

An Experience of Presenting Cultural Attractions and Tourism Services Using Google Maps Technology in Matrouh Governorate, Egypt

Basem Mahmoud Abou El-ella Haredy¹ and Wessam Fekry Ibrahim²

Tourism Administration and Cultural Heritage Department, Faculty of Tourism and Hotels, Matrouh University.

ARTICLE INFO

Keywords:

Interactive maps;
Matrouh
Governorate;
Heritage Tourism;
Tourism technology;
Interactive devices.

(JAAUTH)

**Vol. 17, No. 2,
(2019),
PP.69-81.**

Abstract

This study explores the experience of implementing digital maps through utilizing Google maps and Geodatabase technologies to create an interactive digital tourist map for the first time for Matrouh Governorate which is one of Egypt's interesting destinations. This digital map, as expected may give more visitors the ability to explore deeply the area and make their visit more enjoyable. Data were collected through official documents and reports about the area of study, then mapping technology was used to digitize the data. The results were presented through a main digital map that illustrates the natural and cultural attractions as well as other tourism sites and services across the Governorate as an initiative from the researchers to promote tourism in Matrouh within national and global scale.

Introduction

Tourist interactive maps are one of the most widespread uses of online mapping that is accessible and useful for a wide variety of people. Knowing that tourism is one of the crucial industries to many communities around the world, having an interactive map with all the information necessary for tourists is of great use for all who take part in the related activities. It is a great tool for tourists, who can have a good overview of important infrastructure, tourism services, and historical places. They can also use maps for planning optimal routes for sightseeing and determining the shortest distance between important places, and these are just some of the examples of potential uses of online mapping in Tourism. Thus, the use of online mapping and spatial search has become ubiquitous, with hundreds of millions of desktop and smartphone users regularly accessing mapping services. Furthermore, spatial data and mapping are also widespread in social media, with users sharing and tagging geo-located media through various crowdsourcing applications. These 'geo-web' tools amount to a revolution in how the public view, create and interact with geospatial data (Goodchild, 2007). Yet this trend has not been fully developed to serve the field of tourism in Matrouh Governorate, which is considered one of the top summer vacations destinations in Egypt, but the increased number of users of smart devices and applications adapted to them shall certainly lead to a larger number of interactive tourism maps.

Objectives of the study

Interactive maps have found their application in a large number of activities. The main objective of this study is to create a map that provide various up-to-date information for users about certain locations in one place in order to promote the tourism industry in Matrouh,

¹ Basem_harede@yahoo.com

² wfekry.alexuniv@gmail.com

which is nowadays a current national target. We can summarize the objectives of this research as follow:

- Provide detailed and enriched information about the famous attractions in Matrouh as a tourist destination.
- Form and construct a heritage resource inventory for tourism experts, tourists and different stakeholders.
- Analyze the resource set to identify the number of the available sites and their locations.
- Identify the suitable locations for tourists or tourism.
- Helping tourism development, planning and decision-making process.

Methodology

The study drawn on findings from a research conducted in Matrouh Governorate, which has a rich cultural and natural heritage. Unfortunately, Matrouh is not electronically well accessed or marketed. In 2019, a geodatabase was created to capture and document most of the cultural and natural attractions and tourism services available in the region, in order to be uploaded on the selected online map. Before that, an electronic questionnaire was conducted to gather data from tourism experts, academics, officials and stakeholders concerned with tourism and travel industry about the region and its tourism potentials, in addition to investigating their opinions about constructing an interactive map to promote Matrouh as a tourism destination (Fig.1). Secondary data were collected using desk research which depends on books as well as, related periodicals, articles, journals, formal internet websites, published and unpublished studies and researches.

