특 별 강 연

" 전자상거래에서의 인공지능 재도약 "

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전자상거래에서의 인공지능 재도약

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전자상거래의 관심 분야

❑ Internet Platform

❑ Electronic Shopping Mall 개발
- HTML Files
- Database 기반 도구
- Key World Search, Meta Search
- Directory
- CGI, Java

❑ Electronic Payment System 개발
- Secure Socket Layer
- Secure Electronic Transaction
- C-SET (Chip-SET)
- IC Card

전자상거래의 관심 분야

❑ 산업구조 개편
- 유통 구조 개혁: Direct Marketing, Intermediary
- 무역구조: Internet Round
- 금융 산업 구조: 은행, 증권 보험

❑ Internet Agents

❑ Intranet Workflow Management Systems

Potential Applications of AI in Electronic Commerce

❑ Intelligent Search

❑ Comparison Shopping: Bargain Finder and Meta-Land Architecture

❑ Learning Capabilities in Agents

❑ Intelligent Agents Architecture: Buyer and Seller Agents

❑ Agent's Communication Languages for EC

❑ Contract Types in Agent based Commerce

❑ Product Selection Aids: Salesman Expert Systems

❑ Intelligent Defaultless Electronic Check Book

❑ Web Based Expert Systems

Intelligent Search on Documents

❏ Key Word Search   : 특정 단어

❏ Proximity Search   : 유사어

❏ Concept Based Search : 특정 주제

❏ Field Search   : 문서의 속성

❏ Image Search   : Content-Based Image Retrieval

(예) - Verity

- Illustra

Comparison Shopping

- ## Search the online store for the prices of products.

Agent	Developer	Item	Note (URL)
BargainFinder	Anderson Consulting	CDs	*(http://bf.cstar.ac.com/bf/)*
BargainBoat	Curtin University	Books	*(http://www.ece.curtin.edu.au/~saunb/ bargainbot/)*
ShopBoat	Univ. Of Washington	CDs and Software	*(http://www.cs.washington.edu/homes/ bobd/shopbot.html)*
Price Watch	Price Watch Corp.	Computer and its parts	Directory Service *(http://www.pricewatch.com/)*

- ## Only provide information for products.

BargainFinder Agent

File   Edit   View   Go   Bookmarks   Options   Directory   Window   Help

ANDERSEN CONSULTING

BargainFinder Agent   CSTaR

Your Intelligent Agent for Comparison Shopping

How will agents affect on-line commerce? Try one and tell us what you think, or fill out our survey! Just type in the artist and album name of a rock or pop CD. Then sit back as your agent gets prices from nine virtual retailers.

Don't know where to start? Check out the latest Top 40 list to see what's hot! Or pick from our list of stores and browse, and come back to BargainFinder to find the best price!

| Selena | Artist | Shop for the album |
| Dreaming of you | Album | Clear the form |

If you're using an incremental browser such as the Netscape Navigator, you'll see the results as they come in. With non-incremental browsers, you'll have to wait a minute or two. Users of Netscape 1.1 and HotJava will see an animation of our agent searching for the requested album.

SURVEY   **DISCUSSION**   **INSIGHTS**   **SMART STORE**

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BargainFinder Agent

ANDERSEN
CONSULTING

BargainFinder Agent

BargainFinder is now searching nine stores for their prices of your album. Clicking on the name of a store will take you directly to your album in that store.

Bear in mind that BargainFinder is an experimental prototype agent, built to support research. It may not be able to handle all of the conditions and variations that a commercial agent would. Andersen Consulting does not guarantee BargainFinder's results.

26% of our survey respondents so far would like stores to use in-line advertising to let them keep service up while keeping prices down. Agree? Disagree? After BargainFinder finishes searching, fill out a survey or tell us what you think!

