

Foxtrot recommender system Demonstration

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Foxtrot recommender system Demonstration

- **Problem domain**
- **Ontological user profiles**
- **Foxtrot approach**
- **Demonstration**
- **Future work**



Foxtrot recommender system Demonstration

- **Problem domain**

Information overload on the WWW

Too many sites and pages to browse

Search engines need an explicit search query

Recommender systems

No need to specify explicit keywords

Learns the type of things you want

Automatically looks for them

Recommends relevant things when they are found

A real world problem domain

On-line research paper recommendation for researchers

University of Southampton staff and students



Foxtrot recommender system Demonstration

- **Ontological user profiles**

User profiles represented using an ontology

- Classes represent research topics

- Ontology contains is-a relationships between classes

- User profiles hold classes and current interest values

Training set for each class

- 5-10 labelled examples per class

- Examples shared between users

Profile inference

- Is-a relationships used to infer interests not seen directly

- Inference used to improve profile accuracy

Profile feedback

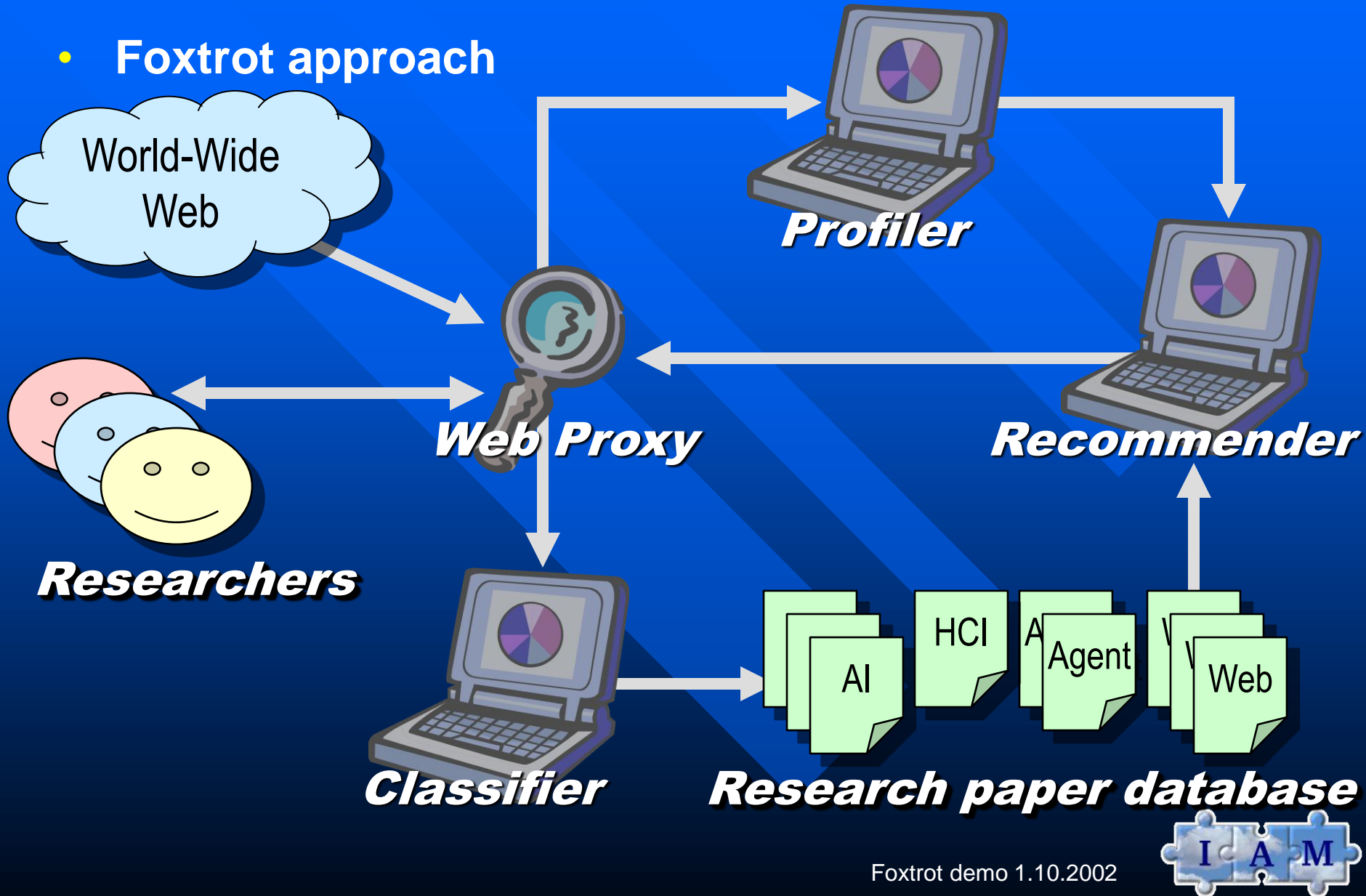
- Profile visualization allows profile feedback

