

Technology Forecasting/ Information Dynamics

by

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Presented on 11-3-05.

Potential barriers to analysis:

- **Ensuring that the most accurate information is found and utilized.**
- **Ensuring that the most up-to-date information is available for use.**
- Tracking and explaining multiple thought processes and computer interactions associated with a search.
- Entertaining adequate search strategies
- **Difficulties associated with manipulating and synthesizing data for testing hypotheses and report generation.**
- Lack of feedback mechanism for report validity and assessment.
- **Maintaining connection back to original source document.**
- Lack of collaboration (on the trees and not the forest).
- Too much information to process difficulties of this).
- Getting lost in the search (i.e. focusing).
- **Credibility of sources**

Scenario

A junior general technology analyst is asked to prepare a brief on close of business tomorrow it is 11:00 am:

What are the current wireless communications capabilities in the European Union? What are the wireless capabilities predicted to be there in five years?



Combinational Keyword Search

Tip: Save time by hitting the return key instead of clicking on "search"

Scholarly articles for mobile communication

- Power management techniques for mobile communication - by Kravets - 110 citations
Key distribution protocol for digital mobile ... - by Tatebayashi - 83 citations
Performance analysis of cellular mobile communication ... - by Everitt - 118 citations

Sony Ericsson Mobile Communications

Welcome to Sony Ericsson Mobile Communications. ... Careers. View career opportunities at the forefront of mobile communications. Careers Read more ...

Overview of the Global System for Mobile Communications

The GSM System for Mobile Communications. Published by the authors, 1992. ... Personal email, quoted from European Mobile Communications Business and ...

Global System Mobile Association

This is a global trade association that exists to promote, protect and enhance the interests of GSM mobile operators throughout the world.

Ericsson - the world-leading supplier in telecommunications

Ericsson is shaping the future of Mobile and Broadband Internet communications through its continuous technology leadership, helping to create the most ...

IEC: Global System for Mobile Communication (GSM)

Global system for mobile communication (GSM) is a globally accepted standard for digital cellular communication. GSM is the name of a standardization group ...

Alltel.com

Offer local telephone, wireless, long distance, Internet and paging service.

IST Mobile & Wireless Communications Summit 2005

IST Mobile & Wireless Communications Summit 2005, Dresden.

Sponsored Links

Enterprise Wireless Email Flexible, Low-Maintenance, Secure, & Reliable Software from Good. www.good.com

Mobile Communication Powerful & Easy Mobile Software. Free 30 Day Trial - Limited Time. www.AdessoSystems.com

Primus Mobile Service Unique add-on service for cell phones. Int'l calls from 4¢ min! www.PrimusMobilePhones.com

Mobile Communications Stay connected while on the road. Complete Hardware Solution for \$695 www.talkswitch.com

