| Project ref. no. | IST-2000-26095                                |
|------------------|---|
| Project title    | NITE: Natural Interactivity Tools Engineering |

| Deliverable status                    | Restricted  |  |  |  |
|---------------------------------------|---|--|--|--|
| Contractual date of delivery          | N/A   |  |  |  |
| Actual date of<br>delivery            | 11.4.2003   |  |  |  |
| Deliverable number                    | N/A, requested at the NITE review in April 2003   |  |  |  |
| Deliverable title                     | NITE Workbench Development Plan   |  |  |  |
| Туре                                  | Report  |  |  |  |
| Status & version                      | Final   |  |  |  |
| Number of pages                       | 8   |  |  |  |
| WP contributing<br>to the deliverable | WP1, WP3  |  |  |  |
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| Keywords                              | Tools specification and development, architecture and platform,<br>natural interactivity and multimodality data annotation support                  |  |  |  |
| Abstract (for                         | r This report presents the architecture of the NITE WorkBench   |  |  |  |
| dissemination)                        | (NWB), a plan for the final four months (extension with no additional funding) of NWB development, and a list of data formats supported by the NWB. |  |  |  |



## NITE WorkBench Development Plan

11 April 2003

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## NITE WorkBench Development Plan

This document presents a conceptual view of the NITE WorkBench (NWB) architecture (Figure 1), a development plan for the final stages of implementation, testing, packaging, and documentation of the NWB to be done in April through July 2003 (Table 1), and a list of the raw data formats currently supported by the NWB (Table 2).

For ease of inspection, Table 1 allows comparison between the common NITE requirements specifications presented in deliverables D1.1 and D1.1 Addendum, and the work which has been done and still needs to be done to complete the NWB.

It appears from Table 1 that the months of April and May 2003 will be busy in terms of implementation completion, packaging, and user-oriented documentation in order to have a fully operational and comprehensible NWB ready for the NITE User Evaluation Workshop in Pisa in early June 2003. Priorities have been set in the plan in such a way that only less needed functionalities for the User Evaluation Workshop will be completed after the workshop. Comparatively, the development plan is less condensed for the months June and July 2003, leaving sufficient time not just for final documentation and packaging as well as implementation of the few remaining functionalities planned, but also for fixing and revising the software based on the results of the User Evaluation Workshop.

Estimated resources in person/months for completing the work are 10 PMs.

Given the advanced state of the NWB work, we believe that we have the chance of delivering an NWB which is user friendly, functionally versatile, robust and sufficiently mature for doing general-purpose coding of natural interactivity and multimodal data resources. We intend to submit the NWB for the IST Prize competition in 2003.



Figure 1. Conceptual view of the NWB technology architecture. Blue colour represents software developed in the NITE project, black colour represents development resources used, and green colour represents user-provided resources.

