HBB-NEXT (287848)

Deliverable 1.2.3

4th Quarterly Management Report

Reference Period (from 01.07.2012 to 30.09.12)

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Consortium Composition	
1	RBB
2	IRT
3	NEC
4	TNO
5	ST
6	STUBA
7	KU Leuven
8	THM
9	TARA

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1. Project status: Technical progress and achievements

1.1. WP1 – Project Management

Task 1.1: Project Management

Apart from preparing the submission of QMR3, project management work focused on preparing and following up the third HBB-NEXT Consortium Meeting which was held at STUBA in Bratislava from 17. to 19. September 2012 (detailed planning fine-tuned with all partners, agenda and minutes). The meeting started with an extensive WP1 Meeting for the PCC members which were all present or either had appointed a representative. For this a presentation had been prepared which covered all relevant project planning, monitoring and also reporting issues, including detailed guidelines for creating PPR 1. Another focus was obviously co-ordinating the work leading up to the timely fulfilment of Milestone 6 of the project which consists of four parts: The finalisation of version 1 of the HBB-NEXT software modules as then documented in the Deliverables D3.2, 4.2 and 5.2 and the Roadmap up to Milestone 3 which is an integral part of Deliverable D6.3.1. The software modules were finalised in time and presented in a multitude of technical Demos at the meeting in Bratislava, the accompanying deliverables D3.2, 4.2 and 5.2 were delivered in time jointly on 5.10. D6.3.1 was submitted slightly delayed on 24.10.2012. The delay was due to the fact that the roadmap was of course devised and fine-tuned in Bratislava and only after that was written down for the document. The regular work package leader conference introduced by RBB recently was continued, the second was held on 28 August 2012 with a detailed agenda, minutes and ensuing action points. For D2.3.1 1st Report on User Validation Results which was submitted in time on 5 September RBB did the final formatting.

Task 1.2: Financial Management

After submission of QMR 3, once again, RBB prepared detailed individual controlling tables and provided to each partner to help them in monitoring their efforts and expenditures as to planned efforts. Each partner was informed about critical points in terms of under- or overspending. Furthermore, the Work Package 1 presentation prepared for the Consortium Meeting in Bratislava entailed detailed financial information, especially on preparing the first Financial Statement.

1.2. WP2 - Usage Scenarios, System Requirements and User Validation

Task 2.3: User-Oriented Validation and Evaluation

Task 2.3.1 focused on 1) communicating and documenting all results of user validation phase 1 which started in April 2012 and was finalised in this reporting period end of August 2012, 2) performing a second round of user validation tests both at RBB and KU Leuven and 3) Planning the road ahead. Concerning 1): The first round of tests took place in early June and the results concerning Work Package 5 had already been presented by RBB at the integration meeting in Munich end of June. On 2 July then a conference call was set up by Work Package 2 where KU Leuven and RBB communicating all relevant user insights to the technical partners of work packages 3, 4 and 5. Afterwards their feedback was gathered feedback for consideration in additional user evaluations in August. Finally, all results of rounds one and two were documented in Deliverable D2.3.1, 1st Report on User Validation Results in smooth cooperation of RBB and KU Leuven which was submitted in time on 5 September. And the results of the user validation round two in August were also presented in a powerpoint presentation by KU Leuven and RBB to the project partners at the Consortium Meeting in Bratislava. On 2) At RBB the IFA Showcase work package 4 application mock up for user settings of certain HBB-NEXT services like subtitles and signing (interactive prototype) was tested by nine target users at RBB on 02./03. August 2012 using Thinking Aloud and AttrakDiff methods. Using paper prototypes KU Leuven performed an experiment that focused on watching TV together, and that included some design questions which were raised by the technical partners in the project as well as those that emerged from the first round of user evaluations.

On 3) RBB conceived and presented an approach concerning WP2 plans for second project year at the Consortium Meeting in Bratislava. This included the App Team Approach which was discussed in great detail and adapted as input for the plenary Application Development Session (see Work Package 6 summary below). Furthermore input on work package 2 plans for the project year ahead was prepared by RBB for D6.3.1.

1.3. WP3 - Identity, Security and Trust

Task 3.2: User Identification, User Profile and Application Reputation Framework

The focus of Work Package 3 during this quarter was on two main areas:

- The creation and finalisation of D3.2
- The development of the work package enablers and the creation of initial prototypes showing some of the functionalities that the enablers will deliver at the end of the project.

STUBA was responsible for the coordination of the input and the final editing of D3.2. In terms of enablers, STUBA focused on the development of user identification enabler based on speech and face recognition. Two initial demos were created and shown at the plenary meeting in Bratislava (17-19 November). The first application is devoted to speaker identification based on continuous monitoring of the audio stream and periodical evaluation. The second application is oriented to continuous face recognition. In turn, NEC focused on the design of the components of the trust and reputation enabler and the description of internal and external interfaces of this enabler and the related data structures. NEC also realised the implementation of some of the components of the trust and reputation enabler. A first demo was to the partners in Bratislava (Consortium Meeting). ST again focused mainly on the design of security architecture and started the implementation of the IdM enabler. IRT continued to define concepts of identity and multiscreen management in an open market with no dedicated service provider like HbbTV. Alignment with concepts developed by ST, which are more SP centric, started. All partners provided input as requested to Work Package 6 in order to define the integrated project architecture. Partners also participated in the bi-weekly coordination conference calls which are set up and managed by NEC.

1.4. WP4 - Next Generation Multi-Synch and Application Performance

Task 4.2: Multi-Device, Multi-Domain Synchronization of A/V Content and Services

The work during the current reporting period was focussed on implementing the version 1 solutions for inter-media synchronization for hybrid sources (DVB and IP). To enable an absolute timeline for client synchronization, an event based timeline generator tool was implemented (THM) and tested for TS based media delivery (IRT). To monitor timestamp values in TS-based media, a measurement tool was developed and tested (IRT). Inter-media synchronization was tested and showcased on a PC browser based HbbTV environment (THM). There, hybrid synchronization of DVB and IP-based audio/video and meta-data / subtitles was verified. The corresponding IFA showcase developed in Task 6.3 (RBB, IRT) visualized such hybrid synchronization from a user point of view and for Milestone 6 this IFA showcase application was integrated with the synchronisation module (THM). For the testbed and this showcase special content for DVB broadcast and on-demand video was provided: A sign language interpreter video of the German news show “Tagesschau” (12 July 2012) was produced (RBB). To build a bridge to task 4.3, inter-media synchronization technology based on gstreamer was provided. Furthermore, inter-device synchronization was investigated in which content will be synchronized between multiple devices (e.g. a PC and a mobile device) (TNO). TNO also worked on further improving their early accomplished Milestone 6 inter-media synchronization demo and incorporating it in NEC’s cloud-based media processing framework. Based on the achieved synchronization platform, a strategy for the next developments was defined (Alll). All WP4 partners successfully contributed to and collaborated to assemble Deliverable 4.2. As from the project start, the partners kept on communicating in weekly conference calls about all important issues.

