An Enjoyable System for Learning Website Attributes to Foster Children's Information Literacy

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BACKGROUND

Lights and shadows of the Internet
- large amount of and various types of information
- hard to realize risks due to both parties’ anonymity
- easy and convenient, but risks need to be determined

Existing techniques to protect children from harmful websites
a) Website filtering
   - just avoid and give no chance to determine whether websites are dangerous or safe
   - enable to produce immunity in harmful websites
b) Educational contents provided by police or schools
   - seem impractical situation
   - enable to understand coping process

MOTIVATION

Problems of using existing techniques
- children cannot live in safe space permanently
- difficult to foster their information literacy
  e.g., scissors are dangerous, but
  - parents explain why they are dangerous
  - children learn how to use

What is real education about information literacy?
- experts should explain why websites are dangerous or safe
- children should access all websites to realize how to prevent traps

OBJECTIVE

Propose enjoyable system for learning website attributes to foster children’s information literacy

RING RETRIEVAL

Graphical User Interface
Category ring  line up attribute names
- use for starting searches with attributes
Key ring  line up attribute values
- search keys derived from the attribute values on bottom part of key rings
  - adjust search keys by rotating key rings
  - range of search keys are in proportion to number of key rings
  - outer key ring has higher priority

Display retrieved results
- arranged in concentric circles according to search key values and their priorities
- higher ranked objects are larger and shown closer to center
- details are displayed by placing cursor on image

Children can
- use enjoyable and excitedly with easy operations and reasonable screen transition
- browse and compare many websites simultaneously
- browse websites from various angle and understand their features

RISK RATING

Algorithm
a) link websites with real world
  - Act on Specified Commercial Transactions
    company name, delegate’s name, address, phone number, email address
b) link, text and image analysis in websites
  - html structures, writing skill, taboo words, last update, and so on

Children can
- understand risk of websites by themselves
- notice about own level of information literacy

PROTOTYPE

1,200 websites
(safe)  400 from kids’ portal site
  400 from general portal site
  200 for over 20 like prize
(risky)  200 warning from police

Five attributes
- action (learn, try, play)
- color (two feature colors)
- atmosphere (pastel tone – dark)
- number of images (small – large)
- life cycle (short – long)

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