MOSAICA

Semantically Enhanced, Multfaceted, Collaborative Access to Cultural Heritage

Project IST-034984

D6.3b

MOSAICA Multi-cultural Evaluation Report

Editors: SHU
Contributors: SHU
Dissemination Level: Internal
Version: 1.0
Date: 10-December-2008

Contents

EXECUTIVE SUMMARY 5

1. CASE STUDIES: CHOICE OF PARTICIPANTS, METHOD & DATA ANALYSIS . 6

1.1 TecMUs Case Study 6

1.2 LayMUs Case Study 7

1.3 Ethical considerations 7

2. ASSESSMENT OVERVIEW OF TECMUS CASE STUDY 8

2.1 Overall MOSAICA Concept 8

2.2 Issues on the Cultural Heritage Ontology 8

2.2.1 Norms and Multiplicity of perspectives 8

2.2.2 Granularity level 9

2.2.3 Summative Observation 9

2.3 Problems, Recommendations and Enhancements to System 9

2.3.1 System Use 9

2.3.2 Cultural Heritage Ontology 9

2.3.3 Summative Observation 9

3. ASSESSMENT OVERVIEW OF LAYMUS CASE STUDY 11

3.1 Overall assessment of MOSAICA 11

3.2 MOSAICA tools for different cultures/faiths 12

3.3 Promotion of Multiculturalism Coalition Building & Countering intolerance 13

3.4 Pluralism versus Editorial Control/Defamation 14

THE MAIN REPORT 16

CONTEXT OF EVALUATION 17

A. MOSAICA Functionality 18

B. MOSAICA Ontology 18

C. Multi-Cultural Perspective 20

1. TECMUS CASE-STUDY 23

1.1 INVESTIGATION-1.....25
1.1.1 Introduction.....26
1.1.2 Specifics of Investigation: Participants & Activities.....26
1.1.3 Comments and Responses on using MOSAICA Semantic Annotator.....26
1.1. 4 MOSAICA Semantic Browser.....29
1.1. 5 Evaluation of MOSAICA Non-functional Features.....29
1.1.6 List of system limitations for further consideration for the developers.....30

1.2 INVESTIGATION-2.....31
1.2.1. Introduction.....32
1.2.2 Specifics of the Investigation.....32
1.2.3 Analysis of Comments.....33
1.2.4 Recommendations.....34
1.2.5. Follow-up &Critical Discussion.....35

1.3 INVESTIGATION-3.....37
1.3.1Introduction.....38
1.3.2. Specifics of the investigation.....38
1.3.3 Response Analysis.....38
1.3.4 Tolerance promoted by MOSAICA:.....40

1.4 INVESTIGATION- 4.....41
1.4.1 Introduction.....42
1.4.2 Specifics of the investigation.....42
1.4.3 Question posed in the discussion.....42
1.4.4 Analysis of discussion.....42

2. LAYMUS CASE STUDY.....44

2.1 INVESTIGATION-1.....45
2.1.1. Introduction.....46
2.1.2. Specifics of the investigation: Participants, Activities, Responses.....46
2.1.3Questionnaire.....46

2.2 INVESTIGATION-2.....49
2.2.1 Introduction.....50
2.2.2. Specifics of the investigation: Participants, Activities, Responses.....50
2.2.3Response Analysis.....50

2.2.4 Recommendations 52

2.3 INVESTIGATION 3 54

2.3.1. Introduction 55

2.3.2. Preparation & Planning 55

2.3.3. Participants 55

2.3.4. Activities 57

2.3.5. Response Analysis 57

EXECUTIVE SUMMARY

1. CASE STUDIES: CHOICE OF PARTICIPANTS, METHOD & DATA ANALYSIS

This report details the multi-cultural evaluation conducted with the aim of assessing the *Applicability of MOSAICA to Additional Cultural Heritages other than Jewish.* It is a self contained report that was referred to as deliverable D6.5 in the original proposal and in the subsequent *Description of Work* was combined with the societal impact evaluation to form the deliverable D6.3 termed the MOSAICA evaluation report. The multicultural evaluation consisted of seven investigative evaluations that are reported as two case studies. Their grouping is based on the classification of participants that were engaged in the evaluations carried out. One group is termed as the Technical Multicultural Users (TecMUs) (in our case potentially ontology engineers) and the other is termed as Lay Multicultural Users (LayMUs) (in our case users with a strong interest in education and multiculturalism. The two case studies have been prefixed with the chosen acronyms so that they hereafter are termed the TecMUs case study and the LayMUs case studies.

The research method that was employed is a mixture of focus group and structured discussion in which data was collected sometimes via verbal reports or questionnaires or even post hoc written reports. In the early investigations particularly the two so called pilots (i.e. first investigations in each case study) there were focus group discussions guided by some questions in which notes were taken of the comments made, this was also the case of ICDIM investigation, however, the discussion was much more structured around a set of specific questions. In the final two investigations of the LayMUs case study the discussions were much more guided through specific questions and the investigation involving young people there was a structured questionnaire interview whilst the investigations with experts involved guided discussions and a post-hoc three page report. In summary the data collected varied from verbal commentary to questionnaires/interviews to even post hoc written reports.

In order to analyse participants' response from the data collected we followed a qualitative approach based on a selection of questions. The analysis followed broadly but a light weight approach to thematic framework analysis (eg Ritchie and Spencer) in which the themes either obtained initially *a-priori* from the questions but primarily from identification of the first reading of the data collected from verbal commentary, questionnaires/interviews and written reports.

1.1 TecMUs Case Study

The MOSAICA project had very fine and ambitious scientific and technical objectives that impact the leading edge research into the semantic web by introducing and contributing to a number of cutting edge technologies in particular ontology engineering. Therefore we considered it important to have one set of users who were familiar with research developments in this area but also were themselves from different cultures and/or different faiths. These users were all at least graduate or doctoral level computer scientists that had a research interest in the semantic web area.

Turning our attention to the investigations in the TecMUs case studies the first investigative evaluation was really a pilot study in which the participants were the research team employed at SHU, two in number, because they fitted the dual criteria required. The evaluation was led/facilitated by the team lead Professor Jawed Siddiqi. One of the aim was to asses the suitability of carrying out a focus group discussion with this dual perspective. The primary aim of this evaluation was in line with the overall aim of assessing *Applicability of MOSAICA to Additional Cultural Heritages other than Jewish* but had the specific focus looking at the two tools available - albeit early proto-types- namely the semantic annotator and the semantic browser. Additionally, this would also have the very desirable benefit of providing some early evaluation of the ontologies created (See TecMUs case study investigation1).

There were some clear outcomes of this pilot study; they were:

- it was practical to focus an evaluations on the ontologies in particular the cultural heritage ontology
- it was possible with the appropriate choice of questions to elicit responses that had a dual perspective combining aspects of technical evaluation and a multi-cultural/faith evaluation

The next two evaluations involved three computer science academics whose heritage and faith were different from Jewish heritage and faith. The first of these had the specific remit of evaluating the cultural heritage ontology whilst the second investigation had wider remit of evaluating the effectiveness MOSAICA ontology and tools. (See TechMUs case study investigations 2 & 3). The

outcomes and recommendations of these investigations were used to guide the final investigation; the rationale behind this was to provide confirmatory evidence or otherwise of the previous evaluations with a large number of participants. We conducted an evaluation workshop at the Third IEEE International Conference on Digital Information Management (ICDIM 3008), held in London UK. The conference attracted over a 100 attendees from well renowned researchers in the field of Digital information Management from across the globe. Our workshop on the last day attracted 30 or more participants who were from different parts of the world of various heritage, culture and faith. From our perspective this was an ideal platform. (See TecMUs case study investigation 4).

1.2 LayMUs Case Study

Tuning our attention to the LayMUs case studies, here the major difference in focus is that the users would be lay users with no understanding of the technical issues. The first investigation we chose four participants that were academic professionals from different cultural/faith backgrounds the aim of the investigation was to evaluate the MOSAICA concept and tools from a multi-cultural perspective. Moreover, the added difficulty was the lack of stability of the tools and the limited functionality and the quality of the interface for potential lay users. Similar to the first investigation in the TecMUs case study this investigation was like a pilot study in that where we assessing the extent to which we could carry out a multi-cultural investigation with constraints on the materials available for users to engage with. Once again surprisingly the participants persevered and enthusiastically engaged with materials and tools presented. The outcome of the investigation was that lay user participants were able to provide assessments of the tools that were meaningful from both a use and multicultural perspectives. (See LayMUs case study investigation 1). From our experience with this investigation we were able to perform the next two investigations in this case study (Investigations 2 & 3) however, with the constraint that there would be limited hands on exposure to the system. The two investigations differed in two distinct ways: the age and the expertise of the participants. Investigation 2 focused on young people and involved a total of 9 participants with an average age of the below 25. They were of different ethnic and cultural backgrounds that included Panjabi, Telegu, Indian and Bangladeshi (See LayMUs case study investigation 2). There was also a mixture of faiths; Muslims, Sikhs, Buddhists and Hindus. In contrast in investigation 3 the participants were more mature all over 45 years of age with considerable expertise in promoting multiculturalism, diversity and equality in senior positions in very large public and private sector organizations and in some cases were directly involved in working with clients at local national level to counter racism, xenophobia and intolerance. They were also from a variety of heritages and faiths.

1.3 Ethical considerations

In all the investigations carried out in both case studies the primary ethical concern were the treatment of participants. Two primary concerns were addressed:

Transparency: providing participants with briefing that makes clear the focus of the investigation

Anonymity: providing reassurance that any commentary that is used cannot be traced back to individuals

Matching participants based on their expertise to the focus and activities in the investigation

2. ASSESSMENT OVERVIEW OF TECMUS CASE STUDY

This part of the executive summary provides the salient points that emerge from the TecMUs case study. In the first two sections and parts of the third we particularly emphasise the fact there was a dialogue between evaluators and developers

2.1 Overall MOSAICA Concept

The overall version of the MOSAICA like tool was well received and it was on the whole thought that it could highlight similarities and differences in culture and create a positive awareness. Some simple comments follow:

- The original concept of a personalised experience, guided inquiry and shared ideas is highly commendable and we strongly encourage all aspects that support this notion. This is a domain that is so core to human existence - thus a worthy project, - but it will not be trivial.

- A generalised approach potentially allows commonality to be shared and explored amongst different faiths and could become an authority or reference point. Conversely a specialised resource would potentially capture the richness of a particular domain, and therefore different levels (community, national, international) of 'view' would offer the potential to harness this information

- This would be particularly useful for the purposes of education, and addressing ignorance and therefore intolerance, is an obvious advantage. It would be an invaluable tool for schools an immersive experience that through its dynamic interaction with the user would be able to connect with his/her own background, experiences (and indeed prejudices).

- There is considerable potential for an exercise like this to improve education by providing a more accessible means for the information. Assuming that the knowledge is validated and agreed there is also the opportunity to describe the underlying principles and expose this to a wider audience.

- Undoubtedly a greater understanding of the principles and values behind faith would enable individuals to make more informed judgements and 'accept' other faiths without concentrating upon the publicly visible aspects such as ceremonies, rituals, artefacts, practices etc. There would also be the opportunity to provide clearer information with regard to the aspects of a community that are shaped by culture and tradition, rather than just assuming it is solely attributable to religious beliefs

2.2 Issues on the Cultural Heritage Ontology

2.2.1 Norms and Multiplicity of perspectives

Evaluators

For any story there is multiplicity of perspectives and hence a clear specification should be part of the ontology that describes principles to divide the multiplicity.

Social norms, cultural context and values should be related to assumptions it was not evident that in MOSAICA Norms have been made explicit by this ontology we strongly encourage the definition of boundaries, scope and inconsistencies..

Developers Counterpoint

It is not actually possible to envision "part of the ontology that describes principles to divide the multiplicity" or "definition of boundaries, scope and inconsistencies". At the time of development there are mechanisms available that could be used to provide something like that. There is no ontology of multicultural character that attempts to provide that. A knowledgebase in its entirety is exactly such specification of underlying assumptions. However, I doubt that such further specification

(which would significantly make the use of the ontology more complex) would contribute anything to the multicultural character of an ontology on cultural heritage.

2.2.2 Granularity level

Evaluator's point
Re-think the level of granularity of concepts in the ontology for applicability in multi-cultural context.
Developers Counterpoint
Is it too fine or too coarse? In both cases the level of granularity was considered to be just fine on the basis of the following arguments - for "too coarse" argument it could be pointed at CIDOC/CRM (ISO31137), which includes a complete upper-level ontology, and for "too fine" it could be pointed at many librarian thesauri, which have about the same level of granularity.

2.2.3 Summative Observation

Developing ontology for cultural heritages is a trial and error process that might require adopting a top-down or bottom-up approach or a mix of the two. It might be required to move up and change some of the classes in the cultural heritage ontology to accommodate unique concepts from different cultural and faith domain. Creating horizontal relationship can be very complex. Need to consider matching different ontologies as well as ontology mediation

2.3 Problems, Recommendations and Enhancements to System

In this section we provide a summary of the first and third investigations in the TecMUs case study.

2.3.1 System Use

In using the system the evaluators identified many features that mitigate against effective use of the Semantic Annotator and Browser tools. These related particularly to performance, ease of use and reliability/stability (see investigation 2 & 3).

2.3.2 Cultural Heritage Ontology

Evaluator's points:
Consideration of other approaches more than 'just' OWL – that is NOT to say that OWL is inappropriate, clearly it is but use with other tools, e.g. ISO Common Logic
There is a need to capture and express domain concepts and the relationships between those concepts; this requires a repository (or collection of repositories) and a means of standard communication between them in terms of information mark-up. The mark-up needs also to be able to express the richness of the relationships and permit more than hierarchical associations, so that lattices can be constructed.

Ontology creation is fraught with difficulties and there is a need for tool support to be able to manage the creation and subsequent maintenance of the ontology. Graphical tools assist this process considerably, particularly when there are instances of multiple inheritances to represent all available candidate approaches.

MOSAICA counterpoint:
MOSAICA Ontology is a high-level ontology of the cultural heritage domain and provides the basic concepts, relations and properties used to describe and specify cultural heritage content. These high-level concepts, relations and properties are then partially contextualized specifically to the Jewish cultural heritage (for example, Jewish religious professions, such as Rabbi, Cantor, etc. were included as subclasses of the generic class 'Clergyman'), and are expected to be further contextualized in other application domains.

2.3.3 Summative Observation

MOSAICA creates a positive approach and works using leading-edge technologies (Semantic Web, OWL), thus provides a strong basis on which this resource can be developed. This is necessary as this

is a challenging project; it'll be hard (to say the least) to get it right first time! Useful to step back and learn from these initial experiences, particularly through comparison with other tools would provide a useful reflection for assessing the learning gained.

3. ASSESSMENT OVERVIEW OF LAYMUS CASE STUDY

This part of the executive summary provides the salient points that emerge from the LayMUs case study, each of the three investigations involved lay users that were from variety of cultures, including people from: Africa, Asia and Europe as well as representing a variety of faiths: Buddhist, Christian, Hindu, Muslim, Sikh and those of no faith. We now present edited versions of the points made by evaluators that were categorised into four thematic streams that were initially based on the "questions" used in the investigations and refinements made in light of looking at the data collected across all three investigations.

3.1 Overall assessment of MOSAICA

Concept

This was on the whole received positively with constructive suggestions of the challenges facing MOSAICA

- MOSAICA Concept is good because of its potential in enabling people, communities and populations sharing experiences and knowledge about their heritage may lead to developing a more tolerant society. Differences that MOSAICA may need to look at are: mixed heritage (cultural and religious); countries/continents of identity e.g. African, Asian etc; gender differences in experiencing different cultures/faith; sexuality in different cultures/faiths

- The vision should include bringing out peoples identities and similarities across cultures/faiths e.g. How we relate to light (candles used in many faiths), rituals in celebrating key milestones in our lives births, deaths, marriages reaching a certain age.

- MOSAICA would create understanding and thereby encourage social harmony. This is an admirable idea. However I do not believe that tolerance or respect for other cultures comes about simply through the dissemination of information. For respect to happen, people must see each other as fully-dynamic three-dimensional human beings. This is the real challenge .

Plural versus Single

This was one of the themes that emerged to some extent in the TecMUs Case study over a cultural heritage ontology should there be a single thread or a multiplicity of threads for different cultures /heritage and religion/ faith in terms of a portal There were arguments put for both perspectives

- I am very interested in a portal focusing on cultural heritages and am very aware of how useful such a portal could be to students and learners. I think the concept of beginning with one heritage and moving outwards is positive, so long as the structure of that heritage is not limiting for other cultures as we cannot always view the world through those lenses.

- The Portal giving multi faith/cultural perspective would clearly have to be Plural. It is difficult to envisage a single portal being able to incorporate the complexity of different and multi-faceted identities.

- I think a platform for multi-cultural/ multi-faith perspectives is vital if MOSAICA's aims include notions of facilitating knowledge exchange, increasing awareness and promoting positive cross-cultural dialogue and debate.

