

LOW BANDWIDTH WEB INFORMATION RETRIEVAL SERVICES FOR RURAL AREAS

(Manjusha Nair & Jisha R C
Department of Computer Science and Applications,
Amrita University, Amritapuri Campus. Amritapuri, Kollam, Kerala, India.)

Abstract:

This is the proposal of a system that provides enhanced web search capabilities for Internet Cafes in villages with minimal network connectivity. This project is to create efficient web search over intermittent or low bandwidth networks. The system should filter the relevant content based on the bandwidth conditions/output devices.

In the proposed system, when a keyword is given, a search will be performed locally and retrieve the content and present the data. If the keyword is not present, the contextual caching will be done. In contextual caching, authentic and most relevant links are identified and cached after simplification and compression of web pages to reduce bandwidth requirements

Introduction:

In today's Internet world, contribution to information is high – From Research institutions, government departments, businesses etc... . But the knowledge even though available is not accessible to rural population. Poor countries do not have the budget to meet the latest technologies in all the remote areas. This lack of low-cost technological solutions is because of the low priority given to such infrastructural facilities compared to poverty and illiteracy.

The proposed system is a solution to such problems which gives a low cost solution to intermittency of networks.

Objectives:

- Internet Search Optimization.
- Fast & Efficient Content Retrieval.
- Provide authentic and relevant data in an E- book format.
- Economical bandwidth usage.

Scope of the system.

- In low bandwidth networks. (Especially in rural areas.)
- In research areas where specific topic specialization is done.

Main Modules

- Content Adaptation.
- Contextual caching.
- Local search within a cache containing downloaded pages.
- Automatic search query optimisations.
- Automatic e book creation (PDF files) and store it for later retrievals

References (Related works identified)

- Web Search: Rural Café: - By CATER (Cost effective Appropriate technologies for emerging regions) , New York University
<http://cater.cs.nyu.edu/wiki/index.php/Home>
- Content adaptation: Loband - Loband simplifies web pages by filtering out images and other bandwidth-intensive content so that they can be received faster over slow Internet connections.
www.loband.org .
- Local Content Search: Apache Lucene
<http://lucene.apache.org/java/docs/>