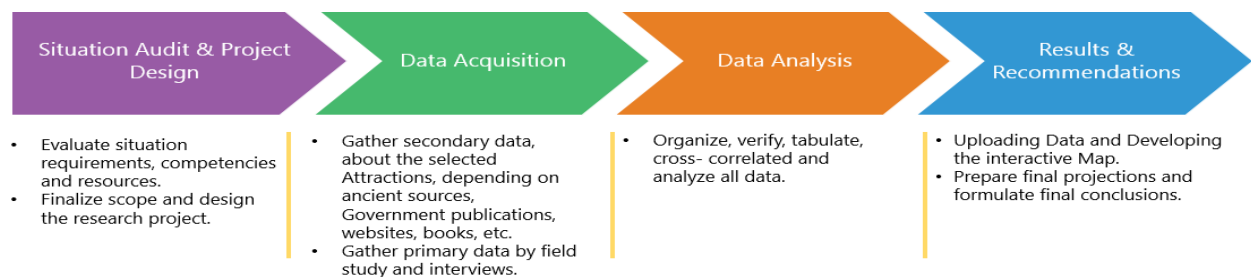


Fig.1. A diagram of the methodology followed

Literature Review

Several global destinations with their own websites often seek simple or professional maps to assist tourists in finding their locations. They may employ different marketing strategies and tools to help travelers plan their trips. Many of these efforts taking place online. Lu *et al.* (2002) argue that the most important factor for an effective travel web site is to “provide a large amount of up to date and attractive information”, followed by “good interactive/interchange functions” and “exquisite page design”. Zach *et al.* (2010) provide evidence that continuous innovation in content features such as maps significantly influences the success of destination web sites. They further found that such innovation is very much influenced by investment. However, as emphasized by Gretzel *et al.* (2006), DMOs often have problems trying to keep up with new web site developments and struggle for determining how to best use their limited resources. Thus, it is of great importance to online destination marketers to understand what features can communicate information in persuasive ways to affect online travel planning behaviors. As for the term “interactivity”, it has been used in different disciplines and was considered as a critical factor in evaluating web-based media. Many scholars from various disciplines have defined and measured interactivity (Kioussis, 2002). According to Wu (1999), “perceived interactivity can be defined as a two-component construct consisting of navigation and responsiveness”. Steuer (1992) defines

interactivity as “the extent to which users can participate in modifying the form and content of a mediated environment in real time” (p.84). Using the condition of virtual environments formed by digital maps and examining user perception of spatial experiences, this study generally adopts Steuer’s and Wu’s definition of interactivity and measures it in terms of perceptions rather than the property of the map.

However, this trend is not widespread in Egypt. From here came the research idea, which is to present a free online interactive tourist map designed to promote a marvelous region characterized by both, splendid Natural Attractions and unique Cultural Heritage.

Interactive maps

Interactive maps are digital maps with add-on functions such as zooming, displaying of data layers, etc. that provide tourists with tourism information in visual form and with geographic references. Such maps are a popular way to display tourism-related information online (Buhalis and Law, 2008) and are also increasingly used by tourists when planning trips (Dickmann, 2005). Unlike static maps, interactive maps have the advantage of a number of features designed to improve the display of a large amount of complex data. Some of these features include (https://www.betterevaluation.org/en/evaluationoptions/interactive_mapping):

- The ability to create layers of information that can be shown or hidden at the click of a button
- Addition of text boxes to data points that show up when clicked to give a quick summary or description.
- Zoom functions that allow users to focus on either the details of a particular region, or to gain a quick overview of a wider area
- Data can be quickly updated.
- Points on the map can be linked to external supporting documents, such as images, video, or graphs

An interactive map for Matrouh therefore enables potential tourists to explore the attractions of interest and build perceptual maps with estimated distances between the attractions. Furthermore, this map may function as a recommender system by displaying information of related points of interest in a way that suggests that these should be visited together.

Interactive maps advantages for the Tourists

- Valuable information on tourism sites locations
- Interactivity that respond to user queries
- Visualization of tourist sites through digital images or videos
- Selective information, like route planning, special attractions etc.

Advantages to development authorities

- Planning
- Database management
- Data updating

Defining the study area

The studied area enjoys a combination of pure white sandy beaches and dunes, a deep blue sea, clean air and Mediterranean good climate. In addition, Matrouh acted, from ancient times up until now, as the Western gate of Egypt, a transit for travelers from East to West and the connective point between the countries of Northern Africa and Asia continent. The North – Western coast itself was used as a farm during the Greek and Roman eras where the cistern and Roman wells were used for irrigation (Strabo, book 17.1). For these reasons lots of historical and archaeological assets are scattered over the region. Generally, its deep-rooted

history besides its natural assets gave the governorate the potentials for a promising future and to be a shrine for different kinds of tourism.

Tourism potentials of the studied area:

Natural attractions:

The coastline of the area is a sandy-rocky, with projection of rocks, fine sandy beaches, and shallow, clear blue water, perpetually washed by the Gibraltar current, directed from West to East. A remarkable feature of the shoreline is the succession of bays, the first of which begins East of Matrouh City and extends to Alamein. Owing to the above features, the area is distinguished from other coastal areas. The coastal capes are formed by rocky projections. The most remarkable of them is Ras El-Hekma with its excellent location, overlooking Hekma bay to the East and Abu Hashfa bay to the West. Abu Hashfa bay contains Ras Hawala, where beaches are superb for tourism. Other locations should be mentioned here such as Ras Alam El-Rum, Matrouh inner bay, and the water collection areas adjacent to Matrouh city, which become special ecosystems. This area was also the site where the Alamein Battle took place during the second world war. Overall, tourism trends in the area can be summarized as follows; about 85% can be defined as the sun-and-beach tourism (coastal belt), cultural and health-and-recreation tourism (Siwa 10%) and finally, business and transit tourism (Marsa Matrouh 5%).