- Feedback used to improve profile accuracy



Foxtrot recommender system Demonstration

- Foxtrot approach



Foxtrot recommender system Demonstration

- **Foxtrot approach**

Unobtrusive monitoring

Web proxy used to monitor web browsing

Shared research paper database

Database grows as users browse the internet

Classifier

Boosted k-Nearest Neighbour classifier

Profiler

Browsed papers and explicit feedback indicate interest

Time-decay and inference used to find interests

Recommender

Pearson-r correlation finds similar people

Recommended papers are those read by similar people



Foxtrot recommender system Demonstration

Recommendation page

Recommendations appear as search results when you open the web page

Today's recommended research papers [4 results]

Title: Towards a Social Level Characterisation of Socially Responsible Agents N. R. Jennings J. R. Campos
Department of Electronic Engineering Information Technology D ...
<http://www.mmrq.ecs.soton.ac.uk/nrj/publications/IEEProc97.ps.gz> -- 12/04/02 14:51 -- Quality: 4.0 -- Category: Artificial Intelligence/A
Your feedback: **Quality of paper** low(1) high(5) **Interest in topic** low high

Title: autonomous agents and multi-agent systems, 1, 275-306 (1998)c fl 1998 kluwer academic publishers, boston.
manufactured in the netherlands. a roadmap of agent r ...
<http://www.mmrq.ecs.soton.ac.uk/nrj/publications/aa-mas.ps.gz> -- 12/04/02 14:51 -- Quality: unrated -- Category: Artificial Intelligence/A
Your feedback: **Quality of paper** low(1) high(5) **Interest in topic** low high

Title: intelligent agents: theory and practice michael wooldridge department of computing manchester metropolitan university
chester street, manchester m1 5gd united ...
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Demonstration



Foxtrot recommender system Demonstration

The screenshot shows a web browser window displaying the Foxtrot interface. The browser's address bar shows the URL: <http://eric.ecs.soton.ac.uk/~sem99r/FoxtrotInterface/foxtrot.htm>. The page title is "Foxtrot On-line research paper database". The navigation menu includes "Recommendations", "Search results", "Profile", and "Help". The search form contains fields for "Title", "Content", and "Topic", along with a "Quality" radio button set (1 to 5) and a date range selector for "URL last modified [dd/mm/yy]". A "Search" button is located to the right of the form. Below the search form, a section titled "Today's recommended research papers [4 results]" displays a list of papers. The first visible entry is: "Title: Towards a Social Level Characterisation of Socially Responsible Agents N. R. Jennings J. R. Campos Department of ...". The second entry is: "Title: intelligent agents: theory and practice michael wooldridge department of computing manchester metropolitan university chester street, manchester m1 5gd united ...". The interface also includes a feedback section with "Quality of paper" and "Interest in topic" radio buttons.

Searching

Searches are made by entering a search query into the edit boxes.

Demonstr



Foxtrot recommender system Demonstration

The screenshot shows a Microsoft Internet Explorer browser window displaying the Foxtrot web interface. The browser's address bar shows the URL: <http://eric.ecs.soton.ac.uk/~sem99r/FoxtrotInterface/foxtrot.htm>. The page title is "Foxtrot On-line research paper database". The interface includes a navigation menu with "Recommendations", "Search results", "Profile", and "Help". A search form is visible with the following fields and options:

- Title:
- Content:
- Topic: ...
- Quality: Quality 1 5
- URL last modified [dd/mm/yy] From / / To / /
- Search button

Below the search form, there is a section titled "Today's recommended research papers [4 results]". The first result is partially visible:

Title: Towards a Social Level Characterisation of Socially Responsible Agents N. R. Jennings J. R. Campos Department of
Category: Artificial Intelligence/A
high
Publishers, boston.
Category: Artificial Intelligence/A
high

The second result is:

Title: intelligent agents: theory and practice michael wooldridge department of computing manchester metropolitan university
chester street, manchester m1 5gd united ...
<http://www.mmrq.ecs.soton.ac.uk/nrj/publications/KE-REVIEW-95.ps.Z> -- 22/10/99 11:31 -- Quality: unrated -- Category: Artificial Intelli

Below the second result, there is a feedback section:

Your feedback : Quality of paper low(1) high(5) Interest in topic low high

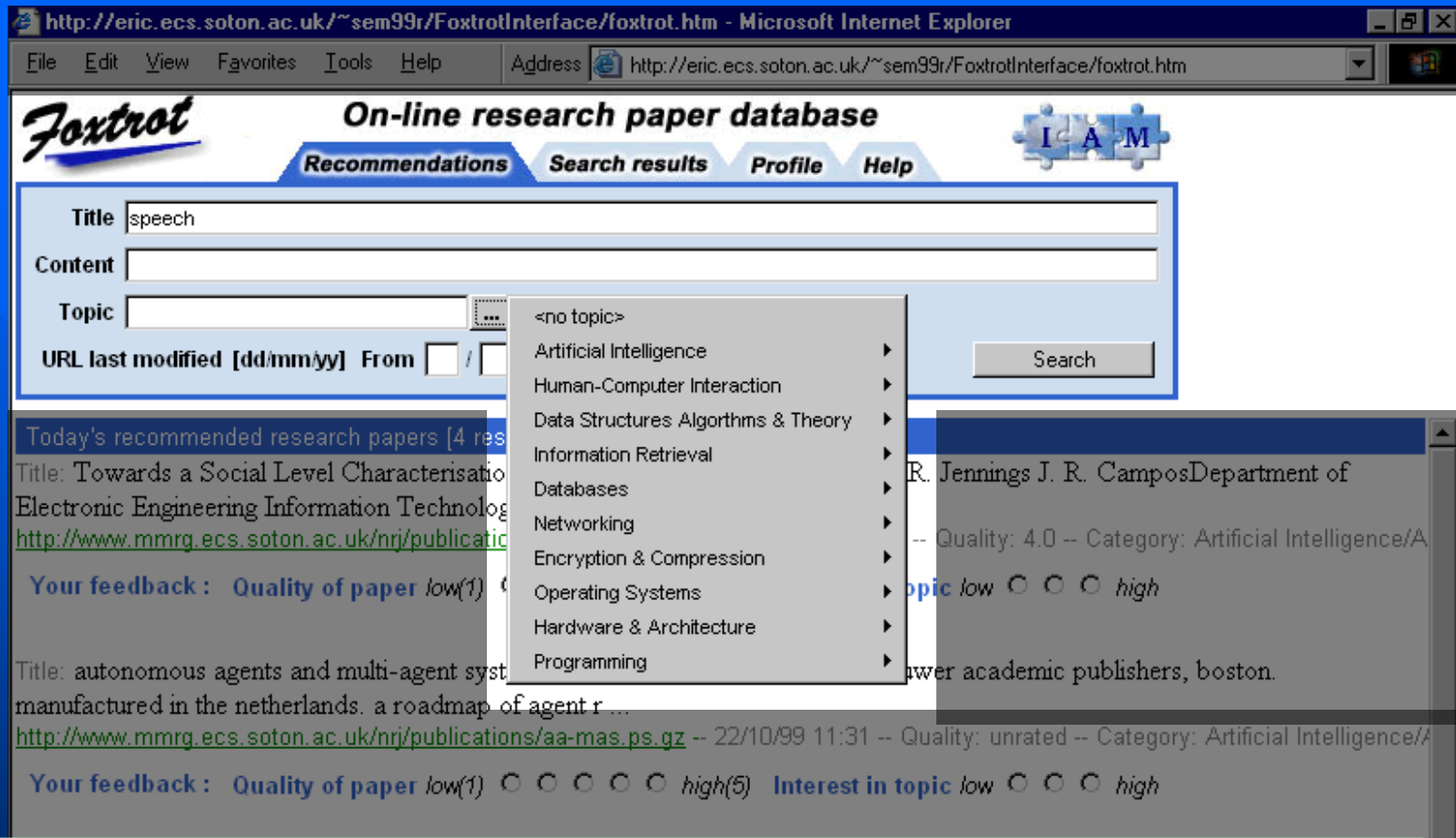
Searching

Searches are made by entering a search query into the edit boxes. For instance, “speech” can be entered into the title search box.

Demon



Foxtrot recommender system Demonstration



The screenshot displays the Foxtrot web interface within a Microsoft Internet Explorer browser window. The address bar shows the URL <http://eric.ecs.soton.ac.uk/~sem99r/FoxtrotInterface/foxtrot.htm>. The page header includes the Foxtrot logo, the text "On-line research paper database", and a navigation menu with "Recommendations", "Search results", "Profile", and "Help". A search form contains fields for "Title" (with "speech" entered), "Content", and "Topic" (with a dropdown menu open). The dropdown menu lists categories such as "Artificial Intelligence", "Human-Computer Interaction", "Data Structures Algorithms & Theory", "Information Retrieval", "Databases", "Networking", "Encryption & Compression", "Operating Systems", "Hardware & Architecture", and "Programming". A "Search" button is located to the right of the form. Below the search form, the page shows "Today's recommended research papers [4 results]", with the first entry titled "Towards a Social Level Characterisation of ..." and a "Your feedback" section for "Quality of paper" and "Interest in topic".

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Searching

Searches are made by entering a search query into the edit boxes. For instance, “speech” can be entered into the title search box. A search class can also be entered by clicking on the ... menu button.

