Tourism Management System Using GIS Case Study Natural Protected Areas in Egypt

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Abstract

Tourism is very important Topic for the economy of Egypt. It contains many tourist attractions sites. Improving tourism in Egypt would have great revenue on the economy. Our project main purpose is to create a tourism system in which it uses Geoinformation with certain tools (ex. Arch GIS 10.7) which will greatly improve tourism sector in Egypt. This project aims to exhibit the application of Geoinformation as a tool for improving the tourism sector by identifying the location of tourist facilities, Services and wildlife habitat locations in order to demonstrate them in a map so that tourists are well informed and directed in what to see and where to go.

1 Introduction

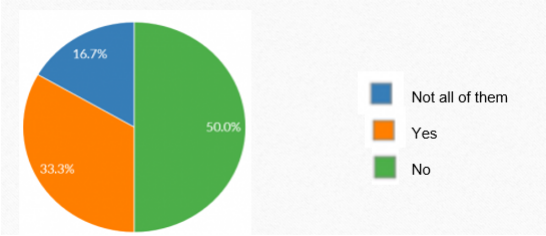
1.1 Background

Tourism has diverse definitions. Tourism is defined by the World Tourism Organization as the act of traveling for the purpose of recreation and the provision of services for this act. It further explains that a tourist is someone who travels at least eighty kilometers from home for the purpose of recreation[1]. Therefore, tourism can be said to be the activities of people traveling to and staying in places outside their usual environment for not more than one consecutive year for leisure, business and other purposes related to the exercise of an activity remunerated from within the place visited. The tourist destination is a geographical unit. How important any geographical unit is as a tourist destination or how important it is potentially; is determined by three [12]prime factors which constitute the tourism product. It comprises of the perceived and actual attractions of a place, the facilities and the destination's accessibility National Parks and Reserves are distinctive public lands or water bodies within a country which are set aside by the government to protect ecosystems, plant and animal species, scenic landscapes, geologic formations, historical or archaeological sites and such.[5]

1.2 Motivation

Our motivation for this project was to help clients and tourist to have the best experience in Egypt. Parks in Egypt did not have importance in the past but with everyday technological advancement and the change in the Egyptian economic structure, the government is trying to have good attraction sites inorder to increase its income gained from tourism

From our 129 responses



1.3 Problem Definitions

The tourism business in Egypt is endangered by a number of challenges that comprise into; First of all Difficulties in bringing up-to-date existing graphical tourist guides and maps (expensive and time consuming) ,the Lack of digital information for tourism services and destinations ,Lack of comprehensive information based on the internet ,Inadequate motivation for effective marketing and Inadequate analysis of the state's tourism and Inadequate and insufficient promotion of the state and Lack of a technology-driven approach for the state's tourism.

2 Project Description

Increase the accuracy of Identifying locations suitable to tourists based on detailed information Generate RATING AUTOMATICALLY to give best decision.

2.1 Objective

The main objective of this study is to create a digital map of all National Park with information on the available parks facilities Based on Ranking system which allow you to know feedback about the park,Moreover The application allow you to give the best route with the kind of transportation[1].All this information help to give you decision about the park you want to visit.we carry out a user needs assessment. To collect relevant data for digital map creation. To map tourist sites and park facilities. To create a geodatabase for all National Parks in Egypt.[4]

2.2 Scope

- The system will make map of national park in egypt using gis
- The system increase the accuracy of Identifying locations suitable
- The system gives Detailed information about the park
- Tourist can give rate about the service of park
- The system will show detailed ranking about park

