TEMPUS PROJECT: 530510-TEMPUS-1-2012-RS-TEMPUS-JPCR

PROJECT TITLE: “Assisting humans with special needs: curriculum for HUman-TOol interaction Network”

ACRONYM: HUTON

REPORT: Report and manual for networking integration

Due Date: Month 18
Submission date: Month 18
Start date of project: 15/10/2012.
Duration: 36 months
Lead beneficiary for this deliverable: UB

Responsible Person: Dr Aleksandar Sedmak, UBG
INTRODUCTION:

The wider objective of the project "Assisting humans with special needs: Curriculum for HUman-TOol interaction Network (HUTON)" is the development of interdisciplinary and multidisciplinary curriculum with the laboratory educational support and THE EDUCATIONAL TRAINING NETWORK for the optimized use of technology that improves the quality of life of humans with special needs.

The specific objectives in the project are:

- Development of the new interdisciplinary and multidisciplinary accredited curriculum (MECHATRONICS FOR REHABILITATION) leading to the master degree in the domain of technologies for humans with special needs.
- Setup of the training network in Republic of Serbia (RS) in the domain of mechatronics, rehabilitation engineering and medicine, and neurorehabilitation that enables the delivery of the new interdisciplinary and multidisciplinary curriculum.
- Training of staff for providing on-the-job education and use of appropriate technologies which increases new employment opportunities.
- Training of staff for providing better medical services for humans with special needs.

The project is planned with eight workpackages, where the first four are the development activities.

The workpackage (WP) 1 is dedicated to the development of the network core for support of the new curriculum.

The WP1 goal is construction and delivery of Web based training environment. This includes:
1. discussion forums,
2. document sharing,
3. training sessions,
4. chats,
5. presentations
6. and other "e-learning" and "knowledge management" interactive platforms.

The new IT infrastructure has been installed with the aim to ensure secure, high-quality and unrestricted network environment. Curriculum network, video and IT equipment has been configured. In order to ensure and provide the technical prerequisites for the use of new Web based techniques, review of the existing technical and IT capacity is completed. All existing laboratories are visited, analyzed and discussed with project partners and they technical personnel.
Based on the project goals a new training Web services has been configured. New Web training services enables Virtual Learning Environment (VLE) for all project partners, students and university professors.

All services are installed on demonstration center IT infrastructure.

Next options for all team members, professors and future students have been enabled:

- Create multiple activity links to on-line sessions within a course/meeting/demonstration,
- Real-time video, audio and chat networks,
- Control of all active participants by system administrator,
- Recording of network sessions,
- Using documents, presentations, exercises in live or offline sessions.
- New courses implementation,
- Material implementation.

Web training services are using Moodle platform for Courses design and implementation and Big Blue Button platform for realtime video and audio conversation, course demonstration and training activities.

All installed services are access protected under University network and can be used only by using HUTON security codes.

All Huton IT equipment has been setup for using Huton VLE and basic training has been performed.

Shema 1: Huton Virtual Learning Environment architecture
DEMONSTRATION CENTRE

Demonstration Centre is a network node responsible for communication between other network members. It stores all Web training services, documents and other network data.

Demonstration Centre has been established at University of Belgrade, Institute Mihailo Pupin. For that purpose Institute class room has been expended with new server room where Hutton equipment has been installed.

All Web services are installed under protected academic network that ensures access security. Hutton members have additional secure Logging accounts for Hutton protected Web content.

A. Demonstration Centre installed equipment:

A.1 2 X Business class laptop, Samsung ATIVBook9 NP900X3F (University of Belgrade)
- Access: University of Belgrade engineers.
- Usage: Database administration, Web site administration, Central Huton team networking software administration.

Shema 2: Demonstration Centre server room
A.2  1 X Blade server enclosure C3000 (Institute “Mihailo Pupin”)
A.3  2 X Blade Server BL460G8 (Institute “Mihailo Pupin”)
A.4  1 X Storage HP P2000 (Institute “Mihailo Pupin”)
- Access: University of Belgrade engineers.
- Usage: Database storage, Web site storage, Central Huton team networking software storage, Redundant equipment for system failure security.
A.5  1 X Uninterruptible power supply unit (Institute “Mihailo Pupin”)
- Access: University of Belgrade engineers.
- Usage: System failure security.
A.6  1 X Equipment temperature controlling system (Institute “Mihailo Pupin”)
- Access: University of Belgrade engineers.
- Usage: System failure security.
A.7  1 X Server room (Institute “Mihailo Pupin”)
- Access: University of Belgrade engineers.
- Usage: System security.

**HUTON PARTNERS**

All Huton partner have been supplied with equipment necessary for accessing and administrating Huton Virtual Learning Environment.

For that purpose next equipment has been supplied:

<table>
<thead>
<tr>
<th>Installed at University of Belgrade:</th>
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<tbody>
<tr>
<td>A.1 1 X Business class laptop, Samsung ATIVBook9 NP900X3F (University of Belgrade)</td>
</tr>
<tr>
<td>- Access: University of Belgrade engineers.</td>
</tr>
<tr>
<td>- Usage: Database administration, Web site administration, Central Huton team networking software administration.</td>
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<tr>
<td>A.2 3 X Desktop computer, monitor, keyboard, mouse (University of Belgrade)</td>
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<td>A.3 1 X LaserJet all in one printer (University of Belgrade)</td>
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<tr>
<td>- Access: HUTON management team</td>
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<td>- Usage: HUTON project material preparation.</td>
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<td>A.4 1 X High resolution Photo camera (University of Belgrade)</td>
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<td>A.5 1 X Video projector (University of Belgrade)</td>
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<tr>
<td>- Access: HUTON team members</td>
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<td>- Usage: Material preparation and presentation.</td>
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</tbody>
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B. Installed at University of Novi Sad:

| B.1 7 X Business class laptop (University of Novi Sad) |
B.2 5 X Desktop computer, monitor, keyboard, mouse (University of Novi Sad)
B.3 1 X Network router (University of Novi Sad)
- Access: University of Novi Sad professors and students
- Usage: Material preparation and presentation, Central Huton team networking software usage

C. Installed at University of Novi Pazar:
C.1 5 X Business class laptop (University of Novi Pazar)
- Access: University of Novi Pazar professors and students
- Usage: Material preparation and presentation, Central Huton team networking software usage

All purchased and installed equipment has 5 years warranty period.
In that period all technical maintenance and configuration that is not included in manufacture warranty will be done by Institute “Mihailo Pupin” engineers.

Performed activities in relation to the purchased equipment:
- All systems are installed and configured,
- All systems are tested and in use,
- Server room is equipped and all servers are configured,
- Central Huton team networking software is produced, installed and configured,
- Central Huton team networking software has been published and secured accounts have been opened for all team members,
- Next options for all team members, professors and future students have been enabled:
  - Create multiple activity links to on-line sessions within a course/meeting/demonstration,
  - Realtime video, audio and chat networks,
  - Control of all active participants by system administrator,
  - Recording of network sessions,
  - Using documents, presentations, exercises in live or offline sessions.

Planned activities in relation to the purchased equipment:
- Courses implementation,
- Material implementation,
- Central Huton team networking system maintenance,
- All HUTON team members training for Central Huton team networking system usage,
- Web portal maintenance.