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The search interface has the following fields:

- Title:
- Content:
- Topic: (with a dropdown menu open)
- URL last modified [dd/mm/yy] From /

The dropdown menu for the Topic field is open, showing a list of categories:

- Artificial Intelligence (selected)
- Human-Computer Interaction
- Data Structures Algorithms & Theory
- Information Retrieval
- Databases
- Networking
- Encryption & Compression
- Operating Systems
- Hardware & Architecture
- Programming

The right-hand side of the dropdown menu is also visible, showing sub-categories under "Artificial Intelligence":

- Artificial Intelligence
- Agents
- Data Mining
- Expert Systems
- Games and Search
- Knowledge Representation
- Machine Learning
- Natural Language Processing
- Planning
- Robotics
- Speech
- Theorem Proving
- Vision & Pattern Recognition

Below the search fields, there is a section for "Today's recommended research papers [4 res...]" with a list of paper titles and URLs. The first entry is "Towards a Social Level Characterisation of Electronic Engineering Information Technology" with URL <http://www.mmrg.ecs.soton.ac.uk/nrj/publications/aa-mas.ps.gz>. The second entry is "autonomous agents and multi-agent systems manufactured in the netherlands. a roadmap of agent r..." with URL <http://www.mmrg.ecs.soton.ac.uk/nrj/publications/aa-mas.ps.gz>.

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- Title:
- Content:
- Topic: (with a dropdown menu open)
- URL last modified [dd/mm/yy] From /

The dropdown menu for the Topic field is open, showing a list of categories:

- Artificial Intelligence (selected)
- Human-Computer Interaction
- Data Structures Algorithms & Theory
- Information Retrieval
- Databases
- Networking
- Encryption & Compression
- Operating Systems
- Hardware & Architecture
- Programming

The "Artificial Intelligence" category is expanded, showing a sub-menu with the following items:

- Artificial Intelligence
- Agents
- Data Mining
- Expert Systems
- Games and Search
- Knowledge Representation
- Machine Learning
- Natural Language Processing
- Planning
- Robotics
- Speech (selected)
- Theorem Proving
- Vision & Pattern Recognition

Below the search form, the page displays "Today's recommended research papers [4 res...]" and a list of results. The first result is:

Title: Towards a Social Level Characterisation of ...
Electronic Engineering Information Technology
<http://www.mmrq.ecs.soton.ac.uk/nrj/publications/aa-mas.ps.gz>

Your feedback: Quality of paper low(1) ...

The second result is:

Title: autonomous agents and multi-agent systems ...
manufactured in the netherlands. a roadmap of agent r ...
<http://www.mmrq.ecs.soton.ac.uk/nrj/publications/aa-mas.ps.gz> -- 22/10/99 11:31 --

Your feedback: Quality of paper low(1) ... Interest in topic low ...

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<http://www.mmrq.ecs.soton.ac.uk/nrj/publications/IEEProc97.ps.gz> -- 31/03/01 01:24 -- Quality: 4.0 -- Category: Artificial Intelligence/A
Your feedback: Quality of paper low(1) high(5) Interest in topic low high

The second result is:

Title: autonomous agents and multi-agent systems, 1, 275-306 (1998)c fl 1998 kluwer academic publishers, boston. manufactured in the netherlands. a roadmap of agent r ...
<http://www.mmrq.ecs.soton.ac.uk/nrj/publications/aa-mas.ps.gz> -- 22/10/99 11:31 -- Quality: unrated -- Category: Artificial Intelligence/A
Your feedback: Quality of paper low(1) high(5) Interest in topic low high

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Searching

Searches are made by entering a search query into the edit boxes. For instance, “speech” can be entered into the title search box. A search class can also be entered by clicking on the ... menu button.

Foxtrot recommender system Demonstration

• Demonstration

Searching

Now a search query has been entered, the search button can be clicked. This starts the search.

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- Title:
- Content:
- Topic: ...
- Quality: Quality 1 5
- Search in progress ...
- URL last modified [dd/mm/yy] From / / To / /
- Search button

Below the search form, the page displays "Today's recommended research papers [4 results]". The first result is:

Title: Towards a Social Level Characterisation of Socially Responsible Agents N. R. Jennings J. R. Campos Department of ...
Quality: 4.0 -- Category: Artificial Intelligence/A ...
low high
academic publishers, boston.

The second result is:

Title: intelligent agents: theory and practice michael wooldridge department of computing manchester metropolitan university chester street, manchester m1 5gd united ...
<http://www.mmrq.ecs.soton.ac.uk/nrj/publications/KE-REVIEW-95.ps.Z> -- 22/10/99 11:31 -- Quality: unrated -- Category: Artificial Intelli ...
low high

At the bottom of the page, there is a feedback section:

Your feedback : Quality of paper low(1) high(5) Interest in topic low high



Foxtrot recommender system

D Searching

Once complete, the search results are displayed in the area below the search query. The recommendations are overwritten by the search result.