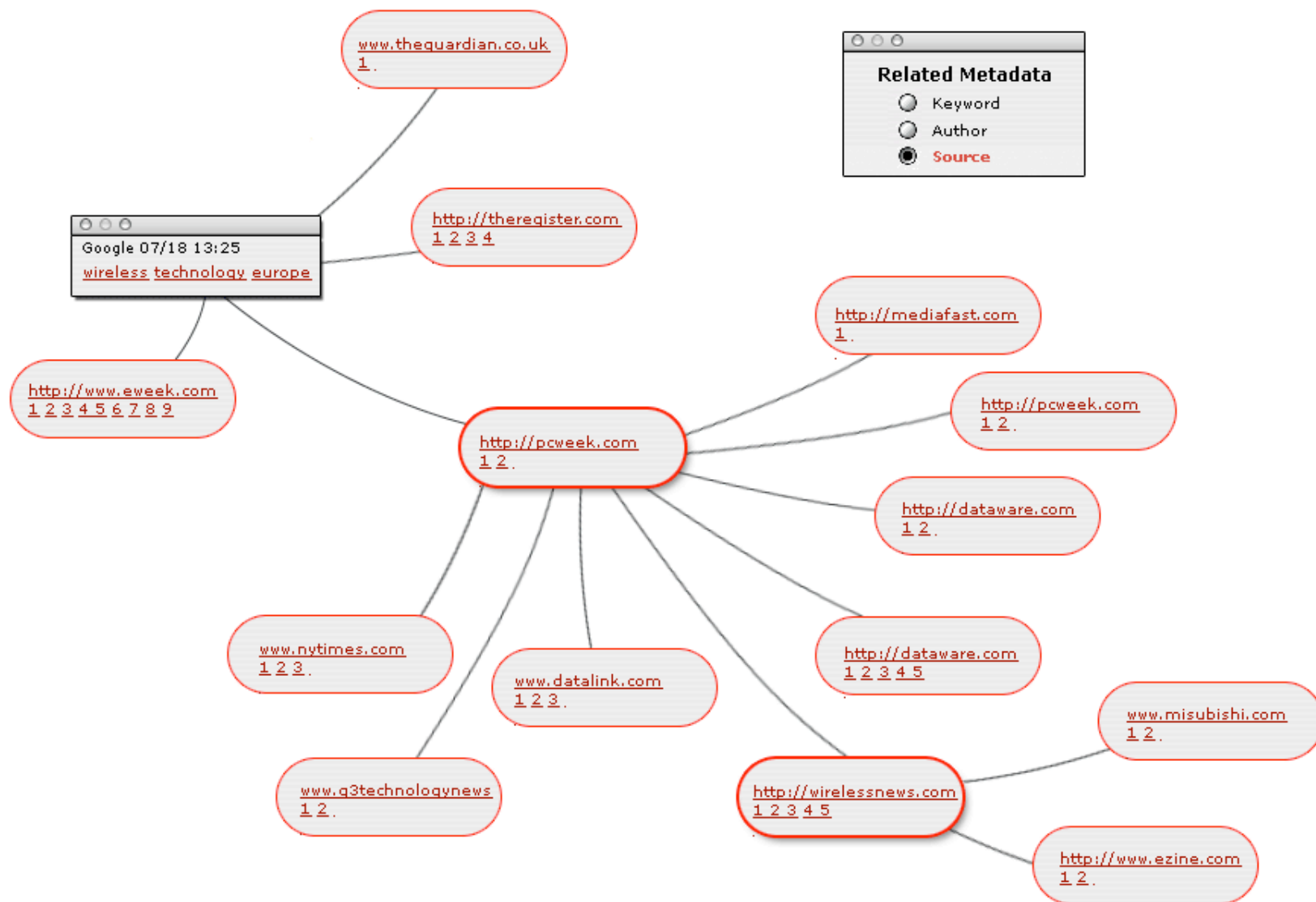
Cell Phone Holster For Sanyo 5500/VM4500 Free Shipping All Orders www.WirelessEmporium.com