Marsa Matrouh City neighbor is an attracted area for ecologists and environmentalists. The natural environment in this area includes different kinds of wild herbs, which grow in this region and are used for medical purposes. It also includes different kinds of animals such as deer, wild rabbit, desert fox and rats. Also there are different kinds of wild birds, insects, reptiles and snails. The area has a heavy flora that begins at the coastal zone and extends to the rocky plateau. There are two kinds of flora in this area: – the first kind: arks planted with olive, palm tree, wheat depending on rainfall and wells that are randomly distributed. – the second kind: parks of coastal plants and herbs, such as **El-Omayed Biosphere Reserve** which was declared by UNESCO as a biosphere reserve in 1981 and reached an area of 705 km². It is one of the richest areas of biodiversity and rare natural resources. It also includes rare plants, fossilized forests and rare animals (Salem, 2003).

Historical-Cultural Heritage:

Matrouh has a rich history, ancient and more modern. In ancient times, Marsa Matrouh was known as “Amunea” (Strabo, book 17.1) as it was the gateway to Siwa, home to a temple dedicated to the god “Amun”. In the Ptolemaic and Byzantine times, it was known as Paraitonion and in the Roman times, as Paraetionium. There are a number of monuments and remains that date back to the Roman and Greek periods. Old references mentioned that Alexander the Great was the one who built it. It is said that Alexander the Great stopped there during his historical expedition to pay tribute, and sacrifice, to the god Amun, so that he becomes Amun’s son and his rule be a historical continuation of the pharaohs. There are also ruins of a temple from the time of Rameses II (1200 B.C.) in Matrouh. Ramses II built a summer palace here more than thousands of years ago that was the epitome of luxury compared to the cave used as Rommel’s Africa Corps headquarters during the second world war. Within few kilometers of the center of Marsa Matrouh lie the remains of Cleopatra’s Palace, next to her famous baths and the Ptolemaic Egyptian Fleet Anchorage with the remains of its naval installations. A remarkable culture heritage site east is that of Marina/Alamein located 190 km from Marsa Matrouh, which is still being excavated, while under extremely heavy tourist development pressure on all sides. Taking into account the construction under way of a new airport, a harbor and a tourist marina, this monument will be in the near future a cultural pole with strong influence on our study area. In the Mediterranean context, however, the site of “Abu Mena” cannot be ignored or even

overlooked, as it eminently appears both in the world heritage list and the list of "100 historic sites of common Mediterranean interest" (El-Raey *et. al.*, 1998). Among the major sites we can mention here are the following: Remains of Ancient cities - historic sites: According to ancient sources there were more than 12 Greco-Roman city along the coast starting from El Sallum, some of these sites have been discovered while others uncovered yet, such as Abu Seir and Marina El-Alamein- the ancient Leokathbes. Besides, one can find in Matrouh Governorate **five different museums** that embodied the different eras the Western Egyptian Gate had witnessed, which was a reason for forming its unique identity and made it a suitable place to contain military, archaeological and heritage museums. The five museums are: Matrouh Archaeological Museum, Rommel Museum, The Siwan House Museum, The Bedouin Heritage Museum and El Alamein Military Museum.

Qualitative Research Survey Findings:

The electronic questionnaire investigated the sample opinions about constructing a digital tourism map for the area, its constraints, importance and advantages. Then, the data were analyzed using the Statistical Package for Social Sciences (SPSS). Out of 100 questionnaires distributed among tourism experts, academics, officials and stakeholders, from April 2019 to August 2019, 72 were completed and returned. The results are illustrated in tables 1 – 10.

Table 1

The most tourism elements that attract tourists to visit Matrouh.

		Frequency	Percent
Valid	Natural tourism components	72	100.0
	Cultural Attractions	0	0.0
	Tourism services and facilities	0	0.0
	Others	0	0.0
	Total	72	100.0

Table.1, 100 % of the sample thought that natural tourism is the most tourism attractive.

Table 2

The most attractive tourist pattern for visitors seeking Matrouh as a destination.