Demonstration

http://eric.ecs.soton.ac.uk/~sem99

File Edit View Favorites Tools H

Foxtrot On-I
Recomm

Title

Content

Topic Quality 1 2 3 4 5

URL last modified [dd/mm/yy] From / / To / /

Search results for query [title] speech [topic] Artificial Intelligence/Speech [5 results]

Title: predicting hyperarticulate **speech** during human-computer error resolution1 sharon oviatt, margaret maceachern and gina-anne levow2 abstract when speaking t ...
<http://www.cse.ogi.edu/CHCC/Papers/sharonPaper/Speechcom/speechjournal.PDF> -- 18/02/99 17:58 -- Quality: unrated -- Category: A
Your feedback: Quality of paper low(1) high(5) Interest in topic low high

Title: dialogue act modeling for automatic tagging and recognition of conversational **speech** andreas stolcke lambda klaus ries sri international carnegie mellon uni ...
<http://www.speech.sri.com/papers/CL2000-dialog.ps.gz> -- 29/01/01 08:58 -- Quality: unrated -- Category: Artificial Intelligence/Speech
Your feedback: Quality of paper low(1) high(5) Interest in topic low high

Title: naist-is-dt9661205 phd thesis on supervised learning from sequential data with applications for **speech** recognition michael schuster february 15th, 1999 depa ...
<http://www.dcs.shef.ac.uk/~ljupco/papers/thesis-schuster-rmn.ps.gz> -- 30/03/99 11:33 -- Quality: unrated -- Category: Artificial Intelligen
Your feedback: Quality of paper low(1) high(5) Interest in topic low high

Local intranet



Foxtrot recommender system Demonstration

Feedback

Research papers can be opened by clicking on the green hyperlink.

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<http://www.mmrq.ecs.soton.ac.uk/nrj/publications/IEEProc97.ps.gz> -- 31/03/01 01:24 -- Quality: 4.0 -- Category: Artificial Intelligence/A
Your feedback: Quality of paper *low(1)* *high(5)* Interest in topic *low* *high*

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Your feedback: Quality of paper *low(1)* *high(5)* Interest in topic *low* *high*

• Demonstration



Foxtrot recommender system

Feedback

Research papers can be opened by clicking on the green hyperlink. PS, PDF, HTML and compressed versions are supported.

Demonstration

The screenshot shows a web browser window displaying a research paper recommendation interface. The browser's address bar shows the URL <http://www.mmrq.ecs.soton.ac.uk/nrj/publications/aa-mas.ps.gz>. The page content includes a table with columns for 'Content', 'Topic', and 'URL last modified [dd/mm/yy]'. A 'File Download' dialog box is open in the foreground, displaying the message: 'You are downloading the file: aa-mas.ps.gz from www.mmrq.ecs.soton.ac.uk. Would you like to open the file or save it to your computer?'. The dialog box has buttons for 'Open', 'Save', 'Cancel', and 'More Info', and a checked checkbox for 'Always ask before opening this type of file'. The background page shows a list of recommended research papers, including one titled 'Towards a Social Level Change in Electronic Engineering Informatics' and another titled 'autonomous agents and multi-agent systems manufactured in the netherlands'. The page also features a feedback section with 'Quality of paper' and 'Interest in topic' ratings.



Foxtrot recommender system Demonstration

Feedback

Feedback on individual papers can be provided via the radio buttons next to a paper.

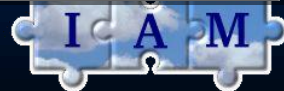
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<http://www.mmrq.ecs.soton.ac.uk/nrj/publications/aa-mas.ps.gz> -- 22/10/99 11:31 -- Quality: 5.0 -- Category: Artificial Intelligence/Agent
Your feedback: Quality of paper low(1) high(5) Interest in topic low high

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• Demonstration



Foxtrot recommender system Demonstration

The screenshot shows the Foxtrot web interface in a Microsoft Internet Explorer browser window. The page title is "On-line research paper database". The navigation menu includes "Recommendations", "Search results", "Profile", and "Help". The "Profile" section is active, displaying a line graph titled "Interest" with a y-axis from "Low" to "High" and an x-axis for "Date" from "24/09/01" to "13/01/02". The graph shows three lines representing interest levels for "Recommendation Agents", "Artificial Intell", and "IP Telephony". To the right of the graph is an "Undo" button and a "Drawing topic : none" dropdown menu. Below the graph is a list of recommended topics: "Recommender Systems", "Agents", "Artificial Intelligence", and "Interface Agents".

Profile visualization help
Above is your personal interest/time profile. Please draw your own topic interest bars to teach Foxtrot what your profile should be. Recommendations.

Topics are ranked in order of current interest.

The crosshair cursor indicates drawing mode.

Draw a new interest bar. Topic interest bars teach Foxtrot which topics you are interested in. The height of the graph it represents pre-trial or future interest.