Culture Faith Separation

This was a theme that emerged in all three investigations in which the discussion focused on the concept/vision; its presence grew stronger with each investigation and was most prominent in the senior group expert evaluation. The participants were very clear in pointing the necessity to pay considerable attention to the separation between culture/heritage and religion/faith

- Conceptually, it is important to distinguish between religion and culture. A lot of the discussion this morning confused these two concepts. Culture is what human beings do collectively and habitually. Religion is just one artefact in culture. There are cultures of transportation, dress, environment, manners, war, trade, play, and much more. So for MOSAICA's approach and

structure to be based on and the template of Jewish religious culture is to misconstrue full meaning of culture and to underestimate its breadth.

- All nation states have cultural beliefs, traditions and customs that exist separately from religion. Pakistan and Turkey are both Muslim countries but each have very different cultures. To define them simply as Muslim cultures would not do justice to their cultural differences or to the celebration of their cultures. Therefore when looking at the application of MOSAICA I cannot get away from the fact that to be described and utilised as a tool for sharing 'cultural knowledge' religions must be described and classified separately from the primary culture of for example a nation state.

- It is required to develop a greater understanding of and between different cultures, heritages and faiths. For most people religious identity is only a dimension of a multi-layered matrix of life; some regard religion as a personal issue that should not interfere with the governance. Religion is based purely on faith and does not rely on a rational understanding of people's relationship with each other, the practice of multi-culturalism relies heavily on rational understanding and respect of other cultures. MOSAICA needs to address this separation.
  .

3.2 MOSAICA tools for different cultures/faiths

The comments regarding the ideas underpinning the tools on the whole were positive. We received a mixed response from the participants who used them e,g, semantic annotator and the browser. The participants were focussed on finding out whether they could work with tools and could get the best out of it as a user.
Most of them replied that they needed some help/guide to follow each step in using the tools. The tools or the system need to incorporate some guideline to follow the process Specific suggestions for improvements have been detailed in the investigations. The young people provided interesting insights into the type of multimedia format to capture their narratives that they considered engaging (see investigation 2). Their assessment of the MOSAICA concept was positive and some sample comments follow:

- MOSIACA tools can make culture available as digitized artefacts that can be shared and viewed over the net to enable citizens to know much more about other faiths/cultures and practices.

- MOSAICA tools are very appropriate to describe/share pieces for a given culture and they have the potential to personalise them for different cultures and faiths

- MOSAICA enables searching of specifics of culture/ religion that is unique from other available engines.

The senior expert group found the lack of hands on experience a constraint; however, we facilitated a discussion around the type of features for narratives they had shared with each other (see LayMUs case study 3.5 b). Clearly many of the facilities they identified could be accommodated by MOSAICA. However, it would be difficult to claim that all features could be accommodated and nor could those that could be accommodated in the manner that they had envisaged and here is a sample of comments:

- It is crucial that young people are able to access such a medium such as MOSAICA so that they can be educated and learn about different perspectives. However such a system needs to protect them from accidently coming across inappropriate materials, images etc... Therefore grading the material would be useful e.g. using colour. Using games or quizzes to increase knowledge- particularly aimed at children that use stories from different cultures and faiths. Accessibility for disabled people (Visual and audio), different languages- audio and visual
- Tools that would allow Virtual Tours of exhibitions with time lines so that individuals to zoom in on a particular time/event. Pictorial representation of icons & symbols will make the resources more attractive for young age groups. Some specific features: tools for searching. knowledge exchange, Cchat room for on going debate and dialogue .MOSAICA has a an

interface that is location based being able point to maps and go to places all over the world etc…However using my own narrative it would be good to able also to base it on events, timeline, or a particular places with sound etc… which would allow individuals to capture not just the information but the context and essence of the stories.

- As a visitor style would be of great importance, with audio and visual aspects playing a full role. The site would need to keep my interest by techniques such as recommender systems, powerful use of audio and visual stimuli, and an indicator of where you are in the process and positive reinforcement where appropriate.

- From MOSAICA, I would be looking for ways to support my cultural/religious interests and would want to able to use it to:
    a. download written and audio stories about Hindu gods/ national figures
    b. download images and activities for children
    c. view close up images of art and architecture in India that I or my children may never see in person
    d. view key Indian texts translated into English
    e. view devotional dance and other performances and access devotional music
    f. search for information on major historical events in the history of Hinduism/ India/ Indians in Britain
    g. Identify and communicate with like-minded people, and people with similar experiences

Some concerns were expressed from the materials shown the extent to which different user groups could be accommodated"

- MOSAICA should have a clear understanding of its primary user groups and their needs in order to judge the suitability of its system tools.

- Young people in the world have access to the worldwide web but it is difficult to sift through the information in a way that makes sense and helps to develop understanding. Young people like adults want to make sense of the events in their immediate communities and the world but currently have limited access to information and systems where they can find answers to their questions. For some answers can be found on unsuitable sites which can be detrimental. MOSAICA may be able to develop and create understanding of different cultural heritages in a way that is meaningful to young people.

3.3 Promotion of Multiculturalism Coalition Building & Countering intolerance

There was some acknowledgement that such tool could play an important role in these activities because the expert groups went onto describe how certain features could enable this, however there was also some sceptical points regarding the effectiveness of all such tools in delivering on this very difficult and complex agenda. Sample comments are as follows:

- MOSAICA should not only be about collaborative sharing of knowledge, but should also provide constructive ways for people of different cultures to engage each other. For example, in debate, collaborative writing, translation projects, video conferencing, political or altruistic organising, creative or artistic collaborations, etc. The idea of *connection* is the key here.
- MOSAICA has a potential role to play in coalition building if it can provide a platform for open dialogue, discussion and debate. It could also provide access to a holding/ catalogue of effective initiatives and projects that have worked in terms of breaking down barriers and promoting cross-cultural/ religious understanding and tolerance between communities. Semantic search, annotation, and tagging would all be useful functions in this respect.

- Currently there is no one system which focuses on different cultural heritages and faiths and answers questions as a one stop shop. Time is wasted looking at hundreds of websites to find relevant information. Therefore it would be useful to have a system which individuals and groups can access to find information and gain an insight into the multifaceted world that we all live in. Whether it would promote cultural pluralism and racial, religious and cultural tolerance is difficult to assess because at the moment there is nothing concrete that can be seen and accessed which would lead to that conclusion.

- The portal's explicit values around ignorance being the root cause of racism and xenophobia, the "challenge" of making individuals aware of racism and the need for positive thinking and awareness are laudable, but this portal will need to offer more than good will if it is to take is place in leading thinking and work in this area.

- I have already mentioned that information alone will not change people's attitudes to each other. Information is a start, but it only changes head-knowledge about 'the other'. A change in heart-knowledge, which is what I think you are referring to when you speak of diversity, equality and tolerance, requires a *fuller experience* of the other, an experience that humanises. In this sense, MOSAICA should create multiple opportunities for people to experience each other.

3.4 Pluralism versus Editorial Control/Defamation

Once again this was interesting discussion in which opinions initially ranged from free for all to concerns about issues of offense and defamation. There was a consensus reached in that it was decided that system would allow a plurality of perspectives with peer group regulation in which certain contributions could be "hot-housed" while consensus is reached or otherwise Some sample comments follow:

.

- As for editorial control, this should be kept to a minimum. MOSAICA needs to feel open and democratic. Within the parameters of decency, opinions should be expressed freely and then subject to testing and criticism by the MOSAICA community

- I would like to see editorial control largely resting with the user groups – perhaps through the use of teams of volunteer editors taken from the user groups. I'd also like to see MOSAICA encourage plurality of perspectives but it is important to prevent and remove items that are unlawful eg slander, libel, copyright, incitement, defamation etc..

- Where there are serious concerns regarding defamation or offensive material, I consider an editorial function necessary. All users should have signed up to terms and conditions before joining the site that contained an undertaking about defamation and offensive material. If the break this agreement, they can be kicked off, or their material removed. Because it is hard to police, users should be allowed to report offensive or defamatory pages to the site moderators who can take a decision to edit or not. Indeed what is considered culturally offensive should itself be subject to 'hot housing' before going live.

The suggestions largely coincide with the policy adopted inn MOSAICA they do however clarify and provide further details for refining the current policy as well as providing food for thought.

4. SUMMARY

There is overwhelming evidence that MOSAICA as a concept and its motivation found considerable favour, it was felt that it had the potential to an ideal tool for education or infotainment for young people

There were a number of issues raised concerning the MOSAICA vision:

1. the intended audience seems be too broad and more attention needs to be given about who the primary users are
2. at the outset there is some confusion as to whether we are focusing on culture/heritage or religion/faith
3. What the best approach to build a specific instance and then expand outwards or try to construct a vehicle for cross cultural communication and then exemplify. Could the approach adopted in practical terms deliver?

The evidence relating to using the system was very mixed,

1. the opinion of those participants who had hands on experience of using the tools was that whilst the tasks could be carried out it was not easy to carry out them out with the current version
2. The computer science experts reinforced the above point from their experience and raised issues about the approach of singular versus plural as raised above and commented on various technical issues
3. The multicultural experts found the lack of hand on experience a constraint on carrying out an evaluation albeit the tools animation demo provided a flavour. Fundamentally, whilst they were positive about the vision to promote cross cultural communication, they were sceptical about the effectiveness of MOSAICA to deliver that goal

In conclusion on a positive note the willingness of all the participants to engage thoroughly is a strong indicator of a favourable disposition and an after evaluation poll always indicated their willingness to trial the product.

THE MAIN REPORT

CONTEXT OF EVALUATION

MOSAICA Multi-cultural evaluation (MCE) was based on an assessment framework and the activities carried out under a multicultural assessment framework include:

- Understanding the importance of recognizing the cultural contexts of evaluation
- Defining cultural competency within an evaluation context
- Understanding how one's culture and history potentially affect evaluation practice

As a whole the entire MCE activities were based on the understanding of the cross-cultural aspects that MOSAICA aims to address.

We followed three guiding principles for planning the logistics

1. Inclusion in Design and Implementation
   - Involvement of key stakeholders
   - Involvement of multi-community users in the evaluation
   - Implementation of culturally appropriate evaluation strategies
2. Appropriate Measures and Success was ensured by determining how does the MOSAICA application:
   - provide an effective approach for reaching cultural pluralism among people and communities' adherent to different cultures?
   - contribute to positive multicultural development in the society, including identity development & engagement in positive social exchange and tolerance in civic life?
   - help in reducing issues related to racial intolerance in a multicultural community?
3. Cultural and System Analysis
   - Peoples Voice on Choice - Discussions within the context of how knowledge gained from MOSAICA may improve users' everyday lives?
   - Collective Processes and Leadership - workshops and tutorials to see how users can connect their personal experiences from MOSAICA interfaces to abstract concepts (i.e. racial identity, commonality and differences among multiple cultural heritages etc.)
   - Use and Examination of Popular Culture of different communities - identify issues that may arise from MOSAICA's influence on popular culture of different communities.

We considered a holistic approach for MOSAICA MCE that focuses on the following:

1. Emphasizing on the collection of user opinions and attitudes rather than focusing on the usability
2. *Methodology for evaluation is framed by*
   - *Self-reflection and exploring own identity of evaluators*
   - *Inviting critique from colleagues*
   - *Examining the relationship between intent and impact*
   - *Rejecting the myth of colour blindness*
   - *Recognizing that stakeholders' identity group*
   - *Building coalitions with evaluators of diversified background*
   - *Acknowledging the role of a social activist*
   - *Educating own self*
   - *Taking responsibility*
   - *Examining methods*
3. Utilization of the methodology through
   - Categorizing the data
   - Exploring data
   - Narrative explanations & concluding suggestions

According to the logistical plan for MCE there were three main tasks that were carried out:

- Assessing Cultural Heritage Ontology for inclusion in System requirements, design and implementation
- Pilot Study: Assessment of MOSAICA Portal and VE tools by students
- Expert Study: Assessment of MOSAICA Portal and VE tools by experts and activists

The Participants for each task may be categorized in two groups

- ? Evaluators from diverse ethnic and cultural back ground with knowledge and expertise on diversity and multicultural issues who are mostly non-technical users without computer science expertise
- ? Professionals with Computer Science background coming from multi national origin

A. MOSAICA Functionality

MOSAICA is an advanced Web based portal dedicated to the Jewish cultural heritage in Europe, and featuring (1) multifaceted interfaces for knowledge based exploration and discovery, and (2) online utilities empowering users to collaboratively author and manage cultural resources in the globally distributed environment and must be evaluated by the user community to ensure that the system is successful in all of the required user functionalities.

To ensure subjective evaluation of the MOSAICA system, the presentation and hands on demonstration incorporates clear explanation of project objectives and efforts towards meeting the mandatory deliverables of the project:

GIS (Geographical Information System) empowered map. Rather then hard coding GIS data, it is our intention to empower the GIS with the Semantic Web technologies, and thus allow semantic references between the information displayed on the map to be created dynamically and online. By applying logical reasoning we intend to enrich the spatial display with the timeline, thus extending the spatial navigation into the temporal dimension.

Semantic directory. Instead consisting of a single, predefined ontology, the MOSAICA Ontology will be generated dynamically and online from multiple, distributed ontologies on Jewish heritage already available over the WWW. Unlike regular directories that are hierarchically organised, MOSAICA semantic directory will allow conceptual navigation by following additional, complex semantic relations.

Semantic search engine. Search and retrieval facility will be empowered with logical reasoning allowing semantic inference, and extending the keyword querying into the domain of conceptualisation. Both semantic directory and semantic search engine will allow integrated access to the diversified (in both content and format) cultural resources by seamlessly aggregating them into a single conceptual frame.

Online semantic annotator. This utility enables users to conceptually model semantic relations between complex and diversified cultural objects and resources. It will provide (1) the facility for free text annotation allowing users to comment and recommend individual cultural objects, or to instruct other visitors regarding how to use them, as well as (2) the full integration of MOSAICA ontology enabling users to associate cultural objects with relevant ontological concepts and semantic relations.

Online ontology editor. This utility empowers users with the user-friendly means to further develop their own conceptual models, and dynamically enrich and extend MOSAICA ontology with their own semantics. It will provide a simple interface for regular users and domain experts and a full fledged OWL editor for ontology engineers.

Virtual Expedition maker. This is actually a set of complementary online utilities that guide users how to design their own Virtual Expeditions, record them, and enhance them with educational instructions and additional activities, such as treasure hunt, portfolio preparation, etc. The design instructions for Virtual Expeditions, and the corresponding utilities will be based on a comprehensive methodology for developing educational resources that will be researched and developed within the project's lifetime.

B. MOSAICA Ontology

In general, the objectives for annotations are considered much higher than a kind of simple metadata. Metadata and semantics are both proven approaches of tagging resources to make them readable/ accessible to content management and search engines.

Generally semantic metadata may be created in two main ways. One is by identifying match words and

meanings from dictionary/thesauri or by document analysis through application of rules and statistics for interesting patterns. Another approach of using ontologies is seen as the most effective semantic metadata creation. An ontology is not just a hierarchical representation of concepts but expresses domain knowledge though the rich relationships held between concepts and entities. Ontology-driven metadata extraction, is the most flexible and comprehensive approach as it allows modelling of fact-based, domain-specific relationships between entities that are at the heart of semantic representations. Ontologies that have been represented using description logics enable machine reasoning [10]. Machine reasoning is something that "folksonomies", vocabularies, classification schemas, thesauri, taxonomies, etc. do not support [11].

As mentioned in MOSAICA deliverable [D2.2], the MOSAICA system of ontologies has been designed for different purposes. MOSAICA domain ontologies have been designed for semantic annotation, focusing on the strategy that allowed the application of logical reasoning to annotation. For the purpose of MOSAICA, in addition to providing the machine reasoning capabilities, ontologies must also provide display capabilities enabling efficient navigation. The complexity of the display-related requirements necessitated development of a generic framework for display of resources called *DAAT* framework.

For generic cultural heritage domain modelling Cultural Heritage Ontology has been developed. Apart from this two specific ontologies have been developed for particular functionalities required in MOSAICA: MOSAICA GIS/TIS Ontology and MOSAICA Multimedia Ontology.

The DAAT Framework [12] adopted in MOSAICA presents concepts used for annotation as folders (such as MS Windows file system directories called *folders*), which further transforms the annotation procedure into storing a resource in desired folders. It assumes that the annotated resource will be in the future found "inside" the selected concept-folder. The only distinction from a classic file system is that in DAAT a resource can be "located" [13] in multiple concept-folders.

Accordingly, the principle guiding the design of the MOSAICA ontologies was to define as class everything that does not have a physical existence as an entity (such as, individual persons, countries, languages, etc.). The only exceptions were concepts that cannot be considered types of any "real" entities (i.e. that are classes with no identifiable instances, although they cannot be considered empty classes). Such a concept is, for example, a weekly Torah portion [14]. Although a weekly Torah portion cannot be considered as a physical entity, it was defined as an individual, because it can also not be considered to be a class of a set of instances [15]. The same reasoning could be applied, for example, on all constituents of the Sefer Torah (defined thus as instances of the class *bookInTheHebrewBible*), but not to the Sefer Torah itself, since many prominent Torah scrolls existed throughout the history [16].