		Frequency	Percent
Valid	Cultural Tourism	2	3.0
	Ecotourism	7	9.0
	Safaris Tourism	2	3.0
	Adventure Tourism	0	0.0
	Relax Tourism	13	18.0
	Beaches Tourism	48	67.0
	Others	0	0.0
	Total	72	100.0

Table.2, show that 67% of the sample thought that beaches tourism is the most attractive tourism patterns in Matrouh, while 18% of them thought relax tourism is important tourism patterns that's attract tourism, 9% of them saw ecotourism attract tourists to Matrouh, while 3% thought cultural tourism is the most attractive tourism patterns, depending on monuments and historical sites, while 3% of them thought safari tourism attracts a lot of tourism to Matrouh depending on the desert.

Table 3

The most popular reservation method for inbound tourists' trips at Matrouh.

		Frequency	Percent
Valid	Internet	18	25.0
	Travel Agents	16	22.0
	Personal relationship	38	53.0
	Others	0	0.0
	Total	72	100.0

Table.3, shows that 53% of the sample thought that personal relationship with foreign tourists is the most popular reservation method for tourists' trips to Matrouh, while 25% of them think Internet booking websites is more popular for trips reservation. 22% of them thought that booking through travel agents is the most popular for inbound tourists' reservation.

Table 4

The most common way to obtain tourism information about Matrouh Governorate.

		Frequency	Percent
Valid	Tv	10	14.0
	Internet	54	75.0
	Newspapers and magazines International exhibitions	8	11.0
	Tourism films	0	0.0
	Others	0	0.0
	Total	72	100.0

Table.4, show that 75% of the sample thought internet is the most common way to obtain tourism information about Matrouh Governorate, while 14% chose TV and only 11% chose newspapers and magazine as an appropriate way to obtain tourism information about Matrouh Governorate.

Table 5

Interests of the officials in implementing modern technologies in the field of tourism.

		Frequency	Percent
Valid	Strongly agree	0	0.0
	Agree	2	3.0
	Neutral	8	11.0
	Disagree	47	65.0
	Strongly Disagree	15	21.0
	Total	72	100.0

Table.5,shows that 65% of the sample disagreed and 21% strongly disagreed the existence of interests from the officials in charge of the tourism sector in Matrouh in implementing modern technologies in the field of tourism, while 11% chose (Neutral) ,and 3% from the sample thought that officials are interested.

Table 6

Digital or interactive maps to promote Matrouh as a tourism destination.

		Frequency	Percent
Valid	Yes	0	0.0
	No	64	89.0
	I have No idea	8	11.0
	Total	72	100.0

Table.6, show that 89% from sample chose No, they believed that there are not any digital or interactive maps to promote Matrouh as a tourism destination, while 11% have not any idea. No one chose yes, that was an important indicator to the necessity to build an interactive digital map for the region.

Table 7

The role an interactive map can play, if implemented, in promoting the tourism products of Matrouh.

		Frequency	Percent
Valid	Improve the tourist mental image of Matrouh	2	3.0
	Increased tourism demand in Matrouh	2	3.0
	Matrouh on global tourist map	2	3.0
	All of the above	64	88.0
	Others	2	3.0
	Total	72	100.0

Table.7, shows that 88% of the sample chose (all of the above), they might believe that interactive map can play an important role in promoting the tourism product of Matrouh, the rest of 12% has distributed equivalently among the other options.

Table 8

The responsible side for preparing a tourism interactive map for Matrouh cultural sites, services, facilities, and attractions.

		Frequency	Percent
Valid	Official organizations	64	89.0
	Private sector	8	11.0
	others	0	0.0
	Total	72	100.0

Table.8, shows that 89% of sample thought that Official organizations is responsible for preparing that digital map, while 11% of them think that the private sector is the responsible side.

Table 9

The needs and requirements for preparing a sufficient digital map for Matrouh Governorate.

		Frequency	Percent
Valid	Provide support and financial allocations	2	3.0
	Officials are convinced of the importance of the application	7	10.0
	Provide sufficient infrastructure for the implementation	7	10.0
	Raise the awareness of the importance of such technologies	11	15.0
	All of the above	45	62.0
	Total	72	100.0

Table.9, show that 62% of the sample choose (All of the above) they thought that the interactive map needs and requires all of the aforementioned choices in order to be more sufficient for a destination like Matrouh, while 15% of them thought that raising the awareness of the importance of such technologies is more appropriate. 10% preferred the sufficient infrastructure for the implementation, the other 10% of them chose the statement “officials are convinced of the importance of the application”.