Changing interest bars
Clicking on a bar selects it and the delete key erases it. Topic interest bars can be moved by dragging the centre, or resized by dragging the ends.

Undo
All changes can be reset with the undo button. Changes are only saved when you close the webpage.

The Foxtrot user manual can be found at <http://www.ecs.soton.ac.uk/~sem99r/foxtrotwebsite/manual.html>

Applet started Local intranet

Profile visualization

Profiles are visualized as a time/interest graph.

Demonstr



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Profile visualization

Profiles are visualized as a time/interest graph. Classes can be turned on and off.

Demonstration



Foxtrot recommender system Demonstration

The screenshot shows the Foxtrot web interface in Microsoft Internet Explorer. The browser address bar displays `http://eric.ecs.soton.ac.uk/~sem99r/FoxtrotInterface/foxtrot.htm`. The page title is "On-line research paper database". The navigation menu includes "Recommendations", "Search results", "Profile", and "Help". The "Profile" tab is active, showing a line graph titled "Interest" with a y-axis from "Low" to "High" and an x-axis for "Date" from 24/09/01 to 13/01/02. A blue line represents the user's interest profile, and a black line represents the system's recommendation. A context menu is open over the graph, listing various topics such as "Artificial Intelligence", "Human-Computer Interaction", "Data Structures Algorithms & Theory", "Information Retrieval", "Databases", "Networking", "Encryption & Compression", "Operating Systems", "Hardware & Architecture", and "Programming". Below the graph, there is a "Profile visualization help" section and a "Profile operations" table.

Topic listbox	Selects which topics are shown (graphs and bars). Topics are ranked in order of current interest.
Drawing topic	The menu button selects the current drawing topic. The crosshair cursor indicates drawing mode.
Drawing interest bars	Clicking and dragging the crosshair cursor draws a new interest bar. Topic interest bars teach Foxtrot which topics are of interest to you. If a bar extends to the left or right of the graph it represents pre-trial or future interest.
Changing interest bars	Clicking on a bar selects it and the delete key erases it. Topic interest bars can be moved by dragging the centre, or resized by dragging the ends.

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Profile visualization

Users can draw interest bars onto the graph to indicate interest.



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Profile operations	
Topic listbox	Selects which topics are shown
Drawing topic	The menu button selects the current topic
Drawing interest bars	Clicking and dragging the crosshairs on the graph are of interest to you. If a bar extends to the left or right of the graph it represents pre-trial or future interest.
Changing interest bars	Clicking on a bar selects it and the delete key erases it. Topic interest bars can be moved by dragging the centre, or resized by dragging the ends.

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Topic listbox	Selects which topics are shown
Drawing topic	The menu button selects the current topic.
Drawing interest bars	Clicking and dragging the crosshairs on the graph draws a bar. Topic interest bars teach Foxtrot which topics are of interest to you. If a bar extends to the left of the graph it represents pre-trial or future interest.
Changing interest bars	Clicking on a bar selects it and the delete key erases it. Topic interest bars can be moved by dragging the centre, or resized by dragging the ends.

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Profile visualization

Users can draw interest bars onto the graph to indicate interest.



Foxtrot recommender system Demonstration

The screenshot shows the Foxtrot web interface in a Microsoft Internet Explorer browser window. The address bar shows the URL: <http://eric.ecs.soton.ac.uk/~sem99r/FoxtrotInterface/foxtrot.htm>. The page title is "On-line research paper database". The navigation menu includes "Recommendations", "Search results", "Profile", and "Help". The "Profile" tab is active, showing a "Profile visualization help" section with a graph and a "Topic listbox" menu.

The graph displays "Interest" on the y-axis (Low to High) and a date "24/09/01" on the x-axis. A blue line represents the user's interest profile. A "Topic listbox" menu is open, showing a list of topics. The "Agents" topic is selected, and a sub-menu is open for it, showing a list of sub-topics. The "Artificial Intelligence" sub-topic is selected.

The "Topic listbox" menu items are:

- Artificial Intelligence
- Agents
- Data Mining
- Expert Systems
- Games and Search
- Knowledge Representation
- Machine Learning
- Natural Language Processing
- Planning
- Robotics
- Speech
- Theorem Proving
- Vision & Pattern Recognition

The sub-menu for "Agents" includes:

- Artificial Intelligence
- Human-Computer Interaction
- Data Structures Algorithms & Theory
- Information Retrieval
- Databases
- Networking
- Encryption & Compression
- Operating Systems
- Hardware & Architecture
- Programming

The "Profile visualization help" section includes the following text:

Above is your personal profile. Drawing a profile is the fastest and best way to indicate your interest in a topic.