2.3 Project Overview

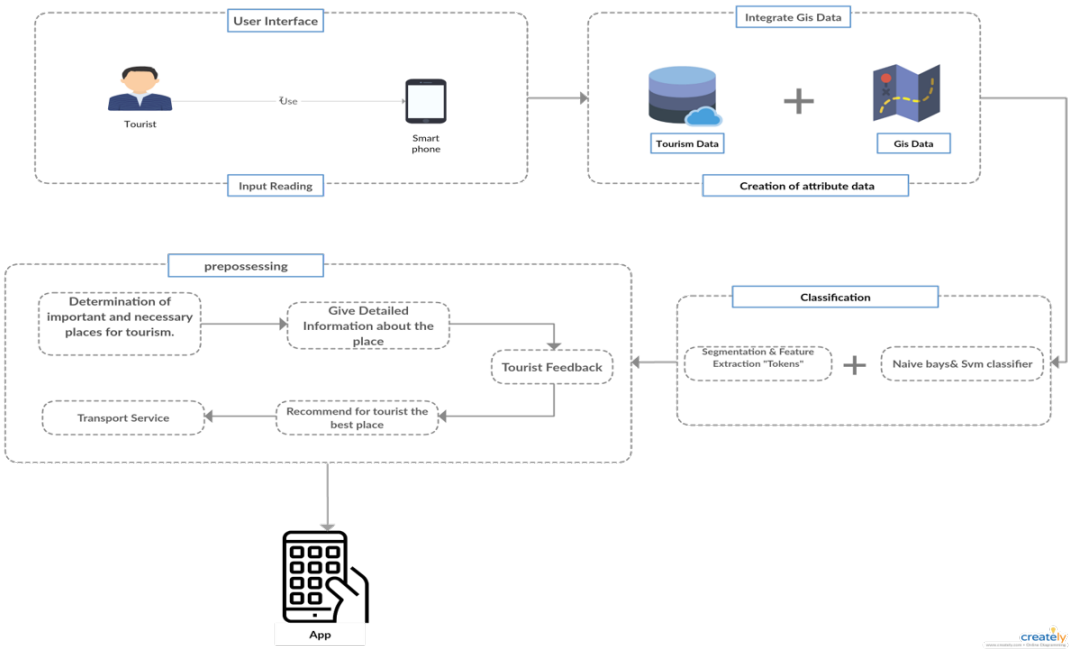


Figure 1: System Overview

Our Project help the tourist to choose the right park . The Tourist/Hotel reception will be able to use Pc or Mobile to choose the right park be show him detailed information about the park the rating of the park based on ranking of previous tourists .the system will help the tourist to give rank about his visit to the park to give detailed information about the park to increase information about the park .the system will help the tourist to take the best decision about the place the way of transportation to take based on shortest pass sound.

3 Similar System Information

- In Safe Road Project they used mobile phones that it will help them in speed and flexibility. They face a problem every day that they suffer daily accident because of damaged road maintenances on it.[10] It also help users to find services of ambulance, fuel station, rest on the road easily. Also the user can notify other users with the current state of road. So the Application will make a reports about new services on the roads and these data stored on their database and they will make processing on it. So they can get a useful information and put it on the map. The technology that used in this Application is a native cross platform "Flutter" to build this application on Android and on IOS by using only one code.

- They used geographic information system on their project. They import data that collected from users on ArcGIS that they look if these accident repeated many times in the same period of time they will use algorithm that used to calculate all of inputs to create an output of the application. They used Flutter because this language can compile both ahead-of-time and just-in-time. Flutter uses Skia as a graphics engine that[10] did al UI rendering. They used Google Fuchsia, Dart programming language that it compiled in three ways first compiled as java Script and Stand alone and head of time compiled. They also used Python as a programming language. They also used Android studio, Google maps, Microsoft Visio, ArcGIS as a Platform tools. And there are challenges they face for example when they was working on a framework over a certain time a new update was down and the package they was working on stop support another problems they faced with their team members that they are inexperienced members.

- There is a project has been made by a team in university of Nairobi their case study was AMBOSELI NATIONAAL PARK that demonstrates the importance of Geoinformation. A topographic map and other data from KWS have been used in this study to create a geodatabase and a digital map of the Park using GIS software. Features were digitized on the scanned map and other data in form of shapefiles added as overlays. An attribute table was created to link the spatial data with their characteristics in order to provide more information for analysis. The problems that faced the project was Difficulties in updating existing graphical tourist guides and maps , Lack of digital information for tourism facilities and destinations, Lack of comprehensive information based on the internet and Inadequate analysis of the state's tourism. So they start to set their objective that was to create a digital map of Amboseli National Park with information on the available park facilities as well as features and sites of tourist appeal.[8]

- Their research is limited to the area covered by Amboseli National Park and a buffer distance of 1.3 kilometers from the external bounds of the

park, This is the area that lies approximately between the latitudes of 020 30S and 020 45S and longitudes of 370 05E and 370 25E and their data were collected by using a GPS receiver . they have chosen to use a lot like ArcView 3.2 for changing the projection of the shapefiles to the preferred projection, Global Mapper 11 was used to georeference and geocode the topographic sheet, ArcGIS 10.[8]

4 Methodolgy

This study involves research on the area of study in order to determine and evaluate. [13]The required data was identified by carrying out a user-needs assessment. The main data used here is secondary data obtained is form of shapefiles, analogue maps and coordinate data. The data was then processed using various GIS software. ArcGIS tools were employed in the

- Shapefiles (roads, hotels and lodges, camps, swamps, and other facilities)
- Shapefiles (hotels, Egypt country boundaries) Coordinates
- Shapefiles (roads, hotels and lodges, camps, swamps, and other facilities) Format: Digital (points and polygons)
- Format: Digital(points, lines and polygons)
- Format: Csv file

5 Project Management and Deliverables

5.1 Tasks and Time Plan

6 References

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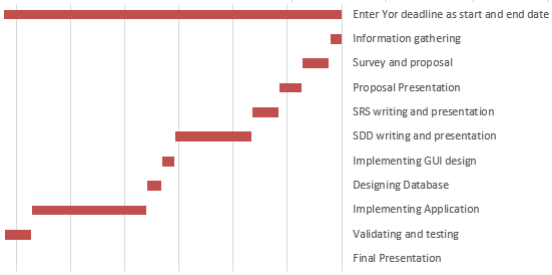
Tasks	Start Dat	End Date	Duratic
Enter Yor deadline as start and end dat	20/8/2019	26/6/2020	311
Information gathering	20/8/2019	30/8/2019	10
Survey and proposal	1/9/2019	25/9/2019	24
Proposal Presentation	26/9/2019	16/10/2019	20
SRS writing and presentation	17/10/2019	10/11/2019	24
SDD writing and presentation	11/11/2019	20/1/2020	70
Implementing GUI design	21/1/2020	1/2/2020	11
Designing Database	2/2/2020	15/2/2020	13
Implementing Application	16/2/2020	31/5/2020	105
Validating and testing	1/6/2020	25/6/2020	24
Final Presentation	26/6/2020	26/6/2020	0



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