Table 10

The obstacles that may face or prevent the implementation of an interactive tourist map for Matrouh Governorate

	Frequency	Percent
Valid lack of well-trained human resources	3	4.0
Bureaucracy and routine	8	11.0
Weak cooperation between the public and private sectors	2	3.0
Poor financial allocations	2	3.0
Poor infrastructure	2	3.0
Low awareness of officials	2	3.0
All of the above	53	73.0
Total	72	100.0

Table.10, show that 73% of the sample chose (All of the above) they thought that there are a lot of obstacles that may face or prevent the implementation of an interactive tourist map for Matrouh Governorate, while 11% of them think bureaucracy and routine are the main obstacles. Lack of well-trained staff is recommended by 4% of the sample. The 12% left has been distributed equivalently among the other choices.

Survey results:

- Natural tourism is the most tourism attractions that attract tourist to visit Matrouh, relax and beaches tourism are the most attractive tourist pattern for visitors seeking Matrouh as a destination.
- Personal relationship and internet are the most popular reservation method for inbound tourists' trips to Matrouh.
- There is not any interest from the officials in charge of the tourism sector in Matrouh in implementing modern technologies in the field of tourism, and internet is the most common way to obtain tourism information about Matrouh Governorate.
- There are not any digital or interactive maps to promote Matrouh as a tourism destination.
- There are several requirements that should be available to prepare a sufficient digital map for Matrouh Governorate such as sufficient and suitable infrastructure as well as raising the awareness of the importance of such technologies.
- lack of well-training human resources, bureaucracy and routine, decreased awareness of officials and weak cooperation between the public and private sectors are the most obstacles that may face or prevent the implementation of interactive tourist map for Matrouh Governorate

Building the Geodatabase and uploading it to the Map:

Findings of the questionnaire proved that there isn't any digital tourism map for Matrouh and to construct it we need a lot of support and a suitable infrastructure. From here came the decision to select a low cost and at same time a suitable technique to build the map which is **My Map, Google**. At this phase, information about features of the selected area is provided in tabular form to allow analysis with clear presentation and real interaction with the needed data. The database contains attribute data such as the identification number of each spot, name, latitude, longitude, address, telephone number, description, photos, videos, links, etc. then, the database was uploaded to My Map, Google according to following steps:

- My Map, Google, is used to create an interactive portal using the developed Geodatabase; the information was organized and visualized on the map. After that, different point features and their attributes for particular locations and parts of the attractions were

added. Search by address or name option in My Map made it easier to add these points, and it was also more precise than manually pinpointing them.

- Using My Map for updating attributes was easy and simple; it is an interactive and user-friendly interface for both tourists and local community. The map was then published; therefore, it is now accessible for both local population and tourists.

The prerequisites for building the interactive map for the studied area were:

- Collecting the existing and adding new data depending on secondary sources such as ancient sources, official documents and primary sources such as field studies and interviews.
- Having a possibility of quick and easy updating of attributes, as information about certain regularly changing locations.
- Selecting and categorizing relevant information.
- Developing the collected data (in both languages English and Arabic) within a database to be dynamically stored and processed (Figs. 2-3)
- Adjusting this data to the user through filters, different layers zoom and search options.
- Sharing the data with public through a simple and dynamic Google Map interface.

	name	A_Lable	description	A_Description
1	Memorial German Military El Alamein	المقبرة الألمانية	Constructed in 1959 , Located 3 km west of the city of the Alamein, Overlooking the sea directly from above the mountain , the remains of 4280 people , including a church , a mosque and a small museum	م 1959 وتقع على مسافة 3 كم غرب مدينة العلمين وتطل على البحر مباشرة من إتقع نسبياً وتضم رفات 4280 شخصاً وتضم كنيسة ومسجد وقاعة ومتحف صغير
2	MILITARE ITALIANO EL ALAMEIN	المقبرة الإيطالية	Located at a distance of five kilometres west of the Alamein and considered one of the most beautiful tombs in terms of luxury and architectural art . the chapel has a small mosque and a hall for in addition to the remains of 3.800 victims , a small museum and a painting indicate that the desert has swallowed the remains of 38000 italian victims	م مسافة 5 كم غرب العلمين وتعتبر من اجمل المقابر من حيث الفخامة وفن المعمارة صغيرة ومسجد وقاعة للذكريات ومتحف صغير بالإضافة إلى رفات 3800 من نابا وتشير لوحة إلى أن الصحراء قد ابتلعت رفات 38 ألف من الضحايا الإيطاليين
3	El Alamein Military Museum	متحف العلمين الحربي	It was established in 1965 then it was renewed and re-opened in 1992 during the fiftieth anniversary of El-Alamein battle in which Germany , Italy and England took part in evaluating El-Alamein museum through offering information and military ancient pieces . A new hall was established in order to lay stress on Egypt's role in the battle of EL-Alamein . It includes five big rooms and the central hall with the memorial site in its centre	عام 1965 وأعيد تطويره واقتنحه 1992 في العيد الخمسين لمعركة العلمين حيث من ألمانيا وانجلترا وإيطاليا بالمعلومات والمعروضات كما أنشئت قاعة حديثة تبرز مس في معركة العلمين ويتكون المتحف من 5 قاعات ويهو رئيسي يتوسطه النصب التذكاري