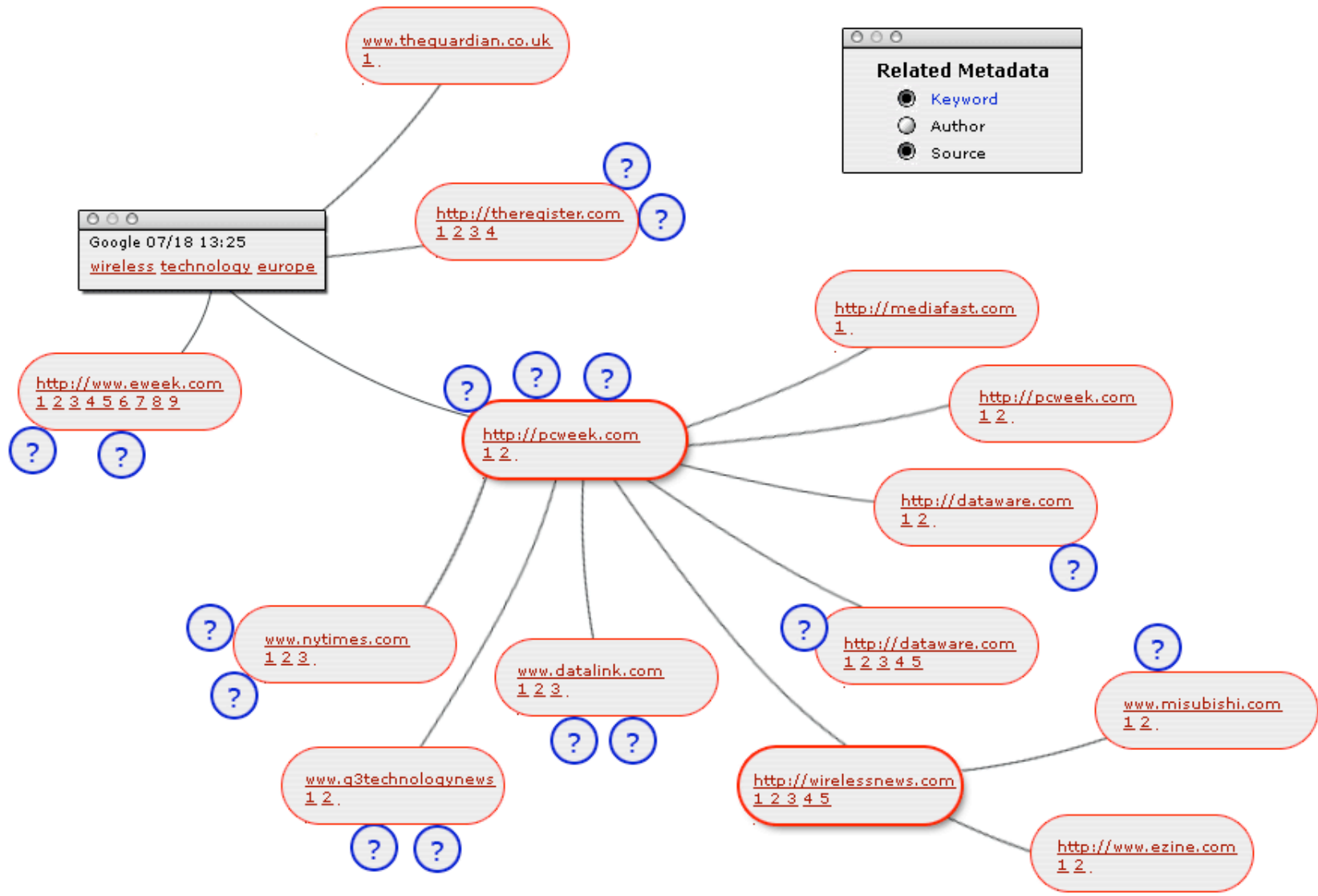
Wireless Call Plans Order a Phone & Service Online. View Our Low Rates & Deals Here! www.uscellular.com

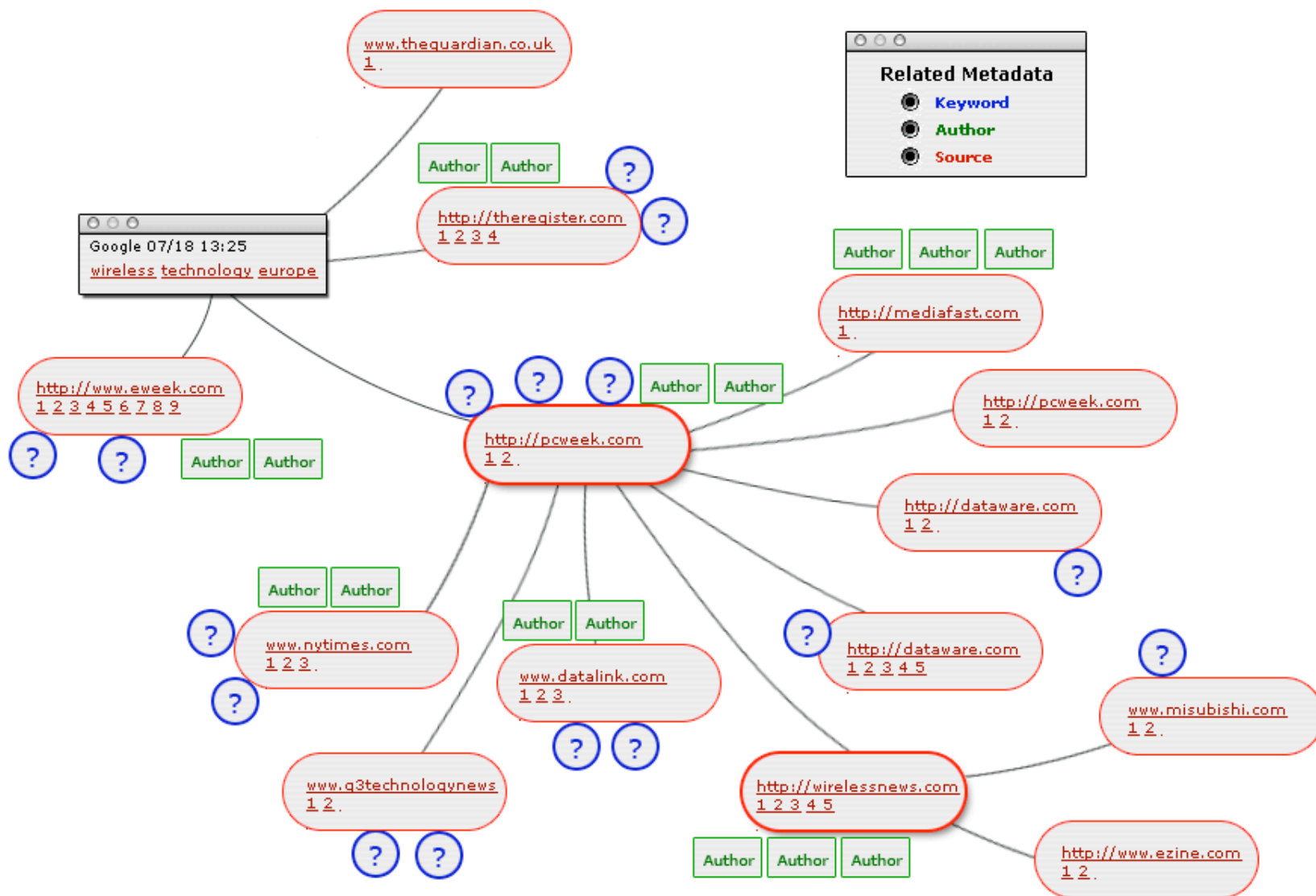
Wireless communication Articles & Information about Wireless communication BambooWeb.com