DAAT Framework consists of two complementary conceptual models and two corresponding ontologies:

- DAAT content management model and its corresponding DAAT Core Ontology, and
- DAAT annotation model and its corresponding DAAT Annotation Ontology.

MOSAICA Ontology is a high-level ontology of the cultural heritage domain and provides the basic concepts, relations and properties used to describe and specify cultural heritage content. These high-level concepts, relations and properties are then partially contextualized specifically to the Jewish cultural heritage (for example, Jewish religious professions, such as Rabbi, Cantor, etc. were included as subclasses of the generic class 'Clergyman'), and are expected to be further contextualized in other application domains. This core ontology provides the semantics and the conceptual framework for development of large cultural heritage knowledgebase.

Jewish Cultural Heritage Ontology is merely a light extension of the basic Cultural Heritage Ontology containing only additional, context specific concepts (for example, Jewish religious professions) and properties (for example, specifying dates in the Hebrew calendar).

The two ontologies under the DAAT Framework: DAAT Core Ontology and DAAT Annotation ontology are coordinated in the sense that they complement each other – one of them providing navigational and management mechanisms (DAAT Core Ontology) and the other providing annotation mechanisms (DAAT Annotations). It is expected that each of these ontologies will be supplemented at the application level by imposing additional, domain-specific layers over them. These additional layers are the Application Core Ontology and the Application Annotation Ontologies respectively. – Each of them imports the corresponding DAAT Framework ontologies and introduces additional concepts, relations and properties, domain and rage specifications, labels, etc.

All these ontologies are utility systems providing the semantic infrastructure required for

ontology-based navigation, search and annotation. The domain specific knowledge that will be used for the annotation of the content is expected to be provided in a separate system of ontologies and knowledgebases. When deployed, such system is expected to import both the core ontologies and the annotation ontologies, as schematically d MOSAICA is a complex system integrating multiple external content sources into a homogeneous display framework. h order to make this possible, a unifying conceptual framework is required, that will enable heterogeneous content to be uniformly mapped into a common conceptual model depicted in figure below.

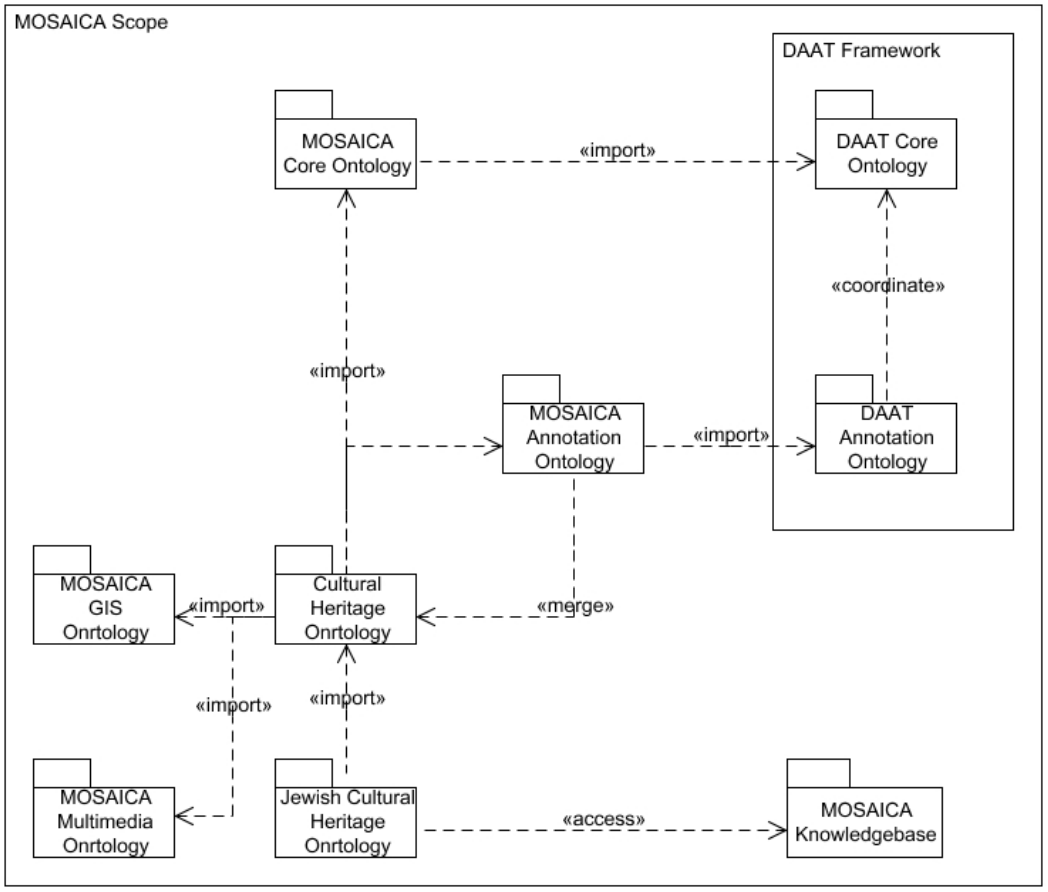

Figure 1. MOSAICA Complete System Ontologies

The specific difficulty encountered in MOSAICA is in the fact that not only MOSAICA's content is distributed and heterogeneous, but MOSAICA moreover utilizes heterogeneous conceptual models. This is necessary, since MOSAICA unifies content sources such as digital libraries and document repositories that have their own, internal conceptual model and data schema. In order to unify the heterogeneous content, MOSAICA must therefore initially unify heterogeneous conceptualizations of that content [17]. The underlying complexity of such effort could be demonstrated on the integration of two thematically highly valuable cultural heritage resources such as the Jewish Encyclopedia [18] and eJewish.info directory [19] ; domain knowledge from these two resources have been fused together to form the initial *MOSAICA core ontology*.

According to MOSAICA deliverable (D2.1: Alignment of Distributed Multiple Ontologies), the objective of applying the semantic indexing to the first content source is to classify the references to individual entities into the correct classes, and to automatically formulate assertions about these entities using the corresponding properties and relations. However, when repeating this procedure on the next content source, the additional objective is to identify references to the same individual entity that originate from different content sources.

C. Multi-Cultural Perspective

From the Boasian postulate we consider the following working definition of culture -

"The system of shared beliefs, values, customs, behaviours, and artefacts that the members of society use to cope with their world and with one another, and that are transmitted from generation to generation through learning" [5].

As an analytic concept, culture is about organizing the range of meanings within a particular group of people and devising effective mechanisms for communicating that meaning, e.g. certain kinds of knowledge systems affect social situations more favourably than others, and has characterized them as enabling, or powerful, knowledge. Such enabling knowledge is the result of the power of the knowledge system itself to do something useful (such as the knowledge to produce a particular kind of food) as well as the extent to which aspects of it are shared and therefore communicable (such as knowing how to prepare food to express group cohesion among a given set of people [1].

Communication is lot trickier than we generally imagine as an act of linguistic/symbolic message passing. As conceptualized by most anthropologists [1], among cultural systems communicating through symbols and relationships between these systems enable members of the same cultural group to engage in the effective use and communication of meanings.

Representation describes the signs that stand in for and take the place of something else. It is through representation people know and understand the world and reality through the act of naming it. Signs are manipulated in order to make sense of the world. Representation has been associated with aesthetics (art) and semiotics (signs).

Semiotics deals with the study of how meaning is constructed and understood [4] and has got three branches:

- **Semantics**: Relation between signs and the things they refer to.
- **Syntactics**: Relation of signs to each other in formal structures.
- **Pragmatics**: Relation of signs to their impacts on those who use them. (Also known as General Semantics)

In summary a definition of culture or religion is difficult to make, because they both have many facets with various interpretation of the same concepts by different factions claiming their belonging to the same religion or community. For example, religion involves gathering in groups, it involves communal eating, it involves theoretical discourse about the nature of the universe, and so forth. Countless definitions have been proposed by theoreticians. The most interesting thing is that the average person can tell when others are engaging in religious or cultural behaviour while many scholars and scientists have problems defining it. The concept of religion and culture are easy to use in ordinary discourse, but difficult to define precisely. However, the notion of ontology is clearly central. According to Lyon et al. [1], ontology is a way of describing cultural knowledge, not a model of culture. The ontology describes objects, properties and relationships, but does so in a static manner, usually with no motivation other than being a valid description; there are usually no generative principles that underlay the ontology.

References

1. Lyon, Stephen M.; Fischer, Michael. Anthropology and Displacement: Culture, Communication and Computers Applied to a Real World Problem. Anthropology in Action, Volume 13, Number 3, October 2006 , pp. 40-53(14)
2. Mitchell, W. 1995, "Representation", in F Lentricchia & T McLaughlin (eds), *Critical Terms for Literary Study*, 2nd edn, University of Chicago Press, Chicago
3. James W. Dow. A Scientific Definition of Religion. Published at anpere.net on 19 February 2007.
4. Conceptual Structures in Practice', Editors Pascal Hitzler and Henrik Scharfe, CRC Press (Chapman and Hall/Taylor & Francis Group), 2008.
5. Cultural Anthropology. Available online from http://www.umanitoba.ca/faculties/arts/anthropology/courses/122/module1/culture.html
6. Mary Marczak & Meg Sewell. **USING FOCUS GROUPS FOR EVALUATION. Available online** http://ag.arizona.edu/fcs/cyfernet/cyfar/focus.htm
7. R. Thomas; American Journal of Evaluation, Vol. 27 No. 2, June 2006 237-246.
8. Grigoris Antoniou and Frank van Hermelen. A Semantic Web Primer. 2004. Massachussets Institute of Technology.

9. Lars Marius Garshol. Making sense of it all. Ontopia article. http://www.ontopia.net/topicmaps/materials/tm-vs-thesauri.html#N429
10. Welty, C. (1998). The Ontological Nature of Subject Taxonomies. In N. Guarino, ed., Formal Ontology in Information Systems. IOS Press Frontiers in AI Applictions Series. 317-327. Trento, Italy. June, 1998.
11. Bontcheva, K., J. Davies, A. Duke, T. Glover, N. Kings and I. Thurlow (2006). Semantic Information Access. In Davies, J., R. Studer and P. Warren (Eds.) Semantic Web Technologies, John Wiley & Sons, Ltd, Published Online: 3 Jul 2006
12. MOSAICA Deliverable D2.2: System of Semantic Annotation
13. The original location of a resource defined by the URL schema of the URI is, of course, not modified.
14. "(Hebrew: Parashat ha-Shavua \ MXSWDUDVKDKRUSDUVKDKDQGDORNQRZ QDVD6IGUD SRSXODU VWH7RUDKVHDG ,Q-XGDLVP UHDGLQ-HZLVKVHUYLFHV +HEUHZ %LEOHDVHFWLRQ VWH7RUDK ZMKRQHP DMKSRUWRQHDGHDFKZHHN SXEOLF RYHUVWHFRXVHRI DVHU in the Shabbat morning service" (http://en.wikipedia.org/wiki/Weekly_Torah_portion).
15. A printed Torah or a Torah scroll does not identify weekly portions as entities, which could be in turn recognized as instances of the class "weekly Torah portion".
16. The necessary distinction was introduced by differentiating between Torah (referring to the content) and Sefer Torah (literary: "the book of Torah", referring to the physical entity, typically appearing as hand-written scrolls).
17. MOSAICA Deliverable D2.1: Alignment of Distributed Multiple Ontologies
18. Jewish Encyclopaedia: http://www.jewishencyclopedia.com/
19. E-Jewish Info Directory: Available online at http://www.ejewish.info/resources/?rsID=96

1. TECMUS CASE-STUDY

1.1 INVESTIGATION-1

MOSAICA Tools Evaluation

SHU team

1.1.1 Introduction

In the light of the decision taken during the MOSAICA consortium meeting in Paris on September 17, 2008 we were advised to utilize the following version of MOSAICA tools until the MOSAICA application becomes stable enough:

1. MOSAICA Semantic Annotator: To annotate contents the semantic annotator is accessible from the URI - http://212.179.43.184/SVG/MOSAICAApplet.html

2. MOSAICA Semantic Browsing Tool: The results of the annotation may directly be viewed using the semantic desktop available at: http://212.179.43.184/SSB/MOSAICASSB.html

This document summarizes our findings while evaluating the above mentioned tools. We are evaluating these tools with an overall aim to conduct MOSAICA's Multi-Cultural Evaluation; specifically we have chosen to test these tools for their suitability in handling both Jewish and non-Jewish contents though realising that the domain ontology created was specifically for Jewish culture/faith. In the following sections we will present the detail of our findings as well as clarifications by the developers based on the comments we made.

1.1.2 Specifics of Investigation: Participants & Activities

At this phase of the evaluation our aim was to determine whether the tools provided by MOSAICA are suitable in handling resources with regard different cultures; both Jewish and the non-Jewish ones. In this context, we chose non-Jewish resources from Muslim & Christian interests. This formed a pilot study so that we could assure ourselves of the quality of experience in using the tools and therefore the participants in this evaluation process were the MOSAICA team at SHU. They are: a Bangladeshi Muslim and a Polish Catholic each chose to evaluate from different cultural perspectives. They firstly attempted to annotate a picture of Jerusalem, then a painting depicting Andrej Rublyov and then a picture of the mosque at Al-Haram (Holy Kabba). The comments were fed to the development team and their responses noted. A key component of this evaluation was to provide "early" feedback to the development of the evaluation carried out

1.1.3 Comments and Responses on using MOSAICA Semantic Annotator

Annotate Jerusalem MOSAICA Semantic Annotator

Resource (http://graphics8.nytimes.com/images/2006/04/16/travel/16jerusalem.600.jpg) of "Jerusalem" with the intent of forming primitive sentences using higher level conceptual tags.

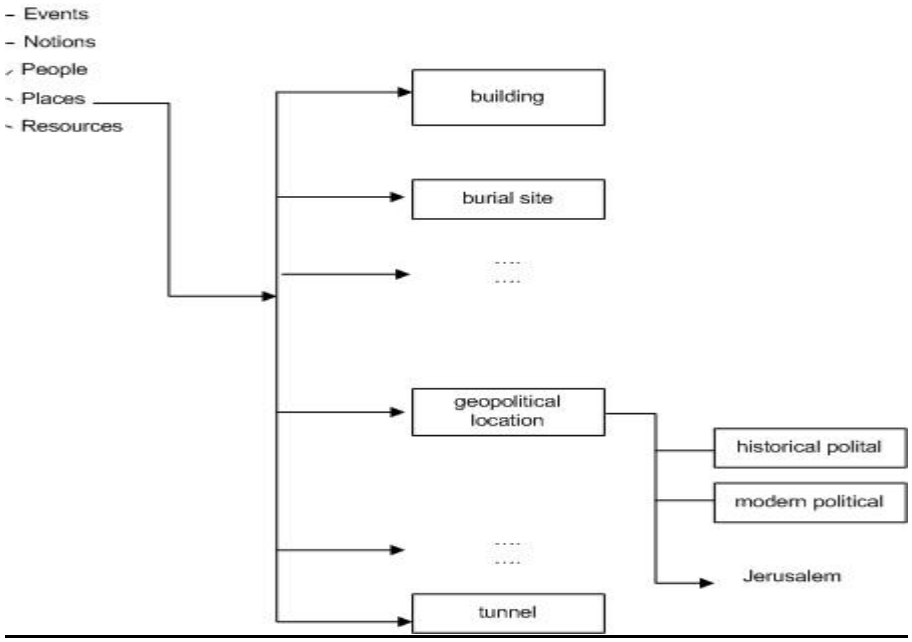

Figure 1.1.1. Annotating "Jerusalem"

Under the broad concept 'Places' we chose the category 'geopolitical location' to add the new resource "Jerusalem". We found that 'geopolitical location' contains two sub-categories 'historical political' and 'modern political'. "Jerusalem" may be fit to both of these sub-categories. So, we annotated the resource with the category 'geopolitical location' instead of putting under any sub-category. We used the relation *'presents'* and created the following primitive sentence -

Jerusalem presents geopolitical location.

But, we found that there are a limited number of predicate available in the dropdown list for creating sentences (annotations). The tool does not allow users to create any predicate of their choice.

Evaluator Comment

Our observation is that the user is not allowed to create any sub-category of his/her choice. The "Jerusalem" resource may fall under both of sub-categories 'historical political' and 'modern political'. It would be convenient if we could create another sub-category e.g. 'contemporary' where the resource would fit better.

Developer's response

Firstly, the concept Jerusalem indeed falls "under both of sub-categories 'historical political' and 'modern political'" – to be precise: this concept is indeed instance of both classes "historical geopolitical location" and "modern geopolitical location". This seems highly accurate, since Jerusalem is indeed a location with about 3, 500 years of continuous human settlement. I cannot see what seems to be the problem with this modelling.

In the given context "modern geopolitical location" is sufficient to accomodate the Jerusalem object.

Finally, the developers propose the following suggestions on formulating simply a more intuitive and specific annotation instead of more generic ontology: "'Jerusalem' (which is merely a title of a picture) presents Jerusalem (which is a concept in the ontology)?"

