, raster and vector (zoom in/out, pan, etc.).
- Creating, configuring, and managing layers and raster/vector overlays.
- Creating, configuring, and managing multiple themes.

Text-Based Navigation

The user is allowed to search information in the following sections- sites, routes, maps, images and documents. The result of a search is always a list of items pertaining to the query. The user selects an item, looks at the data sheet and navigates using the proposed links, eventually activating the web GIS.

Result

This study was carried out in Bundi, which has a lot of historical and tourist places. These results can be achieved by queries in GIS Design and Application for Tourism;

- Determination of important and necessary places for tourism.
- Determination of historical and tourist places.
- Determination of the best suitable hotel.
- Determination of the optimum plan for sightseeing places.
- Determination of the shortest distance between the selected places.

Web Based Information System Architecture

Web based information system has been consist tourist site, Transportation, Base map, satellite image, and document related to given location. Information related to any tourist place will be display in document file. If users want to search any tourist site they can given input location in name or coordinate format. The result of a search is always list of item pertaining to the query on display window.

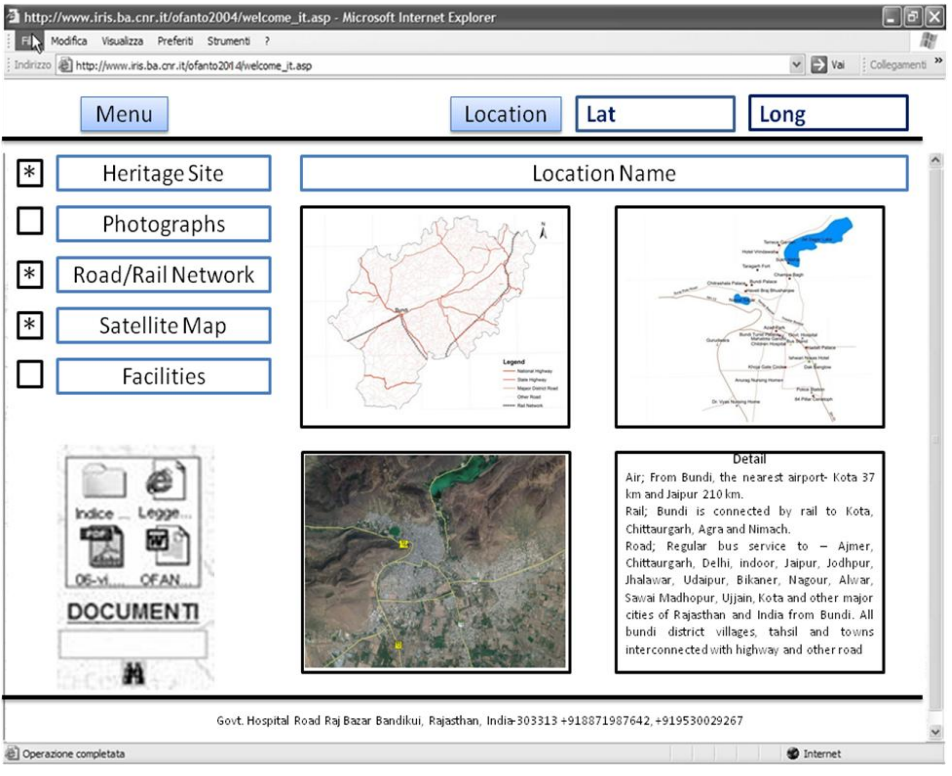

Figure 2 : Web Based Information System Architecture.

Important Places

- *Taragarh Fort*

The white fort that stands on a wooded hill is one of most striking forts of Rajasthan. The fort was raised in 1354 A.D. and has a colossal gateway. Inside the fort one can see the colossal battlement called Burj and a large reservoir carved out of solid rock. The fort offers a bird's eye view of the town and a fascinating vista of the sunset.

- *The Bundi Palace*

The marvelous structure located adjoining the Taragarh Fort atop the hill, exhibits the extraordinary craftsmanship of the place. The awe-inspiring traditional murals are characteristic of the splendor and opulence of the royal dwellers of this palace. Chitrashala is a part of the Bundi Palace and consists of an art gallery or pavilion that exhibits miniature colorful murals depicting scenes from the Ragmala and Raaslila the Story of Radha-Krishna.

- *Chhattar Mahal or Palace or Towers*

This palace can be reached by a steep path. The palace houses the Naubat Khana, Hazari Pol or Gate of the thousand, the Hathi Pole with its ancient water clock and the Diwann-e-Aam.