Fig. 2. Part of the layer beaches

	name	Alabel	E_Description
1	Ageeba Beach	شاطئ عجيبية	It is located about 24 km west of Marsa Matruh and is characterized by beautiful landscapas and distinctive rock formations
2	Obayd Beach	شاطئ الأبيض	It is about 18 km west of Marsa Matruh and is characterized by white sand
3	Cleopatra Beach	شاطئ كليوباترا	Possibly the most beautiful piece of coastline in the area, Cleopatra's Beach sits about a 14km drive north-west of Marsa Matruh around the bay's thin tentacle of land. The sea here is an exquisite hue, and the rock formations are worth a look. You can wade to Cleopatra's Bath, a natural pool where legend has imagined the queen and Mark Antony enjoying a dip, but you can't actually swim because of the waves and rocks just offshore.
4	El Gharam Beach	شاطئ الغرام	Located in Al Gharam area, about 14 km away from Marsa Matruh, where the famous rock of layla Murad is located.

Fig. 3. Part of the layer heritage Sites.

The contents were organized in four groups of features:

- **Hotels.**
- **Activities:** what to do on holidays in Matrouh. This group included: beaches, aqua park resorts, rent a bike, and other activity centers.
- **Cultural attractions:** a list of Matrouh's highlights as well as its marvelous heritage sites. There is also a list of ancient sites and locations where tourists can try some of the region authentic products.
- **Natural attractions:** a list of natural heritage sites, therapeutic springs and other desert landscape.



Fig. 4. The Constructed Matrouh Interactive Map, Access the interactive map directly on [this link](#)

Conclusions

Interactive Tourist Map of Matrouh is an experience that demonstrated how to use some simple technological tools such as geo-database and online maps to give an opportunity for destinations to show their resources and at the same time help tourists in the orientation and exploration of those destinations. The research idea underlined the importance of Interactive Dynamic Maps in tourism planning and management with particular focus on Matrouh Governorate, which is very important for the requirements of the development. The power of online maps lies not only in the ability to visualize spatial relationships, but also beyond the space to a holistic view of the world with its many interconnected components and complex relationships. This study indicated that tourism in Matrouh, or any other cases, may be promoted with the help of some low cost online mapping based applications.

The studied area has many attractive sites, but foreigners have no dynamic information access. Of course, tourist centers, guides, brochures, leaflets, etc. are very important, but these are insufficient considering, the main aim of the tourism industry in Matrouh to achieve a balanced increase in the number of tourists. Therefore, providing information on Internet gives an important contribution for the management, promotion and the development of the tourism industry in Egypt in general. Only in this way, tourists, different tourism agencies and all interested people would have access to real information that is always up to date. Therefore, providing a perfect combination between scientific methods and practical and visual work we may declare that this kind of maps is practically a revolution in the tourism industry. It helps people to save money and time, and easily find the most updated information.

Finally, the growing interest of tourists in this region in particular and Egypt in general suggests the need for more sophisticated and complex applications of online mapping for the prospective development.

Recommendations:

1. It is necessary to take advantage of the natural tourism components and create new tourism patterns to increase the tourist demand for Matrouh.
2. Create new distribution outlets and untraditional channels to promote the Matrouh tourism product.
3. Pay more attention to the officials in charge of the tourism sector in Matrouh to implement and use modern technologies in the field of tourism.
4. Enhance collaboration between authorities and private sectors to design digital or interactive maps to promote tourism destinations.
5. Provide the needs and requirements that should be available to prepare a sufficient professional digital map for a destination.
6. Cooperate with companies specialized in designing and creating interactive maps.
7. Increase and highlight the role of an interactive map can play, if implemented, in promoting the tourism products.
8. Training and development of workers in the field of tourism to increase their level of awareness of the importance of electronic maps and how to deal with them.
9. My Map, Google is a very sufficient and low-cost technology suitable for building an easy accessed digital map that presents tourism attractions to any tourism destination.
10. Generally, there is an urgent need to critically look into potentials of application of Interactive Maps in the tourism industry of Egypt. Other countries of the world are benefitting from this technology.

