INTERNATIONAL CONFERENCE ON MULTIMEDIA FOR HUMANITIES

Multimedia Rendering of *Dnyaneshwari*

(The first ever Multimedia CD Title in Marathi)

Author - Dinesh S. Katre

Coordinator, Multimedia Creations Team, C-DAC, Pune, India.

Abstract:

'Multimedia for Humanities' is a very eloquent title for this conference and it perfectly matches with our views behind the project of rendering the Dnyaneshwari using multimedia. Multimedia technology is largely used for business promotion, marketing, training and entertainment. Is it possible to identify and create applications of multimedia which will preserve and present our cultural heritage, wisdom of earlier generations? Multimedia rendering of Dnyaneshwari is an effort which explores such a possibility. This project involves diverse challenges such as, Integration of thousands of pages of text, Audio recording of the recitation of entire Dnyaneshwari, Commentary in Marathi, Multimedia Visualization and rendering of metaphors, Dynamic navigation through the contents and a well orchestrated presentation with Indian appearance and style. The Dnyaneshwari is presented entirely in Marathi. In the next phase of this project we will be including the translations in Hindi and English as well. With this, C-DAC has stepped forward in the direction of the Digital Library initiative for Indian Heritage Project.

This paper discusses the challenges faced while implementing this project and the techniques used for organization and integration of the contents.

Brief Introduction to Dnyaneshwari:

Dnyaneshwari is one of the most profound commentaries available on *Bhagvadgita* written in *Prakrit Marathi* (Old form of *Marathi*) by Saint *Dnyaneshwar*. Saint *Dnyaneshwar* wrote it when he was hardly 21 years old. Around 700 years ago, most of the Indian spiritual books were written in *Sanskrit* and therefore they were read and understood by a selected class of people only. The great *Saint* decided to write *Dnyaneshwari* in *Marathi* (Local language used in the state of *Maharashtra*) with the motivation of taking the divine knowledge to the most common people. The great *Saint* has described the spiritual concepts and the philosophy of life with the help of picturesque metaphors and examples. *Dnyaneshwari* has been composed in lyrical form and it is regarded as a master piece of *Marathi* literature.

Motivation:

Even after making so much of progress in science and technology, man has no control over his mind and ego. Man has learnt to make effective use of his brain but his mind is still quite primitive which has caused a lot of destructions and violence several times. The Philosophy of *Saint Dnyaneshwar* highlights on several observations of human mind and methods to control it.

In the last 50 years, the advances in science, technology and the media of communication have influenced and changed the world. It is our moral responsibility to pass on the treasure of knowledge such

as *Dnyaneshwari* to the newer generations and make an attempt to preserve it in it's original form.

The wisdom and spiritual guidance of *Saint Dnyaneshwar* should reach all over the world. People should try to develop the divine qualities narrated by him and imbibe his advice into their lives.

The picturesque, poetic and witty writing of *Saint Dnyaneshwar* has tremendous potential for visualization and scope for using the capabilities of multimedia. *Dnyaneshwari* has been written in a very structured way with several cross references and levels of information. It is as good as a script, tuned for a multimedia application.

Dnyaneshwari is read and worshiped in almost every corner of Maharashtra. The biography and writings of *Saint Dnyaneshwar* are known to almost every person. People are used to quote the verses from *Dnyaneshwari* on various occasions. Therefore, it's very challenging to work on such a well known subject because any mistake or misinterpretation can easily be spotted by anyone in Maharashtra. The Multimedia Creations Team of C-DAC feels blessed to work on *Dnyaneshwari* and at the same time realizes the great responsibility of dealing with such a difficult task. Encouragement, guidance and support from Dr. Vijay P. Bhatkar, former Executive Director, C-DAC has enabled us in bringing this dream to life.

Vision for Multimedia Rendering of Dnyaneshwari:

The multimedia field is strongly dominated by the technologists. As a result, people have constrained multimedia to audio, video, image, animation, text and interaction. It's necessary to extend the capabilities of multimedia in making people understand, experience and realize. Therefore, the following elements have been conceived to be woven in the multimedia rendering of *Dnyaneshwari*.

(*Marathi/Sanskrit* titles have been chosen for describing these elements because they convey much deeper meanings than the English terms. For example:- *'Shravan'* means listening to the speaker with concentration and also trying to understand.)