Here is a comparison:

Evaluators' suggested annotation	"'Jerusalem' (which is merely a title of a picture) presents geopolitical location"	Meaning: the picture titled "Jerusalem" depicts a (some, one) location
Developer's suggestion	"'Jerusalem' (which is merely a title of a picture) presents Jerusalem (which is a concept in the	Meaning: this is a picture of Jerusalem

	ontology)"	

Annotate non-Jewish Content using MOSAICA Semantic Annotator

We followed similar ways to annotate few non-Jewish contents as we did for Jewish one. Here are two examples:

We chose to proceed with a painting by Rublëv Andrej (http://upload.wikimedia.org/wikipedia/commons/4/4a/Andrey_Rublyov.jpg).
We will call this resource as "Icon depicting Andrej Rublyov".We also attempted to annotate another non-Jewish content- a picture of Holy Kaaba (The Mosque Al-Haram) available from http://www.weblo.com/asset_image/406006/58912/Kaaba/
We uploaded the picture of Kaaba in jpg format with the title "Kabba".
We found that among the supported broad categories under MOSAICA annotation tool, this particular resource may be annotated under 'Thing' concept. Concept 'Thing' is divided into four subcategories (as shown in figure 1.1.1) of which we considered 'religious artefact' to be the best choice to put it. We further browsed through the sub-categories of ' religious artefact ' but none of them could we consider a suitable tag for "Icon depicting Andrej Rublyov ".We could however form the following annotation -
"Icon depicting Andrej Rublyov" *features religious artefact*

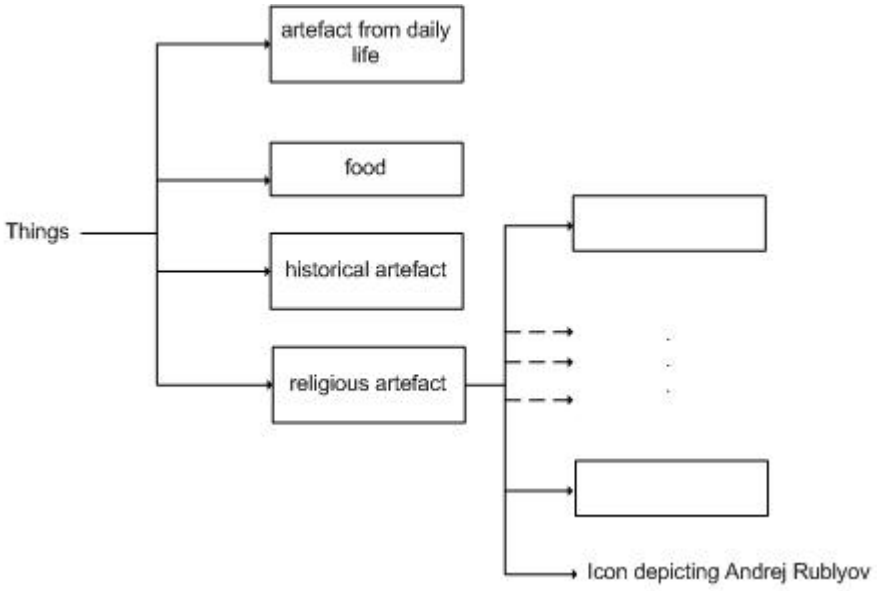

Figure 1.1.2: Annotation of "Icon depicting Andrej Rublyov"

Figure 1.1.2 shows Annotation of "Icon depicting Andrej Rublyov" and the resource was tagged as depicted in figure 1.1.2.
We also attempted to annotate another non-Jewish content- a picture of Holy Kaaba (The Mosque Al-Haram) available from http://www.weblo.com/asset_image/406006/58912/Kaaba/
We uploaded the picture of Kaaba in jpg format with the title "Kabba".
Kabba *originates from* building.

Evaluator Comments:

We tried to find more contextual tag other than 'building'. But the sub-categories listed under building do not contain any concept that would be appropriate for the specific image resource "Kabba". So, we had to tag Kabba using more general concept i.e. 'building' as shown in figure 1.1.3.
We observed that it was possible to use more generalised concepts that may be extended with specific concepts described in other cultures to annotate resources from other heritages.

1.1. 4 MOSAICA Semantic Browser

While testing the Browser, we attempted to view the contents (both Jewish and non-Jewish) that we annotated. We observed that the resource "Jerusalem" has been placed in the folder **Places / geopolitical location** as shown in figure 1.1.1.
Also, the non-Jewish content "Icon depicting Andrej Rublyov" could be browsed that was placed under the folder **Things / religious artefact** as depicted in figure 1.1.2.
Another non-Jewish content "Kabba" could be browsed that was placed under the folder **Places / buildings** as depicted in figure 1.1.3.

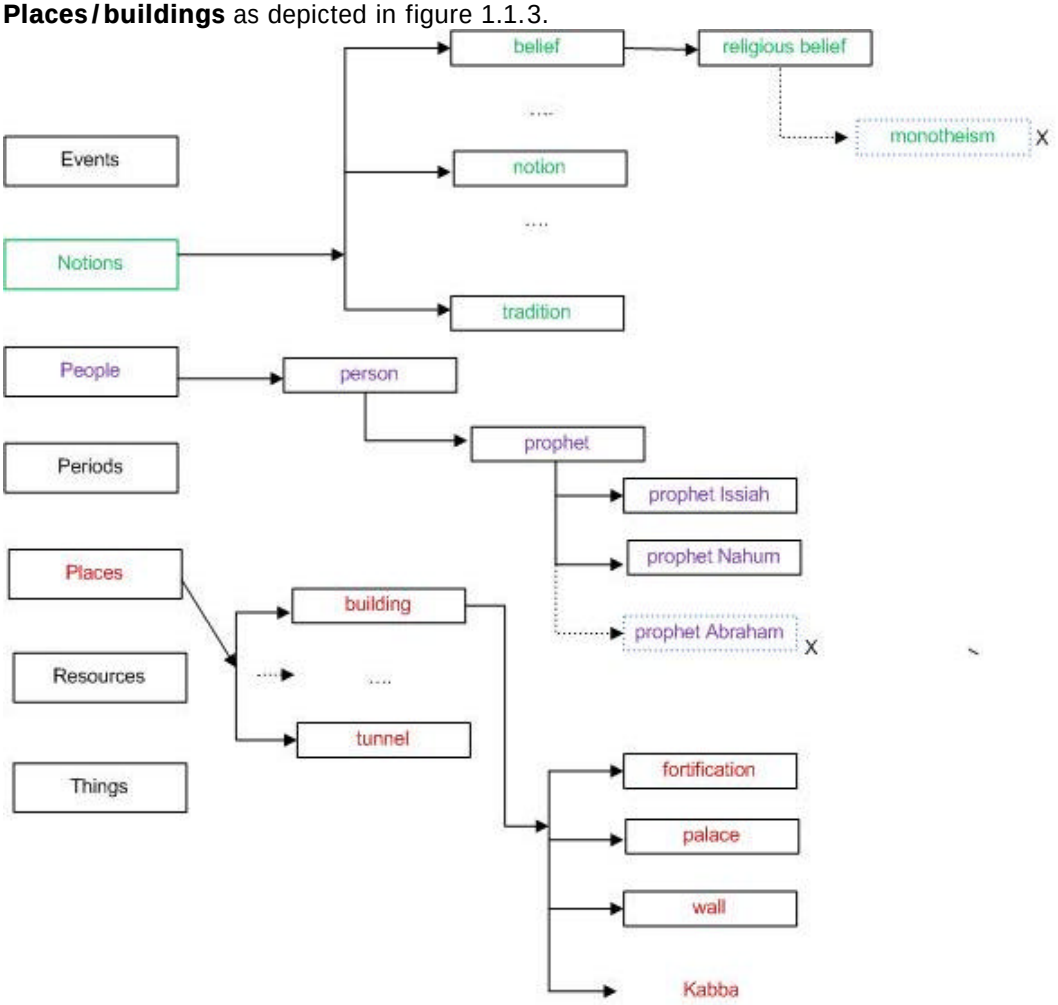

Figure 1.1.3. Annotating "Kabba"

Comment:

As we mentioned earlier there are not surprisingly any concepts concerning other religions and presently the user couldn't add any. However with imagination it was possible to be able to prepare structure for new knowledge domains and place these resources to more generalised concepts even though there are no specific ones that are suitable.
The browser holds folders for too many concepts; most of them are not used - there are many empty folders that user can get confused with and it makes harder to find the proper one.

1.1. 5 Evaluation of MOSAICA Non-functional Features

In using the system we have identified the following non-functional features that mitigate against effective use of the Semantic Annotator and Browser tools.

Ease of Use & Security

- Application requires full access rights to the client machine.
- The tool is based on unsigned certificate and does not provide any assurance of secured use.

- The user cannot copy any information from the browser or organize personal work and resources in any way. User cannot move/copy resources from one folder to another.

- User looses all his previous activity after the step of annotating resource.

- The browser becomes unresponsive after few user navigation attempts and becomes unstable even though the browser window is reopened again.

1.1.6 List of system limitations for further consideration for the developers

Functional features (Semantic Annotator)

- Ability to create simple sentences: There are a limited number of predicate available for creating sentences (annotations). The tool does not allow users to create any predicate of their choice.

- Ability to create Complex sentences: The user cannot set relationships between instances and concepts, but in this case it might be an issue of limitations in design of the database, or even constraints in the ontology model.

- Concepts from the very general perspective are specific for Jewish culture and user will find problems to annotate resources from other heritages.

Non-functional features

- Maintainability: The applets are huge and loads each time user enters the page;

- Performance: It imposes significant delay in loading components. In terms of the performances the tools it requires significant patience to be able actually to use them in real time. It takes long time to load the applets.

- Ease of use: There is no check for adding the same resource more than using the annotator. Uploaded resources are not editable. It is really hard to find proper annotations for resources. User cannot organize/edit his/her work using Semantic Browser. There is no "back" button to the first screen after uploading resource.

- Reliability: MOSAICA tools are not stable still now. The user doesn't get response in a specified amount of time always.

1.2 INVESTIGATION-2

Cultural Heritage Ontology Evaluation

Computer Scientists

1.2.1. Introduction

We conducted a multi-cultural evaluation session with three computer scientists where we illustrated the MOSAICA ontologies. The aim of the discussion was to evaluate the effectiveness MOSAICA ontology and tools from a multi-cultural perspective/perspective. In this report we will presents an anonymous profile of each participant, detail of the activities involved, a summary of the responses a summary of the tools evaluation session and.

1.2.2 Specifics of the Investigation

Participants

Evaluator 1: PhD in Computer Science, expert in knowledge representation and comparative study of religions

Evaluator 2: PhD in Computer Science, expert in smart applications and ontology with Serbian orthodox and catholic background

Evaluator 3: PhD in Software Engineering with British Christian background

The overall approach was one based on focus groups involving three individuals with considerable experience in both computer science; all three had doctorates as well each had a strong interest or experience in cultural or theological issues. (See appendix A for anonymised biographies).

The first step in the evaluation process involved first the three participants, hereafter termed as evaluators, being provided with a short presentation which explained the what, how and why of the ontology under consideration by the co-ordinator for the evaluation

Activities

The evaluators were told that throughout their exposure to the ontology they should feel free to seek clarification, provide copious commentary that broadly followed a set of open ended questions from both technical and cultural perspectives and that their comments were being recorded using a digital voice recorder. It had been explained that the duration of the evaluation session was going to be about an hour but it was possible to continue longer should it be required. The participants had freed themselves for two hours and the actual time taken for the whole session was approximately 90 minutes.

In terms of analysis of the commentary obtained, it was agreed at the outset by the ontology designer, the evaluators and the co-ordinator that the size of the group and the nature of the evaluation did not warrant any formalised methods such as discourse analysis or conversational analysis however we did follow general guidelines based on an inductive approach to qualitative analysis. Therefore, it agreed that the co-ordinators at SHU would carefully examine and analyse the commentary systematically to elicit major themes along the lines of the questions posed and provide:

- Narrative explanations of a general nature in terms of strengths and weaknesses about the ontology under consideration from both technical and cultural perspectives
- Examples to illustrate the narrative explanations provided by participants to show potential limitations or extensions required to the ontology
- Essential recommendations for consideration by the ontology designers

It was agreed that a report of the analysis would be produced by the co-ordinators and that this would be then sent to the evaluators for their feedback and through - a process of negotiation if required - would arrive at the final evaluation

For the purpose of the overall assessment of the cultural heritage ontology for its applicability in the context of any other cultures or faiths other than Jewish, we framed the following open-ended questionnaire for the evaluators:

1. How would you evaluate the cultural heritage ontology from multi-faith or multi-cultural perspective? What are its strengths and weaknesses?

2. How would you evaluate the cultural heritage ontology from a technical perspective? What are

its strengths and weaknesses?

3. What do you think about the cultural heritage ontology regarding its representation of plurality concepts?

During the focus group sessions, the evaluators were very vocal and furthermore, they took every opportunity to draw and illustrate their commentary with diagrams on the whiteboards provided. Overall whilst their commentary and illustrations did cover the range of questions posed it did not follow the structure implied in the order of questions they would often interlace their output with examples and comments from both perspectives.
There are two "meta" narratives that was common to all the evaluators. First they found themselves limited in the degree to which they could carry out the evaluation of the ontology as presented because the definitions of relations (are not viewable at present) and this was required for clear understanding of domain and range of relationships. Difficult to asses intended meaning with the given level of granularity of concepts for applicability in multi-cultural context. We accepted this as a limitation of the evaluation at this stage of development but pointed the need for early feedback. Second they all referred us to a body of work that emphasised the nature of plurality that was central to any ontology related to culture or religion. In the next section on outcomes we use this body of work as background material to present the outcomes of the evaluation
Based on the feedback from the experts we present our findings and comments in the next sections. We intend to reflect on the problems encountered and methods applied when trying to represent culture-specific knowledge in a multi-cultural set up to provide representation input for ontology engineers.

1.2.3 Analysis of Comments

Evaluation comments from a Multicultural/Faith perspective

As we have mentioned earlier religious and cultural concepts are very difficult to define let alone providing precise description in the form of ontological model that requires definition of objects (i.e. concepts), properties and relationships among different objects. Given that there are no general principles that underlay the ontology we have identified the following characteristic of the cultural heritage ontology from the multi-cultural perspective. The evaluators used the links between description of reality and its representation as depicted in figure 1.2.1 for the purpose of actualization of objects.

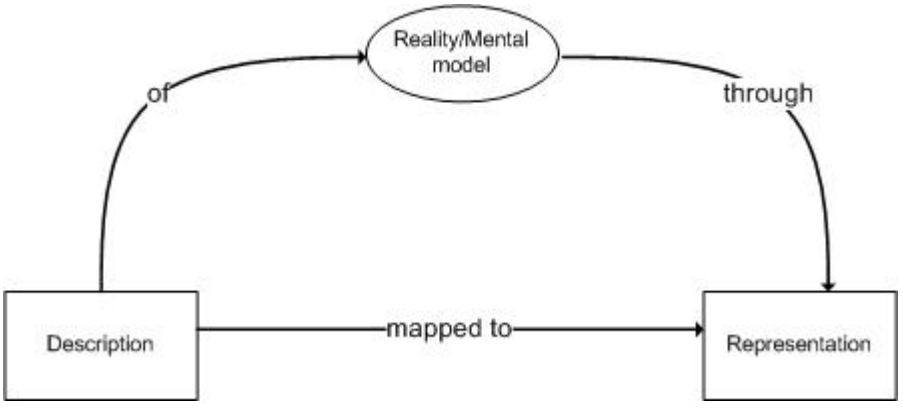

Figure 1.2.1. Links between description of Reality and its representation

Jewish Culture is keen on actualization of real world through things, objects and artefacts; which is not necessary for all/other cultures. For example, holiday is much related to food and events, places. As a result it is very fuzzy.
Another example, lunar calendar (object) is different in east and west (or in different cultures). So, there is no one to one (1:1) mapping between a particular object with respect to cultures.
Concept in real world and actualization of real world through its representation in terms of

concepts need to be described with the pragmatics behind those.
Though the ontology provides a good case-study to look at it may be enhanced with the definition of the context and scope.
The connection between a festival and food is not true for all cultures and is different than Jewish in other cultures such as Christianity. Different Christian sects have got different set meals for Christmas.
Museum may be defined as a building where historical artefacts are preserved or may be defined as an institution depending on the perspective of the cultural norms.
The concepts are very detailed to be applied to multicultural context. Apparent inconsistency is inherent cultural concepts and as a result there are lot of denominations in each culture.
Interpretation of institution, organization etc: here it is quite precisely defined. Definition of museum is quite unclear here. Conceptual background changes very sharply if we change perspective and hence then concepts also change. So, it is the factual that perspective defines the concept. From this observation there is not enough fuzziness in it.
Notion of pragmatism suggests thinking about the process of understanding - relating each others cultures and understanding of inconsistencies etc. The basis for the semantic meaning - perspective of meaning needs to be defined. In any movement there is a difference of opinion - different perspective has quite a fundamental meaning. Put concepts in a cultural/social/political context. There are things/objects that are culturally bound - concepts in one denomination have different meaning than others. Make assumptions clear

Evaluators Comments from a Technical Perspective

Referring to figure 1.2.1, we emphasize on the formalization of three philosophical concepts. Description of a theological concept may be interpreted differently by different Rabbi/priest depending on the denominations to which that Rabbi/ priest belongs under the same religious umbrella. Any particular interpretation or representation of the single description of the concept may feature a mental model. Such a reality suggests diversified formalization of abstract concept in different cultures. For example:

- 'Easter' has got different understanding/representation among different Christian sects.
- The idea of divinity and humanity of Jesus Christ map to many different representations.

