

PERSONALISATION LITERATURE REVIEW

Document:	PERSONALISATION LITERATURE REVIEW
Category:	Project Documentation
Version:	1.0
Author:	Nicole Harris <N.V.Harris@lse.ac.uk>
Date:	14 June 2002

Contents:

Introduction	3
1. Bonnet, Monica. "Personalization of Web Services: Opportunities and Challenges." Ariadne. 28 (2001).....	3
2. Cingil, Ibrahim. Dogac, Asuman. Azgin, Ayca. "A Broader Approach to Personalization." Communications of the ACM. 43.8 (2000) 136 – 141.....	4
3. Hirsh, Haym. Basu,Chumki. Davison, Brian D. "Learning to Personalize." Communications of the ACM. 43.8 (2000) 102-106.	5
4. Holmes, David. Russell, Glenn. "Adolescent CIT Use: Paradigm Shifts for Educational and Cultural Practices?" British Journal of Sociology of Education. 20.1 (1999) 69-78.	5
5. Instone, Keith. "Information Architecture and Personalization." Acia. (2000).	6
6. Ketchell, Debra S. "Too Many Channels: Making Sense out of Portals and Personalization." Information Technology and Libraries. 19.4 (2000).	6
7. Kramer, Joseph. Noronha, Sunil. Vergo, John. "A User-Centred Design Approach to Personalization." Communications of the ACM. 43.8 (2000) 44-48.....	7
8. Lease Morgn, Eric. "Personalized Library Interfaces." Exploit Interactive. 6 (2000).....	7
9. Manber, Udi. Patel, Ash. Robison, John. "Experience with Personalization on Yahoo!" Communications of the ACM. 43.8 (2000) 35-39.	8
10. Maule, R. William. "Cognitive Maps, AI Agents and Personalised Virtual Environments in Internet Learning Experiences." Internet Research: Electronic Networking Applications and Policy. 8.4 (1997) 347-258.....	9
11. Maule, R. William. "Metacognitive Research and Development Framwork (MRDF) for Interent Instructional Science Software." Internet Research: Electronic Networking Applications and Policy. 10.4 (2000) 329-345.	10
12. Nielsen, Jacob. "Personalization is Over-Rated." Alertbox. 4 Oct. 1998.	11
13. Perkowitz, Mike. Etzioni, Oren. "Adaptive Web Sites." Communications of the ACM. 43.8 (2000) 152-158.	11
14. Shapira, Bracha. Shoval, Peretz. Hanani, Uri. "Experimentation with an Information Filtering System that Combines Cognitive and Sociological Filtering Integrated with User Stereotypes." Decision Support Systems. 27 (1999) 5-24.....	12
15. Smyth, Barry. Cotter, Paul. "A Personalized Television Listings Service." Communications of the ACM. 43.8 (2000) 107-111.	13
16. Volokh, Eugene. "Personalization and Privacy." Communications of the ACM. 43.8 (2000) 84-88.	14

17. Wind, J. "The Challenge of 'Customerization' in Financial Services." Communications of the ACM. 44.6 (2001). 14

Introduction

The following articles cover a variety of topics concerning the use of personalisation, including:

Personalised delivery of content and personalised interfaces.
Adaptation by user, machine, and service provider.
Personalisation, customisation or transformation?
Interoperability versus privacy.
Natural intelligence versus artificial intelligence.

The articles chosen represent some of the key areas of research, development and concern in the field of personalisation, with an emphasis on the educational sector. This review is by no means an exhaustive look at this field, but aims to introduce some of the key concepts as outlined below.

Key Concepts:

Cognition
Content based
Collaborative
Data mining
Data filtering
Grouping
Harvesting
Interoperability
Management
Sociology
Standards
Stereotypes
Structure
User needs / requirements

1. Bonnet, Monica. "Personalization of Web Services: Opportunities and Challenges." Ariadne. 28 (2001).

Bonnet's overview of personalisation on the World Wide Web looks at examples and products providing personalisation from the point of view of resource discovery and learning. The article provides a good starting point for a look at personalisation, explaining both terminology and technology.

