Overall project management report

Deliverable D6.3

List of Partners:
- ETH Zurich, CH (ETH Zurich)
- Hocoma AG, Volketswil, CH (HOCOMA)
- University of Ljubljana, SI (UL)
- Universitat de Barcelona, ES (UB)
- Neurological Clinic Bad Aibling, DE (NKBA)

Document Identifier: MIMICS-D6.3-pu.pdf
Version: 3.0
Date: 2010-12-23
Organisation: ETH Zurich
Deliverable: 6.3
Milestone: 6.1
Work Package: 6
Task: Month 1 to 36
Dissemination: Public
Authors: Martin Simnacher
Approved by: Friedemann Müller and Robert Riener

Abstract: This report presents an overview of the MIMICS project management activities for the three year duration of the project.
Table of Contents

1 Introduction .............................................................................................................. 3

2 Project management ................................................................................................. 3
   2.1 Objectives .............................................................................................................. 3

3 Major Achievements .................................................................................................. 3
   3.1 Towards Objective 1: “Coordinate the overall technological progress, administration and finances of the project” .................................................................................. 3
      3.1.1 Management structure .................................................................................. 3
      3.1.2 Quality plan .................................................................................................. 4
      3.1.3 Project meetings .......................................................................................... 4
      3.1.4 Legal and financial issues .......................................................................... 5
   3.2 Towards Objective 2: “Communicate with the consortium and the European Commission” ......................................................................................................................... 6
   3.3 Towards Objective 3: “Coordinate and supervise all partners to realize deliverables and milestones according to the work plan” ........................................................................... 6
      3.3.1 Deliverables .................................................................................................. 6
      3.3.2 Milestones ................................................................................................... 7
   3.4 Towards Objective 4: “Establish a framework for the efficient dissemination of the results” .................................................................................................................................. 8

4 Dissemination list ....................................................................................................... 9
   4.1 Journal Publications ............................................................................................ 9
   4.2 Conference Proceedings: .................................................................................... 10
   4.3 Book chapters ...................................................................................................... 13
   4.4 Invited talks: ....................................................................................................... 13
   4.5 Public Magazines: .............................................................................................. 15
   4.6 Television: ............................................................................................................ 15
   4.7 Project flyer and poster ....................................................................................... 16
1 Introduction
The MIMICS project officially started on January 1\textsuperscript{st} 2008, following the signature of the Grant Agreement n°215756 with the European Commission. The present deliverable summarizes the major tasks undertaken in WP6 for the management and coordination of the project together with a summary of the overall project management details in terms of deliverables, dissemination outcomes and key meetings.

2 Project management

2.1 Objectives
The following major objectives are targeted by WP6 as specified in the DoW:

- **Objective 1** → coordinate the overall technological progress, administration and finances of the project
- **Objective 2** → communicate with the consortium and the European Commission
- **Objective 3** → coordinate and supervise all partners to realize deliverables and milestones according to the work plan
- **Objective 4** → establish a framework for the efficient dissemination of the results

3 Major Achievements
The following major tasks have been achieved in line with the above objectives.

3.1 Towards Objective 1: “Coordinate the overall technological progress, administration and finances of the project”

3.1.1 Management structure
A management structure was established for successful collaborative work amongst the partner, Figure 1. The project coordinator R. Riener and the project manager M. Simnacher were supported by the project management committee (PMC). The PMC consisted of each work package (WP) leader:

- WP1 (System specification and hardware setup) R. Riener
- WP2 (Multimodal immersive interactive display environment) M. Slater
- WP3 (Multi-sensorial data processing and decision making) M. Munih and M. Mihelj
- WP4 (Experimental evaluation) F. Müller
- WP5 (Dissemination and exploitation) L. Lünenburger
- WP6 (Project management) M. Simnacher
3.1.2 Quality plan
A quality plan (Deliverable D6.1 Quality Assurance Plan) was prepared to clearly define the personal responsibilities for the execution of the project tasks, for supervision of the project tasks and for documentation of the supervision. As the quality plan was regularly updated at the PMC meetings, it gave a clear and actual status of the project.

3.1.3 Project meetings
During the duration of the project several overall project meetings, PMC meetings, workshops and two review meetings were held as the main forum for interaction between groups, Table 1.

Table 1 Key MIMICS meetings and workshops.

<table>
<thead>
<tr>
<th>Project General Assembly Meetings</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>[2] MIMICS Meeting, Barcelona, Spain, June 2008, hosted by UPC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>[3] MIMICS Meeting, Zurich, Switzerland, February 2009, hosted by ETH Zurich</td>
<td></td>
<td></td>
</tr>
<tr>
<td>[4] MIMICS Meeting, Ljubljana, Slovenia, September, 2009, hosted by UL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>[5] MIMICS Meeting, Bad Aibling, Germany, March 2010, hosted by NKBA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>[6] MIMICS Meeting, Ascona, Switzerland, September 2010, hosted by ETH Zurich</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PMC Meetings</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>[1] MIMICS PMC Meeting, Barcelona, Spain, June 2008, hosted by UPC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>[3] MIMICS PMC Meeting, Barcelona, Spain, March 2009, hosted by UB</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
3.1.4 Legal and financial issues

During the project duration the WP6 *Project management* concluded legal agreements and shared key legal and financial documents with the whole consortium. The budget distribution, money transfer and financial records were carried out and the consortium was supported for the periodic claims in accordance with EC guidelines and the Grant Agreement, Table 2.