For this ontology to be able to promote multiculturalism more abstract concepts are appropriate here but we see more details to that. So, it is needed specify the assumptions behind such detail formulation of concepts. What are the assumptions behind that?
We were able to identify very little difference in meaning between two different relationships while a single relationship could be representing those.
We suggest specifying distinct boundary to separate the multiplicity of perspective or at least some explanation about how we may divide these perspectives. Besides, we would prefer providing culturally balanced meaning of icons using semiotics.
Events are quite precise with clearly defined start and end point or using chronology. But perspectives/impact of a particular event might be different.

1.2.4 Recommendations

As far as the main aim of creating multi-culturally balanced cultural heritage ontology that caters to share cultural knowledge promoting plurality awareness of different diversified cultures through virtual expedition, this ontology is a very good case study to look at. To our opinion we believe that making assumptions clearly specified and defining the scope and boundary of created concepts and relations will enable this ontology to serve its intended goal.
We have tried to identify the strength and weakness of the cultural heritage ontology from different angles and found its strength in raising the level of awareness and debate and help learning to that end we propose the following recommendations as outcomes of the evaluation:
1. The original concept of a personalised experience, guided inquiry and shared ideas is highly commendable and we strongly encourage all aspects that support this notion
2. For any story there is multiplicity of perspective. Clear specification should be part of the ontology that describes principles to divide the multiplicity.

3. Norms haven't been made explicit by this ontology we strongly encourage the definition of boundaries, scope and inconsistencies. Social norms and cultural context and values should be related to assumptions.
4. In any ontology whilst formalizing meaning should be part of the knowledge but it is important to realize cultures through pragmatism even though that requires further effort.
5. Provisioning of diversified meaning must be incorporated so that it that creates a basis for shared semantic meaning/distorted meaning.
6. Level of granularity of concepts needs re-thinking for applicability in multi-cultural context.

1.2.5. Follow-up &Critical Discussion

We passed the above mentioned recommendations (see 2.4) to the developers and received convincing clarifications on the following issues as follows:

Level of granularity: The question was to determine the level of granularity for concepts and properties in the ontology. Is it too fine or too coarse? In both cases the level of granularity was considered to be just fine on the basis of the following arguments - for "too coarse" argument it could be pointed at CIDOC/CRM (ISO21127), which includes a complete upper-level ontology, and for "too fine" it could be pointed at many librarian thesauri, which have about the same level of granularity.

Mapping between objects in different cultures: In case of modeling lunar calendar in different cultures it is possible to argue that the calendars differ in the methods used for the calculation of irregularities between the solar and the lunar motions, and the specifications of epochs. Nevertheless, the lunar and the solar motions are not culturally determined or biased. Now, ontology does not actually define the calculation methods, and serves merely as a classification framework for calendars. Accordingly, both Hindu calendar and Jewish calendar, for example, can be correctly classified as a luni-solar calendar.

One to one (1:1) mapping between concepts: By specifying two instances of the same class no relation of identity (which I understand as "one to one (1:1) mapping") is assumed between the instances ("Mary is a person" and "John is a person" do not imply that (Mary=John). Actually, in Description Logics the opposite would be true: individuals are assumed different as long as their identity is not explicitly stated. Similarly, different Jewish communities around the world have differing meals associated with holidays (Sephardi Jews prepare fazuellos for Purim, Ashkenazi Jews prepare hamantaschen). – Does that make relation between holidays and dietary traditions culturally biased? - Actually, the current
ontology caters well for specifying the variety of – for example – dietary traditions associated with the context of a particular holiday.

Fuzziness: ontology is "specification of conceptualization" (Gruber). Accordingly, the basic requirements of an ontology are unambiguity and consistence – in particular if under "ontology" one understands only the Description Logics. Fuzziness and ontology simply do not mix together. It is certainly possible to have a "fuzzy" conceptual system where a concept could have multiple meanings. I believe that such systems are, for example, the natural languages that we use. However, the major idea behind an ontology is to define a common vocabulary (or, better, a common conceptual framework) shared by a community of users (also Gruber). In that sense, ontologies are a logical specification of the intended meaning (this is the actual intention behind the Guarino's comments on Gruber's definition – only he went in a wrong direction in arguing).

An ontology works as follows - There is a class in one cultural heritage ontology "terrorist attack" and in another ontology "victory". "Munich Massacre" is in one ontology defined as an instance of the "terrorist attack", and in another as an instance of "victory". – It seems that each ontology indeed defined the reference to the same event as they conceptualize it. Is there any fuzziness

here? - Certainly not! One ontology sees the event as a massacre of 11 unarmed athletes, sport referees and sport coaches, and another as a victory. Maybe even in the other ontology it is actually called “a glorious Munich victory over 11 unarmed men”. Still –no fuzziness: these two, differently named instances can be defined as identical using the standard identification mechanisms provided in description logics (for example, “owl:sameAs”).

Norms & multiplicity of perspectives: It is not actually possible to envision “part of the ontology that describes principles to divide the multiplicity” or “definition of boundaries, scope and inconsistencies”. At the time of development there are mechanisms available that could be used to provide something like that. There is no ontology of multicultural character that attempts to provide that. A knowledgebase in its entirety is exactly such specification of underlying assumptions. For example: specification of “Munich massacre” as an instance of “terrorist attack” is exactly such specification of boundaries and assumptions. It could be indeed driven further, if necessary: “terrorist attack” could be further defined as a kind of “violent event” in which non-combatants were intentionally victimized. It could be indeed driven even further, in order to include or exclude all different specific cases (as it was unsuccessfully attempted by the United Nations at the time, in order to provide a legal definition of "terrorism"). However, I doubt that such further specification (which would significantly make the use of the ontology more complex) would contribute anything to the multicultural character of an ontology on cultural heritage.

1.3 INVESTIGATION-3

MOSAICA Tools Evaluation

Computer Scientists

1.3.1Introduction

We conducted a multi-cultural evaluation session with the same computer scientists as in the 2nd investigation knowledge in this case carried out demonstration of MOSAICA tools and underlying ontology in one session. The aim of the discussion was to evaluate the effectiveness MOSAICA ontology and tools from a multi-cultural perspective. In this report we will presents an anonymous profile of each participant, detail of the activities involved, a summary of the responses a summary of the tools evaluation session and.

1.3.2. Specifics of the investigation

Participants

In this session, we carried out a follow up with the participants who actually evaluated previously the MOSAICA cultural heritage ontology.

Evaluator 1: PhD in Computer Science, expert in knowledge representation and comparative study of religions

Evaluator 2: PhD in Computer Science, expert in smart applications and ontology with Serbian orthodox and catholic background

Evaluator 3: PhD in Software Engineering with British Christian background

Activities

The session started with a presentation of MOSAICA tools, intuitive MOSAICA method of annotation and the ontology. After the demonstration, we proceeded with collection of participant responses.

Participant responses were gathered using the questionnaire below, each of the evaluators was requested to provide their response with reference to each questions.

Questionnaire

1. What are the Issues need to be addressed while developing ontology for a given culture or faith (characteristics of the ontology and types of users etc.)?

2. Give your opinion as to what extent MOSAICA system provides has these tools.

3. Provide suggestions for improvements and enhancements: enumerate and describe?

4. What role can MOSAICA play in promoting tolerance?

1.3.3 Response Analysis

Now we will present an analysis of the participants' response that we collected based on the above mentioned questions. The analysis broadly followed a thematic framework analysis [Fred] in which the themes were *a-prior* obtained from the questions and from a first reading of the questionnaires

Characterizing the ontology and the users

The participants provided responses regarding the nature of the ontology and users that were summarized in six points. The first three points relate to characterizing the ontology whilst the latter three expanded on the evaluators view the tool does not appear to adequately delineate the kind of user profiles that would engage with it. Without this context it's hard to ground how this tool would be used and made the latter three suggestions. The six points are follows

a. A generalized approach potentially allows commonality to be shared and explored amongst different faiths, and if the resource is assumed to be accurate then it would be an authority or reference point. This would be particularly useful for the purposes of education, and addressing ignorance and therefore intolerance, is an obvious advantage.

b. Conversely a specialized resource would potentially capture the richness of a particular domain, and therefore different levels (community, national, international) of 'view' would offer the potential to harness this information.
c. The ontology will have to handle contradictions – Peirce would argue that there is one truth, but the process to it is through discussion and negotiation – without being able to handle this pragmatic process it will be hard for the ontology to capture the meaningful semantics of such a problem domain.
d. Basic computer/web literacy in terms of the actual interface, though some explanation would be required for interpreting content types, especially for the latest generation of 'drag and associate' users.
e. Specific expertise (and authority in the sense of peer-review) is required to validate the ontologies produced.
f. One type may prefer detailed advanced presentation whilst another wants it to be 'fun', whereas others may want at least an element of both.

MOSAICA Tool Worthiness
MOSAICA creates a positive approach and works using leading-edge technologies (Semantic Web, OWL), thus provides a strong basis on which this resource can be developed. Points for consideration:
1. Still in rather a primitive state; it may thus be useful to step back and learn from these initial experiences towards how to best move forward

2. This is necessary as this is a challenging project; it'll be hard (to say the least) to get it right first time!

3. Comparison with other tools and approaches – now that the project is completing, it provides a useful experience without which such experiences would have unlikely to have been realized.

Suggestions for Improvements and Enhancements
1. Consider using supporting tools that can assist in incremental development and changing/dynamic ontologies e.g. Ripple Down Rules

2. Handle dynamic changes in the ontology e.g. due to new or for correcting erroneous inputs. Possible candidate here is Ripple Down Rules?

3. Consideration of other approaches for example more than 'just' OWL – **that is not to say that OWL is** inappropriate, clearly it is but use with other tools.

4. E.g. ISO Common Logic – such a demanding project as this requires a drawing on all available candidate approaches

5. Data Mining / Warehousing / Business Intelligence – how do they gather and analyze information and how can that experience be put to use in the MOSAICA context?

6. The social web i.e. Web 2.0 e.g. how might Facebook or YouTube deal with such a domain, which is the sort of domain that is likely to appear on it. Such a consideration would extend to the analytical tools that could be run on it and maybe a key target area for MOSAICA.

7. There is a need to capture and express domain concepts and the relationships between those concepts. This would need a repository (or collection of repositories) and a means of standard communication between them in terms of information mark-up.

8. The mark-up needs also to be able to express the richness of the relationships between data, and permit more than hierarchical associations, so that lattices can be constructed.

9. Ontology creation is fraught with difficulties and there is a need for tool support to be able to manage the creation and subsequent maintenance of the ontology. Graphical tools assist this

process considerably, particularly when there are instances of multiple inheritances to represent.

10. There is a need for an interface framework to enable the data captured to be disseminated via appropriate channels (e.g. portal infrastructure for the web).

11. Besides, further recommendations suggest including an interface to capture content and enable its tagging for the purposes of classifying the material with respect to domain ontology.

12. A mark-up language (OWL-DL) has been utilized to express the richness of the data and the relationships between concepts. There is a graphical tool to enable the creation and maintenance of ontologies, including the potential to represent lattice structures.

13. Whilst the data has clearly been collated and expressed using a standardized mark-up language, there appears to be no obvious way of disseminating this content via interfaces, thus permitting other actors to be able to draw upon and use the content in other applications (e.g. portal interface API, RSS etc.

14. I think it would be useful to assess how computational approaches might assist (a) the collection of data and also (b) the inference of 'hidden' or 'new' information from the existing knowledge base. This would probably be more useful when considering the more philosophical perspectives, or when considering the principles and realization of cultural and/or religious

15. There is also the issue of concept/relationship validity checking in terms of identifying whether appended concepts are truly independent or whether they are already represented, or indeed whether they are variations of existing concepts. Some tool automation (model checking) would help here.

1.3.4 Tolerance promoted by MOSAICA:

1. This is a domain that is so core to human existence that it essentially defines what an ontology should achieve – it's thus a worthy project, but it will not be trivial.
2. It would be an invaluable tool for schools an immersive experience that through its dynamic interaction with the user would be able to connect with his/her own background, experiences (and indeed prejudices). All in all, MOSAICA is a vital project that needs to create advanced tools to deal with it.
3. There is considerable potential for an exercise like this to improve education by providing a more accessible means for the information. Assuming that the knowledge is validated and agreed there is also the opportunity to describe the underlying principles and expose this to a wider audience.
4. Undoubtedly a greater understanding of the principles and values behind faith would enable individuals to make more informed judgments and 'accept' other faiths without concentrating upon the publicly visible aspects such as ceremonies, rituals, artifacts, practices etc. There would also be the opportunity to provide clearer information with regard to the aspects of a community that are shaped by culture and tradition, rather than just assuming it is solely attributable to religious beliefs.

1.4 INVESTIGATION- 4

MOSAICA Tools Evaluation

ICDIM Workshop: CS Researchers

1.4.1 Introduction

We conducted an evaluation workshop at the Third International Conference of Digital Information Management (ICDIM 2008 – sponsored by IEEE) November 14, 2008 at the Custom House Hotel in London, UK. The workshop attracted 30 attendees from well renowned researchers from across the globe. Highlight of the participants has been provided at the end of this report.

1.4.2 Specifics of the investigation

Participants

Among the participants of the workshop there were academics, researchers and professionals from several parts of the world. We were particularly enlightened by the presence of professors and researchers from Faculty of Automation and Computer Science Technical University of Cluj-Napoca, Romania. They have worked with the Romanian historical archive and are experienced in creating historical ontology for the archives. We received valuable comments from researchers of Brunel University, UK. They are experts in Global Healthcare tools, coming from Muslim-Arab background with interest in knowledge modeling. Additionally, researchers from the University of East London, having interest in cultural and diversity issues provided us with valuable feedback. Furthermore comments were collected from academics from USA (Asian-Indian background) as well as from Latin American researchers.

Activities

The workshop started with a movie and technological aspects of MOSAICA system presentation (20 mins). Then we conducted an open-ended discussion (40 mins). In this report we will present a summary of the comments we collected on the MOSAICA outcomes and methodologies in the context of multicultural evaluation.

Data Collection

Participant responses were gathered in two steps. First, we requested them to comment on MOSAICA system & its cultural heritage ontology as a whole - based on the part-1 of the questionnaire (presented below). Then we focused on the part-2 of the questionnaire and finished the discussion taking a recorded summary of the open discussion. In practice the discussion did not strictly follow the structured questionnaire that we had used as a guide. However, from the copy of the commentary that we had recorded there emerged certain themes that were pertinent to the overall evaluation

1.4.3 Question posed in the discussion

What is your overall assessment of the MOSAICA system for its applicability in the context of any other culture or faith except the Jewish one?
What are views of developing cultural heritage ontology as in the case of MOSAICA?

1.4.4 Analysis of discussion

Here we will present a summary of the discussion that concentrated on the following points:
Assessment of MOSAICA system:
Current world is very dominant; people seem not comfortable about discussing diversified cultures. In real world we look forward to see a MOSAICA of cultural heritages. We strongly need to develop a MOSAIC which will be a general model to accommodate different cultures.
The overall vision of such a tool like MOSAICA is creating awareness and improving behavior. The need is to determine whether it will create positive awareness and this behavior of the citizens will get improved. Culture is a school of thought that is well distinguished by its distinctive features. If you over-generalize then those distinctive features will disappear. An attempt to conceptualize similarities/differences among cultures needs to maintain a balance looking at its final aim of creating positive awareness.
We all know about our own culture and feel proud about. Creating positive awareness requires us

to know about other cultures. We would be more interested to discover link between our own cultural-faith backgrounds with others. E.g. as a Christian someone would be more interested in finding the views of other cultures on "Jesus Christ".

Developing a cultural heritage ontology

Developing ontology for cultural heritages is a trial and error process that might require adopting a top-down or bottom-up approach or a mix of the two. It might be required to move up and change some of the classes in the cultural heritage ontology to accommodate unique concepts from different cultural and faith domain. Creating horizontal relationship can be very complex. Need to consider matching different ontologies as well as ontolgy mediation

Challenges for creating a MOSAIC for cultural heritages arise from the fact that some cultures are concentrated towards objects/artifacts and some are emphasized by practices from real life. For example, Muslim culture focuses more on practices on real-life than that on objects and (or) artifacts. To incorporate concepts for practices of real life the cultural heritage ontology will require to be redesigned.

