I. INTRODUCTION

1.1. Background

Tourism industry is one of important factors of the economy. In some countries, the economy significantly depends on tourism industry. In the modern world tourism is one of the largest and dynamically developing sectors of external economic activities. Its high growth and development rates, considerable volumes of foreign currency inflows actively affect various sectors of economy, which positively contributes to the development of own tourism industry. The share of tourism in international gross national income is 6%, in world investments 7%, in world customary expenditures 11% (World Tourist Organization, 2002).

Indonesia is the largest archipelago in the world, stretching 5.110 km along the equator from east to west and 1.888 km from north to south. The chain of islands divides the Indian and Pacific Oceans and is enriched with natural resources and diverse cultures, offering a vast range of tourism activities. It has long been a popular tourist destination. The number of foreign visitors in 1997 was 5.2 million, contributing around 6.6 billion US$ to foreign income - about 3% of GDP (World Bank, 2002). In 2005, the number of arrivals from abroad is expected to be around 11 million, generating foreign currency receipts of over $15 billion.

East Java Indonesia has many existing and potential tourism objects, which include historical remains, natural features, and man-made attraction places. According to history record in the Province of East Java there was
Majapahit Kingdom with Gadjah Mada, the great heroic. The remains of the Kingdom can still be found now and become an interesting object for people or society who like archaeological. Beside the historical remains such as temples, monuments, and kings of ancient era, there can also be found natural places that have interesting panorama, including the beauty of the beaches, mountain, caves, arts and cultures, which are varied and able to attract tourists.

The development of tourism industry depends on visitors. The more visitors come, the more benefit is obtained. In order to increase amount of tourist, the promotion is the most important. The promotion will transfer tourism information to the tourist and make them awareness. There are many promotion ways, and Web-based GIS is one of them. Web-based GIS is a cheap and effective technology to promote tourism information for widespread of people with time constraint.

Web-based GIS is integration between two technologies: Internet and GIS. One of the most important aspects of the Internet is the near limitless exchange and free flow of data and information that can be distributed. The Internet presents a perfect platform that brings products and services to the customer.

The Internet has become an essential source of data for users of geographic data. Geographic data are important because they are connected information to specific location on the earth. We may realize that geography plays a very important role in everyday life. Many decisions we make are often influenced, determined or constrained by some aspect of geography (Environmental Systems Research Institute, 1994). However, web-based tourism information system provides not only on-line advertisement, but provides both
values and services. Information technology is having a big effect on major sectors of tourism. Tourists have problems to find what they are looking for, especially in reference to the geographic position of the object and its surroundings. In most cases, it is not satisfying to find a nice hotel without a reference to restaurants, sights or event locations located nearby.

There are two categories for the use of Web-based GIS in tourism: public information and management. By using web-based GIS, the tourist can know geographic information about a place before they go there. They want to know where things are located, what amenities are available, what the climate is like, and be able to do site specific searches to find information. The other user is in management side. Management may be done by individual operators, a tourism group, or by local government. Management users want to query the system for where customers are coming from, their socio-economic backgrounds, and good potential locations for new tourism sites.

The study presented in this paper starts from the user needs, to present the tourism object in geographic context on interactive tourist maps supports planning for tourism, focusing on decisions making and management using GIS technique and presenting the results on the internet.

1.2. Objective

The main objective of this research is to build Web-based GIS Information System that provides spatial and non-spatial tourism information via Internet environment (Case study in East Java Indonesia).