Chapter 12
Searching for Information on the Web: A Guideline for Effective Searching

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ABSTRACT
To date, the World Wide Web (WWW) is the most popular environment for information searching and retrieval. One of the steps in searching for information on the web is by entering a query to the search system and reformulating the queries. There are many challenges and issues in formulating effective queries. Effective queries will produce relevant document that matches the user information need. The discussion of this chapter will be focusing on how to apply both breadth and depth search query formulation strategies for effective searching on the web. The discussion will be based on a selected search task. At the end of the chapter, a recommendation for a step-by-step searching procedure will be presented as a guideline for effective searching.

INTRODUCTION
To date WWW (also known as web) has been one of the main sources of information for Internet users which includes professionals, students, household, clerk, and others (Large, Tedd and Hartley, 2001). The web provides information that serve many purposes including research (Herring, 2001; Downs and Friedman, 1999), entertainment (Spink, Bateman, & Jasen, 1998; Park, 2009), getting travelling information (Gursoy & Mc Cleary, 2004), business (Spink et. al., 1998) etc. The popularity of the web as a source of information is evident by the increase in Internet users worldwide. Figure 1 shows the growth of Internet users from December 1995 until December 2007
as published by Internet World Stats (2008). The graph shows that in 2007 the Internet user has increased to 1,319 million compared to 16 million when it was first popularized in 1995 (Xiaoming & Kay, 2004).

In Malaysia, the Internet usage has also increased from approximately 3 million in 2000 to 13 million in 2007 (Figure 2). According to Telekom Malaysia (TM) Bhd General Manager of Strategic Development Division, Dr Fadhlullah Suhaimi Abdul Malek, the increment of Internet user in Malaysia is expected to reach 10 billion in 2012 (Internet World Statistics, 2007). His view is based on the trend of Internet users in the last three years as Malaysia moved towards advanced information, communications and multimedia services.

The Malaysian Government has also taken additional steps to promote Internet use in education, public, and private sector. These efforts can be seen from the statistics of Internet access location as published by Malaysian Communications and Multimedia Commission (MCMC, 2008) that showed Internet access from school is the second highest (27.8%) after Internet access from place of work (54.5%). The survey also revealed that the most popular activity on the Internet was getting information (94.4%) followed by communication by text (84.7%) (Table 1). In 2006, the figure was 84.5% and 80.7% respectively. This shows that Internet has become one of the main sources of information among Internet users in Malaysia.

Figure 3 shows an example of a search engine interface - Google. Search engine is a computer program that retrieves information based on the query entered by the web surfer. Other examples of search engine are HotBot, Altavista, AllTheWeb and etc. Search engine is the most popular search tool for information searching (Day, 2001). To date, search engines have been translated and optimized for non-English user. This approach made it easy for the users to search for information using their own native language such as Chinese (Chau, Fang, & Yang, 2007), Spanish (Chung, 2006; Chung, Bonillas, Xi, & Chen, 2006), Arabic (Chung, et. al., 2006) & Korean (Park, Lee, & Bae, 2005).

The use of search engine and other search system on the Internet has enabled the access and retrieved of information from the WWW. However, due to the large amount of web pages available on the Internet and indexed in the search engine database, users are often overwhelmed by

Figure 1. Internet growth from 1995-2007 (Source: Internet World Stats, 2008 (http://www.Internetworldstats.com/asia/my.htm))