Dreaming of you by Selena :

$14.47 Emusic (Shipping starts at $1.99 first item, $0.49 each additional item.)
I had trouble shopping at GEMM. You may want to try browsing there yourself.
$ 14.77 CDworld (Variety of shipping options, starting at $2.74 for first item.)
I couldn't find it at Music Connection. You may want to try browsing there yourself.
CDnow is blocking out our agents. You may want to try browsing there yourself.
NetMarket is blocking out our agents. You may want to try browsing there yourself.
CDLand is blocking out our agents. You may want to try browsing there yourself.
I had trouble shopping at IMM. You may want to try browsing there yourself.

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Limitation of BargainFinder Agents

1. Natural language processing on the hypertext is imperfect and time consuming yet

2. The structured information like product specification and prices can be stored in the database more effectively and efficiently

3. Combination of the dynamic web page for human customers and the database for agents necessary

4. Customer Oriented Requirement Specification and Configuration Expert System over Product Catalogues

Comparison Shopping under the MetaLand Architecture

Netscape – [상품정보의 추출]

File   Edit   View   Go   Bookmarks   Options   Directory   Window   Help

Back | Forward | Home | Edit | Reload | Images | Open | Print | Find | Stop

Location: http://icec.net/~gvz/cgi/gsdepart.cgi?DBMETHOD=db_retrieve&GSPCODE=1&USERID=jklee

What's New? | What's Cool? | Destinations | Net Search | People | Software

현대백화점

CHANEL
PARIS

상품번호	1
상품명	삼성명품와이드(28인치)
모델명	WT-2820
제조회사명	삼성전자
가격	1,980,000원
할인률	7%
배달예정일	3일 이내
특기사항	할인

상품의 상세 설명

- 수신감도 증폭기(LNA) 채용
- 멀티포커스, 디지탈 서라운드
- 자동색(AKB) 보정회로,
- 방송종료 전원 차단기능, 크린새도우마스크,
- 뉴 스넵인 도어, 다양한 화면변환 선택
- 일반와이드, 파노라마, 확대, 자막, 더블스크린
- 자기진단 기능, 무선헤드폰
- 크기 (가로/높이/깊이) : 864/536/539mm

◇ 배송정보

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Netscape – [상품정보의 추출]

File   Edit   View   Go   Bookmarks   Options   Directory   Window   Help

| Back | Forward | Home | Edit | Reload | Images | Open | Print | Find | Stop |

Location: http://icec.net/~gvz/cgi/gsdepart.cgi?DBMETHOD=db_retrieve&GSPCODE=1&USERID=jklee

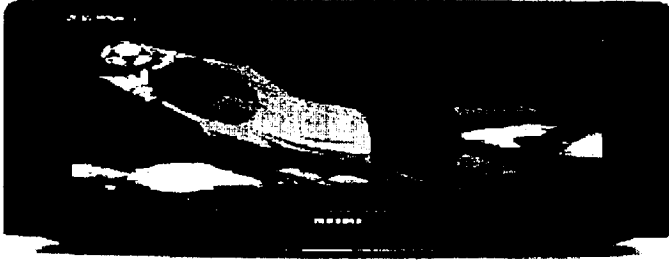What's New?   What's Cool?   Destinations   Net Search   People   Software

배달예정일	3일 이내
특기사항	할인

상품의 상세 설명

- 수신감도 증폭기(LNA) 채용
- 멀티포커스, 디지탈 서라운드
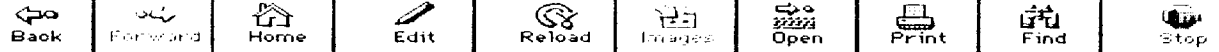- 자동색(AKB) 보정회로,
- 방송종료 전원 차단기능, 크린섀도우마스크,
- 뉴 스냅인 도어, 다양한 화면변환 선택
- 일반와이드, 파노라마, 확대, 자막, 더블스크린
- 자기진단 기능, 무선헤드폰
- 크기 (가로/높이/깊이) : 864/536/539mm