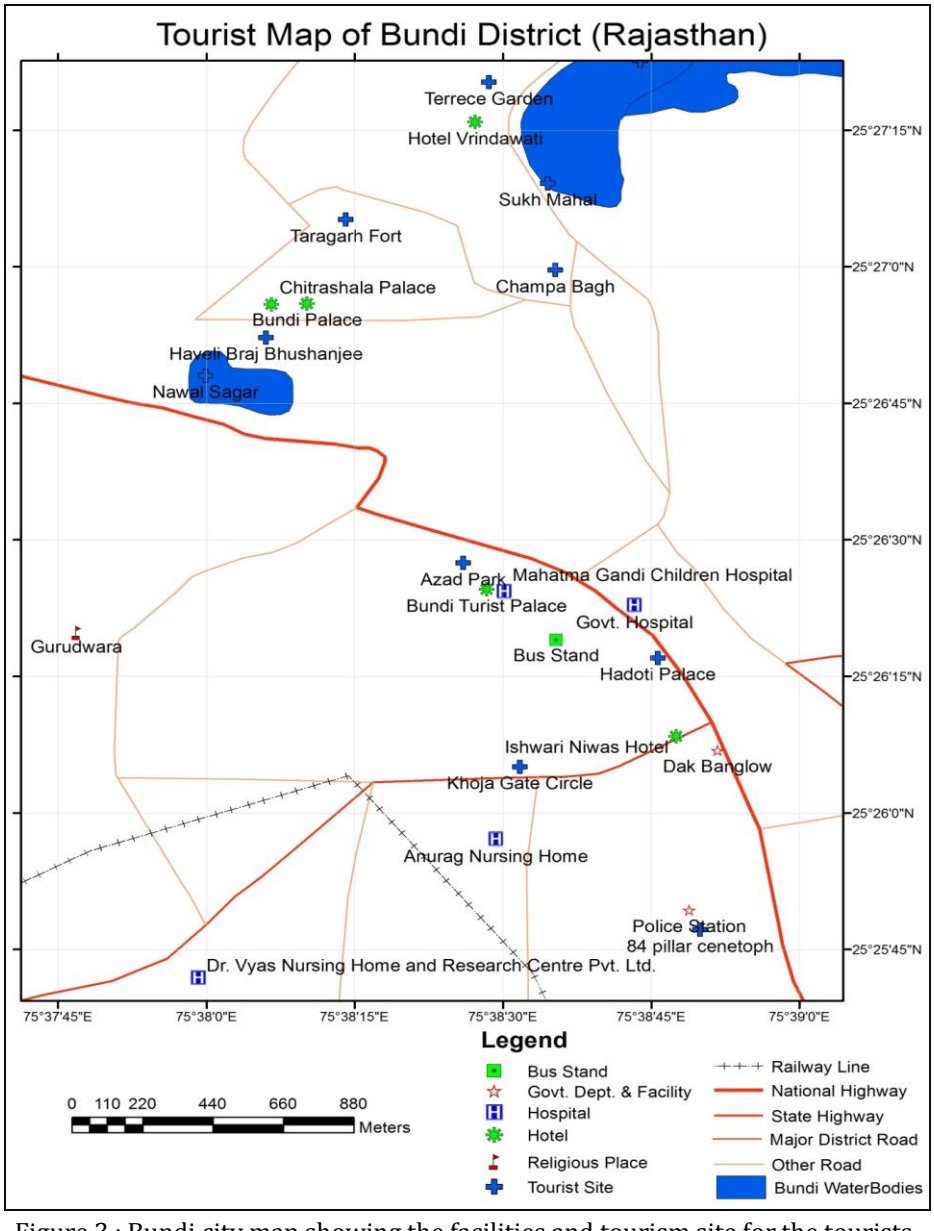

Figure 3 : Bundi city map showing the facilities and tourism site for the tourists.

- *Ratan Daulat*

This remarkable structure that comprises of a stable for nine horses and a Hatia Pol was built by Rao Raja Ratan Singh.

- *Sukh Mahal*

It is a luxurious summer palace surrounded by a beautiful verdant garden on the Sukh Sagar Lake.

- *Eighty Four Pillared Cenotaph;*

A magnificent memorial with 84 pillars in a single cenotaph along with a Shiva lingam was erected by Rao Anirudh.

- *Nawal Sagar*

Near the Bundi palace is the artificial lake of- Nawal Sagar where a shrine is dedicated to Varuna, the Aryan God of water is located at the center.

Accommodation Facilities

Tourists can stay in the following hotels-

- Haveli Braj Bhushanjee
- Heritage Hotel
- Hotel Ishwari Niwas Palace
- Hotel Royal Retreat
- Budget Hotel
- Hotel Vrindawati

Conclusion

This study has been done to investigate tourism planning approach to incorporate the sustainability criteria based on heritage information system. . The use of modern spatial computing technology in the development of spatial tourism for collect all information related to tourism on a screen such as sites, routes, maps, images and documents. Web GIS is very powerful tool for heritage development. The possibility of a better use of the region in the long term, also to the advantage of local communities with specific reference to economic development, closely depends upon the ability to both cognitive processes and disseminates information. In this study, optimum planning of sightseeing, query of geographical data, obtaining the visual and detailed information about the geographical data and network analysis applications has been carried out. GIS design and application for tourism and network analysis help users to supply optimum planning for tourism. Moreover, users seem to save time via GIS design.

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