Bonnet begins by looking at why services use personalisation, concluding that the ultimate aim of personalisation is user satisfaction. She concurs with Nielsen's definitions of personalisation and customisation, highlighting the fact that a personalised service is not necessarily based on individual user behaviour but can be drawn from previous research with a predefined audience base. She continues by examining a range of different approaches to personalisation, examining My Yahoo, customised television listings, GMBuyPower, Staples and Amazon.

Section two of the article looks at some of the enabling technologies that allow information to be gathered and used to provide personalisation services. The technologies are all seen as aiming towards the goal of capturing a picture of the user. The technologies described are:

Fill-in profiles (requires active involvement from the user).
Click-stream Analysis / Web Usage Mining Systems.
Collaborative Filtering.
Cookies.

Section three looks at how these services are currently being used to provide personalised services within the educational sector through a look at Headline, Schoolnet, and MyLibrary.

Bonnet concludes by looking at the challenges for personalised services, recommending the proposals of the Argus Centre for Information Architecture as a basis for discussion between stakeholders.

2. Cingil, Ibrahim. Dogac, Asuman. Azgin, Ayca. "A Broader Approach to Personalization." Communications of the ACM. 43.8 (2000) 136 – 141.

Cinghil, Dogac and Azgin offer a broad approach to personalisation in this article, focussing on the need for metadata and privacy standards. The authors propose that use of these standards will allow for greater interoperability and automation in data exchange, and use the recommendations of the World Wide Web Consortium (W3C) to create their vision.

The authors suggest the use of the following W3C standards:

Extensible Markup Language (XML) with specific reference to XML-QL (Query Language).
Resource Description Framework (RDF) with reference to application specific schemas such as Dublin Core.
Platform for Privacy Preferences (P3P).

P3P is about working together. It asks web sites to specify disclosure practices, users to specify expectations, and software agents to act as negotiators.

The system proposed within the article begins the creation of dynamic user profiles by logging the user's navigational history. Access to this profile is then only allowed to organisations that have negotiated access.

User profiles are also used to deliver personalised content to the user. The system utilises 'like-minded groups' to associate preferences and utilises user profiles in the discovery of resources by actively seeking information on the web that matches the profiles.

This system relies on emerging standards and looks forward to a time when greater interoperability can be found on the web. At present, very few servers can support P3P. The benefits of such a system in the future, however, will allow greater access to data that is personalised for the user in a secure environment.

3. Hirsh, Haym. Basu, Chumki. Davison, Brian D. "Learning to Personalize." Communications of the ACM. 43.8 (2000) 102-106.

In this article, Haym, Chumki and Davison examine the effectiveness of automatic personalisation tools in recognising user behaviour patterns. The authors begin by examining the use of user repetition as a tool for personalisation. The central question here is the amount of repetition sets that are perceived before the system acts on them. Analysing logs over a long period of time may allow the system to provide more specific information to the user, but the data may become outdated. Probability sets have to be matched to the data in order to achieve effective results.

The more complex the content, the more problematic it becomes to discern user interest from past actions. To be able to truly discern and learn about user interests, some interaction on the part of the user is required. Many systems present selected content to users, but also ask them to rate the value of the content. The response level provides valuable information to the system, but only regarding this specific user.

Collaborative methods of personalisation match response levels between users, creating groups of like-minded users. Recommendations can then be passed between these users with a fairly high level of accuracy.

A combination of both content-based and collaborative personalisation would seem to offer the most reliable way of providing users with useful personalised information. This service could then be improved without requiring the user interaction expected by predicting the rating that the user will apply.

4. Holmes, David. Russell, Glenn. Adolescent CIT Use: Paradigm Shifts for Educational and Cultural Practices?" British Journal of Sociology of Education. 20.1 (1999) 69-78.

This paper examines the social and educational implications of new technologies and their impact on adolescents, expressing the opinion that the use of personalisation, mobile technologies, and global reach allow an independence from the constraints of home and school.