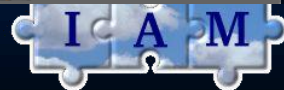
Profile operations

Topic listbox	Selects which topics are shown in the graph.
Drawing topic	The menu button selects the current topic. The mouse cursor indicates drawing mode.
Drawing interest bars	Clicking and dragging the crosshairs on the graph indicates the topic of interest. Topic interest bars teach Foxtrot which topics are of interest to you. If a bar extends to the left or right of the graph it represents pre-trial or future interest.
Changing interest bars	Clicking on a bar selects it and the delete key erases it. Topic interest bars can be moved by dragging the centre, or resized by dragging the ends.

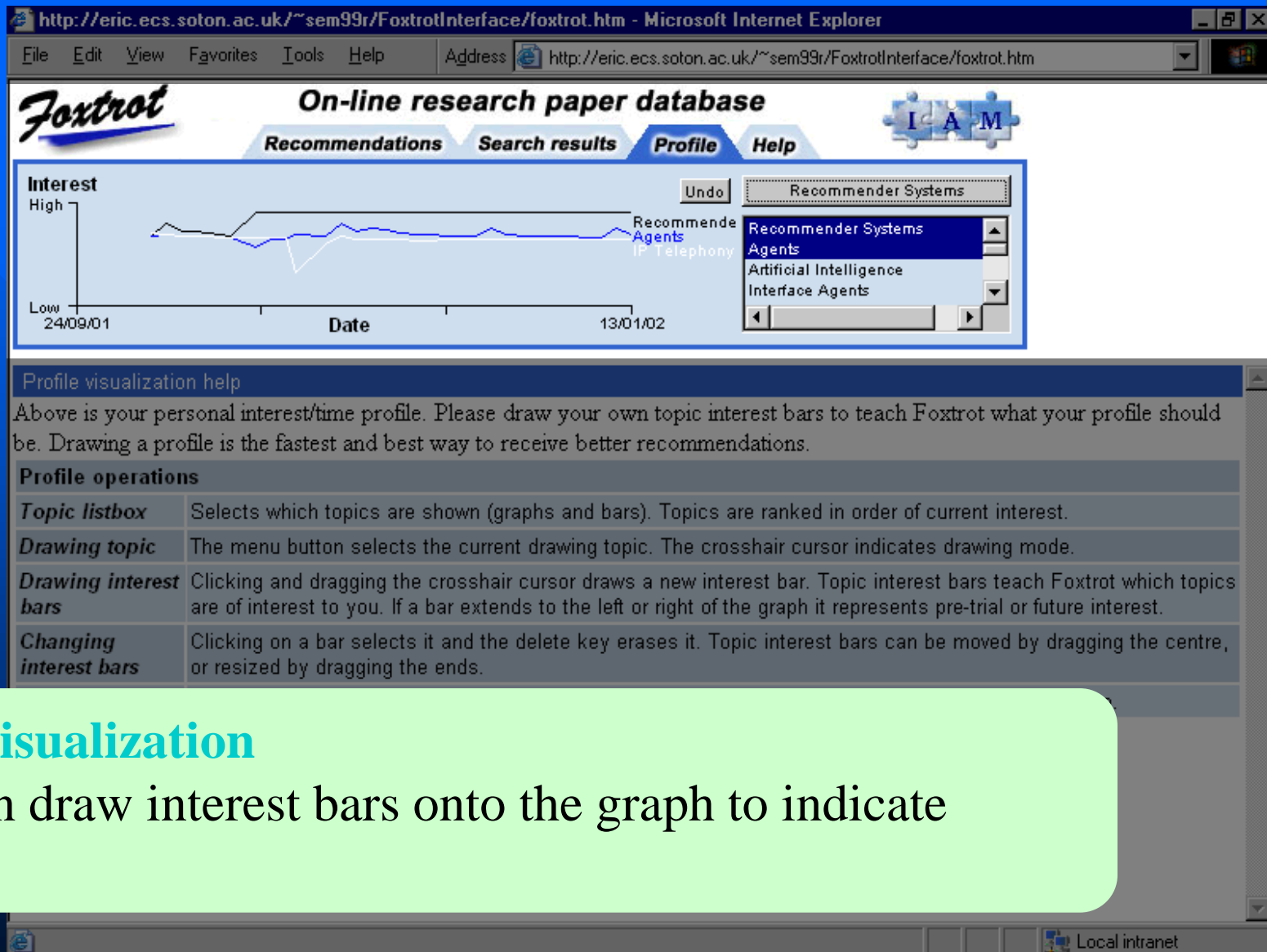
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Profile visualization

Users can draw interest bars onto the graph to indicate interest.



Foxtrot recommender system Demonstration



The screenshot shows the Foxtrot web interface. At the top, the browser address bar displays the URL: <http://eric.ecs.soton.ac.uk/~sem99r/FoxtrotInterface/foxtrot.htm>. The page title is "Foxtrot On-line research paper database". Navigation tabs include "Recommendations", "Search results", "Profile", and "Help". The "Profile" tab is active, showing a line graph titled "Interest" with a y-axis from "Low" to "High" and an x-axis for "Date" from "24/09/01" to "13/01/02". The graph shows two lines: a black line for "Recommendations" and a blue line for "Agents". A legend on the right lists "Recommendations" and "Agents". Below the graph is a "Recommender Systems" listbox containing "Agents", "Artificial Intelligence", and "Interface Agents".