References:

- Buhalis, D. and Law, R. (2008), "Progress in information technology and tourism management: 20 years on and 10 years after the internet – the state of eTourism research", *Tourism Management*, Vol. 29, pp. 609-23.
- Case Studies, Protected Areas in the 21st Century: From Islands to Networks, Albany, Cuberos, R., Molina, N., Indriago, J. A., and Caldera, N. (2000), "Sigtur-Zulia: An Application of GIS Technologies for Tourism Planning", In Twentieth Annual ESRI User Conference ESRI.
- Chang, G. and Caneday, L. (2011), Web-based GIS in tourism information search: Perceptions, tasks, and trip attributes, *Tourism Management*, 32(6): 1435-1437.
- Chavali, K. and Sahu, S. (2008). Comparative Study of Tourism Websites in India-With special reference to South India.
- Chen, K.-H. and Yung, C.-Y. (2004). Business model for exploration of travel Websites in Taiwan. *TOURISM MA*AGEME*T*, 25(3), 405-407.
- Chen, R. J. (2007), Geographic information systems (GIS) applications in retail tourism and teaching curriculum, *Journal of Retailing and Consumer Services*, 14(4): 289-295.
- Connolly, James, and Mark Lake W. *Geographical Information Systems in Archeology*. Cambridge Manuals in Archaeology. Cambridge, UK: Cambridge University Press, 2006.
- Couldry, N. and Mccarthy, A. *Mediaspace: place, scale and culture in a media age*. Abringdon, Routledge, 2004.
- Crampton, J.W. (2002). Interactivity types in geographic visualization. *Cartography and Geographic Information Science*, 29(2), 85–98.
- Dickmann, F. (2005), "Effectiveness and efficiency of tourism maps in the World Wide Web and their potential for mobile map services", in Meng, L., Zipf, A. and Reichenbacher, T. (Eds),

Map-based Mobile Services: Theories, Methods and Implementations, Springer, New York, NY, pp. 43-53.

- Egyptian Tourism Authority, 2019, <http://www.egypt.travel/>
- ESRI website, 2019, www.esri.com
- Gibin, M.; Singleton, A.; Milton, R.; Mateos, P. and Longley, P. (2008). An exploratory cartographic visualisation of London through the Google maps API. *Applied Spatial Analysis and Policy*, 1(2), 85–97.
- Goodchild, M. F.; Fu, P. and Rich, P. (2007). Sharing geographic information: An assessment of the geospatial one-stop. *Annals of the Association of American Geographers*, 97(2), 249–265.
- Gretzel, U.; Fesenmaier, D. R.; Formica, S. and O’Leary, J. T. (2006). Searching for the future: Challenges faced by destination marketing organizations. *Journal of Travel Research*, 45(2), 116-126.
- Hoffman, D. L.; Novak, T. P. and Schlosser, A. (2000). Consumer Control in Online Environments.
- Kang, H.; Plaisant, C. and Shneiderman, B. (2003). New approaches to help users get started with visual interfaces: Multi-layered interfaces and integrated initial guidance. Proceedings of the 2003 Annual National Conference on Digital Government Research (pp. 1–6). Boston, MA, USA: Digital Government Society of North America.
- Kioussis, S. (2002). Interactivity: A concept explication. *New Media and Society*, 4(3), 355-383.
- Kushwaha, A.; Chatterjee, D. and Mandal, P. (2011), Potentials of GIS in Heritage and Tourism, *Geospatial world forum*, 18-21.
- Lu, Z.; Lu, J. and Zhang, C. (2002). Website development and evaluation in the Chinese tourism industry. *Networks and Communication Studies*, 16(3-4), 191-208.
- Matruh Resources Management Project II, (2002), Process Framework for Community Participation in Biodiversity Conservation and Protected Areas Management.
- Rafaeli, S. (1988). Interactivity from New Media to Communication. In Hawkins, R. P., Wiemann, J. M. and Pingree, S. (Eds.), *Advancing Communication Science: Merging Mass and Interpersonal Processes* (Vol. 110-134). Beverly Hills, CA: Sage.
- Roth, R.E. (2013). Interactive maps: What we know and what we need to know. *Journal of Spatial Information Science*, 0(6), 59–115.
- Salem, B. (2003). Biosphere reserves on North-Western Egyptian coast, a site for monitoring biodiversity and integrated water management. In *Developments in Water Science*, Vol. 50, pp. 119-128.
- Schubert, T.; Friedmann, F. and Regenbrecht, H. (1999). Embodied Presence in Virtual Environments. In Ray Paton and Neilson, I. (Eds.), *Visual Representations and Interpretations*.
- Shyti, B., and Kushi E., (2012), The impact of GIS Application in the Tourism Development of Elbasan Region, *The Romanian Economic Journal*, 15(45): 189- 210.
- Steuer, J. (1992). Defining Virtual Reality: Dimensions Determining Telepresence. *Journal of Communication*, 42(4), 73-93.
- Steuer, J. (1992). Defining Virtual Reality: Dimensions Determining Telepresence *Journal of Communication*, 42(4), 73-93.
- Strabo, *Geography*, BOOK XVII.
- Wu, G. (1999, March). Perceived Interactivity and Attitude Toward Websites. Paper presented at the Annual Conference of the American Academy of Advertising, Albuquerque, New Mexico.
- Zach, F.; Gretzel, U. and Xiang, Z. (2010), “Innovation in the web marketing programs of American convention and visitor bureaus”, *Journal of Information Technology and Tourism*, Vol. 12 No. 1, pp. 47-64.