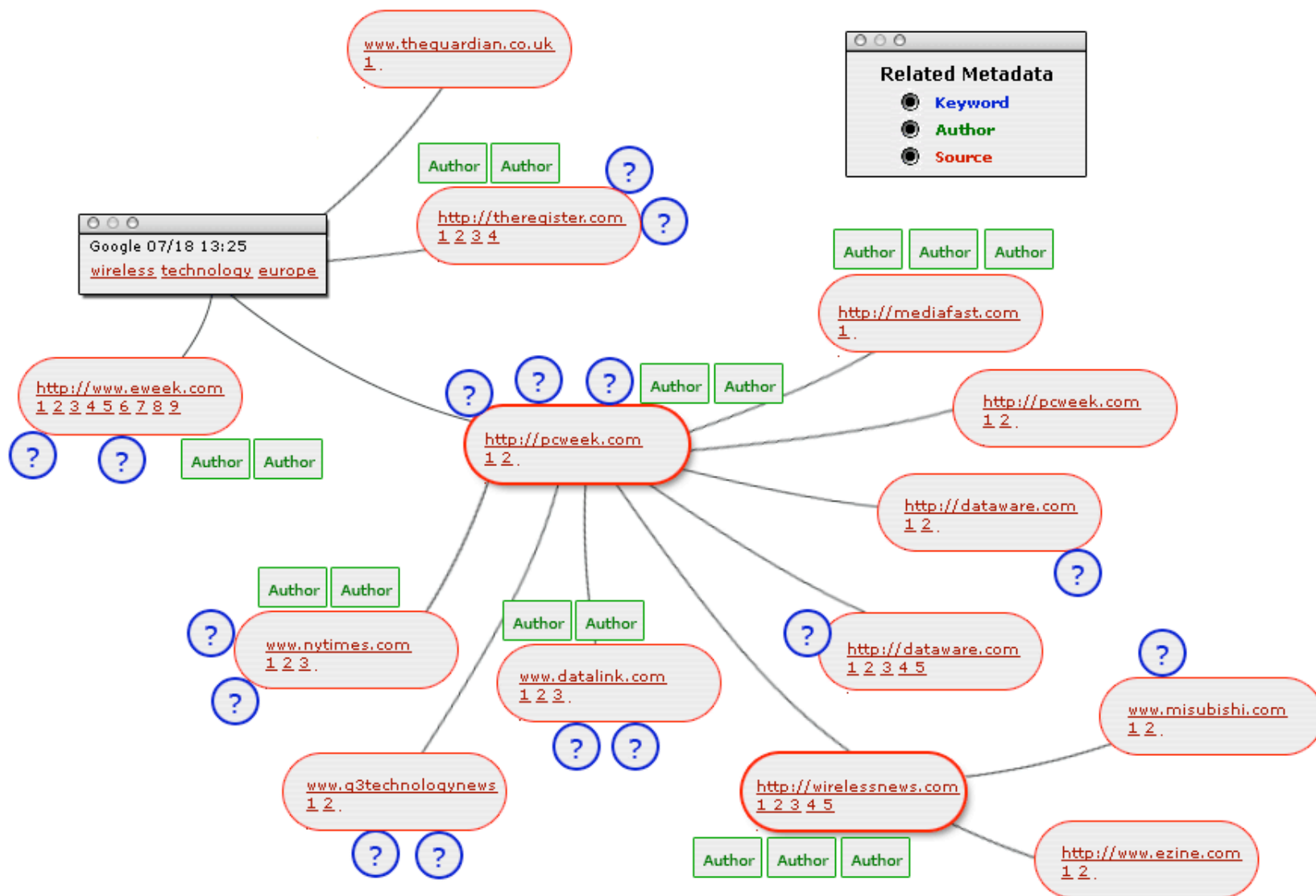
Cellular & Wireless Cellular & Wireless at Yahoo! Compare Prices & Save Yahoo.com