Task 4.3: Cloud Service Offloading

Work in Task 4.3 covered development within a cloud infrastructure and reliable internal cloud communication mechanisms. First synchronization algorithms were adopted from Task 4.2 and tested in a cloud environment. To adapt cloud services to clients, research on device capability detection methods was initiated (NEC). The gathered experience from Task 4.3 was contributed to Deliverable D4.2 (NEC and IRT).

1.5. WP5 - Multi-User and Context-Aware Personalisation

Task 5.2: Multimodal Interface for User/Group-Aware Personalisation in a Multi-User Environment

Task 5.2 has several activities running in parallel, and is working towards future integration. STUBA has given some excellent demos of their implementations of multi-user identification and gesture control. ST is the partner that drives the over-all HBB-NEXT architecture, including WP5-specific aspects. IRT is developing a pivotal element of the architecture, through which enablers can notify events to other enablers. KU Leuven is preparing for further user studies. The Bratislava meeting was used for the preparation of various integration steps, like the APIs for user identification, both low-level (multi-modal interface output) and high-level (identity management with different security levels), all in collaboration and coordination with WP3 and WP6 via ST and IRT.

STUBA developed several modules for the first demos of milestone 6. The first module is the modification of speaker identification from single-user into multi user identification. The second module follows the same principle applied to multi-user face recognition. Two independent modules for gesture recognition have been introduced: painting by gestures and simple TV control based on static gesture recognition. IRT has worked on the PubSub framework for HBB-NEXT notifications, which will become a core element of the HBB-NEXT architecture and contributed to and reviewed deliverable D5.2. ST created a design of WP5 modules and an internal WP5 architecture and provided input from WP5 to the WP6 architecture about the personalization engine and interaction and its interconnection also with WP3 modules. It adapted the design of its WP5 modules based on design impacts from WP3 implementations and furthermore made an analysis of possible integrations with the IRT notification PubSub framework. It also participated in the WP5 calls and the meeting in Bratislava. Ku Leuven collected literature on content recommendations (from a user perspective) and KU Leuven devised a plan for setting up a user study with group recommendations during the consortium meeting in Bratislava. All partners participated in the WP5 regular conference calls and in the work package meetings in Bratislava.

Task 5.3: Context-Aware and Multi-User Content Recommendation

Task 5.3 is showing close collaboration between TNO, IRT and THM on multi-user hybrid content recommendations. TNO showed a demo at the Bratislava meeting of the integration of metadata by IRT, a collaborative filtering algorithm by THM, and QR-code-based user identification by TNO, integrated in the TNO PREF framework.

Based on communications with industry, IRT and TNO have identified implicit ratings (deducing ratings from user watching behaviour) as essential for effective content recommendations. A plan was made to add this functionality to the HBB-NEXT project. TNO was editor and contributor for the D5.2 deliverable and made updates of the PREF framework. Furthermore, TNO prepared the Bratislava WP5 meeting focussing on the application where a 2nd person enters the room and the recommendation system is personalised to the two users together. IRT performed further work on implementation of a hybrid metadata aggregation solution. IRT made a first implementation of semantic interlinking of broadcast and broadband metadata. IRT started the implementation of the HBB-NEXT recommender API on top of IRTs content based recommendation engine. THM contributed to Deliverable D5.2 and collaborated with other partners on the D5.2 show cases. THM researched also on personalization and recommendation algorithms.

1.6. WP6 - System Architecture, Applications and Monitoring

Task 6.1: System Architecture and Monitoring

ST and IRT finalized the work on Deliverable D6.1.1 System architecture. All relevant partners contributed and TARA made a final review of that document. Discussion on the overall system architecture was continued by partners individually and in joint regular telephone conferences. As a major milestone was reached in this reporting period, the partners in this task discussed and outlined the work necessary to finalize the HBB-NEXT system architecture. The roadmap for this was drafted during the Work Package 6 sessions in the Consortium Meeting in Bratislava and documented in D6.3.1 within Task 6.3 (Roadmap)

Task 6.3: HBB-NEXT Applications and Integrated Proof-of-Concept Prototype

In Task 6.3 partners worked on finalising and partly integrating the early testing applications for Milestone 6. This includes the demo for enhanced access services using the synchronization features of WP4 that has been shown on trade fairs IFA in Berlin and IBC in Amsterdam, a mock-up of an application store, an application using gesture recognition, and others. All these applications were documented in Deliverable D6.3.1, part of Milestone 6 to which all work package partners contributed.

THM and TNO started to work on the TARA set-top with technical support by TARA and to integrate parts of the Work Package 4 enabler for inter-media synchronization there. KU Leuven and RBB presented first results of the user evaluation to the technical partners to be fed into application development (context of Task 2.3).

During the plenary meeting in Bratislava HBB-NEXT planned and decided on the future application development. Six applications were chosen to optimally cover and show the features of the HBB-NEXT platform. Each application will be developed in a dedicated application team. More information on this and the roadmap for the second year of the project have been documented in D6.3.1.

1.7. WP7 - Dissemination, Standardization and Exploitation Plan

Task 7.1: Dissemination

Not only the RTD activities up to Milestone 6 were very intensive during this reporting period but there was also a strong focus on dissemination. The actual project results/outputs were presented at eight events in this period!

- Five scientific conferences: EuroITV 2012, 10th European Interactive TV Conference "Bridging People, Places & Platforms", Berlin, (NEC, KU Leuven), ICCE-Berlin 2012, 2nd IEEE International Conference on Consumer Electronics, Berlin, (THM), ELMAR 2012, 54th International Symposium, Zadar, Croatia, (STUBA, ST), WMNC´2012, Special Session: "HBB and Smart Room Technologies", within 5th Joined IFIP Wireless and Mobile Networking conference, Slovakia, (RBB, IRT, STUBA, ST, TNO).
- One workshop: 4th NGNLab.eu International NGN Workshop 2012, Bratislava, (STUBA, ST).
- Two exhibitions: IFA 2012, Internationale Funkausstellung, Berlin, (RBB, IRT) and IBC (IRT).
- One meeting: Research discussion, Berlin, (THM, National University of Ireland, Galway).