Profile visualization help

Above is your personal interest/time profile. Please draw your own topic interest bars to teach Foxtrot what your profile should be. Drawing a profile is the fastest and best way to receive better recommendations.

Profile operations

Topic listbox	Selects which topics are shown (graphs and bars). Topics are ranked in order of current interest.
Drawing topic	The menu button selects the current drawing topic. The crosshair cursor indicates drawing mode.
Drawing interest bars	Clicking and dragging the crosshair cursor draws a new interest bar. Topic interest bars teach Foxtrot which topics are of interest to you. If a bar extends to the left or right of the graph it represents pre-trial or future interest.
Changing interest bars	Clicking on a bar selects it and the delete key erases it. Topic interest bars can be moved by dragging the centre, or resized by dragging the ends.

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Profile visualization

Users can draw interest bars onto the graph to indicate interest.



Foxtrot recommender system Demonstration

The screenshot shows the Foxtrot web interface. At the top, it says "Foxtrot On-line research paper database". There are navigation tabs for "Recommendations", "Search results", "Profile", and "Help". The "Profile" tab is active. The main area features a line graph titled "Interest" with a vertical axis from "Low" to "High" and a horizontal axis for "Date" from "24/09/01" to "13/01/02". A blue line represents the user's interest profile, and a black double-headed arrow indicates a selected time period. To the right of the graph is a "Drawing topic" menu with an "Undo" button and a list of topics: "Recommender Systems", "Agents", "Artificial Intelligence", and "Interface Agents". Below the graph is a "Profile visualization help" section with the following text: "Above is your personal interest/time profile. Please draw your own topic interest bars to teach Foxtrot what your profile should be. Drawing a profile is the fastest and best way to receive better recommendations." Below this is a "Profile operations" table:

Profile operations	
Topic listbox	Selects which topics are shown (graphs and bars). Topics are ranked in order of current interest.
Drawing topic	The menu button selects the current drawing topic. The crosshair cursor indicates drawing mode.
Drawing interest bars	Clicking and dragging the crosshair cursor draws a new interest bar. Topic interest bars teach Foxtrot which topics are of interest to you. If a bar extends to the left or right of the graph it represents pre-trial or future interest.
Changing interest bars	Clicking on a bar selects it and the delete key erases it. Topic interest bars can be moved by dragging the centre, or resized by dragging the ends.

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Profile visualization

Users can draw interest bars onto the graph to indicate interest.



Foxtrot recommender system Demonstration

The screenshot shows the Foxtrot recommender system interface. At the top, it says "Foxtrot On-line research paper database". Below this are navigation tabs: "Recommendations", "Search results", "Profile", and "Help". The "Profile" tab is active. The main area features a line graph titled "Interest" with a y-axis from "Low" to "High" and an x-axis for "Date" from "24/09/01" to "13/01/02". A blue line represents the user's interest profile, and a black bar is drawn above it. To the right of the graph is a "Drawing topic" menu with an "Undo" button and a list of topics: "Recommender Systems", "Agents", "Artificial Intelligence", and "Interface Agents". Below the graph is a section titled "Profile visualization help" with the text: "Above is your personal interest/time profile. Please draw your own topic interest bars to teach Foxtrot what your profile should be. Drawing a profile is the fastest and best way to receive better recommendations." Below this is a table titled "Profile operations" with the following content:

Profile operations	
Topic listbox	Selects which topics are shown (graphs and bars). Topics are ranked in order of current interest.
Drawing topic	The menu button selects the current drawing topic. The crosshair cursor indicates drawing mode.
Drawing interest bars	Clicking and dragging the crosshair cursor draws a new interest bar. Topic interest bars teach Foxtrot which topics are of interest to you. If a bar extends to the left or right of the graph it represents pre-trial or future interest.
Changing interest bars	Clicking on a bar selects it and the delete key erases it. Topic interest bars can be moved by dragging the centre, or resized by dragging the ends.

At the bottom right, there is an "intranet" label and a logo with the letters "I A M".

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Profile visualization

Users can draw interest bars onto the graph to indicate interest. Once drawn, bars can be moved and re-sized as required. Continued interest goes off the end of the graph.

Foxtrot recommender system Demonstration

- **Future work**

Improved ontology

More relationships than just is-a links

Projects, related areas, technology links...

Task profile

Task profiles would allow more than just a general profile

Task analysis is a hard problem however

Agent metaphor

A multi-agent-system could buy/sell ontological knowledge

Agents could trade personal information