Table 2 Legal and financial issues.

<table>
<thead>
<tr>
<th>Amendment</th>
</tr>
</thead>
<tbody>
<tr>
<td>[1] Prof. Mel Slater moved his affiliation from UPC (University of Catalonia) to UB (University of Barcelona). The new affiliation is still under ICREA as third party. A modification of Annex I - Description of Work has been written and replaced the former version. The European Commission agreed to our request and the change will be valid retroactive from 1st of January 2009.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Audit</th>
</tr>
</thead>
<tbody>
<tr>
<td>[1] A financial audit of the MIMICS project was carried out at the ETH Zurich by Andrew Saxby and Christoph Lautenschlager (Lubbock Fine, Chartered Accountants, London), no major deviation have been addressed, November 2009.</td>
</tr>
</tbody>
</table>
3.2 **Towards Objective 2**: “Communicate with the consortium and the European Commission”

Several communication tools were established to ensure a successful collaborative work and to exchange information, Table 3.

**Table 3** Communication towards the consortium and EC.

<table>
<thead>
<tr>
<th>Consortium</th>
</tr>
</thead>
<tbody>
<tr>
<td>[1] The project website is located at <a href="http://www.mimics.ethz.ch">www.mimics.ethz.ch</a>. It was an important source of information and was updated all along the project. Moreover it was used by all partners as the entrance for the project intranet.</td>
</tr>
<tr>
<td>[2] Three newsletters were distributed to update all group members beside the general assembly meetings.</td>
</tr>
<tr>
<td>[3] A MIMICS mailing list was set up.</td>
</tr>
<tr>
<td>[4] Several bilateral visits on operational level took place.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>EC</th>
</tr>
</thead>
<tbody>
<tr>
<td>[2] Coordination for all the necessary arrangement requested for the project periodic reviews.</td>
</tr>
</tbody>
</table>

3.3 **Towards Objective 3**: “Coordinate and supervise all partners to realize deliverables and milestones according to the work plan”

### 3.3.1 Deliverables

All deliverables listed in the DoW have been delivered on time, only the D6.1 *Quality Assurance Plan* was with very short delay, Table 4.

**Table 4** Deliverables submitted to the EC.

<table>
<thead>
<tr>
<th>Del. no.</th>
<th>Deliverable name</th>
<th>Nature</th>
<th>Dissemination level</th>
<th>Due delivery date, Annex I (proj. month)</th>
<th>Actual / Forecast delivery date</th>
</tr>
</thead>
<tbody>
<tr>
<td>D1.1</td>
<td>Requirement specifications and system design</td>
<td>R</td>
<td>CO</td>
<td>2</td>
<td>2008-02-29</td>
</tr>
<tr>
<td>D5.1</td>
<td>MIMICS Web site</td>
<td>O</td>
<td>PU</td>
<td>2</td>
<td>2008-02-29</td>
</tr>
<tr>
<td>D6.1</td>
<td>Quality Assurance Plan</td>
<td>R</td>
<td>PP</td>
<td>2</td>
<td>2008-03-31</td>
</tr>
<tr>
<td>D1.2</td>
<td>Hardware setup</td>
<td>P</td>
<td>PP</td>
<td>7</td>
<td>2008-07-31</td>
</tr>
<tr>
<td>D3.1</td>
<td>Principles and algorithms of realtime sensing of motor action and psycho-physiological state</td>
<td>R</td>
<td>CO</td>
<td>7</td>
<td>2008-07-31</td>
</tr>
<tr>
<td>D2.1</td>
<td>Algorithms about early multimodal (haptic, visual, acoustic) scenarios and rendering</td>
<td>R</td>
<td>RE</td>
<td>9</td>
<td>2008-10-1</td>
</tr>
</tbody>
</table>
### 3.3.2 Milestones

All milestones listed in the DoW have been achieved in due time, Table 5.