The authors identify what they label a Kuhnian paradigm shift, which suggests that CIT is allowing adolescents to reform their identity rather than confirming with traditional socialisation. Fast changing technologies have created a generation gap between children and parents and pupils and educators. The authors describe these new technologies as decentred, democratic, and empowering.

The article focuses on the ability of the Internet to act as both a social and antisocial device. Although interaction is encouraged through the creation of virtual communities, and the outreach capabilities of the media, the use of the PC makes use of the Internet a very personal act of consumption. Use of personalisation tools enhances the concept of the Internet as a personal tool.

The authors describe the use of personalisation tools as both nomadic and individualising. They suggest that adolescents use CIT as a place to hide, a place to strike out on their own,

and a place to gain a greater sense of autonomy. This applies to mobile technologies such as walkmans, and mobile phones, as well as the online environment.

The authors label this concept 'the technosocial paradigm'.

5. Instone, Keith. "Information Architecture and Personalization." Acia. (2000).

Keith Instone, of Argus Associates, is another advocate of information architecture as the basis for good personalisation. The author begins by identifying the three information architecture components for personalisation: users, content and business context - moving on to explain how controlled vocabularies are essential for the treatment of both users and content.

For personalisation to work, the controlled vocabulary then has to be combined with specific business rules to govern how users and content are matched up. This involves matching the attributes of the content with the attributes of the users. Instone presents a three-layer diagram to illustrate this process, picturing a user interface layer, over a profile layer, over a vocabulary layer.

The profile layer contains the user profile, which can be changed both explicitly (filling in forms) or implicitly (buying a certain product) by user actions. Similarly, the content profile can be changed explicitly (direct review by users) or implicitly (bought by x amount of users) by user actions. The balance of implicit and explicit involvement is essential for personalisation to work effectively.

The vocabulary layer is where the attributes are defined and sets of acceptable values are determined. Relationships between attributes are equally important, establishing that 'German Shepherd' is a child attribute to 'Large Dog', for example.

Personalisation rules exist on both of these two layers. A company may, for example, wish to show CD's by a user's favourite artist. A rule can therefore be built into the vocabulary level that links 'favourite artist' user attribute to 'sung by' content attributes.

It is a combination of these rules, user and content profiles, and controlled vocabulary of attributes that determine the success of personalisation.

6. Ketchell, Debra S. "Too Many Channels: Making Sense out of Portals and Personalization." Information Technology and Libraries. 19.4 (2000).

Ketchell looks at personalisation issues for libraries in light of both commercial and institutional developments. Her interests are in channelling information through integrated paths to allow the library to find a role within the variety of portals used by institutions. She sees libraries filling a middleware function as databases of sufficient granularity to allow information to be indexed, filtered and searched by appropriate audiences.

Ketchell sees the 'My' trend on the web creating a generation of users within the education sector who will expect information provided in this manner. In this way, MyLibrary developments will appeal to users by providing customisable features. MyLibraries are, however, reporting only five to ten percent site usage. Ketchell suggests that these

developments need to be happening at an institutional level, integrating library services into the daily workflow of learners, instructors, and researchers.

Ketchell highlights authentication and authorisation as major hurdles to provision of seamless 'my' services, alongside privacy policies and data confidentiality. Equally important is the need to understand users, making usability studies a priority for institutions wanting to introduce personalisation services.

7. Kramer, Joseph. Noronha, Sunil. Vergo, John. "A User-Centred Design Approach to Personalization." Communications of the ACM. 43.8 (2000) 44-48.

Kramer, Noronha and Vergo start by pointing out that personalisation can be implemented in a wide variety of ways, from simply displaying a user's name on a page to complex features based on models of needs and behaviour. In order to find the best tools for specific users, the authors advocate a six stage user-centred design process.

Stage one: identify target user. This is normally directly related to market research. More complex is matching the type of users identified through research to the real users as they visit the site.

Stage two: learn about the user. The authors recommend using standard task analysis methods such as goal-decomposition graphs and activity diagrams.

Stage three: identify ultimate desirable set of triggers, processes and goals. At this stage real-world constraints can be ignored.