In the reporting period altogether ten papers submitted by the project partners were published in proceedings and presented within the five above listed conferences (STUBA, ST, THM, NEC, TNO, IRT). Additionally one invited contribution was presented at WMNC´2012, Special Session: "HBB and Smart Room Technologies" (IRT, RBB). One paper submitted to the IEEE Communication Magazine, review ongoing (TNO, FT, ST, STUBA).

One showcase related to HBB-NEXT work package research results, was prepared and presented at IFA 2012 by RBB and IRT.

Both partners also cooperated in authoring the related invitations, press announcements, web dossiers, and flyer (English and German). HBB-NEXT showcases were demonstrated also at IBC 2012 conference in Amsterdam (IRT). One poster was prepared and presented at EuroITV 2012 by NEC.

Three HBB-NEXT "multimodal interface demos" prepared by STUBA were demonstrated within 4th NGNLab.eu International NGN Workshop 2012 in Bratislava. TNO give a demo showing an integration of the THM/TNO group recommender.

All these publications and presentations are listed in section 4.

Furthermore the Dissemination, Exploitation and Standardisation excel table was continuously updated and monitored (RBB, STUBA).

The HBB-NEXT website was permanently monitored and individual website sections were updated (news, facebook, twitter, etc.), editing/publishing (RBB). To enable the access from different types of end user devices like tablet or mobile, the project website was redesigned in the way of cross-browser responsive design with CSS3 media queries (STUBA). All related activities, also our social media activities, are described in detail in section 4.4. The activities related to the preparation of two dedicated HBB-NEXT events continued during this reporting period:

- Special session "HBB and Smart Room Technologies", within 5th Joined IFIP (STUBA)
- Wireless and Mobile Networking conference-WMNC in Bratislava, 19 September.2012 (STUBA).
- Media Synchronisation Workshop in Berlin, Germany, 11. October 2012, in conjunction with ICIN 2012 (TNO).

Furthermore the following papers and presentations were prepared and submitted:

- “Frame accurate media synchronization of heterogeneous media sources in an HBB context”, authors: Arjen Veenhuizen and Ray van Brandenburg, Media Synchronisation Workshop, Submission: September 2012, TNO,
- "Signal Parametrization for Robust Systems of Automatic Speech Recognition", authors: Mario Varga, Gregor Rozinaj, Juraj Kačur, Conference "Electrical Engineering, Informatics and Telecommunications 2012, within ELOSYS 2012, Submission: August 2012, STUBA"ZCPA features for speech recognition", authors: Juraj Kacur, Mario Varga, Gregor Rozinaj, BIHTEL 2012, Sarajevo, Submission: July 2012, STUBA
- "ZCPA features for speech recognition", authors: Juraj Kacur, Mario Varga, Gregor Rozinaj, BIHTEL 2012, Sarajevo, Submission: July 2012, STUBA
- "HBB - European TV Standard for the Future", author: Gregor Rozinaj, BIHTEL 2012, Sarajevo, Submission: September 2012, invited speech, STUBA

D7.3.1: "1st Report on Dissemination " was elaborated by RBB in cooperation with STUBA based on inputs and cooperation of HBB-NEXT project partners. It was submitted in time.

Exploitation activities

The exploitation activities were focused mainly on the transfer of actual project results to the educational process. Please see chapter 4.3 for details.

Task 7.2: Standardisation and IPR Protection

Analogous to the previous project phase, the standardisation activities of the HBB-NEXT project partners were systematically continued also during this reporting period and were linked to previous activities. ST and TNO as members of ETSI working groups ETSI TISPAN (Telecommunications and Internet converged Services and Protocols for Advanced Networking) and ETSI MCD (Media Content Distribution) have continued with activities leaded to progress of standardisation process related with contributions proposed and submitted by HBB-NEXT consortium partners (ST, TNO, IRT, NEC) to ETSI MCD during previous project Phase ("Converged Multiscreen Service" specification). ST was presented HBB-NEXT contribution and concluded HBB-NEXT input to MCD specification about "Converged Multi-screen Service". TNO participated in the 15th ETSI MCD meeting in Sophia Antipolis on 13.09.2012. The meeting discussed the requirements for the ETSI Multi-screen document TS 101 579, as brought in by HBB-NEXT.

STUBA in cooperation with ST proposed and submitted the contribution for the standardisation process focused on CDN (Content Delivery Networks) architecture topics. CDN should be one of the network architecture which can be applied for delivery of HbbTV multimedia content.

Brainstormings and discussions were triggered to gather requirements towards a new HbbTV standard (RBB). These discussions were held with RBB's HbbTV experts (developers and decision-makers) as well as with partners from other projects RBB is involved in (LinkedTV and FI-Content). The results of these discussions were passed on to work package Leader IRT who is committed to bringing them into the HbbTV consortium.

IRT discussed possible HbbTV2 topics with industry partners from the HbbTV consortium and within T7.2 meeting (during the 3rd HBB-NEXT consortium meeting in Bratislava) with HBB-NEXT partners, as well. The D7.4.1: "1st Report on Standardization and IPR Protection Activities" was elaborated by IRT based on inputs and cooperation of HBB-NEXT project partners. Internal review of D7.4.1 has been done by NEC.

TNO has made a patent application with the title "Group composition based recommender system and method" (more details are introduced in section 4.5).

2. Issues / deviation from the plan

Issue description (explanation of the causes)	-
Changes in the work planning	-
Changes in the schedule of the deliverables	-
Changes in planned milestones	-
Red Flags	-
Any other issues or problems that might affect achievement.	-

3. Deliverables and Milestones for the reporting period

Deliverable number	Deliverable Titel	Month	Originally planned	Current View	Actual	Status / Comments
D2.3.1	User Validation Results	11	31.08.12		05.09.12	
D3.2	DESIGN AND PROTOCOL (High Level Architecture): User ID, Profile, Application Reputation Framework	12	30.09.12		05.10.12	
D4.2	DESIGN AND PROTOCOL: Middleware Components Content Synchronisation/Cloud Service Offloading	12	30.09.12		05.10.12	
D5.2	DESIGN AND PROTOCOL: Multimodal Interface and Context Aware Recommendation Engine	12	30.09.12		05.10.12	
D6.3.1	Report on test applications for enablers of WP3/WP4/WP5	12	30.09.12		24.10.12	
D7.3.1	1st Report on Dissemination	12	30.09.12		08.10.12	
D7.4.1	1st Report on Standardisation and IPR Protection Activities	12	30.09.12	16.11.12		

Milestone number	Milestone Titel	Month	Originally planned	Current View	Actual	Status / Comments

MS2	1st Periodic Progress Report	12	30.09.12	29.11.12		
MS6	1st version Software (V1) finalised-	12	30.09.12	26.10.12	24.10.12	

4. Dissemination

Articles and presentations are published on our project website (http://www.hbb-next.eu/index.php/publications).