The Prime Elements of Multimedia:

* *Vaachan:* Easy and comfortable reading

* *Gayan:* Musical recitation of the verses

* *Shravan:* Listening with concentration and trying to understand

* *Darshran:* Visualization and rendering of metaphors

* *Nirupan:* Commentary on *Dnyaneshwari by scholars*

* *Bhavartha:* Appropriate and simplified translation

* *Rachana:* Integration and synchronized presentation of all the above elements

* *Manthan:* Interaction with the information

* *Aakalan:* Realization

* *Parivartan:* A positive change in the lives of people

If the interlacing of the above mentioned elements is done successfully it will then result into the following:

- The experience of multimedia rendering will inspire *Bhakti Rasa* (Trust in the God) and *Shanti Rasa* (Calm/thoughtless state of mind) among the viewers.
- The electronic form of *Dnyaneshwari* will become equally acceptable as the conventional book form.
- The multimedia computer with *Dnyaneshwari* installed on it will become a place of worship and meditation for people.
- People will maintain the same sanctity around the computer setup as in the temples.

Each of the elements are explained in detail below:

Vaachan: Easy and comfortable reading

Most of the fonts are not very legible if viewed on the computer monitor because they are designed for printing purpose. They look good only in print. This project needed *Marathi* fonts for *Dnyaneshwari* and *Sanskrit* fonts for *Bhagvadgita.* So, we decided to design special fonts for *Marathi* and *Sanskrit* scripts for achieving greater clarity and legibility of text on the computer monitor. Each letter is given a slightly spread out form for enhancing the legibility.

In *Sanskrit* script when two alphabet are joined they are drawn one under the other. In the prevailing fonts, the alphabet are joined one after the other for saving the leading space. The shapes of certain characters are also changed and distorted. We tried to restore the original form and style of each and every alphabet.

As the computer screen is a luminous/glowing medium, it is difficult to read the text for long time. In order to reduce the strain on the eyes of the readers we explored an ergonomically correct color scheme. We decided to display the *Dnyaneshwari* text in bright colors with black background and the translation text in black color with bright background. Now, hundreds of people are able to comfortably read *Dnyaneshwari* after projecting it on large screen.

Screen layouts for *Dnyaneshwari* and *Bhagavadgita* text

Gayan: Musical recitation of the verses

We have done the digital recording of singing of *Dnyaneshwari* and *Bhagavadgita.* The recording went on for almost five months. Maximum care has been taken for avoiding mistakes in pronunciation. Even for minor mistakes the recording was redone. Musical instruments like Tanpura, Violin and Swaramandal are used in the background for setting the ambience for singing.

The digital audio is edited and integrated along with the *Dnyaneshwari* text. As one turns the page the singing begins from that point onward. One can jump to any verse and get the correct pronunciation of it. One is able to listen to the audio, page by page in manual mode or continuous audio in automatic mode.

In the automatic mode the software turns the pages as the audio proceeds.

Shravan: Listening with concentration

It is very pleasing to listen to the signing of *Dnyaneshwari*. We have taken maximum care to avoid mispronunciation of verses. People can use it for learning the recitation. As Dnyaneshwari is written in *Prakrit Marathi* and *Bhagavadgita* in *Sanskrit*, most common people have difficulty in reading and pronunciation. If one reads while listening to the musical recitation, reading becomes much easier.

Darshan: Visualization and rendering of metaphors

The metaphors used by Dnyaneshwar have remained understandable to most common people. Some people decipher the metaphor but do not get the exact interpretation.