Stage four: documentation of the user's object model. This concerns the user's mental model of the domain in terms of language, concepts and beliefs. Results can be captured in cognitive maps. At this stage it is important to recognise the variable factors such as language used by users.

Stage five: end-to-end analysis of each potential user experience. This requires designers to consider and document all the information required to complete each action. This information can then be interpreted into an identification of multiple views for users, which forms the basis of the personalisation process.

Stage six: testing and participatory design. An important feature of this stage is making sure that users clearly understand why questions used to personalise information are asked, and that they directly fit in with their goals.

8. Lease Morgn, Eric. "Personalized Library Interfaces." Exploit Interactive. 6 (2000).

Lease Morgan concentrates specifically on the goals of personalised, customisable interfaces in this article. The need for personalised services starts both with information overload and changing learning media. Lease Morgan sees the goals of such services as essentially the same as traditional library services (collecting, evaluating, organising and disseminating sets of information) but with a change of medium. The services should:

Save the user time.

Provide context for information – the catalyst for making information useful, in terms of access and organisation.

Cater for user needs at different times and support different activities.

These are the goals that MyLibrary systems aim to provide. MyLibrary systems also have the added benefit of being a good platform for allowing libraries to become a brand within their institution.

Lease Morgan describes all personalised library services as essentially database applications with web front-ends – and continues to describe typical installations of such services. More important than technological factors in his view are content and staffing issues: ‘a personalized library interface is manifested by people who have ideas about information service, not by computer functionality.’ Considering the importance of content, it is essential for institutions planning to implement such a system to have a collection management policy.

Lease Morgan concludes by looking at MyLibrary’s place within the parent institution and considering whether or not these developments should be happening at a different level, alongside other concepts such as virtual / managed learning environments. He believes that the complexity of content that would be handled by such a system is best handled by information professionals.

See Also:

--- . “Guest Editorial: The Challenges of User-Centred, Customizable Interfaces to Library Resources.” Information Technology and Libraries. 19.4 (2000).

9. Manber, Udi. Patel, Ash. Robison, John. “Experience with Personalization on Yahoo!” Communications of the ACM. 43.8 (2000) 35-39.

This article provides an ‘insider’ view of the development of personalisation features within Yahoo! The authors focus on three specific services: My Yahoo!, Yahoo! Companion, and Inside Yahoo! Search.

My Yahoo! is one of the forerunners among the growing number of ‘my’ services that have been springing up on the Internet over the last few years. The authors cite the following as important features within the Yahoo! services:

Granularity of choice—information can be personalised at a fine level.

Both content and layout can be customised.

Some content is automatically personalised according to the user’s profile (e.g. Yahoo! requests the user’s birth date on registration, and then automatically enters the horoscope for the correct star sign.

Yahoo! pages are built on the fly so that user can be quickly matched to recent content.

Yahoo! companion allows the user to build up bookmarks which can then be accessed from any computer.

Yahoo! uses related content which means a search in a specific area (e.g. Chinese food) will automatically bring up a link to another page (e.g. yellow pages).

The authors believe that the service is successful because it is scalable. Yahoo! holds all its user information in a specially designed user database that concentrates on speed of delivery. This database also uses high levels of security, and Yahoo! use a security audit company to constantly evaluate and review security policies.

The authors continue to highlight some of the observations that have arisen from their experience with personalisation. The first, and perhaps most surprising, is that the majority of My Yahoo! users never customise the default page. Yahoo! mainly uses location (by zip / postal code) to style default pages and the fact that users do not change them may mean that they are happy with this basic information. It is more likely that the users do not want complex personalisation, or the personalisation processes are too cumbersome to bother with.

My Yahoo! has, however, many users described as 'power users' that create complex and vast personalised spaces. Yahoo! must continue to support these users as well as simplifying processes for the average user. One of the ways in which this is achieved is by allowing customisation to follow the user: a stock portfolio created in the My Yahoo! section should follow the user if he moves to the stocks area. A big mistake made by many personalisation services is to ignore certain groups of users by allowing only US formatting of phone numbers and zip codes. In doing so, these companies automatically lose customer base and customer information.