Conceptualizing cultural heritages is a trial & error process and the aim is to create positive awareness. So, it would be wise to take a positive approach and let the system be tested in multi-cultural settings and review the outcomes.

2. LAYMUS CASE STUDY

2.1 INVESTIGATION-1

Hands-on Tools Evaluation

Academic Professionals

2.1.1. Introduction

We conducted a multi-cultural evaluation session with academic experts from different disciplines and background. This investigation was essentially a focus group discussion that was interlaced with presentations and demonstrations carried out in one session. The aim of the investigation was to evaluate the MOSAICA concept and tools from a multi-cultural perspective. In this report we will presents an anonymous profile of each participant, detail of the activities involved, a summary of the responses a summary of the tools evaluation session and.

2.1.2. Specifics of the investigation: Participants, Activities, Responses

Participants

We chose to interview academic professionals from different cultural/faith background since the chosen participants were aware of the issues of diverse backgrounds and need for tolerance in a multi-cultural society. Furthermore, given the status & stability of the first release of MOSAICA tools we had to choose professionals who have got some level of understanding about new technologies and tools. Below is a detail of profile of each of the participants.

1. R is a graduate from a British Indian background who is a Lecturer in Educational Change, knowledgeable in the field of internationalization of learning, teaching and assessment. He has specific interests in educational development in the higher education sector
2. M has got a masters degree in Computer Science, coming from an Arab Muslim background of Jordan. He lectures in Networks and e-applications and has specific interests in networks, software engineering, e-services.
3. J has got a Bachelor degree in Computer Engineering & MSc. in Information and Communication Systems Security from The Royal Institute of Technology (KTH), Sweden. He is a lecturer at the Business Information Systems department at the University of Jordan. From a Jordanian Muslim background, he is interested in multidisciplinary studies and their applications in the computing field.
4. N has got Masters Degree in International Business and Management. He is a Libyan Muslim who is specifically interested in business and management study with a specific research interest in using ICT to enhance Customer Relationship Management

Activities

The session started with a presentation of goals, vision and overview of MOSAICA methodology and technological innovations (20 min). Then we conducted a demonstration of MOSAICA system: Investigation, Explore, Add new resource (20 min). After the demonstration, we proceeded with collection of participant responses.
Participant responses were gathered in two steps (using questionnaires as in section 2.3). First, we proceeded with a set of pre-questionnaire to be filled by each participant describing their impression and understanding of the tools.
The second part of the evaluation was to enable the participants to get hand on experience of using the tools and support was provided on a one-to-one basis. Each of them was requested to use the tools aiming at annotating artifacts from their own cultural interest and use the browser to visualize them. Typical examples of participants attempts to add objects adherent to their own cultural & religious background. Here are a few examples:

- **The Blackstone** *presents* religious artifact
- **The holy mosque** 'Kaaba' *represents* place of worship

Each participant was requested to fill the post-questionnaire to describe their experience of using the MOSAICA tools; the data collected was added to by interviewing each one in relation to their written commentary

2.1.3Questionnaire

Part-1: Pre-questionnaire

1. Could you understand the purpose of semantic annotator/semantic browser?

2. To what purpose do you envisage that MOSAICA could be used from your cultural/faith interest?

Part-2: Post-questionnaire

5. How would you rate the ease with which you attempted to annotate content?

6. How did you find the MOSAIOCA tools easy in use and would you suggest any adaptation from your cultural perspective?

2.2.4Response Analysis

Now we will present an analysis of the participants' response that we collected based on the above mentioned questions.

Pre1: Purpose of Annotation and Browsing

We received a clear impression that all of them mentioned the approach adopted in MOSAICA was very straight forward and such approach was highly appreciated particularly for tagging with concepts/meanings and enabling search and browse by the created descriptions. From the logical point of view it is beneficial to apply annotation to an image (or media)/ artifact and such approach are quite well-known and widely used in Wikipedia and other applications.

Post 1: Ease of using tools

We received a mixed response the on the issue of easy understanding of how to use semantic annotator and utilize the browser. The participants were focused on finding out whether they could work with tools and could get the best out of it as a user. Most of them replied that they needed some help/guide to follow each step in using the tools. The tools or the system need to incorporate some guideline to follow the process e.g. adding previous/next button and error notification/help options for user.

Pre 2: MOSAICA vision

From the commentary it would appear that the MOSAICA concept was highly appreciated for its attempt to:

a. Adding appropriate awareness for different cultural contexts
b. Sharing thoughts and perspectives by linking annotations with the object
c. The route that MOSAICA tools propose to follow potential to make it personalized to different cultures and faiths

Post 2: Assessment of tools

From the commentary it would appear that there some aspects of using the tools that they considered favorable and their hands on experience led them to identify problems

Favourable Aspects

a. They found the method proposed by MOSAICA to annotate (tag) objects with to be relatively intuitive.
b. They agreed that it is possible to add resources to MOSAICA repository from other cultural context.
c. They considered such a method of tagging to enable efficient search & retrieval of the resources.

Problems

a. No trace back mechanism
b. Pre-defined non-editable predicates can mean that the concepts to choose are fixed; therefore, specific concepts are required to annotate their objects accurately.

Again mixed comments from different participants on the function of tagging e.g. the semantic annotator allowed creating sentence such as "X presents Y". But, few of them were interested in creating "Y is presented in X" given the actual objects they tried to annotate. In essence, they requested some sort of flexibility in choosing predicates. The need for "incorporating different perceptions" of the same object was clearly mentioned.

2.2 INVESTIGATION-2

Tools Evaluation

Young People from Interfaith Communities

2.2.1 Introduction

We conducted a multi-cultural evaluation session with young participants from different ethnic and religious background. They formed and interfaith group who were representatives from different faith groups. This investigation was essentially a focus group discussion that was interlaced with presentations and demonstrations carried out in one session. The aim of the investigation was to evaluate the MOSAICA methodologies & tools by a younger age group of multi-cultural origins. In this report we will present anonymous profile of participants, detail of the activities involved, and a summary of the responses.

2.2.2. Specifics of the investigation: Participants, Activities, Responses

Participants

Our intention was to evaluate the MOSAICA methodology & tools by young people prompted us to invite representative from local youth interfaith community. A total of 9 participants provided their response in this evaluation session. The average age of the participants was below 25. Different ethnicity of the participants includes Panjabi, Telegu, Indian and Bangladeshi. They were of various faiths; a mixture of Muslims, Sikhs, Buddhists and Hindus.

Activities

We employed an inter-faith coordinator to carry out this evaluation. He in conjunction with us at the proposed group prepared materials for the evaluation. He led the evaluation during a one-day workshop. Then he helped us in analyzing the participants' responses.

The workshop started with a presentation of goals, vision and overview of MOSAICA methodology and the MOSAICA intro movie. Then we conducted a demonstration of MOSAICA system: Investigation, Explore (Search & Browsing Tool), Add new resource (Annotation Tool). After the demonstration, a brief overview of the session's objective was presented. We explained the participants on how we would like them to provide their responses. Then we proceeded with collection of participant responses using a questionnaire (section 2.3).

Questionnaire

The questionnaire we used for the session was based on two themes. First one was digitizing resources and the second one was MOSAICA's adaptability for other cultures/faiths. Among the following ten questions the first five belong to category 1 (questions 1-5) and the rest belongs to category 2 (questions 6-10). The questions were:

1. Could you please describe briefly an object/artefact/incident/even/notion/practice that reflects something of your cultural/ background (racial belonging)/faith background that best represents your interest/thought?

2. Do you think that the MOSAICA Tools may be appropriate to describe/share the pieces from your background? Please provide reasons for yes/no.

3. Is there any new feature you would like to see in MOSAICA?

4. Please provide your thought on how MOSAICA may provide an effective approach for creating tolerance/positive awareness among people and communities' adherent to different culture/faith?

5. Do you see any connection between MOSAICA activities and activities of people in your community think important?

2.2.3Response Analysis

Now we will present an analysis of the participants' response that we collected based on the above mentioned questions. The analysis broadly followed a thematic framework analysis [Fred] in which the themes were *a-prior* obtained from the questions and from a first reading of the questionnaires.

1. Description of digital objects/artefacts representing cultural/faith background

The participants provided descriptions of artefacts that describe their cultural/religious

background, specifically the artefacts those may be available in at least one of the digital formats (text, image, audio and video). Hindu community has many more number of festivals. With MOSAICA, more activities of Hindu community can be made available for public sharing through web including videos, images etc. Participants from Muslim background described their cultural and faith related artefact separately from each other. Their description of cultural artefacts were exclusive were quite different than that of any religious adherence. In the context of faith they preferred to mention practices, festival or occasion rather than tangible artefacts.

Description of religious/cultural artefacts provided by the participants fall in the following broad categories

Pilgrimage/Location: Participants with Hindu background described "Aydhya" which is an ancient city of India in the Faizabad district of Uttar Pradesh. Ayodhya is described as the birth place of Hindu god Shri Ram. This Hindu holy city is described as early as in the Hindu Epics. Both textual and image representation of holy location using map were suggested when considered for digitization. Muslim participants did refer to the annual Hajj pilgrimage which is observed in the holy city of Mecca, Saudi Arabia. Textual, image and video footage were suggested as available as digital objects.

Practice: Some of the participants coming from Hindu and Sikh origin mentioned about holy songs that they sing in the morning when they wake up may bring good to their day. Audio formats are available for sharing these artefacts. Muslim participants did refer to five daily prayers as mandatory part of their practice. They suggested both audio/video format for digitization.

Festival: **Diwali** (or **Deepavali**) is a major Hindu holiday, and a significant festival in Hinduism, Sikhism, Buddhism, and Jainism. Adherents of these faiths celebrate Diwali as the "Festival of Lights." They light diyas—cotton-like string wicks inserted in small clay pots filled with coconut oil—to signify victory of good over the evil within an individual. A row of lamps, part of the Diwali observance which is available in image format, besides text, audio and video are also possible.

Icon: Images of Hindu god Lord Krishna and the founder of Buddhism Buddha may obtained in image/video format.

Scriptures: Example of scriptures available in text and image format were recommended by several participants. Examples include -

The ***Mahabharata*** [http://en.wikipedia.org/wiki/Mahabharata] is one of the two major Sanskrit epics of ancient India, the other being the *Ramaya?a*. The epic is part of the Hindu *history* and forms an important part of Hindu mythology. It is of immense importance to the culture in the Indian subcontinent, and is a major text of Hinduism.

The book written by 'Revatadhamma Rewata Dhamma', includes a history of the Buddha's life, background on Buddhism, and aontemporary translation of and commentary on the Four Noble Truths that explain how to become free from suffering and gain insight into the truth of enlightenment and first discourse of Buddha.

Muslim participants mentioned Quran in electronic format (pdf) in this category.

Object: Image of the flower "Lotus" is the national symbol for Indians. Similarly, Sikh culture the turban refers to the garment worn by both men and women to cover their heads. It is a headdress consisting of a long scarf-like single piece of cloth wound round the head. Traditionally in India, the turban was only worn by men of high status in society; men of low status or of lower castes were not allowed or could not afford to wear a turban. **Turban** is and has been an inseparable part of a Sikh's life. Since about 1500 and the time of Guru Nanak the founder of Sikhism, Sikhs have been wearing the **turban as very remarkable part that distinguishes them from other people in general**. Digital formats are available in text, image and video.

2. Appropriateness of MOSAICA tools for different cultures/faiths

MOSAICA tools can provide easy way for those who are eager to share their own culture and practices with others throughout the world.

MOSAICA tools are very appropriate to describe/share pieces from my culture since it does narrow the search for finding information about different cultures any time from anywhere.

Digitized artefacts may be shared and viewed … thus people become aware of my religion/faith/cultures and practices.

MOSAICA enables searching of specifics of culture/ religion that is unique from other available engines.

Making culture available over the net MOSIACA enables citizens to know much more about others.

3. Provisioning new features in MOSAICA

Participant suggestion includes the provisioning of creating different concepts for culture and religion. The reason for enabling a separation between culture and religion specific concepts will provide the user of the system and tools with easy understanding of the navigation as well was browsing through the knowledgebase.
Registration & sending news letter to users on monthly or weekly basis depending on the community selected by individual. Create categorization of information depending on ethnicity of the user.
It may be possible to have a desktop version of the tools. On the guided usage MOSAICA can create inspiring & positive stories with images and videos that shows examples of modesty, humanity etc.

4. Promoting Tolerance/positive awareness:

It is common to have some sort of resemblance one culture with the other at some point in history. If the idea behind MOSAICA initiative is to connect this resemblance through creating links of information among different cultures and their origins that may help in understanding people of different cultures/faith. Such understanding will definitely be fruitful for creating positive awareness and thus it will promote tolerance.
Participants coming from the Muslim background stressed on the fact that the fundamental point of having such tools empowering easy sharing and access of cultural/religious facts and figures is to maintain peaceful co-operation in society that makes people aware and tolerant about others. Due to lack of awareness of Muslim faith and religious background world is getting wrong impression about the Muslim community in general. MOSAICA as an effort to create such positive awareness among people must be applauded.

5. Creating connections among different communities:

Whether MOSAICA may develop connections among people of different ethnic/racial groups has gained a mixed response from the participants. The positive awareness by getting to know other people may work as a factor to connect people of multi-origin but that is not all. The participants thought MOSAICA activities are positively similar with activities that religious and/or cultural communities promote all over the world.
MOSAICA connects people providing means to share cultural artefacts where people can easily get to know each other.
Participants could see a very good prospect of modelling concepts from Hinduism as has been done in MOSAICA for Jewish. Hinduism teaches all about living. People due to ignorance keep ill feelings about Sikhism. As MOSAICA provides an advanced way of communicating thoughts to other people, the tools like the semantic annotator, search & browsing tools and Virtual expedition maker would be very much effective in creating connections with Sikh community.

2.2.4 Recommendations

Based on the above findings here are few recommendations that we may conclude:

Modelling Cultural Heritage Ontology
For some people culture, faith and nation may be quite exclusive from each other; whereas some may find it quite overlapping. For some people nationality may be a deciding factor about their cultural connections, sometimes people of different nationality may share any particular culture or they may choose a subset of that culture for themselves. In the context of religion a single religious teaching may be practiced by people of different nationality adhering to different cultures using different style. Fundamentally, teachings of every religion are not much different from others at its origin.
For MOSAICA to act as a facilitation platform for sharing knowledge, it can allow modelling cultural, faith or nationality concepts separately where MOSAICA generic conceptual model needs to evolve over time.

Appropriateness of MOSAICA Tools

Besides, looking at the tools developed by MOSAICA, it is evident that tools for publishing & searching cultural/faith resources will create a positive impact on the users. It would be more helpful if the tools would incorporate functionalities to enable them to enhance their knowledge and understanding of facts and figures of other culture/faith and hence could compare resources from different perspectives.

For example:

A painting depicting "Jesus Christ" may be annotated differently by users coming from different faith background.

"Jesus Christ" is only a Prophet from God for the Israelites; he was the Messiah as prophesized by Prophet Moses. (Muslim perspective)

"Jesus Christ" is son of God. (Christian perspective)

"Jesus Christ" is not the Messiah as prophesized by Prophet Moses. (Judaic perspective)

2.3 INVESTIGATION 3

Senior Expert Group Evaluation

2.3.1. Introduction

Participants from a number of experienced cultural practitioners were asked to attend a presentation showcasing the project and to share thoughts and suggestions in the form of a report. This report will therefore seek to draw upon personal and professional experience in order to make constructive suggestions regarding the future applications for and content of MOSAICA. Specifically this report describes participants' reactions to and thoughts about the MOSAICA technologies introduced at the evaluation workshop, both the system as a whole, how it can be used to enhance cultural awareness, my views on the demonstration, and its use in promoting diversity. Participants have approached this tasks from two perspectives throughout, firstly as a contributor and secondly as a user of the portal.

2.3.2. Preparation & Planning

Few days before the evaluation workshop, we sent MOSAICA brochure, poster and a brief overview of the project to the participants requesting them to have a read of the materials before arriving. On the day we will run the workshop in three or four sessions. The duration of the day was from 9.30am up to 5pm with lunch and coffee-breaks.

Each session was designed with a short presentation on some aspect of the project. Those did include the following:

- Overview of the project,
- Introduce participants to some concepts and functionality of the system
- A movie demonstration of the system working
- Use of ICT Systems to promote diversity, equality, tolerance etc

Each of these sessions was followed by a lengthy & robust discussion for the participants to express their views and share them with the group; those were guided by a facilitator. Participants were given the opportunity to make notes in those sessions as appropriate, so that those notes can form a part of the report that they were required to submit.

The reports that they wrote were a vital part of the evidence of the evaluation. They were given comprehensive guidance as to the sort of issues/questions that we wished from them to include in the report.

Session one: System Overview

The theme of this session was:

"Overall assessment of the MOSAICA concept/vision for other heritages, cultures or faiths"

Session Two: Concepts & Individual Narratives

The theme of this session was: "To what extent does MOSAICA support the description of artefact/incident/event that reflects something about different culture or ethnicity or faith"

Session Three: Tools & System Requirements

The theme of this session was: "Requirements & functionality for systems such as MOSAICA"

Session Four: Systems to promote diversity, equality tolerance

The theme of this session was: "Roles promoting tolerance & plurality versus editorial control".