◇ 배송정보

- 배송기간 : 주문일로 부터 1~3일 이내
- 배송비용 : 서울, 부산, 인천 및 수도권 지역 - 무료 배송
  그외 지역 - 주문자 부담 (주문시 배송담당자가 배송방법 및 배송요금에 대해 상세히 안내해 드립니다)

- 삼성위너스카드 5% 할인(세일중에는 적용이 안됩니다)
  이용시 :
  3개월 무이자 할부 혜택

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Netscape - [유사상품정보의 추출]

File   Edit   View   Go   Bookmarks   Options   Directory   Window   Help

Back   Forward   Home   Edit   Reload   Images   Open   Print   Find   Stop

Location: http://icec.net/~gvz/cgi/gsclient.cgi?GSDEPPCODE=1&GSDEPARTMENT=현대&USERID=jklee

What's New?   What's Cool?   Destinations   Net Search   People   Software

삼성 카세트
mymy

마이마이가 **혁명**을 시작했다!
음질의 혁명, 컬러의 혁명, 기본기능의 혁명

- 삼성명품와이드(32인치) : WT-2820 : 현대 : 1 : [1,980,000원] : 3일이내 배달 : 7%

위의 상품에 관한 유사상품의 기록.........

- 삼성명품와이드(32인치) : WT-3220 : 신세계 : 8 : [2,399,000원] : 3일이내 배달 : 7%

두개의 상품은 동일한 모델의 상품입니다. 가격의 표기가 크게 다른 것은 소비자가와 판매가의 차이입니다.

- 대우개벽X5와이드겸용(29인치) : DTQ-29X5 : 신세계 : 7 : [1,368,000원] : 3일이내 배달 : 7%

조금 작은 사이즈이나 탱크주의 대우 개벽은 그 가격대비 성능이 아주 우수하고 확실한 A/S를 제공합니다.

2 개의 유사상품들이 추출되었슴

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An Illustrative Structured Representation

<! For METALAND Agent ### Product Specification ###
{{Daewoo_x_5-Wide(29")
        is_a : television
        Model Code : "DTQ - 29 x 5"
        Maker : "Daewoo Electronics"
        Regular Price : 1368000 Won
        Discounted Price : 1285000 won
        Days for Delivery (in Korea) : 3 days
        Screen Size : 29"
        Dimension : 838x582x503(mm)
        Remote Control : "Direct Access"
        Stereo : Yes
        Audio enhancement : "dolby surround sound"
        Audio volume equalizer : No
        Picture in Picture : Yes
        Caption : No
        On screen Display : Yes
        Timer : "on/off", "sleep"
        Jack Panel : "1 S-video input", "1 rear a/v input", "headphone"
        Lines of Resolusion : 650
        Comb filter : No
        High contrast Screen : Yes
        Warranty : "1 Year Parts"
        Other Feature : "Shadow Mask", "Channel scanning", "Super Flatness screen"
    }}
    >

Agents with Learning Capabilities (1)

❑ FireFly

- – Music recommendation service

- – Customer taste learning

- – http://www.agents-inc.com/

❑ Similarities Engine

- – Music recommendation service

- – Compare with five recommended musics

- – http://www.ari.net/se/

Agents with Learning Capabilities (2)

❏ WebHunter

- Web document filtering system
- Learn relevance with customer
- http://webhound.www.media.mit.edu/projects/webhoun d/doc/Webhound.html

❏ Eyes

- Search newly released books
- Retrieve customer's interesting areas
- http://www.amazon.com/exec/obidos/subst/eyes-editors.html

Agents with Learning Capabilities (3)

❑ **Open Sesame!**

- Learn the frequently used pattern of program and files
- http://www.opensesame.com/

❑ **News Weeder II**

- Learn frequently used web pages and news articles
- http://anther.learning.cs.cmu.edu/ifhome.html

❑ **InterAp**

- Filter out the noises and download the files that user may need while the system is idle
- http://www.stac.com/Homepages/Software/intcont.html