This article focuses entirely on the Yahoo! experience, but does cover important basic factors concerning personalisation. The most important factor highlighted by the authors is that many services fail to put the user first and learn from the experience and needs of the user.

These definitions refer directly to the following articles by William R. Maule:

Comprehension: *the construction of a mental model that represents objects and semantic relationships.*

Cognition: *the mental process through which the user establishes the mental model.*

Metacognition: *the mindful engagement of the user in a task, including the knowledge and control over his cognitive processes.*

10. Maule, R. William. "Cognitive Maps, AI Agents and Personalised Virtual Environments in Internet Learning Experiences." Internet Research: Electronic Networking Applications and Policy. 8.4 (1997) 347-258.

In this article, Maule picks up on some of the concerns expressed by Nielsen regarding the use of stereotypes in guessing user needs by linking design variables to the cognitive parameters of users.

Maule takes an educational approach, citing one of the main benefits of using personalisation as the ability to provide a personalised learning experience for the user, as well as improving management of information. This can be achieved by capturing user cognitive preferences (data mining, data filtering) through AI.

Maule cites three examples of using AI to capture user preferences:

Rule-based Internet AI generates user profiles / patterns that are then transformed into rules to predict user behaviour.

Case-based AI utilises questions base on case and example to continually narrow options.

Collaborative filtering look for user profiles in utilisation patterns, and matches to other users.

All of the approaches look towards collecting patterns from experiences of users to create a database of learning options. Ideally, these can then be applied within an environment of open standards (such as the Open Profiling Standard) that allows for greater sharing of acquired user data.

Maule considers the process of personalisation to be a social activity, rather than an exclusive process as it can help bring people of like interest together, and encourage users to feel more at home online.

The process of personalisation is often started simply with the designers' perceptions of user interests, which are interpreted into a cognitive map. This initial perception is then added to as the system is used, creating dynamic knowledge. The creation of a cognitive map is part of metacognition, which Maule describes as 'the mindful engagement of the user in a task, [and] the knowledge and control that the user has over his cognitive processes.' Use of maps in the online environment has quickly become commonplace, with many sites providing a visual representation of the site's structure. Thus, the use of cognitive maps by designers should assist users in development of a personal mental model.

11. Maule, R. William. "Metacognitive Research and Development Framework (MRDF) for Interent Instructional Science Software." Internet Research: Electronic Networking Applications and Policy. 10.4 (2000) 329-345.

A later article by Maule refers directly to a project that put some of the ideas expressed in his 1997 article into action. The purpose of the project was to develop an online instructional learning system that made use of mapped cognitive variables and metacognitive learning strategies. The project also produced a framework for learner specific personalisation.

The instructional elements of the project were aimed directly at early elementary and at-risk students. The project was, however, guided at all points by the metacognitive research and development framework (MRDF). The MRDF drew on three areas:

Cognitive variables (drawn from traditional literature on early childhood learning).

Metacognitive attributes (derived from the variables, but also based on studies in student achievement and computer interaction).

Metadata design elements (drawn from the attributes with the intent of creating useful instructional design principles).

Maule refers directly to many studies that highlight the Internet as "an equalising force for underrepresented subject areas in at-risk environments." He highlights the fact that the Internet is mainly used for information gathering and administration rather than for instructional processes.

Maule is interested in aligning software with individual student learning styles to create user / media interaction. Such a process needs a framework and methodology to provide structure and strategy and it is this process that Maule identifies in his article.

The project achieved this by:

Collecting user data based on interactions with media and summative evaluation of the interaction.

Comparison of system maps and cognitive maps.

Addressing variables in interface design, and the interaction of users with the interface.

The MRDF itself was seen to be most effective as a guide for the design and development of software, and also as an evaluative tool. The article only acknowledges the 'potential' for personalisation and individualisation, as the MRDF only supplies a 'foundation' for building artificial intelligence systems that will need to grow and learn over time.