We have taken very sincere efforts in visualizing and rendering the metaphors and also tried to give the most appropriate interpretation. Sri Kisan Maharaj Sakhare has been guiding us in understanding the metaphors described in *Dnyaneshwari.* We first tried to understand the meaning of each metaphor and then visualized it. We had to ensure the correctness of the visual representation at every step.
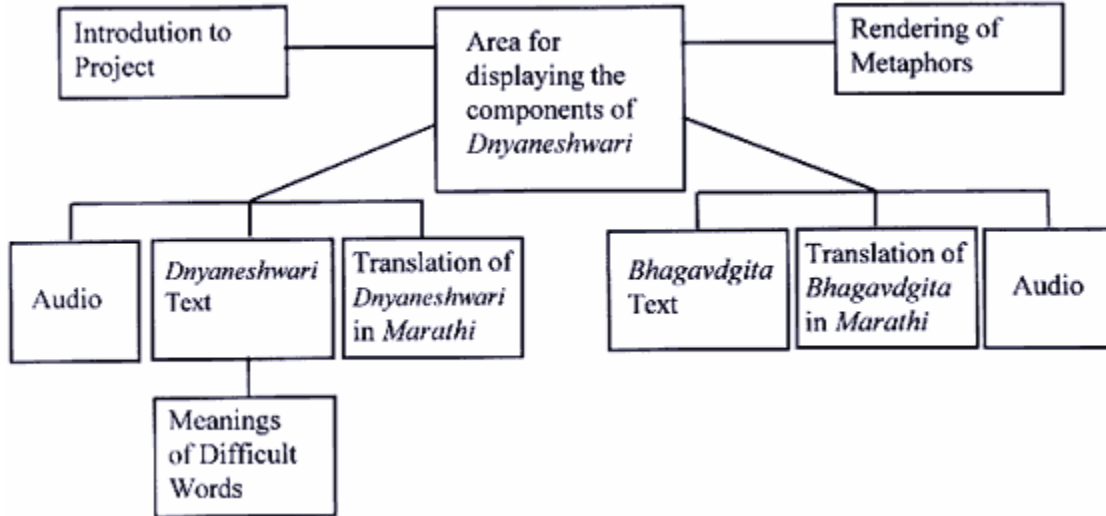
Arrangement of the major contents

Each metaphor has pointers to diverse information and references. We categorized the information into various levels and visualized it. The information is linked with visuals and audio clips. This helps the viewers in understanding the metaphor as well as experiencing it. The visuals help them in remembering the metaphors as our visual memory is more effective.

Bhavartha: Appropriate and simplified translation

Translation in *Marathi* made by Sri Sakhare Maharaj is also included along with the verses of *Dnyaneshwari* and *Bhagavdgita.* Even the meanings of difficult words/terms are available on demand.

Nirupan: Commentary on *Dnyaneshwari*

Marathi Commentary in audio form has been included along with the metaphors. Commentary helps you in understanding certain details which are not possible to depict visually.

*Rachana:* Integration and synchronized presentation

The *Dnyaneshwari* book has over 1000 pages of text. It is a massive task to integrate and organize the text in multimedia. For the first volume of *Dnyaneshwari* which has only five chapters, we had to edit and generate over 600 audio files. We wanted to create a framework which will give us the flexibility of changing the contents and flexibility to include translation in other languages such as Hindi and English. Therefore, the following disciplines were evolved for the integration of components.

* Each page has only four verses and the corresponding translation.

* In order to achieve greater visibility a larger font size is chosen.

* Standard naming conventions are used for the text pages, audio files, images etc.

* The audio is edited and dynamically linked to the respective pages.

* Text and audio is simultaneous.

* The meanings of difficult words appear only on demand.

* *Bhagavadgita* pages have a different layout and they are not mixed with the *Dnyaneshwari* text.

* Each page is having only one *Shloka* and the audio is linked to it.

* *Bhagavadgita* is a spiritual conversation between *Bhagavan Gopal Krishna*, *Arjun*, *Sanjaya*, *Dhritarashtra* and *Duryodhana*. Pictures of these characters are placed on the Shloka pages.

Following interaction models are used for integrating the metaphors:
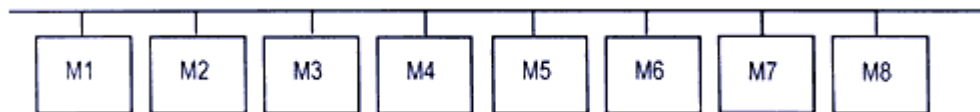
Model I:- Page by page browsing