4.1. Articles published

[1] Media Networking Standardization: A focus on European R&D and ETSI initiatives, submitted to special issue Telecommunications Standards of IEEE Communication Magazine, 24.8.2012, review process on-going (TNO, FT, STUBA)

[2] A DVB/IP Streaming Testbed for Hybrid Digital Media Content Synchronization, The 2nd IEEE International Conference on Consumer Electronics - ICCE 2012, Berlin (THM)

[3] Gesture Identification for System Navigation in 3D Scene, 54th International Symposium ELMAR 2012, 12.-14.9-2012, Zadar, Croatia (STUBA)

[4] Speaker identification system based on a web interface, 54th International Symposium ELMAR 2012, 12.-14.9-2012, Zadar, Croatia (STUBA)

[5] VoIP intrusion detection system with Snort, 54th International Symposium ELMAR 2012, 12.-14.9-2012, Zadar, Croatia (STUBA)

[6] HBB-NEXT: Providing independent content recommendations in a next-generation Hybrid Broadcast Broadband TV ecosystem, Special Session: "HBB and Smart Room Technologies", within 5th Joined IFIP Wireless and Mobile Networking conference-WMNC´2012, 19.9.2012, Bratislava, Slovakia (TNO)

[7] Security challenges in Next generation HBB TV, Special Session: "HBB and Smart Room Technologies", within 5th Joined IFIP Wireless and Mobile Networking conference-WMNC´2012, 19.9.2012, Bratislava, Slovakia (STUBA, ST)

[8] Towards novel HBB application platform: experimental testbed, Special Session: "HBB and Smart Room Technologies", within 5th Joined IFIP Wireless and Mobile Networking conference-WMNC´2012, 19.9.2012, Bratislava, Slovakia (STUBA)

[9] Face Recognition Methods for Multimodal Interface, Special Session: "HBB and Smart Room Technologies", within 5th Joined IFIP Wireless and Mobile Networking conference-

WMNC´2012, 19.9.2012, Bratislava, Slovakia (STUBA)

[10] The Unified Interface for a VoIP Application, 4th NGNLab.eu International NGN Workshop 2012, 20.09.2012, Bratislava, Slovakia (STUBA)

4.2. Presentations at events

[1] Second-Screen Use in the Home: an Ethnographic Study, Workshop on Future TV @ EuroITV 2012, "EuroITV 2012 - 10th European Interactive TV Conference "Bridging People, Places & Platforms", 04.-06.07.2012 (KU Leuven)

[2] A DVB/IP Streaming Testbed for Hybrid Digital Media Content Synchronizatio, 2nd IEEE International Conference on Consumer Electronics - ICCE-Berlin 2012, Berlin, 03.-05.9.2012 (THM)

[3] 54th International Symposium ELMAR 2012, Zadar, Croatia, 12.-14.09.2012, three presentations:

- Gesture Identification for System Navigation in 3D Scene (STUBA)
- Speaker identification system based on a web interface (STUBA)
- VoIP intrusion detection system with Snort (STUBA)

[4] Special Session: "HBB and Smart Room Technologies", within 5th Joined IFIP Wireless and Mobile Networking conference-WMNC´2012, Bratislava, Slovakia, 19.9.2012, five presentations:

- HBB-NEXT in the context of Hbb TV 2.0, invited presentation (RBB, IRT)
- HBB-NEXT: Providing independent content recommendations in a next-generation Hybrid Broadcast Broadband TV ecosystem (TNO)
- Security challenges in Next generation HBB TV (STUBA, ST)
- Towards novel HBB application platform: experimental testbed (STUBA)
- Face Recognition Methods for Multimodal Interface (STUBA)

[5] 5th Joined IFIP Wireless and Mobile Networking conference-WMNC´2012, Bratislava, Slovakia, 20.9.2012:

- HBB-NEXT: Providing independent content recommendations in a next-generation Hybrid Broadcast Broadband TV ecosystem (TNO)
- Audio Compression using Sinusoidal Modeling with 1D and 2D Wavelet Residuum Coding (STUBA)

4.3. Demos and showcases at events

[1] HBB-NEXT showcases (four showcases for access to synchronised hybrid services), Internationale Funkausstellung IFA 202, Berlin, 31.08.-05.09.12 (RBB, IRT)

[2] 4th NGNLab.eu International NGN Workshop 2012, 19.9.2012, three demos:

- Gesture Identification for HBB TV (STUBA)
- Speaker identification system for HBB TV (STUBA)
- User identificiation system based on face recognition (STUBA)

4.4. Exploitation

[1] Graduate student Mohammad Khairul Islam from the University of Lulea, Sweden, worked at TNO in the context of the HBB-NEXT project, March 2012 - August 2012, "Usage of PCR values in Transport Stream for synchronisation".

[2] The PhD themes of STUBA young researchers they are participating in the HBB-NEXT project are focused on these project topics. In this way the relevant project results are exploited to following PhD theses of the STUBA students:

- Personalisation of Services and control of access to multimedia services and applications (PhD student: Juraj Blichár), started on 1st September 2012, supervisors: Jarmila Pavlovičová and Pavol Podhradský
- Implementation of novel services over bradcasting architecture (PhD student: Roman Bronis), started on 1st September 2012, supervisor: Ivan Kotuliak
- Control of the access of integrated services (broadband broadcast services and IP services) in the hybrid network environment (PhD student: Alexandra Posoldová), started on 1st September 2012, supervisors: Miloš Oravec and Pavol Podhradský
- Speech Recognition of Slovak Language with Hidden Markov Models (PhD student: Ivan Drozd), started on 1st September 2012, supervisors: Gregor Rozinaj

- Human Face Detection and Recognition (PhD student: Marek Loderer), started on 1st September 2012, supervisor: Jarmila Pavlovičová
- New Methods of Biometric Face Recognition in Unconstrained and Uncontrolled Environment Using Machine Learning Methods (PhD student: Vojtěch Jirka), started on 1st September 2012, supervisor: Miloš Oravec
- Proposal of Methods of Analysis, Visualization and Classification of Multidimensional Data (PhD student: Dávid Hrbatý), started on 1st September 2012, supervisor: Miloš Oravec