تجربة عرض المعالم الثقافية والخدمات السياحية باستخدام تقنية خرائط جوجل

في محافظة مطروح - مصر

باسم محمود أبو العلا هريدي و وسام فكري إبراهيم
قسم الدراسات السياحية، كلية السياحة والفنادق، جامعة مطروح

المفص

معلومات المقالة

يحتاج التراث إلى عرض ومشاركه مع الأجيال الحالية والقادمة كمورد مهم لا يمكن الاستغناء عنه بالنسبة للإنسانية، كما يعد ذلك من المتطلبات الرئيسية الدولية اللازمة لتحقيق الاستدامة بما يتوافق مع رؤية مصر 2030، وفي هذا الصدد تقدم التقنيات الرقمية الحديثة أشكالاً جديدة من التفاعل مع التراث الثقافي والطبيعي، بالإضافة الي مساعدة السكان المحليين في تقديم وعرض تاريخهم وثقافتهم وخدماتهم للجمهور بشكل أوسع، وبالتالي يكون بمثابة محرك لتحقيق التنمية الاجتماعية والاقتصادية. وتشتهر مصر بتنوع الموارد التاريخية، بالإضافة إلى وفرة العديد من مناطق الجذب السياحي، لذلك فهناك ضرورة لوجود تكنولوجيا سريعة ومناسبة لتقديم معالمها ومواقعها السياحية، وبناء علي ما سبق تعد الخرائط الرقمية واحدة من التقنيات الفعالة منخفضة الكلفة والتي اكتسبت أهمية كبرى على المستوى الدولي في مجال السياحة حيث توفر للسياح أداة ديناميكية لاكتشاف الوجهات السياحية المستهدفة، وأصبحت هناك العديد من الوجهات السياحية في جميع أنحاء العالم تستخدم أشكالاً مختلفة من الخرائط الرقمية التفاعلية التي تساعد السياح على الوصول الي وجهتهم بسهولة ويسر، وتهدف هذه الدراسة إلي تجربة تطبيق الخرائط الرقمية من خلال استخدام خرائط Google وتقنيات قاعدة البيانات الجغرافية لإنشاء وتصميم أول خريطة سياحية رقمية تفاعلية لإحدى الوجهات السياحية المهمة في مصر، وهي محافظة مطروح. الجدير بالذكر أن محافظة مطروح غنية بالموارد السياحية الطبيعية والفريدة من نوعها، لذلك فإن وجود خريطة سياحية رقمية تفاعلية للمنطقة لا يعد امراً مكملاً فحسب بل ضروري أيضاً، لأن في ذلك تلبية للإحتياجات المختلفة للسياح وتحقيق أهداف متنوعة وأساسية، فتصميم الخريطة الرقمية التفاعلية ستمنح الزوار القدرة على استكشاف المنطقة بشكل أعمق وتجعل زيارتهم أكثر متعة. تم جمع البيانات من خلال الوثائق والتقارير الرسمية حول مجال الدراسة، ثم تم ترقيمها باستخدام تقنية رسم الخرائط، ليسهل عرض النتائج من خلال الخريطة الرقمية الرئيسية التي توضح المعالم الطبيعية والثقافية وكذلك المواقع والخدمات السياحية الأخرى في جميع أنحاء المحافظة كمبادرة من الباحثين للترويج للسياحة في مطروح ضمن النطاق المحلي والعالمي.

الكلمات المفتاحية

الخرائط التفاعلية؛
محافظة مطروح ؛
سياحة التراث؛
تكنولوجيا السياحة.

(JAAUTH)

المجلد 17، العدد 2

(2019)

ص 69-81.