One can go to each page, read the translation and then view the visualization of metaphor. (M-Metaphor)
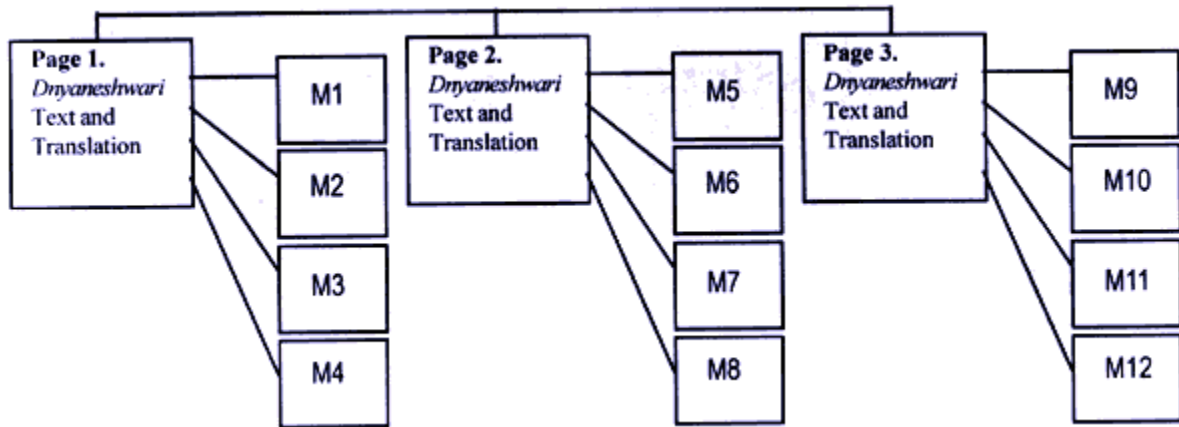
Metaphor links from each page
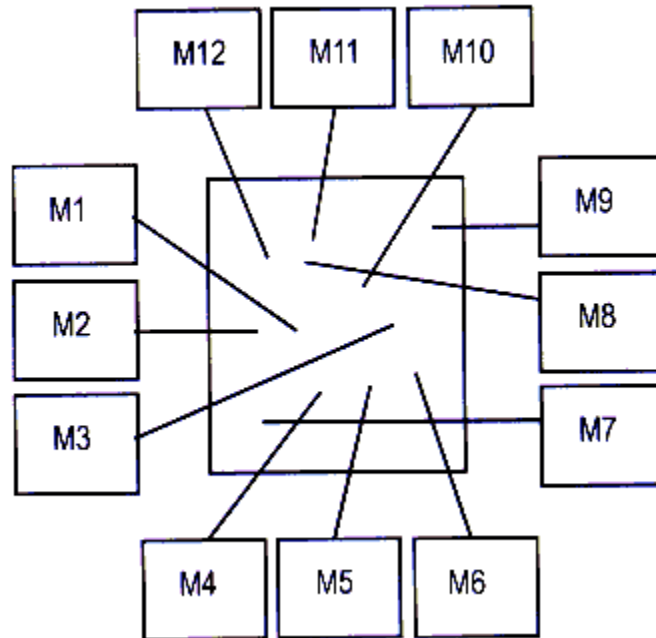
Model II: Linear Browsing

This interaction model allows you to skip the translation pages and view the visualization of metaphors one after the other.

Linear links to metaphors

Model III: Dynamic Navigation

Links to all the metaphors are given from the map of the central theme. The links allow you to jump to any metaphor.

Multiple links from the central image map

All three methods are made available simultaneously by unifying them together.

Multimedia rendering of metaphors

Iconic representation of controls

Interface Designing:

Most of the applications seen on computer have interfaces with a lot of grey shades, white and monochrome color schemes. They look very artificial and synthetic.

We decided to design an interface for Dnyaneshwari with following qualities.

- Indian color scheme
- Meaningful use of colors

- Maximum use of Indian religious icons, symbols etc.
- Use of Indian Motifs, patterns and borders
- Decorative buttons and frames
- Iconic representation of various functions
- Intuitive interface
- *Marathi* instructions

Installation Program:

We have tried to design a very innovative installation program. Auspicious *Shlokas* are recited while the installation continues. It sets a very reiligious and pleasant ambience for viewing the *Dnyaneshwari.*

In the first volume of this CD Title we have integrated 5 Chapters of *Dnyaneshwari* and *Bhagavadgita*, Translation in Marathi, Meanings of Difficult Words, Multimedia Rendering of 20 Metaphors from the First Chapter, Introduction to *Dnyaneshwari* Project and Dynamic Controls for browsing.