12. Nielsen, Jacob. "Personalization is Over-Rated." Alertbox. 4 Oct. 1998.

An interesting summary of the concept of personalisation can be found in Jacob Nielsen's alertbox section of useit.com. Nielsen takes the very direct stance that personalisation of websites is simple a poor excuse for bad design. He begins, however, by drawing a distinction between customisation and personalisation—two words that are often used synonymously. Nielsen defines customisation as something that is under the direct control of the user who ticks boxes and selects information to track, as compared to personalisation, which is driven by the computer serving pages based on assumed user needs.

Although this is not a widely accepted distinction, it does draw immediate attention to two distinct approaches to personalisation. Nielsen favours customisation and its focus on the natural intelligence of the user, rather than attempting to use artificial intelligence to guess user needs. His main criticism is the use of stereotypes in guessing user needs as this can often alienate rather than attract users.

For Nielsen, personalisation only works when information is simple to describe in machine-understandable terms, and is relatively unchanging. More complex needs means that the computer has to know a lot about the user, which raises issues of privacy.

One of the biggest problems with personalisation services is obtaining the information about the users, as it is difficult to get people to take the time to fill in forms and answer questions about themselves. The best personalisation services, such as that used by Amazon to recommend books, do not require the user to enter any information about themselves.

Nielsen's final solution is not to spend extensive resources on personalisation, but to concentrate on running usability studies, providing quality content and getting the structure right.

13. Perkwitz, Mike. Etzioni, Oren. "Adaptive Web Sites." Communications of the ACM. 43.8 (2000) 152-158.

In this article, Perkowitz and Etzioni recommend the use of a web management assistant: “a system that can process massive amounts of data about site usage and suggest useful adaptations to the web master.” The article examines the feasibility of adaptive web sites through case study.

The authors consider the differences between customisation and transformation. A different set of definitions is applied to those used by Nielsen: Perkowitz and Etzioni refer to customisation as adapting to the needs of an individual customer, and transformation as adapting to the needs of all customers.

Other issues concerning adaptability are:

Is the system going to be fully automated or semi-automated?
What aspects of the web site are open to change?
Content or navigational adaptability?

Detailed consideration is given to the use of index page synthesis, which is the automatic creation of new index pages based on visitor access logs. The authors consider the problems of creating a coherent content and topic for the page, creating an appropriate layout, and the usability of the page (e.g. working links). Control of these elements requires the applications of strict rules and guidelines.

The conclusion drawn by the authors is that logical content descriptions are required to mine information effectively.

See also:

- - -. “Towards Adaptive Web Sites: Conceptual Framework and Case Study.” [Artificial Intelligence](#). (2000).

14. Shapira, Bracha. Shoval, Peretz. Hanani, Uri. “Experimentation with an Information Filtering System that Combines Cognitive and Sociological Filtering Integrated with User Stereotypes.” [Decision Support Systems](#). 27 (1999) 5-24.

This article focuses specifically on information filtering as a tool for coping with information overload. The authors recognise two methods of filtering:

Cognitive filtering (or content-based filtering).
Sociological filtering (or collaborative filtering).

Cognitive filtering is described as a process that uses solely content of information to define the user profile and the filtering technique. The profile contains information concerning the user’s interests, information is discovered through comparison of relevance, and the performance is evaluated through feedback from users. Information is recommended on the basis of feedback, recommendations, and cognitive profile of ‘similar’ users. In this respect, sociological filtering is also content-based.

The article suggests a different model that reinterprets sociological filtering. This model uses sociological parameters such as a user’s education, occupation, knowledge and experience as

well as preferences and habits. The system also assumes that users with matching sociological parameters will also share preferences and habits. This relies on the creation of user stereotypes, with sets of rules applied to each stereotype. This system provides ranking filtering so irrelevant items are not discarded, but given a low ranking.

The system utilises both cognitive and sociological filtering in order to optimise results. The two methods can be used consecutively, where one system is considered primary and more important, or parallel, where both systems are applied to every item processed.

