MyMedia – Dynamic Personal Multimedia

MyMedia is a collaborative research project aiming to help people make sense of the vast amount of multimedia content available, according to their personal preferences. **Alexander Voß**, the project co-ordinator and Program Manager at the European Microsoft Innovation Center, describes its aims and objectives.

We are drowning in a sea of information. Television channels, books and music assault our senses with arguably far too much content. This applies not only to traditional media but millions of individual users are also putting their own content on the web. The massive popularity of *YouTube* is just one example of this phenomenon. The volume of content on the internet is literally exploding. So, in this flood, how do you find content that matters to you? How do you discover multimedia information and entertainment in a way that suits you personally? Isn't there an easier way? *MyMedia* recommendations will help to solve this 'crisis of choice'.

The *MyMedia* recommender system software framework has been released including source code for academic, non-commercial use and can be downloaded from www.mymediaproject.org/ publicrelease.aspx.

provided it will find similar content. By incorporating implicit feedback it will even learn what users like on its own. The more it is used then the more it

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A team of university researchers, content providers, service providers and software engineers have come together to help solve the problem of information overload, in an age where users can often feel overwhelmed by the amount of media content that is now available via a multitude of sources. The *MyMedia* recommender system will enable users to turn this flood of information into a flow of the most relevant media content, based on their personal likes and dislikes

Finding what interests you does not have to be an accident. Our project is researching solutions that jump beyond traditional recommender systems, which are based on a single multimedia source. Instead *MyMedia* provides recommendations that are integrated from many sources. Users can personalise the system by simply indicating if they like a particular video file or audio cast and considering the explicit feedback

knows about an individual's preferences. Personalised recommender technology has the potential to become the central experience for how users access multimedia content.

The project seeks to advance the state of the art in several, areas including creating a software framework for building recommender systems and developing a protocol for plugging in multiple content catalogues, as well as pluggable recommender algorithms that can be targeted to meet specific needs.

The project, launched in January 2008 and coordinated by Microsoft and co-funded under the 7th EU framework program under grant agreement no 215006, is working on new algorithms with enhanced prediction performance to deliver solutions to cope with the new user and new item difficulties commonly known in the field of recommender

system research as the 'cold start' problem. It will develop effective techniques to enable online updating capabilities for models in order to support a user experience with immediate feedback loops after content has been rated. It seeks to combine the prediction power of collaborative-model-based algorithms using implicit and explicit user feedback with content-based recommender algorithms using enriched item metadata in a hybrid approach. *MyMedia* aims to develop a conceptual preference model to understand and leverage user preferences, provide the ability to incorporate aspects of social networking to create media centric communities, and research enhancements in the field of metadata enrichment methods to enable advanced metadata-based recommender systems.

commerce applications for marketing of audio and video content offerings. The existing applications will be extended by dynamic personalization using the recommender system software framework, newly developed recommender engines and metadata enrichment modules from the project research.

One of the unique aspects of the work being undertaken is the opportunity to evaluate a common set of recommender artefacts in a variety of different socio-demographic contexts and usage scenarios. In order to evaluate the results among this diverse set of field trial applications, the *MyMedia* project created an evaluation framework that allows for a cause-and-effect chain analysis measuring the perceived usefulness for the end user as well as a set of objective performance indicators.

technology, including Microsoft's MSN video sharing and social community *ClipClub*, a web-based television and radio service from the BBC and Microgenésis' eCommerce application, Yogui, with approximately 500 participants across Europe. *ClipClub* users receive media recommendations in real-time and according to their personal preferences. Based on explicit feedback *ClipClub* will automatically start with the dynamic personalization and recommend video and audio streams with similar content. Additionally users get recommendations for others to include them in their MSN Messenger list of friends based on similar personal preferences thus enhancing and extending their social network.

MyMedia aims provide diverse means of enriching the information associated with media content and will deliver dynamic personalization of multimedia by providing powerful and flexible recommendation services for different scenarios (IPTV, video on demand, web) based on an empirically validated preference model supported by an open source framework. For more information, visit our homepage at: www.mymediaproject.org.