2.3.3. Participants

BW: BW was born in Manchester. She attended a school where more than a quarter of the pupils were drawn from the Jewish communities in the city. As a practising Christian she has been actively involved in the Inclusive Church movement, and has been a member of Parochial Church Council. She has been chief executive of several NHS organizations. As chief executive she led the national programme of work to develop a multi-faith approach to hospital chaplaincy.

SG: Being an activist in anti racist human rights field for over 30 years, SG is the Director of a leading national and independent ant-racist casework, advocacy and developmental agency in the UK. Established in the early 1980's, It currently receives over 6000 calls annually on its emergency Helpline from people suffering racial violence, religious hatred, sexual violence and police misconduct. It has developed many innovative projects servicing the Chinese community suffering harassment and caters for victims living in non-urban environment and the *Civil Rights Project* in Yorkshire for people suffering Anti-Muslim racism, religious intolerance and extremism. SG is a recognised advisor/trainer on humanism, multi-culturalism, diversity, combating racial violence and hate crimes, promotion of human rights for public bodies, statutory agencies and independent NGO's in the UK, Western and Eastern Europe. He advocates Secularism.

SA: SA has over 20 years of experience of working in both statutory and voluntary sectors at local, regional and national levels in the North and South of England achieving a track record of formulating and implementing policies/strategies which have ensured performance through inclusion. As a result she has gained a national reputation for being an experienced professional with excellent leadership skills in the field of health, diversity and inclusion. Recently she was appointed as the Associate Director for Equality and Diversity in the NHS North West. Throughout her career she believes that her strengths are in policy envisioning and strategy formulation for organisational development and change management through negotiating and influencing key stakeholders to successfully deliver. The hallmark of this approach of "Strategy to Delivery Cycle" has been successfully applied in various areas. She is a Muslim.

TB: TB is currently a Partner of Performance Through Inclusion Ltd, a company that helps organisations in both the public and private sector to develop inclusive practices that afford all individuals the same opportunity to succeed. They specialise in Cultural transformation and measurement through the unique and ground breaking diagnostic tools ***InclusionIndex***™ and ***InclusionAudit*** ™. Tony has worked with some of the worlds largest organizations across Europe and Africa, developing measurable solutions to diversity issues that positively impact the performance of the organisation. Prior to starting PTI TB was Diversity Manager Europe for Ford Motor company where amongst other achievements he wrote the European Diversity strategy. Prior to joining Ford he spent a number of years with Guinness brewing, latterly as Head of People Development for Great Britain. The clients he has worked with include Department of Health, NHS Leadership center, Department for work and pensions, Home Office, Royal Mail, Pearson publications, Ford Motor Company and Debeers mining corporation, Dieageo, Old Mutual, HBOS and Scottish Health Executive.

VK: VK is an independent researcher and evaluator with extensive experience of working with diverse communities and a wide range of public and third sector organizations. Her interests include service user involvement and participation, self-evaluation, equality and diversity. VK has worked with the National Children's Bureau (NCB) evaluating several Sure Start programmes, and evaluating DSCF funded initiatives to develop parental involvement in children's education. VK is currently working with NCB to develop their self-evaluation processes. Previously, VK worked with Charities Evaluation Services (CES) delivering self-evaluation training courses to a wide range of third sector organizations including BBC Children in Need grant recipients. At CES VK developed CES' 'Evaluating Diversity' training course. In partnership with the National Association of Councils for Voluntary Service (NACVS), VK wrote a self-evaluation toolkit titled 'Measuring Effectiveness.' This 3 year project involved working closely with 150 local Councils for Voluntary Service (CVS) and was used by CES as a model for their subsequent national evaluation capacity-building programmes. VK has worked with Sigma Research at Portsmouth University and with RETAS (a refugee training organization) to train African refugees as peer evaluators to work on national and local research projects. She is a Hindu.

BM: BM was trained as an RE teacher in the late 70's. Currently she is working as the Head of the Welcome Centre, an induction centre for newly arrived European, Roma and asylum children. She has 30years of work experience as a teacher, advisory teacher, Head of Dept for PSHE, senior youth worker, and equalities and diversity trainer. She has managed and developed a wide range of projects eg. Black and Asian Advice, information and counseling project, and the work life balance. She was the Head of South Yorkshire Industrial training unit in the 80's and worked with a range of people from directors to front line staff. She regularly works with groups of young people from diverse backgrounds looking at controversial issues such as race, being British, diversity and equality and community cohesion. She has developed and ran many equalities courses including co writing the intercultural communications training for volunteers working at the world student games held in Sheffield. She came from a Sikh- Indian origin.

JT: JT was born in Singapore and ethnic Chinese. He comes from a Buddhist/Taoist background with family roots in Fujian province and Hainan Island in China. JT did his primary education in North London and went back to Singapore in 1982 for his secondary and college education. He returned in 1995 to read law at Hull University. He completed an MA in Social Justice at the Institute of Education (London) in 2000 before working and undertaking a training contract at BP Collins Solicitors. Following research he conducted in his MA on how second generation Chinese in Britain experience race and identity, Jack co-founded the Chinese community magazine website http://Dimsum.co.uk with over 3,000 subscribers. As the managing editor of the website, Jack created a forum for debate and analysis about multiculturalism in the UK. He has written articles about racism against the Chinese community, organized campaigns to highlight the operation of institutional racism in the media, and

been interviewed for BBC 5 Live, Newsnight, the World Service, South China Morning Post, and UK national newspapers.

2.3.4. Activities

Introductions (10 mins)
Overview of Project and Open Discussion (45 mins)
Concepts & System Functionality and Individual narratives (1:25 hrs)
Reflecting and Note taking (1.30 hrs)
Tools Animation Demo and Open Discussion (45 mins)
Discussion: Using systems to promote diversity, equality, tolerance (45 mins)
Reflecting and Note taking (1.25 hrs)
Q/A session and Discussion on the day the report (1 hr)

In session two, each of the participants were invited to individually share for about 5 mins a narrative/a story that relates to his/her identity in terms of culture, heritage, ethnicity or faith or piece of work that they have done in the area.

2.3.5. Response Analysis

a. Overall assessment of the MOSAICA concept/vision for other heritages, cultures or faiths

Concept

The overall concept of MOSIACA vision was well received. Some sample comments are as follows -

MOSAICA Concept is good because of its potential in enabling people, communities and populations sharing experiences and knowledge about their heritage may lead to developing a more tolerant society. Differences that MOSAICA may need to look at are:-

- Mixed heritage (cultural and religious)
- Countries/continents of identity e.g. African, asian etc… people
- Gender differences in experiencing different cultures/faiths
- Sexuality and different cultures/faiths

The vision should include bringing out peoples identities and similarities across cultures/faiths e.g. How we relate to light (candles used in many faiths), rituals in celebrating key milestones in our lives births, deaths, marriages reaching a certain age (Bar mitzvah, conformation ,turban ceremony for Sikh males etc…)

MOSAICA was understood to be a portal for multicultural information and sharing. Through the exchange of information, MOSAICA would create understanding and thereby encourage social harmony. This is an admirable idea. However I do not believe that tolerance or respect for other cultures comes about simply through the dissemination of information. For respect to happen, people must see each other as fully-dynamic three-dimensional human beings. This is the real challenge for MOSAICA.

It would be useful to have one portal from which to access the MOSAIC resources. However, the structure and format needs to be flexible enough to adapt to the idiosyncrasies of each culture.

By identifying the significant characteristics of each culture you wish to cater for, you will identify the features needed for MOSAICA. I do not forsee a situation where MOSAICA can ever stop developing. Cultures are live things. They change all the time. Every interaction, event, tragedy, celebration reinforces but also changes a culture. In order for MOSAICA to stay relevant, it must keep up with the changes in cultures.

The MOSAICA vision is admirable and quite rightly needs to be ambitious. What I feel is lacking is a coherent framework of thinking that supports the vision and outlines pathways by which MOSAICA will progress towards achieving the vision.

The MOSAICA project represents an exciting opportunity to develop a system for capturing cultural knowledge that can be utilised to educate and spread cultural awareness. Although the initial application was developed to capture knowledge of the Jewish culture, future applications could conceivably capture and share information on any culture, providing a real time source of invaluable cultural knowledge.

The concept of developing a tool to share cultural knowledge is without doubt an excellent idea. In times of heightened unrest across many parts of Europe and the world, knowledge sharing as a means of eradicating fear and prejudice is increasingly important. However I believe the idea of a

portal to share cultural knowledge cannot really be further developed unless the project sponsors agree upon a definition of culture.
The system needs to appeal both to adults and young people, it may need to consider having two strands to the system, one which is for young people and one for adults, although both would have similar features to gather information and knowledge, to interact with others at a discussion basis, to input and edit information and to create personal profiles.

Culture/Faith Separation

Conceptually, it is important to distinguish between religion and culture. A lot of the discussion this morning confused these two concepts. Culture is what human beings do collectively and habitually. Religion is just one artefact in culture. There are cultures of transportation, dress, environment, manners, war, trade, play, and much more. So for MOSAICA's approach and structure to be based on and the template of Jewish religious culture is to misconstrue full meaning of culture and to underestimate its breadth.
The word culture has many different meanings but a key point for the development of MOSAICA is to really define what it means by culture and to depict culture according to those definitions. Yes culture is pluralistic but it can be made much simpler if viewed on the basis of the three headings identified above. Where it becomes far more complex is when religion is viewed as 'culture'. A definition of a religion as a culture may be broadly applicable to the Jewish faith but far less applicable to other faiths. How many forms of Christianity exist for example? To try and define a Christian culture would be almost impossible, as it would be for many other religions. That is not to say that religion does not play a significant role within cultures because it clearly does and in many countries religious beliefs form the basis of societal beliefs. However all nation states have cultural beliefs, traditions and customs that exist separately from religion. Pakistan and Turkey are both Muslim countries but each have very different cultures. To define them simply as muslim cultures would not do justice to their cultural differences or to the celebration of their cultures. Therefore when looking at the application of MOSAICA I cannot get away from the fact that to be described and utilised as a tool for sharing 'cultural knowledge' religions must be described and classified separately from the primary culture of for example a nation state. The final point on why religion must be depicted differently from culture for me is the fact that religious beliefs are less subject to change. As primary cultures change over time, partly due to the influence of sub cultures, religious beliefs are pretty constant. Therefore if religions defined the primary cultures of nation states many of the cultural changes we have seen for example in countries like Ireland would simply not have been possible. My suggestion would be to include religions as sub cultures under the primary cultures of nation states.
In order to develop a greater understanding of and between different cultures, heritages and faiths, it will be important to agree on a number of critical themes. These include:

- Co-relations and conflicts between the notion of multi-culturalism, tolerance and religious identities and concepts. For most people religious identity is only a dimension of a mulit-layered matrix of life; some regard religion as a personal issue that should not interfere with the governance; Again religion is based purely on faith and does not rely on a rational understanding of people's relationship with each other, the practice of multi-culturalism relies heavily on rational understanding and respect of other cultures.
- Differences between different and same religions in relations to interpretations on issues such as personal moral codes, origins of religions and relationship with a "Creater". The existence of sub-human castes is contrary to the most basic form of tolerance. Ironically some muti-culturalists in the UK have defended the caste system because it may offer solidarity in a hostile racist environment. Again it would be difficult to portray harmony between monotheism, polytheism and atheism.
- The politicization of religions has meant that religion is no longer restrained in the personal or moral domain. Instead it led to:
    - creation of nation states based on religious exclusivity – examples of Israel, Pakisatan, Iran and Afaginisatan.
    - Subjection of other religions, peoples and heritages– the holocaust, slavery and colonization.
    - Use of religion as a basis of gaining political power – examples include the use of terror and suicide bombings by different religions and the basis of justifying oppression of women, social groups and minorities.

Plural vs. Single

As such, MOSAICA needs to consider many models of culture. The Judeo-Christian one is conceivably patriarchal and hierarchical. A Buddhist/Confucious one might not consider the self-determination of an individual's identity to be an important premise. Therefore any system that required people to give and defend personal opinion might fail. A pagan system might be pluralist and resist control. An LGBT approach may reject the whole project of culture because certain aspects of LGBT experience are counter-cultural.

I am very interested in a portal focusing on cultural heritages and am very aware of how useful such a portal could be to students and learners. I think the concept of beginning with one heritage and moving outwards is positive, so long as the structure of that heritage is not limiting for other cultures as we cannot always view the world through those lenses.

The site raises the issue of the separation of culture and religion, and what the taxonomy for cultures will be- do we begin at the individual level and work outwards or with society, through the culture to the individual?

In order to be of greatest value to contributors the portal needs its structure to be responsive to the way people see the world. Thus its basic organisation must reflect the taxonomy that people regularly apply. In cultural analysis interest lies in groups' approaches to abstract concepts such as light, sound, colour etc, as well as more concrete concepts such as life's timelines, relationships to the earth, sun, moon, etc: concepts of creation, and approaches to gender and sexuality

The Portal giving multi faith/cultural perspective would clearly have to be Plural. It is difficult to envisage a single portal being able to incorporate the complexity of different and multi-faceted identities.

I think a platform for multi-cultural/ multi-faith perspectives is vital if MOSAICA's aims include notions of facilitating knowledge exchange, increasing awareness and promoting positive cross-cultural dialogue and debate.

I would say that it requires a open discussion board facility with an archive search capability on postings. However, to fully address this question, MOSAICA needs to clearly define its primary intended user groups and other potential users. Without understanding its user groups and their needs, MOSAICA cannot be confident that its functions will meet user needs.

b. Concepts and individual narratives: "To what extent does MOSAICA support the description of artifact/incident/event that reflects something about different culture or ethnicity or faith"

- Having been born in Pakistan and growing up in England from a very young age, my identity is very complex made up of my many facets e.g. origins(birthplace), the languages I speak(English and Punjabi) my religion .My experiences of feeling and being different (western and Asian) in England feeling very Asian and in Pakistan feeling very western. Also being a woman adds to the complexity and the two cultures adding very different perspectives on whom I am. Recently I have found a sense of belonging in Western Turkey both in Istanbul and Dalyan (small village/town SW coast). What I like most is that I can be a western, Asian and moderate Muslim women in Turkey all at the same time. The familiarity of hearing the Azaan (calling of prayer) and seeing Islamic Architecture and art and at the same time the environment being more cosmopolitan feel very comforting to the soul even though I did not grow up in England with any of this. Therefore:
    - Identity can be complex….e.g. place of birth, parent's original heritage, and colour of skin, culture one is brought up in rather than one born in…..
    - Where one feels a sense of belonging…place, building/environment etc…..
    - Architecture, art, music, politics

  Its potential to allow one to develop a Virtual expedition made up of photos, stories, music which would convey my perspectives. However due to the limited demonstration and not being able to play around with the system on the day etc… I am not sure that the complexity can be conveyed in an effective manner.
- The artefact that connects me to my ancestry and culture is my name. My name ties me to cultural etiquette or ritual and geography. My name is Boon Ming Lee. In the UK, I am known as Boon. At home, I am not 'Boon' but Ming because Ming is my own personal name. Boon on the other hand, is my generational name that I share with all my cousins. When a child is born in our family, we must go to our clan house and get the generational name. This is

prescribed in the clan's book of names. My father's generational name is Swee. So at mass family gatherings, I may meet a 3 year old boy who is called Swee Keng and I know he is my uncle, while a 73 year old man called Boon Chye is my cousin. My name also links me to my relatives and cousins in China, and I would recognize them as such through the generational names. MOSAICA can support my narrative if it could allow me to document and map the genealogies in my family. It would be useful to have the functionality to create a family tree with photos, text notes and audio or video files. It would also be good to be able to map out the extent, location and migration patterns of my family/clan since 1700s on interactive maps. Other people could also map out family locations and migration patterns, and document genealogies. Then as the data grows, it would be easy to see how the different trees, migration patterns interact and connect. Stories could be recorded, and through the connections made, new stories could emerge.

- My strongest response to this system is the intergenerational nature of what it offers, and its uses as a tool to aid better understanding between young and old in all societies. In rebuilding local communities such a tool could be both informed by and used in exploring how life was led in the past, for example in mining villages- their customs and ways of life could be shared with younger people then together entered onto the portal through co-creation and authorship by young and old. In exchanging narratives each one in the group emphasised our place through our families, in the world, and raised for me questions as to how those people removed from their families, such as looked after children in the UK, or war orphans in Liberia, find out about and engage with their cultural heritage. The internet has a number of such sites for individual groups- Japanese, Canadian etc, and it seems that the inclusion of these sites as a resource, so that this portal would be the first port of call for such enquiries, would vastly enhance its usage. The artefact I shared with the group was a christening brooch, previously belonging to my grandmother and in safekeeping for my first grandchild. Within England christenings now are a mainly social welcoming into the world event which many non-religious families organise. Local churches are usually happy to offer this opening to the family, in the hope that it might lead to Sunday school attendance from the child and participation in the church community from the families. As an artefact for inclusion on this site I could provide a photo, or a description of the event, so that students could explore by each different culture what gifts are given to the newborn to welcome them, and how their families involve the wider community in that welcome.