[3] Transfer of HBB-NEXT knowledge to the research activities within 2 PhD theses (STUBA):

- Gesture Recognition (PhD student: Ivan Minárik), continual process, October 2011 - March 2014, supervisor: Gregor Rozinaj
- 3D Face Recognition (PhD student: Marek Vančo), continual process, October 2011 - March 2014, supervisor: Gregor Rozinaj

[4] Transfer of HBB-Next knowledge to the elaboration of 2 MSc theses (STUBA):

- Automatic speech recognition (MSc student: Matus Strban), started on 24th September 2012, supervisor: Juraj Kačúr
- Speaker identification (MSc student: Tomas Olexa), started on 24th September 2012, supervisor: Juraj Kačúr

[5] Transfer of HBB-Next knowledge to the LdV EU project IMProVET, within training courses: "Multimedia" and " NGN and Selected topics", continual process, October 2011 - October 2013 (STUBA)

4.5. Web Site / Social Media

Content-wise RBB continuously updated the HBB-NEXT website continuously, mainly the news section and the publication section. Here it collected input from the project partners and regularly edited and published news items, also in parallel related content via Twitter and Facebook. Furthermore, HBB-related general news were published regularly on Twitter and Facebook.

- “Meet us section” was introduced with STUBA: for each event HBB-NEXT where HBB-NEXT experts are present, their contact details are published so that the interested public can meet them (also on Facebook and Twitter)
- Website was adapted for use on mobile devices (STUBA)
- Documents (Deliverables) were brought into a more user friendly time line.

4.6. Other important information

Contribution to Standards

HBB-NEXT partners continued in QMR4 their standardization activities in ETSI-MCD and discussions for the next version of HbbTV v2. The contributions made by HBB-NEXT to ETSI MCD, which have been made a few months ago on HBB-NEXT scenarios, use case and requirements, were approved by the ETSI working group on "multiscreen convergence services". This means that parts of the requirements deducted in HBB-NEXT will be part of a technical specification published by ETSI. As a next step ETSI will open a new working group for the architecture work on this topic. The same partners from HBB-NEXT will join and contribute to this work.

The HbbTV consortium will start on new versions of their specification soon. Partners from the HBB-NEXT consortium will contribute to this. Beside TARA and IRT, TNO became an HbbTV member recently. As preparation for future contributions HBB-NEXT discussed a list of feature requests which shall be added to HbbTV v2. For further details please refer to D7.4.1.

Patent Applications

TNO has made a patent application.

Inventors	Title	Application number	Date of application
Oskar van Deventer, Joost de Wit (TNO)	Group composition based recommender system and method	EP12181792.8	24-8-2012

5. Meetings Attended

Partner		Date (Start/End)	Meeting place	N° of persons	WP/Task/expected results/details
1	RBB	04.07.12	Berlin, Germany	1	Attending the EuroITV 2012 conference
1	RBB	31.08.-05.09.12	Berlin, Germany	4	HBB-NEXT WP4 Showcase were presented at IFA – Internationale Funkausstellung by RBB and IRT
1	RBB	17.-19.09.12	Bratislava, Slovakia	3	3rd Plenary Meeting and WP meeting
2	IRT	31.08.-05.09.12	Berlin, Germany	1	HBB-NEXT WP4 Showcase were presented at IFA – Internationale Funkausstellung by RBB and IRT
2	IRT	07.-11.09.12	Amsterdam, Netherlands	1	IBC
2	IRT	17-18.9.	Bratislava, Slovakia	2	3rd Plenary Meeting and WP meeting
2	IRT	20.9.	Bratislava, Slovakia	1	WMNC conference
3	NEC	04.-06.07.12	Berlin, Germany	1	EuroITV
3	NEC	17.-19.09.	Bratislava, Slovakia	2	3rd Plenary Meeting and WP meeting
4	TNO	17.-19.09.12	Bratislava, Slovakia	3	3rd Plenary Meeting and WP meeting
4	TNO	19.09.12	Bratislava, Slovakia	1	Special Session “HBB and Smart Room Technologies”, WMNC 2012
5	ST	17.-19.09.12	Bratislava, Slovakia	3	3rd Plenary Meeting and WP meeting
5	ST	19.-20.09.12	Bratislava, Slovakia	3	Special Session “HBB and Smart Room Technologies”, WMNC 2012
5	ST	20.-21.09.12	Bratislava, Slovakia	3	4th NGNLab.eu International NGN Workshop 2012
6	STUBA	12.-14.09.12	Zadar, Croatia	4	54th International Symposium ELMAR 2012
6	STUBA	17.-19.09.12	Bratislava, Slovakia	3	3rd Plenary Meeting and WP meeting
6	STUBA	19.-20.09.12	Bratislava, Slovakia	5	Special Session “HBB and Smart Room Technologies”, WMNC 2012
6	STUBA	20.-21.09.12	Bratislava, Slovakia	5	4th NGNLab.eu International NGN Workshop 2012

7	KU Leuven	04-06.07.12	Berlin, Germany	2	Attending and presenting at the EuroITV 2012 conference
7	KU Leuven	17-19.09.12	Bratislava, Slovakia	2	3rd Plenary Meeting and WP meeting
8	THM	03.-05.09.12	Berlin, Germany	3	2nd IEEE International Conference on Consumer Electronics
8	THM	17.-19.9.2012	Bratislava, Slovakia	1	3rd Plenary Meeting and WP meeting
9	TARA	16.-19.09.12	Bratislava, Slovakia	1	Plenary meeting including technical demos and WP6 session

6. Resources Employed/Expenditures

6.1. Effort for the reference period per WP and per Participant (Person-Months)

		RBB		IRT		NEC		TNO		ST		STUBA		KU Leuven		THM		TARA		TOTAL per WP/Task		Total Cumulative from start of the project	
I. Management		plan	spent	plan	spent	plan	spent	plan	spent	plan	spent	plan	spent	plan	spent	plan	spent	plan	spent	plan	spent	plan	spent
WP1	**Project Management**	1,10	1,19	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	**1,10**	**1,19**	**4,52**	**5,70**
T1.1	Project Management	0,70	0,72																	**0,70**	**0,72**	**2,86**	**3,95**
T1.2	Financial Management	0,40	0,48																	**0,40**	**0,48**	**1,66**	**1,75**
WP7	**Dissemination, Standardization and Exploitation Plan**	0,40	1,11	1,02	1,21	0,42	0,26	0,42	0,80	0,31	0,18	0,80	1,00	0,21	0,21	0,31	0,37	0,31	0,09	**4,20**	**5,23**	**17,16**	**16,99**
T7.1	Dissemination	0,30	1,07	0,21	0,35	0,21	0,25	0,21	0,40	0,10	0,08	0,40	0,73	0,21	0,21	0,21	0,37	0,10	0,09	**1,95**	**3,55**	**7,98**	**11,54**
T7.2	Standardisation and IPR Protection	0,10	0,04	0,81	0,86	0,21	0,01	0,21	0,40	0,21	0,10	0,40	0,27	0,00	0,00	0,10	0,00	0,21	0,00	**2,25**	**1,68**	**9,18**	**5,45**
	TOTAL MGT per participant	1,50	2,31	1,02	1,21	0,42	0,26	0,42	0,80	0,31	0,18	0,80	1,00	0,21	0,21	0,31	0,37	0,31	0,09	**5,30**	**6,43**	**21,68**	**22,69**