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The European Microsoft Innovation Center (EMIC), BBC Research, BT Research, Microgénesis, Novay and the Universities of Hildesheim and Eindhoven have combined their expertise in the *MyMedia* project to pioneer new dynamic personalization software. EMIC (www.microsoft.com/emic), based in Aachen, Germany, leads the *MyMedia* project and is unique to Microsoft in its focus on collaborative applied research and its goal of contributing to European Commission and other public-sector research programs.
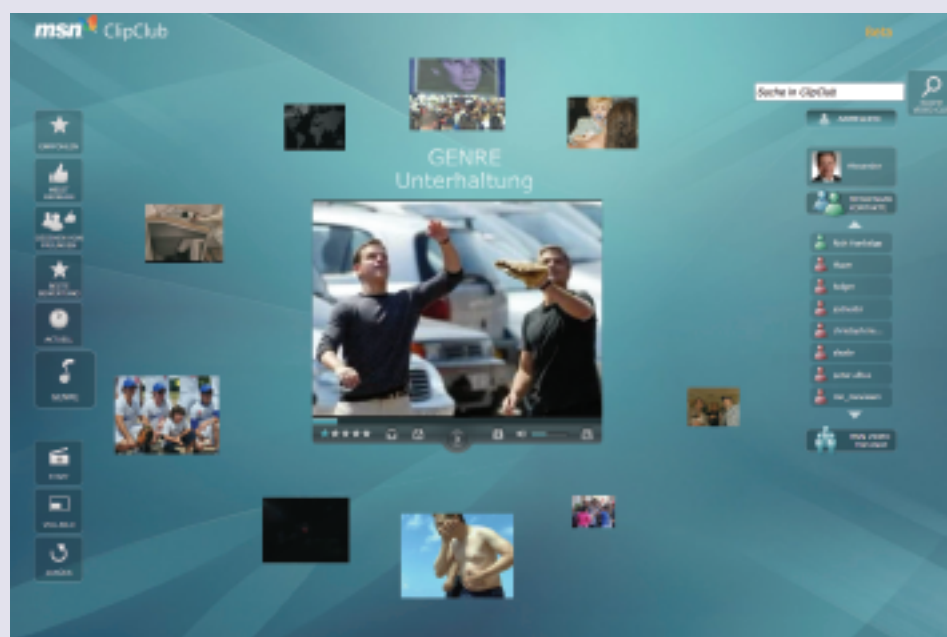
The *MyMedia* system resulting from this project will allow easy integration of multiple content catalogues and recommender algorithms in a single system and provide technology for ranking the content based on personal preferences. The system will learn from user behaviour and enable the sharing of recommendation results with friends and family while observing privacy. In order to evaluate the recommender system research results, the project is conducting a set of four field trials in three different languages and countries. The field trials comprise a variety of different technology platforms ranging from an IPTV and Set Top Box application for consuming video on demand and life broadcasting programs to web-based e-

The EMIC field trial will be based on MSN *ClipClub*, a video and social networking platform that integrates MSN Video and Windows *Live Messenger*. Users can enjoy, rate and share video clips. By connecting through *Live Messenger* users can share their favourite video titles and playlists with friends and in so doing enlarge their social network.

The next phase of the project will pilot several innovative trials of the

Alexander Voß
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www.mymediaproject.org

The picture shows MSN ClipClub, a video and social networking platform that integrates MSN Video and Windows Live Messenger which is powered by the MyMedia recommender system technology: http://clipclub.video.msn.de.

MOVING IMAGE GATEWAY

Selected from the Moving Image Gateway (www.bufvc.ac.uk/gateway). All sites are tested on a Mac Mini OSX 10.4.11 with a 1.8 GHz processor, with 100 Mbps online connection.

ACADEMY OF ACHIEVEMENT

www.achievement.org
International in scope but mainly aimed at students in American education, this site offers dozens of video interviews and podcasts featuring leaders in the fields of Arts and Humanities, Bio-medicine, Science and Technology and Social Sciences. Individuals can be searched for by name and by general academic discipline and the interviews and lectures are available in QuickTime format.