  Participants can see many uses for the site from an educational/ learning point of view and in particular they see its application as a cross generational tool for community development, and to help children separated from their family heritage.

- My personal narrative concerns the Hindu faith. My mother is a devout Hindu. I grew up questioning her absolute faith and rebelling against her attempts to involve me in her faith and practices. She found my questioning exacerbating and challenging and was not 'learned' enough in Hinduism to provide me with answers. In my late teens, my mother gave me a pendant with images of the Hindu gods Shiva, Parvati and Ganesh. The pendant is the same as the one she wears and several women in my extended family wear. I simply kept it in a box. Many years later in my thirties my father had a stroke and it was a time of great uncertainty and emotional stress. My mother prayed constantly. I recall carrying around the pendant to give me strength, hope and reassurance, and at the same time feeling guilty that I was relying on the faith that I had spent so many years rejecting. In my late thirties I was pregnant with my first child and was very anxious about the birth and the pendant again became a temporary but prominent symbol of reassurance. Being in a mixed race marriage and having two dual heritage sons, I have been forced to re-examine my own cultural/religious identity and think about what it is I want to pass on to my own children. I am not a devout Hindu and don't actively practice my inherited faith/religion. However, I have valued having a faith to fall back on in times of uncertainty and stress and that is what I am passing on to my sons. What I have been more interested in passing on to my sons are the stories/fables/legends of the Hindu gods. For me these stories are perfect for my sons, they are magical, fantastic, dramatic and the gods have amazing 'super- hero' powers. These

stories I think may provide a good basis for my sons to be able to engage with Hinduism in later life if they so wish to. Personally, I rarely participate in organized religion and do not feel comfortable participating in Hindu temples. At the evaluation workshop, we all shared a personal narrative relating to our cultural/ religious heritage and identity. For me, what was striking about that session is that most of us have experienced a struggle with our individual cultural/religious identities. I am thankful for the opportunity to have been part of this powerful and interesting and session and personally I have a need to explore this issue of identity further. I would like to see MOSAICA meet this need by providing a platform for individuals to be able share their own personal struggles with their religious/cultural identity.

- I was religious when I was very young and often prayed together with my mother. As a young person growing in a hostile environment of "paki-bashing" I was beaten and injured by the use of a weapon by racist skinheads. It was a frightening experience – as victims we were outnumbered, isolated and unsupported and often blamed for being victims. I and my fellow Asian students suffered not one but many assaults and abuse but no one was ever held to account for the violence they inflicted on us. In the end it was our own effort that stopped the assaults. We had to overcome our own fear that often paralysed us from taking action. For me it also meant examining my own identity and outlook on life.
  Individual narratives if properly told are powerful tools for explaining events and bringing change. As the Director of The Monitoring Group, we empower bereaved individuals, sometimes devastated by the experience of murder of a loved one, and communities, sometimes gravely affected by prejudice and discrimination; some of our campaigns have changed mainstream mindsets – leading to shaping new legislation and policy.

c. Requirements & functionality for systems such as MOSAICA

Accessibility and appropriateness, it is crucial that young people are able to access such a medium so that they can be educated and learn about different perspectives. However such a system needs to protect them from accidently coming across inappropriate materials, images etc… Therefore grading the material would be useful e.g. using colour. Using games or quizzes to increase knowledge- particularly aimed at children that uses stories from different cultures and faiths. Accessibility for disabled people (Visual and audio), different languages- audio and visual tools which would allow e.g. Virtual Tours of exhibitions with time lines allowing individuals to zoom in on a particular time/event. Pictorial representation of icons & symbols will make the resources more attractive for young age groups.

Here are few sets of suggestions that we received from the participants -

- **Participant 1:** I think, such a system should have the following features -
  1. Tools for searching,
  2. Sharing-Knowledge exchange,
  3. Chat room for on going debate and dialogue
  4. Time relevance-tools that enable one to go straight to info…
  5. Virtual tours
  6. Audio

  MOSAICA has a an interface that is location based being able point to maps and go to places all over the world etc…However using my own narrative it would be good to able also to base it on events, timeline, or a particular places with sound etc… which would allow individuals to capture not just the information but the context and essence of the stories.

- **Participant 2:**
  MOSAICA allows users to upload and tag photos and other internet resources. This is a useful function. However, if I wanted to map, say, Chinese cultural heritage, the following would be useful:
  1. Photo gallery to create themed sets of pictures.
  2. Video/audio uploads facilities.
  3. Time line that you can add text, photos and videos to.

4. Discussion forum and chat facilities.
5. Messaging and social networking facilities.
6. Calendar for recording important historical and festival dates.
7. Blogging or online diaries for recording contemporary cultural history.
8. Intelligent searches.
9. Interactive maps where users can add text, video, pictures, etc., and where journeys can be traced (especially good for nomadic cultures).

- **Participant 3:**
  Commenting has been more difficult as these views are based on a presentation rather than hands on experience.
  As a potential contributor I would need real ease of access to classification as to where my contribution would fit, and were I to need to fit into people, places, things, events, periods and notions, I believe I would resort to using things and notions most of the time. Perhaps notions needs to be redefined as concepts, values and belief systems- those softer aspects which play their part in cultural identity.
  I am positive about the three ways of using the system, explorative, guided and collaborative. However I believe each user system has very different requirements.
  In explorative mode the portal must be simple, fast and clear. I am intrigued by the concept of intelligent search and avoiding the need to sift through irrelevant data; semantic based searching will be more meaningful than simple keyword searching.
  In guided mode it must be exciting and fun, taking the best of gaming technologies; and in collaborative must be inclusive, professional and straightforward. Tagging would be particularly useful for emerging work, where the work is based on existing objects, documents etc. The concept that through tagging/annotation the system could both understand and act on the tag is exciting. Where the work is more theoretical this portal would need to improve on existing collaborative on-line work systems.
  As a contributor to such a portal who visited regularly and felt part of the portal community I would need ease of access at the beginning of the process, a virtual tour of the system would be good induction, I would need a responsive community, such as a knowledge exchange facility, chat rooms for contributor conversations and on-going debate, recommender systems for other parts of the site to visit, exemplars of good practise. Time relevance would be important, so that searches brought results which were timely. A feature on items added recently would be useful. Design would be of some importance
  As a visitor style would be of great importance, with audio and visual aspects playing a full role. The site would need to keep my interest by techniques such as recommender systems, powerful use of audio and visual stimuli, and an indicator of where you are in the process and positive reinforcement where appropriate.

- **Participant 4:** From MOSAICA, I would be looking for ways to support my cultural/religious interests and would want to able to use it to:
  1. download written and audio stories about Hindu gods/ national figures
  2. download images and activities for children
  3. view close up images of art and architecture in India that I or my children may never see in person
  4. view key Indian texts translated into English
  5. view devotional dance and other performances and access devotional music
  6. search for information on major historical events in the history of Hinduism/ India/ Indians in Britain

7. Identify and communicate with like-minded people, and people with similar experiences

Again I would stress that MOSAICA should have a clear understanding of its primary user groups and their needs in order to judge the suitability of its system tools.
I would like to see a simple but attractively presented front menu depicting the areas of the site/portal I can navigate through easily.
The categories of folders we were shown at the evaluation workshop (people, places, events, things etc) seemed simple enough but again without having a fully functioning prototype to examine it is difficult to assess what modifications would improve this format. It would have been useful to see a functioning prototype of MOSAICA to fully appreciate its concepts and tools. Without this it is difficult to comment on them and to judge what else may be needed.
For me, it is unclear how MOSAICA would support the interests of children and young people. My first impression is that MOSAICA is targeting the professionals (teachers and scholars) rather than the wider 'lay' community. I would like to see a designated children's area which is more visually appealing than the prototype that we were shown at the evaluation workshop.
I would also like to see child-friendly historical information on the struggles of particular peoples/nations in terms of slavery, racism, discrimination, war, displacement and current struggles for equality. This is an area that I believe many parents struggle with in terms of when, how and to what extent they inform their young children about these histories, and if MOSAICA could have child-friendly information this would be a valuable resource.
The guided virtual tours concept and GIS powered map technology that MOSAICA intends to use seem appropriate tools and may particularly interest children and young people.

- **Participant 5:**
The basic ontology of the system as outlined would seem fine to me although it may need to be slightly revised or replicated to accommodate the primary and sub culture classifications I have suggested earlier. One final thought for the education of young people may be an application to 'design your own cultural identity'. This tool would allow young people to click and drag different parts of their primary and sub cultural identities into one place described as 'my identity'. I feel this would be particularly useful as an education tool for second or third generation migrants, mixed race children or even as a means of education for kids who begin to show racist tendencies. This could be done by allowing an exploration of family trees and origins of names associated with a particular family.

- **Participant 6:**
Young people's strand would need to be presented in a way which is interactive and creative. Young people in the world have access to the worldwide web but it is difficult to sift through the information in a way that makes sense and helps to develop understanding. Young people like adults want to make sense of the events in their immediate communities and the world but currently have limited access to information and systems where they can find answers to their questions. For some answers can be found on unsuitable sites which can be detrimental. MOSAICA may be able to develop and create understanding of different cultural heritages in a way that is meaningful to young people. Through this strand young people would be able to access and input information via a number of means e.g. games/activities that young people could participate in to increase individual understanding and knowledge.
The language on this strand would need to be accessible to young people as they may not be able to read and understand jargon and complex words. The graphics need to be of high quality such as the ones on the virtual games. Virtual expeditions would make information user friendly and meaningful especially to young people.
As an individual myself to be actively engaged in the system whether it is to publish or create and enhance cultural resources, I would need a number of tools, for example;
To share an artefact which reflects my faith I would need to upload an image of The Golden Temple, explain what it is and comment on its significance to me, its location within the system, its links to the Sikh faith and within the historical context in Britain in the 1960's. In this case a description of The Golden Temple on its own would not be sufficient. To have a clearer understanding a spider graph would be a better tool as it provides linkages that can be

explored by the user.

The system would need tools for annotating, editing, classifying, uploading videos and images, creating visual and sensory materials, attaching, building and formatting. For it to be interactive it would need a discussion forum for participants and a frequently asked questions window. To be truly participatory, users should be able to access the different areas of the portal at the same time. This may be better done through visual frames rather than a classification list. If a classification list is used then some graphic/ picture that would show what are the contents would be helpful and useful. As there is very little on the system itself it is difficult to imagine what it would be like or to have a clearer understanding of the tools it is providing.

d. Systems to promote diversity, equality, coalition building and tolerance

A system providing opportunities for collaboration through Chat rooms, Knowledge exchange, and networking may have impact on individuals being more tolerance but building coalition in communities requires much more action than educating people from Governments, Institutions, groups and individuals.

I have already mentioned that information alone will not change people's attitudes to each other. Information is a start, but it only changes head-knowledge about 'the other'. A change in heart-knowledge, which is what I think you are referring to when you speak of diversity, equality and tolerance, requires a *fuller experience* of the other, an experience that humanises. In this sense, MOSAICA should create multiple opportunities for people to experience each other.

MOSAICA should not only be about collaborative sharing of knowledge, but should also provide constructive ways for people of different cultures to engage each other. For example, in debate, collaborative writing, translation projects, video conferencing, political or altruistic organizing, creative or artistic collaborations, etc. The idea of *connection* is the key here.

(BW)The portal's explicit values around ignorance being the root cause of racism and xenophobia, the "challenge" of making individuals aware of racism and the need for positive thinking and awareness are laudable, but this portal will need to offer more than good will if it is to take is place in leading thinking and work in this area.

To be truly useful the site needs to allow for a diversity of views, whilst ensuring that all users feel safe with this diversity. It would be useful if there were visual clues around items which are felt to be more controversial, such as differing colored backgrounds- pale for the uncontroversial, gaining more color as views become more polarized. Ratings for articles could be built in, where the user community shows its support or otherwise for the views expressed. I would not wish to see use of the site restricted, but I would want to know that safeguards were in place so that the site was appropriate for children to use.

A membership/signing up process using e-mail addresses would seem appropriate, but I would not wish to see site visitors or contributors paying to use the site. I am not opposed to advertisements on sites as a method of funding.

MOSAICA has a potential role to play in coalition building if it can provide a platform for open dialogue, discussion and debate. It could also provide access to a holding/ catalogue of effective initiatives and projects that have worked in terms of breaking down barriers and promoting cross-cultural/ religious understanding and tolerance between communities. Semantic search, annotation, and tagging would all be useful functions in this respect.

Further consideration should perhaps be given to the core user groups for MOSAICA. I could see relevance for individuals, community groups, educators, organizations, professional trainers etc. The use of semantic annotation will make it more user friendly for different groups but the types of information contained within MOSAICA should perhaps be considered by exploring what would be useful to potential users such as the groups highlighted above. Consideration should also be given to mechanisms for making the portal dynamic. Clearly this would be possible through user interface and semantic annotation but more specific fact based information is subject to constant change and some thought needs to be given to how this may happen. For example, capturing the statistics around the movement of people from Eastern Europe throughout Western Europe over the last five years. Capturing the statistics as well as their impact on primary cultures would. I feel, be important.

In summary Mosaics should offer intelligent and factual information that drives towards additional knowledge, It should creative use of concept levers – such as equality and rights and their unearthing of harmony and cohesion. It should also humanise, as much as possible, the positive impact on

rational thinking that commonalities between different groups that engages them though creative projects.

Currently there is no one system which focuses on different cultural heritages and faiths and answers questions as a one stop shop. Time is wasted looking at hundreds of websites to find relevant information. Therefore it would be useful to have a system which individuals and groups can access to find information and gain an insight into the multifaceted world that we all live in. Whether it would promote cultural pluralism and racial, religious and cultural tolerance is difficult to assess because at the moment there is nothing concrete that can be seen and accessed which would lead to that conclusion. I have no evidence of an activity or narrative on which I can form an opinion to say that yes it would or would not promote cultural tolerance. MOSAICA would fill a gap for a number of professionals and young people who want to expand and explore differences and similarities through a portal which allows for a range of views and perspectives without the fear of intimidation and reprisal. It may want to look at overall concepts which would straddle communities and nationalities such as beliefs, creation, identities, rather than religions, places of worship etc. It would be detrimental to have MOSAICA with a religious focus only as it would become very restrictive and narrow, taking on the basic tenements of the religions rather than the rich diversification of them. Certain organizations and individuals would want to make the content 'pure' if it was based on religions.
For MOSAICA to fulfill its aim of promoting the use of diversified cultural heritage in the education for cultural pluralism and racial, religious and cultural tolerance it would need to make clear that it was open to all and inclusive, that no one cultural community had an overriding say in it, that it would not attempt to impose a doctrine on a culture or religion, that individuals and groups could put forward their opinions and views (within certain boundaries) without being punished for it. Users should agree certain principles such as free speech, without being inflammatory and inciting discrimination and hatred.

e. Editorial Control:

Its important that the system allows Plurality of perspectives as well as self regulation….The community of users grading material and challenging different perspectives is more powerful than having a select group(Editorial Board) deciding what goes on system.

My understanding of MOSAICA is that it aspires to be participatory and user-led, and I think that is both worthwhile and appropriate. I would like to see editorial control largely resting with the user groups – perhaps through the use of teams of volunteer editors taken from the user groups. I'd also like to see MOSAICA encourage plurality of perspectives but it is important to prevent and remove items that are unlawful eg slander, libel, copyright, incitement, defamation etc.
Given the insight I have been given into the MOSAICA portal I would make the following recommendations;

1. Be clear about how the portal defines culture and include the definition within the portal.
2. Use existing theories of culture to identify primary and sub cultures and this essentially means the use of nation states as the primary cultures with religions and ethnic groups represented as sub cultures within those nation states.
3. Censorship needs to be open to the users as long as sub user groups do not emerge to try and manage content based on self interest.

As for editorial control, this should be kept to a minimum. MOSAICA needs to feel open and democratic. Within the parameters of decency, opinions should be expressed freely and then subject to testing and criticism by the MOSAICA community.
There was some concern expressed this afternoon about MOSAICA becoming a free-for-all if it was uncontrolled or unedited. However, I am of the opinion that people who have little knowledge or interest in a topic will select themselves out of the discussion.
Content or 'presentations' could be hot-housed within a debate for a while before consensus is reached. After consensus is gained, the presentation can 'go live' or given official status.
Where there are serious concerns regarding defamation or offensive material, I consider an editorial function necessary. All users should have signed up to terms and conditions before joining the site that contained an undertaking about defamation and offensive material. If the break this agreement, they can be kicked off, or their material removed. Because it is hard to police, users should be allowed to report offensive or defamatory pages to the site moderators who can take a decision to edit or not.

Indeed what is considered culturally offensive should itself be subject to 'hot housing' before going live.

We should be inclusive and genuinely democratic and only censor if the publication may incite hatred or death of an individual. It was agreed that this task would be implemented by an editorial committee drawn form the Mosaic community.