		RBB		IRT		NEC		TNO		ST		STUBA		KU Leuven		THM		TARA		TOTAL per WP/Task		Total Cumulative from start of the project	
II. Research and Technological Development		plan	spent	plan	spent	plan	spent	plan	spent	plan	spent	plan	spent	plan	spent	plan	spent	plan	spent	plan	spent	plan	spent
WP2	**Usage Scenarios, System Requirements and User Validation**	1,08	1,75	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	1,20	1,47	0,00	0,00	0,00	0,00	**2,28**	**3,22**	**35,32**	**32,44**
T2.1	Usage Scenarios	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	**0,00**	**0,00**	**12,00**	**9,93**
T2.2	Requirements (System, Services, Users)	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	**0,00**	**0,00**	**13,00**	**11,19**
T2.3	User-Oriented Validation and Evaluation	1,08	1,75	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	1,20	1,47	0,00	0,00	0,00	0,00	**2,28**	**3,22**	**5,32**	**6,45**
T2.4	Business Models	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	**0,00**	**0,00**	**5,00**	**4,87**
WP3	**Identity, Security and Trust**	0,00	0,00	0,12	0,17	1,92	2,59	0,00	0,00	0,48	0,60	1,92	2,06	0,00	0,00	0,00	0,00	0,00	0,00	**4,44**	**5,42**	**19,80**	**17,74**
T3.1	Analysis of Technologies for Identity, Security and Trust	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	**0,00**	**0,00**	**5,00**	**5,42**
T3.2	User Identification, User profile and Application Reputation Framework	0,00	0,00	0,12	0,17	1,92	2,59	0,00	0,00	0,48	0,60	1,92	2,06	0,00	0,00	0,00	0,00	0,00	0,00	**4,44**	**5,42**	**14,80**	**12,32**
WP4	**Next generation multi-synch and application performance**	0,48	0,25	0,96	1,28	2,16	3,70	1,56	2,93	0,00	0,00	0,00	0,00	0,00	0,00	2,40	3,23	0,00	0,00	**7,56**	**11,39**	**30,20**	**28,56**
T4.1	Analysis of Cloud-Based Services and Service/Content Synchronisation	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	**0,00**	**0,00**	**5,00**	**5,83**
T4.2	Multi-Device, Multi-Domain Synchronisation of A/V Content and Services	0,48	0,25	0,72	0,93	0,00	0,00	1,56	2,93	0,00	0,00	0,00	0,00	0,00	0,00	2,40	3,23	0,00	0,00	**5,16**	**7,34**	**17,20**	**16,56**
T4.3	Cloud Service Offloading	0,00	0,00	0,24	0,35	2,16	3,70	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	**2,40**	**4,05**	**8,00**	**6,17**

		RBB		IRT		NEC		TNO		ST		STUBA		KU Leuven		THM		TARA		TOTAL per WP/Task		Total Cumulative from start of the project	
II. Research and Technological Development		plan	spent	plan	spent	plan	spent	plan	spent	plan	spent	plan	spent	plan	spent	plan	spent	plan	spent	plan	spent	plan	spent
WP5	**Multi-user and Context-Aware Personalisation**	0,00	0,00	1,20	1,56	0,00	0,00	1,56	2,30	0,36	0,50	1,32	1,25	0,36	0,36	1,20	1,97	0,00	0,00	**6,00**	**7,94**	**26,00**	**29,66**
T5.1	Analysis of Multi-user, Multimodal and Context-Aware Value-Added Services	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	**0,00**	**0,00**	**6,00**	**6,85**
T5.2	Multimodal Interface for User/Group-Aware Personalisation in a Multi-User Environment	0,00	0,00	0,60	0,78	0,00	0,00	0,00	0,00	0,36	0,50	1,32	1,25	0,36	0,36	0,00	0,00	0,00	0,00	**2,64**	**2,89**	**8,80**	**8,78**
T5.3	Context-Aware and Multi-User Content Recommendation	0,00	0,00	0,60	0,78	0,00	0,00	1,56	2,30	0,00	0,00	0,00	0,00	0,00	0,00	1,20	1,97	0,00	0,00	**3,36**	**5,05**	**11,20**	**14,03**
WP6	**System Architecture, Applications and Monitoring**	0,63	1,15	2,31	3,15	0,84	0,48	0,51	0,44	0,44	0,45	1,22	1,19	0,12	0,20	0,87	0,51	1,47	0,74	**8,41**	**8,31**	**40,82**	**38,59**
T6.1	System Architecture and Monitoring	0,12	0,00	0,93	1,05	0,21	0,02	0,12	0,00	0,32	0,40	0,21	0,13	0,00	0,00	0,00	0,00	0,21	-0,09	**2,12**	**1,51**	**7,81**	**9,47**
T6.2	Implementation of Mock-Ups and Early Application Design	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	**0,00**	**0,00**	**14,00**	**10,48**
T6.3	HBB-NEXT Applications and Integrated Proof-of-Concept Prototype	0,51	1,15	1,38	2,10	0,63	0,46	0,39	0,44	0,12	0,05	1,01	1,06	0,12	0,20	0,87	0,51	1,26	0,83	**6,29**	**6,80**	**19,01**	**18,64**
	TOTAL RTD per participant	2,19	3,15	4,59	6,16	4,92	6,77	3,63	5,67	1,28	1,55	4,46	4,50	1,68	2,03	4,47	5,71	1,47	0,74	**28,69**	**36,28**	**152,14**	**146,99**
	TOTAL per participant (RTD+MGT)	**3,69**	**5,46**	**5,61**	**7,37**	**5,34**	**7,03**	**4,05**	**6,47**	**1,59**	**1,73**	**5,26**	**5,50**	**1,89**	**2,24**	**4,78**	**6,08**	**1,78**	**0,83**				
	Total Cumulative from start of the project	**22,27**	**26,67**	**27,24**	**26,25**	**23,94**	**18,41**	**18,69**	**22,90**	**10,70**	**9,63**	**20,94**	**20,50**	**18,24**	**16,59**	**23,95**	**23,16**	**7,85**	**5,57**				

6.2. Comments on Person-Months Effort spent

Work Package 2

Overspending:

KU Leuven and RBB / Task 2.3: Both partners are slightly above their planned effort in Task 2.3 as the validation activities of user validation phase one culminated once again in this period with a second round of user tests carried out at both institutions.