#### Table 5 MIMICS milestones.

<table>
<thead>
<tr>
<th>No.</th>
<th>Milestone name</th>
<th>Due achievement date, Annex I</th>
<th>Achieved Yes/No</th>
<th>Actual / achievement date</th>
</tr>
</thead>
<tbody>
<tr>
<td>M1.1</td>
<td>Requirements and (theoretical) design of the platforms Lokomat and the HapticMaster</td>
<td>2</td>
<td>Yes</td>
<td>2008-2-29</td>
</tr>
<tr>
<td>M1.2</td>
<td>Two hardware setups based on Lokomat and the HapticMaster</td>
<td>7</td>
<td>Yes</td>
<td>2008-7-31</td>
</tr>
<tr>
<td>M3.1</td>
<td>Algorithms for assessment of user’s motor and psycho-physiological state ready for presence assessment in Task 4.1</td>
<td>7</td>
<td>Yes</td>
<td>2008-7-31</td>
</tr>
<tr>
<td>M2.1</td>
<td>Early multimodal (haptic, visual, acoustic) display system ready for presence assessment in Task 4.1</td>
<td>9</td>
<td>Yes</td>
<td>2008-10-1</td>
</tr>
<tr>
<td>M4.1</td>
<td>First downscaled Lokomat and HapticMaster platforms ready for transfer to clinical partners</td>
<td>12</td>
<td>Yes</td>
<td>2008-12-26</td>
</tr>
<tr>
<td>M4.2</td>
<td>First proof that the systems increases user motivation</td>
<td>18</td>
<td>Yes</td>
<td>2009-06-30</td>
</tr>
<tr>
<td>M5.1</td>
<td>Report on medical certification and ethics approvals</td>
<td>12</td>
<td>Yes</td>
<td>2008-12-26</td>
</tr>
</tbody>
</table>
3.4 **Towards Objective 4**: “Establish a framework for the efficient dissemination of the results”

The continuous scientific work of all partners did lead to numerous scientific publication and media coverage. The publications covered scientific topics from biomechanical engineering and robotics to biomedical research and clinical applications. See the dissemination list in chapter 4 containing:

- Journal Publication
- Conference Proceedings
- Book chapters
- Invited talks
- Public Magazines
- Television
- MIMICS Flyer and Poster
4 Dissemination list

4.1 Journal Publications


2. A. Brogni, D. Caldwell, M. Slater, (2009), Touching Sharp Virtual Objects Produces a Haptic Illusion, submitted


4.2 Conference Proceedings:


7. L. Jensterle, M. Mihelj, M. Munih. Vodenje haptičnega vmesnika zasnovano v okolju Matlab xPC Target (Control of haptic interface in Matlab xPC Target). ERK 2008.
Seventeenth International Electrotechnical and Computer Science Conference, Portoroz, Slovenia, September 29 - October 1, 2008.


4.3 Book chapters

4.4 Invited talks:
2. J. Kastanis. Reinforcement Learning as a Paradigm for Interaction in Virtual Environments, Opening of the EVENT lab, Barcelona, December 2008
5. R. Riener. Patient-Interactive Robots for Rehabilitation. 5th International Conference on Electrical and Power Engineering, EPE 2008, Iasi, Romania:

13. M. Munih. Automatisation in neurorehabilitation, 14th Euroacademia Multidisciplinaria Neutrotraumatologica Congress, Kaunas, Lithuania, June 4-6, 2009


15. M. Munih, M. Mihelj. Robot pomaga pri rehabilitaciji (Robot helps in rehabilitation), Faculty of Medicine, University of Ljubljana, Ljubljana, June 1, 2009

16. M. Munih, M. Mihelj. Robot pomaga pri rehabilitaciji (Robot helps in rehabilitation), Neurological Clinic, University Medical Centre, Ljubljana, June 2009


18. M. Munih. Robotika rehabilitacija z interaktivnimi sistemi (Robotic rehabilitation using interactive systems). 90th Anniversary of the Faculty of Electrical Engineering, Ljubljana, December 3, 2009


22. R. Riener. Automation in rehabilitation: how to include the human into the loop, World Congress on Medical Physics & Biomedical Engineering 2009, Munich, (AUTOMED Session): Sept. 7-12, 2009


28. A. Koenig. “Detecting the undetectable – bio-cooperative robotics in gait rehabilitation” Bio-Inspired Robotics Network Zurich (Bironz), by Prof. Dr. Fumyia Iida, ETH Zurich, 2010


31. A. Koenig. “Bio-Cooperative Robotics for Gait Rehabilitation”, at the University Hospital Zurich, Stroke Response Unit, University of Zurich, 2010


34. F. Müller. Geräteunterstützte Physio- und Ergotherapie in der neurologischen Rehabilitation. Innovationstag "Robotik- und Softwarelösungen in der Rehabilitation" Würzburg, 27. 10. 2010


4.5 Public Magazines:


2. youtube: Towards Immersive Journalism: The IPSRESS Experience, July 10, 2009


5. Virtuell ein Spiegelei braten. Südwest Presse, 06.03.2010.


7. Roboterarm hilft Schlaganfallpatienten: Neue Steuermethode soll therapeutischen Nutzen steigern, Pressetext Nachrichtenagentur, 18.3.2010

4.6 Television:


2. „Gesundheit Sprechstunde“, Schweizer Fernsehen SF1, 02.01.2010. Wenn Gelähmte wieder gehen können, http://www.gesundheitsprechstunde.ch/TVSendung/ 57c7dc6bbff-4ca4-b262- 5b9d6955f095
4.7 Project flyer and poster

Poster describing MIMICS objectives [pdf]

Promotional flyer describing MIMICS [pdf]