ALFRED HITCHCOCK WIKI

www.hitchcockwiki.com/
Dedicated entirely to the work of the celebrated British film director, this extensive and exhaustive website is particularly useful for its in depth look at international home video releases of his films and TV shows. It also includes links to scripts in PDF form, radio broadcasts and a wide variety of multimedia objects as well as extensive sections devoted to essays and books on Hitchcock and his films.

BBC WILDLIFE FINDER

www.bbc.co.uk/wildlifefinder/
A new site from the BBC using footage from the Natural History Unit archive to show wild animals, their habitats and behaviour. Starting with 370 animals, the collection of still images and video clips includes footage from series such as PLANET EARTH. Images are organised by animal, habitat, adaptation and ecozone.

HARLEM DIGITAL ARCHIVE

http://ccnmtl.columbia.edu/harlemarchive/
This ongoing projects aims to establish an archive for the audiovisual assets about Harlem located at Columbia University and in Harlem as a whole.

Harlem newsboy photographed by Gordon Parks in 1943.

The Harlem Digital Archive will be a repository and the source for a wide range of teaching and learning materials that can be deployed in the university classroom setting and more broadly in libraries and museums, online, and in educational television and radio. Currently includes several podcasts and short video titles as well. This site links to several related projects and many related lectures held at Columbia can also be viewed on *YouTube*.

IOM3 ON YOUTUBE

www.youtube.com/user/iom3
A YouTube Channel showing video titles made or recommended by members and staff of the Institute of Materials, Minerals & Mining (IOM3). Started in 2007, the channel hosts video productions relating to science, engineering, materials, minerals, mining and design. Items currently include a talk on the use of glass in green construction and two superplasticity animations.

STUDYING ECONOMICS

http://studyingeconomics.ac.uk/the-little-bits-we-like/
The Economics Network of the Higher Education Academy has set up the Studying Economics website to provide support, help and assistance to undergraduates of economics. The 'Distractions' section links to sites streaming clips of videos relating to economics, some of them comic and some more serious. There is also an interesting list of feature films with economic content, and links to online games with subject relevance.

VISUAL SOCIOLOGY STUDY GROUP

www.visualsociology.org.uk/
Visual sociology is an area of sociology concerned with the visual dimensions of social life. It includes the study of all kinds of visual material and the visual social world, and uses all kinds of visual material in its methodologies. This site, produced by the British Sociological Association's Visual Sociology Study Group, aims to enhance the academic and public visibility of a current 'invisible college' of academics and researchers. With this in mind, it aims to provide an organisational context in which to bring together academics and researchers from a number of areas within sociology who have an interest in the visual; and develop and refine existing methodologies.

ONLINE CATALOGUES

Selected from the Find DVDs database (www.bufvc.ac.uk/dvdfind).

CHANNEL 4 SHOP

www.channel4.com/shop
An online listing of Channel 4 programmes that are available for sale on DVD, as well as related books and CDs. Titles are organised by genre including animation, documentary and art house.
Orders are fulfilled via the Jersey-based Play.com company and there is an automatic redirect to the Play.com website. Channel 4 schools programmes are available separately from the 4Learning webshop: www.4learningshop.co.uk/C4Shop.

FIRST LIGHT VIDEO COLLECTION

www.firstlightvideo.com/catalog.html
This catalogue, from an American company, offers an extensive range of industry-standard programmes for teaching.

It covers all aspects of media arts and mass communication including video, audio and digital media production from sciptwriting to non-linear editing; topics relating to dance and drama productions include props, make-up & costumes and stage technique; studies of advertising and mass media. Sale in international formats

FLT FILMS

www.fltfilms.org.uk/videos.html
FLT Films makes documentary films which explore the ethical and spiritual dimensions of contemporary life. The documentaries explore faith-based approaches to reconciliation and peace-building, social renewal after war, economic development and environmental protection. Recent films have focussed on: inter-religious dialogue and cross-cultural encounter; reconciliation and conflict resolution; social and cultural renewal after war. Sale.

LOGGERHEAD FILMS

www.loggerheadfilms.co.uk/products-page/
Training and staff development DVDs for professionals working in education, health and social care.