The authors continue by describing the process used to establish the stereotypes. A series of user interviews were held that first established details of sociological parameters. Each parameter was given a set of values, for example the parameter 'education' had values such as 'PhD', 'MSc', 'BA' etc. Each value was then given a numerical code. The second step was to identify preferences and habits, and this was achieved by asking interviewees to rank the importance of information, which were then analysed using clustering techniques.

Limited testing has been carried out using this system. The authors recognise the need to extend their stereotype definitions for a wider market and carry out more extensive testing.

See also:

---. "Stereotypes in Information Filtering Systems. Inf. Process. Manage. 33.3 (1997) 273 – 287.

15. Smyth, Barry. Cotter, Paul. "A Personalized Television Listings Service." Communications of the ACM. 43.8 (2000) 107-111.

This article focuses on the ClixSmart content personalisation engine. This engine automatically constructs user profiles by monitoring the online activity of users. This information is then used to infer interest in content stored in a database, which is then filtered to a target web site.

The article describes two forms of personalisation utilised by ClixSmart:

Content base filtering: relies on similarity. Information that has a high degree of similarity to the user profile is passed on.

Limitations: time consuming, knowledge engineering problems, limits users to a certain match.

Collaborative filtering: draws on the experience of a group. By matching a user to a set of 'like' users, the user profile can be expanded.

Limitations: not suitable for 'new' 'or one-off' information, unsuitable for atypical users.

The article goes on to describe the personalised television guide service provided by PTV using ClixSmart. This guide allows a user to select basic viewing preferences, which the guide then adds to with suggestions. The user can rate the suggestions, passing on more information to the guide. The main drawback of this current service is the inability to assess whether or not the guide has any impact on the viewing habits of the user.

16. Volokh, Eugene. "Personalization and Privacy." Communications of the ACM. 43.8 (2000) 84-88.

All of the articles examined in this literature review highlight the importance of privacy issues when using personalisation tools. Volokh examines the **US** legal perspective on the gathering of user profiles.

Volokh poses the question: "do we currently have . . . a legal right to control the flow of information about ourselves by stopping other from speaking about us?" He examines the multitude of laws passed in the US to protect the individual's right to privacy, and finds that most of these laws only address and restrict government action, and not that of private companies. There is no law that prevents a business from revealing, or selling information about buying habits.

One of the problems concerning the use of information about an individual is copyright law. Current copyright law in the US states that facts about people are not owned by the subject or the information gatherer.

A solution offered by the author is the implementation of contract law between parties exchanging sensitive information. Such privacy contracts between customer and business. It would need to be clear, however, whether such contracts are implicit or explicit.

One of the greatest problems within the US concerning privacy laws is the effect they might have on freedom of speech. Any law passed by Congress can be seen as an encroachment on the first ammendment. The author expresses concerns about any laws being passed at a constitutional level. The US legal system is built on precedent and analogy, and one restriction to free speech can lead to another.

It is important to read this article in light of the US situation concerning personalisation, privacy, and law. The situation is different in each country worldwide, and each is taking different measures to address the situation.

17. Wind, J. "The Challenge of 'Customerization' in Financial Services." Communications of the ACM. 44.6 (2001).

This article looks specifically at the use of customised interfaces within the financial world. The author quickly dismisses such services as checking accounts and paying bills online as 'window dressing'. Wind sees potential to create a 'true' customised experience for customers through what he labels 'customerization'.

Wind begins by taking a look at why customers are not traditionally offered a customised product, citing high cost and slow delivery as the main problems. The introduction of computer-managed manufacturing has made customisation possible, particularly for digital products.

Wind wants to see the entire marketing process customised to the customer need -this is customerisation. It allows customers to be involved further up the chain of production, in essence putting product together themselves. The provider needs little knowledge about

customer to do this, but the process does involve greater interaction with the customer – often via IT. This concept challenges traditional ideas of marketing-driven strategy.

Wind wants firms to look beyond the reshuffling of traditional services into a portal prefixed by the term 'my', although he does see this as a useful first step. Although he highlights a number of large challenges for firms, such as issues regarding customer privacy, enhancing expectations, handling the complexity of options offered, and handling complex pricing structures, he regards the long-term payoffs as worth the effort.