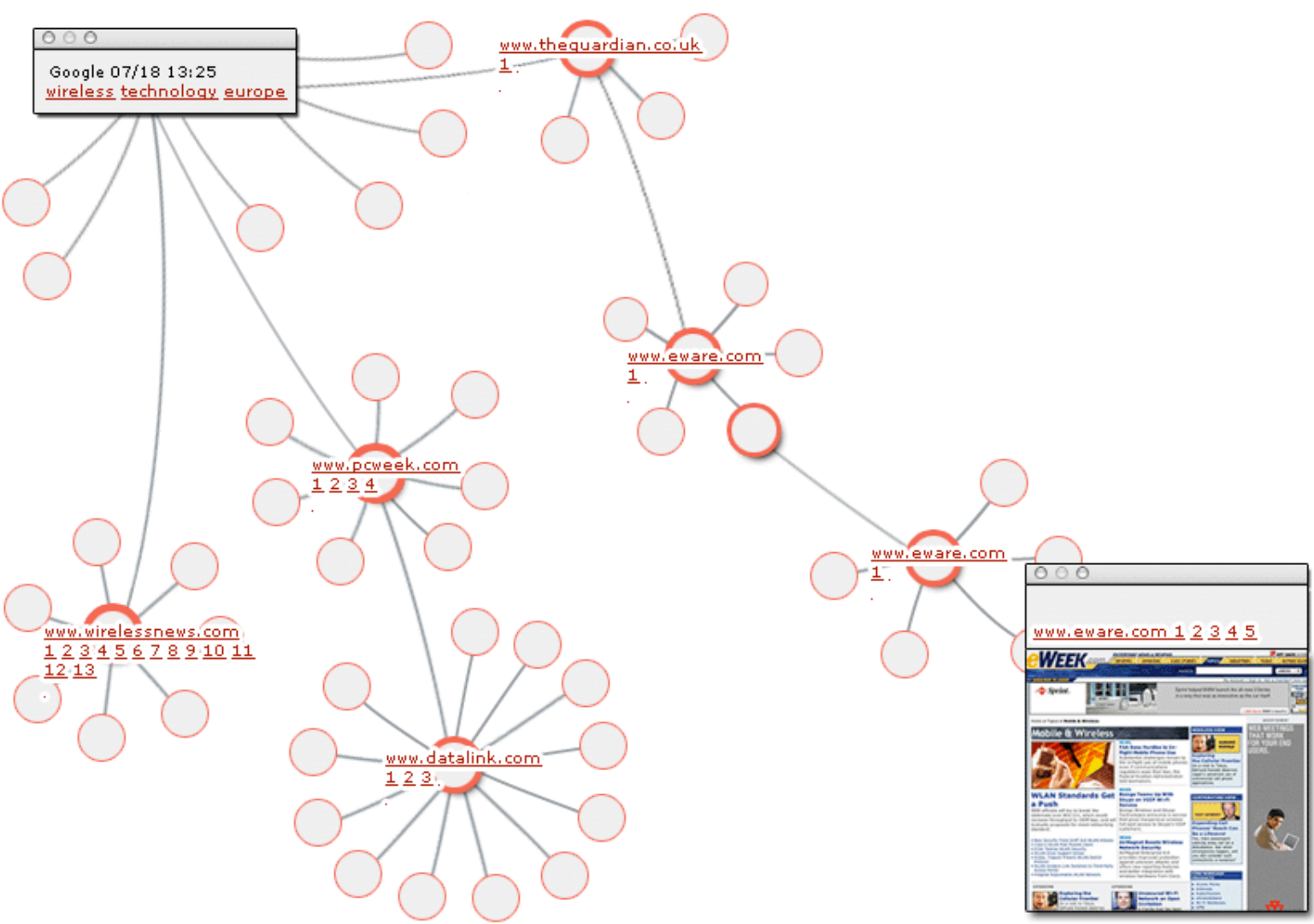
Visual Search Mapping & Search related expansion