MIND: VIDEO, AUDIO AND DVD SALES LIST

www.mind.org.uk
A selection of high quality video tapes, audio materials and DVDs covering mental health topics. Sale.

TUVA TRADER

http://tinyurl.com/yl2zdhc
A collection of video and audio material about the life and work of Nobel Prizewinning physicist Richard Feynman, including his interest in Tuva. Sale

TV CHOICE

www.tvchoice.uk.com
TV Choice is a British independent producer and distributor of educational films for schools and FE. The catalogue consists of over 100 films and is particularly strong in the areas of business, marketing, technology and the environment. Various styles are used including documentary, drama and drama-documentary. The films are designed to stand alone, but most are also accompanied by support books, specifically tailored to the needs of teachers and lecturers. Sale only.

UK JEWISH FILM FESTIVAL LIBRARY

www.ukjewishfilmfestival.org.uk/Film-Library/
A constantly expanding selection of film highlights from past UK Jewish Film Festivals, which are available for free loan/hire on DVD. Free film hire (up to four per year) for academic institutions and student organisations. The collection includes documentaries, features and short films on matters of Jewish concern and interest.

UNIVIEW WORLDWIDE

www.uniview.co.uk/
Also available in print, this catalogue lists DVDs, videos, CD-ROMs and other educational resources for school level and above on topics including psychology, biology, science, sports science, environmental sciences, research methods and statistics, sociology, health, child studies, careers, personal and social education, technology and professional development. Sale only.

media online focus

This is a round-up of new online material selected from the Find DVDs database (www.bufvc.ac.uk/dvdfind) for its potential value and use in Higher and Further Education).

BUSINESS STUDIES

THE ONLINE COMPASS JOURNAL

Audio recording of a talk given by Vanessa Lafaye from Wiley-Blackwell, at the Oxford International Centre for Publishing Studies, Oxford Brookes University, in February 2009. She talks about the *Online Compass Journals,* which publish state-of-the-art, peer-reviewed survey articles entirely online, with no print version. This innovative product is demonstrated and the use of technology explained.
Available free online.
Stream / Download from:
http://ah.brookes.ac.uk/podcasts/
Requires: Flash.
Oxford Brookes University

CHEMISTRY

JOHN WALKER: SCIENCE INTERIEWS (3 PARTS)

Sir John Walker was awarded the Nobel Prize in Chemistry in 1997 with Paul D Boyer, UCL, for their elucidation of the enzymatic mechanism underlying the synthesis of adenosine tri phospate (ATP) This is a video recording of Sir John being interviewed by Edward Goldwyn in 2006 at the Lindau Meeting of Nobel Prize winners.
Available free online.
Streamed from:
www.vega.org.uk/video/
programmeset/9
Requires: WMP.
Vega Science Trust

ECONOMICS

HOW HUMAN PSYCHOLOGY DRIVES THE ECONOMY

Video recording of a lecture given by economist Robert Schiller at the RSA on 21 May 2009. He argues for an active government role in economic policymaking by recovering Keynes' idea of 'animal spirits'. (26 minutes)
Available free online.
Stream / Download from:
www.thersa.org/events/vision/
Requires: Flash.
RSA

EDUCATION

WHITE UNDER-ACHIEVEMENT

A thought-provoking polemic arguing that large numbers of white, working-class children are being failed by an education system unwilling to acknowledge its failure. Former Teacher of the Year Philip Beadle believes that fundamental change is needed urgently if these children are to reach their full potential. (30 minutes)
Available free online.
Stream / Download from:
www.teachers.tv/video/5458
Requires: Flash.
Teachers' TV

ENVIRONMENTAL SCIENCE

AIR POLLUTION

How can we be sure our air is safe to breathe? This album of five video titles introduces the principles of air quality management and looks at how we analyse pollution control problems. Individual segments review the nature and characteristics of air pollution today and demonstrate how air quality data is interpreted. Individual tracks are: AIR POLLUTION (4.13); POLLUTION - SHIPPING (6.12); POLLUTION - CARS (3.28); CLEAR SOLUTIONS (5.14); INDUSTRIAL EMISSIONS (5.44). (*Environmental Monitoring, Modelling and Control*, course T308)
Available free online.
Stream / Download from:
http://podcast.open.ac.uk/oulearn/
Requires: MP3.
Open University on iTunesU