Work Package 3

Overspending:

NEC / Task 3.2: Due to an accident of a core team member he was out of office for a few months. He has been back since September and is now focusing much more on this project to make up of the time lost. In parallel, an additional team member has begun to work on Task 3.2.

ST / Task 3.2: The contribution to D3.2 required more effort than expected, this included also preparing the demos and the work package 3 meeting at the Bratislava Consortium Meeting in September.

Work Package 4

Overspending:

TNO / Task 4.2: TNO spent extra time on writing a paper and on preparing the Work Package 4 activities for the Bratislava meeting (Demo!). Furthermore the on-going research and development work was more intensive than depicted by the average calculation.

THM / Task 4.2: Both the work on Deliverable D4.2 and the research and development activities took up more than the average estimated value given the Milestone requirements. In turn, resource spending in the months before was lower than estimated and the work was mainly caught up in this reporting period.

NEC / Task 4.3: Now that the architecture is more clearly defined, much more efforts have been spent on accelerating the R&D work on task 4.3 to compensate for earlier underspending.

Underspending:

RBB / Task 4.2: Most work package 4 related activities were carried out in Task 6.3 (application development for IFA showcase, so there is a slight overspending there), only content creation and participation in Telcos and the Bratislava Work Package 4 meeting (presentation) as well as strategic plans were part of the work in Task 4.2.

Work Package 5

Overspending:

TNO / Task 5.3: TNO spent time on contribution to and editing of Deliverable D5.2, preparing and chairing the Bratislava work package meeting.

THM / Task 5.3: There was some over-spending, since team members changed and there was an overlap of responsibilities to ensure a smooth transition.

ST / Task 5.2: The contribution to Deliverable D5.2 required more effort as expected, also preparing Work Package meeting in Bratislava (Consortium Meeting).

Work Package 6

Overspending:

KU Leuven / Task 6.3: KU Leuven evaluated the consequences of the Task T2.3 results for the **Consortium Meeting in Bratislava.**

NEC / Task 6.3: The development of the initial demonstrator (Milestone 6) required more resources than initially planned.

IRT / Task 6.3: IRT and RBB spent more person months during this period in Task 6.3 in the context of finalising the Work Package 4 related showcase for IFA and IBC.

ST / Task 6.1: Finalization of D6.1.1 required more effort as expected.

Underspending:

TARA / Task 6.3: The slight underspending of person months was mainly caused by summer vacation time and the matter of fact that the work packages postponed the transition to the set-top-box environment to the next quarter. Therefore, the technical support was less than originally planned. For example, the IFA showcase could not yet be demonstrated on the set-top-box due to the technical complexity and time constraints.

It is expected that the effort for technical supporting for the set-top-box environment will be above average in QMR4 which will compensate the under-spending in QMR3.

THM / Task 6.3: The current under-spending will be compensated in the upcoming month, when the work on the next prototypes will increase.

NEC / Task 6.1: NEC has contributed to the global architecture and the related requirements as required, however, this contribution required less than the estimated resources.

STUBA / Task 6.1: The underspending is due to STUBAs research focusing on activities of Task 6.3 in relation with Task 3.2 and 5.2., rather than on Task 6.1. This will be intensified and thus the unspent effort will be covered within QMR5.

ST / Task 6.3: The focus was on finalization of D6.1.1. where ST has the central role.

Work Package 7

Overspending:

IRT / Task 7.1: IRT and RBB spent more efforts in this QMR as IRT together with RBB presented HBB-NEXT at IFA and IBC (only IRT). Furthermore, the constant update of the HBB-NEXT website with the monitoring and editing of all partners' input as well as monitoring the social media strand takes generally up more resources than had been envisaged.

STUBA/Task 7.1: The overspending is a result of website enhancement and the extension of dissemination activities. STUBA was extremely active in this field!

TNO / Task 7.1: TNO spent much more effort than planned in this quarter as they published three papers and participated in three dissemination events (see section 4, and Task 7.1). Furthermore, TNO organised the MediaSync 2012 Workshop in Berlin.

THM / Task 7.1: The dissemination expenses were a little bit higher than the averages planned as the creation of the publications used more time than estimated. However, there was under-spending in the months before.

TNO / Task 7.2: TNO increased their effort in Task 7.2 and contributed and participated in the 15th ETSI MCD Meeting on 13.09. in Sophia Antipolis. Additionally, TNO made a patent application with the title "Group composition based recommender system and method".

Underspending:

NEC / Task 7.2.: NEC will extend their dissemination efforts once more R&D results are obtained and therefore there will be more opportunities for dissemination and contribution to standardization.

STUBA / Task 7.2: No opportunities for standardisation, yet

TARA / Task 7.2: Tara could not figure out an opportunity for standardisation activity in this quarter. It plans to contribute in HbbTV standardisation activities in the next year.

ST / Task 7.2: The under-spending was mainly caused by summer holiday time. We contributed and participated in the ETSI MCD Meeting via web-meeting tool in September.

THM / Task 7.2: THM did not see an opportunity for standardisation activities in this quarter.

RBB / Task 7.2: RBB will most probably not contribute considerably to standardization and only support IRT this field which has been the case to minor extent this period (RBB/ARD feedback for IRT requirement paper on HbbTV2.0).