|    | Lists of Requirements from Addendum to NITE D1.1                  | Ready  | To be done |     |      |      |  |
|----|---|--------|------------|-----|------|------|--|
|    |   | Touty  | April      | May | June | July |  |
| 1. | Annotation project file   |        |            |     |      |      |  |
|    | <ul> <li>Create a new project</li> </ul>                          | х      |            |     |      |      |  |
|    | <ul> <li>Open / save the project</li> </ul>                       | х      |            |     |      |      |  |
|    | <ul> <li>Print components of the project</li> </ul>               | partly |            | х   |      |      |  |
|    | <ul> <li>Export project components into XML files</li> </ul>      | -      |            |     | х    |      |  |
| 2. | Coding schemes specification                                      |        |            |     |      |      |  |
|    | <ul> <li>Create new annotation schemes</li> </ul>                 | х      |            |     |      |      |  |
|    | <ul> <li>Modify existing annotation schemes</li> </ul>            | х      |            |     |      |      |  |
|    | <ul> <li>Provide orthographic transcription</li> </ul>            | partly | х          |     |      |      |  |
|    | <ul> <li>Specify coding schemes to be used</li> </ul>             | partly | х          |     |      |      |  |
|    | <ul> <li>Coding scheme entering</li> </ul>                        | partly |            | х   |      |      |  |
| 3. | Raw data control  | ·      |            |     |      |      |  |
|    | <ul> <li>List of data types supported (see Table 2)</li> </ul>    | х      |            |     |      |      |  |
|    | <ul> <li>Visualise and play video files</li> </ul>                | х      |            |     |      |      |  |
|    | <ul> <li>Play the audio track</li> </ul>                          | х      |            |     |      |      |  |
|    | <ul> <li>Navigate back and forth in the raw data</li> </ul>       | х      |            |     |      |      |  |
|    | <ul> <li>Synchronize the playing / displaying of data</li> </ul>  | partly | х          |     |      |      |  |
| 4. | Annotation using coding schemes                                   |        |            |     |      |      |  |
|    | <ul> <li>Underlying data structure</li> </ul>                     | х      |            |     |      |      |  |
|    | <ul> <li>Coding schemes tags palette</li> </ul>                   | partly | х          |     |      |      |  |
|    | <ul> <li>Annotated corpus editing (insert/delete tags)</li> </ul> | partly |            | х   |      |      |  |
| 5. | Information visualisation and customization                       |        |            |     |      |      |  |
|    | <ul> <li>Visualise audio data</li> </ul>                          | partly | х          |     |      |      |  |
|    | <ul> <li>Visualise annotated corpus</li> </ul>                    | partly |            | х   |      |      |  |
|    | <ul> <li>Display objects management</li> </ul>                    | partly |            | х   |      |      |  |
|    | <ul> <li>Display objects customisation</li> </ul>                 | partly |            |     | х    |      |  |
| 6. | Querying and Information analysis                                 |        |            |     |      |      |  |
|    | <ul> <li>Run SQL query commands</li> </ul>                        | partly |            | х   |      |      |  |
|    | - GUI to describe and build SQL query                             | _      |            |     |      | х    |  |
| 7. | Additional Requirements   |        |            |     |      |      |  |
|    | – Installation kit  |        |            | V.1 |      | V.2  |  |
|    | - User evaluation, feedback and final development                 |        |            |     | х    | х    |  |
|    | - General architecture description (see Fig. 1)                   | x      |            |     |      |      |  |
|    | <ul> <li>Module documentation</li> </ul>                          |        |            |     |      | х    |  |
|    |   |        |            |     |      |      |  |

 Table 1. NITE development plan.

| Туре                           | Extensions   | Sample files  |  |  |  |  |  |
|--------------------------------|--|---|--|--|--|--|--|
| Audio Files                    |  |   |  |  |  |  |  |
| MS Audio file                  | Audio file Files with <i>.wav</i> extensions   |   |  |  |  |  |  |
| MP3 Format Sound               | Files with .mp3 extensions   | mp3_sample.mp3  |  |  |  |  |  |
| MIDI file                      | Files with <i>.mid</i> , <i>.midi</i> , and <i>.rmi</i> extensions                               | mid_sample.mid,<br>midi_sample.midi,<br>rmi_sample.rmi                  |  |  |  |  |  |
| AU Format Sound (UNIX)         | Files with .au and .snd extensions   | au_sample.au,<br>snd_sample.snd   |  |  |  |  |  |
| AIFF Format Sound (Mac)        | Files with <i>.aif</i> , <i>.aifc</i> , and <i>.aiff</i> extensions                              | aif_sample.aif,<br>aifc_sample.aifc,<br>aiff_sample.aiff                |  |  |  |  |  |
| Windows Media audio file       | Files with .wma extensions   | wma_sample.wma  |  |  |  |  |  |
| Windows Media file             | Files with .asf extensions   | asf_sample.asf  |  |  |  |  |  |
| CD Audio Track                 | Files with . <i>cda</i> extensions   | audio CD  |  |  |  |  |  |
| Video Files                    |  |   |  |  |  |  |  |
| MS Video file                  | Files with .avi extensions   | avi_sample.avi  |  |  |  |  |  |
| Movie File (MPEG)              | Files with <i>.mpeg</i> , <i>.mpg</i> , <i>.m1v</i> , <i>.mp2v</i> *, and <i>.mpe</i> extensions | mpg_sample.mpg,<br>mpg_sample.mpg,<br>m1v_sample.m1v,<br>mpe_sample.mpe |  |  |  |  |  |
| Windows Media audio/video file | Files with .wmv extensions   | wmv_sample.wmv  |  |  |  |  |  |
| Indeo Video File               | Files with . <i>ivf</i> extensions   | ivf_sample.ivf  |  |  |  |  |  |
| DVD Video                      | DVD video files with .vob* extensions  | DVD   |  |  |  |  |  |

**Table 2.** Data formats supported. \* To play .mp2v files or .vob files, you must have a software or hardware DVD decoder installed on your computer.