MATHEMATICS

MATHEMATICS IN THE REAL WORLD

Video recording of the Bakerian Prize Lecture given by Professor James Murray of Oxford University on 26/3/2009 at the RSA. Practical mathematical models are becoming an accepted part of most medical and scientific disciplines. This lecture describes the modelling of two applications: referring to quantifiy the spatio-temporal growth of brain tumours and the other, based on only a few parameters describing specific marital interaction patterns, has helped design new scientifically-based intervention strategies for troubled marriages. (66 minutes)
Available free online.
Streamed from:
http://royalsociety.org/
page.asp?id=3093
Requires: WMP.
RSA

MEDIA STUDIES

DIGITAL PRESERVATION AND NUCLEAR DISASTER

The first of a new series of short animations introducing and explaining digital preservation problems and solutions for the general public. These cartoons encapsulate complex digital preservation issues and problems and explains them in a funny and easy to follow plot. In this first film Team Digital Preservation saves the world from nuclear disaster caused by the work of Team Chaos.
Available free online.
Streamed from:
www.digitalpreservationeurope.eu/
Requires: Flash.
Digital Preservation Europe

MEDICAL SCIENCES

BIRTH OF THE NATIONAL HEALTH SERVICE

This collection of programme extracts, party political broadcasts, press conference recordings, and complete programmes from the BBC Archive help trace the early years of the NHS from radical plan through to triumphant birth and on to fully fledged but sometimes problematic service. Included are contributions from Sir William Beveridge, Dr Edith Somerskill, Clement Atlee, Aneurin Bevan. Extracts are taken from *The Brains Trust*, *Panorama* and other programmes looking at issues facing the NHS over the years.
Available free online.
Streamed from:
www.bbc.co.uk/archive/nhs/
index.shtml
Requires: Flash.
BBC Archive

INTERVIEWS WITH SCIENTISTS: WILLIAM GREATBATCH

Wilson Greatbatch, who originally graduated from Cornell and Buffalo universities, is known for advancing the development of early implantable cardiac pacemakers. In this interview he discusses his work. (*Face-to-Face* series)
Available free online.
Streamed from:
www.vega.org.uk/video/
programme/248
Requires: Flash.
Vega Science Trust

PALEONTOLOGY

SAVING AFRICA'S NATIONAL TREASURES

Paleoanthropologist Richard Leakey provides an overview to his life and work in this 2007 interview conducted for the Academy of Achievement.

Richard Leakey addressing the 2009 International Achievement Summit.

Available free online.
Stream / Download from:
www.achievement.org/
Requires: QuickTime.
Academy of Achievement

PHYSICS

LECTURES ON SUPERCONDUCTIVITY

An ongoing project on superconductivity produced to celebrate the centenary of the discovery of superconductivity in 2011. It consists of a series of video lectures by leading world experts in academia and industry, accompanied by supporting text, questions and links to further reading and related videos. The lectures are divided into five sections, each corresponding to one DVD of the DVD version: Fundamentals, Materials I, Materials II, Electronics and Applications.
Available free online.
Stream / Download from:
www.msm.cam.ac.uk/ascg/lectures/
Requires: Real/Flash/WMP/ QuickTime.
University of Cambridge

SCIENCE

THE HOUSE OF WISDOM

Video recording of the 2007 Michael Faraday Lecture given at the Royal Society by Professor Jim Al-Khalili. While Europe languished in the Dark Ages the spread of Islam heralded a remarkable period of scientific advances, particularly during the golden age of the Abbasids of Baghdad between the 8th and 11th centuries AD. Indeed, for 700 years, the international language of science was Arabic. This lecture gives a snapshot of life in Baghdad's House of Wisdom where so much of the work was carried out. (30 minutes)
Available free online.
Streamed from:
http://royalsociety.tv/dpx_royalsociety/dpx.php?dpxuser=dpx_v12
Requires: WMP / Real.
Royal Society