6.3. Expenditures for the reference period per Participant

	RBB		IRT		NEC		TNO		ST		STUBA		KU Leuven		THM		TARA		Grand total for the ref. period		Grand total from start	
I. Management	plan	spent	plan	spent	plan	spent	plan	spent	plan	spent	plan	spent	plan	spent	plan	spent	plan	spent	plan	spent	plan	spent
WP1 - Project Management	0,65	1,51	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,65	1,51	2,60	2,88
Travel and subsistence	0,35	1,51																	0,35	1,51	1,40	1,51
Subcontracting - Certificate on the Financial Statements	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00											0,00	0,00	0,00	0,00
Other Specific Project Costs	0,30	0,00																	0,30	0,00	1,20	1,37
WP 7 - Dissemination, Standardization and Exploitation Plan	0,30	0,20	1,00	0,45	0,40	1,01	0,57	1,09	0,50	0,00	0,64	3,11	0,35	1,08	0,50	0,46	0,20	0,00	4,46	7,39	17,86	20,82
Subcontracting	0,00	1,05	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	1,05	0,00	1,05
Travel and subsistence	0,30	0,20	0,70	0,45	0,40	1,01	0,57	1,09	0,50	0,00	0,64	3,11	0,35	1,08	0,50	0,46	0,20	0,00	4,16	7,39	16,66	19,53
Other Specific Project Costs (IRT)			0,30	0,00	0,00	0,00													0,30	0,00	1,20	0,24
TOTAL MGT	0,95	1,71	1,00	0,45	0,40	1,01	0,57	1,09	0,50	0,00	0,64	3,11	0,35	1,08	0,50	0,46	0,20	0,00	5,11	8,90	20,46	23,70
II. Research and Technological Development																						
WP2 - WP6																						
Subcontracting	0,00	1,73	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	1,73	0,00	1,73
Travel and subsistence	1,50	0,00	1,80	0,49	1,60	0,93	1,31	2,16	1,50	0,00	0,90	-0,84	0,90	0,97	0,86	1,20	1,12	0,36	11,49	5,27	45,94	43,24
Equipment	0,30	0,15	0,34	-0,69	0,60	0,38	1,00	0,00	1,50	0,68	1,50	0,52	0,13	0,00	0,20	0,00	0,00	0,20	5,57	1,23	22,28	4,56
Consumables	0,30	-0,03	0,26	0,70	0,00	-0,34	0,10	0,00	0,34	0,00	0,40	0,00	0,50	3,49	0,10	0,00	0,00	0,00	2,00	3,82	8,00	5,75
Other Specific Project Costs	0,00	0,15	0,00	0,00	0,17	0,00	0,10	0,00	0,10	0,00	0,10	0,85	0,10	-2,77	0,00	0,00	0,00	0,00	0,57	-1,78	2,28	6,08
TOTAL RTD	2,10	0,27	2,40	0,50	2,37	0,97	2,51	2,16	3,44	0,68	2,90	0,52	1,63	1,69	1,16	1,20	1,12	0,55	19,63	8,55	78,50	59,62
TOTAL per cost category																						
Durable equipment	0,30	0,15	0,34	-0,69	0,60	0,38	1,00	0,00	1,50	0,68	1,50	0,52	0,13	0,00	0,20	0,00	0,00	0,20	5,57	1,23	11,14	0,84
Subcontracting	0,00	2,79	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	2,79	0,00	0,00
Travel and subsistence	2,15	1,71	2,50	0,95	2,00	1,94	1,88	3,25	2,00	0,00	1,54	2,27	1,25	2,04	1,36	1,66	1,32	0,36	16,00	14,17	32,00	27,98
Consumables	0,30	-0,03	0,26	0,70	0,00	-0,34	0,10	0,00	0,34	0,00	0,40	0,00	0,50	3,49	0,10	0,00	0,00	0,00	2,00	3,82	4,00	0,78
Other Specific Costs	0,30	0,15	0,30	0,00	0,17	0,00	0,10	0,00	0,10	0,00	0,10	0,85	0,10	-2,77	0,00	0,00	0,00	0,00	1,17	-1,78	2,34	3,49

6.4. Comments on Expenditures spent

The plan figures were calculated by using average values per three months reporting period and partner. The average calculation by month does, of course, not reflect actual peaks of efforts according to the project work phases and therefore might sometimes slightly blur the picture in respect of seemingly underspent or overspent work effort.

Travel and subsistence

In this QMR period the partners increased their dissemination and standardisation activities. Furthermore, all partners participated in the plenary meeting.

Other Specific Project Costs

STUBA: The overspending of this budget category was caused hosting 3rd HBB-NEXT plenary meeting in Bratislava.

Subcontracting

RBB:

In the course of preparing Periodic Project Report 1 it was noticed that some costs actually should be treated in the cost category subcontracting.

Subcontracting under RTD: Outsourced HbbTV design of a Click Dummy as preparation for the IFA Showcase (1,400 €) and hiring a sign language interpreter for user tests with deaf users on 03.08.12.

Subcontracting under MGT-Dissemination: This concerns costs for hosting a server for the website and the fee for using the two domains “hbb-next.eu”, “ hbbnext.eu”.

The above mentioned subcontracting costs are interpreted as “minor tasks” in the sense of Article II.7.3 of Annex I ECGA (“Beneficiaries may use external support services for assistance with minor tasks that do not represent per se project tasks as identified in Annex I”.)

6.4.1. Other Specific Project Costs

STUBA claimed their hosting costs for the 3rd Plenary Meeting in Bratislava.

KU Leuven: A user evaluation was conducted in August for which incentives were needed.

7. Others / Corrections in QMR4

KU Leuven:

In the previous QMR consumables were wrongly reported under “other specific project costs”. There is a correction in this QMR.

STUBA:

In the process of preparing the financial data for Periodic Progress Report 1 (PPR 1), the STUBA HBB-NEXT financial administrator checked in detail all financial documents related to HBB-NEXT expenditures spent during the 1st project year. During the checking it was found out that in some documents (some hotel Invoices, bills, etc.) the VAT was mistakenly included to the project expenditures. After removing VAT, all relevant corrections of financial data (in travel costs and other specific costs categories) are done within this QMR4.

IRT:

The QMR4 figures include corrections to compensate for minor deviations as they occurred during Year 1. This includes the corrected deduction of VAT, re-attribution between consumables and equipment, personnel efforts that were reported late and the settlement of rounding differences (this concerns T3.2, T4.2, T4.3, T5.2, T5.3).

NEC:

Correction Equipment costs: Correction of an error regarding the depreciation period.

Correction Travel costs: Two Trips, which belonged to Work Package 7 (Management) were by mistake accounted as RTD. The correction of these results in lower travel costs in RTD, but, in turn, higher ones in MGT.

TARA:

By mistake, TARA claimed Equipment costs under travel. This war corrected in this QMR. According to a previous transcription error the person months from QMR2 Task 6.1 are revised from 0,3 to 0. This is done within this QMR4.

RBB:

Correction Consumables costs: RBB claimed by mistake subcontracting for minor tasks under consumables (526.34 €). This was corrected in this QMR 4.