Naturalistic Document Browsing

1. Introduction

1.1 Problem Overview

For most of us keeping our offices clean and organized presents a constant challenge. Imagine for a moment that, in addition to working, you also had to perform all of your other daily functions within that very same space—eating, sleeping, relaxing, etc. It is easy to see how keeping this area efficiently organized would quickly take on a whole

Based on my experiences as a NASA co-op at Johnson Space Center, I believe that this complexity is at the crux of one of the most pervasive issues in spaceflight today—how to effectively manage stowage during spaceflight. As such, addressing the difficulties that arise when attempting to control this type of inventory is the focus of this report. Please note that, in the context of this report, the terms stowage and inventory will largely be used interchangeably.

1.2 Problem Statement

This report addresses the problem of optimizing and maintaining spaceflight stowage organization—and by extension workspace organization—during long-duration missions. It is understood that the intrinsic nature of this problem arises not from a lack of available space, but from deficiencies in the current processes employed to maintain the inventories. Further, because the relative importance of this issue is perceived as lessened during short-duration missions (including most NASA Space Shuttle flights) the focus of this report is on extended length missions in order to increase the applicability of the research results. There is not, however, a set cut-off point for making such a distinction.

1.3 Benefits

The benefits of researching methods to improve spaceflight stowage systems are, assumedly, fairly intuitive—especially in light of the immense costs associated with spaceflight. Basically, the goal of better inventory organization will result in increased spaceflight productivity and efficiency, which, by extension, will reduce costs. Unfortunately, pinpointing precise cost and time savings are fairly difficult given the

nature of this paper and, accordingly, will largely not be considered within the scope of this report, though cost-to-benefit estimates are discussed as relevant to certain topics.

In addition to the primary benefit of improved inventory effectiveness, other, frequently less tangible, benefits can be expected to result from the proposed improvements. For instance, the potential exists for improved stowage such that additional habitat volume is freed to do other things, enhanced morale and pride in individuals as a result of a cleaner living space, and increased memory abilities that translated into better performance on other, unrelated tasks. These additional benefits are also considered and discussed in the course of the stowage management evaluations within this report.

1.4 Objectives

The objectives of this report are twofold. First, it evaluates research techniques and technologies that are currently used to successfully manage various inventories, with a consideration for significant psychological factors, with the intention of applying them to analogous inventory management scenarios in manned spaceflight. Second, it identifies potential improvements for spaceflight stowage methods—again, in the context of relevant human factors principles—given the limitations imposed by the extreme environment of space. Ultimately, the primary objective of this report is to identify means of increasing efficiency in stowage management with the eventual goal of improving current spaceflight inventory management systems.

1.5 Research Methodology

This report evaluates methods for improving and optimizing current spaceflight stowage and inventory management systems by taking a dual-faceted approach. The research methodology consists of an industrial engineering component and a psychology-based component. Both aspects of the approach are viewed in light of my past co-op work experiences with NASA.

From an engineering perspective, the research focuses upon the most current and effective methods and technologies used in other (non-aerospace based) industries to manage inventories by exploring how they apply to spaceflight stowage. From a psychological perspective it investigates the most variable component of the system—the people—by looking at both the cognitive interactions and organizational/industrial psychology principles that are relevant to the management of stowage during spaceflight.

1.6 Constraints

A large portion of the difficulty with spaceflight inventory management arises from the constraints imposed by the uniqueness of the system context, i.e. that the inventory management occurs in space. Accordingly, many of the constraints are environmental in